



CHAPTER I

INTRODUCTION

1.1 Background

Perched on the southern slopes of Himalayas, Nepal is socially and ethnically diverse as its flat lands, broad valleys, and the highest mountain peaks in the world. “Top of the World” aptly describes to Nepal, home to eight out of world’s 10 highest mountains, including the 29,030-foot Mt. Everest. Nepal is a landlocked country located between India and China. In its 147,181 square kilometer geography, currently Nepal has 23.15 million population compared to 5.6 million in 1911 (CBS, 2001). Females account for more than 50 percent of total the population; out of them, more than 49 percent are in the reproductive age group (15 yrs. to 45 yrs.) that is equal to 24.6 percent of the total population. It has been documented that 41 percent of population is under the age of 15. About 80 percent of people are dependent on agriculture. A large portion of the people (38 percent) lives below the absolute poverty line (less than 1\$ per day). More than 33 percent of the people are underemployed and this leads to various social and economical difficulties in the country (The World Bank, 2002).

In 1951 women were given the right to vote (MEASURE, 2002). Since then women of Nepal have been achieved various benefits in social and political sectors. However, the trend of achievement has been reported to be very slow. For example, only 5.9 percent women were elected to the House of Representatives in last general election, in 1999. In health sectors, large numbers of women are involved as volunteers. The most important factor is life expectancy at birth, which is known to be the best indicator of gender and social discrimination. In Nepal the average life expectancy of females is 57 years and of males is 58 years (PRB, 2002). Maternal Mortality Ratio has been published to be 539 per 100,000 live births in 1999, which is one of the highest figures in the world. There is a discrepancy in the case detection proportion between males and females (2.6:1) and TB affects females more socially and economically than males (Kumar, 1998).

Various articles have noted that the widespread poverty with US\$220 per capita income has been a major burden in the country; which contributes to perpetuate several diseases such as Tuberculosis. In its world development report (2002), the World Bank mentioned that 42 percent of Nepali people live under the national poverty line. It has further been pointed out that 38 percent, or 8.7 million people are earning less than US\$ 1 per day. The population growth rate of Nepal is 2.3 percent and fertility rate is 4.7 percent, which are higher than most of the developing world (WHO, 2001). Women with anemia were 33 percent in 1991; due to the poor socio-economic, health and with the Civil Conflict this rate has increased to 64 percent in 1996 (The World Bank, 1999).

WHO (2002) defined violence as the intentional use of physical forces or power, against oneself, another person, or a group or community, that either results in, or has a high risk of resulting in injury, death, psychological harm or deprivation. An estimated 1.6 million people around the world died as a result of violence in the year 2000 (BMJ, 2002). It has been pointed out that, in Nicaragua there has been an increased risk of malaria associated with war-infected population (Zwi, and Jimenez, 2002).

The late Puspa Lal Shrestha established the Communist Party of Nepal in 1949. From, then onwards several communist ideological developments took place in the country. The party divided into pro-Moscow and pro-Beijing groups and organized different parties. One group launched armed intervention in 1971 by having inspiration from on going Cultural Revolution under the leadership of Chairman Mao in China and the Naxalite movement in India. The unity center, a pro-Beijing group, took part in the 1991 general election and won 9 seats out of the 205 seats, which was the third biggest party of the country. At the same election the pro-Moscow group CPN-UML won 69 seats. There were a series of conflicts between government and opposition going on. At the same time Unity Center a (pro-Beijing group) divided in early 1994, and a hard line group was lead by Prachanda. In March 1995, the Unity Center (Prachanda) renamed itself the Communist Party of Nepal (Maoist) and formally introduced the principle of armed struggle (Thapa, 2003). In September 1995 the 'plan for the Historic Initiation of the People's War' was adopted by the Maoist Party's Central Committee that decision can be said as an official start of civil war in Nepal.

The Maoist People's War started with an attack on Small Farmers Development Bank of Chyangli VDC in Gorkha District at about 3.45 PM, and on the Holeri police post in South Rolpa between 8-11 PM in February 13, 1996. The stated objectives of the "protracted people's war" is to overthrow the bureaucratic-capitalist class and state system, uproot semi-feudalism and drive out imperialism in order to establish a new democratic republic. Giving the uprooted violence and destructions His Majesty's Government of Nepal labeled the CPN (Maoists) as terrorists, disrupting law and order within the country.

The study areas, namely Lalitpur and Dang Districts are located in the Central and Mid-western Development Regions of Nepal. Though there are socio-economic, demographic, ethnic and cultural differences, Directly Observed Treatment Short-course (DOTS), is being implemented in both Districts.

In Dang District, Maoist activities are reported to be higher than in the other parts of the country. Dang has a population of 462,380 out of that women are 50.5 percent (CBS, 2001). In its 2,955 Sq. km area, District has been practicing 3.2 percent child marriage (age of 10 to 14). Population having less than 0.5 hector land has been reported to be 27.9 percent. Moreover, per capita food production in Dang has been published to be 3,565 calories. Likewise infant mortality ratio reported to be 129 per 1,000 live births (ICIMOD, SNV, 1997). The District adjoins India, so the cultural practices and social norms are similar to India. Due to the lack of reliable sources of data we cannot come to any concrete conclusions because the increasing level of conflict has threatened the existing system run by government in the District level.

In November 2001 Maoist s attacked the royal Nepal Army's camp in Dang and robbed it of the well-advanced weapons (Dixit, 2002). The series of attacks and killings in Dang District have been documented in various newspapers. The magnitude of the problem has increased with various levels of killings, and His Majesty's Government of Nepal (HMGN) declared a state of emergency on 26th November 2001. Almost every night the security forces declare curfew, people some time hear loud explosions; life is terrible and existing government systems have almost failed (Thapa, 2002).

The other study area, Lalitpur District, has a population of 337,785, and the 48.9 percent (CBS, 2001) are women. In its 385 Sq. km area, District has been practicing 1.9 percent child marriage (age of 10 to 14). Population having less than 0.5 hector land has been reported to be 34.9 percent. Moreover, per capita food production in Lalitpur has been published to be 2,281 calories. Likewise infant mortality was reported to be 51 per 1,000 live births (ICIMOD, SNV, 1997). Data indicate that Lalitpur has better socio-economic conditions than that of Dang District. However, due to the less reliable sources of data we cannot come to any final conclusions. The District is adjacent to Kathmandu, Capital City of Nepal. No major attacks, killings, mass campaigns from the Maoist rebels have been reported in Lalitpur District. Thus Lalitpur District has been taken as an area without civil conflict in this study.

Health systems have a young history in Nepal. Until the 1960s, few elite of the country controlled knowledge of health and modern treatment of disease. With a first and foremost priority of communicable disease control, The Ministry of Health (MOH) was established in 1956. In its initial phase the ministry launched 4 major vertical projects in

the country, including leprosy and TB control programs, which were introduced in 1965. Since its conception MOH has continuously been put its efforts into crafting a better health care delivery system in Nepal.

As per the recommendation of World Health Organization (WHO), National Tuberculosis Program (NTP) of Nepal has been implementing the passive case finding policy in the country. Thus in epidemiological viewpoint it can be speculated that many patients are dying of TB with out having any records or treatment. Tuberculosis is one of the major public health burdens of Nepal. About 45 percent of the total population is infected with TB, out of which 60 percent are in the productive age group. Every year, 44,000 people develop active TB, out of them 20,000 have infectious pulmonary disease and these 20,000 may cause the spread of the disease to others. Introduction of DOTS has already reduced the numbers of deaths; however 8,000-11,000 people continue to die every year from this disease (NTC, 2001).

In the light of above mentioned studies and arguments we can postulate that the high burden of TB, physical availability, financial affordability, acceptability, geographical accessibility and the level of civil conflict have threatened the access to and utilization of TB services. The poor access and utilization of TB services can contribute to the poor health system performances and, there by, poor health status of the population in study areas will occur.

1.2 The Problem

1.2.1 Burden

Science needs a long time and much effort to address the problems faced by human beings. However do we ever think that some one in the world is newly infected in an every second by Tuberculosis. We acknowledge the year 2000 and the world progress into a set of academic and intellectual liberation, freed from the basic health problems as well as rigid belief system of yesteryears. Medicine, in particular, should cast off the shackles of past methodology and embrace regimens and therapies based on the evidence of efficacy and access (Zumla, and Grange, 1999).

The last new drug for TB was developed more than 30 years ago, and the vaccine used today was developed in 1923. Orbinski of Medicines Sans Frontiers stresses the urgent need for research. He further added that, “Tuberculosis represents the tragic failure to use the medical advances for the wider benefits of the humanity” (David, 2000). However many studies state that non-compliance the therapy is a major cause of the failure to control Tuberculosis (Zumla, and Grange, 1999). Here we should not stop our academic efforts to look at the nature of noncompliance because the term ‘non-compliance’ focuses on the patient’s fault while most breakdowns in therapy are due to the failures on the part of the health care system and provider. It has been observed that common faults include: supply of drug, demands, poor communication, poor prescribing practices, arrogant and patronizing behavior of health care staff and a

requirement of excessive traveling to the health care facilities (Zumla and Grange, 1999).

The spread of HIV/AIDS and the emergence of multi drug-resistant TB (MDR-TB) is contributing to the worsening impact of TB. TB, Malaria and HIV/AIDS make up 10 percent of the global burden of disease (Smith, 2001). It has been estimated that between 2002 to 2020 nearly one billion people will be newly infected and 200 million people will get sick. If we generalize this with other findings (for example, TB transmission trends), the number of infected people will go-up to 3 billion people (200 million x 15 person per year). This could easily pose a threat to the existence of human beings in the world, if we fail to control TB. It has also been estimated that thirty five million people will die from the TB. The situation is made much worse because each person with infectious TB will infect on between 10 to 15 people every year (WHO, www.world.tb.day/WTBD_2002).

1.2.2 Physical Availability

The supply of TB services has significantly increased from 1990 to 2000 worldwide. The number of countries using DOTS has increased from 19 in 1993 to 198 by the end of 2001 (WHO, 2002). However DOTS expansion has been observed to be very slow in the world, only 23 percent of population who live with TB have access to services (http://www.stoptb.org/GPSTB/PPT_Presentation/sld010.htm).

Institutions involved in the delivery of health services in Nepal during 2000/2001 include 85 hospitals (Central, Zonal, Regional and District), 180 Primary

Health Centers (PHC), 710 Health Centers (HC), 696 Health Posts (HP) and 3,174 Sub-Health Posts (SHP). In particular, it appears that the contribution of Maternal Child Health Workers (MCHW) and Village Health Workers (VHW) at the sub-health post level is having a significant impact on the overall improvement of health coverage. Additionally, in the VDCs there are 15,554 Trained Traditional Birth Attendants (TBA), 47,261 Female Community Health Volunteers (FCHV) and 15,349 Primary Health Care Outreach Sites are involved in service provision as well as in referring clients for services (DoHS, 2000). National Tuberculosis Center functions as a National Coordinating Unit of TB programs. Nationwide 227 treatment centers and 684 sub centers are actively involving in delivering the TB services (NTC, 2001).

1.2.3 Financial Affordability

Global TB expenditure for TB patient management is about US\$ 4 billion annually. Asia has 61 percent of the global TB burden but only 4 percent of the total expenditure. In contrast, the richest countries have 2 percent of the burden but they are using 72 percent of the expenditures related to TB patient management. These facts indicate that there are two aspects; equity in the allocation of budget to individual countries of Asia by the developed world and contribution and priority of the developing countries themselves.

TB affects more than just the infected patient; it is spread by air and can be transmitted to any human host. TB patients are often wage earners (NTC, 2001). The total TB infected population, 60 percent are in the productive age group (DoHS, 2001). TB is most prevalent among poor people, and 98 percent of annual deaths from the TB

and 95 percent new cases are in developing countries. This affects the men and women primarily in their most productive age 15 to 45; while they are ill, their family suffers (Kumar, 1998). Without treatment, parents may die and the burden of the orphanage will increase. In the world 1.3 billion people live in an absolute poverty i.e. earning less than USD 1 per day. Communicable disease causes 25 percent of the total burden of disease in poor countries whereas it accounts for only 2.5 percent in rich countries. TB control program can significantly contribute to the fight against poverty. The literature points out that in comparison to rich people, the risk of Tuberculosis infection is 2.6 times higher among the poor (Smith, 2001).

Drug costs have fallen from USD\$ 40 – 50 in 1990 to USD\$ 10 – 20 in 2000. It has been reported that those governments investing USD\$ 1 now will save up to USD\$50 for the community over next 20 years. In India, USD\$ 200 million investment in DOTS each year can contribute to benefits of USD\$ 750 million per year to the national economy. Likewise each dollar invested in DOTS can be expected to return USD\$ 3.5 to the economy. Moreover, WHO estimates that by the year 2012, the economic return of TB control will be six times higher of the cost than for invested in TB control activities the world (WHO, 2002). Despite this economic analysis, only 23 percent of the TB subjects have access to DOTS services worldwide.

1.2.4 Acceptability

In many contexts and contents, patients have two choices: one is to be cured and the other is not to be cured. If patient join the treatment course they want prompt care, when they feel easy they may tend to stop the treatment. Smith (2001) has explained

that poor are more than twice as likely to get TB than non-poor and less likely to seek and receive care because they prefer self medication. It may be better to focus our thinking and map-out the realities that poor people are facing. It can be argued that non-treatment cost may be higher than that of treatment costs of TB. In Nepal 3 out of 5 household consults with the modern health practitioner during illness; out of these 58.7 percent of households perceived that the health facilities are inadequate (NHDR, 1998). The need to travel to seek work to fulfill the breadwinner role is a barrier to adherence to treatment, especially supervised treatment. Data from the government source shows that 68 percent of women compared to 42 percent of men, participated little or not at all in planning of health services in Nepal (The World Bank, 2001).

The Nepal Human Development Report (2001) reported that among women, 71 percent have little or no involvement in planning village health programs and 67 percent of women are marginally involved in the implementation and use of health services. Among the Dalits (lower caste), 75 percent either do not participate or participate very little in planning village health services compared to 58 percent of the advantaged group. These are the strong indications that health system has to do more to upgrade the people's acceptability and thereby, promote the access and utilization of TB services.

1.2.5 Geographical Accessibility

Nepal is known as a Himalayan kingdom with widespread poverty and civil conflict in its geo-faces. Lack of transportation facility in some parts of the country and sparsely populated settlements affect the drug distribution, treatment supervision and

monitoring activities in Nepal. In 1996 approximately 45 percent of the household could access a health post in Nepal within a travel time of 30 minutes (DoHS, 1997). Transportation costs involved proven as a barrier in accessing the health services. Studies have shown that distance from health institution is a larger obstacle in seeking TB care (Kumar, 1998). Indirect cost during travel can also cause the low access and utilization of TB services.

1.2.6 Civil Conflict

By the end of 2nd World War the challenges of post conflict reconstruction were present. In addition the havoc reaped in the aftermath of the cold war left a cruel legacy of millions dead and millions more uprooted. Poverty and deprivation were widespread in those crisis-torn societies and basic norms were flouted with impunity, endangering innocent civilians, increasingly the target of conflict to aid workers, who were risking their lives to protect and support citizens. More complexity has appeared in defining the conflict and its solution because the recent civil societies re-emerge from conflict more resilient than ever by dint of coping in states where central services have collapsed.

A retrospective cohort study conducted in West Africa, capital city of Guinea-Bissau demonstrated that the crude mortality rates for patients undergoing treatment in the war and peace cohorts were 34 and 12 (per 100 people), and the study concluded that TB mortality rate among war cohort was 3 fold higher than peace cohorts (Gustafson, Victor, Cesaltina, Henrik, Renee, Barbara, Anders, and Peter, 2001). Moreover in conflict the quantity and quality of health care is usually greatly reduced; the vector control programs, outreach services, training, referral, and drug distribution

are typically impeded worldwide (Zwi, Ramos, 2002). One travel report from west Nepal can assist us to explore how conflict disrupts the process of taking TB drugs. A report from Far-Western development Region of Nepal published in Nepali Times Weekly mentioned that: A women has visited health post with her sick baby, health worker gave some tablets and told her to give them to the child after meals. Two days later, health worker asked her how the baby was doing. The women replied, "I haven't been able to give her the medicine because you have told me to give after food", she further added, "I have no food at home and we have not eaten for the days" (Uprety, 2002). The statement is rather emotional, but we can inference the people's problems and priorities in civil conflict areas. It can be argued that both completion of TB drugs and passive case notification process can be affected in the high level threats during civil conflict.

From 1991-2000, military spending in Nepal grew at an average rate of 13.2 percent per annum. The budgetary allocation set aside for defense in 2001/02 was Rs. 4.52 billion. If this growth rate continues, military expenditure will rise by another Rs. 4 billion during the next five years. More significantly, current police and defense spending combined has outstripped spending on health and drinking water/sanitation together, as well as 75 percent of the education budget (NHDR, 2001).

1.2.7 Conclusion

All the above-mentioned factors are confounded by the access and utilization of health services in Nepal. Despite the technological development, one fifth of the humanity does not have access to modern health services. Half of us lack regular access

to essential drugs (Brundtland, 1999). The DOTS program in Nepal continues to offer technical support to systematically study and document various options available and is being implemented by the NTP and the NGOs who deliver TB care relatively effectively in hard-to-access hilly areas of Nepal (Nuffield Institute for Health, 2001).

The second long term health plan of Nepal pointed out that “a health system in which there is equitable access to coordinated quality health services in rural and urban areas characterized by self-reliance with full community participation including that of private sector and non governmental organizations” (DoHS, 2000). The well-understood relationship between TB and poverty and the Nepal’s increasing poverty level, reduction of the budget in health and development sectors shows the magnitude of the problem. Lack of transportation, low number of technical staff, lack of knowledge, indigenous practice, affordability and increasing level of conflict are causing poor access and utilization of the TB services in study areas.

1.3 Definitions

1.3.1 Access

A number of definitions of access have been published. Access, itself, has been a popular term in the delivering and utilization of health services in the developing countries (STOP TB, 2002). For the purpose of this study, the following definition was used. “Access to health care is defined as the possibility of obtaining health care when it is needed” (Sanhueza, 2000), the possibility of obtaining health care when it is needed refers to all the measurements of this study. Furthermore WHO (2000) defines various types of access: potential, realized, equitable (focus, inclusion, narrowing gaps

{rich vs. poor}) and inequitable access. They emphasize that potential access may be considered as the supply side and that realized access is the actual use of health care. Needs are differentiated into real or felt (WHO, SEARO, 2000).

The understanding of access depends on how broadly 'access' is defined. If it is defined narrowly to imply physical access alone then the presence of other factors inhibiting the receipt of health care is likely to make access alone an unacceptable definition. For example, if health system charges a fee, then utilizable access is dependent on the ability to pay as well as on proximity to the service (Andrew, 2001). The alternative definition to that concerned with access concerns utilization. For the purpose of this study it is understood that access can promote the adherence to TB services.

1.3.2 Utilization

It is well understood that access and utilization of health service cannot be defined separately. For the purpose of this study, utilization consists of two aspects a) the possibility of discrimination to access to health care, through the inability to speak the language of the health care providers or the lack of medical services accessible to the person who needs health care and b) the different salience of risk in people's decisions relative to varying cultural beliefs (Muller, 1986). Some papers (Lee 2001; Marc, 2001) have argued that medicines or services may be accessible but not necessarily utilized. Access refers to potentiality and utilization refers to freedom or ability to obtain or make use of services (Lee, 2001).

1.3.3 District Health Facilities

Health facilities refer to the institutions that are responsible to deliver health services for a specific population in defined areas. For the purpose of this study, the term District health facilities was used. The basic unit for the National Tuberculosis Program for the diagnosis and treatment of patients with Tuberculosis is the District Hospitals and the Primary Health Care Centers (NTC, 2001).

1.3.4 Burden

Burden refers the level of disease that affects the population. In general, burden refers to the numbers of cases. Burden can be defined as the incidence and prevalence of the disease in a given population, at a given place and time (IDRC/WHO, 1991). The Cross-sectional study approach cannot determine the incidence ratio, thus prevalence ratio was considered to estimate burden in this research.

1.3.5 Physical Availability

Available resources are the important factors that assist the achievement of the targeted objectives of the institutions and individual. Literally, availability means to be able to use or utilize (Oxford Dictionary 10th edition). In the view of this definition, in the TB services delivery system, physical availability deals with demand for and supply of the services. Many good projects are not implemented owing to a shortage of key cadre or other resources (Andrew, 2001). From this perspective availability deals with effective supply side. For the purpose of this study physical availability deals with quantity of demand, supply and use of the services.

1.3.6 Financial Affordability

The definition of affordability varies from subject to subject and from objective to objective. The term “Affordable” is defined as health care costs, which the population can utilize (Lee, 2001). Affordability deals with the level of income as well; in the view of this approach we can say that low-income level people have less affordability (Marc, William, Berman, Michael, 2001). Those who favor the income base argued that actual utilization is merely one component of potential utilization. It is the power to utilize not necessarily its exercise (Rosen, 1988). For the purpose of this study affordability deals with percent of population reporting problem with affordability and number of days worked by lowest paid government worker to get TB treatment.

1.3.7. Acceptability

The program designed without having proper information and consensus may prove unacceptable to both the community and to health workers. The acceptability of an activity is an important consideration in an appraisal, and is most likely to be examined (Andrew, 2001). For the purpose of this study acceptability refers to the knowledge, attitude, practice of study subjects with respect to TB and the gender role in access to and utilization of TB services.

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1.4 Objectives

1.4.1 General Objectives

To determine amongst TB patients, whether the existing a) burden of disease, b) physical availability, c) financial affordability, d) acceptability, e) geographical accessibility, and f) level of civil conflict affect access to and utilization of TB services in the areas with and without civil conflict.

To develop plans including their evaluation for strengthening DOTS to be used by District health facilities that will assist in improving access to and utilization of TB services in areas with and without civil conflict.

1.4.2 Specific Objectives

1. To identify the prevalence of TB, in areas with and without civil conflict.
2. To explore the differences in physical availability determining access to and utilization of TB services in areas with and without civil conflict.
3. To explore the differences in financial affordability determining access to and utilization of TB services in areas with and without civil conflict.
4. To explore the differences in acceptability determining access to and utilization of TB services in areas with and without civil conflict.
5. To explore the differences in geographical accessibility affecting access to and utilization of TB services in areas with and without civil conflict.

6. To explore the differences between perceptions of TB subjects about civil conflict (mass campaign, curfew, closure, casualties and killing) which might influence their decision to use or not use of TB services in areas with and without civil conflict.
7. To explore the strength of associations between the factors related to access to and utilization of TB services in areas with and without civil conflict.
8. To develop 5 year plans (including their evaluation) for strengthening the DOTS program in District health facilities by having participation of TB subjects and their communities and of the health workers at (local and district) levels.

1.5 Study Design

Cross-sectional study design using structured questionnaires and FGD was carried out in the study areas. With the expectation of acquiring clear understanding of the problem, FGD was carried out first. After FGD, all necessary amendments to the questionnaire had been made and implemented. Local facilitators and surveyors were hired; priorities in hiring were includes at least secondary school passed, ex-TB patient. Data from FGD was compiled and presented in written statement. After collecting the data from questionnaire statistical analysis was done.

The cross-sectional study design is useful in exploring the existing problems of given areas. It provides good information for planning the interventions and conducting the research studies i.e. cohort and case-control (IDRC/WHO, 1991).The five-year plans were prepared for both areas with civil conflict and areas with out civil conflict.

Participation of district level policymakers, I/NGOs, frontline health personnel and study subject was managed during planning in both Districts. In order to ensure the proper implementation of plan and evaluation of plan the partnership among public, private sector and civil societies had been managed in both Districts. The DOTS partners determined by NTC were encouraged to incorporate the TB related activities in their individual or organizational level and evaluate the plan collectively in each level.