Community TB and Lung Health Project (2000-2005)
Project activity mid term report

(September 2000-February 2003)

Community Tuberculosis and Lung Health Project

Japan International Cooperation Agency (JICA)

Nepal

2003

JICA Community TB / Lung Health Project (2000-05), Project activity mid term report

(September 2000-February 2003)

Contents

Abbreviations

AHW	: Auxiliary Health Workers
AIDS	: Acquired Immune-deficiency Syndrome
ARI	: Acute Respiratory Infection
ARTI	: Annual Risk of Tuberculous Infection
BNMT	: Britain Nepal Medical Trust
CB-IMCI	: Community Based Integrated Management of Child Illness
CBO	: Community Based Organization
CDP	: Community Drug Program
COPD	: Chronic Obstructive Pulmonary Disease
DALY	: Disability adjusted life years
DDC	: District Development Committee
DFID	: Department for International Development
DOTS	: WHO tuberculosis control strategy
DPHO	: District Public Health Office/r
DTLA	: District Tuberculosis / Leprosy Assistant
FCHV	: Female Community Health Volunteer
GENETUP	: German Nepal Tuberculosis Project
HIV	: Human Immunodeficiency Virus
HMG	: His Majesty's Government
HP	: Health Post
IEC	: Information, Education and Communication
IMCI	: Integrated Management of Child Illness
INGO	: International Non Governmental Organization
IUATLD	: International Union Against Tuberculosis and Lung Diseases
JCC	: Joint Coordination Committee
JICA	: Japan International Cooperation Agency
LHL	: Norwegian Heart and Lung Health Association
LMD	: Logistic Management Division
MDR	: Multi Drug Resistance
MoH	: Ministry of Health
NATA	: Nepal Anti Tuberculosis Association
NORAD	: Norwegian
NGO	: Non-Governmental Organization
NRL	: Netherlands Leprosy Relief
NTC	: National Tuberculosis Centre
NTP	: National Tuberculosis Control Program
PDM	: Project Design Matrix
PHC	: Primary Health Care Center
QC	: Quality Control
QCA	: Quality Control Assessor
RIT	: Research Institute of Tuberculosis
RTLA	: Regional Tuberculosis / Leprosy Assistant
SAARC	:South Asian Association for Regional Cooperation
TAG	: Technical advisory group
TBCN	: TB control network
TBCP	: Japan international cooperation agency, tuberculosis control project, phase I and 2
SHP	: Sub Health Post
TB	: Tuberculosis
TBCN	: Tuberculosis Control Network
URTI	: Upper respiratory tract infection
VDC	: Village Development Committee
WHO	: World Health Organizatio

Summary

Community Tuberculosis and Lung Health project of JICA (2000-2005) has collaborated with His Majesty's Government of Nepal (HMG/N) with two target activities in line with national policies in each area. One is tuberculosis control and the other is other lung diseases control.

Community Tuberculosis and Lung Health project of JICA (2000-2005) has continued the support to national tuberculosis control program through the improvement of tuberculosis control in Kathmandu, technical advice to logistics and general support to national tuberculosis center. Before the start of the project, NTP is nearly reached the goal of the project due to the efforts of NTP. The project has contributed to the further improvement of tuberculosis control activities. How far the project has contributed for the improvement of tuberculosis control in Nepal is difficult to judge. With this report, the project would like to present the monitoring results of activities. With the security constraint, JICA could not do the activities in the hilly area during the former half. We would like to see the improvement of situations for starting activities.

In the field of other lung diseases, we have done the activities for the improvement of case management of ARI and activities for the improvement of anti smoking activities. In the field of case management of ARI (acute respiratory infections), our project has conducted IMCI training and improvement of supervision activities of child diseases, with special emphasis on ARI. IMCI training has contributed for the improvement of the knowledge of health care workers. The case management skill has improved and case finding of ARI cases has improved in Rupandehi. In the field of improvement of anti smoking activities, the model activities are going on in 3 VDCs and its evaluation is necessary.

During the latter half of the project, in addition to the further strengthening of on-going activities (urban model area TB control, technical advice to logistics, general support to national tuberculosis control, IMCI training and improvement of supervision of ARI cases and model area activity of anti smoking activities), some new areas need to be strengthened. In the field of tuberculosis control, HIV related tuberculosis, strengthening of tuberculosis control for drug resistant tuberculosis (especially through the improvement of reference laboratory at National Tuberculosis Centre), presentation of the effect of IMCI and improvement of ARI supervision and summarization of the results of anti smoking activities.

Takashi YOHSIYAMA

Community Tuberculosis and Lung Health Project

Japan International Cooperation Agency

Part 1. Tuberculosis

National Policy on Tuberculosis Control

Tuberculosis is the one of the leading causes of loss of DALY for those aged 15-44 and tuberculosis control is included as one of the essential component of "Essential Health Care Services at the Districts" by Second Long Term Health Plan (p 26, p91). Upon this situation, tuberculosis control activities have been implemented as 2055-2060 Long Term Plan. The objectives of this NTP plan is to achieve the following indicators by 2003,

(a) 85% treatment success rate in new smear-positive pulmonary TB cases

(b) 70% case detection ratio in new smear-negative pulmonary TB cases

(c) DOTS available in all 75 districts of the country through the NTP.

To achieve these objectives, NTP has adopted the policy of implementing DOTS as follows,

(a) Fully integrated TB diagnostic and treatment services into the general health services. The basic unit of the NTP for diagnosis, treatment and registration of patients with TB is the district hospital and primary health care centre.

(b) Establish at least one treatment centre per district. (Usually one treatment centre for every 100 000 population and in hilly districts one treatment center for every 40 000 population).

(c) Promote early detection of infectious pulmonary cases by sputum smear examination of patients attending the health services with respiratory symptoms.

(d) Ensure that all centers offering treatment for patients with TB utilize the regimens recommended by the NTP, with direct observation of patients taking rifampicin containing regimens.

(e) Provide free anti-tuberculosis treatment to all patients with active TB, through the basic health services with a priority for sputum smear positive cases in every district of the country.

(f) Evaluate the NTP performance by cohort analysis of the outcome of treatment of all registered cases.

Upon these policies, NTP has been implemented and the coverage of DOTS has expanded to 84% of the population by 2001. The DOTS expansion has been supported with the regular and development budget of HMG also with the support of NORAD / LHL, WHO, DFID, BNMT, LHL, NRL, Nuffield institute of health.

Support of National Tuberculosis Control Program by JICA Project

0. Project purpose indicators and its achievement

1. 75 districts covered by DOTS by 2003 : already covered in 2001.

This indicator is already achieved in 2001.

2. 85% of treatment success rate has been achieved (nationwide) by 2005 :

Treatment success rate for 2057/58 FY cases (July 2000 to July 2001) was 87%.

3. 85% of TB patients covered by DOTS by 2005 :

DOTS coverage for 2058/59 FY cases (July 2001 to July 2002) was 89% of the population.

The contribution of JICA for the project purpose is difficult to measure because of two reasons. One is that there are many players that work for tuberculosis control, such as NTC (HMG/N), WHO, other bilateral organizations (DFID, NORAD) and INGOs (BNMT, NRL, INF, and MDM). The other is that JICA's activity is not so independent but is so closely related to other organizations' activities.

1. National Tuberculosis Control Programme Support

1.1. Output indicators and its achievement by February 2003

1. Major decisions on project implementation are mutually decided by NTP and JICA teams in areas covered by the project

JICA team accepts this to be fulfilled together with discussion with other partners on TB.

2. All health personnel responsible for implementing NTP at the specified level having a clearly defined job descriptions are evaluated upon their performance and provided opportunities in line with their capacity and career development

This is basically the staff performance evaluation system in HMG/N and the team has not done the activities on this during the former part of the project. The validity of the inclusion of this indicator needs to be assessed.

3. By mid-2005 allocated trained staffs are found working in at least 80% of the technical posts at all levels and at all times

Small sample survey results done at August 2002 DOTS are "center TB staff 99% (85/86), DOTS center lab 81% (70/86), DOTS subcenter 95% (293/308) are staffed with trained personnel for TB in 27 districts surveyed in central and western region. (August 2002)". So basically this has been fulfilled.

4. Local NGOs, social workers, CBOs, local govt. (VDC, DDC MP), NATA, HP are found increasingly taking part in such programs as world TB day, DOTS workshop.

Number of NGOs and NATA involved in DOTS is almost stable. However the number of private sector (hospitals) involved in DOTS has been increasing. <In Kathmandu, DOTS centre in private sector <medical college, polyclinic, NGO and Red Cross> has increased from 6 to 8 during the period of 2001-2003. Inclusion of medical colleges working for DOTS is increasing (Nepalganj medical college started before 2001, Universal college of medical science (Bhairawa) in 2002).

5. Experience made on the basis of implementation of the plan is found incorporated in the successive year's plan documents.

1.2. Activities

1.2.1. NTP manual

NTP manuals (NTP manual, laboratory manual, logistics manual, FCHV training) have been published with the efforts of NTC and JICA TBCP in 1990s. Revision has been done for these manuals (NTP manual, laboratory manuals and modules, volunteer training manual) and CTLH supported these revisions. The publications published with the JICA budget are as in the annex 4.

1.2.2. Technical advisory group review

Since the joint review of the NTP carried out by World Health Organization (WHO) and HMG in 1994, annual review of NTP has been done by TAG in 1996, 97, 98, 99, 00, 01 and 2002. The representatives from International Union Against Tuberculosis and Lung Diseases (IUATLD), World Health Organization (WHO), Research Institute of Tuberculosis (RIT, Japan), Norwegian Lung Health Association (LHL), Nuffield Institute UK, and Japan International Cooperation Agency (JICA) and SAARC Tuberculosis Centre (STC) were involved in the review. JICA experts participated with technical contribution in the assessment of the DOTS implementation.

1.2.3. NTP report

NTP report (2057/2058) was published in March 2002. CTLH contributed to the publication, especially for the part of statistical information. NTP report (2058/2059) is under preparation and JICA contribution is in the same portion.

1.2.4. Coordination with I/NGOs

Tuberculosis control network (TBCN) meeting, which was initiated during the TBCP 1st phase, continues to share the experiences under the chairmanship of NTC director and initiative of Nuffield institute. Recently especially discussed about coordination with the HIV/AIDS.

1.2.5. International Conference, Workshops, Study tours and visits

In 2002, 3 participants joined the global congress on lung health in Montreal.

In 2002, with technical exchange program, 4 visited Cambodia, where Dr. Onozaki that had worked for JICA TBCP phase 1 in 1990-1993 works as the chief advisor of tuberculosis control.

1.2.6. Training

Training organized by JICA is as follows

Group	Purpose	Trainee	Trainer	Date
Laboratory	equipment maintenance	20	Mr. Dallakoti (BTS, authorized by Olympus)	Dec13-15, 2001

Laboratory maintenance training was evaluated 6 months after training by questionnaire. The result was

Among the 20 trainees, 10 persons responded. All responded that the training was useful and the skill, which they learned, was utilized during the 6 months (cleaning lf microscopes lens: 5, to teach what they learned : 7, simple repair :2 and so on). The duration was judged as short (7) or adequate (3). Some problems which they encountered and could not solve even after training were "some lens were difficult to open for cleaning the fungus : 2", "some fungus growth", "damaged parts", "problem of microscopes of different type" and "microscopes of other companies". 8 participants expected further training.

In addition to these training, JICA experts participated in the training organized by NTC as follows,

Group : Doctors training, topics of lecture : HIV and TB, Frequency : 3

Group : Laboratory training. Topics of lecture :

Group : Statistics officer : Topics of lecture : Surveillance : 1

Group : Storekeepers. Topic of lecture: Combined drug: 4 (and presentations at DOTS workshops and other trimester meetings)

2. Laboratory and logistics management support

2.1. Output indicators and its achievement

1. By 2005, achieve 70% case finding with proportion of smear positive patients being over 55%

At the 1st quarter of fiscal year 2059/60 (July to November 2002), the proportion of registered cases divided by the estimated occurrence of smear positive new cases was 70% and the proportion of smear positive cases among all new TB cases was 58% (4289/7305).

2. By 2005 overall agreement rate is more than 90% with less than 5% false result

At the 3rd quarter of fiscal year 2058/59 (March - July 2002), the overall agreement rate was 94% and the false positivity (number of false positive smears divided all positive smears) was 1.9% and the false negativity (number of false negative smears divided all negative smears) was 1.5%.

3. 80% functioning MCs by 2005 (nationwide)

At the survey of November 2002, the number of functioning microscopy centers divided by the implemented DOTS centers was 82% (267/325).

4. At least 80% of the equipment at all levels and at all times are found functional

Among 300 microscopes at stock in NTP (some are from other agencies), 270 were functioning in February 2002 (14 were with problems, 5 were broken, 11 were unknown status.

5. By 2003, no instances of stores not having logistic materials in stock are reported at all the stores are achieved

At the district level, no stock out during 1st Q 2059/60 (July 2002 to November 2002). But no data at DOTS centre level.

6. By 2003, drug supply at all the levels within the range of 85% - 135% of requirement

At the fist quarter of 2059/60 (July-November 2002), the number of districts with drug supply of PZA amount at the range of 85-135% of case load during the previous quarter was 23 among 44 districts investigated. Except for the region with shortage of PZA, 21 districts among 31 investigated districts were within the range of 85-135%.

At the fist quarter of 2059/60 (July-November 2002), the number of DOTS centers districts with drug supply of PZA amount at the range of 85-135% of case load during the previous quarter was 9 among 36 DOTS centers in Kathmandu districts.

2.2. Activities

2.2.1. Laboratory support

Quality control system

Basically quality control system has been established before the start of this project and technical assistance about this problem

was done only by one short term expert (Ms. Fujiki, 2000).

Reference laboratory

For setting up the reference laboratory, one short term expert has arranged the equipments and staffing (August 2002). Equipments were provided in fiscal year of 2002 (which will arrive around July 2003) and one counterpart started the job in February 2002. One short-term expert is expected to guide the counterpart medical technologist in early 2003.

2.2.2. Logistics management support

Short term expert evaluation

In February-March 2002, a short term expert evaluated and gave advice on logistics management of tuberculosis drugs. Drug distribution system has been developed during the TBCP phase 2 and the risk of stock out and expire at present was within the acceptable range. However the short-term experts pointed out the difference of actual stock level (by physical verification) and the records and recommended the "implementation of the regular actual physical verification" at all levels. In January – March 2003, the second short term expert visited some health facilities. There was some improvement in comparison to previous year in the area of drug allocation within the storage which makes FEFO easier, in the area of implementation of physical verification and in the area of recording, in the DOTS centres at the comparison between the last year expert observation and this year observation.

Transition from separate drug to combined drugs

DFID provided combined tablets (which arrived at NTC on April-August 2002). Until then, the loose tablets were used. WHO (supported by DFID) expert made a manual for the transition from loose tablets to combined tablets. The JICA expert collaborated for the manual making and JICA local staff has collaborated for the orientation at all levels. Also JICA experts advised for the actual planning of drug distribution, although the expert did not advise for all distributions.

3. DOTS improvement in model area

3.1. Output indicators and its achievement

1. Within 2 years 70% of the estimated TB patients in the model area (but only 60% in hilly areas) will have a cure rate of 85% through the use of modified DOTS method

The case finding in Kathmandu metropolitan area for the cohort of July 2002 to November 2002 (1st quarter of fiscal year of 59/60) was 260. The population of the metropolitan area by 2001 census was 696852. So rate per year per 100 000 population was 112. Expected case detection is calculated as 4% ARI in Kathmandu corresponds to 4*50 case detection per year per 100 000. So 112 / 200 = 0.56 =56% case detection. However, considering the validity of using the formula (ARI will be translated to incidence rate) and the validity of the ARI (which was calculated in early 1990s), the case detection will be difficult to evaluate.

The cure rate in the Kathmandu metropolitan area for the cohort of July 2001 to November 2002 (1st quarter of fiscal year of 2058/59) was 77% (200/259). (treatment success rate 80%(207/259), defaulter rate : 8%(22/259), death rate 2%(6/259) and failure rate 3%(7/259)))

failure rate 3%(7/259)))

2. 90% of TB patients in hilly model area(s) have DOTS services accessible within 2 hr walk

Hilly area activities are not done at present because of security reasons.

3. By the end of the project 80% of private practitioners (Drs, AHWs etc) in model areas will have managed (treatment and/or referral) their TB patients using NTP guidelines

The baseline survey in 2002 (Kathmandu except for Chavil, Swayanbhu, Balaju, Chetrpati) July tells that 43 doctors among 102 who have experience of diagnosis of TB during the past one year refer TB patients to NTP and additional 18 doctors refer to NTP case by case (42% + 18%). And two privates sector in this area provide DOTS under NTP. So as of July 2002, the proportion of health workers managing TB cases under DOTS will be around 50-60%.

4. 80% of hospitals/nursing homes in urban areas will have DOTS clinics

Number of clinics with diagnosed TB cases during the past one year in above study area was 74 and DOTS centre in the private sector was 2 in the area. The proportion of clinics where TB cases are referred to NTP is difficult to judge because the survey was done basically for doctors.

The number of health facilities that are referring cases to DOTS centers in Kathmandu was .

5. The ratio of (no. of DOT sites established/estimated no. of DOT sites suitable for the model area) found progressively increased over several years

DOTS centers have increased from 19 in December 2001 to 29 in February 2003 in Kathmandu metropolitan area.

6. Existence of objective indicators about the magnitude of HIV among TB cases and those about the magnitudes of drug resistant TB among new smear positive cases.

The NTC/WHO survey result (2001/2002) shows not high MDR rate among new cases (1.3%) and HIV positivity (2.4%) among TB cases.

3.2. Activities

3.2.1. DOTS improvement in urban area - Kathmandu

Analysis

Model area activity is done in the Kathmandu metropolitan area. DOTS has been implemented in Kathmandu. However there were following weakness. Treatment result was poor (cure rate 77% and treatment success rate 83% in 2056/57 cohort for the Kathmandu metropolitan area) and relatively low case finding rate (754 smear positive new cases with the proportion of 108 / 100 000 population in 2057/58, which is higher than 59 / 100 000 <national average> but considering the higher annual risk of infection (around double of the national average), the proportion of found cases is lower than the national average).

The reason of poor treatment result will be poorer case management system or more difficult situation. At least there is a difficulty of mobile population. So we need to strengthen the case management in Kathmandu urban area at DOTS centers.

The reason of poor case finding by government sector will be the treatment at private sectors (some cases treated at private sector is not included in the government statistics). Private sector itself is not the problem. The problem is that private sector is not related to the government sector. The solution will be in two ways. One is the inclusion of some private sectors to DOTS

system and to make some private sector to DOTS center. (Already some I/NGO clinics and private sectors participate as DOTS centers). The other is to strengthen the system of referral of TB patients to DOTS. Of course we cannot force private sector patients to follow NTP but to strengthen the relationship with private sector will contribute for the improvement of case finding in governmental sectors.

Intervention –1 Improvement of defaulter tracing in the urban area – activation of DOTS committee and mobilization of volunteers

Rationale ; For the improvement of case management, treatment card system has been well established but the problem is the difficulty of late patient tracing. So for the improvement of late patient tracing, we implemented late patient tracing with mobilization of volunteers through the strengthening of DOTS committee.

DOTS committee re-activation: At 15 DOTS centers (8 UHCs= Naxal, Lainchour, Niuka, Swayanbhu, Balaju, Banewsor, and Koteswor, Dilibazar, 5 I/NGO DOTS centers=Himalaya healing center, Friends of Shanta Bahwan, Helping Hands, GENETUP, Care and Fair, 2 others = Anamnagar polyclinic, Medicare) among 19 reactivated DOTS committee. (the rest were Bir hospital, Birendra police hospital, Ramsgat PHC and DPHO clinic). Other 3 DOTS centers started during the project period (Nepal medical college, Kathmandu medical college and Teku hospital) but these hospitals are big hospitals with wide catchments area without strong relation to the people in the area and DOTS committee was not organized for these 3 DOTS centers.

Volunteer mobilization : Volunteers were organized at 22 DOTS committees and 14 DOTS centers started regular meeting of volunteers (7 UHCs (Naxal, Lainchour, Niuka, Swayanbhu, Balaju, Dilibazar, Banewsor, Koteswor, Jayabageswor, Inabahal) GENETUP, Himalaya Healing Center, Anamnagar polyclinic and Care & Fair) once per month (all except for GENETUP) or per 2 weeks (GENETUP). Also to share the experiences in each DOTS centres, wider area meeting was held in February (including DOTS centre staff, committee members and volunteers, Kathmandu was divided into 3 groups <> and meetings was done at each group area). Volunteers mainly act as late patient tracer basically, treatment supervisor for those who cannot come to the clinic (because of weakness and so on), and advocacy members. The number of late patients / defaulters that became the target of late patient tracing and traced cases are as follows.

Results

Results of DOTS centre improvement (Outcome) : Defaulter rate: not yet changed (around 7%)

Results of late patients tracers (Outputs) Late patient action results

duration	late	trace	return	dead	refuse	not found	migrated
By March 02	3	0	0	0	0	3	0
April-Aug 02	33	32	12	4	1	7	6
Sept-Nov 02	25	25	3	4	2	3	13
Nov 02-Jan 03	38	35	15	2	5	4	5

(found but result was not ascertained : 1, admitted or stop by Dr. : 3)

(other 1 case was chased and found to be treated at the jail : t/o)

Next step

Following the above results, we consider further actions are necessary. So late patient tracer will be introduced in some DOTS centre areas with higher defaulter load.

Intervention – 2 Increase of DOTS centres

Increase of DOTS centres is basically the activities of NTC and Kathmandu district. JICA supported the increase of DOTS centres for the supply of equipments / training / supervision. DOTS centre in September 2001 was 19 and it has increased to 29 in February 2003. Further increase of DOTS centres in key health facilities (such as teaching hospital and Khanti hospital) and key private health facilities is necessary.

The number of health facilities in Kathmandu metropolitan city is as follows,

Health institutions	total	with DOTS
Government (ministry of health)		
Central hospital	1	1
Specialized hospital	3	1(infect. dis. Hp)
Health centre	1	1
District pub. health office	1	1
Gov. medical school Hp	1	0
Police hospital	1	1
Local government clinic	18	13
Private / NGO		
medical schools	2	2
nursing homes (private)	39	1
other clinics	hundreds	8

Intervention – 3 DOTS committee for advocacy activities :

DOTS committee has done the following programs.

Cultural program on the topic of TB : 1

Rally for national TB day : 1

School education program (to speak with school teachers and students)

Factory interaction program (to discuss with factory owners) : Himalaya healing centre, Baneswor

Intervention – 4 Improvement of collaboration with private sector – situation analysis

Private sector was surveyed before the private sector workshop. The survey revealed that probably more than half of the TB

patients in the survey area were treated at private sector and that a few doctors treat half of these cases that are treated at the private sector.

Intervention – 5 Improvement of collaboration with private sector

private sector workshop

Private sector workshop has started together with Nepal Medical Association. Nepal Medical association invited all medical doctors in Kathmandu area to the workshop. Workshops are done every Saturday (17 times) from January 4, 2003.

private sector involvement to DOTS

3.2.2. DOTS improvement in semi-urban area - Rupandehi

Rupandehi district has two semi-urban areas, Butwal municipality and Bhairawa municipality. In Butwal one DOTS treatment center worked without sub-treatment center before launching Urban TB program. As one DOTS clinic covering around 110,000 populations, we established new 4 sub-treatment centers to collaborate with Butwal DOTS clinic. Feasible survey was held on September 2002 to set new sub-treatment centers, and new DOTS committee has been formed in Butwal municipality. We had orientation and planning meeting for Butwal Urban TB control with DPHO and municipality officers. Modular training for health workers of new sub-treatment centers was started in October 2002. On November 2002, 4 new sub-treatment centers have opened in Butwal municipality. We are having monthly staff meeting with health workers and visiting each DOTS clinic for supervision. We are planning to 1) establish one or two more sub-treatment center in Butwal, 2) organize volunteers group to involve DOTS activities, 3) make a system of late patients tracing by volunteers, 4) involve private practitioners in National TB program, 5) orient chemists/druggists to DOTS strategy and 6) extend Urban TB program to Bhairawa municipality in the next fiscal year.

Left problems and future plan

1. National Tuberculosis Control Programme Support

Continue the present support (TB manual, TB annual report, technical review, conference, training)

2. Laboratory and logistics management support

Reference laboratory support will start. Ms. Joti Acharya will work at the NTC as part time. Equipments and short term expert support will be done in the latter half of the project.

Logistics system improvement will continue with the long term experts.

3. DOTS improvement in model area

Urban area DOTS improvement will continue.

JICA could not perform hilly area activities because of security constraint. With the recent improvement of situations, we will need to consider whether we shall start the activities or not.

HIV related tuberculosis will be more emphasized as the problem and JICA support to these problems will be done especially

for the education about tuberculosis to HCWs in NGOs for HIV/AIDS.

Support to management of MDR TB will be done in coordination with DOTS plus project.

Part 2 Acute Respiratory Infection Control

National policy on ARI control

The Ministry of Health (MoH) recognizes that Acute Respiratory Infection (ARI) is one of the major public health problems in Nepal among children under 5 years (60 months) of age. The National Control of ARI Program is an integral part of primary health care and has been accorded high priority by the MoH. The program focuses on children under five years because the majority of deaths in this age group are ARI-related. The MoH recognizes the need to follow the World Health Organization (WHO) guidelines for the classification of ARI cases. Therefore, all cases of ARI assessed by health workers have been classified into one of the following categories:

1. Very severe pneumonia;
2. Severe pneumonia;
3. Pneumonia; or
4. No pneumonia

The program recognizes the important role of mothers and other caretakers in identifying the difference between the need for home care and the need for referral to health facilities. Therefore all health workers should be able to communicate the necessary information effectively to mothers and caretakers.

The main objective of the ARI program is to reduce under-five ARI-related morbidity and mortality and to improve the situation of child health in Nepal.

Specific strategies to achieve this goal are:

(a) Train all level of health workers
(b) Train school teachers
(c) Orient chemists/ druggists
(d) Expand community-based IMCI training in two more districts
(e) Orient community leaders, including DDC and VDC members, faith healers and mothers
(f) Supply Cotrimoxazole Pediatric tablets to all health institutions
(g) To supply Cotrimoxazole Pediatric tablets to all FCHV in 11 districts (Chitwan, Makawanpur, Morang, Sunsari, Jhapa, Parsa, Siraha, Rautahat, Bara, Rasuwa and Bajura)
(h) Supply sound timers to all FCHVs in 11 districts
(i) Develop IEC materials
(j) Assist NHEICC in the revision of ARI messages
(k) Manage ARI cases, applying standard ARI case management protocol

(l) Supervise and monitor at all levels

Child health division set up the following indicators:

1. Under-five child mortality due to ARI-related causes
2. Case Fatality Rate from ARI
3. Annual incidence of ARI among under-five children
4. Annual incidence of pneumonia among under-fives

However we can know the mortality rate and morbidity only by some survey, not by the routine monitoring system and there is no nationwide data available at present.

Support of ARI control in Rupandehi by JICA project

0. Project purpose indicators and its achievement

1. By 2005, mortality rate due to ARI decrease by 10% in all selected areas:

Due to lacking of any kind of survey for the mortality rate of ARI cases in this country before launching IMCI program, we cannot evaluate the precise change of mortality rate of ARI cases through this project. The project is going to implement a verbal autopsy survey of mortality of ARI cases in selected VDCs in Rupandehi area. Possible alternative indicator will be "In 2005, mortality rate due to ARI will be lower than that in the neighboring district with similar health infrastructure".

1. Output indicators and its achievement

1. By 2004 cure rate of pneumonia is more than 85% in the selected district with ARI program.

   In 2002 health workers reported around 20% of the outcome of ARI cases, which were treated in investigated health facilities. Among those reported pneumonia cases; cure rate of pneumonia is 89%. It is necessary to increase follow-up cases in ARI to make it clear outcome of ARI cases. Our project is establishing Follow-up system.

2. By 2004, 80% of registered ARI cases are properly managed (diagnosed, treated, referred) at all levels.

   With regular supervision by our project, more than 80% of registered ARI cases were properly managed at investigated Health facilities in 2002. Our investigation will cover all health facilities to evaluate their case management of ARI cases with prompt reporting system and workshop. We started Four-monthly workshop in selected health facilities. It is also necessary to strengthen supervision in cooperation with DPHO supervisors.

   For village health workers (VHW) and health volunteers level, training is now in progress. After this training, we will evaluate that community level management.

3. By 2004, at least 80% of the registered pneumonia (2 months to 5 years) cases have 3rd day follow-up.

   Around 20% of pneumonia cases were followed after two days of treatment at investigated health facilities in 2002. Follow-up system in cooperation with village health workers and health volunteers will be established by our project.

After Community-based level (VHW and health volunteers level) training, which is in progress now, and establishing Follow-up system, it will be expected to follow more than 80% of registered pneumonia cases.

4. At least 80% of all age groups receive the correct dosage of medicines as per WHO standards.

   More than 80% of pneumonia cases from 2 month to 5 years of age received correct dosage of antibiotics, which follow WHO standards, at periodic investigated 20 Health facilities in 2002. It is necessary to investigate regularly all health facilities, community workers and volunteers in selected area to evaluate their treatment regimen in cooperation with DPHO supervisors.

2. Activities

2.1. Conduct district-level planning workshop and DDC -level orientation

For Health facility staff and doctors level, district-level planning meeting and DDC -level orientation was conducted on July 2001.

For Village health workers, Health volunteers level and Traditional healers, district-level planning meeting and DDC -level orientation was conducted on November 2002.

2.2. Adopt IMCI training package and conduct training /orientation (for doctors, basic health staff, volunteers, traditional healers, VDC members, etc)

For the health facility staff and doctors, IMCI training was done from August 2001 to January 2002.

For the village health workers, health volunteers and traditional healers, CB-IMCI training is in progress from December 2002.

2.3. Monitor and evaluate ARI case management at all levels

1. Supervision of ARI case management

   ARI case management is done upon the training of IMCI.

   Dr. Shimouchi, Dr. Nakano and Dr. Kato visited some health facilities in Rupandehi during Health Facility level training as supervision for the first time in November 2001, and found several problems of poor recording of register, not prompt management of ARI cases and poor follow-up, etc.

   After completion of Health Facility level training, monthly supervision was started regularly from March on 2002. In the regular supervision, we have already visited around 20 health facilities among 69 VDCs. Twenty health facilities: 4 PHC, 7 HP and 9 SHP, are to be supervised monthly by our project, which were selected as the first priority supervision area among 69 VDCs in the initial stage. We will expand supervision area to cover all health facilities in cooperation with DPHO.

2. IMCI workshop, called as IMCI review meeting, was started by our project from August 2002. We started with some selected health facilities, 4 PHC and 7 HP, in the beginning. And it will be expanded to all health facilities in Rupandehi district. We introduced Four-monthly reporting format in this workshop. According to the report of this format, health

workers discuss their problems to solve them and they will cross-check their activities each other. With this Four-Monthly Reporting system, health workers share their activities and brush up each other.

3. Monitor of ARI case management
   a. Regular monitoring was started with regular monthly supervision. In the regular supervision, we monitor case management at Health Facility level, their diagnosis, treatment and referral cases with checklist. We will include volunteers' case management after CB-IMCI training.
   b. Four-Monthly Reporting system was introduced from July on 2002. Workshop for IMCI is held on four-monthly in selected Rupandehi district. Health workers will present their activities in the regular workshop with Reporting formats.
   c. National program introduced IMCI register with support of USAID. We will collect IMCI registers from each VDCs and examine those registers by our project.
4. ARI Follow-up system

   Because of poor follow-up of ARI cases in Health facilities, around 20% followed among registered pneumonia cases, we will introduce new follow-up system utilizing ARI follow-up cards, which our project produced, for Health facilities in coordination with VHW, MCHW and FCHV to increase follow-up ARI cases from April on 2003. After the training for VHW, MCHW and FCHV, it will be expected to follow more than 80% of registered ARI cases.

   We will orient doctors working in hospitals to record referral cases from health institutions. At present the feedback system of referred cases from hospital to health institution dose not work at all. We invite the doctors to Four-monthly IMCI workshop to follow and discuss referral cases.

2.4. Other activities

In November 2001, our project held one seminar on lung health, focusing on ARI management with special lecturer of Dr. Shimouchi, who presented his experiences as the medical officer responsible for the control of ARI in the Western Pacific Region of WHO.

2.5. Logistics of Co-trimoxazole

Logistics components (Ensure timely and adequate provision of drugs for ARI at service delivery points, Involve the Health Management Committee (HMC) and health facilities for sustainable logistics management) were excluded from JICA activities and Community Drug Program (CDP) is in progress under the cooperation of DFID in Rupandehi district. It will be finished by the end of July on 2003. However, due to the delay of the activities, JICA provided Co-trimoxazole, which is necessary for starting IMCI at the FCHV level.

Left problems and future plan

1. Community-based level IMCI training

   Community-based level IMCI training will be finished by the end of July 2003.

2. To introduce IMCI workshop (review meeting) as a National strategy

   We introduced the IMCI review meeting in selected area. With establishing Four-monthly IMCI workshop in Rupandehi district, we will introduce this system to CHD as a National strategy.

3. To establish follow-up system

   New follow-up system in health facility level will start in Rupandehi district. It includes referral hospitals and community health workers and volunteers.

4. Epidemiological study

   After establishing monitoring system with follow-up system, we will study cases management, morbidity and mortality rate of ARI cases registered in Government health facilities in Rupandehi district.

Part 3 Adult lung health / Tobacco control

Support of adult lung health by JICA project

1. Output indicators and its achievement

1. By the end 2004, guidelines available in concerned health institutions on prevention and case management (identification, classification and basic treatment)

The guideline has been developed by PAL Nepal (Adult lung health initiative). As the project activity, the result needs to be utilized.

2. Number of subsequent visits by affected people to health institutions after registration

3. Number & frequency of lung health problem cases identification in the project area

4. Number of health institutions using the prescribing guidelines in the specified areas and providing feedback for their utility and modification

At present, no activities have been done about the training, supervision and monitoring of integrated management of lung diseases. So no indicator is available at present about 2-4.

2. Activities

2.1. Literature review

Epidemiology and Risk factors of Chronic Obstructive Pulmonary Disease (COPD) was published with the effort of Dr. M. R. Pandey and JICA Community TB and Lung Health Project in March 2002. This Literature review references especially to Nepalese situation, which has a close correlation between high prevalence of COPD and high smoking rate. Our COPD survey was based on the information of this Literature review. The Literature review was published with JICA budget as in the annex 4.

2.2. COPD survey

The COPD survey was conducted from January to April 2002 with cooperation of Prof. B. Shrestha and her colleague. The objective of this survey is to measure the prevalence of chronic bronchitis and COPD among residents, and to investigate the factors related to the occurrence of chronic bronchitis and COPD in Kathmandu valley. We studied 4,000 populations in cross sectional survey. According this survey results, we selected anti-smoking activity sites.

Support of tobacco control by JICA project

0. Project purpose indicators and its achievement

Number of measures adopted by the registered cases in prevention of lung diseases:

Our project is focusing on Tobacco control to prevent lung diseases. Tobacco smoking, both active and passive, is one of the most important causes of COPD. We will evaluate how community people make the measures against smoking, and how many measures against tobacco smoking adopted by the community, in the targeted area through learning anti-smoking campaign by the end of the project.

1. Output indicators and its achievement

1. Increased numbers of lung heath promotion program activities (e.g. anti-smoking campaigns) carried out by community initiatives

   In three selected Village Development Committee areas, Chapagaon, Tokha-chandeswati and Changunarayan VDCs, anti-smoking campaigns were started. This campaign has three components.

   a. To orient VDC and DOTS members, FCHVs and DOTS volunteers to arouse awareness about public hazard from smoking to community people through Focus Group Discussion.
   b. To mobilize Health staff to lead smokers to quit smoking through health facilities.
   c. To prevent younger ages from starting smoking through School Health Education in primary and lower secondary schools.

2. By the end of the project the sample population in the targeted areas who can state the methods for preventing chronic cough (COPD) increases by 20%

   We surveyed the sample population before launching anti-smoking campaign in January to April 2002. We will survey again same sample population to evaluate their knowledge and attitude to prevent COPD by the end of the project.

3. By the end of the project (5 yr.) smoking rate in the selected (targeted) area decreased by 20%

   (Purchase and utilization of cigarettes, Number of non-smoking zones/ villages/ parks etc.)

   We surveyed smoking rate in the targeted area before launching anti-smoking campaign in January to April 2002. We will survey again same sample population to evaluate the change of smoking rate by the end of the project.

2. Activities

1. To involve Village Development Committees and DOTS Committees to work for lung health in cooperation with other community organizations

   In selected three VDCs, training for Female Community Health Volunteers (FCHVs) and DOTS volunteers were held, and are in progress, to manage Focus Group Discussion (FGD) by support of VDC and DOTS committees. With this FGD, several kinds of groups discuss regularly about public hazard from smoking to improve health in their community. Voluntary facilitators of FGD will report the results of discussion to regular review meeting.

   Other community organizations will be involved in the activities to cooperate with VDC to mobilize much more people in the community.

2. To train health staff in interpersonal communication and group work facilitation

   In selected three VDCs, health staff was trained, and is in progress, to communicate each DOTS volunteers, FCHVs and other groups, and facilitate their group works of FGD and regular review meeting, and summarize their report.

3. To conduct targeted health education

   In selected three VDCs, trainings were held for health staff to conduct health education to smokers among patients who visit their health facilities in the community, to lead the smokers to quit smoking.

   They monitor the smokers' conditions and progress of their behavioral changes though health education.

4. To conduct targeted school health education

   In selected three VDCs, trainings were held for teachers, who are working as health teachers in primary or lower secondary school, to conduct health education to students belonged to grade 5 to 6. The teachers give students right knowledge against Tobacco to prevent children from starting smoking.

   They monitor the students' ideas and feelings against Tobacco and evaluate the change of their attitude against Tobacco though school health education.

5. To conduct advocacy programs on lung health for the general public

   Lung Health seminar was held for all health workers and volunteers working in Kathmandu valley in November 2001.

   Anti-smoking workshop was held to advocate on lung health with other NGOs working for Tobacco control on World No Tobacco day, in May 2002.

   We are planning to have advocacy program about tobacco smoking for general public on next World No Tobacco day.

6. To adopt participatory methods in lung health programs (e.g. anti-smoking campaign)

   Those above 1-5 activities have been conducted as lung health program, which focuses on mainly Tobacco control, in selected community having high smoking rate.

Left problems and future plan of tobacco control

1. To establish monitoring and evaluation system

   We need evaluation system for the three components of anti-smoking activities. It will be introduced by our project soon.

2. To expand tobacco control program to other VDCs

   After completion of the training and introducing monitoring/reporting system with regular supervision, we should expand our program to other VDCs in Kathmandu valley.

3. To conduct regular advocacy programs on Tobacco control for the general public

4. We will conduct survey to evaluate smoking rate and community measures against tobacco smoking in the sample population in targeted area by the end of the project.

Annex 1-1 Project design matrix at the beginning of the project (2000 September)

Objectives	Narrative Summary	Objectively Verifiable Indicators (OVIs)	Means of Verification (MOV)
Overall goal	Lung health among the people is improved	Morbidity and mortality rates due to TB and non-TB lung illnesses are reduced over several years in Nepal	• HMG statistics • TB prevalence survey/impact study reports
Purposes	1. Overall performance of the NTP is further strengthened 2. Functional models for improved community lung health are established	1. 75 districts covered by DOTS by 2003 85% of treatment success rate has been achieved (nationwide) by 2005 85% of TB patients covered by DOTS by 2005 2. By 2005, mortality rate due to ARI decrease by 10% in all selected areas HMG's program for the application of the models in other areas No. of measures adopted by the registered cases in prevention of lung diseases	1. Annual evaluation report of the NTP Proceedings of national reporting and planning workshop 2. Register/records of health institutions MoH documents Retrospective/prospective survey reports
Outputs	The managerial capacity of the NTP is further strengthened (A)	1. Major decisions on project implementation are mutually decided by NTP and JICA teams in areas covered by the project 2. All health personnel responsible for implementing NTP at the specified level having a clearly defined job descriptions are evaluated upon their performance and provided opportunities in line with their capacity and career development 3. By mid-2005 allocated trained staffs are found working in at least 80% of the technical posts at all levels and at all times 4. Local NGOs, social workers, CBOs, local govt. (VDC, DDC MP), NATA, HP are found increasingly taking part in such programs as world TB day, DOTS workshop 5. Experience made on the basis of implementation of the plan is found incorporated in the successive year's plan documents	1. Minutes of meeting 1. Interviews with NTP staff 2. The plan of operation and organogram 1. Interviews of the health staff 3,5 District DOTS, DTLA and RTLA workshop proceeding 4. Spot check 4. Survey report 4,6 NTP documents
	Management system for laboratory and logistics of NTP is made sustainable (B)	1. By 2005, achieve 70% case finding with proportion of smear positive patients being over 55% 2. By 2005 overall agreement rate is more than 90% with less than 5% false result 3. 80% functioning MCs by 2005 (nationwide) 4. At least 80% of the equipment at all levels and at all times are found functional 5. By 2003, no instances of stores not having logistic materials in stock are reported at all the stores are achieved 6. By 2003, drug supply at all the levels within the range of 85% - 135% of requirement	1. Case finding report of each district presented by DTLA quarterly 2. The report is presented by each QCA quarterly 3. Report is submitted by QCA during the workshop quarterly 4. Spot check, NTP documents 5,6 Monthly report from regional stores to NTP/LMD – QCA presenting status of lab materials (quarterly report) – RMS submitting monthly supply report and stock condition quarterly 5,6 Quarterly reports from district by DTLA, regional reports by RTLA quarterly – QCA presenting status of lab materials (quarterly report) – RMS submitting monthly supply report and stock condition quarterly
	Models for TB control in Urban and hard-to reach areas are established (C)	1. Within 2 years 70% of the estimated TB patients in the model area (but only 60% in hilly areas) will have a cure rate of 85% through the use of modified DOTS method 2. 90% of TB patients in hilly model area(s) have DOTS services accessible within 2 hr walk 3. By the end of the project 80% of private practitioners (Drs, AHWs etc) in model areas will have managed (treatment and/or referral) their TB patients using NTP guidelines 4. 80% of hospitals/nursing homes in urban areas will have DOTS clinics 5. The ratio of (no. of DOT sites established/estimated no. of DOT sites suitable for the model area) found progressively increased over several years	1,2 TB register, lab register, treatment card 3,4 Spot visit 3,4 Survey report 3,4 Practitioners record 5. NTP documents

Objectives	Narrative Summary	Objectively Verifiable Indicators (OVIs)	Means of Verification (MOV)
Overall goal	**Lung health among the people is improved**	Morbidity and mortality rates due to TB and non-TB lung illnesses reduced over several years in Nepal	• HMG statistics • TB prevalence survey/impact study reports
Purposes	**1. Overall performance of NTP is further strengthened** **1. Functional models for improved community lung health are established**	1. 75 districts covered by DOTS by 2003 85% of treatment success rate has been achieved (nationwide) by 2005 85% of TB patients covered by DOTS by 2005 2. By 2005, mortality rate due to ARI decrease by 10% in all selected areas HMG's program for the application of the models in other areas No. of measures adopted by the registered cases in prevention of lung diseases	1. Annual evaluation report of the NTP Proceedings of national reporting and planning workshop 2. Register/records of health institutions MoH documents
Outputs	**Case management of children with ARI is improved in selected districts** **(D)**	1. By 2004 cure rate of pneumonia is more than 85% in the selected district with ARI program 2. By 2004, 80% of registered ARI cases are properly managed (diagnosed, treated, referred) at all levels 3. By 2004, at least 80% of the registered pneumonia (2 months – 5 years) cases have 3rd day follow-up 4. At least 80% of all age groups receive the correct dosage of medicines as per WHO standards	1. FCHV ARI treatment book 1-3 ARI register at health facilities 2. Minutes of ARI supervisors' meeting at the district level 4. Survey on practice of health staff
	Case management of adults with respiratory illnesses is improved in selected areas **(E)**	1. By the end 2004, guidelines available in concerned health institutions on prevention and case management (identification, classification and basic treatment) 2. Number of subsequent visits by affected people to health institutions after registration 3. Number & frequency of lung heath problem cases identified in the project area 4. Number and duration of second-line treatment cases after failure of first-line treatment 5. Number of health institutions using the prescribing guidelines in the specified areas and providing feedback for their utility and modification 6. Health workers who properly manage "chronic cough (COPD)" increased by 20%	1. Guidelines available in health institutions 2-4 Register at health facilities 5. Spot check (Supervision) 6. Survey reports
	Communities adopted measures against lung health problems **(F)**	1. Increased numbers of lung heath promotion program activities (e.g. anti-smoking campaigns) carried out by community initiatives 2. No. of people seeking medical services for respiratory problems increase by ( )% by (2003) 3. By the end of the project the sample population in the targeted areas who can state the methods for preventing chronic cough (COPD) increases by 20% 4. By the end of the project (5 yr.) smoking rate in the selected (targeted) area decreased by 20% • (Purchase and utilization of cigarettes • Number of non-smoking zones/villages/parks etc.) 5. By the end of the project, 20% of the people in the targeted area adopted alternative cooking method to prevent indoor air pollution 6. The no. of people who have started home therapy at the beginning of respiratory infection increase by x % by 2003	1. Records of DOT + Committees 2. Records at health institutions 3-6 Survey reports 4-5 Spot checks

Objectives	Narative Summary						Assumptions
Overall Goal	Lung health among the people is improved						
Purposes	Overall performance of NTP is further improved			Functional models for improved community lung health are established			• Communities continue to use services of the NTP • Advocacy materials for lung health programs are not misled by other media
Outputs	The managerial capacity of the NTP is further strengthened (A)	Management system for the laboratory and logistics of the NTP is made sustainable (B)	Models for TB control in urban and hard-to reach areas are established (C)	Case management of children with ARI is improved in selected districts (D)	Case management of adults with respiratory illnesses is improved in selected areas (E)	Communities adopt measures against lung health problems (F)	• NTP will institutionalize the project achievements • Program support will be continued
Major Activities	A.1 Provide training to technical and non-technical staff A.2 Participate in international/regional/ national conferences A.3 Continue the DOTS workshop in each DOTS implemented district A.4 Improve staff performance evaluation system A.5 Coordinate for service linkages with INGOs, donors, local governments and the private sector A.6 Carry out IEC program activities A.7 Review and update NTP guidelines and formats when necessary A.8 Strengthen monitoring & evaluation system	B.1 Train HMG lab technicians for Q.C. in all regions B.2 Adopt a mechanism for assessing the performance of QCA B.3 Conduct regular regional Q.C. workshop for laboratory staff B.4 Provide training on QCA to DTLAs B.5 Establish reference lab in NTC B.6 Improve coordination between NTC and LMD B.7 Improve logistics management systems for drugs, laboratory and related materials within each region B.8 Adopt a system for equipment maintenance	C.1 Select areas (urban, hilly, prison etc.) for model demonstration C.2 Develop appropriate strategies for case finding and treatment C.3 Train/orient staff in the model areas C.4 Coordinate with NGO and private practitioners C.5 Establish /expand DOTS clinics in rural and urban areas C.6 Adopt defaulter tracing system in the community C.7 Monitor the progress of the model areas C.8 Review replicability of the approaches adopted	D.1 Conduct district-level planning workshop and DDC -level orientation D.2 Adopt IMCI training package D.3 Conduct training /orientation (for doctors, basic health staff, volunteers, traditional healers, VDC members, etc) D.4 Ensure timely and adequate provision of drugs for ARI at service delivery points D.5 Involve the Health Management Committee (HMC) and health facilities for sustainable logistics management D.6 Monitor and evaluate ARI case management at all levels	E.1 Classify common non-TB respiratory illnesses E.2 Conduct baseline studies E.3 Review existing information both in Nepal and elsewhere E.4 Plan pilot schemes in some selected areas E.5 Prepare operational guidelines including modules, formats and flow charts E.6 Conduct training for the concerned health workers /partners E.7 Implement pilot schemes in selected areas E.8 Coordinate programs with relevant partners E.9 Review replicability of the approaches adopted	F.1 Involve DOTS committees to work for lung health in coordination with other community organizations F.2 Train health staff in interpersonal communication and group work facilitation F.3 Conduct advocacy programs on lung health for the general public F.4 Conduct targeted health education F.5 Adopt participatory methods in lung health programs (e.g. anti-smoking campaign, reduction of indoor and outdoor air pollution, ARI etc.)	A-F Vacant posts are filled and frequent transfers do not upset the program C • Private practitioners will increasingly continue to support NTP policy with DOTS • The partners will continue to cooperate as per the agreement C,F • Cooperation for DOTS will continue to be available at local level Pre-condition: Agreement between HMG/Nepal and Govt. of Japan is reached in time with specified human and material resources

Annex 1 –2 PDM (revised 2002 February)

Objectives	Narrative Summary	Objectively Verifiable Indicators (OVIs)	Means of Verification (MOV)
Overall goal	**Lung health among the people is improved**	Morbidity and mortality rates due to TB and non-TB lung illnesses are reduced over several years in Nepal	HMG statistics TB prevalence survey/impact study reports
Purposes	**1. Overall performance of the NTP is further strengthened** **2. Functional models for improved community lung health are established**	1. 75 districts covered by DOTS by 2003 85% of treatment success rate has been achieved (nationwide) by 2005 85% of TB patients covered by DOTS by 2005 2. By 2005, mortality rate due to ARI decrease by 10% in all selected areas HMGs program for the application of the models in other areas No. of measures adopted by the registered cases in prevention of lung diseases	1. Annual evaluation report of the NTP Proceedings of national reporting and planning workshop 2. Register/records of health institutions MoH documents Retrospective/prospective survey reports
Outputs	**The managerial capacity of the NTP is further strengthened** (A)	1. Major decisions on project implementation are mutually decided by NTP and JICA teams in areas covered by the project 2. All health personnel responsible for implementing NTP at the specified level having a clearly defined job descriptions are evaluated upon their performance and provided opportunities in line with their capacity and career development 3. By mid-2005 allocated trained staffs are found working in at least 80% of the technical posts at all levels and at all times 4. Local NGOs, social workers, CBOs, local govt. (VDC, DDC MP), NATA, HP are found increasingly taking part in such programs as world TB day, DOTS workshop 5. Experience made on the basis of implementation of the plan is found incorporated in the successive year's plan documents	1. Minutes of meeting 1. Interviews with NTP staff 2. The plan of operation and organogram Interviews of the health staff 3,5 District DOTS, DTLA and RTLA workshop proceeding 4. Spot check 4. Survey report 4,6 NTP documents
	Management system for laboratory and logistics of NTP is made sustainable (B)	By 2005, achieve 70% case finding with proportion of smear positive patients being over 55% By 2005 overall agreement rate is more than 90% with less than 5% false result 80% functioning MCs by 2005 (nationwide) At least 80% of the equipment at all levels and at all times are found functional By 2003, no instances of stores not having logistic materials in stock are reported at all the stores are achieved By 2003, drug supply at all the levels within the range of 85% - 135% of requirement	1. Case finding report of each district presented by DTLA quarterly 2. The report is presented by each QCA quarterly 3. Report is submitted by QCA during the workshop quarterly 4. Spot check, NTP documents 5,6 Monthly report from regional stores to NTP/LMD QCA presenting status of lab materials (quarterly report) RMS submitting monthly supply report and stock condition quarterly 5,6 Quarterly reports from district by DTLA, regional reports by RTLA quarterly QCA presenting status of lab materials (quarterly report) RMS submitting monthly supply report and stock condition quarterly
	Models for TB control in Urban and hard-to reach areas are established (C)	1. Within 2 years 70% of the estimated TB patients in the model area (but only 60% in hilly areas) will have a cure rate of 85% through the use of modified DOTS method 2. 90% of TB patients in hilly model area(s) have DOTS services accessible within 2 hr walk 3. By the end of the project 80% of private practitioners (Drs, AHWs etc) in model areas will have managed (treatment and/or referral) their TB patients using NTP guidelines 4. 80% of hospitals/nursing homes in urban areas will have DOTS clinics 5. The ratio of (no. of DOT sites established/estimated no. of DOT sites suitable for the model area) found progressively increased over several years 6. Existence of objective indicators about the magnitude of HIV among TB cases and those about the magnitudes of drug resistant TB among new smear positive cases.	1,2 TB register, lab register, treatment card 3,4 Spot visit 3,4 Survey report 3,4 Practitioners record 5. NTP documents

Objectives	Narrative Summary	Objectively Verifiable Indicators (OVIs)	Means of Verification (MOV)
Overall goal	**Lung health among the people is improved**	Morbidity and mortality rates due to TB and non-TB lung illnesses reduced over several years in Nepal	• HMG statistics • TB prevalence survey/impact study reports
Purposes	**1. Overall performance of NTP is further strengthened** **2. Functional models for improved community lung health are established**	1. 75 districts covered by DOTS by 2003 85% of treatment success rate has been achieved (nationwide) by 2005 85% of TB patients covered by DOTS by 2005 2 By 2005, mortality rate due to ARI decrease by 10% in all selected areas HMG's program for the application of the models in other areas No. of measures adopted by the registered cases in prevention of lung diseases	1. Annual evaluation report of the NTP Proceedings of national reporting and planning workshop 2. Register/records of health institutions MoH documents
Outputs	**Case management of children with ARI is improved in selected districts (D)**	1. By 2004 cure rate of pneumonia is more than 85% in the selected district with ARI program 2. By 2004, 80% of registered ARI cases are properly managed (diagnosed, treated, referred) at all levels 3. By 2004, at least 80% of the registered pneumonia (2 months – 5 years) cases have 3rd day follow-up 4. At least 80% of all age groups receive the correct dosage of medicines as per WHO standards	1. FCHV ARI treatment book 1-3 ARI register at health facilities 2. Minutes of ARI supervisors' meeting at the district level 4. Survey on practice of health staff
	Case management of adults with respiratory illnesses is improved in selected areas (E)	1. By the end 2004, guidelines available in concerned health institutions on prevention and case management (identification, classification and basic treatment) 2. Number of subsequent visits by affected people to health institutions after registration 3. Number & frequency of lung heath problem cases identified in the project area 4. Number and duration of second-line treatment cases after failure of first-line treatment 5. Number of health institutions using the prescribing guidelines in the specified areas and providing feedback for their utility and modification 6. Health workers who properly manage "chronic cough (COPD)" increased by 20%	1. Guidelines available in health institutions 2-4 Register at health facilities 5. Spot check (Supervision) 6. Survey reports
	Communities adopted measures for anti smoking (F)	1. Increased numbers of lung heath promotion program activities (e.g. anti-smoking campaigns) carried out by community initiatives 2. By the end of the project the sample population in the targeted areas who can state the methods for preventing chronic cough (COPD) increases by 20% 3. By the end of the project (5 yr.) smoking rate in the selected (targeted) area decreased by 20% • (Purchase and utilization of cigarettes • Number of non-smoking zones/villages/parks etc.) 4. By the end of the project, 20% of the people in the targeted area adopted alternative cooking method to prevent indoor air pollution	1. Records of DOT + Committees 2. Records at health institutions 3-6 Survey reports 4-5 Spot checks

Objectives	Narrative Summary						Assumptions
Overall Goal	Lung health among the people is improved						
Purposes	Overall performance of NTP is further improved			Functional models for improved community lung health are established			Communities continue to receive services of the NTP Achievements made in the lung health program are extended beyond the project areas
Outputs	The managerial capacity of the NTP is further strengthened (A)	Management system for the laboratory and logistics of the NTP is made sustainable (B)	Models for TB control in urban and hard-to reach areas are established (C)	Case management of children with ARI is improved in selected districts (D)	Case management of adults with respiratory illnesses is improved in selected areas (E)	Communities adopt measures for anti smoking (F)	• NTP will institutionalize the project achievements • Program support will be continued
Major Activities	A.1 Provide training to technical and non-technical staff A.2 Participate in international/regional/national conferences A.3 Continue the DOTS workshop in each DOTS implemented district A.4 Improve staff performance evaluation system A.5 Coordinate for service linkages with INGOs, donors, local governments and the private sector A.6 Carry out IEC program activities A.7 Review and update NTP guidelines and formats when necessary A.8 Strengthen monitoring & evaluation system	B.1 Train HMG lab technicians for Q.C. in all regions B.2 Adopt a mechanism for assessing the performance of QCA B.3 Conduct regular regional Q.C. workshop for laboratory staff B.4 Provide training on QCA to DTLAs B.5 Establish reference lab in NTC B.6 Improve coordination between NTC and LMD B.7 Improve logistics management systems for drugs, laboratory and related materials within each region B.8 Adopt a system for equipment maintenance	C.1 Select areas (urban, hilly, prison etc.) for model demonstration C.2 Develop appropriate strategies for case finding and treatment C.3 Train/orient staff in the model areas C.4 Coordinate with NGO and private practitioners C.5 Establish /expand DOTS clinics in rural and urban areas C.6 Adopt defaulter tracing system in the community C.7 Monitor the progress of the model areas C.8 Review replicability of the approaches adopted C.9 Operational research will be done	D.1 Conduct district-level planning workshop and DDC-level orientation D.2 Adopt IMCI training package D.3 Conduct training /orientation (for doctors, basic health staff, volunteers, traditional healers, VDC members, etc) D.4 Ensure timely and adequate provision of drugs for ARI at service delivery points D.5 Involve the Health Management Committee (HMC) and health facilities for sustainable logistics management D.6 Monitor and evaluate ARI case management at all levels	E.1 Classify common non-TB respiratory illnesses E.2 Conduct baseline studies E.3 Review existing information both in Nepal and elsewhere E.4 Plan pilot schemes in some selected areas E.5 Prepare operational guidelines including modules, formats and flow charts E.6 Conduct training for the concerned health workers /partners E.7 Implement pilot schemes in selected areas E.8 Coordinate programs with relevant partners E.9 Review replicability of the approaches adopted	F.1 Involve DOTS committees to work for lung health in coordination with other community organizations F.2 Train health staff in interpersonal communication and group work facilitation F.3 Conduct advocacy programs on lung health for the general public F.4 Conduct targeted health education F.5 Adopt participatory methods in lung health programs (e.g. anti-smoking campaign)	A-F Vacant posts are filled and frequent transfers do not upset the program C • Private practitioners will increasingly continue to support NTP policy with DOTS • The partners will continue to cooperate as per the agreement C,F • Cooperation for DOTS will continue to be available at local level **Pre-condition:** Agreement between HMG/Nepal and Govt. of Japan is reached in time with specified human and material resources

Annex 2.1. List of EXPERTS

Long Term Experts

No.	Name	Designation	period
1	Mr. Katsumi ISHII	Project Coordinator	Oct.07,2000 - Oct.06,2002
2	Dr. Jinich KATO	Lung Health	May 07,2001- May 06,2003
3	Dr. Takashi YOSHIYAMA	Chief Advisor	Aug.30,2001 - Mar.01,2003
4	Mr. Akira NARUSE	Project Coordinator	Sep.19,2002 - Sep.18,2004

Short Term Experts

FY 2000/2001

1	Dr. Katsunori OSUGA	TB Control	Nov.25,2000 - Dec.04,2000
2	Dr. Akira SHIMOUCHI	Lung Health	Nov.27,2000 - Dec.08,2000
3	Ms. Akiko FUJIKI	TB Laboratory	Dec.11,2000 - Dec.23,2000
4	Dr. Jinich KATO	Lung Health	Mar.07,2001 - Mar.24,2001
5	Dr. Nobukatsu ISHIKAWA	TB Control	Mar.14,2001 - Mar.24,2001

FY 2001/2002

1	Dr. Nobukatsu ISHIKAWA	TB Control	Apr.25,2001 - May 01,2001
2	Dr. Takashi YOSHIYAMA	Epidemiology	May 01,2001 - May 12,2001
3	Dr. Akira SHIMOUCHI	Lung Health	May 07,2001 - May 19,2001
4	Dr. Akira SHIMOUCHI	Lung Health	Nov.19,2001 - Nov.30,2001
5	Dr. Hiroyuki NAKANO	Lung Health	Nov.19,2001 - Nov.28,2001
6	Ms. Nakae NOGUCHI	Logistics	Feb.25,2002 - Mar.31,2002

FY 2002/2003

1	Dr. Hiroyuki NAKANO	Lung Health	Jul.10,2002 - Jul.24,2002
2	Mr. Hiroaki YAMAZAKI	TB Laboratory	Aug.10,2002 - Aug.25,2002
3	Dr. Masakazu NAKAMURA	Tobacco control	Aug.17,2002 - Aug.25,2002
4	Dr. Katsunori OSUGA	TB control	Oct.22,2002 - Nov.02,2002
5	Ms. Tomoyo MIYAKE	Logistic	Jan.10,2003 - Mar.10,2003
6	Dr. Hiroyuki NAKANO	Lung Health	Jan.26,2003 - Feb.08,2003
7	Ms. Hiroko MATSUMOTO	TB Laboratory	Apr.06,2003 - Apr.11,2003

Annex 2.2. List of counterpart trainee

No.	Name	Period	Training Course	Institution	Post at the time of Training
1	Shrawan Kumar CHOUDHARY	Jan.08,2001 - Feb.25,2001	TB Programme Management	RIT	Medical Superintendent, DHO, Dang,, MOH
2	Amir KHATI	May 14,2001 - Aug.12,2001	TB Control	RIT	Senior Administrator, District Public Health Office, Kathmandu, MOH
3	Kashi Kant JHA	Jan.20,2002 - Feb.02,2002	TB Programme Management	RIT	Senior Consultant Physician, NTC, MOH
4	Rajendra Prasad PANT	May 14,2002 - Aug.11,2002	TB Control	RIT	Senior Medical Officer, NTC, MOH
5	Jagat Bahadur KHADKA	Sep.10,2002 - Dec.15,2002	TB Control Laboratory Management	RIT	Medical Technologist, Regional Public Health Laboratory, Pokhara, MOH
6	Vishnu Prasad POUDYAL	Jan.14,2003 - Mar.02,2003	TB Programme Management	RIT	Senior Medical Officer, Lumbini Zonal Hospital, MOH

Annex 2.3. Equipment supply (>100 000 Yen)

No.	Date of Arrival	Equipment	Specification	Maker	Price	Used by	Place
Donated equipments							
1	Jun. 2001	4 wheel Drive Vehicle	Landcruiser VX	TOYOTA	¥4,824,100	National TB Center	National TB Center
2	Jun. 2001	4 wheel Drive Vehicle	Landcruiser VX	TOYOTA	¥4,824,100	JICA CTLH Project	National TB Center
3	Jun. 2001	4 wheel Drive Vehicle	Landcruiser VX	TOYOTA	¥4,824,100	JICA CTLH Project	National TB Center
4	Aug. 2002	Motorbike	COOX 125cc	YAMAHA	¥139,000	JICA CTLH Project	JICA CTLH Project Rupandehi Office
5	Dec. 2002	Timers	UNICEFF			FCHVs	With FCHVs
6	Dec. 2002	Motorbike	BOSS 100 cc	KINETIC	¥130,000	DPHO Office MOH	DPHO、Rupandehi
7	Feb.. 2003	Microscope 50 sets	CX-31	OLYMPUS	¥10,296,000	DOTS Clinics	Each clinic
8	Feb.. 2003	Microscope 50 sets	CX-31	OLYMPUS	¥10,139,000	DOTS Clinics	Each clinic
Accompanied equipments							
1	Dec.27,2000	Laptop Computer	Think Pad A21m	IBM	¥369,000	JICA CTLH Project	Expert's Room (Long term expert)
2	Aug.01,2001	2 Laptop Computers	Think Pad A22m	IBM	¥259,000 X 2	JICA CTLH Project	Expert's Room (Long term expert)
3	Aug.30,2001	V. Stabilizer	SPR-1K	Matsunaga	¥258,000	JICA CTLH Project	Expert's Room (Long term expert)
4	Aug.30,2001	Software for PC	SPSS10J Base	SPSS	¥140,000	JICA CTLH Project	Expert's Room (Long term expert)
5	Nov.28,2001	2 Spirometers	Chestgraph Jr101	Chest	¥190,000 X 2	JICA CTLH Project	Expert's Room (used at COPD survey)
6	Apr.15,2002	Spirometer	Chestgraph Jr101	Chest	¥182,000	JICA CTLH Project	Expert's Room (used at COPD survey)
7	Aug.14,2002	2 Carbon M. Monitor	Smoker Lyzer	Bedfont Sc.	¥156,000 X 2	JICA CTLH Project	Expert's Room (used by tobacco control expert)

Annex 2.4. Cost sharing

1. Local running cost

	2000/2001	2001/2002	2002/2003	2003/2004
JICA side	¥4,850,000	¥21,849,000	¥24,370,000	¥24,060,000 (Applied)
Nepali budget				

2. Equipment cost

	2000/2001	2001/2002	2002/2003	2003/2004
Donated	¥14,472,300	¥0	¥29,171,000	¥3,780,000
Accompanied	¥ 552,120	¥4,126,542	¥ 639,476	
Total	¥15,024,420	¥4,126,542	¥29,810,476 (not final)	¥3,780,000 (Applied)

Annex 3 Publications

1. Presentations

1.1. Dr. Pant et al / Presentation at 33rd IUATLD world conference on lung health

Title: Process of Implementation of Urban TB Control Strategy in Kathmandu Municipality, Nepal

Author: Pant R, Yoshiyama T, Bam D.S, Shrestha G

Address: National TB Center, Thimi, Nepal E-mail- jicactlh@mos.com.np

Abstract

Kathmandu municipality the biggest city of Nepal has 1,500,000 populations.

The municipality has 395 Sq Km areas. Rapid urbanization, increasing migration, slum area and homeless people together with poor public health infrastructure are the challenges of the municipality to run public health program. Five hospitals, 16 nursing home and 500 private practitioners are providing health services.

The annual risk of infection is 4% compared to national average of 1.8%. At present 22 DOTS center are providing DOT to the city people. Last year 2086 TB cases has been reported in the municipality which is about 50% of the expected and the rest are managed by the private sector. Migration, poor late patient tracing, poor public health infrastructure and lack of public private collaboration are threat to fight against TB so separate strategy was developed and implemented in the municipality.

Process- A high level steering committee and action committee was formed to develop policy and action plan. In 19 DOTS center DOTS committee formed and basic training on TB and defaulter tracing were given to the volunteers. Orientation was given to the DOTS committee members, members of the district development council and municipality including NGO and clubs

1.2. Dr. Kato et al / Presentation at 33rd IUATLD World Conference on Lung Health

Title: The proportion of Pneumonia among URTI cases at one district in Nepal

Author: Kato J., Banskota H. K., Thapa S. L., Yoshiyama T

Address: C/o JICA Nepal Office, P.O.Box: 450, Kathmandu, Nepal

Background:

The proportion of "*Pneumonia*" among URTI cases is 43.7 % according to the report of Government of Nepal 1999/2000. This proportion seems to be higher in comparison with other countries. However we can say that the detailed information of case report was not available until the implementation of IMCI.

Method:

IMCI is a package program of training and supervision for the improvement of case management of children for peripheral health care workers. At one district in Nepal IMCI was implemented with training and their activities were evaluated after.

Result:

Follow-up visit observation revealed their diagnoses look correct. However the ratio of pneumonia cases treated with cotrimoxazole among URTI cases is still too high.

Discussion:

It is impossible to judge that health care workers are assessing real pneumonia among URTI cases correctly on the only evaluation during the follow-up. If they are diagnosing those properly, possible reason is that only severe cases come to the health facilities. We need to come nearer to the community so that we can see all URTI cases and evaluate health care workers' activities. So we are planning to conduct Community-based IMCI training and evaluate these activities.

2. Publications (printing)

Pocket Calendar 2058 (2001/2002) (10,000 pcs)	2001
Wall Calendar 2058 (2001/2002) (5,000 pcs)	2001
Epidemiology and Risk Factors of Chronic Obstructive Pulmonary Disease (COPD), CTLH/JICA	2001
Annual Report of Tuberculosis Control Program Nepal, 2057/58 (1000pcs)	2002
Diary for Urban volunteer (500 pcs)	2002
TB fact, figures and concept in English version (English version, 500 pcs+500pcs)	2002
Map for Public Private Partnership for TB control (500 pcs)	2003
Tuberculosis in Nepal (2003 English version 1000pcs)	2003
Annual Report of Tuberculosis Control Program Nepal, 2058/59 (1000pcs)	200?
Anti-Smoking Manual (Nepali version, 300 pcs)	200?
Pocket Calendar 2060 (2003/2004) (10,000 pcs)	200?
Wall Calendar 2060 (2003/2004) (5,000 pcs)	200?

Tuberculosis in Nepal (2003 Nepali version 1000pcs)	200?

3. Publications (revision)

Laboratory manual and training manuals (Nepali, 300pcs+500pcs)	2002
Laboratory manual and training modules (Nepali, 300pcs+500pcs)	2002
Laboratory manual and training manuals (English, 300pcs)	2002
Laboratory manual and training modules (English, 300pcs)	2002
Defaulter tracing handout for FCHVs (Nepali, 200pcs)	2002

4. Publications (reprint)

Clinical Manual (1,000 pcs)	2001
IMCI Training Module (9 set, 150 pcs)	2001
Flip chart for FCHV (Cloth, 1000 pcs)	2001
Logistics Curriculum (Nepali version, 500 pcs)	2001
Logistics Training Handout (Nepali version, 500 pcs)	2001

Annex 5 Bibliography

His Majesty's Government, Ministry of Health. Second Long Term Health Plan 1997-2017. August 1999, Kathmandu Nepal

Annex 6 Name list of related persons

Annex 6.1. JCC members

2002

Nepalese Side

1	Mr. Mahendra Nath Aryal	Secretary, Chairman, Ministry of Health (MoH)
2	Dr. Bhubanesori Datta Chataut	Director General, Department of Health Services
3	Representative	National Planning Commission
4	Representative	Ministry of Finance
5	Dr. Benu Bahadur Karki	Chief, PP & International Coordination Division, MoH
6	Dr. Dirgh Singh Bam	Director, National Tuberculosis Centre
7	Dr. Hukum Dev Sah	Director, Child Health Division
8	Dr. Y.V. Pradhan	Director, Logistic Management Division.
9	Dr. Sarala Malla	Director, National Public Health Laboratory
10	Mr. Ramesh Neupane	Ag. Director, National Health Information, Education and

		Communication Center
11	Dr. Govinda Prasad Ojha	Director, Epidemiology & Disease Control Division

Japanese side

1	Dr. Nobukatsu Ishikawa	Mid term evaluation mission, chief
2	Dr. Yagi Kiminori	Mid term evaluation mission
3.	Ms. Kiyoka Takeuchi	Mid term evaluation mission, JICA Headquarter
4	Dr. Takashi Yoshiyama	Chief Advisor, JICA/HMG CTLH Project
5	Mr. Katsunori Ishii	Coordinator, JICA/HMG CTLH Project
6	Dr. Jinichi Kato	Expert on Lung Health, JICA/HMG CTLH Project
7	Mr. Eitaro Mitoma	Resident Representative, JICA Nepal Office
8	Mr. Shigeki Furuta	JICA Nepal Office
9	Mr. Saburo Sato	Embassy of Japan, as Observers

2003

Nepalese Side

1	Mr. Mahendra Nath Aryal	Secretary, Chairman, Ministry of Health (MoH)
2	Dr. Bhubanesori Datta Chataut	Chief Specialist, PP & International Coordination Division, MoH
3	Dr. Laxmi Raj Pathak	Ag. Director General, Department of Health Services
4	Dr. Dirgh Singh Bam	Director, National Tuberculosis Centre
5	Dr. Kashi Kant Jha	Senior Consultant Chest Physician, National Tuberculosis Centre
6	Dr. Padam Bahadur Chand	Director, Epidemiology & Disease Control Division
7	Mr. Ramesh Neupane	Ag. Director, National Health Information, Education and Communication Center
8	Mr. Gyanendra Kumar Shrestha	Undersecretary, National Planning Commission
9	Mr. Shyam Nidhi Tiwari	Section officer, Ministry of Finance

Japanese side

1	Dr. Katsunori Osuga	Mid term evaluation mission, chief
2	Dr. Tatsuo Sugiyama	Mid term evaluation mission
3	Ms. Shinobu Mamiya	Mid term evaluation mission
4	Dr. Takashi Yoshiyama	Chief Advisor, JICA/HMG CTLH Project
5	Mr. Akira Naruse	Coordinator, JICA/HMG CTLH Project
6	Dr. Jinichi Kato	Expert on Lung Health, JICA/HMG CTLH Project
7	Mr. Eitaro Mitoma	Resident Representative, JICA Nepal Office
8	Mr. Shigeki Furuta	Assistant Resident Representative, JICA Nepal Office

Annex 6.2. Other counterparts and related persons working with the project

Name	Position
Child Health Division	
Dr. Sun Lal Thapa	Chief, CDD/ ARI, Child Health Division.
NTC	
Dr. Pushpa Malla	Senior Consultant Chest Physician
Dr. Sharat Chandra Verma	Senior Chest Physician
Dr. Rajendra Prasad Pant	Senior Medical Officer
Mr. Dhurba Kumar Khadka	Medical Technologist
Mr. Badri Nath Gyawali	Statistical Officer
Ms. Jyoti Acharya	Medical Technologist
Dr. Sant Bahadur Pande	Sr. Researcher, Nuffield Institute for Health / NTC
Mr. Mitra Mani Pokharel	Section Officer, Administration
Mr. Bishma Prasad Neupane	Senior Accountant
Central Regional Health Directorate	
Dr. Yasho Verdan Pradhan	Regional Director, Central Region, MoH
Mr. Amir Khati	District Public Health Officer, Kathmandu District, DHS, MoH
Ms. Durga Pathak	DTLA ,DPHO, Kathmandu
Ms. Geeta Acharya	Supervisor, DPHO, Kathmandu
Western Regional Health Directorate	
Dr. Ashok Chaurasiya	Regional Director, Western Region, MoH
Dr. Mohan Kumar Prasai	Ag. Director, RTC, MoH
Mr. Bisho Ram Shrestha	District Public Health Officer, Rupandehi District, DHS, MoH
Ms. Tara Sharma	DTLA, DPHO Rupandehi District
Outside of HMG/Nepal	
Dr. Bag Ram Gautam	Director, Kathmandu Metropolitan City Health Directorate
Dr. Bhabana Shrestha	Medical Officer, GENETUP, Kalimati

Annex 6.3. Project expert (as in Annex 3.1)

Annex 6.4. Project staff

Mr. Sham Kandel (Senior Technical Officer)	September 2000 – January 2003
Mr. Ganesh Addhikari (Administrative Officer)	September 2000 – at present
Mr. Ram Kumar Shrestha (Administrative Officer)	September 2000 – at present
Mr. Rabindra Dhoj Joshi (Administrative Officer)	September 2000 – at present
Mr. Ganesh Shrestha (Technical Officer)	October 2001 – at present
Mr. Ram Sharan Gopali (Field Officer)	September 2000 – at present
Mr. Hari Maharajun (Driver)	September 2000 – at present
Mr. Kancha Taman (Driver)	September 2000 – at present
Mr. Santosh K.C. (Driver)	November 2001 – at present
Mr. Sunari Ram Krishna (Miscellaneous)	September 2000 – at present