CHAPTER I
INTRODUCTION

1.1 GEOGRAPHICAL BACKGROUND OF NEPAL

1.1.1 Geo-political and Administrative Division

Nepal has been an explanatory country since the beginning of world history. It never experienced colonization by any foreign 'power'. But because of political upheavals and other various reasons, Nepal is remained as one of the 'under developed' countries in the world.

Geographically, it is a landlocked country; sandwiched between the two of the most populous nations in the world, China and India. China borders Nepal towards its northern side and India borders the remaining sides (eastern, western and southern). The total area of Nepal is 147,181 square kilometres, which is located in between the latitude 26°22' N to 30°27' North and longitude 80°4' E to 88°12' east. Its elevation ranges from 90 to 8848 meters. The average length of the country is stretched up to 885 kilometres from east to west, and the average breadth is about 193 kilometres from north to south (CBS, 2003). Nepal is latitudinally divided into three ecological zones, namely the Mountain, the Hill and the Terai Zones from north to south. Ecological zones reflect the variation in climatic condition and in the availability of other natural resources including agricultural land as well. Thus, it could directly and indirectly affect the socio-economic and demographic condition of the country. The Mountain and the Hill zones are less fertile with rocky terrain and rough topographical setting in high altitude. The division between the altitudes of 4877 to 8848 meters is called the Mountain Zone, and the land between the altitudes of 610 to 4877 meters above sea level is called the Hill Zone. The former covers about 35 percent of the total land of the country and the latter covers about 42.0 percent of it. The Terai Zone covers the remaining 23.0 percent of the total land of the country, which is an extension of the northern part of the Gangetic plain. It is a very fertile low-lying land, which consists 40 percent of the cultivable land of the country. Nepal
is further divided into five development regions for the sake of equal regional
development, namely the Eastern Development Region (EDR), the Central
Development Region (CDR), the Western Development Region (WDR), the Mid-
western Development Region (MWDR), and the Far-western Development Region
from east to west. Each region comprises of three ecological zones as well viz: the
Mountain, the hill and the Terai Zones. From among these regions, MWDR is the
largest sharing 28.8 percent of the total land of the country. It is then followed by
WDR (20 percent), EDR (19.3 percent), CDR (18.6 percent) and FWDR (13.3
percent). Administratively, Nepal is divided into 75 districts. (map 1.1). Beside these
divisions, Nepal is further divided into 3915 village development committees (VDCs)
and 58 municipalities as representing the minor local administrative units
(ICIMOD/MNREIS and CBS, 2003).

1.1.2 Demographic Structure

Nepal is home for more than 22 million people of various caste and ethnicities
being of a plurality of dialects, culture, tradition and religion. According to the latest
census 2001, total population of Nepal is 23,151,423 (11,561,921 males and 11,587,502 females) with an annual exponential growth rate of 2.25 percent. The population density is 157.3 persons per square kilometre of the total land. The density per cultivated land is found to be rather high. It is observed as 570 persons per square kilometre of the cultivated areas in 2000 (Subedi, 2003). A large proportion of the total population in Nepal lives in rural areas with inadequate infrastructure, facilities, and services. According to the latest census in 2001, only 14.0 percent of the total population is residing in urban areas and 86 percent are in rural areas. Traditional agriculture is one of the main sources of livelihood for the rural population.

The sex ratio of Nepal is observed at 998 males per 1000 females in 2001 census, revealing that the number of females has exceeded the number of males in Nepal over the decades. It is indeed true that the sex ratio of any country has a significant impact on socio-economic and demographic indicators. But it is a bit of a skepticism considering the data about females outnumbering the males in a country like Nepal. Primarily, Nepal is a country where the life expectancy of females has been lower than that of males for many decades except in the latest census 2001. According to the latest census, the life expectancy of females (62.50 years) is placed higher than that of males (61.76 years). It indicates that the health status of women is improving in Nepal steadily, which could be partly due to decreasing maternal mortality rate and increasing the utilization level of maternal health services over the decades.

The age structure of a country also has a significant impact on socio-economic and demographic planning, as does the sex ratio. According to the broad age group, total dependency ratio and child dependency ratio are 84.7 percent and 72.7 percent respectively in 2001. Similarly, the proportions of 0-4 years of children and 15-49 years of women are 12.1 and 19.9 per 100 populations in 2001, while these populations are under the scope of the present study (CBS, 2002).

Fertility rate and mortality rate are still very high in Nepal although statistics seems to show a decreasing trend over the decades. The total fertility rate of Nepal has been
found to be well above 5 children per woman for 30 years from 1961 to 1991 with highest in 1981 (TFR 6.38). Only in 2001, total fertility rate has been recorded as 3.8 in table 1.1 (figure 1.1).

Table 1.1: Nepal: Total fertility rate, 1961-2001

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Children/Woman</th>
<th>Techniques</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>5.74</td>
<td>Stable population analysis</td>
<td>Kkrotki and Thakur (1971)</td>
</tr>
<tr>
<td>1991</td>
<td>5.16</td>
<td>Arriaga modified P/F Ratio method</td>
<td>Karki (the present study)</td>
</tr>
<tr>
<td>2001</td>
<td>3.8</td>
<td>Arriaga modified P/F Ratio method</td>
<td>Karki (the present study)</td>
</tr>
</tbody>
</table>

Source: Population Monograph, Central Bureau Statistics, 2003, p. 43

1.1.3 Socio-economic Background

Nepal is one of the low developed countries in the world. Among 95 developing countries in the world, Nepal ranks 69 according to the human poverty index. About 38.0 percent of the total populations live below absolute poverty line (UNDP, 2004).
According to the Nepal Living Standards Survey (2003-04), about 31 percent of the total populations is living below absolute poverty line, which seems to have decreased by about 23 percent within one year. The per capita GDP estimated by CBS, is US$ 237 (Rs. 17301) for the year 2001-2. Particularly, Nepal being an agro-based country where about 60 percent of the total population and 80 percent of the working age population are engaged in a subsistence agriculture, which alone contributes about 39 percent to the national GDP and more than half of the household income. The contribution of non-agricultural sector in national GDP is also low though it seems increasing over the decades. About 58 percent of the population within the working age group is reported to be usually economically active and even among them, 5.1 percent are unemployed (CBS, 2003). According to another survey done by CBS, about 14 percent of the working population of Nepal is unemployed, which is a serious problem in rural areas (CBS, 1997).

The economic growth of the country has not found not improved substantially over time that adversely affects the situation in the health sector as well.

1.2 MATERNAL AND CHILD HEALTH IN NEPAL

It is well said that the well being of societies is directly linked to the health and survival of mothers and children. When mothers survive and thrive, their children survive and thrive. When both mothers and children survive and thrive, the societies in which they live prosper. The survival and well-being of mothers and children are not only important in their own right, but is also central to solving much broader economic, social and developmental challenges. When mothers and children die or are sick, their families, communities and nations suffer as well. Improving the survival and well-being of mothers and children will not only increase the health of societies, it will also decrease inequity and poverty. When a mother is sick or dies, her productive contribution to the home, workforce, economy, and society is lost, and the survival and education of her children are jeopardized. Every year, an estimated one million young children die as a result of the death of their mother (WHO, 2003a).
1.2.1 Status of Maternal Health

But mothers in Nepal are not so lucky. Maternal mortality rate and pregnancy related morbidities are very high despite the government's priority to maternal child health policies and programme to improve their health status since the time of its first five year plan (1956-61). It is said that the maternal mortality rate (MMR) of Nepal is among to the highest in the world. Pathak argued that a Nepalese woman has 1 in 32 chance of dying because of pregnancy or childbirth comparison to a woman in a developed country where the chance is 1 in 10,000. Many more thousands of pregnant women suffer from different types of morbidities arising during pregnancy and childbirth (Pathak, 1998). While the 1991 Nepal Fertility and Health Survey estimated a maternal mortality rate of 515 per 100,000 live births of the country whereas the same was estimated to be 539 per 100,000 live births in the 1996 Nepal Fertility and Health Survey. Another source indicates the same to be 850 per 100,000 live births (Nepal Net Key Development Sector, 1993). UNICEF even revealed an extremely high maternal mortality rate of 15,00 per 100,000 live births in Nepal (UNICEF, 1996). The most recent available figure of maternal mortality rate is the National Planning Commission estimation of 415 per 100,000 live births in 2002 (Progress Report, 2005). Majority of women in Nepal are anaemic. It is the persisting health problem of pregnant women in Nepal that affect the foetus and newborn infant. A survey indicated that 75 percent of the pregnant women are anaemic in Nepal (DOHS, 2004/05).

Many research studies stated that maternal mortality rate and even neonatal mortality rate could be reduced and their health status could be improved if a series of maternity cares are provided to the mothers during pregnancy, childbirth, and postpartum period, for instance, antenatal check-up, postnatal care, iron tablet, iron tablet, 

1 Although this is a widely quoted figure UN agency estimates are much higher. WHO, UNICEF, and UNFPA have recently developed an approach to estimate maternal mortality for countries with no data and to correct available data for under reporting and miscalculation with the purpose of drawing attention to the existence and likely dimensions of the problem. It does not provide precise estimates and is only indicative of orders of magnitude. The MMR estimate at 2000 is 740 within the range 440-1100.
vitamin A, TT vaccination, skilled care at birth and family planning services etc. It is evident from the experience of developed countries too. Thus, like other countries of the world, Nepalese government also committed to provide the recommended maternity care services to improve maternal health status in Nepal by the implementation of safe motherhood programme in late 90s.

Table 1.2 (figure 1.2) shows that the utilization level of maternity care services in Nepal is still very low despite its steady improvement over the time period. One of the important maternity care services is antenatal check-up. It is recommended to provide four check-ups per pregnancy in Nepal. Figure 1.2 shows that mothers in Nepal received antenatal check-ups only for 68.8 percent of births at least once and the same is observed at least for four times for 44.1 percent in 2004/05. These were 40.5 percent and 39.4 percent respectively in 2000/01. Another most important maternity care is postnatal check-up. It is observed to be 30.4 percent in 2004/05, which is tripled in 4 years. Statistic from a survey found that a large number of maternal and neonatal deaths occur during the 48 hours after delivery.

The percentage of iron tablet and TT2 injection for pregnant mothers is recorded 84.4 percent and 44.9 percent respectively in 2004/05, which was 54.0 percent and 26.9 percent respectively in 2001/02. And the percentage of deliveries attended by health workers is recorded 20.2 percent. It also seems to have increased triple fold over the last 5 years while skilled attendance at delivery is another main intervention for reducing maternal mortality.

In Nepal, approximately 80-90 percent of births take place at home, often “conducted” by family members, sometimes assisted by a traditional birth attendant (TBA), but many without any attendant. Currently 9.6 percent of births take place in hospitals (South-East Asia Region, 2004). The 1998 Maternal Mortality and Morbidity Study was conducted in 3 (Kailali, Rupendehi, and Okhaldunga) districts of the country, where safe motherhood activities were underway, revealed that the majority of maternal deaths (62.1%) took place soon after birth. About 67.0 percent,
the majority of women died at home during the postpartum period as a result of pregnancy complications, while slightly more than 11.0 percent of deaths occurred on the way to the health facility. According to the same study, it was revealed that 46.3 percent maternal death was due to postpartum haemorrhage, followed by obstructed labour (16.3 percent), eclampsia (14.3 percent) and puerperal sepsis (11.8 percent).

Table 1.2: Maternity services in Nepal, 2000/01-2004/05

<table>
<thead>
<tr>
<th>Year</th>
<th>ANC first visit</th>
<th>ANC 4 times</th>
<th>Skill attendant</th>
<th>PNC</th>
<th>Iron</th>
<th>TT vaccination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000/01</td>
<td>40.5</td>
<td>39.4</td>
<td>7.3</td>
<td>12.6</td>
<td>54</td>
<td>26.9</td>
</tr>
<tr>
<td>2004/05</td>
<td>68.8</td>
<td>44.1</td>
<td>20.2</td>
<td>30.4</td>
<td>84</td>
<td>44.9</td>
</tr>
</tbody>
</table>

Source: Annual Report 2000/01-2004/05, Department of Health Services, Nepal.

1.2.2 Status of Child Health

Like their mothers, children in Nepal suffer health risk. Particularly, newborn babies are at higher risk of death. Live births were estimated approximately 840,000 in 1996, and out of them 42,000 newborn died even before even completing their first month of life (CEDA/Nepal, 1998). The latest estimation shows that nearly 30,000 children die each year in Nepal in their first month of life, with two-thirds of these dying in their first week itself. The proportion of neonatal deaths has increased from 40 percent in 1987 to 60 percent in 2001, while the overall child mortality rate has reduced remarkably over the last decades. For example, the IMR has been reduced to
64 per 1000 live births in 2001 from a staggering infant mortality rate (IMR) of 200 per 1000 live births some 30 years ago. Mortality rate of under-5 has reduced from 165 in 1991 to 91 per 1000 live births in 2001 (table 1.3/figure 1.3). The same has also reduced to 82 per 1000 live births in 2005. This rate is the fifth highest among all the countries of the South East Asian Region. Neonatal mortality rate (NMR) was 52.4 in 1991 and it decreased to 38.6 per 1000 live births in 2001, which is third highest in the world (HMG/UN, 2005).

Many children suffer from malnutrition, diarrhoea, and acute respiratory infection/pneumonia. About 11 percent of children under 3 years are malnourished. Anaemia and low birth weight are the causes for malnutrition of children in Nepal where 78 percent of them are anaemic and 30-50 percent of children have birth weight below 2.5 kg. Malnutrition is even higher (90 percent) among infants 6-11 months old. Annually, 38 percent and 12.8 percent of children suffer from acute respiratory infection (ARI) and pneumonia respectively, and only 33.9 percent of them have received treatment for ARI. Similarly, new case of diarrhoea is 21.9 percent, among below 5 years infants and 2.2 percent of them are severely dehydrated, with 88.3 percent of them receiving treatment with oral re-dehydration (Annual Report, 2004/05). WHO estimated that diarrhoea and acute respiratory infection account for more deaths among children below five years than any other infectious disease (WHO, 1999). UNICEF (1995) estimated that in developing countries in 1993, 27 percent of death among children below five years were due to acute respiratory infection (ARI) and 23 percent to diarrhoea. Another health indicator of children is coverage of full dose of immunization, which is also still low in Nepal. The percentage of fully immunized children in 2003 was only 60 percent, with 8 percent of children under five not immunized at all (Progress Report, 2005). Neonatal tetanus and measles mortality and morbidity rates are particularly high. These diseases are easily preventable if the government makes an effort to make easy and equitable access to curative as well as preventive health care services to the people. Nearly 63 percent of child deaths could be prevented if a limited set of interventions were universally implemented (Paul, 2005).
However, the decline in child mortality rate over time are due to improvements in the management of diarrhoea, improved immunization, Vitamin A supplementation, decreasing malnourished new cases, prevalence of anaemia in children, and the improved management of acute respiratory infections, especially pneumonia. For example, table 1.4 (figure 1.4) shows the increase in the coverage of vitamin A seems and decline in the coverage of malnourished children over the 5 years. Similarly, the percentage of fully immunized children is also increasing (table 1.5, figure 1.5), while the prevalence of anaemia in children is seen declining by age (table 1.6, figure 1.6).

<table>
<thead>
<tr>
<th>Mortality Rate</th>
<th>1991</th>
<th>1996</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under five MR</td>
<td>165</td>
<td>118</td>
<td>91</td>
</tr>
<tr>
<td>IMR</td>
<td>97.5</td>
<td>78.5</td>
<td>64.2</td>
</tr>
<tr>
<td>NNMR</td>
<td>52.4</td>
<td>49.9</td>
<td>38.6</td>
</tr>
</tbody>
</table>

Source: Improving Maternal, Newborn and Child Health in the South-East Asia Region, p. 64.
Table 1.4: Trend in vitamin A and malnourished cases

<table>
<thead>
<tr>
<th>Years</th>
<th>Malnutrition</th>
<th>Vitamin A</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000/01</td>
<td>18.3</td>
<td>92</td>
</tr>
<tr>
<td>2001/02</td>
<td>15.8</td>
<td>97</td>
</tr>
<tr>
<td>2002/03</td>
<td>14</td>
<td>97</td>
</tr>
<tr>
<td>2003/04</td>
<td>12.1</td>
<td>109</td>
</tr>
<tr>
<td>2004/05</td>
<td>10.5</td>
<td>112</td>
</tr>
</tbody>
</table>

Source: Annual Report, 2004/05, Department of Health Services, Nepal

Figure 1.4: Trends in Vitamin A and Malnourished Cases 2000/01-2004/05

Table 1.5: Trend in immunization coverage, 1991-2001

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>72.9</td>
<td>73</td>
<td>83</td>
</tr>
<tr>
<td>DPT3</td>
<td>42.4</td>
<td>51</td>
<td>71</td>
</tr>
<tr>
<td>Polio3</td>
<td>42.4</td>
<td>48</td>
<td>90</td>
</tr>
<tr>
<td>Measles</td>
<td>57</td>
<td>45</td>
<td>64</td>
</tr>
<tr>
<td>Full vaccination</td>
<td>37.2</td>
<td>43.3</td>
<td>64</td>
</tr>
</tbody>
</table>

Source: Improving Maternal, Newborn and Child Health in the South-East Asia Region, p. 65.
Table 1.6: Prevalence of anemia of children

<table>
<thead>
<tr>
<th>Age (In month)</th>
<th>Prevalence of Anemia of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-11</td>
<td>90</td>
</tr>
<tr>
<td>12-23</td>
<td>87.2</td>
</tr>
<tr>
<td>24-35</td>
<td>74.9</td>
</tr>
<tr>
<td>36-47</td>
<td>70.2</td>
</tr>
<tr>
<td>48-59</td>
<td>59.3</td>
</tr>
</tbody>
</table>

Source: Improving Maternal, Newborn and Child Health in the South-East Asia Region, p. 65.
1.2.3 Maternal and Child Health Delivery System

The government of Nepal is committed to improving the health status of the people of Nepal through provision of an equitable and quality health care delivery system in its capacity. In 1991, the government of Nepal had adopted a National Health Policy-1991, which for the first time in Nepal created health service structures up to village development committees (VDCs) all over the country. The concept of central, regional, zonal, and districts hospitals was introduced and hospital facilities were upgraded or new hospitals established according to the defined parameters. Primary Health Centers (PHCs) with three bed facilities, with a provision of a registered doctor, were established in all 205 electoral constituencies; health posts (HPs) were set up to serve a population of about 25,000 and sub-health posts (SHPs) manned by paramedics created in all village development committees (VDCs). A trained work force of more than 75,000 consisting of village health volunteers (VHVs), Maternal and Child Health (MCH) workers, Female Community Health Volunteers (FCHVs) was recruited and trained to provide outreach health education and promoting referrals to the health facilities (Nepal Red Cross Society Health Policy 2005).

According to this policy, the Sub-health post, health post, and the primary health care centres are the primary health care units, while the district, zonal and sub-regional hospitals, and regional hospitals are the secondary referral units. The national hospitals are the tertiary level of health care point. Hence, maternal and child health services are also delivered from the same health delivery network system, and this is depicted in figure 1.7.

There is a provision of the primary health care/outreach clinics (PHC/ORC), which was introduced in 1994. The main objective of this system is to improve the accessibility and coverage of basic primary health care services. This would be met by developing a network of two to five outreach clinics per VDC per month to fulfill the inadequate access to health services for rural households and limited community involvement in education, motivation, and promotion of essential health, which remain the major bottlenecks in significantly increasing the efficacy of the PHC system. Basically, PHC/ORC clinics are the extension of sub-health posts and of
health posts at the community level. These clinics are organized by the sub-health post and health post at the community level by sending Village Health Workers and Maternal and Child Health Workers to provide family planning services/ maternal and child health services and health education in remote villages. The Village Health Workers and Maternal and Child Health Workers are sent to a pre-arranged place close to communities (two to five catchment areas per VDC) on a predetermined day once per month to provide basic PHC services (FP/ANC services/Health Education/Minor treatment).

At the community level, Female Community Health Volunteers also motivate mothers and other community members about maternal and child health services and provide some minimum services to them.

**Figure 1.7: Institutional Set up of Maternal and Child Health Service Delivery System**

Primary Health Care Level → 1st referral Level → 2nd and 3rd referral Level → Specialized Level

- Sub-Health Post 3,129
- District Hospital-66
- Zonal Hospital
- Regional and Central Hospitals-10
- Maternity Hospital-1
- Maternal Unit-3*

Source: Annual Report of the Department Health Service 2004/05.
*Tribhuvan University Teaching Hospital, Patan Hospital and Kanti Children’s Hospital.

Thus, presently, there are 88 hospitals, 186 primary health care centres, 697 health posts and 3,129 sub-health posts in Nepal where different kinds of maternal and child
health services are provided by various health personnel with different level of qualification (Appendix I).

In addition, international agencies like United Nations Population Fund (UNFPA), United States Agency for International Development (USAID), World Health Organization (WHO), United Mission, Swedish Development Corporation (SDC), JICA and some non-governmental organizations etc are also engaged in providing maternal and child health services.

1.2.4 Maternal and Child Health Policies

The government of Nepal has been giving priority to maternal and child health policy since the time of its first five year plan (1956-61). Compared to other sections of the population, mortality rates of mother and child are very high in Nepal in the past as it is now. Basically, the risk of biological mortality rate of this section of population always remains high in every society because of their biological vulnerability. Experience in many developed countries shows such kind of risk for mother and child has been highly controlled through proper policies intervention and as a result their mortality rate has been reduced significantly. Nepalese government has also committed to adopt maternal and child health policy in all its development plan, aiming to reduce maternal and child mortality rates and to improve their health situation. However, the maternal and child health policy was not comprehensive and specific, besides its implementation aspect being in effective. In addition, programmes were also not categorically specialized.

In 1993, to improve the health status of women during pregnancy and childbirth a Safe Motherhood Task Force was established under the chairmanship of the secretary of the Ministry of Health. The main responsibility of this task force was the National Safe Motherhood Plan of Action (NSMPA), which identified the priority activities for Safe Motherhood for the period 1994-1997. A multi sectoral approach was adopted to produce a comprehensive plan of action aimed at reducing maternal mortality and morbidity, using a combination of health and health-related strategies (Family Health
Division, 1998). The National Reproductive Health Strategy was formulated and adopted in 1996 to strengthen and expand basic maternity care services, including family planning services. In 1996, the National Maternity Care Guidelines were developed. Since then several policy documents guiding the implementation of the National Safe Motherhood Plan have been developed, the Safe Motherhood Policy 1998, the fifteen-year Safe Motherhood Programme Plan (2002-2017), the National Safe Motherhood Training and Information Education and Communication Strategy, and the National Neonatal Strategy 2004 -- defining the basic care for women and newborns during pregnancy, delivery, and the post-natal period at all levels. An Integrated Maternal and Newborn Long-term plan and Skilled Birth Attendance Policy are proposed in 2005 (HMG/UN, 2005).

The Safe Motherhood Policy 1998 emphasized on the following issues:

- to increase the accessibility, availability and utilization of maternal health care facilities.
- to strengthen the technical capacity of maternal health care providers at all levels of the health care system.
- to strengthen referral services for maternity care, particularly at the district level and with specific emphasis on appropriate referral of high-risk cases.
- to increase the availability and use of contraceptives for child spacing and family planning purposes.
- to raise public awareness about the importance of the health care of women and in particular, maternal health care and safe motherhood.

This policy not only envisages the establishment of Basic Essential Obstetric Care (BEOC) and Comprehensive Essential Obstetric Care (CEOC) services in all 75 districts, but also envisages skilled attendance of all births and increased access to emergency fund and appropriate transport services. It had targeted to reduce the

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MMR from 539 to 250 by 2017. In addition, to reduce maternal mortality and morbidities due to unsafe and illegal practice of abortion, the abortion bill was passed in 2002 and it is in implementation with comprehensive abortion care services.

1.2.5 The Goals of Maternal and Child Health Service Targeted in 10th plan

Presently, Tenth Plan has been implementing since 2002 and will be end up in 2006/07. The achievement made regarding maternal and child would be come up in public by the time of the 11th Plan’s proposal. Some goals have been set in the 10th Plan to improve maternal and child health in Nepal is presented in table 1.7.

<table>
<thead>
<tr>
<th>Health Indicators</th>
<th>Status as of FY 2002</th>
<th>Target of 10th Plan</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of women receiving prenatal service for four times</td>
<td>14.3</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Women of 15-44 age group receiving TT vaccines (%)</td>
<td>45.3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Birth attendance by the trained health workers (%)</td>
<td>13</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Contraceptive Prevalence Rate (in %)</td>
<td>39</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Total Fertility Rate (women of 15-49 yrs)</td>
<td>4.1</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>Maternal Mortality Ratio (per 100,000 live birth)</td>
<td>415</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Newly born infant mortality rate (Neo-Natal Mortality Rate) per 1000 live births</td>
<td>39</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Infant Mortality per 100 live births</td>
<td>64</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Child Mortality (&lt;5 yrs.) per 1000 live births</td>
<td>91</td>
<td>72</td>
<td></td>
</tr>
</tbody>
</table>

Source: Tenth Five Year Plan (2059-2064) National Planning Commission

1.2.6 Maternal Health Programmes

In order to improve maternal health status, some programmes have been implemented in Nepal as giving them first priority in health sector, which are in brief as follow:

1.2.6.1 Safe Motherhood Programme

The main purpose of national Safe Motherhood Programme is to reduce maternal and neo-natal mortality by addressing the high rates of death and disability caused by the
complications of pregnancy and childbirth. The past strategies of carrying out the Family Planning/Maternal and Child Health in an integrated manner, promoting attendance of birth through the TBA, and promoting ANC visits were not adequate in addressing the issues of reducing maternal deaths. Thus, in 1997 this programme has been established in Nepal. As global experience shows that all pregnancies are at risk and maternal deaths are difficult to predict. Experience also showed that the avoidance of the three delays was imperative to achieve the goal of reducing maternal mortality in Nepal. These delays, included delay in seeking care, delay in reaching care, and delay in receiving care. Since the majority of women do not have access to maternal healthcare services due to social, economic, and cultural factors, medical interventions alone are not sufficient to reduce maternal mortality. Specific non-health approaches are also equally important to address this issue. Thus, the Safe Motherhood Programme takes a multi-sectoral approach to include both health and non-health interventions that promote access to and utilization of safe motherhood services. The major strategies have been adopted for this programme are; providing round the clock emergency obstetric care (either comprehensive or basic), ensuring the presence of skilled attendants at deliveries, especially in the home setting and promoting birth preparedness and complications readiness by preparing for blood, transportation and money.

1.2.6.2 FCHV Programme

First of all, to combat the problems of high infant and maternal mortality, high population growth rate, poor sanitation, and lack of awareness of health needs, which were considered causing adverse effects on the health of the people of Nepal, a Community Health Leader Programme was initiated in 1977 in Nepal. Under this programme 5,600 community health leaders were trained in 16 districts out of 75 districts. Mostly they were males.

But, recognizing that most health problems are related to women and children, it became imperative that the female population be involved in primary healthcare
activities. Then, in 1988/89 the government revised its policy and initiated the community-based Female Community Health Volunteer (FCHV) programme. It was first started in all the 19 districts of the Central Development Region and eight of the Mid-western Development Region. Later it has been expanded to all districts of the country. Initially, the target was to select one FCHV per ward regardless of the population size. In 1993, the selection criteria changed from ward-based to population-based. Accordingly, there was to be one FCHV for every 400 population in the Terai, 250 in the Hills and 150 in the Mountain. However, regardless of population size, there must be one FCHV per ward. At present there are in total 48,164 reported FCHVs actively working all over the country.

Basically, FCHVs are selected through local Mothers' Group Members with the help of local health personnel and for 18 days are given a basic training on selected primary health care components. After the completion of 18 days of initial training, FCHVs are provided with a drug kit free of cost, flip charts and information education and communication (IEC) materials.

The role of the FCHVs is mainly to focus on motivation and education of local mothers and community members for the promotion of safe motherhood, child health, family planning, and other community health services. With the support of health personnel from the SHPs, HPs and PHCCs, the FCHVs are expected to promote available health services, such as immunization, family planning, and control of diarrhoea diseases. Additionally, the FCHVs distribute pills, condoms, oral rehydration solution (ORS) packets, and vitamin A capsules; and, in Integrated Management of Childhood Illness (IMCI) programme districts, they also treat pneumonia cases and refer more complicated cases to health institution. Similarly, they also distribute iron tablets to pregnant women in Iron Intensification districts.
1.2.6.3 Traditional Birth Attendant Programme

Training and supervision of Traditional Birth Attendants (TBAs) has been conducted through the Ministry of Health since 1984. The national target is to train 22,000 TBAs. To date 25,000 TBAs have been trained across the country with the joint cooperation HMG, donors and NGOs in Nepal. During the fiscal year 2053/54 the Ministry of Health TBA Programme is working in 55 out of 75 districts. These districts are mainly in the mid and far-western districts where there are less than 4 ANMs per district. The training of TBAs has been proven to improve the cleanliness and safety of delivery practices and cord care. TBAs can prevent some obstetric emergencies as well as the maternal and new born infections that often result in death. TBAs are still the only health care providers who regularly provide home based delivery and postpartum care in the rural communities. About 34 percent of home deliveries are conducted by TBAs and 20 percent by other health personnel (Annual Report, 2004/05).

The overall goal of the National TBA Programme is to contribute to the National Safe Motherhood Programme goal of reducing maternal and infant mortality rates and morbidity rates.

1.2.6.4 Family Planning Programme

The main thrust of the National Health Policy (1991) related to the National (FP) Programme is to expand and sustain adequate quality family planning services to the community level through all health facilities: hospitals, primary health care (PHC) centres, health posts (HP), sub health posts (SHP), PHC outreach clinics and mobile voluntary surgical contraception (VSC) camps. The policy also aims to encourage NGOs, social marketing organizations, as well as private practitioners to complement and supplement government efforts.

In this regard, family planning services are designed to provide a constellation of contraceptive methods/services that reduce fertility, enhance maternal and neonatal
health, child survival, and contribute to bringing about a balance in population growth and socio-economic development, resulting in an environment that will help the Nepalese people improve their quality of life.

1.2.7 Child Health Programmes

In order to improve child health status, five major programmes have been implemented in Nepal as giving them first priority in health sector, which are as follow:

1.2.7.1 Expanded Programme on Immunization (EPI)

The Expanded Programme on Immunization was established in 1977, which is a priority programme of then His Majesty's government of Nepal and has been implemented in all the 75 districts of the country. Effective implementation of the EPI programme is considered as contributing directly to the reduction of infant and child morbidity and mortality associated with vaccine-preventable diseases, which has been implemented throughout the country. The immediate goal of EPI is to eradicate poliomyelitis, eliminate neonatal tetanus (NNT), and to reduce measles morbidity and mortality by the end of 2005.

But, the accessibility of this programme in rural areas has some difficulties since the storage of vaccination in health post and sub-health post can not be done due to lack of electricity and related equipment. However, the nearest primary health centre or district hospital would supply it on the day of vaccination.

1.2.7.2 Control of Diarrhoeal Diseases

Diarrhoea diseases are very common in Nepal causing a major public health problem among children under 5 years of age. Control of Diarrhoea Disease (CDD) is therefore an integral part of the Primary Health Care. The CDD programme was initiated in Nepal in second year of the seventh plan (1985-86) to control diarrhoea.
The CDD survey of 1985 indicated that children under 5 years were very prone to diarrhoea and an estimated 45,000 children die annually because of this. Since then, this programme has been accorded priority status by HMG.

Improvement in diarrhoea case management has been used as a primary strategy for the reduction of mortality due to diarrhoea among children under five years of age. Under this programme it is aimed that standard diarrhoea case management will be provided in the health institutions by establishing Oral Rehydration Therapy (ORT) corners in all hospitals, primary health care centres, health posts and sub health posts throughout the country. All health facilities and community health volunteers will serve as the primary health providers in the treatment of diarrhoea with Oral Rehydration Solutions (ORS) free of cost.

The broad objectives of this programme are creating awareness in the community, educating mothers of feeding practices, diagnosis, and making available oral rehydration solution. But the programme has quite a few demerits due to a gap between planning and implementation, especially with regard to creating awareness on the prevention of the diseases.

1.2.7.3 Control of Acute Respiratory Infection

Acute respiratory infection (ARI) control programme was initiated in 1986/87 to control higher prevalence of morbidity and mortality of under 5 child in Nepal. It has become an integrated part of Primary Health Care Services. This has been given a high priority in national health programme to improve child health by reducing their death caused by this disease. The programme aims to educate mothers and other caretakers to identify the ARI related diseases on the basis of WHO guidelines for the classification of ARI (Very severe disease; severe pneumonia; Pneumonia; or no pneumonia) in order to reduce under five ARI related morbidity and mortality through proper diagnosis and management of cases.
The main objective of the ARI Programme is to reduce under-five ARI-related morbidity and mortality and to improve the situation of child health in Nepal.

1.2.7.4 Nutrition Programme

The Nutrition programme has been initiated in Nepal since the implementation of the fifth plan (1975-80) with the objective of improving nutritional status of the children, pregnant women and breast feeding mothers. Surveys carried out from time to time pointed out that malnutrition places an enormous burden on children and women in Nepal. It is also recognized that even mildly or moderately malnourished children are more likely to die from common childhood diseases than those adequately nourished. Malnutrition is also closely associated with impaired overall child development. There are various reasons that cause malnutrition. Thus, HMG is aiming to reduce it through multi-sectoral approach: controlling iodine deficiency disorder, Vitamin A deficiency disorders, and anaemia and improve child health status.

The main objectives of the Nutrition Programme are to reduce protein-energy malnutrition in children under three years of age through a multi-sectoral approach; to virtually eliminate iodine deficiencies disorders and vitamin A deficiency and achieve theirs elimination by the year 2010; to reduce the prevalence of anaemia to the pregnant mothers (including iron deficiency) by one third by the year 2010; to reduce the incidence of low birth-weight to 19 percent of all births by the year 2007 and to promote exclusive breastfeeding till the age of six completed months. Thereafter, introduce complementary foods along with breast milk till the child completes 2 years or more.

1.2.7.5 Community Based Integrated Management of Childhood Illness (CB-IMCI)

In 1997, the Control of Diarrhoeal Diseases/Acute Respiratory Infection section of the Child Health Division introduced the Integrated Management of Childhood Illness (IMCI) programme in Mahottari district and presently in 25 districts (2004/05). This
programme includes four child survival programmes: control of diarrhoeal diseases; control of acute respirator infection (ARI); immunization and nutrition including micro-nutrients; and a community component. The purpose of this programme is to mobilise the community health workers (VHWs and MCHWs) and FCHVs to provide child health services in the integrated manner.

1.2.8 Implementation of Policies

The existing healthcare service delivery system indicates that most of the maternal and child health services in Nepal is more likely to be served at the primary health care units level. While it is well known that comparatively, hospitals having a much wider range of medical services than primary health care units (primary health centre/health centre, health post and sub-health post), particularly, suffer from the problems of inadequate funding and physical facilities; lack of trained staff; absenteeism; and chronic shortages of equipment, medicines, and vaccines. This demonstrates that a large number of Nepalese mothers and their children are lacking in receiving quality services in the rural areas. The healthcare service delivery system needs to be improved if it is to deliver effective and efficient services.

According to UNDP, the existing health posts/sub-health posts are not functioning properly in Nepal and basically they are plagued by several problems. Pharmaceutical supplies are often exhausted during the first few months of the fiscal year, forcing the health centers to virtually close down for the rest of the year. In some cases, the centers are located on mountain ridges not easily accessible to patients. It further pointed out that there has often been debated that construction of health posts is useless unless supplies of medicine and access to patients is taken into consideration. The present condition of the medical service demands a fundamental review of the medical referral system, which exists more in form than substance (UNDP, 1995). Thus, it implies that a significant number of Nepalese mothers and their children do not have access to quality services, particularly so in the rural areas.
The Ministry of Health invested significant resources borrowing from international financial institutions, to create health facilities infrastructures all over the country, however the management of health facilities and health workers remains a formidable challenge. Utilization of services offered by sub-health posts remains very low. Outreach health workers are not motivated to provide health education and refer the complicated cases to the health facilities. Thus, not much progress has been made in reduction of maternal and infant mortality (Nepal Red Cross Society Health Policy 2005).

The availability of service pattern at different levels of service point indicates that maternal and child health service still seems to depend upon a routine care with limited facilities and low-level medical interventions. Moreover, services for maternal health care meant focus on providing antenatal, childbirth, and postnatal care, while for child health care meant focus on treatment of acute respiratory infection with a high rate of antibiotic and treatment of diarrhoea with a low supply of ORS till recent past, particularly in the rural areas. The policy of providing quality services like care of women with obstetric complications and of newborns with complications is even a recent policy. Its implementation is not effective due to health facilities without skilled manpower, equipment, and drugs at primary health care units. Moreover, the provision of doctors is only in the district hospitals and primary health centres. Most of the maternal deaths or child deaths occur in the community. It simply urges that whatever services and interventions are proposed in the policy need to be focused at the community level. The policy of bringing awareness about the complications during and after pregnancies among family and community members is not properly implemented. Newborn care, particularly at the community level, is yet to be put in place according to the guidelines of the National Neonatal Health Strategy that was formulated in 2004 (WHO, South Asian). It can be said that poor implementation of strategies is one of the main reasons for the low level of utilization of maternal and child health services in Nepal.
For example, a latest statistic released by the Ministry of Health in 2004/05 shows that the incidence of diarrhoea and diarrhoreal death rate both have increased in 2004/05 compared to 2002/03. Among children under 5 years, 244 per 1000 of them died due to diarrhoea and 219 per 1000 of them suffered from the same in 2004/05. Children who suffered from diarrhoea were 148 and 200 per 1000 in 2002/03. The incidence and death statistics of diarrhoea in 2002/03 reported were 219 and 148 per 1000 children under 5 years respectively. Unlike diarrhoea, acute respiratory incidence statistics shows a declining trend even though it has not reduced as is targeted. The death due to acute respiratory infection was 227 per 1000 children in 2004/05 compared to 278 per 1000 children in 2002/03. Similarly, target of child immunization has not only been achieved but has also decreased in 2004/04 compared to 2002/03. The percentages of BCG, DPT3, OPV3, and measles were 97.0 percent, 86.2 percent, 84.0 percent, and 80.2 percent respectively in 2002/03, whereas the same were 92.4 percent, 80.0 percent, 83.0 percent, and 79.3 percent respectively in 2004/05.

However, utilization of maternity services has increased during the period 2002/03 to 2004/05. For instance, the percentage of TT injection, intake of iron folic tablets, and four times antenatal visit for pregnant mothers have increased during the period 2002/03 to 2004/05 from 30.0 percent to 44.9 percent, 68.1 percent to 84.3 percent and 36.8 percent to 44.1 percent respectively. Yet, these statistics are still below the set target. According to the set target for TT injection, it should be 80.0 percent instead of 44.9 percent, whereas for four times of antenatal visit it should be around 69.0 percent instead of 44.1 percent.

Thus, it can be claimed that implementation of policy and programmes seems to remain poor despite its formulation. Otherwise, despite the formulation of policy and programmes under each successive development plan over more than 50 years, all available data of the utilization of maternal and child health services should not have been so low. Even the mortality rates should not have been so high (maternal mortality ratio 415 per 100000 live births, neonatal mortality rate 39 per 1000 live
births and infant mortality rate 64 per 1000 live births, 2002) despite so many health policies have been implemented by giving priority in health sector.

1.3 Statement of the Problem

It is noticed from above sub-sections that maternal and child health status is poor in Nepal. Their mortality rates are one of the highest in the world. It is well known that government of Nepal is committed to improve maternal and child health services by managing numerous static and outreach health services to provide preventive and curative health services to the pregnant women and their children across the country at community level. Subsequently, the walking distance of people to reach the nearest health institution is seemed tremendously reduced over time periods. Such as Nepal Living Standard Survey reveals that more than 41.0 percent of the households are accessible to the nearest health institution within a walking distance of half an hour (CBS, 2003-04) while 69 percent of the households were found located within an hour's walk from a health post (UNDP/Nepal, 2000).

Numerous research studies revealed that high under five mortality rate (neonatal, infant and child) and maternal mortality rates are directly related to poor health status and inadequate utilization of health care services. A survey (1998) carried out in Nepal indicated the leading immediate causes of maternal death to be haemorrhage, sepsis, toxaemia, and obstructed labour and causes of new born to be asphyxia, birth injury, sepsis, tetanus, and other mediated through low birth weight. These are preventable with the appropriate provision and utilization of antenatal care, skilled attendance during delivery, and an well-organized referral system to basic and/or comprehensive obstetric care (Borghi, Hanson, Acquah. et al., 2003).

Anaemia is another persisted health problem for pregnant women in Nepal that even affect the foetus and newborn infant. A survey indicated that 75 percent of the pregnant women are anaemic in Nepal (DOHS, 2004/05).
Same source reveals that many children suffer from malnutrition, diarrhoea and acute respiratory infection/pneumonia. About 11 percent of children below 3 years are malnourished. Anaemia and low birth weight are the causes for malnutrition of children where 78 percent of them are anaemic and 30-50 percent of children have birth weight below 2.5 kg in Nepal. Malnutrition is even higher (90 percent) among infants 6-11 months old. Annually, 38 percent and 12.8 percent of children suffer from acute respiratory infection and pneumonia respectively. Similarly, new cases of diarrhoea are 21.9 percent for under 5 years and 2.2 percent of them are severely dehydrated (DOHS, 2004/05). WHO estimates that diarrhoea and acute respiratory infection, these two illnesses account for more deaths among children under age five than any other infectious disease (WHO, 1999). UNICEF (1995) estimates that of all deaths under age five in developing countries in 1993, 27 percent were due to acute respiratory infection (ARI) and 23 percent to diarrhoea. Another health indicator of children is coverage of full dose of immunization, which is also still low in Nepal. Particularly, neonatal tetanus and measles mortality and morbidity rates are high. These diseases are easily preventable if government makes an effort to make easy and equitable access to curative as well as preventive health care services to the people. Nearly 63 percent of child deaths could be prevented if a limited set of interventions were universally implemented (Paul, 2005).

The government of Nepal has targeted to reduce the maternal mortality rate to 250 per hundred thousand live births by increasing the percentage of deliveries attended by trained personnel to 95 percent; a minimum of four antenatal visits to 80 percent; TT2 to 90 percent and reducing the percentage of iron-deficiency anaemia among pregnant women to 15 percent and to reduce the infant and under five mortality rates to 34.4 and 62.5 per thousand live births respectively by aiming vaccination coverage of children under one year to more than 90 percent; and to decrease the percentage of newborns weighing less than 2500 grams to 12 percent through its 20-year Second Long-Term Health Plan (SLTHP, 1997-2017) under the implementation of National Health Policy 1991.
Contrary to targets, utilization level of these services is revealed to be very low for both mothers and children in Nepal (sub-sections 1.2.1 and 1.2.2). The utilization of maternal and child services is not only lower in Nepal, there is a pronounced disparity across ecological zones, development regions and urban/rural areas. For example, the use of antenatal and postnatal care is found higher in the Terai Zone (56.0 percent and 37.0 percent respectively), followed by the Hill and the Mountain. The use of antenatal check-up is found 82 percent in urban areas and 47 percent in rural area while postnatal check up is observed to be 18.2 percent in urban areas and 20.8 percent in rural areas. Similarly, the percentage of children who have received treatment for diarrhoea is 28.2 in the Mountain Zone, followed by the Hill Zone (23.7 percent) and the Terai Zone (18.5 percent). And the same is revealed as 46 percent in urban areas and 31 percent in rural areas.

From the above figures and facts, it is evident that in Nepal the level of utilization of maternal and child health services is very low despite the government constant effort to improve it, which is one of the responsible factors for high maternal and under five years mortality rates. Thus, any research, which sought the reasons why the utilization level of available maternal and child health services is not only low but also differed across ecological zones could be a new and relevant research in the quest of improving maternal and child health status in future.

The findings of several research studies revealed that socioeconomic and demographic factors are creating demand for and utilization of maternal and child health services (Das et al. 2001, Ray et al. 1984; Kanitkar and Sinha 1989; Elo 1992; Swenson et al. 1993; Abdalla 1993; Govindasamy and Ramesh 1997; Ahmed and Mosley 1997; Regmi and Manandhar 1997). Many of these studies have shown that utilization of maternal and child health services is strongly affected by woman’s education, household standard of living (as measured by availability of electricity in the household and type of house), woman’s exposure to mass media, son preference, quality services, urban-rural residence, woman’s work status, woman’s status relative to men, religion, caste/tribe, and community development. Other factors such as
distance to health facilities and the cost of transport (World Bank 1994, Barlow and Diop 1995; Biego 1995; Lule and Ssembataya 1995; Hodgkin 1996); cultural factors including preference for privacy, modesty and female attendants (Leslie and Gupta 1989); and women’s lack of decision-making power (Thaddeus and Maine 1994) are also important in determining the utilization of maternal and child health services.

In addition, the actual or perceived affordability of health services is important as anticipated costs may play a role in deterring care-seeking, with implications for the health outcomes of the mother and child (Stanton and Clemens 1989). Even when direct cost is low or non-existent, there may be indirect cost in terms of transport, drugs purchased from the market, and food or lodging for the mother and her accompanying family members (Abel-Smith and Rawal 1992; Kawnine et al. 1998; Nahur and Costello 1998).

Access to affordable biomedical health care providers (either government health posts and centres or private doctors), income of individual families and mother’s beliefs about the underlying causes of her child’s illness are found important determinants for choices about treatment for acute respiratory infection (ARI) and diarrhoea in rural Guatemala in multivariate analysis after controlling other factors like mother’s education, her ethnicity, and her husband’s education while these factors did not emerged significantly associated with the likelihood of visits to providers, once income is held constant. (Goldman et al., 2001, Goldman & Heuveline, 2000; Yoder & Hornik, 1996; Granich et al., 1999).

Improving accessibility of services to people has been widely accepted as an important factor for increasing the utilization of contraceptive and health services in developing countries. For example, a number of researchers have found that accessibility of family planning and health services is one of the major factors affecting the utilization of these services (Rao and Richard, 1984; Elo, 1992; Kumar, Singh, Kaur, 1997). Further Sawhney (1993) also found that a greater effect of inadequate access on service utilization than the effects of socio-economic factors
such as education. Ray et al. (1984) have identified that motivation is one of the important factors to encourage people for utilizing the services. They argued that provision of services alone cannot increase in service utilization if people are not motivated for the same.

Acharya (1996) claimed that quality of health posts services was the strong determinant for the utilization of various preventive services in rural Nepal. He suggested that the improvement of quality of health posts could be better strategy to increase utilization of most of the preventive services in rural Nepal then accompanied by the construction of new health posts to improve access. Shelton and Davis (1996) emphasized that programmes that give much more attention to quality as well as access to services enhance client satisfaction, lead to greater utilization of the services. According to Bertrand et al. (1995), access of services may help a potential client to contact with a service provider in the first place and quality of care may encourage a client to take decision concerning whether to accept or use the service or to continue using it.

In a study undertaken in Guatemala it was found that women with complications in a pregnancy month were more likely to visit a provider in that same month and were more likely to see a biomedical provider, as compared to women without complications. In addition, it was also found that the association between the presence of complications and the receipt of care depended upon the duration of pregnancy, although the interaction was significant only with regard to the receipt of any type of care. Women with complications in early pregnancy were much more likely to obtain care than those without complications, but the presence of complications had little effect in the final trimester (Glei et al., 2002-01).

Sugathan et al. (2001) believed that the ‘lay-health culture’ has substantial effects on utilization of maternal and child health services in regions of the country where poverty and illiteracy are widespread. They argued that traditionally pregnancy is considered a natural state of being for a woman rather than a condition requiring
medical attention and care. Such perceptions and beliefs constitute a ‘lay-health culture’ which is a negative factor and it often stops women to avail themselves of preventive and curative medical services intended to safeguard their own and their children’s health.

In this regard, what factors could be the responsible for the low level of utilization of maternal and child health services in Nepal is the focus of this research. The study aims to identify maternal and child health services and their level of utilization focusing on rural areas of two districts from two ecological zones the Hill and the Terai on the basis of cross sectional primary data.

1.4 Objectives

The main objective of the study is to contribute to the understanding of the determinants of the utilization of maternal and child health services in rural Nepal. Because the utilization level of maternal and child health services is observed to be low in Nepal, particularly in rural areas, which is considered as an obstacle in improving their health status according to set goals. Thus, it has been being an issue of considerable concern for the policy makers in Nepal. It is believed that the findings of a research study focusing on such issue would be meaningful in making policy recommendations to improve maternal and child health services in future. However, specific objectives are the followings:

- to observe the level and variation of utilization of maternal and child health care services in rural areas across the Hill district and Terai district in Nepal.
- to identify the factors that affect the utilization of maternal and child health services in the rural context with reference to the Hill district and the Terai district.
- to suggest the measures in improving utilization of maternal and child health services in the rural context with reference to the Hill district and the Terai districts).
1.5 Hypotheses

The broader hypothesis of the study is that discrepancy exists between regions and households/individuals in the utilization of maternal and child health services. Specific hypotheses to be tested are as follows:

1. The level of utilization of maternal and child health services differs between two districts with respect to physical accessibility of health services.

Because in rural areas, lack of transportation, the cost of transport, and the difficulty of walking for hours to the nearest service centres may also pose problems for pregnant women and children to be able to visit available health institutions and utilize the offered services. Thus, geographically difficult physical terrain will affect the utilization level of maternal and child health services negatively unless an effective transport system counterbalances the difficulties faced in that terrain.

2. The level of utilization of maternal and child health services will be positively related to the availability of quality of services.

Basically, quality of services consists of availability and presence of doctor/trained staffs in sufficient number, their personal behaviour and their regular follow-ups, and sufficient stock of medical equipment, medicines, and good physical facilities of health institutions.

3. The level of utilization of maternal and child health services will be higher among the households with better socio-economic status in general and of women in particular.

Better off socio-economic condition could be conducive to have greater exposure and affordability to utilize health services. Thus, it assumed that
better off socio-economic condition would positively associates with utilization of health services.

4. The level of utilization of maternal and child health services will be lower in those households where cultural taboos and practices are dominant.

Because the cultural taboos and practices may force women to conform to the traditional values strongly, that may prevent them from practicing modern health services.

5. The level of utilization of maternal health care services will be affected by women perception towards health related problem in pregnancy.

Because most of the women in rural areas used to have the perception to take pregnancy as a natural process and a normal condition, which affects their health seeking behavior negatively and lowers the utilization level for maternity care.

1.6 Organization of the Study

Present study is proposed to organize into seven chapters. The first chapter consists of introduction. The second chapter devoted to highlight the literature review and research design. The third chapter deals with demographic, socio-economic and health aspects of the study area. Chapter four aims to trace the profile of households and respondents. Chapter five proposes to observe the utilization pattern of maternal and child health services of the present study. The sixth chapter is devoted to identify the factors affecting the utilization level and pattern of maternal and child health services by bivariate and multivariate analysis. Chapter seven presents conclusion.