SITUATION OF CHILDREN AND WOMEN IN NEPAL 2006
FOREWORD

Several of the important development achievements in Nepal in recent years affect the lives of children and women more than anyone else: the 40 percent reduction in under five mortality from 1991-2001, the increase in primary school enrolment by 30 per cent from 1995 to 2005—girls’ enrolment increasing by 50 per cent in the same period—and access to water in rural areas increasing by 65 per cent from 1991-2001. The ongoing conflict threatens to reverse or halt progress in these and other areas that are fundamental to the well-being of children and women in Nepal.

We have seen schools become a place for recruitment or indoctrination. Travel and movement has become an exposure to interrogation and harassment. Family life has been disrupted by fear and even direct violence. In response, to ensure their safety, families may decide to take their children out of school or not enroll them in the first place. They may be more reluctant to seek basic health services if it requires travel. At the same time, the conflict affects service delivery. Schools have been closed temporarily both nationally and locally. Health and education services in remote villages are often running with significantly reduced support and supervision.

As always, it is the most vulnerable who will be hardest hit. Families living in remote areas already had to contend with long distances to understaffed facilities even before the conflict. The issues of service delivery deterioration and security for travel will affect these families more than others. As such, the conflict may increase existing disparities in the country. For example, while nationally one in 11 children die before the age of five, in the mountain areas one in six children meet the same fate. Similarly, in a country where education of girls is lagging behind that of boys, the inclination of families to keep their daughters at home may grow even stronger. With government services being much less affected in urban areas, the urban-rural divide in Nepal may also grow wider. It is clear that the conflict might increase current inequalities, or even create new ones.

The conflict also has a more direct impact on the lives of children and women in Nepal. Family structures are shaken when households are increasingly headed by women due to increased migration, when the whole or parts of the family become displaced, and when children move alone or with a family member to urban areas or India seeking security, work and education. Serious human rights violations include detention of children, children killed or injured, and recruited as child soldiers. While the lack of rule of law can affect anyone, we must be aware of
the likelihood that it will be those already most marginalized in society—those without papers, information, and skills—who will be least able to cope, and are most vulnerable to many of these rights violations.

This presents an enormous challenge to all working for development in Nepal. Reaching the Millennium Development Goals, and keeping children safe from the most serious human rights violations, will require—more than ever—that we focus our attention on the most vulnerable: those ‘unreached’ or ‘excluded.’ This document on the situation of children and women in Nepal focuses its analysis on patterns of exclusion and why it is so. It aims to be a source of improved understanding and appreciation for the development challenges present in Nepal today: their complexity, trend over time, and responses. While the contours of the overall impact of conflict are also noted, the situation changes frequently and is often not the same in two districts. We clearly need very flexible and efficient mechanisms to keep up with the situation at the local level, to be in a position to help communities and families build their resilience, particularly those who are most vulnerable.

Suomi Sakai
UNICEF Nepal Representative
Kathmandu, January 2006
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<td>ADB</td>
<td>Asian Development Bank</td>
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<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
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<td>ARI</td>
<td>acute respiratory infection</td>
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<td>ART</td>
<td>anti-retroviral therapy</td>
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<td>AusAID</td>
<td>Australian Agency for International Development</td>
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<td>BCHIMES</td>
<td>Between Census Household Information, Monitoring and Evaluation System</td>
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<td>CB-IMCI</td>
<td>Community-based Integrated Management of Childhood Illness</td>
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<td>CDO</td>
<td>Chief District Officer</td>
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<td>CEDAW</td>
<td>Convention on the Elimination of All Forms of Discrimination Against Women</td>
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<td>CERID</td>
<td>Centre for Educational Innovation and Development</td>
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<td>Canadian International Development Agency</td>
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<td>CREPHA</td>
<td>Centre for Research on Environment, Health and Population Activities</td>
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<td>Child Workers of Nepal Concerned Centre</td>
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<td>DACAW</td>
<td>Decentralized Action for Children and Women</td>
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<td>DANIDA</td>
<td>Danish International Development Agency</td>
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<td>District Development Committee</td>
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<td>Department for International Development (of the UK Government)</td>
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<td>Food and Agricultural Organization (of the United Nations)</td>
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<td>Female Community Health Volunteer</td>
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<td>FINNIDA</td>
<td>Finnish International Development Agency</td>
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<td>GDI</td>
<td>Gender-related Development Index</td>
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<td>GDP</td>
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<td>gross national income</td>
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<td>GNP</td>
<td>gross national product</td>
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<td>GTZ</td>
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<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>IEC</td>
<td>information, education and communication</td>
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<td>IED</td>
<td>improvised explosive device</td>
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<td>ILO</td>
<td>International Labour Organization</td>
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<td>INGO</td>
<td>international non-governmental organization</td>
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<td>INSEC</td>
<td>Informal Sector Service Centre</td>
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IPEC  International Programme for Elimination of Child Labour
JICA  Japanese International Cooperation Agency
MIRA  Mother Infant Research Activities (an NGO)
NCASC  National Centre for AIDS and STD Control
NDHS  Nepal Demographic and Health Survey
NGO  non-governmental organization
NRs  Nepalese rupees (Dec 2005: US$ 1 = approx. NRs 75)
OHCHR  Office of the High Commissioner for Human Rights
ORS  oral rehydration solution
OSP  Out-of-School Programme
PABSON  Private and Boarding Schools Organization of Nepal
PLHWA  person/people living with HIV/AIDS
PMTCT  prevention of mother-to-child transmission (of HIV/AIDS)
PPP  purchasing price parity
PSI  Population Services International
SAARC  South Asian Association for Regional Cooperation
SLC  School Leaving Certificate
SNV  Netherlands Development Organization
STD  sexually transmitted disease
TADO  Terrorist and Disruptive Activities (Control and Punishment) Ordinance
UN  United Nations
UNAIDS  Joint United Nations Programme on HIV/AIDS
UNCTAD  United Nations Conference on Trade and Development
UNDP  United Nations Development Programme
UNESCO  United Nations Educational, Scientific and Cultural Organization
UNFPA  United Nations Population Fund
UNHCR  United Nations High Commission for Refugees
UNICEF  United Nations Children's Fund
USAID  United States Agency for International Development
VCT  voluntary counselling and testing (for HIV/AIDS)
VDC  Village Development Committee
WFP  World Food Programme
WHO  World Health Organization
WTO  World Trade Organization
This section offers an alternative perspective to the sectoral and more technical chapters that follow. It starts with the birth of a child and follows his/her life to adulthood through the various challenges he/she may meet. While the sectoral chapters provide more detail and analysis, this account can be read as a concise overview of the current situation faced by children and women in Nepal.

THE PREGNANT WOMAN AND HER UNBORN CHILD

The condition and treatment of a pregnant woman influence the survival of her unborn child. Although girls in Nepal are not legally entitled to marry before the age of 18 years, many are married by the age of 14 or 15 years. The median age at first marriage is 16.6 years [1]. Early marriage is most common in rural areas and in the terai. Young women usually start to bear children soon after they are married; over 40 per cent of married women aged 19 years are either already mothers or are pregnant with their first child [1]. This means that some mothers are barely more than children themselves and have yet to reach full physical maturity. In addition, many women are smaller than they should be, because they suffered from malnutrition during their own childhood. These conditions are known to increase the risk of complications during delivery, and can result in the deaths of both mothers and children.

For older women, repeated pregnancies and closely-spaced births exhaust the body’s reserves and increase the likelihood of low-birth-weight babies. The current fertility rate for Nepali women aged 15–49 years is 4.1 [1].

The nutritional status of women is generally poor, with a widespread lack of sufficient protein, vitamin A, iron and iodine in the diets of rural women. Furthermore, pregnant women are generally not acknowledged to have special dietary needs. Anaemia—low iron content in the blood—contributes to the high rates of maternal mortality seen in Nepal. Over three-quarters of pregnant women are anaemic [2]. Only a quarter of women receive some iron–folate supplementation during pregnancy, and extremely few take a complete course [1]. The health status of mothers can also affect the outcome of their pregnancies. Sexually transmitted infections and HIV/AIDS are becoming increasingly common in pregnant Nepali women. Malaria is endemic to Nepal; however only in limited areas.
Rural women in Nepal often have very heavy workloads that include heavy lifting and physical labour in the fields during busy agricultural periods as well as routine household chores. Indications are that women’s workloads remain relatively unchanged during pregnancy. The lack of special care afforded to pregnant women is also apparent in the figures for gender-based violence. Almost 25 per cent of maternal deaths occur during pregnancy; many of these are the result of physical violence or a general lack of care [3].

The health-seeking behaviour of a woman during pregnancy is linked to the survival of her child and herself. Regular antenatal care can ensure that the health of a woman is monitored, and that she receives supplements, medication and advice that will improve the chances of a successful outcome to her pregnancy. About half of all pregnant women in Nepal receive some form of antenatal care, although few receive the recommended four visits [1].

**THE BIRTH OF A CHILD**

The low levels of skilled attendance at childbirth endanger the lives of many Nepali mothers and their newborns. Currently, at least 539 mothers die for every 100,000 live births [1]. This translates to about one woman every two hours. Most women give birth at home, with less than one in 10 births taking place in a health facility [1]. Over three-quarters of women are assisted in labour by relatives and friends or untrained Traditional Birth Attendants. Only about 13 per cent are attended by a doctor, nurse, or someone with appropriate midwifery skills [1]. The remaining one in 10 births are delivered without any assistance. Thus, for most deliveries, there is no one present to safely handle the common complications that can kill the newborn baby. Birth and the first month of life are precarious for the Nepali child. Over four out of 10 children who die before their fifth birthday, die during the first month, the majority of them during the first week [1].

Birth asphyxia is a common complication of delivery in Nepal; it most often occurs when a delivery is not assisted by a skilled attendant. It accounts for nearly half of newborn deaths in the community and at least a quarter of newborn deaths in hospital [4; 5]. Infection is also a common problem. At least a quarter of newborn deaths in Nepal are the result of infections such as septicaemia, pneumonia, diarrhoea and meningitis [6]. Many infections are contracted from the unhygienic conditions in which birth takes place and from unclean practices associated with delivery by unskilled attendants. Some women are obliged to give birth in outhouses that are little more than cowsheds (chaupadi). Although neonatal tetanus used to be a major problem in Nepal, an extensive vaccination programme targeting pregnant women has reduced its incidence. Breastfeeding strengthens the baby’s immune system and is almost universal in Nepal. However, it is delayed by at least 24 hours for about one in three babies [1].

Nepal has a particularly high incidence of low-birth-weight deliveries, with over a quarter of newborn babies weighing less than 2.5 kg [7]. These newborns are more susceptible to hypothermia and acute respiratory infections. Over three-quarters of newborn deaths in Nepal occur in low-birth-weight babies [6].

Hypothermia is also common, particularly during winter, and contributes to the death of many newborns from infections and other causes. It is a widespread practice to bathe newborns soon after delivery, with over nine in 10 babies being washed in their first hour [8]. In addition, a third...
of babies are not quickly wrapped in warm clothing following their birth [8].

About one in 25 children born in Nepal die during the first month of life [1].

THE INFANT

For the child that survives its first month, the following 11 months are likely to offer a number of challenges. Most deaths are the result of diarrhoea and/or acute respiratory infections. These conditions are usually exacerbated by underlying malnutrition, and poor standards of care and environmental hygiene. A little less than a third of deaths among children under five years occur during this period [1].

Malnutrition is a serious problem in Nepal, and many children are undernourished from an early age. The early introduction of water and foods increases the risk of infections and thus contributes to malnutrition. By four months of age just over half of Nepali children are exclusively breastfed [1]. By six months of age, one in five children are both too short and thin for their age. The extremely low energy and nutrient content of the typical porridge fed to infants and inadequate frequency of feeding also contribute to malnutrition. By 12 months of age, over half of all children are underweight, and more than one in three is short for their age [1].

Other nutritional problems that affect infants in Nepal include anaemia and vitamin A deficiency. Anaemia (iron deficiency) is by far the most common, impairing the physical and mental development of many children. It affects nine out of 10 children aged 6–11 months [2]. Vitamin A deficiency can make children more susceptible to the effects of diarrhoea, acute respiratory infections and measles. It can also lead to blindness. In 1998, four in 10 children aged 6–11 months suffered from vitamin A deficiency [2]. Nepal has a National Vitamin A Programme that distributes high-dose vitamin A capsules to children aged 6–60 months twice a year.

As infants begin to move around and explore their surroundings, they become more prone to infections, and both diarrhoea and acute respiratory infections are more common in children aged 6–11 months than in any other age group (Figure 1). For children who are malnourished and suffering from micronutrient deficiencies, the impact of contracting a common diarrhoeal or respiratory infection can be extremely severe, even fatal, particularly for this age group. The prevalence of diarrhoea is 35 per cent among children aged 6–11 months [1]. However, the increasing coverage of safe drinking water and improved personal hygiene, the availability and proper use of oral rehydration solution, and improved care of children suffering from diarrhoea has reduced its incidence from 3.3 episodes per child per year in 1990 to 1.7 episodes per child per year in 2002 [9]. The incidence of acute respiratory infection is over 36 per cent for children aged 6–11 months [1]. Fatalities are decreasing, as community health personnel in growing numbers are trained to diagnose early pneumonia correctly and treat or refer cases accordingly. The incidence is increasing; however, this may simply mean that reporting is improving.

Another threat faced by children in Nepal comes from vaccine-preventable diseases such as measles, tetanus and polio. Nepal has a strong programme of vaccination, with a full course of routine immunization being offered to all children during their first year. Coverage had risen
to about 60 per cent by 2001 [1]. National immunization days (NIDs) have been held twice a year since 1996 and have helped maintain polio immunization coverage at over 90 per cent [1].

An important factor in whether common childhood illnesses become life-threatening to the individual child is the family’s—and particularly the mother’s—knowledge of appropriate care and healthcare-seeking behaviour. Many mothers do not recognize the early danger signs of childhood illnesses. Even if they do recognize such signs, the distance to a point of service, the cost of such a service, and its level of quality also inhibit many families from making use of available healthcare options. Only about one in five children with either diarrhoea or a ‘cough/cold’ are taken to a healthcare provider [1].

Birth registration is far from universal in Nepal, with only a fifth of children registered before their first birthday [9]. The government guideline is to register all children within 35 days of birth.

About one in 15 children born in Nepal will not survive until his/her first birthday [1].

**THE PRESCHOOL CHILD**

Common diseases such as diarrhoea and acute respiratory infection also cause death among children aged one to five years. Malnutrition remains a key underlying factor. Other main causes are malaria, *kala azar,* and accidents. Almost one third of deaths among children under five years occur during this period [1].

By their fifth birthday, nearly two-thirds of Nepali children are too short for their age [1]. Anaemia affected about three-quarters of under-fives in 1998 [2]. However, the deworming of preschool children since 1999 is expected to have had a significant impact on these levels. Diarrhoea prevalence falls as children grow older from about 30 per cent for one year olds to 10 per cent for four year olds [1]. However, it still causes a large proportion of deaths in this age group, particularly of malnourished children. Acute respiratory infection is apparent in about 28 per cent of two year olds and about 15 per cent of five years olds [1]. Pneumonia is estimated to cause up to one-third of deaths in children aged less than five years [6]. Worms are also a problem, with about four in 10 under-fives having debilitating infestations [10].

One of the main reasons for the chronic poor health of many children is the harmful sanitary conditions that they encounter in their homes and immediate surroundings. Although the vast majority of households has ready access to a water supply, not all water can be considered safe. Over half of tested water is microbiologically contaminated [11]. In addition, many water sources in the terai test positive for arsenic. Furthermore, Dalit households and other disadvantaged groups may face problems with accessing water from a common source due to discrimination.

Open defecation is common in Nepal, often making areas around settlements quite unsanitary. Over the years, Nepal has focused on extending the safe disposal of excreta. By 2002, toilet coverage had risen to 27 per cent [6]. However, most households with toilets are in urban areas. Alongside the provision of adequate water supplies and sanitary toilet facilities, households and communities must engage in proper hygiene practices to protect their health. The use of soap and water to wash hands after defecation and before eating is far from universal, particularly for young children.
The care of young children is considered to be primarily the mother’s responsibility, often helped by older siblings. Fathers’ involvement in young childcare is very limited. Care during the period between the first and fifth birthday is critical for a child’s psycho-social development, such as emotional, cognitive, sensory-motor, linguistic and social developments. This requires that the child feels loved and secure, and receives various kinds of stimulation, response and attention. Awareness about the importance of early child development is very low in Nepal, and opportunities are limited for child caretakers to learn about basic skills for good parenting. There seems to be a general feeling that child development happens on its own, and many preschool children in Nepal, particularly in rural areas, are left alone or in the care of siblings for long periods of time while their mothers work. Parenting orientation classes are run in communities to increase awareness about early childhood development. They also seek to increase fathers’ participation in childcare. Community-based child development centres have been established in some areas to provide children with developmentally appropriate stimulation and places to socialize. These centres also give mothers and older siblings greater freedom to pursue activities besides childcare.

Among all children born in Nepal, about one in 11 dies before reaching his/her fifth birthday [1].

THE SCHOOL-AGED CHILD

The government’s education policy promotes compulsory, free schooling for children aged from five to nine years. However, at present only about four out of every five primary-school-aged children are enrolled in school [12]. In addition, dropout and repetition rates are high, particularly in Grade 1, with one in three children repeating Grade 1 and 15 per cent dropping out [12].

Even if children complete primary schooling, they have not always mastered the content: the average scores in grade 5 learning achievement tests in 2003 were 33 per cent for Mathematics and 56 per cent for Nepali [12].

Only half of children complete primary school. Of these, three-quarters go on to secondary school [12]. Enrolment for lower secondary school is about 43 per cent, and 30 per cent for higher secondary school [12]. The literacy rate for children of secondary school age is 79 per cent [13].

Girls and dalits are more likely than other groups to be out of school in Nepal. There are numerous reasons for families not sending their children to school. For girls from some families, education is viewed as a ‘poor investment’ since daughters leave their family home at marriage and the benefit of their ‘learning’ is given to someone else. Even if girls are sent to school when they are young, as they grow older marriage can prevent them from being able to complete their education. The poverty of some families means that they are unable to meet the costs of educating their children. If a choice has to be made between sending a boy or a girl to school, the boy will usually be given precedence. In addition, some families cannot afford the opportunity costs of lost income or labour to educate their children. Girls are more likely than boys to have to look after the home while other family members go out to work. For Dalits, caste discrimination can make it difficult to attend school. School can also be too far away from home, and there may be a lack of sufficient places for all children living in the surrounding area.

For children at school, poor-quality facilities and unsuitable teaching methods often result in an environment that is neither child-friendly nor conducive to learning. It is common for
schools to lack classroom space, and be poorly equipped with no seating, no desks, no blackboard, a lack of adequate lighting, and a roof that leaks when it rains. Many schools lack toilets and a clean water supply. Classroom materials are insufficient and poor quality. Nepali as the language of instruction may present problems for children from non-Nepali-speaking communities. Corporal punishment and verbal abuse are commonplace.

For children who have never been to or dropped out of primary school, the government has an alternative education programme. The Out-of-School Programme aims to provide children with basic literacy and numeric skills, and can also help children to enter the formal schooling system. It is a two-level programme: completion of OSP I is intended to be the equivalent of a Grade 3 education and completion of OSP II is intended to be the equivalent of Grade 5.

Availability of the Out-of-School Programme can vary due to quota limitations and not having enough candidates in a settlement to run a class, and many out-of-school children do not receive this second chance.

As children grow older, an increasing proportion either become labourers without entering school or leave school prematurely to find employment. Child labour affects an estimated 2.6 million of the country’s 7.9 million children aged 5–14 years [14]. Most of these children, particularly the younger ones, work for their families either in the household or on the farm. However, it is estimated that over 100,000 children work in the worst forms of child labour as domestic workers, porters, bonded labourers, factory workers, rag pickers, and coal miners.

As well as child labourers, children particularly vulnerable to lack of protection in Nepal include those without primary caregivers such as orphans, those in conflict with the law, street children, and institutionalized children. In addition, children can be vulnerable to sexual abuse by relatives, peers, teachers and strangers. In Nepal, where sexual taboos are strong, it is very difficult for any children to talk about sexual experiences, particularly if they are being abused, as children’s concerns are rarely listened to and impunity is customary. It is also hard for children who experience violence to find support and justice. Disabled children, children with HIV/AIDS, and children without birth registration are also vulnerable to a lack of protection in Nepal.

The armed conflict has affected children of all ages through its impact on their families. However, it has particularly affected children by disrupting their education and interfering with their access to healthcare. Some children have been removed from school to help at home, as older members of the family have migrated away from their home village to avoid recruitment by the Communist Party of Nepal–Maoist (Maoist) or harassment by the security forces. Children of families displaced by the fighting can expect their schooling to be temporarily suspended or even stopped, their access to healthcare to be made more difficult, and their living and environmental conditions to deteriorate and become less stable. Some children will be pushed into the labour market. Children who become separated from their families or become orphaned are particularly vulnerable to violations of their rights. In a number of cases, children have been killed or injured as a direct result of the conflict, or detained by either the Maoists or the State’s security forces.

**THE ADOLESCENT CHILD**

The status of adolescents is a decidedly grey area in Nepal. In some ways they are still treated as a child and in other ways they are
expected to be an adult. The legal age of majority in Nepal is 18 years. However, society often views children much younger than this as being able to take on responsibilities more closely associated with adulthood than childhood. This is particularly true for many girls and for children from poor households.

The majority of Nepali adolescents are not in school. About a third of children aged 13–16 years are enrolled in secondary school [12]. When adolescent children leave school they usually enter the workforce. Over half of 15–19 year olds claim to be economically active [13]. Children of this age run a high risk of labour exploitation, especially as they are more likely than younger children to leave their family or home to find work. The escalation of the conflict during the past few years has reinforced this trend, as young people leave their homes for security as well as work. Some of the worst forms of exploitation affect adolescents, for instance, over half of trafficked girls were aged 15–18 years when they left their family [15].

Although this is the age that most people in Nepal first become sexually active, adolescent girls and boys have little access to accurate information on sex. Formal sexual education in school is extremely weak. Four out of five adolescents learn about sexual matters from their friends [16]. These limitations mean that young people can be vulnerable to sexually transmitted diseases such as HIV/AIDS, syphilis and gonorrhoea. Although sexual activity in Nepal has traditionally been associated with marriage, a growing number of teenagers consider premarital sex to be acceptable, with one in five unmarried boys and nearly one in 10 unmarried girls claiming to have had a sexual experience [16]. Although HIV/AIDS is currently considered to be concentrated in specific high-risk groups in Nepal, young people are regarded as a potential link for HIV/AIDS to spread into the general population. Most Nepalese teenagers are aware of HIV/AIDS and and its main modes of transmission. Sexual intercourse is better known as a potential risk than sharing of needles for injection. Three in four teenagers can identify using a condom during sex as a means of protection; however, this awareness does not always translate into safe sexual behaviour [16].

Adolescence can lead directly into marriage and parenthood for children in Nepal, particularly for those in rural areas, and especially for girls. Once married, they are expected to take on the roles demanded of their gender by society. This usually means that girls become mothers and caregivers, and boys become breadwinners for their family. These rigid gender roles handed down from generation to generation remain very strong in Nepal.
SITUATION OF CHILDREN AND WOMEN IN NEPAL 2006

UNICEF/NEP/IMAGE 01358/ Noriko Izumi
Nepal is a country of tremendous natural diversity, stretching along the central Himalayas. Its physical geography can be divided into five regions that range from the southern terai plains at less than 100 m to the northern high mountains that rise to nearly 8850 m (Figure 2). This enormous range of altitude has resulted in a variety of ecological zones that have had a significant impact on the lives of local inhabitants. In times past, the rugged and remote landscape isolated peoples into distinct communities with their own language and cultures. However, in recent centuries, migration has blurred the geographic boundaries between groups to some extent.

Nepal is one of the poorest countries in the world and is among the 50 ‘least developed countries’, as defined by the UN General Assembly. Per capita income in 2004 was US$ 300 [17]. In terms of human and social development, Nepal ranks 136 out of 177 countries in the Human Development Index [18]. Nepal is riven by political, economic and social crisis. The combination of poverty, social exclusion and political conflict systematically undermines the rights of the child, particularly in rural areas. The escalation of the conflict since 2001 has increased and diversified vulnerabilities for children and women such as separation from family, extended periods as household heads, poorer access to basic social services, and possible recruitment into Maoist forces.

**POLITICAL DEVELOPMENTS**

Since the re-establishment of democracy in 1990, Nepal has seen 10 elected administrations and three appointed by the King, led by six different Prime Ministers. Governments have been drawn from various factions of both the Nepali Congress and the United Marxist–Leninists. There have also been coalitions of these two major parties and the minor parties. As well as having to face the challenges associated with trying to run a desperately poor country, all governments since 1996 have had to confront the Maoist insurgency.

Politics in Nepal’s recent past have been characterized by a struggle for power that has, at times, resulted in party politics being placed before the country’s greater needs. The process of government has been generally ineffectual, and overall development of the country has been
sluggish. Economic liberalization has, however, benefited centres of commercial activity such as the Kathmandu Valley and other urbanized areas across the country. Much of the rural population has seen little change, despite the ‘promises’ of election manifestos. Politicians, often tainted by scandal and corruption, are increasingly viewed by the public as acquisitive and without a sense of duty towards the people they represent. The feeling of general dissatisfaction with politicians has become universal. In November 2004, a survey of 60 districts found that more than two in five people believed that political parties play a mostly negative role in Nepal’s politics, and nearly three in five people felt that political parties would benefit from having new leadership [19].

The ineffectiveness of the body politic has resulted in various interest groups, including political parties, unionized groups, special interest groups, and the Maoists, organizing frequent demonstrations, and nationwide, regional and local strikes (bandh). These strikes usually last one or two days but can be much longer and even ‘indefinite’. These disruptions are often general in nature; however, some have been directed at particular sectors, with the education and transport sectors being the worst affected. At times, there has also been civil unrest and rioting usually associated with a trigger event that is often fed by wild rumours (e.g., a popular Hindi film star allegedly said Nepal was part of India, or the events surrounding the ‘royal massacre’, or the abduction and killing of 12 Nepali workers in Iraq). These events have usually been followed by a period of daily curfews until calm is restored by the authorities.

Throughout this period, there have been a number of important events that have profoundly influenced the direction of Nepali politics.

First and foremost, the Maoist insurgency that began in 1996 has affected a growing number of political decisions since then. Today, it dominates all political thinking, and has had a serious impact on government budgetary allocations and economic development. There have been two periods of ceasefire. The first was in mid-2001. The
newly appointed Deuba government announced a truce and initiated peace talks with Maoists. However, these talks collapsed after three rounds and the Maoists attacked a military camp in the west of the country. On 26 November 2001, the government declared a State of Emergency and mobilized the Royal Nepalese Army against the Maoists. A second ceasefire was announced in January 2003 by the Chand government, ending a 14-month period of open conflict. A code of conduct was agreed upon by both parties, although no system for monitoring was established; the media reported violations on both sides. During the ceasefire, three rounds of peace negotiations took place but finally broke down when the Maoists announced their withdrawal on 27 August 2003. In addition to these two ceasefires observed by both parties to the conflict, on 3 September 2005 the Maoists unilaterally declared a three-month ceasefire. The government responded by saying it did not believe the intention to be genuine, and refrained from reciprocating. Reports suggest that violence and abductions have continued on both sides.

The massacre of the entire royal family in June 2001 rocked the nation and plunged the country into a period of great instability. On the night of 1 June, King Birendra, Queen Aishwarya and eight other members of Nepal’s royal family were murdered at a family dinner in the Narayanhiti Royal Palace. It appears that Crown Prince Dipendra had opened fire on his family after a dispute and then shot himself. As he lay comatose in hospital, Dipendra was declared king. However, two days later, he was pronounced dead. Gyanendra, a younger brother of the late King Birendra, became king and was enthroned on 4 July. In a country where many revere the King as a living incarnation of the god Vishnu, these violent deaths were a severe blow to the people.

Although Nepal is fundamentally a constitutional monarchy, the King has become increasingly active in the politics of the country. In May 2002, the House of Representatives was dissolved by King Gyanendra upon the recommendation of Prime Minister Deuba, with the intention that a general election would be held within three months. In July 2002, the Council of Ministers decided not to extend the tenure of elected local government bodies (DDCs/VDCs) upon completion of their five-year term. By October 2002, when it became apparent that elections would not take place, King Gyanendra appointed a new cabinet headed by Prime Minister Chand.

Between October 2002 and February 2005, there were three Prime Ministers appointed by the King. These governments were unable to make any progress in tackling the Maoist insurgency or holding general elections. In response, political parties formed a loose-knit alliance to stage a series of agitations, marked by mass rallies and civil disturbance. However, on 1 February 2005, King Gyanendra dismissed Prime Minister Deuba, his third appointee, and assumed all executive powers. A State of Emergency was declared that allowed for the suspension of civil liberties, censorship of the media, and the arrest of political leaders, human rights activists and journalists. Between 1 February and 1 June, INSEC reported that 3332 political activists and 82 human rights defenders had been arrested (and the majority released) [22]. Emergency rule was lifted on 29 April 2005, but several restrictions remain in place. Days

**Governance**

The World Bank has developed indicators to assess good governance [20]. Based on these, Nepal has shown a declining trend from 1996 to 2004 in all six aspects of governance: political stability, control of corruption, voice and accountability, government effectiveness, and regulatory quality. For all but one indicator, Nepal is in the lowest 30 per cent of the world’s countries.

Nepal was ranked at 117 of 159 countries in Transparency International’s Corruption Perceptions Index (CPI) for 2005 [21]. Nepal ranked equal to Afghanistan, amongst other countries, but above Pakistan and Bangladesh. The CPI is a composite index that assesses the perceived overall extent of corruption (frequency and/or amount) in the government and public sectors. The index is based on a variety of sources, such as business people, country analysts and independent institutions.
before the expiration of the term of the National Human Rights Commission in May, the 1997 National Human Rights Commission Act was amended through an ordinance. The ordinance changed the procedure for appointment of commissioners and was criticized for undermining the Commission’s neutrality and credibility. A Royal Commission for the Control of Corruption (RCCC) was also established and its constitutionality has been questioned.

The dismissal of the government in 2002 and the subsequent dissolution of local bodies has left a vacuum in elected representation at district and village levels. Centrally appointed civil servants have assumed authority of district bodies (DDCs). In April 2005, the posts of 14 Zonal Administrators were reintroduced. These positions existed during the party-less era and administrators had wide powers under the King; however, they had been abolished with the introduction of democracy in 1990. Although there have been numerous calls for general elections from all sides of the political arena, to date no timetable for national elections has been prepared. In February 2006, municipal elections were held. However, main political parties did not participate.

CONFLICT

The current Maoist insurgency in Nepal has its roots in the mid-western districts of Rukum and Rolpa, where political activists were able to make use of growing dissatisfaction with the lack of reforms that had been expected from democracy to launch a violent movement—‘the People’s War’—in February 1996. The demands of the insurgency are laid out in a 40-point charter [23]. They include actions that claim to reinforce Nepal’s nationalism in its relations with India and other countries; introduce a new political system that would guarantee the rights and empowerment of all, including the ‘downtrodden’ and ‘backward’; end corruption; and achieve economic and social upliftment of the rural poor through land reform and practices such as fixed prices for fertilizers and minimum wages for workers. The charter also demands the abolishment of ‘privileges’ for the King and royal family, and the placing of the army, police and bureaucracy under the ‘control’ of the people.

During the first six years of the insurgency, the Maoists conducted over 1000 assaults on isolated, poorly armed police posts, killing many police officers [24]. However, the Royal Nepalese Army was not mobilized until the first State of Emergency was declared in November 2001, following the breakdown of peace talks. It is generally accepted that the violence associated with the insurgency has escalated since that time, with many encounters between the Maoists and the security forces (the army and armed police force). In November 2003, the Armed Police Force, the Nepal Police and the National Investigation Department were brought together under the unified command of the army.

The conflict has been characterized by bomb attacks on government offices and infrastructure. For example, it is estimated that in over one-third of VDCs the VDC’s administrative building has been damaged or destroyed [25]. Police and army personnel, politicians and party workers have also been targeted by the Maoists. There have been several attacks on high-ranking officials, including the assassination of the Chief of the Armed Police and a military colonel at his home in Kathmandu during 2003. Some foreign aid workers have been ordered to leave the villages where they were posted, and the US Peace Corps withdrew all volunteers from the country in 2004.

As a result of targeted attacks, local police and army personnel in affected areas have increasingly withdrawn to district headquarters, leaving members of local administrative bodies with little protection from the Maoists. As a consequence, in many places the functionaries of local administrative bodies have in turn moved to district headquarters. Therefore, it can now be said that in general the government is currently functioning within or from district headquarters. The Maoists have set up their own structures at ‘regional’, ‘district’ and ‘village’ levels. These structures include ‘people’s governments’ and ‘people’s courts’. However, it should be noted that the Maoists’
boundaries do not usually coincide with established VDC and district boundaries.

Figure 3 shows the number of people killed since 1996 by both parties to the insurgency; from February 1996 to November 2005, INSEC has reported 12,865 deaths [22]. Although the numbers must be viewed with caution, and are probably an underestimate, they do give an indication of the trends that have emerged.

Inevitably, people living in areas affected by the insurgency have had their lives disrupted. For all the Maoists declared intentions to improve local livelihoods and access to social justice, from the start they have levied ‘taxes’ and demanded ‘contributions’ from local inhabitants [23]. The funds collected through these forms of extortion have been used to procure weapons and supply the militias. Refusal or failure to contribute has resulted in the killing of defaulters or the destruction of their property [26]. Such actions breed fear in the community, and defiance of Maoist requests for money are rare. As well as demanding financial contributions, Maoists militias also expect free food and shelter from local householders when passing through their villages. The provision of such ‘services’ often leads to reprisals by agents of the security forces who view this ‘help’ for the Maoists as synonymous with sympathy for their actions.

The Maoists have also used the deliberate killing of civilians to spread fear and silence opposition [27]. Those targeted include politicians and local administrators, teachers and journalists, captured police personnel and suspected informants. Their bodies are often left in public places. ‘Enemies of the revolution’ are brutally tortured. The trend has been to accuse villagers of a ‘crime’ and torture them to force compliance with Maoist diktats or to ensure that they do not oppose Maoist methods [26]. There are many reports from civilians of severe beatings with sticks, stones and the butts of guns, the deliberate breaking of bones in the arms and legs, and the use of improvised instruments of torture such as hammers, nails and acid [27]. Similar reports were also noted by the Special Rapporteur of the Commission on Human Rights on Torture during his visit to Nepal in September 2005 [28]. The National Human Rights Commission has recorded that from January 2000 to April 2005 at least 275 persons went missing at the hands of the Maoists [29]. The Maoists have on occasion also included children as targets of deliberate killing and torture; for example, children have been burned alive inside buses attacked by the Maoists, and boys as young as 15 years have been included in village abductions and subsequent beatings [30]. There have also been media reports of Maoist executions of children for alleged crimes [30].

The security forces are also alleged to carry out extra-judicial killings of suspected Maoists, and a number of unarmed civilians, including children, have been killed in ‘encounters’ with either the police or the army [27]. For example, five unarmed boys from Nuwakot District were shot dead by the security forces as suspected Maoists one night in 2003; they were in fact returning to their village following the death ritual of a relative [30]. In addition, the security forces are allowed by the Terrorist and Destructive Activities (Prevention and Control) Ordinance (TADO) to detain people (including children), suspected of affiliation with the Maoists, and a number of unarmed civilians, including children, have been killed in ‘encounters’ with either the police or the army [30]. For example, five unarmed boys from Nuwakot District were shot dead by the security forces as suspected Maoists one night in 2003; they were in fact returning to their village following the death ritual of a relative [30]. In addition, the security forces are allowed by the Terrorist and Destructive Activities (Prevention and Control) Ordinance (TADO) to detain people (including children), suspected of affiliation with the Maoists, for up to one year without trial. They have been accused of using brutal ‘interrogation’ methods on those arrested, including severe beatings and electric shocks. A number of people have died while in detention. The Special Rapporteur of the Commission on
Human Rights on Torture ‘concluded unequivocally’ after his visit to Nepal in September 2005 that ‘… torture and ill treatment is systematically practiced in Nepal by the police, armed police and the [Royal Nepalese Army] in order to extract confessions and to obtain intelligence …’ [28]. Disappearances and unacknowledged detention are also reported, and include children [27]. As of April 2005, the National Human Rights Commission had registered 1545 complaints of missing persons detained or disappeared at the hands of security forces since 2000 [29]. Almost 600 of these were in 2004, and over 500 were registered in the first four months of 2005. In addition, as of 30 March 2005, INSEC had recorded 1232 disappearances by security forces, 133 of which were of women [22].

In response to particularly brutal Maoists activities, there have been some reports since 2004 of vigilante groups spontaneously erupting in villages along the terai. These mobs have tended to burn the houses of alleged Maoist sympathizers (sometimes hundreds of houses). In a few cases, suspected Maoists have been captured and injured or killed. There have also been reports of rapes. Their activities have resulted in large, though temporary, displacements of people across the Indian border. Reports indicate that in some instances the State has tolerated or colluded with the actions of such illegal armed groups [325].

Reporting of the insurgency has been difficult, with journalists and human rights activists targeted by both sides [26]. Nonetheless, members of these and other groups are considered part of an extremely vibrant human rights community in Nepal, and are generally still highly active.

**Displacement**

The Maoist insurgency in Nepal continues to affect the lives of children in many ways. See the sectoral chapters for more details. The most obvious and widespread is the migration of families or parts of a family from areas of conflict. It is normal for people who feel that their lives or livelihoods are threatened to move away from the perceived danger to places where they hope to find greater physical and economic security. Although some form of migration has long been practiced by rural families in Nepal, since the start of the insurgency in 1996, and particularly since the escalation of violence in 2001, it has become much more widespread. Rather than one or two members of a family migrating, whole families have been moving from village settlements to urban areas within Nepal and beyond [26]. Migration can increase a child’s vulnerability to rights violations, particularly when a child is separated from his or her family.

Although there are official mechanisms for recording the movement of people within the country and across its borders, it has proved difficult to assess the numbers involved with accuracy. Reliable information on the number of internally displaced people (IDPs) is lacking; the most quoted estimate, made by the Global IDP Project in 2003 and still widely used (in late 2005), suggests that 100,000–200,000 people are currently displaced within the country [31]. A high-level mission to Nepal in 2005 by the inter-agency Internal Displacement Division of the UN’s Office for the Coordination of Humanitarian Affairs (OCHA) referred to this estimate when stating that ‘while the full magnitude of population displacement is unknown, best reliable estimates suggest that up to 200,000 Nepalese may have been internally displaced by the conflict’ [32]. One reason for the difficulty in estimating these numbers is that the main pattern of displacement has so far been characterized by people taking up new residence in an urban area, often with family, friends or employers. As such, the displaced are not especially visible. Some concentrations of internally displaced people that resemble ‘camps’ have started to emerge since 2004, but these ‘settlements’ have so far been limited in size.

Some perspective of the changes affecting urban areas in conflict-affected districts can be gauged from a study conducted by the Nepal IDP Research Initiative. It found that the annual growth rate of 12 selected municipalities had averaged 5.2 per cent between 2001 and 2003, and some municipalities had reached a growth rate of 10 per cent [33]. This was well above the
average of 3.6 per cent for Nepal’s municipalities between 1991 and 2001, and coincides with an escalation of violence in these districts. Indeed, about 24 per cent of new arrivals cited security concerns as their primary reason for moving [33]. National newspapers reported in 2002 that after a police post in Rolpa District was attacked by Maoists more than half of the 1300 people living in surrounding villages left the area in search of more secure conditions [23]. Kathmandu has seen a significant increase in newcomers (no figures are collected), with rental prices for housing increasing steadily as pressure on supply grows [34]. The Global IDP Project has noted that some estimates of the total number of internally displaced people since the beginning of the conflict, including those that have eventually crossed the border to India, reach as high as two million, although this has not been verified [31]. A more recent small-scale study conducted by the World Food Programme in Kathmandu found that nine per cent of migrants cited conflict-related reasons for moving to Kathmandu [35].

The displacement of whole families can cause serious disruption to the lives of individuals and result in many problems for those affected. So far, very little is known about the actual situation of the displaced in Nepal; to date, only small pilot surveys have been done. The inter-agency Internal Displacement Division mission to Nepal in 2005 stated that ‘there is an acute lack of new and reliable information from across the country on protection and humanitarian concerns, including on the needs of internally displaced persons’ [32]. Displaced people suffer dislocation from support networks that are readily available in their villages, and are likely to move more frequently within their new area of residence. A pilot survey of 200 displaced families in Kathmandu and Birendranagar found that many had moved several times after coming to the city, often searching for affordable housing [34].

Being displaced makes people more vulnerable to exploitation and less able to exercise their rights. They might find it more difficult to access services such as healthcare, education and the justice system. Lack of proper nutrition, unhygienic living conditions, heavy workloads and poor access to sanitation can lead to increased health problems for displaced people [26]. Their vulnerable situation can also increase the probability of their exposure to HIV/AIDS through high-risk behaviours. In addition, being in a stressful situation and possibly suffering from anguish they might have experienced before they fled, the displaced may also present serious psychological vulnerabilities. Although there is a mechanism for individuals to register as internally displaced persons, for a variety of reasons, most people do not do so. However, it is extremely difficult, if not impossible, for an individual living outside the district or VDC where he/she was born to obtain birth or death certificates, citizenship papers, landownership papers, and voter ID cards, etc. Women and children are at a further disadvantage as they are dependent on male family members to obtain such documents. The lack of these documents increases the vulnerability of these people to violations of their rights. Without these papers it is difficult for individuals to obtain paid employment in sectors where workers’ rights are legally protected. This forces workers into the informal sector, where jobs are poorly paid and employees are vulnerable to exploitation.

**UN Consolidated Appeal**

In November 2005, the UN issued a Consolidated Appeal for Nepal to generate additional support from the international community. The appeal presents a variety of new projects to address current humanitarian gaps not covered by planned development interventions, in particular, the needs of the most vulnerable conflict-affected populations and the building of an in-country emergency and disaster response capacity. It covers the period October 2005 to December 2006, and is for almost US$ 65 million, with projects presented by 25 organizations.

It also covers the expansion of the Nepal Office of the High Commissioner for Human Rights the (OHCHR), following the signing of an agreement in April 2005 between the government and the UN High Commissioner for Human Rights. This agreement allows for an OHCHR presence in Nepal and its monitoring of human rights abuses and violations of international humanitarian law.
The low pay that must be accepted by some families leads to women and children taking up work as well as men.

An important effect of increased displacement is the pressure it places on basic services at urban destinations. Many towns in the mid- and far west of Nepal have been strained by the arrival of substantial numbers of internally displaced persons [33]. In some districts, schools in district headquarters have become seriously overcrowded, making conditions for teaching and learning extremely difficult [23]. In some district headquarters, the student-to-teacher in schools has more than doubled [23]. A study in Birendranagar found that many schools had 60–100 students in classrooms intended for 40 children [36]. The same study, however, found that for Kathmandu, which has seen the largest influx of displaced people, there is a lack of this type of information.

As well as whole families being displaced, an even greater number of young men have fled the countryside to avoid recruitment by the Maoists or harassment by the security forces, and to find work as employment conditions worsen in the countryside [23; 26; 37]. This departure of the most productive has placed an extra burden on those who remain, usually women. All 450 participants in recent focus group discussions said that the economic and household workloads of women have increased [37]. Farmland is often poorly managed, agricultural productivity is low and incomes dwindle, making it more difficult for rural households to cope [26]. As this happens, the remaining members of these households may be forced to opt for displacement as well.

**Women and the conflict**

Women have long borne the brunt of poverty and social injustice in rural Nepal, and many were initially willing to support the aims of the insurgency with its focus on fighting alcoholism, gambling and polygamy [23]. In an effort to mobilize women's support for the movement, the widows of Maoist militiamen are helped and their 'sacrifice' is publicly lauded [38]. It is believed that women make up almost a third of the Maoist fighting forces [23]. However, women are also the victims of insurgency-related violence. They have to contend with the separation of family members, the extortion, the fear and reprisals, the disruption to health and education services, and in some cases the death of husbands and sons.

**Explosive devices**

The use of explosive devices by both parties to the conflict has resulted in hundreds of deaths and injuries annually, both to combatants and to civilians. Initial surveillance indicates that the majority of casualties are caused by the extensive use of improvised explosive devices (IEDs) by the Maoists rather than by mines and improvised explosive devices used by the security forces [39]. However, should the conflict cause large-scale movements of people, the number of mine casualties could rise significantly.

Socket bombs (improvised hand grenades) tend to be the key unexploded ordinance (UXO) causing post-engagement risk to civilians. The Maoists also make use of larger IEDs such as pressure-cooker bombs to destroy buildings, pylons, telecommunication towers and other structures as well as in roadside ambushes of military and civilian vehicles, including buses and ambulances. Most devices appear to be detonated on command through the use of timers, radio signals or other mechanisms. Very few devices used by the Maoists appear to be victim activated.

The security forces are reported to be laying mines as defensive perimeters around military installations and infrastructure, such as bridges, dams and pylons, as well as around potential vantage points above military installations. Anecdotal evidence suggests that other components of the security forces, such as the armed police, are more likely to use improvised explosive devices than mines for defensive perimeters, and are less likely to map or to mark them.

One final hazard that should be mentioned concerns the siting and safety of ammunition storage areas in the Kathmandu Valley, given that it is in an earthquake zone. There is concern that there may be ammunition
storage depots within built-up areas, perhaps close to medical facilities and schools.

Nepal is not a signatory to the 1997 Anti-Personnel Mine Ban Convention, although the government did announce in June 2004 that it would form a committee to examine the issues involved. Nepal is also not a signatory to the 1980 Convention on Certain Conventional Weapons. Protocol V of this convention, which has not yet been entered into force, would make State parties controlling an area with explosive remnants of war responsible for identifying and clearing such munitions following the cessation of hostilities.

Gathering accurate and comprehensive data about incidents involving explosive devices remains a major challenge: there is no centralized collection system; there is confusion about nomenclature for describing devices; communication flow from some districts is severely limited; and information on such injuries is sensitive and may be recorded in the health system as having another cause. However, the annual death toll is believed to be in the low hundreds, and the injury rate between two and four times the rate of the death toll.

DEMOGRAPHIC PROFILE

The 2001 census estimated the population of Nepal at 23.15 million, with a male-to-female sex ratio of 99.8 [13]. The population is very young; almost half (46 per cent or 10.6 million) are children aged less than 18 years. About 39 per cent of the population is aged less than 15 years, and 14 per cent is under five years. This equates to nine million children under 15 years and 3.2 million under-fives [13]. Currently, over 6.1 million women are of reproductive age. Given the current fertility rate of 4.1, the Ministry of Health and Population projects that the number of births for 2006 will be about 900,000 [40]. The population growth rate between 1991 and 2001 was 2.25 per cent [13]. It is projected to rise at 1.98 per cent between 2001 and 2011 [41], and at 1.83 per cent from 2001 to 2016 [41].

The population density for the whole of Nepal was about 157.3 persons per km² in 2001 [13]. However, distribution is far from uniform. The terai is the most densely populated area (329.6 persons per km²) and the mountains are sparsely inhabited (32.6 persons per km²). About 49 per cent of the population lives in the terai, 44 per cent lives in the hills, and seven per cent lives in the mountains [13]. About 86 per cent of the population is classified as rural. The variations in population density mean that the costs of running social services differ a great deal from one part of the country to another.

ETHNICITY, LANGUAGE AND RELIGION

The current social composition of Nepal exhibits great diversity. In the 2001 census, the people of Nepal were divided into more than 100 ethnic or caste groups [13]. For simplicity, these groups are usually classified by a particular characteristic into fewer categories. For example, the report on the census divides the people of Nepal into six broad cultural groups: caste-origin hill Hindu groups (38 per cent); caste-origin terai Hindu groups (21 per cent); the Newar (5.5 per cent); the janjati1 (sometimes described as indigenous or ethnic minorities) (31 per cent); Muslim (4.25 per cent); and others (0.25 per cent) [13]. Owing to the difficulty of fitting markedly heterogeneous groups into broad common categories, other researchers have divided the groups somewhat differently. For example, in a recent study by the Tanka Prasad Acharya Memorial Foundation for DFID, the three divisions of caste-origin Hindus, janjati, and religious minorities and others are divided into seven sub-categories (Table 1) [42].

As can be imagined, this vast ethnic diversity has resulted in great linguistic plurality. The

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1 A 1996 taskforce, formed to establish a Foundation for the Upliftment of Nationalities, defined janjati as a community having its 'own mother tongue and traditional culture, but not belonging to the Hindu caste system'. Another definition published in the Official Gazette in 1997 defines janjati as a community having an 'original and distinct language and culture' that is 'socially backward in comparison to other caste groups'.
The 2001 census identified 92 languages spoken as a mother tongue [13]. The two main language groups are Indo-European and Sino-Tibetan. The Indo-European languages are spoken by 79 per cent of the population, and include Nepali (49 per cent), Maithili (12 per cent), Bhojpuri (eight per cent) and Tharu (six per cent). The Sino-Tibetan languages are spoken by 18 per cent of the population, and include Tamang (five per cent), Newari (four per cent) and Magar (three per cent). Nepali is the official language of the country. About half of the people whose mother tongue is not Nepali are reported to be bilingual in Nepali [13]. The language of instruction in school is Nepali, which can place children of other mother tongues at a disadvantage.

Although Nepal is often referred to as a Hindu kingdom, in fact, three forms of religion prevail in the country: Hinduism, Buddhism and animism. The first dominates among the Indo-Aryan peoples, while the second is practiced mainly by the Tibeto-Mongoloid peoples. The 2001 census found that 81 per cent of the population claimed to be Hindu, 11 per cent claimed to be Buddhist, four per cent claimed to follow Islam, and four per cent claimed to be Kirat (a religion traditionally observed by Rai and Limbu ethnic groups) [13]. However, in reality, the boundaries between the different faiths are blurred by the way people practice their beliefs, often without clear distinction between the three religions. While there is relatively little crossover between Hinduism and Buddhism, almost all ethnic groups, with the exception of extremely orthodox Hindus, make some use of traditional healers (shaman). Over the years, and particularly since the restoration of democracy, there has been a steady increase in the number of people who do not consider themselves to be Hindu (Table 2). Some peoples have followers of either Hinduism or Buddhism, for example, the Newar, and some peoples are shedding their Buddhist roots to become more Hinduized, as a consequence of social upward mobility.
Caste distinctions are prevalent in all Hindu cultures. They tend to be stronger in the caste-origin Hindu communities and weaker in the Hindu janjati groups. Although discrimination on the basis of caste is illegal according to the Country Code of 1963, it is still common across Nepal, particularly in the more orthodox communities where Dalits are considered ‘untouchable’. Untouchability is manifested by a refusal to accept food or drink, including water, from a Dalit. This means that high-caste Hindus will not marry Dalits, will not allow Dalits to enter a room where food is prepared and cooked, will not invite Dalits to their lifecycle rituals and ceremonies, and will not take water from the same sources as Dalits. Dalits are also forbidden to enter Hindu temples. Contravention of these prohibitions requires high-caste Hindus to perform cleansing rituals to purge themselves of the ‘pollution’.

As a consequence of their perceived ‘impurity’, Dalits are considered to be low-born by high-caste Hindus, and are often disadvantaged within local power structures. Membership of a ‘lower’ caste can restrict a child’s or parent’s ability to gain access to education, healthcare, economic opportunities, capital, justice and other things necessary for a living and the possibility of improving one’s situation. This can be clearly seen in the findings of one study where Brahman–Chhetri and Dalits of the Mid-Western and Far Western Development Regions were more disadvantaged than the same castes in other development regions [43]. The urban–rural and ecological divides also resulted in substantial variations, with terai communities and urban households having better access to market and modern amenities than other groups, irrespective of caste [43].

**Millennium Development Goals for poverty**

- In 1996, 34 per cent of the population had an income below US$ 1 (PPP) per day. By 2004, this had decreased to 24 per cent.
- In 1996, the poverty headcount ratio (percentage of population below the national poverty line) stood at 42 per cent (urban 22 per cent; rural 43 per cent). By 2004, this had fallen to 31 per cent (urban 10 per cent; rural 35 per cent).
- In 1996, the poverty gap ratio (incidence x depth of poverty) was 11.8 per cent. By 2004, it had fallen to 7.6 per cent.
- In 1996, the poorest quintile accounted for 7.6 per cent of national consumption. By 2004, this quintile accounted for 6.2 per cent of national consumption.

Sources: [44; 46; 76; 77]
standards. It can be particularly serious for children and women, as their low status in society makes them the most vulnerable to its impacts.

The National Living Standards Survey 2003/04 found that 31 per cent of Nepal’s population was below the national poverty line [44]. Approximately 7.5 million people live in absolute poverty, defined as a level of income insufficient to procure a basket of minimum food (2124 kilocalories per person per day) and non-food items [45]. Most of the poor—over 90 per cent—live in rural areas. Poverty is also more severe and intense in remote areas, especially in the Mid-Western and Far Western Development Regions [46]. Poverty was also found to be higher among Dalits and ethnic minorities (janjati) (Figure 4) [43].

The National Living Standards Survey 2003/04 found that nominal per capita consumption for the poorest quintile was NRs 4913 (or US$ 66 at an exchange rate of NRs 74) compared to NRs 42,236 among the richest quintile [44]. The share of consumption by the richest 20 per cent of the population increased marginally from 50 per cent in 1996 to 53 per cent in 2004 [44].

The Tenth Five-Year Plan has identified several key factors contributing to rural poverty in Nepal [47]. Economic growth and development have been skewed, urban-centric and inequitable; the rural poor have had little access to basic social and economic services and infrastructure; there has been widespread social exclusion of certain caste and ethnic groups, women, and those living in remote areas; and there have been high levels of poor governance.

However, the number of people living below the poverty line has been reduced (from 42 per cent in 1995/96), even against the backdrop of the conflict. There are three possible reasons for this. Firstly, Nepal’s GDP growth averaged 4.8 per cent between 1996 and 2001. Secondly, agricultural production—the largest sector in the economy—grew at 3.7 per cent per year during the same period. Finally, remittances from overseas have increased by about 30 per cent a year since the late 1990s [46]. However, it should be noted that economic growth since 2001 has slowed.

Remittances are becoming an increasingly important contributor to the national economy. The National Living Standards Survey 2003/04 found that the remittance amount per person had increased over threefold in the last eight years from NRs 625 to NRs 2100 [44]. The proportion of
households receiving remittances has also increased, from 23 per cent to 32 per cent. However, the gap between rich and poor has not been reduced (Figure 5). About one-third of remittances are from India, nine per cent from the Gulf countries, and three per cent from Malaysia. Remittance amounts from the Gulf and Malaysia are four times larger than those from India. The poorer Mid- and Far Western Development Regions have the greatest share of remittances from India. While remittances increase the income of a household for spending and may give female migrants greater power, the absence of one or both primary caregivers over longer periods of time can also disrupt normal family life and expose women to exploitation.

Female-headed households were not found to be particularly disadvantaged with only 24 per cent below the poverty line. One possible explanation is that these households benefited from the remittances sent by the absent male household head [45].

Loans are often taken out by families to meet the costs of social obligations such as weddings or crises such as crop failure or serious illnesses, with about seven in 10 households having loans and/or outstanding debts [44]. The majority of borrowing is from non-formal sources: relatives (55 per cent) and private moneylenders (26 per cent) [44]. The tendency to borrow from relatives instead of moneylenders has increased recently, possibly reflecting the growth in remittances. Interest rates vary, but average from 10 per cent to 17 per cent for institutional borrowing to about 35 per cent or more from informal sources.

COMMUNITY STRUCTURES

Obviously, households do not exist in isolation; they are all part of a community at some level. A community can be defined either by its geographical boundary or its socio-economic status or a particular interest; and can differ in size and cohesiveness. In most communities, it is those with the greatest wealth, land or influential contacts who control the power structures and dictate community activities. These people may or may not be from a ‘high’ caste. Discrimination by power groups often leads to marginalization of particular sub-groups within a community. Marginalization is not simply a product of poverty; it is also the product of social and economic exclusion. Entrenched gender discrimination also puts girls and women at a disadvantage in terms of accessing power and resources.

Although there are examples of traditional forms of community cooperation for labour or credit (parma, guthi, rodi, dhikuri, etc.), most of these institutional structures are weakening and disappearing as a consequence of modernization, urbanization and conflict. In their place, community-based organizations have been formed to benefit members in terms of savings and credit, use and access to forests, use and access to water supplies, adult literacy, access to information, local environmental improvement, health inputs particularly for mothers of small children, etc. These self-help or user groups are now widespread and are often well organized; some are even forming federations at village and district levels.

Community-based organizations

The Decentralized Local Governance Support Programme (DLGSP), formerly the Participatory Decentralized Development Programme (PDDP) and Local Governance Programme (LGP), has mobilized communities to establish nearly 20,000 savings and credit groups in 60 districts [50]. Nearly 500,000 people, about half of whom are women, are members of these community-based organizations. These groups have saved NRs 386.75 million (US$ 5.5 million), which is used to provide loans to group members.

Forest User Groups (FUGs) also have an extensive network in Nepal. There are over 13,000 FUGs, mostly in the hills and mountains, managing about 25 per cent of Nepal’s forested land. FUG membership is estimated to be about 1.5 million households, which is about 35 per cent of the total population. For a nominal fee, FUG members can use forest products for household use. Timber and fuelwood are sold at auction, and the proceeds are deposited into a community fund. In 2001, it was estimated that as much as US$ 10 million was being generated by these groups each year as income from managing forests [51].
Some would argue, however, that for most Nepalis the priorities of the family will almost invariably override the interests of the community when choices have to be made [49]. Most village communities in Nepal cannot be viewed as integrated, harmonious, cooperating institutions. To reach those who are marginalized within their community, development practitioners have to address the power disparities and social fragmentation within the Nepali village.

**MIGRATION**

Migration has long been used by households in rural communities as a coping strategy to overcome family poverty, especially in the hill and mountain districts of the Far Western and Mid-Western Development Regions. One typical pattern is for one or two male members of a household to migrate for seasonal work to a close-by or favoured location in Nepal or India for between three and six months. When the season ends, migrants will return to their families with their earnings. Many residents of one location in Nepal tend to migrate to the same destination. This ensures that migrants have access to some sort of support network, and that families can maintain a channel of communication with their migrant members through the comings and goings of other members of their communities. Another pattern of migration is for a member of a household to move to an urban area for labouring work in construction and manufacturing sectors. Carpet factories around the Kathmandu Valley have acted as a strong draw for migrant workers from across the country. Often these migrants do not return to their villages. Instead, once they are settled, they bring the rest of their family to their migrant destination and start a new life together there. There is also a substantial amount of international migration to India and countries in South East Asia and the Middle East. This is usually by one member of a family, who will send remittances to the rest of the family in their home village.

The 2001 census looked at migration flows within Nepal, and into and out of the country. The number of inter-regional life-time migrants has increased fourfold and the number of inter-district life-time migrants has increased sevenfold since 1971, suggesting that internal migration has been steadily increasing [13]. Most inter-regional migration is to neighbouring regions. In general, the mountains had the highest levels of out-migration, followed by the hills; while the terai had the highest levels of in-migration (Figure 6). Consequently, the proportion of people living in the terai has risen over the years. Rural-to-rural (68 per cent) and rural-to-urban (25 per cent) are the two major migration streams. Internal migrants from rural areas constitute 32 per cent of the population in Kathmandu Valley towns, 23 per cent in the terai towns, and 17 per cent in the hill towns [13]. The age–sex structures of migrant populations tend to show a high proportion of people aged 20–34 years and a larger proportion of males than females [13].

The main reasons for migration are marriage (27 per cent), agriculture (16 per cent), employment (11 per cent), study and training (nine per cent), and trading (six per cent) [13]. However, the census did not capture data on causes for migration such as poverty, unemployment, food insecurity, or the conflict.

Migrant populations are more literate than non-migrant populations [13]. Although non-migrant populations have higher levels of primary and pre-SLC secondary education
than migrant populations, migrant populations have higher levels of SLC and post-SLC education than non-migrant populations. This indicates that migrants are either the under-educated or the well-educated. This is borne out by the occupational patterns of migrant and non-migrant populations. Migrants are over-represented in occupations such as legislators and senior civil servants, professionals and technicians, and under-represented in occupations such as skilled and semi-skilled labourers [13]. The high-caste Brahman and Chhetri are the most likely to migrate, while Dalits are under-represented in migrant populations.

In recent years, an increasing number of Nepalis have been migrating overseas for employment, with recent estimates at about 800,000 [52]. India has always been a popular destination for daily, seasonal and long-term migrants. However, countries in the Middle East and South East Asia are also becoming common destinations. The 2001 census found that 77 per cent of Nepali external migrants went to India, 16 per cent went to Middle Eastern countries, and four per cent went to East and South East Asian countries [13]. The proportion going to Middle Eastern countries has shown a particularly large increase from less than one per cent in 1991. As ‘other’ destinations have become more popular, India has declined as a proportion: it was 93 per cent in 1981 and 89 per cent in 1991 [13].

There is limited migration of foreign nationals to Nepal. In 2001, this population was estimated to be 600,000 [13]. The overwhelming majority of foreign-born nationals residing in Nepal are Indians (96 per cent), with other Asian nationals making up three per cent [13]. The most significant groups after Indians who live in Nepal are people from the Tibet Autonomous Region of China, people of Nepali-origin from Bhutan and Myanmar, and people from Pakistan (Kashmir).

Although the usual intended purpose of migration is to make a family better off, it can also result in families becoming more vulnerable to violations of their rights. This is especially true for families that have not used migration before and where migrants do not have access to a support network. When families are broken up and scattered by migration, for example, as a consequence of the conflict, members both at home and at migrant destinations can find that they are living in worse conditions, that they are more vulnerable to exploitation and abuse, and that they engage in risky behaviours that can increase their vulnerability to HIV/AIDS. Parents and children who lack the academic qualifications, training and skills required for formal jobs often end up in the informal sector [53]. Young migrants, in particular, face the consequences of intense competition for a limited supply of jobs, which may result in extremely low daily wages and harsh conditions, making them vulnerable to trafficking, abuse and exploitation. The Child Labour (Prohibition and Regulation) Act does not cover the informal sector or self-employment. Therefore, there is no monitoring or regulating mechanism to protect children in these situations.

**RURAL–URBAN DISPARITIES**

With significant rural-to-urban migration, the towns and cites of Nepal are growing rapidly. Although opportunities and services in such places are often better than in rural areas, there is also a danger that urban resources may become over-stretched by such fast expansion. The 2001 census estimated that 13.9 per cent of the population live in urban centres [13]. Urban growth rate is the highest in South Asia at 6.6 per cent for 2001, and the urban–rural growth differential averaged 4.9 per cent between 1991 and 2001 [13]. The urban growth rate for 2011 is projected to be 5.2 per cent, with 20 per cent of the total population living in urban centres by then [41]. In 1991, there were 33 urban centres. By 2001, this had risen to 58 urban centres (although this increase is partly due to a change in the definition of urban centres) [13].

All human development and economic development indicators tend to be higher in urban areas than in rural areas. Selected measures of human development for urban and rural areas in Nepal show that the performance of urban areas is better than rural areas [13]. Urban GDP per capita (in PPP) is almost twice that of rural areas. The
human development index and other indices, including gender-related indices, show a similar picture (Table 3) [54].

A comparison of basic facilities in urban and rural areas also presents noteworthy differences (Table 4) [44]. About 87 per cent of urban households have an electricity connection compared to less than 27 per cent of rural households. Water supply and sanitation facilities are better in urban areas than in rural areas. There is an overwhelming dependence on firewood as a source of fuel in rural areas (77 per cent) compared to urban areas (31 per cent).

While the extent of urbanization is still relatively small in Nepal compared to many countries, the country’s capacity to manage even these low levels is put under pressure by the high growth rate [13]. Unregulated and unguided urbanization is a problem in many large cities such as Kathmandu, Pokhara and Bharatpur. The absolute level and quality of urban infrastructure and services is often insufficient. Drainage, sewerage, water supply, and electricity are becoming serious problems in many urban areas. Urban congestion, increases in industrial and vehicle emissions, and air and noise pollution are also becoming evident. Unplanned urban sprawl is characteristic of most urban areas. Although little information is available on urban slums, this is an increasing concern in large centres such as Kathmandu and Pokhara, particularly in light of the conflict.

The institutional capacity of municipalities to manage urban infrastructure and urban growth remains severely constrained [13]. The legal basis and institutional capacity to enforce land-use and zoning laws as well as environmental standards have still to be created. The revenue potential of urban areas remains unexplored and unexploited. However, urbanization is likely to remain the most significant aspect of the spatial distribution of Nepal’s population in the coming decades. Indeed, the rural-to-urban migration that accompanies urbanization will continue to increase, as the transport infrastructure continues to expand, as the pressure on limited land resources in rural areas continues to increase, as literacy rates in rural areas continue to rise, and as the search for gainful employment in non-farm sectors gathers momentum [13]. The conflict is also expected to add to this migration flow.

### TABLE 3: Selected measures of human development in urban and rural areas

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP per capita (PPP) US $</td>
<td>2224</td>
<td>1162</td>
</tr>
<tr>
<td>Human Development Index</td>
<td>0.581</td>
<td>0.452</td>
</tr>
<tr>
<td>Gender-related Development Index</td>
<td>0.562</td>
<td>0.430</td>
</tr>
<tr>
<td>Gender Empowerment Measure</td>
<td>0.425</td>
<td>0.365</td>
</tr>
<tr>
<td>Human Poverty Index</td>
<td>25.2</td>
<td>42.0</td>
</tr>
</tbody>
</table>

Source: [54]

### TABLE 4: Basic facilities in urban and rural areas, 2003 (percentage)

<table>
<thead>
<tr>
<th></th>
<th>Urban total</th>
<th>Kathmandu Valley only</th>
<th>Rural total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity connection</td>
<td>87</td>
<td>99</td>
<td>27</td>
</tr>
<tr>
<td>Piped drinking water</td>
<td>68</td>
<td>88</td>
<td>39</td>
</tr>
<tr>
<td>No sanitation facility</td>
<td>19</td>
<td>1</td>
<td>70</td>
</tr>
<tr>
<td>Firewood used as fuel</td>
<td>31</td>
<td>3</td>
<td>77</td>
</tr>
</tbody>
</table>

Source: [44]

### NATIONAL ECONOMY

According to the Ministry of Finance, Nepal’s GNP per capita measured US$ 300 in 2004/05 [17]. The World Bank estimate for GNI is US$ 260 for 2004 [55]. By either account, Nepal is one of the poorest countries in South Asia, and is ranked among the 50 least developed countries in the world.

Since the early 1990s, the national economy has managed to grow modestly in most years (Figure 7) [17]. Nevertheless, although the annual per capita GDP growth rate averaged 2.5 per cent between 1986 and 2001, this was barely higher than the population growth. Throughout the 1990s, the non-agricultural sector accounted for three-quarters of the growth. The agricultural sector, which used to account for 70 per cent of GDP in the mid-1980s, now constitutes only 39 per cent [17].
During the last 15 years, growth in the agricultural sector has shown much variation, ranging from -1.2 per cent to 7.8 per cent. Most variation can be attributed to weather conditions, policy initiatives, and displacement of the productive population from rural areas as a consequence of the conflict. On a per capita basis, agricultural output remained stagnant for the 35 years to 2001 [52]. As long as the majority of the rural population, particularly the poor, depends on agriculture for its livelihood, the relative volatility and slow growth of agriculture will be a challenge for reducing poverty in Nepal.

The non-agricultural sector has also seen much variation, with a range from -1.9 per cent to 9.8 per cent. After strong growth in the early 1990s, the non-agricultural sector has faltered, especially since 2001. Factors that have influenced growth trends in this sector include the rise and fall of the garments and carpet industry, the impact of various security concerns, the commissioning of new electricity plants, and the expansion of telecommunication services. Tourism has constituted 3–4 per cent of GDP over the past 15 years, but has been hit in recent years by concerns about the conflict. There have been notable variations over the last five years, with a low point in 2001/02 of a negative growth of 2.1 per cent of GDP. Tourist arrivals are down by 22 per cent since the peak year of 1999, although 2003 and 2004 showed some recovery in numbers and may point to an improving trend [17]. These variations have impacted on incomes in the tourism industry directly as well as on those in ancillary industries (food production for hotels, handicrafts, etc.).

Nepal can be characterized as a small economy dependent on trade and exports. Since the mid-1990s, the country has had a trade deficit. The volume of imports has been about two and a half times larger than the volume of exports. Exports have fallen since 2001 [52]. India is Nepal’s biggest trading partner, making up more than half of Nepal’s exports and half of its imports [52]. Imports include industrial raw materials and construction materials such as steel, aluminium, polyester fibre, cotton, and cement; electrical and electronic goods; tobacco; cosmetics; fertilizer; salt; and drugs. Major exports include various categories of textiles and clothing; carpets; and some commodities [56]. The Nepalese economy is also strongly geared towards trade in services—mostly tourism, but also increasingly labour services (i.e., out-migration and its associated remittances). Remittances currently constitute about 12 per cent of GDP [52].

The expiration of the Agreement on Textiles and Clothing at the end of 2004 is expected to impact negatively on Nepal’s carpet and garment industries, which grew during the 1990s when Nepal benefited from quotas set by developed country markets for exports from least developed countries. More efficient exporters from elsewhere in the world are now displacing Nepal, as Nepal’s trade partners become frustrated with the country’s political insecurity. This situation has direct implications for household incomes and thus children, as many women are employed in the textile, garment and carpet sectors.

Nepal joined the World Trade Organization (WTO) in September 2004. Since then, WTO-conforming legal and institutional
systems have been established, although enactment of legislation has been stalled by the absence of a parliament. Studies on the impact of joining the WTO are planned for various industries. Commitment to the WTO agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) will have implications on the import of medicines (and reduce possibilities for the local production of such), but may also provide opportunities for patenting and marketing indigenous medical knowledge.

Although the rate of inflation has been contained to below five per cent since 2000, ever-rising prices of essential items in Nepal have exerted increasing pressure on families with limited incomes [17].

**ECONOMICALLY ACTIVE POPULATION**

In the 2001 census, about 47 per cent of the population aged 10 years and above claimed to be economically active (i.e., providing labour for the production of economic goods and services) [13]. During the previous 10 years, the labour force grew faster than the population. There has been a general shift in employment from the agricultural to the non-agricultural sector. However, agriculture is still the largest sector, accounting for 66 per cent of the total labour force. Commerce accounts for 10 per cent and manufacturing for nine per cent [13].

The percentage of self-employed fell from 75 per cent in 1991 to 63 per cent in 2001 [13]. Self-employment activities comprise agricultural labour, non-agricultural family enterprises and off-farm work in urban areas. A larger population of women (71 per cent) are self-employed than men (57 per cent). Unpaid family workers constitute a rising nine per cent of the employed population, accounting for 13 per cent of economically active women.

The unemployment rate in Nepal is increasing, and currently stands at over nine per cent of the economically active population [13]. Under-employment is also a serious problem. However, under-employment rates have fallen from previous estimates, with 84 per cent of the labour force in 2001 working for at least eight months of the year compared to 65 per cent in 1991 [13]. Under-employment affects women more than men. Generally, under-employment is higher in rural areas than in urban areas, and higher in the hills than in the terai.

**AGRICULTURE AND FORESTS**

Over two-thirds of Nepal's labour force is engaged in agriculture. However, for many, it does not provide a sufficient livelihood, with 80 per cent of those below the poverty line depending on this sector for their living [44]. Moreover, the conflict is having a profound impact on the agricultural sector, as landowners are displaced to urban areas and agricultural production falls as a consequence [57].

The National Living Standards Survey 2003/04 found that landholdings are becoming smaller, having reduced from an average size of 1.1 hectares in 1995/96 to 0.8 hectares in 2003/04. Moreover, the quality of agricultural land, water and forest resources is diminishing, thus reducing food security. About 28 per cent of Nepal's area is classified as cultivated land (including grassland) [58]. The national cultivated landholding per capita in 2001 was 0.175 ha [13]. In the terai, which has the greatest area of cultivated land but also the greatest proportion of the population, the average per capita landholding in 2001 was 0.167 ha. Average per capita landholding in the hills was 0.162 ha, and in the mountains was 0.307 ha.

Small landholdings mean that most households are subsistence farmers. The 2001/02 National Census of Agriculture found that about 80 per cent of Nepal's cropped area is planted with cereals (rice, wheat, maize, millet, etc.) [59]. The remainder is planted mainly with legumes, oilseeds, tubers, and vegetables. Cash crops make up an extremely small proportion. Rice is the most important crop, with 92 per cent of holdings growing it [59]. This is followed by wheat and maize. Agricultural land is either flat or terraced, and may be irrigated or rainfed, although the latter is more common.
Industrial crops such as sugarcane, tobacco, jute, cotton, tea and coffee are grown in localized or area-specific parts of Nepal. Fruit and vegetable cultivation are prevalent at the subsistence level, but large-scale farming is limited. Kitchen gardening and the growing of fruit and fodder trees on unused and marginal land is widespread, and provides an important opportunity to increase food production and consumption, and generate income at the family level.

Livestock raising is an integral part of the mixed farming system in Nepal, with 90 per cent of holdings owning some [59]. The most common types are chickens, cattle, goats and buffalo. Sale of livestock and livestock products can supplement a household’s income.

Forests supply fodder for livestock, fuelwood for energy, and various non-timber forest products that are exploited commercially or for home use. The National Forestry Inventory of 1999 indicated that forest covers 29 per cent of Nepal’s land area. Most forestland is owned by the State. Some is protected in national parks and reserves, and some is managed by the Department of Forests for commercial use. However, much is left unmanaged and is of poor quality. To increase productive use of forestland and meet demand for forest products, the government started a programme in the 1990s to handover the management of suitable forestland to local communities. By 2004, about 25 per cent of national forestland was being managed by community forest user groups [51]. In addition to officially classified forestland, about 37 per cent of agricultural holdings grow some forest trees for private use and sale [59].

**FOOD SECURITY**

Subsistence farming does not ensure an adequate livelihood for most households in Nepal. The 2001/02 National Census of Agriculture shows that, among landholding households, over 60 per cent are food deficit for some period during the year, and among these 78 per cent are food deficit for at least 4–6 months a year [59]. The census also shows that while many food-deficit households will earn an off-farm income locally (68 per cent) and/or will utilize strategies such as migration and sale of assets to raise money to buy food (30 per cent), a significant number will also borrow money to cover expenses for food purchasing (12 per cent) [59].

The average yield per hectare of basic crops was 2.3 t per ha between 1997/98 and 2001/02 [13]. The yield per hectare of rice was 2.5 t. Total production of basic crops averaged eight million tonnes a year. However, national agricultural production is too low to meet consumption needs. Although Nepal was a net exporter of food grains in the past, population growth means that since the late 1980s it has had to import increasing quantities. Although the amounts that are imported fluctuate each year, depending on the size of the harvest—indeed, in some years there has been a small surplus—the FAO/UNDP has calculated that deficit for the 1990s averaged 5.2 per cent of requirement [60]. In addition, the food that is available is often of poor nutritional value. Consumption of cereals and roots crops makes up a far larger proportion of the average diet than is recommended, with a significant shortfall in animal sources such as meat, milk and eggs [60]. The Nepal Living Standards Survey 2003/04 revealed that nearly 32 per cent of households nationally perceive their food consumption to be ‘less than adequate’ [44].

Across the country, the hills and mountains have tended to be food deficient, while the terai has produced a surplus. For example, in 2000/01, 36 of Nepal’s 75 districts were food deficient, with all but two of these districts being in the hills and mountains [60]. This was a fairly good year. In 1995/96, 55 districts were food deficient, including six terai districts [60].

While the climatic and physical nature of the country means that differing rates of agricultural production are inevitable across the eco-regions, limitations in the transportation and food distribution systems also add to imbalances between the terai and the hills and mountains. Indeed, high transportation costs and easy access to markets in India means that surpluses usually...
do not reach deficit areas in the hills and mountains in meaningful quantities.

In an effort to improve food distribution across the country, the government established the Nepal Food Corporation in 1974, following a serious drought [60]. However, the volume of cereals distributed by the Nepal Food Corporation to remote food-deficit areas has always been small, meeting only a modest part of the deficit. Moreover, there is limited distribution to the needy, with much of the supply going to government functionaries such as the police and military. The Nepal Food Corporation’s generally ineffective response to improving food security for the majority in food-deficit areas has resulted in the government initiating a process of reform that includes the curtailing of subsidized cereal distribution; this is part of a larger economic reform package required under the Second Agriculture Programme Loan of the Asian Development Bank [60].

**NATURAL DISASTERS**

Naturally occurring changes to the physical environment are common in Nepal, both on a small and large scale, and can be exacerbated by human activities. Sometimes these events can trigger disasters for local and regional populations. The impact that a disaster has on the lives of those it affects will depend on their vulnerability and resilience. Those with few or no resources find it more difficult to recover from events that might be minor for those with greater resources and resilience. Emergency preparedness is rare, although some efforts are being made to establish improved forecasting and early warning systems. Efficient meteorological data collection and analysis have helped to improve prediction of weather-related events, and the monitoring of glacial lakes provides early warning of outburst floods. The most common phenomena that result in disasters are associated with the heavy monsoon rains—floods and landslides. Drought can also cause widespread damage. Nepal is located in a seismically active region, and earthquakes are frequent and can be large.

EM-DAT, the international disaster database run by USAID’s Office of Foreign Disaster Assistance (OFDA) and the Center for Research on the Epidemiology of Disasters (CRED), identifies floods as the most common natural disaster in Nepal. During the last 70 years, there have been 25 recorded floods that have affected over 2.2 million people and caused an estimated US$ 990 million of damage [61]. In 1993, one flooding event affected 550,000 people and in 2004 another affected 630,000 [61]. Flooding affects the terai more than the hills. In the hills, the monsoon rains cause frequent landslides. These result in varying levels of damage that might affect only a few people to many hundreds. The EM-DAT records 14 major landslides since 1934, affecting 360,000 people [61]. Small landslides occur throughout each monsoon on steep and denuded hillsides. This type of land is often owned by the poorest in a community; loss of their land can push already vulnerable families into crisis.

For subsistence farmers, drought can spell disaster. Although they occur less often than floods or landslides, droughts can affect far larger areas of the country and many more thousands of families. The EM-DAT records four major droughts since 1934, affecting over 4.4 million people [61]. Lying as it does on the junction of the Indo-Australian and the Eurasian tectonic plates, Nepal is prone to earthquakes. Many minor quakes are recorded each year; sometimes these result in localized damage, especially to poorly constructed buildings. The last big earthquake occurred in the east of the country in 1988, killing over 700 people around Dharan [61]. In 1934, an earthquake measuring over seven on the Richter scale hit Kathmandu. Thousands of people were killed and 40 per cent of buildings in the valley were damaged [62]. Although Nepal has legislation to ensure that newly constructed building are earthquake proof, it is not enforced. Predictions suggest that if the 1934 earthquake happened today, the consequences would be devastating (see box) [62].
BACKGROUND

NATIONAL INFRASTRUCTURE

Nepal’s landlocked situation and its generally rugged terrain have made the development of modern transportation and communication systems extremely difficult, and much of the country remains relatively inaccessible. Many villages are only accessible on foot. In the hills and mountains, distances are measured by the number of days it takes to walk from the district headquarters or the nearest motorable road. In some VDCs, it can take five days to visit all settlements. Hill travel is further complicated each year by the monsoon, when turns footpaths into streams and landslides wash away trails.

To a large extent, the type of access that a town or village has will determine the extent to which it develops. Those parts of the country that can be reached by road have better services than those that cannot; areas in the hills or mountains that have an airstrip but lack roads are better off than those that have neither. The more remote a village, the more difficult it is to deliver supplies for health posts or schools, or to persuade government or development staff from the towns to work there.

Transportation system

The most extensive part of the transportation network is concentrated in the terai, with feeder roads leading into the hills. Mountain areas are accessible only on foot or, in some areas, by air. Vehicles dominate as the mode of transport, with nearly 460,000 vehicles registered by March 2005 [17]. Railways, electric trolley buses and ropeways have extremely limited coverage. Highways play a crucial role in Nepal’s socio-economic development, and have been given special attention in development plans. The total length of roads in Nepal reached just over 17,200 km in March 2005, of which just over 28 per cent was black-topped [17]. The 1050-km Mahendra Highway links the country from east to west along the terai. By March 2005, 60 district headquarters had been connected to the road network [17].

Air transportation

The improvement of air transportation and the construction of air fields has also been given emphasis in national development plans. Efforts have been directed at both the improvement of domestic air services and the development of the Tribhuvan International Airport in Kathmandu. The establishment of about 42 airfields throughout the country has been significant for national integration, development and the promotion of tourism. By 2005, 23 private airlines companies, including helicopter services, were operating domestic services, and one (Cosmic Air) was also flying internationally to India [63]. The government

Kathmandu valley earthquake scenario

The Kathmandu Valley Earthquake Risk Management Project estimated what would happen if the shaking of the Great Bihar Earthquake of 1934 was repeated in the Kathmandu Valley today. The estimate predicts approximately 40,000 deaths and 95,000 injured. More than 60 per cent of buildings would be destroyed, leaving 600,000 to 900,000 residents homeless. Moreover, 95 per cent of the water pipes and 50 per cent of the pumping stations and water treatment plants would be seriously affected, hampering water supply for several months. Almost all telephone exchange buildings and 60 per cent of telephone lines would be defective for at least one month, as well as approximately 40 per cent of power lines and all electricity substations. In addition, it is estimated that almost half of the bridges and many narrow roads in the valley would be impassable due to damage or debris. Tribhuvan International Airport would be isolated due to destruction of access bridges and roads. One serious consequence could be that the arrival of international relief teams and assistance by air would be delayed and complicated due to collapsed structures.

Source: [62]
had signed Memoranda of Understanding or Air Service Agreements with 34 foreign airlines or countries. Twenty-one foreign cities in 13 countries were directly linked to Kathmandu, contributing significantly to the expansion of Nepal’s external trade [63].

**Energy**

There is a considerable imbalance between resource endowment and use in Nepal. Hydro-power has great potential, but it is not widely exploited, resulting in continued heavy reliance on other energy sources. The per capita energy consumption at around 15 GJ is one of the lowest in the world [65]. The country’s energy consumption is expected to reach over 8600 tonnes of oil equivalents in 2004/05 [17]. Traditional energy sources account for 87 per cent of consumption, commercial sources account for 12.5 per cent, and the rest is supplied from renewable sources [17]. In 2003/04, fuelwood represented 78 per cent of energy sources and petroleum products represented nine per cent. Other sources include agricultural by-products, animal waste, coal, and electricity. Collecting fuelwood is traditionally considered a woman’s job in Nepal.

Although electricity is available in all districts of the country, it is only accessible to a small percentage of the population, and the service can be erratic. About 40 per cent of households have electricity nationwide but, in rural areas, coverage is only a quarter [44]. In 2004/05, there were estimated to be about 1.2 million electricity consumers [17]. The main supply of electricity in Nepal is hydro-power (552 MW), followed by thermal power (57 MW) and solar power (100 kW) [17]. Some electricity is also imported from India. Of total electricity consumed in 2003/04, the industrial sector used 38.5 per cent, followed by households (37 per cent), commerce (six per cent), export (eight per cent) and miscellaneous (10.5 per cent) [17].

**Communications infrastructure**

Postal services cover the whole country, and the international money order service includes India, Jordan, Qatar, Thailand and Hong Kong [17]. This is important for overseas workers sending remittances to their families.

Telecommunications have expanded rapidly over the last decade to include mobile telephone, Internet and email services as well as more traditional terrestrial telephone and fax services. There are also an increasing number of satellite telephone providers. Nepal Telecommunications Corporation is the government operator, with a wide variety of private licensees. Since 1995, there has been a nearly fivefold increase in the number of telephone lines from just under 83,000 to over 433,000 [17]. By 2004, over 57 per cent of VDCs had a telephone connection [17].

For its population, Nepal has a remarkable variety of print media. As of mid-March 2005, about 4050 publications of various types had been registered with the government [17]. These included 298 daily newspapers, 1400 weeklies and 1230 monthly magazines; over 2800 of these are in Nepali, 336 in English, and the remainder are in other languages including Hindi, Newari, Maithili, Bhojpuri, Tibetan, Tharu, and Urdu [17].

Television services have also expanded in recent years. In 2004, Nepal Television (NTV) could reach 65 per cent of the population [17]. Three private Nepali television companies are also broadcasting. National television transmission extends throughout the day and well into the night. In addition, there are 326 cable television operators licensed, showing a huge variety of international programmes in many languages around the clock [17]. Just over 13 per cent of all households own a television (59 per cent in urban areas and eight per cent in rural areas) [1].

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**Millennium Development Goals for information and communication technologies**

- In 1990, there were 0.32 telephone lines and cellular subscribers per 100 people. By 2003, this had risen to 1.78 per 100 people.
- In 1993, there were 0.05 personal computers in use per 100 people. By 2002, this had risen to 0.37 per 100 people.
- In 1990, the Internet was yet to reach Nepal. By 2002, there were 0.34 users per 100 people.

Source: [64]
Radio Nepal’s short-wave transmission reaches 100 per cent of the population, and its medium-wave transmission reaches 83 per cent [17]. Since the early 2000s, FM transmission has been opened up to the private sector, and there are now at least 48 private FM stations [17]. About 44 per cent of households own a radio, and 39 per cent of all women and 55 per cent of all men listen to the radio everyday [1].

Following the State of Emergency on 1 February 2005, the Nepali media were subjected to severe restrictions. Many journalists were imprisoned, newspapers were heavily censored, and FM stations were banned from broadcasting news. While the degree of censorship has been relaxed since the lifting of the emergency, many journalists still feel under threat and fear reprisals from the government. In May 2005, an ordinance was promulgated that restricted media ownership and broadcasting operations, and laid out fines and punishment for publication of anything deemed defamatory to the King or the royal family. The airing of news by FM radio stations is formally banned by the media ordinance; however, the Supreme Court ruled in August 2005 that no action could be taken against FM stations that defied the ban.

**THE TENTH FIVE-YEAR PLAN**

The overall goal of the Tenth National Five-Year Development Plan (2002/03–2006/07) is to reduce poverty. The main strategies—the ‘four pillars’—of the plan are (a) broad-based economic growth that focuses on rural areas; (b) social sector development, including human development; (c) social inclusion of the poor, marginalized groups, and regions; and, (d) good governance, as a means of both delivering better development results and ensuring social and economic justice. The Tenth Plan also seeks to redefine the role of the State by limiting public interventions, enlisting the private sector, NGOs, INGOs and community-based organizations in service delivery, and promoting community participation and accelerated decentralization. Different from past plans, the Tenth Plan has also incorporated the Medium-Term Expenditure Framework; this framework identifies priority projects for meeting targets, and ensures that adequate resources are allocated to them. The plan also envisages ‘normal case’ and ‘low case’ scenarios: the former envisages a resolution to the current conflict and an annual GDP growth rate of 6.2 per cent, while the latter assumes the continuation of insecurity and a lower GDP rate of 4.3 per cent.

The budget allocations for the Tenth Plan are set out in Table 5. The Tenth Plan budget allocations seek to maintain the emphasis on the social sector, increase the allocation to the agriculture sector, and reduce allocations to sectors where private investment is expected, such as finance services, tourism, manufacturing, electricity and transport.

Over the years, the proportion of the budget spent on regular expenditure has been rising at the expense of development expenditure. In the early 1990s, the share of the development budget in government expenditure was nearly two-thirds. Now, two-thirds is spent on the regular budget covering recurrent costs, and the budget for development activities has declined to one-third (Figure 8) [66]. The shift is attributable to increased spending on security in the regular budget [67]. Between 1997 and 2003, security expenditure rose nearly threefold, while development expenditure declined [67].

![Figure 8: Development expenditure as a proportion of total government expenditure](source: [66])
Despite the reduction in the development expenditure, the expenditure on social sectors, and particularly basic social services, has not declined significantly (Figure 9). Of concern is the gradual increase on security spending, which has overtaken spending on basic social services. Following the 20/20 Initiative at the World Summit for Social Development in 1995, Nepal has attempted to allocate 20 per cent of its national budget to basic social service programmes. Nepal’s public expenditure on basic social services increased from about 10 per cent in 1992 to about 14 per cent in the mid-1990s, and has since then fallen to around 12 per cent [68].

As with many other developing countries, Nepal depends heavily on foreign aid for supporting its development activities. Foreign aid has been between NRs 15 billion and NRs 20 billion since the late 1990s, and constitutes about 20 per cent of government expenditure in the Tenth Plan. In 2004/05, it totalled nearly NRs 35 billion (or about US$ 285 million), with 66 per cent as grants and 34 per cent as loans [17]. Foreign aid comprises approximately half to two-thirds of the development expenditure. A study estimated that, for Nepal to meet the Millennium Development Goals, US$ 7.6 billion of foreign aid would be required between 2005 and 2015 [69].

Nepal’s fiscal management has been prudent throughout the 1990s, with public sector debt relatively stable at around two-thirds of GDP [52]. The ratio of net outstanding loan to total

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**TABLE 5: Sectoral allocation of development expenditure for the Tenth Plan (NRs in billions)**

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Achieved in Ninth Plan</th>
<th>Tenth Plan target ‘normal case’</th>
<th>Proposed in Tenth Plan ‘lower case’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amount</td>
<td>Per cent</td>
<td>Amount</td>
</tr>
<tr>
<td>Agriculture, Irrigation and Forestry</td>
<td>32.7</td>
<td>19.2</td>
<td>56.2</td>
</tr>
<tr>
<td>Non-agriculture</td>
<td>137.1</td>
<td>80.8</td>
<td>177.8</td>
</tr>
<tr>
<td>Social Services</td>
<td>61.1</td>
<td>36.0</td>
<td>90.4</td>
</tr>
<tr>
<td>Industry and Mining</td>
<td>2.7</td>
<td>1.6</td>
<td>2.3</td>
</tr>
<tr>
<td>Electricity, Gas and Water</td>
<td>30.8</td>
<td>18.1</td>
<td>36.0</td>
</tr>
<tr>
<td>Trade, Hotel and Restaurant</td>
<td>3.2</td>
<td>1.9</td>
<td>3.5</td>
</tr>
<tr>
<td>Transport and Communication</td>
<td>29.8</td>
<td>17.6</td>
<td>36.4</td>
</tr>
<tr>
<td>Finance and Real Estate</td>
<td>6.6</td>
<td>3.9</td>
<td>2.7</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2.9</td>
<td>1.7</td>
<td>6.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169.8</strong></td>
<td><strong>100.0</strong></td>
<td><strong>234.0</strong></td>
</tr>
</tbody>
</table>

Note: Social services includes education, health, drinking water and local development.

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GDP was 47 per cent in 2003/04 [17]. In 2004/05, net outstanding foreign loans totalled NRs 233 billion [17].

**ROLE OF NGOs AND INGOs**

After the advent of multiparty democracy, the country witnessed an explosion of NGOs. The current number of NGOs is difficult to estimate. Approximately 18,000 NGOs are registered with the Social Welfare Council [70]. However, some sources estimate that the actual number could be double, at about 30,000 [71]. The capacity of local NGOs is variable. The majority work in the social services sector. They have been successful at channelling external resources to provide various kinds of services, especially in the areas of community health, sanitation, out-of-school education, birth registration, etc. However, they have had limited success in lobbying and advocacy for children’s and women’s rights, and in reaching disadvantaged groups.

NGOs are effective at mobilizing local resources and carrying out effective, low-cost social mobilization; and they are seen by communities as legitimate actors in lobbying and advocacy, as they display accountability and responsiveness to their target groups. Importantly, they are able to carry on their activities in conflict-affected areas. Some NGOs have reached a certain level of sustainability, and a few are beginning to become independent. However, the majority still depend on external sources for funding and capacity building.

A significant amount of money is spent by INGOs in Nepal on providing basic services at various levels. Most INGOs implement through local NGOs, by building local capacity. Some implement directly and a handful work through the government. There were about 125 INGOs registered with government in 2004/05 [72]. The estimated annual expenditure by INGOs is NRs 5–6 billion a year [72]. This is the equivalent to about 15 per cent of the government’s development budget. Ministry of Finance estimates are slightly lower, since many INGO budgets are not reflected in the government budget.

The government promulgated a new ‘Code of Conduct’ for the I/NGO sector in November 2005. While the need to improve coordination and transparency in this sector is widely accepted, the move sparked widespread protests as the code sets a range of restrictions with regard to membership, objectives, programming, access to funding, and more. The main bilateral donors and UN agencies in Nepal stated together that they believe the Code of Conduct provides a means for undue political interference and that by undermining the independence of I/NGOs it is likely to hinder critical development activities [73].

**ADMINISTRATIVE STRUCTURE**

The Constitution of the Kingdom of Nepal was promulgated on 9 November 1990, and is based on democratic principles, the multiparty system, and a constitutional monarchy. According to the Constitution, there are two Houses of Parliament: an Upper House consisting of 60 members, and a House of Representatives consisting of 205 members. A five per cent quota for women representatives is mandated in the Constitution. However, parliament has been dissolved since May 2002, and the passage of government bills has been by ordinance.

His Majesty’s Government, the official designation for the government of Nepal, consists of a Council of Ministers, led by the Prime Minister. However, since February 2005, this cabinet has been under the leadership of the King. Each Minister heads a ministry, although Ministers may hold more than one portfolio. The civil service, which assists the Ministers in carrying out the ministries’ functions, is headed by Secretaries. The number and various levels of civil servants in a ministry depends on the latter’s functions. For certain ministries, the civil service may consist of departments or similar bodies. Many ministries, although not all, have representatives at the regional and district levels. The number of permanent civil service positions has increased from 7000 in 1950 to 97,272 in 2004/05 [74]. The estimated total number of government functionaries is over 400,000, including military, police staff and teachers.
Administratively, Nepal has five Development Regions, 14 zones, 75 districts, about 4000 VDCs (this term is used interchangeably to mean both the area that is administered and the committee that carries out the administration), and 36,000 wards or settlements. The *ilaka* is an administrative service level between the district and the VDC level. There are nine *ilaka* per district. Constituency boundaries used for elections have been developed across administrative divisions and have been delineated with regard to population size rather than existing *ilaka* boundaries.

At the district level, District Development Committees (DDCs), Municipal Councils and Village Development Committees (VDCs) are elected to carry out development work in districts, towns and villages. There are also ward-level committees. In the absence of elected officials, the functions of these committees have been assumed by government employees: the Local Development Officer at the district level, the Executive Secretary in municipalities, and the Village Secretary at the village level.

The five Development Regions contain regional offices for almost all the ministries and central departments. At the district level, each of the departmental or ministry offices oversees the plans and programmes for that sector. The role of the Chief District Officer (CDO) in each of the 75 districts is to maintain law and order in the district, and oversee the work of district-level line agencies. The Local Development Officer (LDO) is responsible for coordinating development at the district level. A marked feature of the district-level structure, noted time and again, is the lack of coordination between, and duplication of activities among, district-level offices and programmes. Ministries such as education, health and agriculture have their services available at the DDC/VDC level.

**DECENTRALIZATION**

The Local Self-Governance Act 1999 has provided a powerful impetus for decentralized governance in Nepal. It provides unprecedented latitude and leverage to local government bodies (DDCs, municipalities, and VDCs) to mobilize their own resources (taxes, service charges, fees, etc.) and implement development activities. In the social sector, this law makes important provisions for women, children and disadvantaged sections of society to participate in the development process [75]. However, in the absence of elected government bodies since July 2002, and with increasing security risks for government officials travelling outside district
headquarters, decentralization efforts have been somewhat hampered.

Important policy reforms have been introduced at the national level. A Decentralization Implementation Plan (DIP) has been prepared to operationalize provisions in the act through time-bound actions. Since 2002/03, the government has attempted to devolve four sectors—primary education, primary health, agriculture, and postal services—to local bodies [75]. Over 50 DDCs have prepared periodic plans of 5–6 years duration [75]. Local bodies have become organized into associations and are raising their voices to protect their interests. They have been pushing for a higher degree of decentralization.

The essence of Nepal’s decentralization plan is to take decentralization beyond mere policy reform and technical and bureaucratic deconcentration of responsibilities. It envisages a social movement that will change the balance of power and transform society. Elected officials, by virtue of their representation, are held accountable by the people of their constituency and are expected to facilitate the social movement. Although the vision of decentralization is clearly recognized by the sections of the government system that are most closely involved in implementing the Local Self-Governance Act, it is yet to be fully internalized throughout the government system and by some stakeholders in the development arena. In the absence of a unified vision, sectoral ministries and their line agencies have at times shaped their own versions of decentralization. This had led to a range of implementation modalities that have reached different points on the decentralization continuum [75]. Inconsistencies between the current legal and policy frameworks have also posed challenges. However, gaps have been acknowledged and there are efforts underway to try to remedy any misalignments.

At present, each VDC receives a block grant of NRs 300,000 per year to spend as it chooses. At present, there is no variation in the size of the grant based on VDC size or population. DDCs also receive an annual block grant from the central government. This amount varies from district to district, depending on needs and absorption capacity. These funds can be spent as the local government sees fit, and come in addition to funds from line ministries that have trickled down to the district level.

**THE REGIONAL CONTEXT**

Nepal has been a member of the South Asian Association for Regional Cooperation (SAARC) since the association was established in December 1985. SAARC comprises Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka. It was established with the objectives of promoting the welfare of the people of South Asia and effecting an improvement in their quality of life; accelerating economic growth, social progress and cultural development in the region; and strengthening collective self-reliance among the member countries.

SAARC is essentially an economic grouping of countries which, due to similar levels of poverty and related development conditions, have decided to work together to accelerate the pace of regional socio-economic development. SAARC’s current activities cover the areas of agriculture, forestry, health, population, women in development, rural development, telecommunications, meteorology, transportation, science and technology, postal services, sports, arts and culture, and prevention of drug trafficking and abuse. Social and cultural cooperation are considered to be necessary for greater economic and political cohesion. The SAARC Summit held in Male, the Maldives, endorsed the Goals for Children and Development for the 1990s and declared the 1990s to be the Decade of the Girl Child. The Seventh SAARC summit, held in Dacca in 1993, endorsed plans of action prepared by SAARC countries to achieve the goals of the 1990 Child Summit. The decade 2001–2010 has been declared the SAARC Decade of the Rights of the Child. The most recent SAARC summit in Islamabad in January 2004 adopted a social charter giving broad directions for social strategy and policy in the member states.
With increasing attention to and awareness of the rights of children, more is known about the nature and extent of exploitation and abuse of children in Nepal than ever before. However, data on child protection are far from comprehensive. It is widely acknowledged that more systematic, reliable and accurate information regarding the lives of children in need of special protection is needed in order to identify needs, determine priorities, and provide higher quality programming.

The protection of children from abuse, exploitation and neglect is integral to their survival, growth and development. The consequences of violation of a child’s right to protection include reduced life expectancy, poor physical and mental health, reduced access to education and other services, homelessness, vagrancy, displacement and a sense of hopelessness [78]. There is a strong link between child protection rights and all the other rights of the child. Often, the child experiencing abuse or exploitation is the same child experiencing late or no birth registration, malnutrition and illness, lack of early stimulation, and reduced learning opportunities.

The following section provides an overview of issues and trends concerning child protection in Nepal, relying on the Protective Environment Conceptual Framework (Figure 10) to identify and understand the world in which children live and work in Nepal, as well as the vulnerability and risk factors that expose certain children to higher risk of violations of their rights. Of particular concern for Nepal at the moment is the effect of the conflict on increasing the vulnerability of children to violations of their right to protection. For example, this can be directly by threatening their life or indirectly by increasing their vulnerabilities to abuse, exploitation and neglect as a result of their displacement/migration from areas of conflict.

The analysis has been divided into the following six thematic areas, and focuses on concerns most relevant to Nepal.

- Forced and bonded child labour
- Sexual exploitation of children
- Trafficking of children
- Violence against children outside of armed conflict
- Children without primary caregivers, including children in conflict with the law (i.e., children in detention facilities, children in institutional care facilities, street children, orphans, etc.)
- Use of and violence against children in armed conflict
Children can suffer from more than one form of exploitation or neglect. For example, working children and trafficked children may also be victims of violence, and children in situations of armed conflict may become children without primary caregivers.

**FORCED AND BONDED CHILD LABOUR**

The Government of Nepal has demonstrated a strong commitment to combating child labour, and promoting the right to education of all working children. The elimination of child labour is a key element of the National Development Plan. Nepal ratified the ILO Minimum Age Convention (No. 138) in May 1997, and the ILO Worst Forms of Child Labour Convention (No. 182) in September 2001. Under Nepali law, the employment of children under 14 years of age is forbidden. The Labour Act and Child Act provide for protection of the welfare of working children: children aged 14–16 years can work only between 6 a.m. and 6 p.m., up to six hours a day, and six days a week. Furthermore, the use of children aged 14–16 years as workers is not permitted 'in work that is likely to be harmful to the child's health or to be

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**FIGURE 10:**

*Child protection conceptual framework*

- Realization of the right of all children to a protective environment
  - A protected child
  - Child's development unobstructed
  - Immediate factors/causes
    - Attitudes, traditions, customs, behaviour and practices within families and communities.
    - Open discussion of and engagement with child protection issues in families and communities.
    - Legislation and enforcement at national level including protective laws and regulations and recourse mechanisms.
  - Capacity, including protection provided by basic services and through teachers, health workers, social workers, lawyers.
  - Children's life, skills, knowledge and participation.
  - Services for recovery and reintegration following child protection abuses.

- Underlying factors/causes
  - Governmental commitment to fulfilling protection rights.
  - Monitoring and reporting, including a sound knowledge base and evaluation.
  - Rule of law, impunity, corruption.
  - Culture, including discrimination and differentials based on gender, wealth.
  - Surrounding conditions, including war, poverty, epidemics, macroeconomic shocks, natural disasters.

- Fundamental factors/causes
  - Open discussion of and engagement with child protection issues in the media and civil society.
  - Legislation and enforcement at international level, including international normative framework and co-operation.
  - Democracy and respect for human rights; level of development.
hazardous to the child's life' (Child Act 1992, Section II, article 18). However, the reality is that child labour is still common in Nepal, and that work often interferes with a child's education and personal development.

**Extent of child labour**

According to research carried out for the ILO, 2.6 million children aged 5–14 years regularly work in Nepal [14]. This is about 42 per cent of all children (36 per cent of all boys and 48 per cent of all girls). Of these 2.6 million children, 1.7 million are considered to be economically active (i.e., providing labour for the production of economic goods and services). Over 95 per cent of all working children are found in rural areas, with about 66 per cent belonging to households engaged in agricultural activities [14]. Their responsibilities include collecting firewood and fodder, and cattle grazing.

For many children in Nepal, work is not a matter of choice but is essential to their survival. Proceeds from their labour are a vital component of their families' income. According to a study by the National Planning Commission, 81.5 per cent of rural children aged 5–14 years work outside their home, and 49 per cent of urban working children work for financial and family reasons [79]. Children's vulnerability to economic exploitation is closely linked to the vulnerability of their families, and is reflected by the education level of their parents. An ILO study found that the work participation rate of children whose household heads are illiterate was 52 per cent, compared to 29 per cent for children whose household head had more than a secondary school education [14].

For poor families, opportunity costs can make education of their children an unaffordable luxury. Of the 2.6 million working children in Nepal, over one million children (301,000 boys and 705,000 girls) do not attend school. However, sometimes working for a wage can be a means for children to improve their (or their siblings') access to education, as in the case of many domestic child labourers from rural areas employed by urban families. Many children in Nepal work long hours, which often prevents them from attending school on a regular basis. The ILO study found that more than one-third of economically active children work more than 35 hours per week [14]. The situation is harder for girls than for boys, with 43 per cent of economically active girls working more than 35 hours per week compared to 28 per cent of boys.

**Worst forms of child labour**

The pattern of child labour in Nepal is similar to that in other developing countries where children work in occupations unattractive to adults, wages are low, workers' rights are not recognized, and where there is no labour organization. Children are often employed by adults because they are submissive, easy to control, and unlikely to complain of exploitation.

Apart from agriculture, children in Nepal are commonly employed to work as child domestics, in hotels and restaurants, in manufacturing and construction, and in the transport sector. Assessments by the ILO in Nepal estimated that over 127,000 children are working in six 'worst' forms of child labour—child domestic workers in urban areas, child porters, bonded child labourers, children working in carpet factories, child rag pickers, and children working in coal mines. The conflict and its resulting displacement of children to urban areas are likely to have increased the number of children engaged in the worst forms of child labour. In addition, a significant number of children have been recruited by Maoist rebels to carry ammunition and supplies, and act as sentries and messengers. As well pushing children into the worst forms of child labour, the conflict has also increased the numbers of children migrating to urban areas, many of whom find work in the informal sector.

The Child Labour (Prohibition and Regulation) Act does not cover the informal sector or self-employment situations, so no monitoring or regulating mechanisms exist for these children. Many children, particularly boys, are employed in factories and workshops where the working environment is hazardous. Seldom are they instructed in basic safety procedures, or given protective equipment when dealing with hazardous materials. Others are self-employed, selling newspapers, or collecting scrap materials that they sell on to junkyard owners. Girls move in a more restricted environment than boys, and typically
find employment in domestic service, where they are vulnerable to physical and sexual abuse. The harsh working conditions of young female migrants to Nepal's towns and cities can also make them vulnerable to trafficking.

**Construction work**

Construction work, which typically makes use of sub-contractors, is a common work destination for unskilled boys (and men) in Nepal. Indeed, the contracting and sub-contracting sector is experiencing steady growth [80]. In order to increase the competitiveness of their bids, contractors reduce their costs by cutting back on items such as insurance, safety equipment and protective gear. According to the 1998/99 National Labour Force Survey, an estimated 10,000 children aged less than 15 years work in the construction sector [81]. Brick kilns, producing construction materials, are also a fast-growing industry. A study of 51 brick kilns in five districts of the eastern terai found that 14 per cent of the total workforce are children aged less than 15 years [82]. A different study in the Kathmandu Valley estimated that there are 10,000 children working in 113 brick kilns [83]. Stone quarrying is another industry exploiting significant numbers of children, including many girls. A survey conducted by Concern Nepal in 14 districts estimated that there are 32,000 children aged 5–16 years working in 1600 stone quarries [84]. A study in three districts of the eastern terai found that 25 per cent of the stone-quarry workforce was comprised of children aged 5–14 years [85]. Considering the seasonal nature of agriculture work in Nepal, it is assumed that large numbers of casual workers, including children aged less than 14 years, provide cheap labour for construction-related work in the agricultural off-season.

**Carpet factories**

Much interest in the issue of child labour in South Asia was engendered by reports in the 1990s of exploitation of girls and boys working in carpet factories. When the industry was at its peak, it was estimated that up to 50 per cent of the 100,000 full-time workers in Nepal's carpet industry were children aged less than 14 years [86]. However, the number of children employed in the carpet sector has decreased in recent years, as the export market for carpets has declined, and following efforts by responsible owners of carpet factories and NGOs such as Rugmark to eliminate the use of child labour. Most children engaged in the sector in Nepal today are girls and young women aged 14–17 years, working in small factories in urban areas, including the Kathmandu Valley. They are overwhelmingly migrants from hill districts whose families have encouraged them to discontinue their education and start paid employment. Although monitoring of child labour in the carpet sector is conducted regularly by Rugmark and other organizations, children under 14 years are engaged in ancillary processes related to carpet making (such as wool spinning) where no inspection takes place.

**Portering**

The use of children as porters has been a traditional survival strategy for impoverished rural families for generations, when no other employment opportunities are available. Child porters regularly carry excessive loads, work long hours, and travel through dangerous areas. Portering hampers the physical and social development of children, and discourages their involvement in education.

The ILO estimates that about 42,000 children are employed in transporting goods and construction materials over long-distance routes, while another 3900 carry goods in urban market centres and bus parks [87]. Owing to their mobility, it is difficult for porters to continue their education: only 26 per cent of those surveyed were in school. A significant number of child porters state that they work to earn school fees for themselves or their siblings. Some girls are engaged in the short-distance transport of commercial goods, and are especially at risk of abuse [87]. Portering in Nepal has been profoundly affected by the current conflict, as the Maoists and security forces alike harass and intimidate porters. In addition, commercial porters find fewer opportunities for employment, as the rural economy falters.

**Bonded labour**

Landless agricultural workers constitute about 24 per cent of households in Nepal [80]. Marginalized families are routinely denied access to formal financial services. As a result,
debt bondage, in the form of loans and salary advances, is often the only means available for these families to obtain capital. In exchange for loans, children are employed in hotels, restaurants, brick kilns, carpet industries, and domestic service. Bonded labour situations are found, to some degree, throughout Nepal but are most common in the five terai districts of the Mid-Western and Far Western Development Regions, where bonded labour is known as the kamaiya system. In 1997, the ILO estimated 17,000 kamaiya children were employed in farms and homes [14]. Although bonded labour was banned by the government in July 2000, it is taking time to put in place the enforcement mechanisms that are needed to eradicate this practice completely, and to create employment alternatives. In the meantime, freed kamaiya children remain vulnerable to other forms of hazardous child labour, with approximately half of these children still working in highly exploitative conditions.

**Domestic service**

A rapid assessment carried out by the ILO in 2001 estimated that over 55,000 children work in domestic service across Nepal; almost two-thirds are aged 10–14 years [88]. Unique to Nepal, more than half of these workers are boys (57 per cent). This is probably because the ritual pollution associated with menstruation makes the use of girls less attractive to employers. Over 40 per cent of domestic child labourers are Brahmin and Chhetri, and 20 per cent are Tharu; Dalits are rarely employed. While most domestic child labourers report that both their parents are still alive, they usually come from families with little or no land, and with high levels of indebtedness [88]. Children routinely work for long hours with little or no pay. Owing to their relative isolation, they can be exposed to physical, psychological and sexual abuse. According to one study of domestic child labour, of children who had left such employment, over half reported ‘harassment’, including sexual abuse, to be the reason [88]. Over 55 per cent of girls left employment as a result of ‘harassment’ compared to 42.5 per cent of boys, suggesting that girls in domestic service are more vulnerable to abuse than boys. Child domestic workers frequently complain of loneliness, and of having little or no contact with children other than those of their employer. Many see their own families only once a year during the festival season.

A significant obstacle to the eradication of child domestic service is the high level of societal acceptance. Many middle-class Nepalis believe that children benefit from working in other people’s homes, despite evidence that only 32.5 per cent of child domestic workers have access to education [88].

**SEXUAL EXPLOITATION AND ABUSE OF CHILDREN**

**Commercial sexual exploitation**

It is estimated that 5000 girls aged less than 16 years are involved in commercial sex work in Nepal [89]. Studies show that many sex workers (children and adults alike) migrate from rural to urban areas in search of employment. Others are escaping physical and sexual abuse encountered in their own homes. This is particularly true of Kathmandu, where 86 per cent of sex workers were migrants [89]. In addition, the armed conflict and its resulting breakdown in law and order are contributing to the growing commercial sexual exploitation of children across the country.
Child sexual abuse and exploitation

The term ‘sexual abuse’ is often used to refer to abuse within the home or family—covering both physical contact and non-contact abuse (i.e., voyeurism)—but there is no real agreement as to the distinction between sexual abuse and sexual exploitation. For this reason, the term ‘commercial sexual exploitation’ is sometimes used to refer to child prostitution and child pornography.

Source: [90]
tourists in Kathmandu [93]. Foreign paedophiles use various means to access young children, including operating so-called ‘orphanages’ and ‘street shelters’ for poor and neglected children. They usually gain the trust of children by providing financial or material support such as food, clothes, shelter, and medical assistance. In return, they demand sexual favours [92]. Although sexual abuse of children by foreigners is an issue that requires attention, it should be kept in mind that most child abuse in Nepal is in fact carried out by Nepali nationals.

**Child sexual abuse**

Compared to commercial sexual exploitation, little information is available on non-commercial forms of child sexual abuse in Nepal. Occasional media reports clearly suggest that children are sexually abused in their homes and workplaces. However, information is not collected systematically, and only becomes available when it is reported by hospitals, schools, police, and NGOs such as CWIN and Children–Women in Social Service and Human Rights (CWISH). As a result of social taboos, it is believed that reported cases only represent a small proportion of sexual offences against children. In particular, NGOs state that sexual abuse of boys is grossly under-reported.

Although limited in number, there have been efforts to investigate the scope and nature of sexual abuse of children in Nepal. According to CWIN, of 223 recorded cases of rapes of women and children in 2002, 78 per cent were of children aged less than 16 years; this included the rape of children less than 10 years, and of both girls and boys [94]. In one study of child sexual abuse in the Kathmandu Valley, 14 per cent of children aged 8–15 years revealed that they had experienced contact sexual abuse by friends, family members, relatives, strangers, neighbours and caretakers, occurring at home, school, in public places, and in abusers' homes [95]. About 44 per cent had also experienced obscene language used against them, and 29 per cent had been exposed to obscene materials [95]. The study also revealed that boys face a similar risk of sexual abuse to girls. A separate study found that sexual abuse of child domestic workers, both boys and girls, is common [96]. Many of the perpetrators of this abuse are the adolescent male children of employers. A third study of child sexual abuse carried out by CWIN and UNICEF in four districts found that nearly 18 per cent of children aged 9–18 years had experienced contact sexual abuse, with girls more likely to face sexual abuse involving physical contact (22.3 per cent) than boys (13.5 per cent) [97]. It also reports that girls are more vulnerable to sexual abuse in their own homes (17.2 per cent) than boys (8.7 per cent). Furthermore, over 40 per cent of children who had experienced sexual abuse said that it had occurred more than once. The study revealed that many of these abuse cases are never reported: 34 per cent of children said that never spoke about their experience with anyone because of fear and shame. Children who talked about their experiences told friends (80 per cent) rather than adults such as parents or social workers [97].

Unfortunately, Nepal does not have a cadre of trained social workers with the responsibility to investigate incidences of sexual abuse or visit places where children are employed. As well as this, other factors that contribute to the under-reporting of sexual abuse include social taboos about discussing issues related to sex, the lack of professionally trained counsellors (in most parts of Nepal), the insensitive (and sometimes aggressive) interviewing techniques used by authorities (usually men) to question girls and young women who claim to have been abused, the lack of confidentiality during the process of interviewing child victims and gathering evidence, and children’s perception that they will be punished for making claims of having been sexually abused. One local NGO has documented cases of child domestic workers who have alleged sexual abuse by their employers, and have subsequently been severely beaten and re-abused [96].

**Control of sexual abuse and exploitation of children**

One of the major impediments to controlling child sexual abuse in Nepal is weak legislation: the existing laws (i.e., the Child Act, the Country Code) do not provide a clear definition of child sexual abuse. For example, neither the Child Act nor the Country Code
mentions sexual abuse of boys or sexual abuse other than rape or incest, and punishment for other forms of sexual abuse is not defined. In addition, although the Country Code defines the act of touching a woman or girl older than 11 years with the intention of having sexual intercourse as a punishable offence, it provides no protection for children below 11 years of age. Furthermore, Nepal does not have specific laws concerning domestic violence; many acts of family violence including sexual violence are viewed as private matters and beyond the scope of law enforcement bodies.

While studies and reports suggest that a large number of offences related to commercial sexual exploitation and sexual abuse of children are committed each year in Nepal, a relatively small number of cases are actually reported to the police. In addition, owing to the lack of reliable evidence, police authorities are reluctant to register complaints. Even if cases are reported, few lead to convictions. When a conviction is registered, minimum punishment is often given to the offender. This may explain why cases are not reported, and adds to the public’s low level of confidence in the criminal justice system. Although the Nepal Police has established a specially trained unit called the Women and Children Service Centre (popularly known as the Women’s Cell) to deal with crimes against women and children in each of 18 districts, reports suggest that the public is still reluctant to file cases of sexual exploitation and abuse involving children [98].

Nepal’s control of the child sex trade is poor—legislation is patchy and law enforcement is biased [98]. Nepal ratified the Optional Protocol to the Convention on the Rights of the Child on the Sale of Children, Child Prostitution, and Child Pornography in late 2005. There is no detailed description of child prostitution within national legislation. However, under the Country Code, sexual intercourse with any girl aged less than 16 years is considered to be rape, regardless of her consent. This includes commercial sex. Nevertheless, since there is no law that directly prohibits prostitution of children, law enforcement officials often criminalize girls for prostitution under the Public (Offence and Punishment) Act. Similarly, although the Child Act specifically prohibits involving children in ‘immoral professions’, it fails to define what these are. Lacking guidance on what constitutes an immoral profession, law enforcement bodies often pursue children engaged in sex work, again under the Public (Offences and Punishment) Act, rather than punishing offenders who exploit them. Children are therefore doubly victimized: first by being sexually exploited, and then through police action [98]. In addition, as opposed to offences related to trafficking, a limited time is allowed for victims of child pornography, child prostitution, and other forms of commercial sexual exploitation to file police cases. If the strict deadlines are missed, then the child has no access to legal remedy [98]. Only limited procedures are in place for investigating commercial sexual exploitation of children. Existing laws fail to allow for the seizure and confiscation of goods, such as materials, physical assets and other instruments used to commit or facilitate the commercial sexual exploitation of children, as well as the proceeds derived from such activities. Laws also fail to allow for measures to shut down premises used to commit offences related to the commercial sexual exploitation of children [98].

Internet pornography
Nepal has not taken meaningful steps to limit the availability of pornography available through the Internet, including child pornography. Over the last five years, Internet services have become widely available throughout Nepal, where there is electricity and telephone lines; the result has been a proliferation of Internet-based pornography, including material that involves children. For the most part, Internet services providers in Nepal do not block websites that feature pornography, even when the images involve the obvious exploitation of children. Furthermore, commercial enterprises in Nepal that provide Internet access do not limit entry to adults; children can be found in many Internet shops and cafés.

TRAFFICKING OF CHILDREN

Human trafficking is about coercion and/or deception. Trafficking victims are coerced or deceived by the person arranging their
relocation. On arrival at their destination, trafficking victims will be forced into exploitation, and thus deprived of their basic human rights. Children less than 18 years are considered to be a special case. Any child transported for exploitative work is considered to be a trafficking victim—whether or not they have been deceived. This is because it is considered impossible for children to give informed consent. They may be submitting to the authority of their parents or, as they are being offered large sums of money, may feel that they are being disloyal to their family if they refuse [99].

In Nepal, trafficking remains a largely misunderstood phenomenon, imprecisely defined, and full of uncertainties. Confusion about what constitutes trafficking is the rule rather than the exception. The widely-held perception that trafficking involves ‘girls being taken to India for commercial sex work against their will by strangers’ may contribute to the general lack of understanding of the dynamics of trafficking. Furthermore, trafficking is often confused with the issue of migration. In their eagerness to stop trafficking, NGO and security officials in Nepal often interfere with the right of adult women to cross borders without their husbands. Little attention is paid to the trafficking of children for labour, the involvement of family members and entire communities in trafficking of children, the trafficking of boys, or the significant phenomenon of internal trafficking.

**Trafficking numbers**

Owing to the underground nature of trafficking, reliable statistics on the scope of the problem are difficult, if not impossible, to obtain. Empirical data on trafficked women and children, their places of origin and destinations of trafficking, as well as purposes of trafficking are scarce. Estimates are often extrapolated from data generated through small sample sizes, or for other purposes [100]. The most widely quoted estimate is that 5000–7000 Nepali girls and young women aged under 18 years are trafficked to India for sexual exploitation each year. However, a recent rapid assessment by the ILO puts this figure at 12,000 [101]. Figures for trafficking for other purposes are not available. These numbers are estimates at best, and lack a hard statistical basis. Furthermore, without reliable statistics, it is extremely difficult for government officials, NGOs or donors to assess the impact of their efforts to combat trafficking, or to respond to new trends in trafficking patterns.

In Nepal, anti-trafficking programmes focus almost exclusively on assisting girls and young women engaged in sex work. However, as ILO studies suggest, the trafficking of boys and girls also relates to work in places such as circuses, carpet factories, embroidery workshops, bangle factories, in the construction and transport sectors, and in homes for domestic service [93]. Few NGOs in Nepal address the needs of these children. One ILO study suggests that internal trafficking for non-sexual purposes is growing [93]. A study on trafficking of boys suggests that the trafficking for work has become a significant phenomenon in recent years, with approximately 31 per cent of respondents being trafficked in the 1999/2000 period [102].

An analysis of information from print media, case studies and surveys on trafficking survivors shows girls aged 11–18 years and boys aged 6–12 years to be most vulnerable to trafficking [100]. The Ministry of Women, Children and Social Welfare has identified 26 districts as trafficking-prone. However, trafficking cases have been reported from 39 districts across all development regions. Trafficking is the highest among hill ethnic groups, followed by Brahmin, Chhetri and occupational castes [100].

**Traffickers**

Traffickers are resourceful, and are often one step ahead of law enforcement officials and NGOs. They constantly change their routes, modes of transport and areas of operation, so it is difficult to identify fixed channels of

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**Internal trafficking**

Trafficking is not limited to cross-border movement of people, but also takes place within the boundary of a country. Children who are trafficked internally are usually moved from rural to urban areas, where the demand for both cheap labour and commercial sex is high.
The Palermo Protocol—a standard definition of trafficking

The most widely-accepted definition of trafficking has been incorporated in a supplement to the United Nations Convention against Transnational Organized Crime. In November 2000, the General Assembly adopted a Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children. The Protocol says:

(a) ‘Trafficking in persons’ shall mean the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at the minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs;

(b) The consent of a victim of ‘trafficking in persons’ to the intended exploitation set forth in subparagraph (a) of this article shall be irrelevant where any of the means set forth in subparagraph (a) have been used;

(c) The recruitment, transportation, transfer, harbouring or receipt of a child for the purpose of exploitation shall be considered ‘trafficking in persons’, even if this does not involve any of the means set forth in subparagraph (a) of this article;

(d) ‘Child’ shall mean any person under 18 years of age.

movement. They also have a number of destinations to choose from, both within and outside the country [100]. An ILO study of 100 street children in Kathmandu suggested that 14–15 per cent were once trafficked within the country for the purpose of economic exploitation [101]. There is a strong need for research on trafficking networks, the role played by information technology in facilitating trafficking, international aspects of the trafficking of Nepali children, links between traffickers and organized crime, and the involvement of corrupt border and security officials in trafficking activities.

 Trafficking often involves elaborate networks, and the support of entire communities for its sustenance. One ILO study revealed a case where children from one community were trafficked to embroidery factories run by people belonging to the same community [102]. In this example, children were viewed by the community as little more than a reliable source of cheap labour for their enterprises.

A different ILO study found that traffickers gain the confidence of children, so that they are usually not aware that they are being trafficked [93]. For children who have rarely enjoyed the attention of an adult, having an older friend who takes an interest in them can be a powerful experience—and one that leads to dependency and exploitation. More research is needed on how traffickers gain access to children, win their trust (and that of their families), and introduce children to potential employers in Nepal, India and elsewhere.

Vulnerability to trafficking

Studies on trafficking indicate that most victims actively engage in the process of labour migration, seeking employment in other locations for better opportunities. Studies also suggest that the process of seeking and obtaining work often transitions into trafficking, as labour brokers and other middlemen deceive and lure eventual victims with false information and promises [103]. In addition, Oxfam warns that, as the armed conflict drives people from their homes and contributes to internal displacement, manpower agencies promising lucrative jobs overseas, as well as traffickers, are taking advantage of the increased flow of vulnerable people [104]. Furthermore, the lack of government administration and police in conflict-affected districts may also allow criminals, including traffickers, to act with impunity [104].

As with sexual abuse, data indicate that the people closest to the children, including parents, relatives and neighbours, are frequently involved in the trafficking. According to one study, 56 per cent of trafficking victims were sold or deceived by close family members (husband, parents, or siblings), 33 per cent were sold by relatives, and four per cent were sold by friends [105]. The ILO study on the trafficking of boys shows that 97 per cent of respondents reported that local male villagers were involved in their trafficking [102].
Awareness of the problem cannot on its own bring an end to trafficking. Studies by organizations such as Oxfam suggest that lack of awareness is not the cause of trafficking, and that much of the anti-trafficking programming that has been implemented in Nepal over the last 10 years has been premised on faulty assumptions [104]. An ILO study revealed that more than 94 per cent of parents of trafficked children were aware of the poor living conditions that their children had to cope with in their work places [102]. The study concludes that parents are compelled to send their children to find work—to accept trafficking as a means of economic survival. The same study found that the majority of parents consider that the best option for their boys was to be employed in India, and to earn a livelihood, since opportunities for education and employment in their own communities were limited [102]. Boys whose father had migrated for employment were more likely to also opt for migration, with its associated exposure to vulnerabilities.

Trafficked children are often kept hidden, and are subject to various forms of abuse, trauma and humiliation. Many suffer from social, psychological and physical problems [100]. An ILO study showed that the working conditions encountered by trafficked children at their first work destination were physically and psychologically detrimental to their health and wellbeing. Children worked an average of 13 hours per day, with a minimum of seven hours and a maximum of 17 hours [93]. The study showed that these children eventually ran away from their first destination after having worked an average of six months to two years. More research needs to be carried out on the networks that children and youth rely on for support at their work destinations, what contact they have with their families in Nepal, whether they wish to return to their own families and communities, and what they would require in order to be reintegrated with their families.

**Policy and legislation related to trafficking**

Policy-makers have been slow to respond to new challenges posed by the conflict and its effects on trafficking, the links between cabin and dance restaurants and trafficking, and the limited impact of anti-trafficking programmes despite generous funding from a wide range of donors. For example, one media report suggests that of 2000 girls rescued from India in the last decade, only 70 per cent have been reintegrated into society [106]. For the most part, anti-trafficking programmes in Nepal have been driven by ‘moral’ rather by child protection strategies: by initiatives that focus on the ‘supply side’ of trafficking with little attention being paid to the ‘demand side’—that try to stop trafficking by deterring or arresting traffickers without addressing why children become victims in the first place.

The Constitution, Human Trafficking (Control) Act, Country Code, and the State Cases Act provide the national legislative framework for combating child trafficking in Nepal. However, these laws exhibit considerable weaknesses, including the lack of a definition for trafficking [107]. Anti-trafficking legislation in Nepal does not protect victims and witnesses from threats or harm from the accused. As a result, many victims are understandably reluctant to file cases against abusers and traffickers, or are unwilling to cooperate in investigations [98; 107].

Law enforcement mechanisms have proved to be ineffective in combating trafficking of children and women in Nepal. The crime report register of the Nepal Police shows that only 130 trafficking cases were registered in 1997/98 and 40 cases in 2001/02. This contrasts starkly with estimates of thousands of children being trafficked each year [101]. In a study by ILO, key informants reported that trafficking criminals are often protected by political parties and, if arrested, are freed by influential friends [98]. As a result, there is an underlying distrust of police officials that has led people to refrain from filing cases against traffickers.

Although the Child Act requires child-friendly measures be used in the course of legal proceedings, in practice the criminal justice system puts children in vulnerable situations. Delays in court decisions are common, which in turn can affect children whom have been abused [98]. In an attempt to insure confidentiality and prevent re-victimization,
camera hearings (hearings held privately within the judge’s chambers) have been introduced for cases involving trafficking or sexual abuse of children. However, there are no guidelines on when in camera hearings should be used, who can be present at the hearings, or on the minimum training requirements for adults who are interviewing child victims of sexual abuse [98]. In addition, media restrictions on legal proceedings involving children are rarely followed. It is not uncommon to see photographs of trafficked children featured in newspapers, with no attempt made to protect their identity. Anti-trafficking NGOs routinely feature the names and photographs of victims of trafficking, including very young children, in their publications and on their websites.

VIOLENCE AGAINST CHILDREN OUTSIDE OF ARMED CONFLICT

According to the World Report on Violence and Health, many children will experience physical and psychological violence at some point during their childhood. Children will face violence in the family, in schools, in institutions such as orphanages and other places of residential care, on the streets, in the workplace, and in prisons [109]. However, the consequences of this violence will depend on factors such as the child’s stage of development when the abuse occurs, the severity of the abuse, the relationship of the perpetrator to the child, and the length of time over which the abuse continues [109].

Corporal punishment

The phenomenon of physical punishment of children in the name of discipline is widely observed in South Asia, and Nepal is no exception [110]. A study conducted by Plan Nepal confirms that verbal abuse and corporal punishment of students by teachers are widely practiced across all grades [111]. According to the study, all 24 sample schools acknowledged the use of corporal punishment, including beating students, slapping, and verbally insulting children in front of other students. The study shows that teachers also target those who are least likely to resist such as younger students, girls, slow-learning students, the lower castes, and the disabled [111]. Some children reported that children are beaten by teachers if they use their mother tongue rather than Nepali, the official language of the education system [111].

A WHO study reveals that many parents approve of corporal punishment, and even encourage teachers to beat their children, believing that tough discipline improves school performance [109]. However, research indicates that corporal punishment does not help students to do better in school, but instead discourages them from learning and pushes them into dropping out of school [108].

The UN Committee for the Rights of the Child made clear its concerns about the physical abuse of children in Nepal. According to the Concluding Observations to the First Country Report, ‘the persistence of such traditional practices and attitudes seriously hampers the enjoyment of the rights of the child’ [112]. In 2004, a petition was filed by an NGO at the Supreme Court challenging the use of corporal punishment in schools. In early 2005, the Supreme Court annulled the provision in the Child Act 1992 that allows parents, guardians or teachers to beat children for their welfare.

Domestic violence

Domestic violence is prevalent in many forms in Nepal. It ranges from physical and sexual abuse, to deprivation of food, to verbal and emotional abuse [113]. According to the same study, 77 per cent of the perpetrators of violence against women in Nepal are family members, and 58 per cent of victims complained of daily abuse [113]. The study also reported that 33 per cent of children faced physical violence within their home and 26 per cent faced emotional abuse. Research shows that living in a home where domestic violence

A child’s experience of corporal punishment

‘Some teachers just advise us what should be done, and other teachers take the misbehaving students to the principal. But the stricter teachers regularly use their power and beat us with a stick, a belt, a fist or a pipe. They do not care about the results of their beatings.’

Source: [108]
occurs has a negative impact on children in terms of school performance and emotional wellbeing [114]. Furthermore, physical abuse of children takes place alongside other forms of domestic violence such as psychological and emotional abuse [115].

While poverty can exacerbate the abuse of children, it is equally true that abuse forces children into poverty, or deepens their existing deprivations. Intra-family violence, including sexual abuse, is often a factor contributing to children leaving home to fend for themselves in the streets, where their vulnerability increases and their poverty is likely to become entrenched. A study among street children in Kathmandu shows that 73 per cent of the respondents reported that they had been physically, sexually or mentally abused by their family members before leaving home [93].

Nepal’s tolerance of violence in school and at home seems to reflect that of the larger society. In Nepali society, unequal power relations based on gender, caste, class, and ethnic origin prevail, and are still manifested even in the form of oppression and violence against weaker groups. Some acts of violence, such as abuse of children and women, are not even considered to be offences, socially and legally speaking. At present, there is no law dealing with domestic violence in Nepal. To address growing concerns, a bill on domestic violence was put before by the House of Representatives in April 2002; however, the bill lapsed when parliament was dissolved in July 2002.

Drug use

The occasional use of soft drugs such as the naturally-growing ganja (marijuana) has long been practiced by many people from all parts of Nepal. However, it is believed that there are approximately 50,000 people who can be classed as ‘frequent’ drug users of both soft and hard drugs [16]. They live predominantly in urban centres, and a significant number are children under 18 years [16]. A study done by CWiN of 303 children aged 10–17 years from urban and rural areas showed that three per cent had used drugs at some time [16]. In a separate study, UNICEF found that 13 per cent of teenagers from urban and rural areas claimed to have used drugs at some time [16]. A study done by CWiN of 180 street children aged 10–17 years in urban centres showed that 21 per cent were using drugs, including glue [117]. Factors that led to drug use among these street children included extreme poverty, despair, hunger, and profound loneliness. The prevalence among girls was significantly lower than boys.

Birth registration

Despite efforts made over the years to ensure the registration of all births, a nationwide survey conducted in 2000 revealed that only 34 per
cent of children aged less than five years and 22 per cent of children aged less than one year had been registered [9]. UNICEF baseline surveys conducted in six districts show a large variation—from four per cent to 50 per cent—in registration of children [118]. A recent UNICEF survey of seven districts revealed that 60 per cent of children aged less than 18 years are registered compared to 13 per cent of those aged under one year. This suggests a weak system of birth registration, with interventions largely focused on catch-up campaigns. Birth registration is often a necessary prerequisite to obtaining citizenship and other identity documentation in Nepal. In the context of the current conflict, legal identity is of crucial importance in protecting citizens, and particularly unaccompanied children and youths, from harassment by security forces and Maoists alike.

The Tenth Five-Year Plan aims to register the births of 80 per cent of under-fives by 2006. However, there are no specific strategies for achieving this target or for reaching disadvantaged children. Although a birth certificate is not legally required for school enrolment in Nepal, in practice many children are denied access to school if they fail to produce one. In 2003, the Ministry of Local Development issued a circular to clarify a much-misunderstood 1996 directive from the Ministry of Education which stated that ‘birth registration is a basis for enrolment’. This has gone someway to improving the situation.

Legislation such as the Births, Deaths and Other Personal Events (Registration) Act, the Local Self-Governance Act, and the Vital Registration Directives have several shortcomings. One of the most notable is the provision that only the father or the male head of a household can register a birth. The legislation does not include provisions to record the birth of a child born out of wedlock, or where a father is unknown or refuses to acknowledge a child as his own, or in the case of refugee (e.g., Bhutanese) parents. The consequences for children in Nepal, and for many adults who as a result are unable to obtain citizenship papers, are profound and long-lasting. Without proper identification people are unable to purchase land, or obtain a passport or drivers licence.

The current armed conflict in Nepal has hampered the implementation of birth registration. Although Local Development Officers are authorized to undertake vital registration in the absence of VDC Secretaries, many villagers encounter difficulties in travelling to their district headquarters to access these services. Frequent strikes, roadblocks, and harassment by insurgents impede travel in many parts of the country.

**CHILDREN WITHOUT PRIMARY CAREGIVERS**

Families form the first line of defence for children. The further away children are from their families, the more likely they are to face abuse. Children separated from their families—including children living on the streets or in institutions—are more likely to be marginalized, abused and live in poverty throughout their adulthood. Street children are left unprotected from violence and exploitation, and are at greater risk of contracting HIV/AIDS than children living with their own families. Children living in institutions, while ostensibly protected from many serious abuses, are deprived of the love, affection and guidance of their families. This inhibits the development of vital social skills, and precludes the possibility of community support and integration [119].

In Nepal, data on children orphaned or abandoned by one or both parents is not systematically collected. According to some estimates, there are approximately 835,000

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**How does birth registration protect children?**

Birth registration is essential to protect the child’s right to identity and legal personality, as well as other rights. For younger children, birth records help safeguard against trafficking and abduction. For older children, proof of age is essential to ensure that they are not prematurely deprived of the protection that the law entitles them to in areas such as marriage, sexual exploitation, work, recruitment into the armed forces, and criminal justice.

Source: [90]
orphans—359,000 maternal orphans, 513,000 paternal orphans, and 37,000 double orphans [120]. Most orphans (75 per cent) live with other family members within their extended family structure [13]. The rest are placed in institutions, with employers, or are abandoned to a life on the streets. Of children not living with both their parents, 20 per cent are aged 0–4 years, 28 per cent are aged 5–9 years, and 52 per cent are aged 10–15 years [13].

**Institutional care**

Both the Convention on the Rights of the Child and the Child Act guarantee that children have the right to be cared for by their parents or family. However, they also consider that a child who no longer has family, or who has become separated from his/her family, or whose family represents a serious danger to his/her health or development, has the right to alternative care. According to a USAID study, there are over 400 institutional care facilities for children across Nepal, housing over 10,000 children [121].

The Child Act sets out that institutional care should be the last resort for children in Nepal. The law provides for case assessment by competent authorities to trace a child’s family, and to try solutions within the extended family or the community before referring a child to an institution. However, there is no regulatory mechanism to oversee whether or not proper case assessment is conducted in institutional care facilities. Trained and qualified social workers competent in carrying out proper case management are scarce in Nepal, especially outside the Kathmandu Valley [122].

The current conflict has resulted in increased numbers of children separated from their families in both urban and rural areas. Some have been taken in by institutions and labelled as orphans, although most have parents. A study conducted by USAID shows that there has been a dramatic growth in the number of institutions caring for children in Nepal in recent years; over 50 per cent of such institutional care facilities have been in operation for less than four years [121]. A UNICEF study also shows that there are more boys than girls in residential care: the ratio of boys to girls is 66 to 44 [123].

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**Best interests of the child and alternative care**

Poverty is considered to be a criterion for alternative care by many authorities and institutions in Nepal. This suggests that the prevailing understanding of the ‘best interests of the child’ among Nepali authorities and childcare agencies is not in line with the Convention on the Rights of the Child. A presumption within the Convention is that a child’s best interests are served by being with his/her parents, wherever possible, and that his/her parents have ‘primary responsibility’ for his/her upbringing, a responsibility that they must exercise within the framework of the child’s best interests.

A different study conducted by UNICEF on community-based responses to orphans and vulnerable children indicated that the vast majority of children without parental care are looked after by their extended families [124]. The study suggested that the situation is different in urban centres where the extended family is much weaker, or even non-existent: children end up on the streets, are forced to take up employment that is exploitive or hazardous, or are placed directly into institutions [124].

In Nepal, both government and non-government organizations run institutional care facilities, with over 95 per cent being run by NGOs [123]. Existing regulations related to the management of childcare agencies only apply to those established by the government. There is, therefore, a legal vacuum with respect to institutional care facilities run by NGOs [123]. There is no separate law that requires specific licensing or registration of residential care providers. Non-governmental children’s homes are registered with the District Administration Office under the Society Registration Act as NGOs, and several dozen are believed to be not registered. The legislation is broad, and includes no specific procedures to determine whether care providers are qualified and professionally competent.

According to law, the Central Child Welfare Board together with each District Child Welfare Board is responsible for collecting data on residential care institutions and monitoring their services. In 2004, UNICEF and the ILO began working with the Central Child Welfare Board to develop a comprehensive set of minimum
standards for the care of children in need of special protection. Many institutions operating in Nepal provide only the most basic care for children, with untrained staff, crowded conditions, and little chance for recreational activities. Individualized long-term planning for children is rarely undertaken, and a child's placement and progress by relevant professionals is not reviewed regularly [123]. Furthermore, children living in institutions are vulnerable to abuse and exploitation by adults who are supposedly responsible for their care, and there have been cases of paedophiles operating children's homes [98].

Adoption
Adoption is considered a viable option as a long-term solution for children without parental care in Nepal. The Country Code addresses both domestic and inter-country adoption. Although Nepal has a legal framework and procedures for adoption, existing arrangements and regulatory mechanisms do not meet international standards and norms as laid out in the Convention on the Rights of the Child and the Hague Convention on the Protection of Children and Cooperation in respect of Inter-country Adoption. Existing adoption procedures largely depend on administrative decisions made at a sub-national level: there is no mandatory technical review of cases (i.e., of child or adoptive family) by relevant professionals. This leaves room for adoption procedures to be subject to arbitrary decisions [122]. Inter-county adoption is clearly viewed as a solution of last resort under the Convention on the Rights of the Child, and the State is responsible for taking active measures to ensure that all possible efforts have been made to provide suitable care for a child in his/her country of origin. Yet, existing adoption procedures in Nepal do not conform with this. As the number of inter-country adoption rises in Nepal, the limited capacity to follow up and monitor cases properly is of concern. According to sources at the Ministry of Women, Children and Social Welfare, the government approved the inter-country adoption of 820 children between January 2000 and December 2004. There are no accurate or complete records of domestic adoption since the majority of children are adopted through informal arrangements, often by family members [125].

Some institutional care institutions in Nepal facilitate adoption, both domestic and inter-country, and are often involved in financial transactions [125]. Existing procedures do not require judicial review to terminate the responsibility of biological parents, and transfer of guardianship can be arranged through administrative procedures at the local level. Lack of technical capacity among local authorities to determine the validity of the adoption in terms of the best interests of the child may lead to cases in which children are wrongfully removed from their parents. There have been media reports of children being given for adoption without the knowledge of their biological parents.

Street children
As mentioned earlier, more children are moving to urban centres with their families or alone, as a result of the conflict. According to media reports, there has been a sudden increase in homeless children in district headquarters and towns in conflict-affected districts [126]. A number of these children end up working and/or living on the streets, where they are easy targets for traffickers, drug peddlers and middlemen looking to exploit them for sexual and labour purposes. Some are full-time inhabitants of the streets; others spend their days there and return to a family home each night or periodically. These vulnerable children are in need of special protection. Street children often find themselves in situations that put them in conflict with the law.

According to CWIN, Nepal has an estimated 5000 children living or working on the streets, primarily in large urban centres [127]. For example, Kathmandu reportedly has 400–600 children who spend all or some of their time on the streets. An ILO study on street children also
found that three-fifths of the 100 street children interviewed were illiterate, and that 61 had never attended school [93]. They relied on rag picking, begging, portering or illegal activities such as pick-pocketing or stealing to obtain money. Most of their earnings were spent on food, although a significant proportion was spent on drugs, alcohol and tobacco [93]. Street children rely on each other for support and friendship, and are highly mobile. They are suspicious of authority figures, and are easy targets for abuse and exploitation of all kinds. Few have any form of legal identity.

Juvenile justice
The issue of juvenile justice is emerging as an area of concern in Nepal. At present, there is little information available on children who are deprived of their liberty in police cells, prisons and other places of detention. The number of juveniles coming into contact with the law in Nepal is believed to be on the rise. The worsening situation of juveniles can be attributed to the interplay of several complex factors, including poverty, discrimination, dysfunctional family life, and a worsening conflict, with its impact on the socio-economic and political situation of communities and society at large [128].

In Nepal, the minimum age of criminal responsibility is 10 years, with special considerations for children aged between 10 years and 16 years. A recent study on juveniles in detention in Nepal revealed that 42 per cent (79 children) of sample children entered prison and other detention facilities before the age of 16 years. Over 59 per cent of their crimes were petty, such as pick-pocketing, truancy and minor property damage [129]. Although the Supreme Court ordered the establishment of juvenile benches in all 75 districts of Nepal in 2000, only three per cent of juvenile cases were heard by a juvenile bench between 1997 and 2003 [130].

The Convention on the Rights of the Child as well as the Child Act guarantee children accused or convicted of criminal offences the right to prompt legal and other assistance. Detention is to be used only as a last resort. However, a study for UNICEF showed that only 18 per cent (34 children) of children surveyed were taken to court within 24 hours, as required by law, and only 25 per cent (48 children) had access to lawyers [129]. Moreover, half of the children in prison were yet to be convicted [129].

Despite special provisions in the Child Act, the procedures for arrest, detention, investigation and trial of children are the same as for adults. The Child Act denies a separate trial for juveniles, where juveniles and adults are charged together. There is no mechanism under the Child Act to divert children away from the formal criminal justice process. Although the Child Act provides for children in conflict with the law to be placed in a juvenile correction facility during investigation and trial, it does not obligate authorities to follow any specific procedures for apprehending them or ‘caring’ for them thereafter [131]. Experience from many countries has demonstrated that the longer a child spends within the criminal justice system, the greater the chances are that he/she will commit serious criminal offences as an adult.

Most detention facilities are inadequate or hazardous, and can be places of sexual and physical abuse [129]. There are no specific programmes that take account of the age and developmental needs of detained children. Separate detention facilities for children do not exist in Nepal, except for one juvenile correction facility (the Reform Home) in Kathmandu. Thus, juvenile offenders are usually incarcerated with adults.

Child rights NGOs are concerned about the increasing numbers of street children arrested for public offences in Nepal. Since 2004, ward police have been able to process public
SITUATION OF CHILDREN AND WOMEN IN NEPAL 2006

Juveniles and the quasi-judiciary

In Nepal, many juvenile cases are dealt with by quasi-judicial bodies. For example, the Chief District Officer (CDO) at a District Administration Office (DAO) has jurisdiction to hear and decide on cases relating to public offences. Furthermore, these quasi-judicial bodies have the authority to give prison sentences. However, hearings and decisions by quasi-judicial administrative bodies are not bound by the same rules as judicial bodies. For example, hearings brought before a CDO do not require legal representation. Indeed, other principles of juvenile justice are also not applied.

offence cases. It has been reported in national newspapers that this provision prompted the implementation of a security plan by the Home Ministry and the Ministry of Defence for the ‘management’ of street children in the Kathmandu Valley [30]. This has resulted in street children being arrested for minor public offences and then held in detention in ward police offices, in the name of public security. According to a UNICEF monitoring report of children in prison, 50 per cent of children under 16 years and 50 per cent of children aged 16–18 years had experienced torture and cruel, inhuman or degrading treatment while in police custody [128]. As in prisons, there is no segregation of children from adults while in police custody [129]. In 2004, the Nepal Police introduced Juvenile Justice Officers to 10 pilot districts. These Juvenile Justice Officers will be trained on international and domestic standards for the administration of juvenile justice as well as in skills to deal with and process children coming into conflict with the law.

Given the low implementation of birth registration, it is often difficult to prove a child’s age. There is no procedure for age verification within the current juvenile justice system. This often leads to children under the age of 16 years being kept in adult prisons simply because they cannot prove their age [132].

There are also unaccounted detainees, some of them children, in Nepal’s security forces facilities. Provisions of the Terrorist and Destructive Activities (Prevention and Control) Ordinance (TADO) allow for the detention of children believed to be involved with the Maoists. Many children in remote areas, particularly child porters, regularly come into contact with Maoists, and are often suspected of being Maoist sympathizers. Nepal has the highest number of new disappearances in the world, according to the UN Working Group on Enforced and Involuntary Disappearances [133]. This includes children and youth detained or abducted by both security forces and Maoists.

Although there is no comprehensive documentation available, the impact of emergency legislation on the administration of juvenile justice should not be overlooked. The TADO allows children to be detained in adult detention facilities for up to 12 months, without charge and incommunicado. Those put into preventive detention are never presented before any judicial authority. This means that the fundamental principles underlying juvenile justice are denied, and detained children suffer gross violations of their rights [128].

USE OF AND VIOLENCE AGAINST CHILDREN IN ARMED CONFLICT

The Maoist insurgency in Nepal continues to affect the lives of children in many ways. The rights of children in conflict situations are an increasingly global concern. The UN Security Council has issued a series of resolutions through its annual debate on Children and Armed Conflict since 1999. The recent Resolution 1612 (2005) calls for the establishment of a monitoring and reporting mechanism on children and armed conflict in 11 countries including Nepal.

Nepal ratified the Optional Protocol to the CRC on the Involvement of Children in Armed Conflict in late 2005. Children continue to be major victims of the conflict. They are not merely bystanders, but are sometimes also targets. Children have been forced or enticed into joining armed groups and forces. They have also been killed, maimed, abducted, orphaned, and left with psychological scars. Children are deprived of education and healthcare. For more details of how the conflict has affected the rights of children to health and education, please refer to the Background chapter and other relevant chapters.
Death, injury and abduction of children, and use of schools
Each year since the start of the conflict, children have been killed by both sides. This is usually the result of crossfire, bombings or unexploded ordinance. However, some children have been killed as informants, spies, suspected Maoists, or simply for being a member of a targeted household. INSEC reports that since the beginning of the conflict (to mid-2005) 172 children aged less that 18 years have been killed by State parties and 166 have been killed by the Maoists [22]. CWIN reports that 410 children have been killed and 395 have been seriously injured in the same period [135].

In districts where the Maoists are particularly active, schools have been used as meeting places for mass rallies and indoctrination sessions for both children and adults. Children are sometimes abducted from schools and taken to locations where the Maoists feel secure for these sessions, before being released to make their own way home. CWIN reports that in the first six months of 2004 nearly 6700 children were abducted [135]. The majority were released after a few days of political indoctrination.

Schools have also been attacked by Maoists, usually as a result of defying bandhs and educational strikes [30]. Usually, no one is injured in these attacks. However, in April 2004, government armed forces opened fire on a Maoist meeting in a secondary school in Achham District, killing and injuring several children. Many other students witnessed the violence and killings [30]. In another incident, two students were killed and another injured in February 2003 at a secondary school in Baglung District, when Maoists were instructing students on how to use guns and providing a ‘firing demonstration’ [30].

Mines and other explosive devices
Children are also in danger from landmines and improvised explosive devices such as socket bombs, pipe bombs, and pressure cooker bombs. The Nepal Campaign to Ban Landmines has reported that these weapons are being used by both parties to the conflict in all districts across the country. Nepal is not a signatory to the Landmine Ban Treaty. A media survey revealed that some 300 incidents involving explosive devices had been reported between November 2003 and June 2004 [137]. More than 60 children were reported to have been killed or injured, about half of whom were aged between six years and 11 years. At present, there is little mine-risk education. However, the Nepal Campaign to Ban Landmines carried out some activities in 2003 in five districts, and initiated nationwide radio broadcasts and the dissemination of pictorial books and brochures in 2004 [137]. In March 2004, UNICEF and its partners established a Mine-Risk Education Working Group, comprising key organizations concerned with the rise in deaths and injuries from explosions caused by improvised explosive devices, unexploded ordnance, and mines. This working group includes members of the Save the Children Alliance, Handicap International, World Education, CARE, World Vision, ILO, Porters’ Progress, Nepal Red Cross Society, INSEC, CWIN, Nepal Campaign to Ban Landmines, and Sahara. Members have carried out a range of activities and have also worked together on the production of common materials.

Use of children in the conflict and their recovery and reintegration
Although both sides have denied using children in the conflict, there are widespread reports of the use and recruitment of children by the Maoists as well as the use of children as informants by government forces [30]. However, it is extremely difficult to assess either the extent of these activities or the number of children involved. While the Royal Nepalese Army does not systematically recruit

Concluding Observations of the Committee on the Rights of the Child on Emergency Legislation and Juvenile Justice in June 2005
The Committee on the Rights of the Child recommends the State party to:
1) ensure that persons under 18 years are not held accountable, detained or prosecuted under anti-terrorist laws;
2) amend or repeal the Terrorist and Disruptive Activities (Control and Punishment) Ordinance (TADO) in the light of international juvenile justice standards and norms.
Both boys and girls are used by the Maoists, and it has been reported that the incidence of Maoists recruiting girls is increasing in the Karnali region [30]. This is because parents are sending girls rather than boys, who are considered more valuable, to the Maoists in order to fulfil the obligation of sending at least one child from each household. Although it is difficult to obtain corroborated evidence about the treatment of girls by the Maoists, CWIN has reported the sexual abuse of five girls forcibly recruited by the Maoists [23]. As might be expected, there are sporadic reports of escaped, surrendered, captured or rescued children associated with armed groups. Since there is no programme for demobilization and reintegration of children associated with armed groups and forces in Nepal, these children have been handed over ad hoc to local childcare facilities or directly into the care of the community or family. There also have been reports of escaped and surrendered children being targeted by the conflicting parties. This lack of a common framework for recovery and reintegration of children associated with armed groups and forces has become an increasing concern among child protection agencies. In June 2005, a joint UN and INGO working group was established in order to develop common operational procedures and programming principles and guidelines for the protection and care of children associated with armed groups.

Detention and disappearances
Although children are considered to be ‘too young to be responsible actors of war’, both sides in the conflict regard them as potential players. The counter-terrorism measures under the Terrorist and Disruptive Activities (Control and Punishment) Ordinance (TADO) allow security forces to arbitrarily detain anyone, including children, who are suspected of affiliation with the Maoists. The security forces treat children in the same manner as adults, as no separate procedures, guidelines or rules of engagement exist. An amendment to the TADO in 2004 grants security forces even wider powers to arrest and detain any person suspected of being associated with the Maoists, and has increased the duration of allowed detention without trial to one year.

Child soldiers—international definition and legal standards
A child soldier means any person under 18 years of age who is part of any kind of regular or irregular armed force or armed group in any capacity including, but not limited to, cooks; porters; messengers; and anyone accompanying such groups other than purely as family members. It includes girls recruited for sexual purposes and/or forced marriage. It does not, therefore, only refer to a child who is carrying, or has carried, weapons. However, this definition (known as the ‘Cape Town Principles’) was agreed to by international NGOs and development agencies for programmatic purposes and is not a legal definition, thus not legally binding [136].

There are several international legal standards governing child soldiers. Nevertheless, the broader definition of child soldiering reflected in the above Cape Town Principles is not explicitly spelled out in the existing legal definitions of the international human rights and humanitarian law. The 1977 Additional Protocols to the four Geneva Conventions and the Convention on the Rights of the Child (CRC) both use a 15-year minimum age for recruitment and participation in hostilities. The Rome Statute of the International Criminal Court (1998) defines that conscripting or enlisting children under the age of 15 years into state armed forces or armed groups, or using them to participate actively in hostilities is a war crime. The Optional Protocol to the CRC on the Involvement of Children in Armed Conflict sets the minimum age for direct participation in hostilities, all recruitment into armed groups, and compulsory recruitment by the government at 18 years. Furthermore, there is an obligation on all State parties to the Protocol to take all feasible measures to prevent recruitment and use of under-18s by armed groups—including legal measures to prohibit and to criminalize such practices. Also the ILO Worst Forms of Child Labour Convention 182 includes ‘forced or compulsory recruitment of children for use in armed conflict’ as one of the worst forms of child labour.

Individuals below the age of 18 years, children might enter the government’s armed forces as a result of irregularities in their birth registration documents [138]. Although the Maoists claim not to recruit child soldiers for combat duties, it has been widely reported that children are used as messengers, cooks, informers, mine planters, and porters [30]. Research suggests that poverty, education, politics, identity, family and friends all play a role in driving children and youth to join military life.
Since the onset of the conflict, there has been a widespread pattern of ‘disappearances’ by security forces, including of children aged less than 18 years. Although concrete data are not available, children, some as young as nine years, have been taken into custody by security forces in connection with the insurgency, and some remain inaccessible and unaccounted for. INSEC reports that in 2003 the security forces arrested 86 children, and 20 have disappeared during detention [26]. CWIN reports that in the first half of 2004, 77 children were arrested by the security forces [135].

**Displacement of children**

Although no comprehensive data are available on the numbers of displaced children, it is known that the conflict has forced many children to migrate from their villages. The estimated number of people displaced internally by the conflict is 100,000–200,000 [31]. There is no widely acknowledged estimate of the number of children displaced. CWIN suggests that 40,000 children have been displaced since 1996 [139].

With displacement comes the increased likelihood of families splitting up. A survey of displaced families in Kathmandu and Birendranagar municipalities found that over half reported that some of their children were either at home, staying in another district with relatives, or staying in the same area with relatives or friends [34]. The conflict has also led to more children crossing the border to India. A recent survey of children crossing to or from India at five border checkpoints in the Western, Mid-Western and Far Western Development Regions found that over a three-month period (a season when one would expect low outflows of migrants) more than 17,000 children left Nepal, and in the following two months (a season when one would expect high inflows) only about 8000 children entered Nepal [140]. One in four children (24 per cent) leaving Nepal said the armed conflict was the major reason for their migration to India. Another 36 per cent said that poverty was the main reason—a condition that is likely to be exacerbated by the conflict. Most of the children were boys (87 per cent), and nearly half of the children were aged 16–17 years. Among all children, 60 per cent said they planned to work in India, primarily as labourers, porters or hotel workers. Dalit children were found to be over-represented compared to their proportion of the general population [140].

**Bhutanese refugees**

As well as large numbers of children being affected by the conflict, there are many children living in refugee camps in the Eastern Development Region of Nepal. Bhutanese refugees started arriving in Nepal in 1991, following enforcement of restrictive citizenship laws in Bhutan. To date, over 101,000 people have been accepted as prima-facie refugees, of which 41,000 are aged under 18 years [141]. There are seven camps located in Jhapa and Morang Districts, and managed by the UNHCR. While these camps are well organized and most protection issues are carefully monitored, incidents of child sexual abuse have been reported. A UNHCR investigation team identified 18 cases of sexual abuse and exploitation, some of which were committed by teachers, police officers and aid workers [142]. Victims included a seven-year-old girl and a handicapped person.

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**Psychological impact of conflict**

Children in conflict can present serious psychological vulnerabilities that result from the stressful circumstances in which they find themselves. These vulnerabilities can stem from the direct impact of the conflict and from experiences they might have had before. Children are particularly exposed as they might find it difficult to rationalize and understand their current or past circumstances. Furthermore, children affected by these vulnerabilities can be exposed to increasing abuse or neglect.

Clinically speaking, existing conflict-related circumstances (such as high and constant exposure to stressful situations of violence, loss of significant relations, emotional and physical abuse, etc.) can lead children to develop post-traumatic stress disorder. However, there are no studies regarding the prevalence of this condition available in Nepal. Information on the more general psychological impact of the conflict is only recently starting to become available. For example, a recent study shows that 87 per cent of respondents in a survey of internally displaced persons said that they had noted behavioural changes in their children, mostly negative changes, such as becoming ‘serious, silent, subdued and frightened’ [134].
Gender issues play an extremely significant role in the lives of Nepali women and the children who depend on them. Broadly speaking, Nepalese society assigns tightly defined gender roles to men and women. These stereotypical roles are at the root of prejudiced attitudes that feed into discriminatory practices throughout society. These practices, along with the attitudes that accompany them, have a foundation in the family setting, and are reflected in the administrative and legal practices of the country. Together they create a cycle of discrimination that puts women in an inferior position to men and perpetuates their lower status.

Women in Nepal find themselves in a vicious circle that drives the discrimination against their gender. Their generally low status means that most women are not given sufficient decision-making power to control their own access to resources such as information, services, money, etc. This restricted access to resources prevents women from developing their decision-making capacity. Their lack of decision-making capacity deprives them of the power to control access to resources, and restarts the cycle of low status and discrimination.

There is no obvious place at which to break into the cycle. The family setting is at the base of discriminatory attitudes and practices, and it is here that changes can be particularly effective. However, change cannot be expected to take place within the family without genuine support and positive reinforcement from the country’s administrative and legal framework.

Women in Nepal are often divided into two broad groups: Tibeto-Burman women of the hills and mountains (usually Buddhists), and Indo-Aryan women of the terai and hills (usually Hindus). Tibeto-Burman women are generally less constrained by society in terms of mobility, marriage options and income-earning opportunities than their Indo-Aryan counterparts [143]. However, it should be noted that it is difficult to generalize about the situation of individual women in Nepal, as the country’s many ethnic and cultural groups all treat the various roles of women with differing emphasis and priority. Nevertheless, all women live within a patriarchal society that results in women having lower social standing than men, and being subject to patrilineal land and property inheritance laws, patrilocality patterns and, in many cases, early marriage.
Throughout Nepalese culture, marriage is seen as the most acceptable option for women, as it offers the best way for women to gain access—through their husbands—to the property and land that can secure their livelihoods. Indeed, women who are not married (single, divorced, widowed) are considered to be more vulnerable than married women to denial of the rights that can protect them from poverty and exploitation. The patriarchal social structure means that women in Nepal lag behind men in their access to property, credit, income-earning opportunities, skills development, information and knowledge, education, and services such as healthcare, water and sanitation, and justice. Recent research based on data from the 2001 census shows that women’s access to literacy, education, and decision-making roles, amongst other indicators, is below that of men, regardless of caste or ethnicity [43].

The Gender-related Development Index (GDI) measures the extent of gender inequality in development—the higher the GDI, the lower the degree of gender disparity. The GDI for Nepal has increased to 0.452 in 2001 from 0.345 in 1996 [54]. However, Nepal is ranked 116 in the world (out of 177 countries) and fourth out of five South Asian countries (with Pakistan lowest). Across the country, the GDI for rural areas (0.430) is significantly lower than for urban areas (0.562), and women in the mountains have a lower GDI value (0.363) than those in the hills (0.498) and terai (0.450) [54]. The magnitude of gender inequality in human development is most pronounced in rural areas of the mountains and Far Western Development Region.

THE GIRL CHILD

The gender roles assigned to men and women determine, to a certain extent, the treatment and conditioning of the girl child within the family, and her upbringing compared to a boy. As a woman’s primary role is to bear children and nurture them, girls are socialized to be wives and mothers. Marriage is considered to be the most important event in a Nepali woman’s life, and girls are brought up to be as attractive as possible to prospective husbands [145]. For most families, this means that a girl is taught to be compliant and subservient, and ready to serve her husband’s and his family’s needs. As prevailing culture stipulates that a girl must move from her natal family to her husband’s family after marriage, most girls are treated as ‘temporary’ members of their natal household. This results in families being reluctant to invest much in their daughter’s wellbeing and development, with the focus being primarily on ensuring that she is acceptable for marriage.

Son preference

Although ‘motherhood’ in itself is exalted and is regarded as the highest calling for a woman, this very exaltation means that a woman’s ultimate role is simply to bear children. Within the country’s religious traditions, women play few active roles: men are responsible for performing most of the important rituals surrounding life and death. These religious requirements are compounded by the strong position of men in society and their superior capacity for earning a living, coupled with the country’s laws on property inheritance and family matters.

An analysis of data collected for the BCHIMES in 2000 found that the desire for more children by currently married mothers with two living children was strongly influenced by the sex of those children. Overall, 54 per cent of women who had two daughters said they would like more children compared to only 10 per cent of women who had two sons and 14 per cent of women who had a son and a daughter [144]. This basic finding was the same for all women, regardless of their background (Table 6).
A strong son preference inevitably leads to discrimination of the girl child. The birth of a son is celebrated, and the birth of a daughter, especially when a son was desired, is often a cause for disappointment [145]. Throughout her childhood, a typical girl can expect to be second in line after her brothers regarding access to nutrition and healthcare, educational opportunities, and services such as clean water supply and sanitation. This is particularly so in families where resources are scarce. The more unfortunate girls may find themselves unprotected from many forms of exploitation, abuse, and violence. This discrimination is continued into womanhood through the denial of maternal health rights, income-earning opportunities, and access to social and legal justice.

However, although there is a strong son preference in Nepal, there is no evidence as yet to suggest that women (or their families) are using widely-available technologies to identify the sex of their unborn child, and selectively abort female foetuses.

**Life of a typical girl**

Mortality rates in Nepal show that more girls die during childhood than boys. Death during the first month of life (neonatal mortality) is higher among males than among females, reflecting biological processes [1]. This is also true for infant mortality (death during the first year). However, as children grow older this trend is reversed. Child mortality (death between the first and fifth birthdays) is much higher for girls than boys (Figure 11). This large increase in the death of girls after their first birthday is also reflected in the under-five mortality rate. This suggests that during the first year of life normal biological processes predominate, but that after the first birthday gender-related differences in child-rearing practices and healthcare utilization probably have a stronger influence on the survival of children. It is, however, extremely difficult to identify exactly what causes these differences.

One factor that is known to influence the capacity of children to avoid death is proper nutrition. Malnutrition is a severe problem in Nepal, with over 50 per cent of all children under five years showing signs of chronic undernutrition. Although national surveys have not identified significant gender disparity in malnutrition, more localized studies of specific communities frequently indicate that girls are more undernourished than boys. Anecdotal evidence suggests that girls, particularly those in resource-scarce households and in large extended families, receive poorer-quality and less food than boys.

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<th>TABLE 6: Desire for more children by currently married mothers who already have two children</th>
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<td><strong>Total</strong></td>
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Source: [144]

**FIGURE 11:**

Mortality rates for under-fives in Nepal

Source: [1]
The health of young children also affects their chances of avoiding death. There is little to suggest that girls contract common childhood illnesses (diarrhoea and acute respiratory infection) more frequently than boys. However, there is a small but noticeable disparity in the healthcare-seeking behaviour of mothers of sick children. The NDHS 2001 indicates that girls are less likely to receive treatment for both diarrhoea and acute respiratory infection than boys [1].

Another indicator of the extent of healthcare provision for children is immunization. In all categories of vaccination, girls are less likely to be immunized than boys [1]. This gender gap is particularly evident for the poorest quintile of families (Figure 12).

As a child grows older, socialization becomes an important part of its development. In Nepal, socialization patterns are quite distinct for girls and boys. While boys are prepared for the world of productive work and decision-making, girls are taught to be wives and mothers. From a young age, it is instilled into a girl’s mind that her duty lies in providing a service to her family, be it her natal family or that of her husband after marriage. Self-effacement, unassertiveness, and other similar qualities are encouraged. The voicing of needs, concerns and opinions is discouraged, and girls are not given opportunities to make decisions. Girls may have less contact with male members of the household, as most childcare is done by mothers and female siblings. Consequently, inadequate socialization can leave girls with little self-confidence or self-esteem. As girls are for the most part confined to the ‘inside’ world of the home, they do not have opportunities to observe female role models—should they exist—in the ‘outside’ world.

Indicators for education show some gender disparities. In particular, not as many girls as boys are enrolled in primary school, with the gender gap becoming greater for secondary and tertiary schooling. However, once girls enter school, they seem to stay there—there is little disparity between girls and boys in promotion rates, completion rates, and survival rates. It should be noted however that the situation for girls continues to improve year by year. Nevertheless, when families have to make choices about how to educate their children, girls often receive poorer education opportunities than boys. For example, girls are sent to public school while their brothers are sent to private school (which generally provide higher quality education); or girls are sent to non-formal education classes that are cheaper and less time consuming than formal schools.

Although there are no recent studies, it is widely accepted that in general girls experience heavier household workloads than boys. Girls are often expected to look after younger siblings (while their mother is engaged in other chores) and to perform household tasks such as collecting water and fuelwood. These household duties can prevent girls from attending school or socializing with other children.
Many girls have their childhood cut short, as they take on responsibilities associated with adulthood such as working for a living or caring for their family. Indeed, more girls work than boys. Although fewer girls than boys are found in the worst forms of child labour, working girls experience harsher conditions than boys, working longer hours for poorer pay [14]. However, more girls than boys are trafficked for commercial sexual exploitation [101].

As a girl matures, her family starts to make arrangements for her marriage. There is a pervading fear that older girls may be dishonoured in some way: chastity before marriage and fidelity afterwards are highly prized social values [145]. Although the Country Code has fixed the minimum age for marriage as 18 years with parental consent and 20 years without consent, in practice, many girls are married much earlier than this. In some communities, especially in the terai and in the Mid- and Far Western Development Regions, marriages are arranged for girls as young as seven, eight, or nine years old. However, girls this young are usually not sent to their husband’s household: they will enter their new home around the age of 14, 15, or 16 years. Nevertheless, girls whose marriage has been agreed must behave as modestly as married women, covering their faces in front of their husband’s family and seeking their husband’s family’s permission to undertake certain tasks [145]. Their movements are also restricted. If they have been attending school, they often discontinue their education. They now remain at home, helping their mother and waiting to be passed on to their husband’s household when the time comes.

This is the life faced by a typical Nepali girl. Her inadequate nutrition and access to healthcare means that she faces a higher probability of death than her male peers. Her restricted socialization leaves her shy and unconfident. She is unable or reluctant to make decisions or express her needs. Her poor education means that she is barely literate or even illiterate. Her low status means that others take decisions for her. She is trapped in a cycle of dependency that is handed on from her natal family to her husband’s family on her early marriage.

It is extremely difficult to break into this cycle of low status and discrimination, as all members of society are socialized from the earliest age to accept the roles assigned to them. Women are unequipped to question or oppose the implicit and explicit injustices to which they are subjected. In the absence of alternative role models, women often have no choice but to ‘perpetuate’ the dominant social and cultural values that in reality militate against their gender [145]. For changes to occur, girls and women need to be able to develop a strong sense of self-worth and be able to transmit this sentiment to succeeding
generations. However, this cannot be achieved without a concomitant change in men’s attitudes to women from the level of the family to the level of society as a whole.

**CONVENTION ON THE ELIMINATION OF ALL FORMS OF DISCRIMINATION AGAINST WOMEN (CEDAW)**

Although it is recognized that gender discrimination in Nepal is deeply rooted in the fabric of society, there have been efforts on many fronts to improve the situation. As already discussed, in order to break the cycle of discrimination progress has to be made simultaneously at the family level as well as at the administrative and legal levels. One framework for guiding interventions aimed at stimulating the necessary changes is the UN’s Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). The Government of Nepal ratified this treaty in 1991.

CEDAW is essentially an international bill of rights for women that sets out, in legally binding form, measures to achieve equal rights for all women, regardless of marital status, in all fields of political, economic, social and cultural life. It contains a mixture of non-discriminatory, corrective (affirmative action) and protective provisions. It can be used by government, donor agencies and NGOs as a platform both to devise interventions and to advocate for change.

Willingness to tackle discrimination against women in Nepal must be recognized as a positive step. However, it must also be acknowledged that the changes required for full gender equality have been slow to materialize. One element that restrains progress is the uneven implementation of gender mainstreaming within the government administration. Gender is often viewed as a ‘separate’ issue that is solely the concern of the Ministry of Women, Children and Social Welfare. In other ministries and within the legislation, gender issues are tackled piecemeal. This results in patchiness that hinders broad-scale change. The absence of a governmental ‘enabling environment’ that is reinforced by strong laws leaves families with little support for making changes to women's roles. The links between a supportive administrative and legal framework, and initiatives for change at the family level have not been made.

Since the ratification of CEDAW, there has been some improvement in the social, economic and political status of women in Nepal. However, there are still many areas where gender concerns remain unresolved. The most notable of these are highlighted below.

**Legislation**

- Many of Nepal’s laws discriminate against women on issues such as property, marriage and family, domestic violence, legal and court proceedings, trafficking and sexual abuse, employment, education, nationality and citizenship. One review in 2003 identified 137 provisions, two rules in their entirety, and 121 schedules in 85 laws, including the Constitution and the Country Code, that were discriminatory [116]. The government has constituted a high-level commission to review all existing discriminatory laws, and its work is ongoing [146]. At present, Nepal has about 150 special measures for women spread across 56 laws [116]. However, a number of these ‘special measures’ often result in less freedom and reduced rights for women.

- Some progress has been made on improving women’s property and inheritance rights [116]. However, according to the Eleventh Amendment to the Country Code, a daughter has to
return her share of parental property upon her marriage, as she is then entitled to share of husband's property. But a married woman can only claim her share of her husband's property, if he fails to take care of her needs, fails to provide her with food and clothing, or throws her out of the house. Therefore, the daughter not only forfeits her right to parental property but has only limited rights to her husband's property. This provision has yet to be tested before the law.

- The present law allows bigamy/polygamy in the following circumstances. A husband can marry for the second time without divorcing his first wife if no child is born or is alive within 10 years of marriage; if his wife is living separately after obtaining her share in the property; if she becomes incurably insane; if she contacts any incurable contagious venereal disease; if she becomes lame and cannot walk; or if she becomes blind. A small study showed that 19 per cent of respondents were second wives, eight per cent were third wives and two per cent were fourth wives [147]. Although second marriage is prohibited by law, it is not declared void. The second wife and her children are given a right to the family’s property, thus affecting the right to property for the first wife. In most instances, a first wife will continue with her marriage rather than seek a divorce because of her economic dependency and the cultural implications of being a female divorcee.

- Women in Nepal can only acquire citizenship through their father or husband, and cannot obtain citizenship without consent from a male guardian. As citizenship is only granted through the males of a family, women are unable to confer their nationality on their children. This can result in statelessness for the children of lone women or for children of fathers who refuse to acknowledge the relationship. Mothers cannot register the birth of their children and, consequently, these children can be denied certain rights. A woman cannot confer her citizenship on her husband or children. This means that foreign nationals married to Nepali women and the children of such a union cannot become Nepali citizens.

Government and data collection
- In Nepal, women’s representation in the organs of the State (the legislative, the judiciary, and the executive) is low [116]. In 1999, approximately six per cent of parliamentarians in the elected House of Representatives and 15 per cent in the appointed National Assembly were women. Women currently hold about five per cent of the top civil service positions, and three per cent of the top judiciary positions. Women’s participation in local government is greater, with a 20 per cent reservation for women in local bodies. However, very few women have been elected to decision-making levels; most are ward-level representatives.

- A gender focal point has been created in some sectoral ministries, but these individuals cannot be expected to undertake effective gender mainstreaming for entire ministries. Women’s cells have been established by the Nepal Police, but in only 16 of Nepal’s 75 districts.

- The National Human Rights Commission and the National Women’s Commission are often sidelined or without the required authority. The National CEDAW Committee is not operational.

- The collection of national-level gender-disaggregated data by the government is limited to that on housing and population in the census, and does not provide enough information for the development of comprehensive gender-sensitive policies [116]. A gender budgetary audit carried out by the Ministry of Finance in 2002 found that gender issues are gaining some recognition in budgetary allocation.

Harmful practices
- There are a number of traditional practices associated with being ‘female’ that can have detrimental effects on girls and women [116]. Many women, particularly those belonging to devoutly Hindu families, are subjected to the practice of chaupadi (women are considered ritually impure during menstruation and after childbirth, and prohibitions are placed on their contact with other people (including family members) and on the foods they can consume). This can result in some
women being obliged to give birth without any assistance in an outhouse or cowshed separate from the family’s main dwelling, putting her at risk of death from obstetric complications. This is most common in the Mid-Western and Far Western Development Regions. Other traditions that may be harmful include deuki (dedicating girls to a god/goddess), jhuma (in some communities, second sisters remain unmarried and spend their life in monasteries), kumari pratha (having a girl child as a living goddess) and badi (ethnic practice of prostitution among young girls) [148].

- Women may be subjected to mental and physical abuse by their communities for allegedly practicing witchcraft. Victims have been paraded naked and forced into inhuman acts such as eating human faeces. Some of these women have been murdered and some have been known to commit suicide. The National Human Rights Commission has recommended that these women be compensated by the government but no action has been taken as yet.

- There is widespread discrimination of widows in Nepal, with in-laws sometimes considering a wife’s ‘bad fortune’ to be responsible for the death of her husband.

Social practices

- Rural women have extremely heavy workloads that could be eased with adequate access to household and agricultural time-saving technologies. Estimates of the time required by women to collect adequate fuelwood supplies for their households range from two to 20 hours a week [65]. In some areas, women may have to cover 20 km to find enough wood [149]. Energy technologies such as microhydro, biogas, solar dryers and cookers, improved watermills and improved stoves have immense implications for rural women’s drudgery reduction, labour efficiency/productivity, improvement in health, and expanded entrepreneurial opportunities.

- There has been some headway in breaking down gender stereotypes. School textbooks have been revised so that they no longer consistently portray women ‘in the home’ [116]. However, there are few positive role models outside the home for girls to emulate. The media continues to depict ‘respectable’ women mainly as homemakers or in stereotypical female jobs.

- Lack of vocational education, discrimination in social, economic and political life, the low value placed on
women’s working capacities, restrictions on women’s ability to choose jobs freely, discriminatory pay and conditions, and lack of equal opportunities all contribute to the problem. Women in paid work are usually assigned stereotypical, low paid, unskilled or clerical jobs; few women reach a decision-making level [116]. About 63 per cent of working women are involved in unpaid work, usually as labourers in the agriculture sector [54].

Education

- The Ministry of Education and Sports has made it mandatory that all primary schools have female teachers. However, this is yet to be achieved, especially for remote regions. The government has focused on the training of female teachers. In addition, it has implemented several programmes that target girls and women including non-formal literacy programmes and scholarships for girls. Nevertheless, gender disparities in education remain, with the male-to-female ratio of fulltime students at 57 boys to 43 girls [12].

- Women have made some progress in literacy over the last few decades. Female literacy among the six-years-and-above age group has more than trebled, from 12 per cent in 1981 to 42 per cent in 2001 [13]. Moreover, the male-to-female literacy gap has declined from 29 percentage points in 1991 to 22 percentage points in 2001. The literacy rate for women aged 15–24 years in 2001 was 60 per cent (compared to 81 per cent for men of the same age cohort) [13].

Health and nutrition

- The main problems that women in Nepal face when trying to protect their health include poor access to adequate healthcare facilities, restrictive nutritional practices, and incomplete coverage for reproductive health services [116]. The situation for women in remote, rural areas is particularly severe, with health facilities far from home and inadequate numbers of trained health staff available at these facilities.

- It is common for Nepali women to have certain foods restricted during menstruation, pregnancy and after childbirth [116]. These practices can result in nutritional deficiencies that can have adverse impacts on the overall health of a woman during critical periods. To improve this situation, a low-dose vitamin A supplementation programme for pregnant women is piloted in a few districts. Widespread iron supplementation for all women (whether pregnant or not) is desirable, but yet to be implemented. Current iron supplementation in Nepal is targeting pregnant women only.
The Convention on the Rights of the Child places responsibility on governments to ensure that all children have access to primary education. Nepal is a signatory to Education for All, and is attempting to achieve the Millennium Development Goals. These instruments mean that Nepal is committed to ‘ensuring that by 2015, all children—particularly girls, children in difficult circumstances and those belonging to ethnic minorities—have access to complete, free and compulsory primary education of good quality’.

**STATUS OF EDUCATION**

The public education system in Nepal has grown at a steady pace since the early 1950s when there were fewer than a hundred schools. Today, there are tens of thousands of primary schools across the country, greatly extending access to basic education. In addition, secondary school education is becoming more accessible to larger numbers of students each year.

Children in Nepal formally start school in Grade 1 at the age of five years. Primary school education extends from Grade 1 to Grade 5, lower secondary from Grade 6 to Grade 8, and higher secondary from Grade 9 to Grade 10. After completing 10 years of formal education, students take the School Leaving Certificate (SLC). This is also the qualifying test to transit to tertiary education.

According to the Ministry of Education and Sports, net enrolment rates for 2004 were 84 per cent for primary school, 44 per cent for lower secondary school, and 32 per cent for higher secondary school [12]. However, non-ministry sources tend to indicate lower rates of enrolment. The National Living Standards Survey 2003/04 reports that net enrolment rates for 2003 were 72 per cent for primary school, 29 per cent for lower secondary school, and eight per cent for higher secondary school [44]. The differences between these sources can be explained by several factors including the way data are collected, the sources used, and simple errors in data compilation. However, one important element that distorts the ministry’s figures is incomplete reporting by private schools. While private schools are required to register with the District Education Office and submit data on an annual basis, they do not always do so. In 2003, the Ministry of Education and Sports recorded 2700 private schools [12]. However, PABSON, a national association of private...
The National Living Standards Survey 2003/04 found that net enrolment rates had increased by 16 percentage points for primary school, by 11 percentage points for lower secondary school, and by six percentage points for upper secondary school between 1995 and 2003 [44]. As another indicator of improvements in education, the literacy rates for 15–24 year olds have increased over the last decade from 50 per cent in 1991 to 70 per cent in 2001 [13]. The ratio of literate women to men in this age group has also improved significantly from 0.48 in 1991 to 0.75 in 2001, indicating that the gender gap is narrowing [13]. In addition, survey findings show that fewer young women attend adult literacy programmes, indicating that nowadays young women are becoming literate through the formal education system [1]. The NDHS 2001 found that only 40 per cent of literate women aged 15–24 years had attended literacy classes compared to 85 per cent of literate women aged over 35 years [1].

While these achievements must be welcomed, there are several distinctive characteristics of Nepal’s education system...
that indicate many children are not receiving the opportunities for an education that they should or that the education they receive is of poor quality. This analysis will concentrate on primary education, as this is the focus of the Millennium Development Goal.

While the Ministry of Education and Sports can report that today there are 24,700 primary schools with around four million students, this still leaves nearly two in every 10 children aged 5–9 years out of school [12]. Other sources indicate that this figure might be closer to three in every 10 children [44]. The majority of these are girls and children from disadvantaged groups in rural areas. The net enrolment rate in 2004 at primary level was 78 per cent for girls compared to 90 per cent for boys [12]. In addition, while Dalits and janjati make up approximately 57 per cent of the country’s population, they represent only 34 per cent of the children at primary school [12]. Only 71 per cent of children in rural areas attend primary school compared to 83 per cent of children in urban areas [44]. The terai has some of the worst-performing districts in terms of education, especially for girls.

Within primary school, repetition and dropout rates are high, especially in Grade 1, and the completion rate is low. While completion has improved from 41 per cent in 1999 to 50 per cent in 2003, half of children still do not finish a primary education [12]. Student learning achievements are also low, although there have been improvements over the years. In 2003, the national assessment showed that mean scores in Grade 5 achievement tests were 33 per cent in Mathematics, 45 per cent in English, 56 per cent in Nepali, 61 per cent in Social Science, and 67 per cent in Environmental Science and Health Education [151]. These averages mask regional disparities, with the Mid-Western and Far Western Development Regions and the mountains performing worse than other areas. Private schools have better achievement scores than public schools. The latest figures published by the Department of Education show that 83 per cent of students in private schools passed the SLC examination compared to 46 per cent of students from public schools.

**EDUCATION AND THE CONFLICT**

**Displacement**

The conflict has had a significant impact on the education of children in Nepal. Displacement has caused many children to suspend their education. A recent study showed that only 39 per cent of children who had left school because of displacement had rejoined school in their new area of residence. The remaining 61 per cent were either staying at home or were working in low paid jobs [43]. There are undoubtedly many reasons why children are not enrolled in a new school; however, a major reason appears to be a lack of the required documents especially when displacement has occurred suddenly or in secret. Recognizing this, the Ministry of Education and Sports has recently relaxed the rules on documentation and has instructed district education authorities to allow out-of-district children to be enrolled in school immediately rather than insisting on correct documentation first. In addition, the Ministry of Education and Sports is piloting a child-tracking system to facilitate children who have had to leave their home districts, although in some areas it is not being fully implemented.

When the breadwinners of households are displaced, their children often drop out of school either because there is not enough money or because children have to look after the home [26]. In these cases, it is often children from the poorest families who are most affected. One study found that children from wealthier families who are displaced tend to transfer to private schools in urban areas or overseas rather than drop out of school [30].

**Bandhs and strikes**

Frequent national and local bandhs also affect the schooling of children, by disturbing both the pace and quality of education. INSEC reported that most schools were only open for an average of 120 out of 180 mandatory days in 2002/03 [26]. As well as general bandhs called by the Maoists or other political groupings, schools have been affected by educational strikes that often require their closure for extended periods of time [30]. For example, in June 2004, schools throughout Nepal were closed for over two weeks [30]. These strikes are usually called by student
organizations affiliated to either the Maoists or their political opponents to demand changes to the current education system. Defiance of bandhs and educational strikes by individual schools can result in violent retaliation, with the private sector being more aggressively targeted [30]. School property has been destroyed at several schools that have defied Maoist-inspired bandhs. However, not all schools close for all bandhs: it depends on who has called the strike and how secure the local school authorities feel. For example, Maoists sometimes insist that government schools in Maoist areas remain open (Udayapur, Panchthar) during non-Maoist bandhs. In district headquarters where schools feel more secure, both private sector and government sector schools will sometimes defy Maoists bandhs.

On occasion, disruptions have focused on particular events such as examination days or the start of the school year. Students have been prevented from taking important examinations held on specific days [30]. However, the National Coalition for Children as Zones of Peace (CZOP) successfully persuaded both parties to the armed conflict to allow the 2004 and 2005 SLC examinations to be held without disruption [30].

**Schools**

Attacks on schools are rare. However, their impact can be devastating, as children are traumatized by their experiences or become fearful of what might occur. On a couple of occasions schools have been caught in crossfire during fighting, and students have been killed [30]. See chapter on Protection for more details. Schools have also been requisitioned for use as barracks by both government forces and Maoists, and property belonging to schools has been commandeered. Some districts (Achham, Panchthar) have seen trench-digging campaigns carried out by Maoists, where students and teachers are ordered to dig defensive trenches around school grounds.

In Maoist areas, classes are often disrupted by visiting Maoist cadres. One common reason for Maoist visits is to carry out indoctrination sessions with students and teachers. These sessions are either carried out on school grounds or students and teachers are abducted and forced to walk to a place that the Maoists consider to be more secure from attacks by the military. CWIN reports that during the last 10 years over 27,323 students along with their teachers have been abducted. During the period January to August 2005 alone, over 11,800 students and teachers were abducted [139]. Maoist activities in school include ‘cultural’ programmes where children are forced to perform revolutionary song-and-dance routines, and participation in parades, drills and political indoctrination [30]. In general, secondary schools have been more affected than primary schools [30].

In some Maoist areas, the curriculum is being politicized. Teachers have been pressurized to start ‘janabadi’ education (people-oriented education), and the teaching of Nepali history and culture has been curtailed [37]. Schools have been told to follow a new education calendar that celebrates events related to the ideology and history of the Maoist movement rather than the present government and religious holidays. Schools must also display political banners with revolutionary slogans, wall paintings, and flags [37]. In reply, the government has insisted on an increasingly royalist emphasis to certain teaching. This has made teachers uncertain of which directive to follow, and they are fearful of punishment or retaliation by both parties [37].

The fear of what might happen at school has caused many families in conflict-affected districts to stop sending their children to school or to move them to other schools in safer areas. Enrolment has declined by 20 per cent in one conflict-affected district since the violence escalated during 2003 [37]. The resulting low attendance and general level of fear has meant that in some districts (Dadeldhura, Bajura, Achham) schools have closed down [30].

As lack of security has affected the movement of government officials, many schools are no longer receiving monitoring visits from District Education Office personnel or Resource Persons. In one conflict-affected district, out of 27 open schools, 20 had not been visited for the past three years [37].
However, in this district most schools not visited by government officials were being ‘monitored’ by the Maoists [37].

**Teachers**  
Since 1996, more than 160 schoolteachers from all parts of Nepal have been killed, according to the National Teachers’ Association [30]. This is usually because the politicization of teaching unions has meant that teachers are considered to be important political targets (as informers or collaborators) by both Maoists and government forces. The Maoists have been particularly critical of teachers bringing non-Maoist political agendas into the classroom. As a result of intimidation, the Department of Education estimates that over 3000 teachers have left rural districts, as they flee to district headquarters in search of security [30].

Maoists have also forced teachers throughout the country to make ‘donations’. Media reports suggest that the rate for ‘donations’ is approximately 10 per cent of a teacher’s salary. However, this rate can vary at the discretion of the local Maoist leaders. For example, a media story in June 2004 reported that teachers in Jumla were forced by Maoists to donate their entire monthly salary to the Maoist party and wear military dress [30].

**Examinations**  
The conflict has also caused a significant fall in the number of students taking examinations. For example, one conflict-affected district saw the proportion of enrolled students taking their final examinations fall from 72 per cent in 2002/03 to 53 per cent in 2004/05 [37]. The reason for this decline is mainly related to the lack of security available at examination centres. It is often not possible to ensure the safety of small examination centres in remote areas, so examinations have been moved to district headquarters by the Department of Education. However, students are afraid to travel long distances to these centralized places and, therefore, fail to take their examinations. This appears to particularly affect girls [37].

**Private schools**  
As mentioned above, the Maoists have targeted the private sector and have forced the closure of hundreds of fee-paying schools in many districts. In early 2005, the Global IDP Project estimated that over 700 private schools, primarily in Gorkha, Baglung, Syangja, Tanahun, Dang and Surkhet, had been closed [30]. PABSON estimates that if all private primary and secondary schools were to close, as demanded by the Maoists, about 1.5 million children would be affected.

When private schools close down, students either drop out or move to government or other private schools. Overcrowding has become a serious problem for government schools in some conflict-affected districts (Saptari, Sunsari, Udayapur) [30]. These schools are often under-resourced in the first place, and the influx of large number of displaced students has stretched meagre conditions to the limit [30]. These problems have been compounded by the Maoists insistence that schools cannot charge fees. It is common practice for government schools to collect contributions (fees) from parents to pay for additional teachers and materials or to improve school facilities. In some cases, the lack of these resources has threatened the closure of schools (e.g., in Kailali District) [30].

**ANALYSIS OF PRIMARY EDUCATION**

The main problems associated with primary education in Nepal are: not every child is in school; children are ill prepared for learning; schools do not always provide an environment that is conducive to learning; and the education delivered is of poor quality. In order for Nepal to achieve the Millennium Development Goal of universal primary education it is necessary to analyse what causes children to stay away from school and why so many who enrol in primary school fail to complete a full cycle.

**Why are children out of school?**

**Poverty**
Poverty means that some families cannot meet the direct costs of sending their children to school. Although primary tuition is free, parents often have to provide stationery, food for a snack, and school uniforms. The cost of
these basic requirements is beyond the means of some families [152]. The National Living Standards Survey 2003/04 found that the poorest quintile of households spent about NRs 400 per child on education each year compared to NRs 8700 for the richest quintile [44]. Even where reimbursement programmes exist, families have to purchase their items before reimbursement can be processed; this can be difficult for cash-poor families (with several children) [153]. The reimbursement process is also bureaucratic and lengthy—some communities have had to wait for two years to receive reimbursement for textbooks. In a small study in Banke District, over half of the 253 families reported that it took longer than four months to be reimbursed [154]. In addition, some families do not send their children to school, as they cannot afford the opportunity costs in terms of lost income or labour.

Girls from poor families are most disadvantaged. When resources are limited and a choice has to be made between sending a son or a daughter to school, a son will usually be given priority [155]. Poor families often use different strategies to educate their sons and daughters. Girls are sent to non-formal education classes such as the Out-of-School Programme instead of formal school, as it is cheaper (and less time consuming) [153]. In another common scenario, girls are sent to public school while their brothers are sent to private school. A survey in Parsa District in 2003 found that 30 per cent of boys enrolled in school were in private schools compared to only 24 per cent of girls [156].

Traditional division of labour also disadvantages girls, as they are more likely to have to work in the home while other family members go out to work [153]. This is particularly true in poorer families, where the duration of schooling is markedly shorter than in richer families: mean years of schooling for the poorest quintile is 5.1 years compared to 9.2 years, nearly double, for the richest quintile [44]. The opportunity costs of educating a girl can be higher than those of educating a boy. In addition, the heavy burden of household chores leaves little or no time for girls to attend school [155]. This is a particular problem for the eldest daughter of a family, who is usually ‘responsible’ for looking after her preschool-aged siblings [153].

**Value of education**

For many families, the value of education is not recognized. It is seen as irrelevant to rural life and livelihoods. This is particularly true for families that expect their children to enter work that can be accomplished with little by way of literacy skills such as farming or labouring [157]. Parents are afraid that children who acquire an education will no longer want to be farmers or artisans and, consequently, will no longer be willing to help their families on the land or in the workshop [157]. In addition, they fear an erosion of their traditional values [157].

Moreover, it is often difficult for people to see a direct connection between the educational level of a household and its greater economic security, better health, and overall social progress [158]. Sometimes the visible unemployment and underemployment of local educated youths discourages families from acquiring an education for their own children [159]. Families feel that there are few job prospects for their children, even if they acquire an education [157].

The value of educating girls is a particular issue for many families, especially in the terai. Parents question the use of educating a daughter who will one day be given away in marriage to another family—‘why water your neighbour’s tree?’ [160]. Some feel that ‘women’s work’—household chores—does not require an education [160] or that women who do have an education feel that it is ‘beneath their dignity’ to carry out such work [159]. Some families will only enrol their daughter in school while they receive an incentive or direct benefit such as cooking oil; once the incentive is discontinued, girls can sometimes be removed from school [159].

This general lack of awareness of the value of education is not helped by the high number of families with no tradition of literacy [152] and the low involvement—up to now—of communities and parents in educational planning and school development [160; 161].
Spatial distribution of schools
In Nepal, the spatial distribution of schools is determined by political/administrative boundaries rather than the size of the school-going population or its distance from school [158]. This means that for some children, school is either too full or too far away from home. A major constraint to universal education in Nepal is the lack of school places. In densely populated areas, such as the terai, there are too few schools, resulting in a severe shortage of places. For example, in Kapilvastu District in the terai, there are 21 VDCs that have only one primary school. Given the population density in this area, this coverage is far from adequate.

Although the Ministry of Education and Sports states that most primary schools are within a 30-minute walk for the majority of children in Nepal, in practice, many children have a much longer journey [162]. This is particularly true in the hill and mountain areas, where large, sparsely-populated VDCs mean that the educational facilities are often far from scattered settlements [152; 155]. The National Living Standards Survey 2003/04 found that 36 per cent of children from the mountains and 33 per cent of children from the rural hills lived more than 20 minutes from the nearest primary school. This contrasts sharply with 94 per cent of children in urban areas living less than 20 minutes from the nearest primary school. The poor condition of roads and trails can mean that the route to school becomes impassable in the monsoon [152]. In particular, long distances to school can be a serious disincentive to girls who often face cultural restrictions on their mobility [158].

Why do children fail to complete their primary education?

Preparation for school
Many children entering school at the age of five years are poorly prepared for the experience [163]. They find school to be a frightening place that is not child-friendly. Few have had the chance to engage with adults outside their families, and they tend to be extremely shy. If they cannot speak Nepali, they may be unable to understand or communicate with their teachers. They are not familiar with numbers or letters, and have no experience of sitting through a long day. They find the curriculum and teaching style challenging. In many cases, parents have never been to school and are unable to prepare their children in any way. These problems are often more intense and create greater hurdles to educational attainment for girls, Dalits, ethnic minorities and the disabled [163].

Physical facilities
Many schools have sub-optimal infrastructure and facilities that discourage children from wanting to stay. Classrooms can be poorly equipped, with no seating, no desks, a non-functional blackboard, a lack of adequate lighting, and a roof that leaks when it rains [153; 157]. Many schools do not have space for a playground, especially in urban areas, or do not have stimulating playground equipment [160]. Few schools have a laboratory or a library [160].

Schools and classrooms are often not child-friendly spaces, particularly for girls and children from disadvantaged groups. They do not address a child’s right and need for privacy and a safe environment. The lack of toilet facilities is a particular concern for many girls, especially as girls grow older and start menstruating [160]. Girls would rather not come to school when there are no separate facilities,
as they cannot use the open space around schools for urinating and do not like to share joint facilities with boys [160]. The lack of adequate water supplies results in unsanitary conditions around toilets, and makes it impossible for children to stay clean during the school day. It is also common for schools to lack a fence around the compound; this can be a security concern for some children, especially girls and youngsters [160].

**Teaching methodology and teaching materials**

Teaching methods are not child-centred, and instruction is not stimulating [158]. The teaching–learning process is driven by the examination system. Parents often complain that the curriculum imparts knowledge that is irrelevant to the everyday lives of their children, and cite lack of learning as a major reason given by their children for dropping out.

There is a chronic shortage of child-oriented teaching materials, and teachers who have been trained in such methodologies [157]. Classroom materials supplied by the government for teaching and learning such as textbooks and teachers’ guides are insufficient and often late [153]. In 2004, only one-third of students received textbooks within one week of school opening [12]. Another study found that 14 per cent of students in two districts had not received textbooks after one month [154].

For girls, the heavy homework burden can act as a disincentive, as they often have to do household chores when they return home and have no time to study [160].

**Lack of trained teachers**

There are currently over 70,550 teachers working at primary level [12]. Almost all primary school teachers meet the government-prescribed minimum qualification of an SLC; however, only 38 per cent are fully trained [12]. The government’s recommended student-to-teacher ratio is 40 for the mountains, 45 for the hills, and 50 for the terai. The national ratio for 2004 was 39.7 to one, but this masks wide variations across districts, with the Kathmandu Valley having a student-to-teacher ratio of 24 to one [12].

In many schools with five grades, there are only three teachers. This lack of teachers means that grades are often combined. However, most teachers do not have appropriate training or support to handle multiple grades [161]. This results in poor teaching methods, with lessons becoming lectures and children learning by rote [157]. Although the government has a system for in-service teacher training, teachers complain that they do not have sufficient input into selecting which training they need, and that the training they receive is often of limited use in the classroom because of other constraints such as lack of space or materials.

Teachers say they receive little appreciation or support from the district education authorities or the community; and are often expected to work in stressful classroom environments, made more difficult by the conflict. They are underpaid and often paid irregularly. Even when teachers are dedicated, the lack of consistent academic support and backstopping they experience can soon dampen their enthusiasm. The supervision and monitoring of teachers both within the school and through the Resource Centres is weak, with little time for meaningful management and technical support [152; 155; 164]. These factors result in de-motivated teachers whose time on task is not always up to the mark [164].

**Overcrowded classrooms**

Some schools do not have enough classrooms or classroom space, which
creates overcrowding, with up to 120 pupils in one class [153]. Moreover, where programmes to increase enrolment have been successful, the increased number of students has put a severe strain on already inadequate infrastructure [161]. Another problem for formal school is the number of overage and underage children in Grade 1. When older children attend school, they often take their younger siblings to school with them and leave them in Grade 1 for ‘care’. This swells the population of already overcrowded classrooms, and makes the teaching–learning environment for appropriately-aged children particularly difficult. In many districts, the gross intake rate is around 120 per cent.

**Lack of female teachers**

The lack of female teachers causes a particular difficulty for girls, especially in the terai. In communities where social norms demand that girls are subservient to men, it is not easy for female students to interact constructively with male teachers. In addition, there are certain sensitive subjects that cannot be taught by male teachers to female students. The government policy on female teachers was revised in 2004 to ensure at least two (increased from one) female teachers in each primary school. Nevertheless, statistics show that more than 10,000 primary schools do not have a single female teacher [12]. At present, about 24 per cent of primary school teachers are female [12]. Of these, 38 per cent are fully trained [12]. The actual distribution of female teachers shows a heavy concentration in and around urban centres, with an average of four female teachers in primary schools in Kathmandu and other district headquarters.

Some parents have concerns for the safety of their daughters in male-dominated environments with no adult females to provide supervision [158]. Although the demand for female teachers is strong, the existing system of teacher management does not encourage women to work in rural areas [160]. Many girls drop out because they do not feel comfortable with the lack of adult females at school; they need someone to offer a layer of protection and with whom they can communicate easily. Parents also say that they find it easier to speak to women teachers. In schools that employ female teachers, enrolment rates for girls are reported to increase [158;159;160].

**Early marriage and cultural practices**

Early marriage for girls usually brings an end to schooling, as household responsibilities take precedence. This is particularly common in disadvantaged communities [155]. Even if schooling is continued after marriage, early child-bearing compels these girls to leave school before completing a full cycle of education [159]. As well as the conflicting practicalities of being a wife and attending school, many people believe that a wife should be less educated than her husband, so parents are afraid to educate a daughter too much, as it might restrict the number of suitors available to her [159]. In addition, in some communities the more educated a girl the greater the dowry her family is expected to pay to her husband’s family [155;159]. Girls can also be prevented by cultural taboos from continuing with their schooling once they have started to menstruate [152;159].

**Discriminatory attitudes**

Within the classroom, some teachers’ attitudes can be unsympathetic or even discriminatory [157]. Teachers are not always trained to promote the participation of children, by encouraging them to speak out and express their views and take initiative on issues that concern them. Corporal punishment and verbal abuse are commonplace [155]. Teachers are not trained to be gender sensitive and often favour boys over girls [160]. Caste discrimination, and particularly the stigma attached to being ‘untouchable’, can make it difficult for the children of certain castes to attend school [152;157]. It creates an inferiority complex in these children, and diminishes their confidence in their ability to study. Sometimes children are directly discriminated against by teachers and other students. In some communities, Dalit children at school are compelled to eat their lunch in a separate place to non-Dalit children; this is humiliating and causes children to drop out [159]. Few teachers are Dalits or from other disadvantaged groups [153]. The poor relationship between teachers and students is often cited by children as a major reason
dropping out of school, particularly by girls and disadvantaged children [158].

Another group that is often ignored are those with some form of disability. It is estimated that some 10 per cent of primary-aged schoolchildren may have a physical or mental disability. Most of these children are out of school [158].

**Language of instruction**
The language of instruction is a major problem for many children. Although Nepali is the most-widely spoken language in the country, for about half the population it is not the mother tongue. For many children, school might be the first and only place that they hear Nepali, and they simply cannot understand what is being taught. Moreover, teachers who do not speak the local languages find it difficult to communicate at any level with these students. This is a major reason for children dropping out early in Grade 1, and is a particular problem for children from disadvantaged communities [152]. The Ministry of Education and Sports reports that there are now primers in 12 languages, but there is yet to be any large-scale piloting of what is becoming a system priority. Where teachers who speak the local language have been employed, they too have a problem using and understanding the Nepali textbooks [152].

**RESPONSE TO EDUCATIONAL NEEDS**

**Education for All National Plan of Action**
In response to problems encountered in the education system, Nepal has formulated an Education for All National Plan of Action 2001–2015. Following consultation with education stakeholders at national, regional, district and sub-district levels, an Education for All Programme 2005–09 has been developed. It incorporates the six policy goals of the Dakar Framework for Action and aims to meet the following main objectives.

- Ensure access and equity in primary schools: The core commitment of the programme is that every child will receive a quality basic education, regardless of disability, religion, economic status, ethnic, religious and linguistic background. The goal is to raise net enrolment to 96 per cent by 2015.
- Enhance quality and relevance of primary education: The focus is on developing national minimum standards for a quality and relevant education. This will be achieved by expanding early childhood development, training teachers, improving learning environments and teaching materials, and facilitating the development of locally relevant curricula.
- Improve system efficiency and institutional capacity of schools and institutions at all levels: The Ministry of Education and Sports plans to implement a Human Resource Development Plan to help teachers and education personnel develop their competencies; encourage the participation of civil society at all levels of planning; and improve education management with a focus on transparency, accountability and equity.

International development partners such as Denmark, Finland, Norway, the United Kingdom and the World Bank provide support of approximately US$ 155 million dollars under the Joint Financing Agreement Framework. Other partners such as JICA and the ADB as well as multilateral agencies such as UNESCO, UNICEF, WFP, UNFPA and UNDP support the Education for All Programme under different support modalities. In addition, INGOs such as the Save the Children Alliance and Plan International support the programme at both national and district levels.

**Budget**
The education sector has, over the years, enjoyed a priority in budget allocation. The share in government expenditure has increased from about nine per cent in the 1980s to about 15 per cent in 2003/04. The basic education component, within the education sector, has been between 55 per cent and 65 per cent since the early 1990s [68;164;165].

**Decentralizing school management**
A major strategy of the Education for All Programme is to decentralize management of
primary schools. This has been legislated for under the Education Act and its regulations. One critical element is the institution of School Block Grants to allow resources to be allocated directly to schools. This is a major shift in the way education resources are managed and in line with the push to move resources to schools and communities. The School Grants Operation Guidelines 2004 provide a framework for channelling resources to schools in the form of block and conditional grants based on tangible, transparent and equitable criteria. The government has proposed three types of block grant: basic grants, as well as Level 1 and Level 2 grants that will be tied to a school accreditation process. Basic grants, estimated at NRs 150 per student per year, will be transferred to all schools during the first year of programme implementation for non-salary recurrent expenditures (i.e., learning materials, library books, cleaning supplies, and basic maintenance). During this period, schools are required to conduct a self-assessment, with a simple instrument, that includes agreed-upon criteria for each level of accreditation. Following self-assessment, which is reviewed by a School Evaluation Committee at district and sub-district levels, schools will be categorized as Level 1 or Level 2. This is done to develop a baseline with respect to the allocation of performance grants, which reward achievement and increased performance on a number of criteria.

At the heart of this process is the School Management Committee, empowered to receive, direct and monitor the funds allocated to each school. The School Management Committee of each school is drawn from the local community and must include women and representatives of local disadvantaged groups. The committee devises a School Improvement Plan (SIP) that outlines how resources will be used and how the school will be managed. It may receive inputs from students, teachers and other interested parties (see box). In order to strengthen local management of schools, the Ministry of Education and Sports supports the capacity development of head teachers, members of School Management Committees and personnel from the District Education Office.

By June 2005, some 2015 schools had been handed over to community management and handover was planned for an additional 2000 schools in 2005/06 [67].

Resource Centres and Resource Persons
One element of sustaining quality education is the timely, systematic provision of education support to teachers in school. This task is undertaken by over 1300 Resource Centres, covering 15–35 schools per area. In keeping with the spirit of decentralization and user management, each Resource Centre is run by a Resource Centre Management Committee, comprising the head teachers of all the schools within its area. The committee recommends the appointment of a Resource Person, who is accountable to the Resource Centre Management Committee for quality, to the head teacher of each school for administration, and to school inspectors for programming. The Resource Person is expected to provide teacher support to all schools in his/her area, and is also mandated to attend the School Management Committee meetings of each school in his/her area at least twice a year.

Teachers
A few years ago, the more than seven teachers unions, each affiliated to a political party,

Children’s participation in school management

Student participation in school governance is not required in Nepal. Nevertheless, field reports suggest that students are, in some cases, participating in the School Management Committees, or finding ways to express their views. This is mostly done through school-based child clubs supported by NGOs.

In Sunsari District, a child club was formed in a school in Kapitangunj VDC to promote greater participation of children in the running of the school as well as extracurricular activities. Following discussions, the children approached the school management with a proposal to ban the use of all tobacco products in school premises and, in what is for Nepal an innovative move, requested that this should apply equally to teachers and parents on school premises. After consideration, the school management agreed to this request.

Source: [167]
combined to form the National Teachers’ Association, speaking for all teachers. The Association and the Ministry of Education and Sports are currently exploring the issues of system reform and teacher management. While there are several contentious matters to be negotiated, it has begun the process of securing the full support of teachers to the Education for All policy initiatives.

Scholarships
In an effort to increase enrolment and retention of girls and children from disadvantaged groups, scholarship or incentive programmes have been implemented in a number of districts [152]. The provision of scholarships (or other incentives) is believed to boost the educational participation of girls and poor children by mitigating the economic barriers that their families face. In general, these programmes have been successful but to a limited extent [161]. A number of common problems have emerged that mean not all who could benefit do so [158]. The size of a scholarship is small, at NRs 350 a year for Dalit and girls scholarships, and may not have much impact on the economic situation of a family, particularly where opportunity costs are long term and ongoing. The quotas for scholarships are often district wide, so the number of scholarships going to each school is small. This means that schools in particularly disadvantaged areas have far more eligible candidates than available scholarships. The criteria and procedures for identifying candidates are weak, with selection often being at the discretion of individuals within the local community. One study found that a quarter of the Dalit children surveyed in two districts did not receive the scholarship, and some Dalit parents believed that they were not eligible [154]. This lack of transparency has caused many complaints [152]. These programmes are often implemented through the District Education Office, and coordination with local government bodies and schools is poor, resulting in duplication of government and NGO programmes. Corruption, lack of transparency and monitoring means misuse of scholarship money; some children receive more than one scholarship. Finally, although one aim is to increase enrolment of out-of-school children, these programmes are usually administered through schools and target children already receiving an education; outside school, potential beneficiaries are often not aware of the programme [158]. All these factors have limited the effectiveness of scholarship programmes in bringing out-of-school children into the classroom.

ALTERNATIVE LEARNING

The Government of Nepal promotes alternative learning opportunities for children aged 6–14 years who have never entered formal education or have failed to complete primary school. In addition, there are literacy programmes for adults, especially women. These alternative learning programmes are handled by the Non-Formal Education Centre, a specialized unit within the Ministry of Education and Sports that was established in 1999 to lead and coordinate non-formal education in Nepal. Non-formal education has been allocated 1–2 per cent of the education budget since the early 1990s.

Alternative learning programmes for children are based on the idea that formal and non-formal education should share the same content but have different methods of delivery. This is important, as it links alternative programmes to formal ones and makes mainstreaming easier. Moreover, it creates a dynamic linkage between formal and non-formal education that can be exploited at the community level to raise awareness of the value of schooling. In particular, it ties in with the new concept of an Education Promoter—a paid volunteer in the community who plays an active role in addressing local school attendance and ensuring that out-of-school children are integrated into the education system as early as possible.

There are three packages for children: the Out-of-School Programme, Flexible Schooling, and the School Outreach Programme. In addition, there is the Adult Literacy Programme. A complete picture of the scale of these programmes is hard to derive, as statistics are poor.
Out-of-School Programme
The Out-of-School Programme (OSP) aims to provide basic literacy and numeracy skills for children aged 10–14 years with an emphasis on learning the Nepali language. Although it has a separate curriculum and textbooks, a deliberate effort has been made to match the curriculum to that of formal primary education so that it can be used as an entry point into the formal system. It is funded and/or managed by a number of agencies including UNICEF and INGOs. However, implementing agencies are either the government or local NGOs. The Out-of-School Programme is known as Bal Shikccha in Nepali.

In 2004, the government implemented the Out-of-School Programme for about 28,000 children in 55 districts [168]. However, programmes implemented by local NGOs are not recorded; if they were included, the number of students would increase substantially. For example, in 2004 local NGOs implemented the programme for 29,000 children for UNICEF alone [169].

There are two levels of the Out-of-School Programme—OSP I and OSP II [170]. Each level takes nine months to complete, and classes run for two hours each day at a time that is convenient (either morning or evening) for about 20–25 participants. Classes are led by a facilitator who has received a nine-day training and a three-day refresher course. Completion of OSP I leads to the equivalent of a Grade 3 education and completion of OSP II leads to the equivalent of Grade 5.

About 75 per cent of children complete OSP I. Of these, just over half go on to OSP II. Nearly 20 per cent join a formal school only, and the remaining quarter do not carry on with their education [170]. Of the children joining OSP II, about 40 per cent are also attending formal school; most of these children view OSP II as extra tutoring [171]. About one in 10 participants of OSP II are school dropouts [171]. Although the programme is targeted at children aged 10–14 years, there are in practice many younger children in the classes. Studies have shown that children as young as five years sometimes attend, and that many children are aged 7–9 years [170]. There are also a few overage children; mostly girls [170].

Although out-of-school children generally appreciate the opportunity to acquire some education, they often say that they would prefer to be in formal school, as they would receive an official certificate of completion as a ‘reward’ for each grade level they pass [170].

Learning opportunities for graduates of the Out-of-School Programme are also an issue that is not adequately addressed. The lack of opportunities to use the knowledge and skills acquired can result in their loss. The lack of reading materials for neo-literates, particularly for young people in rural areas, is a concern. In some urban areas, children have organized a child club after completing the Out-of-School Programme. This phenomenon has emerged out of the children’s desire to continue the social interaction and group learning of the programme; working children have found this especially valuable.

Flexible Schooling and the School Outreach Programme
Flexible Schooling is intended for children aged 8–10 years. It has a condensed curriculum of Grades 1–5 and completion takes three years. It was designed for urban working children, although it has not been widely used. The School Outreach Programme is for children aged 6–8 years, with a school-based curriculum delivered in a non-formal way. Both these initiatives are new. Consequently, there is little information currently available about their uptake and impact.
**Adult learning**

Since the 1970s, the Ministry of Education and Sports has provided basic literacy and numeracy classes for illiterate adults through the Adult Education package. The programme focuses on reading, writing and numeracy for adults aged 15–45 years. The idea is to develop functional skills and build self-confidence. There is a special focus on women in adult literacy initiatives in Nepal. In addition to the Adult Literacy Programme and the Women's Literacy Programme, Community Learning Centres are an innovation within the Education for All Programme. They aim to increase literacy; increase community access to functional and useful knowledge; and establish a link between development activities and education. These community-based centres, of which there are now some 40, have the potential to become real resources for communities.

**EARLY CHILDHOOD DEVELOPMENT**

To develop and grow to their full potential, young children need plenty of love and care. Care is needed for protection and for health, nutrition, sanitation and hygiene. Care is also needed for a child's psychosocial development—emotional, cognitive, sensory-motor, linguistic and social. For these aspects of development to progress well, a child needs to feel secure and loved. There is also a need for different kinds of stimulation, response and attention, such as talking and singing, and playing with shapes and colours. As seen in Figure 14, it is also important that all of these developmental aspects of care start early in life. Since most children in Nepal spend their first year almost exclusively in their home or with their parents, the care provided at home during these early years is key to good child development. Unfortunately, little has been documented about this care given. However, considering the inadequate care provided for nutrition and health, it can be assumed that care for childhood development is also inadequate and needs to be improved.

The care of young children is generally considered to be the mother’s responsibility in Nepal, often helped by her older children. A father’s involvement is very limited. One study found that less than four per cent of men felt that it was part of their role to assist their wife with the care of young children [172]. Awareness about the importance of early child development and the need for affection and stimulation is low. There seems to be a false understanding that child development happens on its own. Thus, when the parents work outside the home, young children are often left to themselves for extended periods of time.

Unfortunately, there are few opportunities for caretakers to learn good parenting skills. Parents seldom come across professionals such as psychologists, pedagogues or social workers, and the healthcare workers they occasionally meet have limited knowledge of child development. Teachers, healthcare practitioners and other service providers largely fail to give adequate attention to early childhood stimulation, interpersonal communication, problem-solving, decision-making or self-development. Little attention is also given to the need to stimulate the child's creativity, responsibility, emotional development or social skills.

**Home-based care**

Although it can be assumed that there is considerable need to improve the care that young children receive in the home, little has been done to accomplish this. One of the few activities implemented with the implicit objective of improving the care of young children in the home is the Home-based Child Development Programme developed by Seto...
Gurans and CERID. The aim of this programme is to assist parents and guardians to support children’s holistic development through home-based activities. It focuses on making caretakers aware of their role and responsibilities, and encourages them to use the household environment and routine activities as opportunities for children to learn. Children are encouraged to become involved in household activities and interact with parents, guardians and family members while these family members are engaged in their daily household activities. A trained local facilitator forms groups among parents and organizes interaction sessions once every two weeks. The facilitator also makes home visits and provides necessary support to parents and guardians. Support for this programme is provided by the Save the Children Alliance and UNICEF.

Efforts have also been made by UNICEF’s Decentralized Action for Children and Women (DACAW) programme to increase parents’ awareness of children’s need for stimulation and interaction. This is done by introducing the issues that surround early childhood development to parents at community group meetings. Trained facilitators and community mobilizers then facilitate discussion on how the care provided can be improved. Efforts are also being made to incorporate the basic components of Seto Gurans’ home-based child development programme into the structures of DACAW.

**Parenting orientation**

Although broad in scope, one of the key objectives of parenting orientation is to increase caretakers’ awareness of young children’s developmental needs. Parenting orientation is a non-formal education activity for mothers, fathers, grandparents, elder siblings, and others who take care of young children. The course explores a wide range of topics, with the objective of ensuring a nurturing and caring environment for young children (see box). The materials—posters and picture books—and activities are mostly discussion-based, reflecting the fact that the majority of participants, particularly women, are illiterate. Each course is conducted by a trained facilitator, and runs for three months, two hours a day, six days a week, at hours and places convenient for and selected by the participants. There are usually about 25 participants in each class.

Generally, local NGOs conduct the classes. They provide a 10-day training for local facilitators, and assist communities to establish and run classes. Seto Gurans National Child Development Services (an NGO) helps to ensure the quality of parenting classes by conducting monitoring, supervision and counselling, and by assisting in the training of facilitators. The Save the Children Alliance and UNICEF are key financial supporters for parenting orientation.

**Child development centres**

Another approach to early childhood development is the establishment of special centres where young children can spend part of their time. There are many advantages to these organized centres: they offer holistic child development activities facilitated by specially trained staff; they give children an opportunity to interact with other children of the same age group; they provide mothers with greater freedom to pursue activities besides childcare; and they relieve older siblings of the burden of looking after younger siblings and, thereby, give them the opportunity to attend school.
There are several different kinds of child centres in Nepal. For the youngest children, there are day-care centres, run either by NGOs or the private sector. Although little is known about the number of such centres and the participating children, it is assumed that they are few and primarily urban based.

For children aged three and four years, there are child development centres mainly run either by the government or NGOs. A few are also run by the private sector. At present, relatively few children benefit from these centres. For 2004, the Ministry of Education and Sports reports a total of 7023 government-supported centres throughout the country, reaching some 512,000 children [12]. Although this would correspond to coverage of about 20 per cent of 3–4 year olds, the figure seems high, as it would mean an average of 73 children per centre. According to the same report, there are an additional 1346 centres supported by I/NGOs and other agencies. The Ministry of Education and Sports further reports that the Kathmandu Valley, with five percent of three and four year olds, has 23 per cent of the facilities [12]. There is little disparity by caste and slightly greater disparity by gender [12]. Gross enrolment is lowest in the mountains and highest in the Kathmandu Valley [12]. Access in urban areas is far greater than in rural areas [12]. Currently, about 11 per cent of children enrolled in Grade 1 have experience of these centres [12].

There are two types of centre: those located in schools and those within the community. The school-based centres are most often managed by the government, whereas community-based centres are managed by a local management committee supported by an NGO. Although both types are guided by a common objective of child development, the school-based centres have tended to be more of a downward extension of primary school. Community-based centres are aimed at more holistic child development, intending to create an enjoyable learning environment that fosters physical, mental, social and emotional development of children. With the new curricula recently developed by the Department of Education, it is expected that school-based centres will become more development oriented, and that the difference between the two kinds will be reduced.

Most community-based centres are open between three and five hours a day, six days a week, and accept up to 25 children. The programmes are run by trained local facilitators, selected by a management committee. These facilitators are paid a small salary by the committee, equivalent to about a quarter of a primary schoolteacher’s salary, and most have participated in a short initial training course and short refresher courses [163]. The local management committee is trained and supported by a local NGO, receiving support from organizations such as Seto Gurans, Plan Nepal, World Vision, the Save the Children Alliance, and UNICEF.

**Benefits of early childhood development centres**

Children’s gains, both cognitive and social, have been dramatic enough to attract attention not only from family members but from other community members. Parents, teachers and others see children who have attended child development centres as neat and clean, respectful and obedient but, at the same time, as self-assured, animated, outgoing and highly motivated [163]. Such children are described as avid learners, intellectually curious, and quick to pick up new skills and information. They are also felt to have more highly developed social skills. These characteristics are in sharp contrast to those displayed by children who have not attended a child development centre.

A study conducted by Save the Children found that although parents initially questioned this approach to child development as insufficiently serious or academic, they had come to see the value of play, stories and songs as joyful avenues to learning. Parents said they have become more interested and involved in their children’s lives, less likely to use physical punishment, and more convinced of the value of learning through play and supportive interaction [163]. They were also committed supporters of their local child development centres, and were closely involved in their management and maintenance.

Children who have attended child development centres are more likely to go to school and
perform better than children who have not. They are described by both parents and teachers as being well prepared and enthusiastic about starting school. Their familiarity with letters and numbers (and in the case of minority group children, with the Nepali language), their ease with adults, their propensity for learning, the fact that they are accustomed to regular attendance, all help to smooth the transition to school [163]. Their readiness for school is such that 11 per cent of those who had been to child development centres skip Grade 1 and go directly into Grade 2 [163].

These advantages translate into better school success and retention. Children from child development centres pass their examinations in Grades 1 and 2 at markedly higher rates than other children (32 per cent and 38 per cent higher, respectively) (Figure 15) [163]. In 1999, the repetition rate at Grade 1 for children from child development centres was only 5.5 per cent; nationally, it was 36.5 per cent. The differences are even greater for Grade 2. In addition, Dalits who have attended child development centres perform much better than their Dalit peers who have not.

**Issues**

Although the benefits of access to child development centres are visible and noteworthy in Nepal, there are a number of issues with the programme that need to be resolved [173]. There is an inadequate number of qualified facilitators, and few institutions are involved in training facilitators. The conditions of service and the remuneration for facilitators are considered to be poor; this makes it difficult to attract and retain high-quality personnel. There are also limited funds for preparing local educational materials.

One of the key problems for community-based centres is sustainability. Even if centres are successfully established, the need for local communities to generate ongoing funds means that it is challenging to achieve self-sustainability and financial independence, particularly for disadvantaged and marginalized communities. This is exacerbated by ineffective monitoring systems that fail to identify centres with problems at an early stage.

**Policy**

In the last few years, the Department of Education has taken several steps to strengthen the Early Childhood Development Programme. An Early Childhood Development Council was formed in 2005, with representation from the main actors in early childhood development. It will act as a technical committee advising on policy and implementation. A new early childhood development policy has been developed. The Tenth Five-Year Plan (2002-07) sees early childhood care as a priority, and intends to increase coverage of child development centres to 32 per cent of the population by 2007 and 80 per cent (through 74,000 centres) by 2015.

In 2005, the Department of Education released a guideline for the Early Childhood Development Programme, covering all phases from planning to execution. The Department of Education has disseminated the guideline broadly in an effort to unify the procedures of different early childhood development implementers.

Various NGOs, especially the Save the Children Alliance, Plan International, Seto Gurans National Child Development Services and UNICEF play key roles in early childhood development in Nepal, in cooperation with various ministries, local government bodies, and community groups or local NGOs.
The Convention on the Rights of the Child ensures that children have the right to protection from disease. A mainstay of this protection must be the provision of clean water and a healthy environment. It is also essential to ensure that children and their families have access to information about adequate hygiene practices that can reduce the incidence of disease, and the resources to put their knowledge about good hygiene into practice.

**CHILD HEALTH, SANITATION AND WATER**

There is a close link between environmental sanitation, hygiene and water supply. It is essential to consider these three elements as part of a whole that together ensure a healthy environment. Indeed, studies have shown that interventions that combine all three elements are comparatively more effective at improving the health status of beneficiaries than most single-focus interventions [174]. Nevertheless, improvements in any one of these three areas will result in several important benefits for the lives of children and their families [175]. The impacts are most noticeable for Nepalese children in terms of improved health and nutrition, and greater human development. In addition, such improvements can generate economic benefits that positively affect families, and environmental benefits that lead to safer living conditions. This chapter will focus primarily on the health benefits. Other secondary benefits will be mentioned, where appropriate.

**Diseases caused by lack of sanitation, personal hygiene, and water supply**

Across the world, it is estimated that poor environmental quality is directly responsible for 25 per cent of all preventable ill health and seven per cent of all deaths, with two-thirds of this illness occurring among children [176]. The WHO estimates that 90 per cent of diarrhoeal problems result from an ‘unhealthy’ environment [176].

In Nepal, as in other parts of the world, diarrhoeal disease and acute respiratory infection cause a great number of deaths in children aged under five years. Although mortality figures for Nepal are not disaggregated by cause, it is estimated that each of these conditions account for about 18 per cent of deaths in this age group [177]. Using recent WHO calculations, it is possible to estimate that about 13,000 children aged under five years die each year in Nepal from
diarrhoeal disease, and another 13,000 die from acute respiratory infection. Diarrhoea is spread by infectious agents (bacteria, viruses, parasites) that survive in the faeces of infected individuals. Acute respiratory infection is spread by infectious agents (bacteria, viruses) that occur in the sputum (spittle) of infected individuals. Both of these conditions are aggravated by poor environmental sanitation, inadequate personal hygiene, and lack of access to a quality water supply [177].

Another common condition affecting children and adults in Nepal is worms (hookworms, roundworms, and whipworms). A baseline evaluation for the national biannual deworming programme showed that about 40 per cent of children aged under five years were infected with worms; this is approximately 1.3 million children [10]. Moreover, school-aged children usually have higher worm burdens than younger children. Studies since 1996 have indicated that school children may have prevalence rates of up to 43 per cent for roundworms, up to 65 per cent for hookworms, and up to 19 per cent for whipworms [178;179]. In addition, the health of pregnant women can be seriously affected by worms (especially the hookworm that can cause anaemia). A small study in 1998 found that 79 per cent of pregnant women were infected with hookworms, and 56 per cent also had roundworms [180]. Worms are passed between people following contamination of the environment with human faeces containing fertilized worm eggs or worm larvae. Inadequate sanitation, poor hygiene and high population density coupled with warmth and humidity—conditions that prevail in large parts of Nepal—are all important factors influencing the transmission and survival of the eggs of roundworms and whipworms, and the larvae of hookworms.

Another common disease in Nepal is the bacterial infection, typhoid. Typhoid is spread by drinking water or eating food contaminated by faeces from an infected individual. The Department of Health Services reported over 215,000 cases in 2003/04 [40].

Vector-borne diseases, such as malaria and Japanese encephalitis, also cause widespread morbidity and many deaths in Nepal. These conditions are spread by mosquitoes. Poor environmental sanitation encourages the multiplication of mosquitoes and leads to a higher incidence of these diseases.

Trachoma, an eye infection that causes blindness if left untreated, is prevalent in Nepal, and can be prevented with proper personal hygiene.

Water-washed diseases such as scabies and body lice are also common, particularly in the hills and mountains where bathing is irregular and infrequent. They thrive on poorly-washed bodies, and can lead to serious skin infections, particularly in children.

As well as biological contaminants, in some parts of Nepal naturally-occurring chemical contaminants can cause ill health. In the terai, the contamination of groundwater by arsenic is a particular concern, and can lead to the development of arsenocosis. In addition, with growing industrialization in Nepal, particularly of soap, textile and leather tanning industries, concern is mounting over environmental contamination from the indiscriminate disposal of chemical wastes.

How interventions can effectively reduce disease

The links between sanitation, hygiene and water supply interventions and their health benefits are quite complex to analyse [175]. In simple terms, where interventions are able to break the transmission routes of organisms (or other contaminants) that cause poor health, then reductions in infections (or other conditions) are attainable.

An important and effective intervention is the safe disposal of excreta. Faeces contains agents that cause diarrhoea, worms, and typhoid. The transmission routes for these agents are via fluids (especially water), fields (and other parts of the natural environment), flies, and fingers. From these places, faecal contamination can be transmitted to the human body through food we eat (and the liquids we drink) (Figure 16). Breaks in these transmission routes can prevent the body from becoming infected. Therefore, safe disposal of faeces (through the proper use of toilets) prevents infectious organisms from reaching the environment.
Improved personal hygiene practices, in particular hand washing with soap at critical times, can have a significant impact on reducing the incidence of disease by breaking the transmission routes between fingers and food or other touched ‘items’, including the mouth, eyes and skin. Indeed, it is one of the most effective measures for reducing child mortality, and on its own can generate a fall of over 40 per cent in the incidence of diarrhoea [181]. It has also been found to reduce the incidence of acute respiratory infection [182]. Trachoma and water-washed diseases can also be reduced by regular hand and body washing.

Access to a plentiful water supply helps to improve personal hygiene. This in turn helps to break transmission routes for agents that cause a number of conditions, including diarrhoea, acute respiratory infection, typhoid, trachoma and water-washed diseases, thus reducing ill health. However, it is important that the water source, the transmission pipes, and the point of water collection (tap stand) are well-designed and properly maintained so that water remains free of microbiological contamination and can be considered ‘clean’. Microbiological contamination of water is common in Nepal, and obviously has a negative impact on the health of water consumers.

As well as the provision of water that is clean, measures to ensure that drinking water supplies are safe from chemical contaminants, such as arsenic, help to ensure that there are no long-term, adverse effects on health.

In 1996, a meta-study of the benefits to health of water supply, sanitation and hygiene interventions showed that toilets and hand washing had the greatest impact on reducing morbidity from diarrhoea and worm infestations, and on increasing child growth [183]. Improvements in water quantity and water quality had noticeable but lesser impacts. A more recent meta-study found the same thing-toilets and hand washing each reduced diarrhoea in a number of studies by an average of about 35 per cent, water quantity reduced diarrhoea by an average of 20 per cent, and water quality by an average of 15 per cent [174]. This review also indicated that a combination of all interventions (sanitation, hygiene and water supply) reduced the incidence of diarrhoeal illness by about 30 per cent.

The control of indoor air pollution (smoke from cooking fires) is considered to be effective at reducing acute respiratory infection.

Other interventions that help to reduce ill health include improved drainage of household wastewater (and rainwater) that reduces the incidence of vector-borne diseases; regulated disposal of industrial effluents to control the release of chemical contaminants into the environment; the controlled disposal of solid waste both at the household and community levels to control flies and contamination of water sources; the treatment of household water to reduce the levels of contaminants in drinking water; and proper food storage to prevent contamination via flies.

As this introduction shows, the quality of the physical environment is closely linked to the health of a young child [176]. Indeed, growing children are the most vulnerable of all people to the impacts of a poor environment—their physical characteristics, their childhood activities, and their natural curiosity all put them at greater risk from environmental hazards than older people. In fact, child health
depends at least as much on the control of environmental causes of disease as on clinical responses to it [176].

Cost-benefits
Investment by governments and communities in drinking water and sanitation can yield high dividends, as increased use of improved water and sanitation has many health benefits. In addition, the time saved may translate into higher productivity and greater school attendance, as well as less tangible benefits, such as convenience and wellbeing—all of which can have an economic impact. If these benefits are translated into monetary terms, it is possible to compare the total benefits with the costs of a potential intervention. A recent cost-benefits analysis undertaken by the WHO found that achieving the Millennium Development Goals target for water and sanitation would bring substantial economic gains: every US$1 invested would yield an economic return of between US$3 and US$34, depending on the region. This would include an average reduction in episodes of diarrhoea by 10 per cent worldwide [184].

Disparities
It must be noted that there are several important disparities associated with the provision of sanitation and water supply. The first is that in Nepal, as in many other countries around the world, the rich are more likely than the poor to have improved water and sanitation. The National Living Standards Survey found that the richest quintile are 13 times more likely to have piped water in their homes than the poorest quintile (39 per cent vs. three per cent), and are nearly eight times more likely to have improved sanitation (79 per cent vs. 10 per cent) [44]. Moreover, the gaps are widening. Although no studies have been done to identify the reasons for this, it can be reasonably assumed that the richest quintile are usually the best educated and the most able to afford the materials necessary for adequate sanitation and a private water supply. In addition, the richer percentiles usually live in the urban areas where more resources (and political influence) for water supply development are available.

Another disparity that must be considered when examining sanitation and water supply is that of gender. It is difficult to exaggerate the impact that access to private, safe and sanitary toilets would have on the daily lives and long-term prospects of women and girls. The lack of basic sanitation facilities means that women and girls have to defecate in the open in places that may be unsafe and undignified. In Nepal, girls often do not go to school because there is no private place to relieve themselves, or deal with personal hygiene during their menstrual cycle. Although all who lack adequate sanitation facilities are exposed to unpleasant and unhealthy daily routines, the impact on women and girls is greatest. They often suffer the discomfort and medical complications of not being able to relieve themselves conveniently and safely. In their household roles, they may more readily transmit disease-causing pathogens from exposed faeces to other family members. Furthermore, the burdens of water-hauling fall disproportionately on women and girls, often preventing a more productive use of their time, such as attending school [184]. It should also be noted that much of the burden of looking after sick children falls on women and girls [185].

In Nepal, a third disparity that is particularly significant is that of caste. There is a widespread belief, especially prevalent in the terai, that it is ritually polluting for high-caste groups to receive water from Dalits; this belief extends to the places from where water is collected. Many villages have separate water-collection points for different caste groups. This disparity can become a sensitive issue when community collaboration is dominated by high-caste groups, as is frequently the case [186]. It should also be noted that many of the frontline
workers—sweepers, plumbers, septic tank cleaners—in the sanitation and water supply sector are considered low-caste [186;187].

Institutional arrangements for the water and sanitation sector
The Ministry of Physical Planning and Works is designated the lead ministry for water supply and sanitation. It is responsible for formulating sectoral policy and plans, and institutional mechanisms to monitor progress made in the water and sanitation sector, in close collaboration with stakeholders at both national and local levels.

The Department of Water Supply and Sewerage ensures provision of technical skills and support to the rural water and sanitation sector. It is does this by working jointly with the Ministry of Local Development. The Department of Water Supply and Sewerage, through its Water Supply and Sanitation Divisional Offices, provides technical inputs and services to communities with populations greater than 1000. The Ministry of Local Development, through its District Technical Offices, provides technical inputs and services to communities with populations smaller than 1000.

More recently under the decentralization policy, district line agencies are being consolidated under the DDC as a trial in 14 districts, and Water Supply and Sanitation Divisional Offices will probably be merged with other technical line agencies into a unit under the DDC. While this will resolve the long-standing misunderstanding of delegation of responsibility for water supply at the district level, it will not address the policy issue that is compelling government technical agencies in water and sanitation to restructure their organization to assume the function of a ‘facilitator’ rather than the traditional role as ‘implementer’.

DDCs are responsible for formulating and managing district-level plans that incorporate water supply and sanitation.

Water and Sanitation Users Committees ensure that communities are able to participate in all stages of the water supply and sanitation project cycle (pre-development, development, implementation and post-implementation phases).

NGOs assist Water and Sanitation Users Committees in the formulation and implementation of projects and the management of funds relating to such programmes. In addition, NGOs also research improved interventions and contribute to the process of policy formulation.

To help coordinate and implement water and sanitation programmes, the Ministry of Physical Planning and Works had formed the National Sanitation Steering Committee and the National Arsenic Steering Committee. These two committees are instrumental in promoting sanitation awareness and arsenic investigation in the country.

The current policy also envisages the establishment of a Water and Sanitation Users Federation for independently monitoring and auditing rural water and sanitation. A national body has been recently formed, comprising Water and Sanitation Users Committees from 15 districts. It is anticipated that membership of this federation will expand in the future.

The Tenth Five-Year Plan stipulates that more responsibility for implementation of water and sanitation projects be handed over to communities, NGOs and the private sector. Since the early 1990s, the World Bank has supported a programme that channels funds through an autonomous ‘Fund Board’, created in 1996, that in turn channels funds to communities through ‘Support Organizations’, usually NGOs or private technical service companies. While this arrangement has proven effective in delivering services to communities, for the most part, it has ignored the government’s role in the sector and has not been particularly effective in reaching the most remote and deprived communities.

The second project (2004–09), recently approved, has been designed to ensure social inclusion, and has strengthened sanitation and hygiene components and income generation for women.

More recently, the Asian Development Bank undertook an exercise to prepare the fifth in a series of rural water supply and sanitation projects to support the sector. While the intention was to facilitate sector reform by
involving all stakeholders and attempting to develop a Sector-Wide Approach (SWAp) strategy, for the most part, agencies involved in the exercise have neither initiated significant changes in their operational modalities nor come much closer to a sector-wide approach than before. DFID has been a strong advocate of the Sector-Wide Approach and is working with stakeholders in moving closer to this approach. While the need for sector reform and a Sector-Wide Approach is recognized, its effective establishment will continue to be a challenge over the coming years.

ENVIRONMENTAL SANITATION

As explained above, it is essential to break the transmission routes of disease-causing pathogens within the environment to reduce the incidence of diseases that threaten the lives of so many under-fives in Nepal. A major component of this is to ensure the safe disposal of solid and liquid waste, and of surface water. This will reduce the sources of contamination and minimize hazards to human health as well as damage to the environment.

Disposal of excreta

The unsafe disposal of excreta, that in its most extreme form manifests itself as ‘open defecation’, can cause the contamination of water sources with faeces and the disease-causing pathogens it contains, the proliferation of flies, and the spreading of worms. Open defecation is common in Nepal, often making areas around habitations quite unsanitary. Although people make a certain effort to defecate away from their houses and water sources, inevitably when the monsoon rains come there is serious contamination of the whole area, as the run-off disperses disease-causing pathogens wherever it travels, and pathogens picked up by flies are deposited on unprotected food. Indeed, there is an acknowledged increase in diarrhoea with the onset of the monsoon (Figure 17).

Toilet coverage

Over the years, much effort has been put into expanding the coverage of toilets in Nepal. Indeed, the country has made rapid progress during the last 15 years. The WHO recently estimated that toilet coverage has risen from 12 per cent in 1990 to 27 per cent in 2002—an increase of 125 per cent [184]. Although this puts Nepal high up the ranking of countries showing most improvement in the world, it must be noted that the baseline was one of the lowest recorded, and the current level of coverage is still the lowest within the group of most improved countries [184].

In 2001, the BCHIMES estimated that national coverage for a toilet of any type was 33 per cent, with 29 per cent of households having a toilet that is considered safe (Table 7) [9]. Urban coverage at 75 per cent is far greater than rural coverage at 27 per cent [9]. Although figures from different sources tend to vary, they generally indicate that about a quarter of rural households have access to a toilet compared to about three-quarters of urban households.

The BCHIMES also found that the main reason for not having a toilet was the household could not afford to construct one (51 per cent) [9]. It is more expensive to build a latrine in the terai than to install a tubewell. Thus, poverty can militate against latrines [188]. Nearly 17 per cent attributed the ‘lack of a habit’ as the main reason for not having a toilet—old habits of open defecation are not easy to change [9]. Another reason people give for not installing toilets is lack of space; this is common in poor urban households. For this reason, in some urban/peri-urban areas the only solution is to install community
facilities. Trials have been carried out in Kathmandu in providing support for community-owned and maintained toilet and bathing facilities. However, in saying this, it should be noted that poor disposal practices in urban areas can (and do) cause serious environmental pollution problems that promote the spread of disease.

As well as a disparity in rural–urban coverage, there is also a disparity in regional coverage [9]. Although there is a greater variation across the country, the terai tends to have lower coverage than the hills and the mountains, and the Mid-Western and Far Western Development Regions tend to have the lowest coverage of all regions.

Although urban coverage is much greater than rural coverage, there are pockets of extremely poor coverage in peri-urban slum areas, particularly in Kathmandu. At present, surveys estimate that only about a third of slum or squatter households have access to a toilet of any type, and approximately half of these are judged to be sanitary [189]. Current estimates put the population of these communities at about 15,000 people [189]. However, there is concern that displacement of people from rural areas as a consequence of the conflict will substantially add to the size of these communities, and that lack of toilet coverage will become a serious health hazard and an environmental danger.

### Types of toilet and associated disposal system

Toilets can be categorized into several types. BCHIMES data shows that eight per cent of households have flush toilets, 14 per cent have closed pits, 41 per cent have pan toilets connected to drainage, 26 per cent have pan toilets not connected to drainage, and 11 per cent have other types [9]. More important than the type of toilets are the methods for disposal of the wastes. Typically in the rural and peri-urban areas excreta from toilets are disposed of directly into the ground either from a simple pit latrine or into leach pits from pour-flush toilets. These disposal systems, if properly installed and maintained, ensure pathogens cannot be transmitted to humans. However, the effect that these disposal systems have on the environment is not known.

<table>
<thead>
<tr>
<th>Residence</th>
<th>Toilet of any type</th>
<th>Safe toilet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>74.7</td>
<td>72.5</td>
</tr>
<tr>
<td>Rural</td>
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<td>23.1</td>
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</table>

<table>
<thead>
<tr>
<th>Ecological zone</th>
<th>Toilet of any type</th>
<th>Safe toilet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mountain</td>
<td>40.5</td>
<td>37.0</td>
</tr>
<tr>
<td>Hill</td>
<td>38.7</td>
<td>36.2</td>
</tr>
<tr>
<td>Terai</td>
<td>25.9</td>
<td>20.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sub-region</th>
<th>Toilet of any type</th>
<th>Safe toilet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern, Central and Western mountain</td>
<td>57.4</td>
<td>55.9</td>
</tr>
<tr>
<td>Mid-Western and Far Western mountain</td>
<td>16.3</td>
<td>9.9</td>
</tr>
<tr>
<td>Eastern hill</td>
<td>36.0</td>
<td>31.5</td>
</tr>
<tr>
<td>Central hill (excluding Kathmandu Valley)</td>
<td>27.5</td>
<td>21.9</td>
</tr>
<tr>
<td>Kathmandu Valley</td>
<td>85.8</td>
<td>83.3</td>
</tr>
<tr>
<td>Western hill</td>
<td>44.9</td>
<td>44.9</td>
</tr>
<tr>
<td>Mid-Western hill</td>
<td>16.8</td>
<td>15.7</td>
</tr>
<tr>
<td>Far Western hill</td>
<td>10.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Eastern terai</td>
<td>38.1</td>
<td>28.7</td>
</tr>
<tr>
<td>Central terai</td>
<td>14.3</td>
<td>12.8</td>
</tr>
<tr>
<td>Western terai</td>
<td>32.6</td>
<td>30.8</td>
</tr>
<tr>
<td>Mid-western terai</td>
<td>17.4</td>
<td>12.7</td>
</tr>
<tr>
<td>Far Western terai</td>
<td>24.0</td>
<td>14.7</td>
</tr>
</tbody>
</table>

**Source:** [9]

**TABLE 7: Percentage of households with toilet facilities**

Disposal systems in urban areas consist of either septic tanks connected to soak pits and, in Kathmandu Valley municipalities, of sewerage. Septic tanks are currently the safest disposal system, although cleaning is generally expensive and can be difficult in congested areas. In addition, disposal of the untreated sludge into rivers or the sewerage system that drains directly into water courses is a serious environmental hazard.

As noted above, Nepal does not have an extensive sewerage system, with only 12 per cent of households, mainly in the Kathmandu Valley, connected to underground drains [44]. Most sewerage is discharged into local rivers without treatment and the underground drainpipes frequently clog, sending raw sewage into the streets.

### Toilets in public places

In Nepal, toilets tend to be ‘privately’ owned; that is, ‘owned’ or ‘maintained’ by the people who use them. The provision of toilets in so-called ‘public’ places, such as government
Toilet coverage in schools is far from universal. A UNICEF analysis of 2002 EMIS data shows that 41 per cent of all public and community schools (including secondary schools) reported that they have a toilet. Of schools reporting that a toilet exists, only two-thirds report that it is ‘sufficient’ or ‘adequate’. This indicates that just over a quarter (28 per cent) of all schools have adequate toilets. In addition, only 26 per cent of schools report that they have a separate toilet for girls. If it is assumed that two-thirds of these are adequate, then only 17 per cent of schools have adequate toilet facilities for girls. Schools include all early childhood development/pre-primary centres, primary and secondary schools as well as all community, public and private schools.

The provision of toilet facilities in schools is important, as these facilities are essential for the convenience of children and teachers, particularly girls and female teachers, and help to protect health. In addition, they provide a useful opportunity for training children in good sanitary and hygiene practices. However, toilet construction by schools needs to be accompanied by a life-skills-based hygiene education programme, either as part of the regular curriculum or as an extra-curricular activity. Otherwise, toilets are not used properly or kept adequately clean. Their poor condition is then used as a justification for not constructing anymore toilets or for keeping the facilities locked and off limits to children.

Although there is gap in accurate data on toilet coverage in health facilities, anecdotal information suggests that most health posts and sub health posts do not have any toilet facilities, and that toilets at larger government health institutions are often inadequate and dirty. Health facilities need toilets for use by patients, visitors and staff, particularly females. An opportunity for teaching patients about the importance of toilets is lost, if facilities do not exist or existing facilities are not well maintained.

Disposal of babies’ faeces
In Nepal, there is a common perception that babies’ faeces is less dangerous than adult faeces [190]. Often no special effort is made to dispose of it safely. However, disposal of babies faeces close to households encourages flies, and promotes the spread of disease. The BCHIMES found that of households with a child under five years, about 32 per cent simply threw their child’s faeces into their yard, 19 per cent threw it indiscriminately outside their compound, 28 per cent threw it into their garbage pit or pile, and 19 per cent threw it into a toilet [9].

Use of toilets
An important component of analysis of toilet coverage is actual use. It is widely acknowledged that not all toilets are used consistently. It should be noted that in surveys examining the usage of toilets, respondents tend to overestimate their use. In most surveys, between 95 per cent and 99 per cent of respondents say that they use a toilet, if they have one [190]. However, as between a quarter and a third of toilets observed in surveys are considered to be ‘unclean’, it must be assumed that use is not consistent [9;190]. When toilets are clean they are used much more frequently than when they have been allowed to become dirty.

Causes of unsafe disposal of excreta
Although an increasing number of households have access to a toilet, the demand for one is far from universal and the condition of existing toilets is not always optimal. These two factors are important for understanding why so many people do not use a toilet.

Lack of awareness about the link between disease and sanitation is often suspected as a prime reason for households not having toilets. However, a survey of 17 districts for UNICEF in 2001 found that over 98 per cent of respondents recognized that there was a close connection between excreta and disease [190]. Of those who did not know of the link, two-thirds were women. Indeed, many respondents were able to identify diseases and conditions that were caused by human excreta. Over 90 per cent named diarrhoea, dysentery or cholera, 40 per cent named other ‘abdominal complications’, and
about 25 per cent named vomiting [190]. About 18 per cent of people thought that fever was caused by it (possibly a link with typhoid).

However, few people are aware of the link between worms and excreta [191]. The UNICEF study found that only about 20 per cent of respondents could connect the two [190]. Most people think that the cause of worms is related to eating habits rather than excreta in the environment [191]. Only a few were aware of worm transmission through bare feet.

When asked about the most common transmission routes for disease, most people (90 per cent) knew that flies carry disease [190]. However, only 28 per cent thought that dirty hands transmitted disease, and less than nine per cent suggested that water could also carry disease.

With widespread general knowledge about the link between human excreta and disease, one would expect toilets to be everywhere and considered a high priority. However, there seems to be a disconnect between knowledge and practice. Many people simply do not connect the use of a toilet with the prevention of disease.

Only 52 per cent of respondents suggested that building toilets would keep people ‘safe from disease’ [190]. Although connected to sanitation, the most often cited reason for building a toilet was to keep the environment ‘clean and odour-free’. About 30 per cent of people felt that toilets were only for the convenience of ‘children, the sick, the elderly and pregnant women’, and nearly 20 per cent thought that toilets should only be built to maintain privacy while relieving oneself [190]. This belief that toilets are considered necessary for privacy rather than hygiene was found in other studies too [187].

Members of households that do not have a toilet are most likely to use a forest (33 per cent) or field (31 per cent) for defecation [9]. In the terai, people often use riversides rather than forests [192].

When asked why they defecate in the open, people say that they have the habit of relieving themselves outside and do not feel comfortable inside a toilet [191]. They also say that there is no bad smell when defecating in the open air. People who have a toilet but do not use it consistently cite the bad smell and lack of water as reasons for not using it [190]. Indeed, the BCHIMES found that 31 per cent of toilets were considered to be ‘unclean’ [9]. In addition, cultural taboos in some communities restrict males from using the same toilet as their daughters-in-law.

In conclusion, the causes of unsafe disposal of excreta within communities are most closely connected to an unwillingness or inability to turn knowledge into practice, and a lack of the resources required for construction and maintenance of sanitary toilets.

**Drainage of wastewater**

Another aspect of sanitation that needs to be considered is the drainage of wastewater. Pools of stagnant water can be a health hazard that aid the transmission of disease-causing pathogens. They can act as a reservoir for mosquitoes that spread such diseases as malaria and Japanese encephalitis [176]. In addition, water that is not drained away from water collection points and household tap-stands as well as rainwater run-off can easily become contaminated with pathogens that abound in the environment (as a result of open defecation). This polluted water can seep into the ground and contaminate water sources and associated water supply infrastructures.

Industrial effluents can cause ill health, if they are allowed to contaminate water supplies.

**Household wastewater**

A survey for UNICEF in 2002 found that 96 per cent of respondents agreed that ‘stagnant water around the house was not a good thing’ [190]. However, when household management of wastewater was examined, some 30 per cent of households simply allowed it to flow indiscriminately from the house or external washing area. About 37 per cent regulated the flow of wastewater into ditches or pits, and 33 per cent collected it in a container for disposal elsewhere (drain, ditch, pit or roadside).

Nepal’s rural settlements and the majority of urban areas do not have systematic
wastewater drainage networks. Most domestic wastewater and rainwater run-off is simply discharged into local waterways without treatment [193].

In urban areas (basically the towns of the Kathmandu Valley), wastewater and stormwater drainage systems are combined with the sewerage system. Generally the water, together with the sewage is not treated before its release into local rivers [194]. Although the rivers of the Kathmandu Valley have abundant natural flows during the monsoon that effectively dilute untreated wastewater, these flows decrease drastically during the dry season and can result in rivers becoming ‘open sewers’. Major wastewater management infrastructure in the Kathmandu Valley consists of wastewater treatment plants, pump stations, collector mains and interceptors. However, four out of five treatment plants were not operating in 2005 [76].

**Industrial wastewater**

Although industrial effluent is not currently a major concern in Nepal, there are pockets of concentrated industrial activity that produce a growing amount of polluted water, particularly in Kathmandu, Biratnagar and Birgunj. Children have rapidly developing nervous, reproductive, immune and respiratory systems that are particularly sensitive to poisons ‘pumped’ into water, soil and air [176]. In addition, environmental pollution exposure by pregnant women can have an effect on foetus [176].

In 1992, over 40 per cent of Nepal’s total industrial units were potentially a source of water pollution [193]. The main industries responsible for generating polluted wastewater are textile and carpet factories [195]. This polluted water is discharged without regulation into the environment and quickly contaminates local water bodies and soil [193]. Existing industries do not currently have discharge limits [195].

**Solid waste management**

Within rural communities in Nepal, the main types of solid waste produced are household garbage and animal dung. The indiscriminate dumping of domestic garbage creates a breeding place for flies, and allows contamination of groundwater and soil by seepage. The poor management of animal dung also encourages flies and can lead to pollution of water sources.

In urban areas, the accumulation of household garbage can create extremely unsanitary dumping sites. In addition, solid waste from industries and hospitals can cause problems.

Households are the main sources of solid waste in Nepal. The per capita waste generation is estimated to be 0.48 kg per day. Of total waste generation in the country, domestic waste made up about 83 per cent, agricultural waste constituted 11 per cent, and industrial waste accounted for six per cent [193]. In 1999, about three million urban residents in Nepal’s 58 municipalities generated a total of 426,486 tonnes of waste, to which the city of Kathmandu alone contributed 29 per cent [193]. However, it has been estimated that much is not collected, with perhaps 65 per cent going into regulated landfill sites [175].

Ideally, rural households should dispose of their garbage in specially built pits that drain away from water sources. However, most households dispose of their garbage on an open dung heap (42 per cent). Some households use a garbage pit (18 per cent), and some pile garbage in a corner of the yard (17 per cent). The rest (23 per cent) throw their garbage indiscriminately outside their compound [9].

In urban areas, there is often systematic collection of household garbage, with over 28 per cent of households covered by municipal schemes and an unknown but growing number covered by private schemes [9]. In addition, 24 per cent of households have a garbage pit and 21 per cent use a dung heap or garbage pile.

Although there are municipal schemes to collect garbage from households, rapid urbanization puts growing pressure on urban solid waste management services and on dumping sites [193]. Urban solid waste management problems are caused by the introduction of plastic materials [193]. While Nepal’s solid waste composition is mostly
organic, it is estimated that 15–30 per cent is plastic [195]. Dumping sites are a particular problem, with substantial water and air pollution emanating from inadequate sites [175].

Hospital waste is a potentially serious threat to health. Risks tend to be microbiological in nature rather than chemical. Only one hospital in each of Kathmandu and Biratnagar uses an incinerator [195]. There is generally little control of hospital waste, with nearly all of it being dumped in municipal waste. It is estimated that hospitals across the country generate 500 tonnes of hazardous waste per year [195]. Other types of hazardous waste are battery wastes, pesticides, and a few types of industrial waste. Most of these wastes are either dumped with the rest of the garbage or burnt in ordinary kilns.

In 1980, solid waste management was first introduced to Nepal with the formation of the Solid Waste Management and Resource Mobilization Centre. Landfill sites were established for Kathmandu. However, with the increasing difficulty of obtaining access to adequate landfill sites, the reduction of solid waste through local recycling and composting (of organic wastes) seems to be critical.

Response to sanitation needs
Policy and legislation
In general, past policies in Nepal have given low priority to sanitation compared to water supply. Indeed, current policies still tend to reflect to a certain degree the notion that government is responsible for providing sanitary services rather than acting as a facilitator, by developing policies that support the promotion of sanitation by civil society organizations and local-level institutions. However, in an effort to ensure that sanitation is more effectively promoted across the country, the government’s current policy is to support (and even insist on) the integrated development of sanitation services with water supply schemes. This also ensures that health benefits are optimized, as neither sanitation nor water supply alone can have the desired impacts on a community’s health status [175]. In addition, some support is provided for independent sanitation activities, and for activities aimed at sanitation motivation and hygiene education. However, some would argue that the country’s sanitation needs would be more effectively served by focusing efforts on changing sanitation and hygiene behaviour rather than simply building toilets.

Indeed, a coalition of partners has agreed to work together on a ‘total sanitation’ strategy that promotes no open defecation, using schools and child clubs as entry points for hygiene education. This approach has shown promise in other South Asian countries, and trial projects have been started in a number of communities in Nepal.

To date, there is no specific legislation with regard to sanitation [196]. Sanitation is addressed together with drinking water as an essential component of clean water supply. Legislation that pertains to sanitation includes the Water Resources Act (1992), Water Resources Regulations (1993), Solid Waste Act (1987), Solid Waste Regulations (1989), Water Aquatic Animals Protection Act (1965), and Local Self-Governance Act (1999) [193]. However, most legislation is enforced only weakly.

Targets and budget
While there is some indication that Nepal will be able to achieve the Millennium Development Goal target of halving the proportion of its urban and rural populations without access to improved sanitation between 1990 and 2015 (Figure 18), it must be stressed that current rates of promotion will...

**FIGURE 18:**

<table>
<thead>
<tr>
<th>Rural sanitation coverage 1990–2015</th>
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<tr>
<td>Percentage</td>
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Source: [1; 44; 47; 64; 184]
have to be accelerated [197]. Toilet coverage achieved during the Ninth Five-Year Plan (1996–2001) was 21 per cent for the rural population and 53 per cent for the urban population [47]. The Tenth Five-Year Plan (2002–07) aims to expand coverage to 43 per cent of the rural population and 83 per cent of the urban population [47]. If these targets can be achieved, then Nepal is on course to meet the Millennium Development Goal for sanitation. Best progress will be made by encouraging innovative pilots alongside larger government-led water and sanitation programmes [197].

Although there is a need to intensify efforts to expand promotion of sanitation, the budget available for these activities is limited. As sanitation is generally a component of water supply schemes, it is difficult to assess the actual budget allocated to it. However, as indication, the Eighth Five-Year Plan (1992–97) allocated 12.5 per cent of the water and sanitation budget to sanitation, and the Ninth Five-Year Plan (1997–2001) allocated only 6.7 per cent [198].

**HYGIENE**

The second important element of ensuring that disease transmission routes are broken is hygiene. Hygiene is essentially about people’s behaviour, and can be divided into personal hygiene, household hygiene, and food and water hygiene.

**Personal hygiene**

Personal hygiene focuses on keeping the body, and particularly the hands, clean so that people do not act as a transmitter of disease. It is mainly a case of developing hygienic behaviour, but it also requires access to the materials (water, soap, towels, etc.) necessary for ensuring adequate cleansing.

A recent meta-study has shown that the most effective intervention for reducing diarrhoea is hand washing with soap at critical times (after defecation, before handling food, and before feeding children) [174]. Indeed, there is widespread awareness in Nepal that hand washing prevents the transmission of disease. A survey for the Hand Washing with Soap Initiative in 2003 found that 75 per cent of people acknowledged that hand washing with soap ‘freed the hands of germs’ and 41 per cent said it can ‘prevent diarrhoea’ [192]. Over 33 per cent said it was ‘good for health’ and 26 per cent said it ‘prevented disease’.

No one mentioned the link between hand washing with soap and reduction in the incidence of acute respiratory infection.

It is important to emphasize that washing hands with soap is the most effective method of cleaning hands and thus breaking the transmission route for disease-causing pathogens. Washing with water alone or with other cleansing materials is simply not effective enough.

A recent survey looked at the hand washing practices of mothers and adolescents [192]. While the great majority of both mothers and adolescents claimed to wash their hands after defecation, it was found that only 80–83 per cent of them used soap (Table 8). A smaller proportion of hand-washers (55–56 per cent)...

<table>
<thead>
<tr>
<th>TABLE 8: Percentages of mothers/caretakers and adolescents washing hands and using soap</th>
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<tr>
<td>After defecation</td>
</tr>
<tr>
<td>Total washing hands</td>
</tr>
<tr>
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</tr>
<tr>
<td>Mothers/ caretakers</td>
</tr>
<tr>
<td>Adolescents</td>
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</table>

*Source: [192]*
used soap after changing a baby’s nappy. Only 29–38 per cent of hand-washers used soap before handling food, and only 26–30 per cent used with soap before eating or feeding children [192].

Many people who do not use soap use other materials, such as ash or soil, as a cleanser [191]. However, it is most common for people to wash their hands with water alone, if they do not use soap [192]. People who do not use soap regularly say it is not necessary (64 per cent), it is not readily available (25 per cent) or they cannot afford it (23 per cent) [192].

As well as keeping their hands clean, people can reduce their exposure to health problems, particularly skin infections, by regularly cleaning their body and clothes. A survey in 2002 found that although 90 per cent of people acknowledged that taking a bath regularly was essential for good personal hygiene, in practice only 67 per cent of people did so [190]. In addition, 95 per cent of people said that washing clothes was important but only 82 per cent of people were wearing reasonably clean clothes. As with hands, not all people who claim to wash their body and clothes do so with soap. About two-thirds of people use soap to clean their body, with 29 per cent using plain water and the remainder using a local cleanser (ash, soil, herbs, etc.) [191].

It is important to note that, as well as appropriate behaviour, personal hygiene is also enhanced by an adequate supply of washing materials, particularly water. Although almost all households had access to water, soap and towel for hand washing, findings on the gap between knowledge and practice suggest that people do not always use them and that hand washing techniques are often not adequate [190]. Some people report that water is not available close to toilets, making it difficult to clean hands satisfactorily after defecation [192]. In addition, about 35 per cent of people report that they do not use soap on occasion, as it is not nearby [192].

In an attempt to raise awareness of the need to wash hands with soap at critical times and to close the gap between knowledge and practice, many water and sanitation projects now have a component on hygiene education. For instance, the Nepal Hand Washing Initiative was launched nationwide with an intensive focus in four districts in October 2003. The primary objectives of the initiative are to generate increased awareness on the importance of hand washing with soap and its benefits, and to gradually shift the pattern of hand washing with soap among the target audience to optimal and correct hand washing practices. In addition, the National Sanitation Action Week, an annual event since 2000, aims to act on improving hygiene and sanitation as a critical component to child survival, growth and development. The promotion of hand washing with soap is an integral component of the week.

However, it is often the case that hygiene and sanitation education is targeted at women, with access to men limited or not available [185]. Men also need to understand the importance of good sanitary practices,
because while they show similar behaviour to women with regard to personal hygiene (including hand washing), they are more likely to defecate in the open and are less likely to be concerned with keeping the surroundings of the household clean [190].

**Household hygiene**

As well as ensuring that excreta is disposed of safely and that the body is kept clean, another way to ensure that the transmission routes of disease are broken is to keep the environment around homes free of potential pollutants, especially of materials that attract flies. In addition, the reduction of smoke in the kitchen can help to reduce the incidence of acute respiratory infection in family members and, particularly, young children.

**Household surroundings**

For most people, the most obvious characteristic of a ‘clean house’ was a well-swept yard (94 per cent) [190;191]. Others suggested that a toilet (42 per cent) or a biogas plant (98 per cent) indicated that the household took care of the surroundings to their house [190;191]. In addition, well-plastered walls and floors (82 per cent), disposal of animal excreta far from the house (24 per cent), separate cattle sheds (30 per cent), and control of wastewater (17 per cent) were also mentioned [190;191]. However, this knowledge was not always put into practice.

When conditions around people’s houses were observed, the greatest gaps between knowledge and practice were found in separate cattle sheds (gap of 25 per cent), disposal of animal excreta far from the house (gap of 15 per cent), and well-swept houses and yards (gap of 13 per cent) [190].

**Indoor air pollution**

The World Health Report 2002 indicates that indoor air pollution may cause nearly as many deaths worldwide as unsafe water [149]. Women and children are most at risk from indoor air pollution, as they spend considerable time close to smoky kitchen fires. Air pollution disproportionately affects children, as they inhale more air per unit of body weight than adults and take in twice as many pollutants [176]. Indeed, children under five years accounted for 56 per cent of total deaths from diseases caused by indoor air pollution [149].

However, surveys in Nepal indicated that this type of pollution is not considered a threat by most families. Less than five per cent of people mentioned this as important [190;191]. Indeed, 55 per cent of people had no provision for ventilation of smoke from their kitchen, and 42 per cent simply let smoke drift through windows and holes in the roof [191]. The remaining three per cent had either smokeless stoves and/or chimneys for ventilating kitchen smoke.

Increasing the coverage of improved cook stoves (ICS) in poorer rural households would help to reduce the incidence of acute respiratory infection in young children. These stoves use solid fuel but emit much less smoke, which is funnelled out of the house through a chimney. Initially there were problems in the expansion of the programme. However, the National ICS Programme, currently supported by the DANIDA-funded Energy Sector Assistance Programme (ESAP), is aiming to expand their coverage [199].

An alternative to the use of improved cook stoves in rural areas is biogas stoves. Biogas is an extremely clean fuel that is produced from renewable materials such as dung and other organic waste. It is estimated that since 1992 the Biogas Support Programme has assisted the construction of over 120,000 biogas plants in 65 districts, spread almost equally between the terai and the hills [200]. Less than three per cent are built in the remote hills and high altitudes, as biogas production is less efficient in cold climates. Farmers are mobilized by over 35 local NGOs to engage local private companies to construct biogas reactors that are manufactured in Nepal through 13 workshops. The suppliers of reactors have to find customers and build reactors according to pre-defined standards. The total cost for construction is approximately NRs 21,000. Farmers contribute about 30 per cent of the cost in labour, receive a subsidy of NRs 6000, and cover the rest of the cost with a loan. About 97 per cent of biogas plants are currently operational [200].
The benefits are significant. The health benefits include a reduction of 20 per cent in the incidence of coughs and colds over three years for biogas households [200]. In addition, these households also experienced a reduction in tapeworm infestation, eye infection, burn cases, and diarrhoea cases. Other benefits included an average reduction in workload per household of about 900 hours per year. Biogas households were also more likely to have constructed a private toilet than non-biogas households, with 90 per cent owning one compared to 60 per cent for non-biogas households [200].

**Food and water hygiene**

The hygienic handling and storage of food and water within the household can also help to reduce the incidence of disease as a result of poor sanitation. The primary aim is to prevent contamination of food and water by flies and dirty hands. In addition, water can be treated before use to minimize the transmission of disease.

**Food handling and storage**

Knowledge of how to protect leftover food from contamination is not universal. In one survey that asked respondents to suggest methods to prevent contamination, about 66 per cent mentioned using clean cooking utensils, and 52 per cent said that food storage containers should be covered [190]. About 76 per cent stated that they would put leftovers in a clean container before storage.

The treatment of leftover food was examined by the BCHIMES. Nationally about 62 per cent of people kept leftovers in a covered container, and 16 per cent used an uncovered container [9]. In a more recent survey for UNICEF, of those who keep leftover food for later consumption, only 46 per cent put it into a clean, covered container. There are some differences between practices in urban and rural households. About 78 per cent of urban households cover leftovers compared to 59 per cent of rural households [9].

**Household treatment and storage of water**

It is common for households in Nepal to store water for future use; some 96 per cent of respondents reported storing water in a survey for UNICEF [190]. Therefore, it is important for households to take proper precautions to keep their water safe after it has been collected from a water point. Generally speaking, awareness that disease is caused by unclean water is low, with only nine per cent of respondents suggesting this transmission route [190].

The BCHIMES found that nationally 57 per cent of households covered water containers and 33 per cent did not (others were either unobserved or not storing water) [9]. There was a particularly significant urban–rural disparity, with 82 per cent of urban households covering water vessels compared to 53 per cent of rural households [9].

In terms of water treatment, about six per cent of households boiled water, 4.5 per cent used domestic filters, and less than one per cent
practical approach to teaching hygiene in schools have met with limited success. Only since the late 1990s, following the introduction of a school sanitation and hygiene education initiative using life-skills-based and child-to-child approaches, have improvements in hygiene practice been noticeable.

WATER SUPPLY

Water supply is the third element for ensuring that the transmission routes for disease are broken. Studies have shown that water quantity has a greater impact on disease reduction than water quality [174]. However, water quality in Nepal is a particular issue, with regard to microbiological contamination in all regions and arsenic contamination in the terai.

Access and reliability

Access to a reliable and plentiful water supply improves both environmental sanitation and personal hygiene [202]. It also allows time and energy savings, particularly for women and girls. When water is piped directly into the house or compound, it has a particularly significant impact on reducing diarrhoea, as it encourages better hygiene behaviour and usually increases the quantity of water available to the household for improved sanitation practices [184].

Although the Government of Nepal is in the process of setting standards for assessing used water-purifying tablets [9]. In the Kathmandu Valley, 30 per cent of households boiled their water, and 35 per cent used domestic water filters [9]. A WHO study on the cost-benefits of water and sanitation interventions shows that, in a country like Nepal, disinfecting water at the point-of-use is the most cost-effective option for ensuring ‘safe’ water. Benefits were estimated to be about US$ 2 to US$ 7 for every dollar invested (depending on a range of conditions, and assuming that water and sanitation services were also improved) [201].

In addition, to the treatment of water, the proper cleansing of water collection vessels and the discarding of stale water somewhat reduces the risk of consuming contaminated water. Over 99 per cent of people clean their water collection vessels and 95 per cent discard stale water [191]. Yet, in the UNICEF survey only eight per cent of people covered water collection vessels while carrying them from the water source, and 24 per cent of people transferred water from a large collection vessel into a smaller drinking vessel with a small cup without a handle, creating the possibility of contamination [190].

Response to hygiene needs

Hygiene has been a low priority for both the government and donors, although there have been some small-scale, scattered, successful initiatives. The school curriculum now includes hygiene, but it is taught at the theoretical level only. Attempts in the past to introduce a more

<table>
<thead>
<tr>
<th>Service level</th>
<th>Quantity (per person per day)</th>
<th>Quality</th>
<th>Accessibility</th>
<th>Reliability (hours per day)</th>
<th>Sustainability (months per year)</th>
</tr>
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<tbody>
<tr>
<td>High</td>
<td>According to WHO standard*</td>
<td>According to WHO standard*</td>
<td>According to WHO standard*</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>Good</td>
<td>According to WHO/national standard*</td>
<td>According to WHO/national standard*</td>
<td>Installed inside the house compound</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>Basic</td>
<td>20–45 litres</td>
<td>Processed, generally not injurious to health</td>
<td>Available up to a distance of 20 minutes</td>
<td>4</td>
<td>12</td>
</tr>
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</table>

Note: *In the absence of a national water quality standard, the WHO standard has been used as a guideline for water quality.
water supply indicators, these have differed from international standards in the past and are only now coming into line with WHO standards (Table 9). This means that the various agencies and organizations collecting data related to water supply have used differing criteria. Therefore, caution is needed when judging and comparing figures for access, reliability and quality [197]. Some agencies have included a time element (e.g. collection of water within 15 minutes), others simply record access to improved technology [203].

**Water supply coverage**

Bearing in mind the difficulty of comparing figures from different sources, it is still possible to conclude that water supply coverage in Nepal has grown substantially over the last decade. The WHO states that rural water supply coverage has increased from about 65 per cent in 1990 to about 85 per cent in 2000—a rise of over 30 per cent [204]. Urban coverage has remained stable at about 95 per cent. However, it is should be noted that demand for water is also increasing rapidly, particularly for drinking water, industrial use, and irrigation [76].

In Nepal, people collect water from a variety of sources: most use improved sources such as piped water, shallow tubewells (hand pumps), dug wells, and protected springs, while others have to use unprotected sources such as open ponds, irrigation canals, streams and so forth. According to the BCHIMES, nearly half (48.3 per cent) of the population was served by piped water; 31.6 per cent was served by tubewells and boreholes, and 16.9 per cent by dug wells and springs [9]. A small proportion of households (3.2 per cent) used other sources of drinking water.

As well as looking at simple coverage data, time taken to fetch water is a good indicator of access. Households with a water point within their dwelling are regarded by the BCHIMES as taking zero minutes to fetch water. However, it should be noted that in urban areas, and particularly in Kathmandu, having water piped into the house does not always indicate that water is immediately available. Many households do not receive a regular supply and still have to collect water from distant points, particularly during the pre-monsoon season. However, according to the BCHIMES, 34 per cent of households (68 per cent for urban and 29 per cent for rural) have a water source within their dwelling [9]. An additional 44 per cent of households spend less than 10 minutes on a trip to fetch water. However, 11 per cent spend between 11 and 29 minutes, and another 11 per cent spend more than 30 minutes. The worst-affected sub-regions are in the hills and mountains of the Mid-Western and Far Western Development Regions, where more than a quarter of all households spend more than 30 minutes on a trip to fetch water.

The BCHIMES questioned people about whether they were able to obtain sufficient water for their needs. About 91 per cent of households reported that they have sufficient drinking water. Households in the terai were most satisfied with the quantity of water they received, while households in Kathmandu Valley were least satisfied, with only 74 per cent of households having sufficient water [9].

Poor peri-urban communities are often considered to be vulnerable to problems associated with water supply. However, a study by the NGO Lumanti found that over 83 per cent of slum households in Kathmandu had access to a free public water supply [189]. Most of this was provided by traditional stone water spouts—managed by urban communities rather than the government. Nevertheless, government water supply services (household connections, public standpipe, and yard tap-stands) were found within slum and squatter settlements, confirming that, despite official policy, services are not necessarily refused due to lack of land title.

As improved water supply often means less time spent on water collection, it is interesting to identify who might be most affected by this. The BCHIMES found that women are most involved in water collection. On average, in 31 per cent of households women made two trips a day, in 28 per cent of households women made three trips a day, and in 27 per cent of households women
made four or more trips a day (Figure 19) [9]. Men also collected water but generally less frequently than women. In nearly 57 per cent of households men made no trips for water. When men collected water, it was usually only once or twice a day [9]. Some children under 15 years also collected water, but not frequently [9].

Many schools lack a water supply. UNICEF analysis of data collected for the government’s Education Management Information System in 2002 indicates that about 35 per cent of all schools (including secondary schools) have an adequate water supply. Lack of water at schools has implications for health, as students and staff members cannot ensure their personal hygiene. It is also an inconvenience, as children have to bring their own drinking water to school.

Although information on water to supply to hospitals and other health facilities is not readily available, anecdotal evidence suggests that health posts and sub health posts rarely have their own water supply.

Quality

Although figures on water supply coverage imply that most households in Nepal have access to an adequate water supply, many households, in fact, do not have access to a water supply that can be considered safe. Table 9 shows the indicators for safe water that the government will be using to measure progress in national development plans over the next 20 years. By these standards, five per cent of the population currently has access to a high-quality water supply, 20 per cent has access to a good-quality water supply, and 75 per cent has access to a basic-quality water supply.

While definitions for safe water sources vary, sources such as piped water from a closed tank and sealed hand-pumps are considered safer than open sources such as ponds or rivers. Although, data for Nepal show that about 80 per cent of the population has access to ‘safe’ water supply sources (piped, tubewell and borehole), it is difficult to say how many of these sources are properly protected [9]. Indeed, many so-called ‘safe’ water sources may become contaminated through the seepage of wastewater around the outlet, and contamination at the source or along the transmission lines. A survey by the Department of Water Supply and Sewerage found that 55 per cent of tubewells in 20 terai districts were microbiologically contaminated [11]. A study carried out for UNICEF in 2001 of a few VDCs in Kavre District showed that the contamination of water collected from springs was high, with between 64 per cent and 86 per cent of water samples being contaminated [205].

Another aspect of quality relates to chemical contamination. In Nepal, there are two main categories of chemical contaminant: naturally-occurring arsenic and man-made industrial pollutants.
Arsenic is a potentially fatal poison that occurs naturally in the groundwater of the terai. Although the issue of arsenic contamination of groundwater only emerged in Nepal during the late 1990s, a few studies have been carried out to assess the extent of the problem. As of June 2005, over 400,000 tubewells have been tested primarily in 10 terai districts. The test results indicated that 2.8 per cent of tubewells contain water with arsenic concentrations above the Nepal Interim Standard of 50 parts per billion (ppb), and 13 per cent above the WHO standard of 10 ppb. The districts of Nawalparasi, Bara, Kapilvastu, Parsa, Siraha, Rautahat and Kanchanpur are the most affected, with more than 1.5 per cent of tubewells having an arsenic concentration of over 50 parts per billion (ppb) (Figure 20). However, it must be borne in mind that these results are provisional at present.

There has been no study of industrial contamination of groundwater in Nepal. Wastewater analysis from industries in the Kathmandu Valley and along the Dharan–Biratnagar corridor indicate that several pollutants are released into the environment. This suggests that water supplies in some localized areas may be contaminated.

**Causes of poor access to a quality water supply**
There are a number of reasons that many households in Nepal suffer from a lack of access to water and unreliability of supply.

**Time for collection**
A significant cause of an inadequate water supply is simply the time that it takes to collect. Where a water trip takes more than 10 minutes, it can add a substantial burden to a household’s workload. This situation affects about 22 per cent of households nationally [9]. Moreover, it is usually already-busy women who are responsible for water collection. Where water supplies are insufficient, then households often make unhealthy compromises with regard to sanitation and hygiene that are likely to lead to increased incidence of water-related disease. Where improved water schemes have been constructed, people, both in the hills and the terai, are pleased to have easier access to more drinking water in less time. The time saved is used for better care of household and children, and for income-generating activities such as kitchen gardening or care of increased numbers of livestock [188].

**Cost of new schemes**
The cost of developing new schemes can sometimes be a deterrent to certain communities. The government subsidizes implementation of basic-service schemes, but stipulates that the community must share the cost, with a contribution in cash and kind of at least 20 per cent of the capital cost of hardware, of which one per cent must be cash [206]. The per capita cost for gravity schemes in the hills is estimated to be about NRs 1800–2000 and for shallow tubewell in the terai to be NRs 410–520 [185].

In addition, strict adherence to governmental norms can disadvantage some communities, particularly those that are poorly scattered or remote. For example, in the terai, the norm of 10 households per water point is considered to be too many [188]. This norm also causes problems for scattered households in the hills [188].

**Rehabilitation of schemes**
Another important constraint to the provision of adequate water supply is the number of schemes in need of repair. It is reported that 10 per cent of existing schemes need rehabilitation, more than 50 per cent need major repairs, and 11 per cent are not functioning at all [206]. In addition, just under 50 per cent of schemes are not functioning to
design capacity [206]. Diminishing discharges from failing schemes mean that existing systems may no longer be able to support their catchment populations.

Drinking water facilities deteriorate with use, time and geological movement. Typical design life for drinking water schemes is 20 years. Hence, approximately five per cent of projects need replacement or rehabilitation every year [188].

Other reasons for failing schemes include poor initial survey and design; poor construction; and improper maintenance. Environmental risks can be avoided with careful planning and design. Potential problems include the possibility of landslides from gravity schemes; drainage problems around artesian wells; pollution of aquifers due to poor-quality well-head construction and the siting of toilets close to well points; ponded wastewater around water points leading to water-related diseases [206].

**Lack of capacity to manage**
Another important reason for the failure of many schemes is the lack of capacity within communities to plan, manage, and operate appropriate schemes.

Although women are usually the main collectors and users of water for the household, they often have little input into the management of water supply systems. Men, in general, assume that water supply is a technical matter and that women are not able to play a meaningful role in its management [207]. Although the policy is for water user committees to be made up of 50 per cent women, in practice, women are usually under-represented. This can lead to water supply schemes that do not take into account women’s concerns and with support systems that discriminate against women. For example, although the aim of many water supply systems is to reduce women’s workloads by shortening the amount of time needed to collect water, the siting of tap stands in public places with no means of privacy, especially from passing men, means that women no longer feel comfortable washing themselves or their clothes beside the water source. Instead they make several extra trips to carry water to their households, using more time and energy [207]. Women have reported that they used to collect water four or five times a day (80 litres per family) but with water closer to their homes they now fetch water 10–15 times a day (200–300 litres of water) [207].

**Discrimination**
Lack of access to water is often linked to a lack of access to decision-making power. This is particularly true for disadvantaged groups and low castes. In the Far Western Development Region, caste-based segregation remains strong, with the Dalits facing problems of access, as high-caste groups believe that using the same water source as Dalits is ritually polluting [186]. Location of new tubewells often benefits high-caste families at the expense of low-caste households [207]. Dalits may also experience problems accessing water supplies in institutional facilities, such as government offices and schools, because of caste discrimination.

Dalits also face discrimination on the basis of cost, as their communities are generally among the poorest. To address this issue at least partially, the government has included a pro-poor component in the 2004 Water Supply and Sanitation Policy that allows for reducing the minimum contribution of poor communities from 20 per cent to 10 per cent, and eliminates the requirement for a one per cent cash contribution. Costly private investment in drinking water, particularly in the terai, may also put Dalits and the poor at a disadvantage [186].

**Seasonal variation and lack of viable source**
In a country such as Nepal, where the availability of water varies greatly with the season, some areas will experience seasonal water stress. In the dry season, some sources do not function 24 hours a day and, in some places, may dry up altogether. Although this is undoubtedly true, there are no figures available for the number of people affected.

Where viable sources of water that can be transmitted through gravity are not available,
rainwater collection has been tried. Rainwater collection schemes have been introduced by FINNIDA in Lumbini zone, benefiting 13,000 people (Arghankanchi, Gulmi, Palpa) [185].

**Urban problems**

Urbanization has exacerbated risks associated with inadequate water supply, especially for the poor [176]. Existing water supply systems in municipal areas or emerging towns outside the Kathmandu Valley cannot meet current demands, as they were installed without anticipation of rapid urban growth and are designed for water distribution via public standpipes. Most schemes are functioning only partially and require major repairs to satisfy demand created by rapid urbanization. To begin addressing these needs the government, with financing from the Asian Development Bank, has initiated a Small Town Water Supply Project whereby the municipality assumes responsibility for management and contributes 25 per cent toward the cost of improvements.

In Kathmandu, the population is rapidly increasing. At present, the government only supplies about 79 per cent of drinking water for the city [194]; the rest is supplied from private sources. Leakage is also a problem, with about 40 per cent of water lost through leaking pipes [194].

**Response to water supply needs**

**Policy and legislation**

The government has recently prepared the Rural Water Supply and Sanitation National Policy 2004, the Rural Water Supply and Sanitation Strategy 2004, and the Rural Water Supply and Sanitation Sectoral Strategic Action Plan 2004 [196]. These policy and strategy documents recognize that all people have a right to access to basic water supply services, and that these services are necessary for socio-economic development and to combat water-related disease.


**Targets and budget**

Nepal is well positioned to meet its Millennium Development Goal target of halving the proportion of its urban and rural populations without access to improved drinking water supply between 1990 and 2015. Water supply coverage achieved during the Ninth Five-Year Plan (1997–2002) was 71 per cent for the rural population and 76 per cent for the urban population [47]. The Tenth Five-Year Plan (2002–07) aims to expand coverage to 85 per cent for both rural and urban populations [47].

Although funds for water supply are not allocated separately from sanitation in the government’s budget, it is acknowledged that expenditure on water supply consumes the major part of the allocation to the sector. The water supply and sanitation budget has been about three per cent of the government’s total budget since the early 1990s, at about NRs 2 million a year (Figure 21). The Basic Social Services Study 2004 shows that the basic services component for this sector is decreasing. This may be a reflection of basic services being delegated to Ministry of Local Development and DDCs, so that the study was not able to capture the true figures.

**Programmes and donors**

There are three major programmes that cover water supply in the country.

The Rural Water Supply and Sanitation Project is funded by the Asian Development Bank. It operates in 25 districts mainly in the Mid- and Far Western Development Regions, and has a well-funded sanitation and hygiene component.
The Melamchi Water Supply Development Project was initiated to augment water supply in the Kathmandu Valley. However, it has been seriously delayed, and there are some doubts as to whether the project will be completed. This is a large programme that has been allocated 46 per cent of the government’s budget for the water and sanitation sector [47].

The Small Town Water Supply Project aims to complement the marginalized supplies of water in urban and semi-urban areas outside the Kathmandu Valley, where the operation and maintenance would be eventually taken over by the Water and Sanitation Users Committees.

Foreign aid for the water sector has increased over the years, with approximately a dozen bilateral and multilateral agencies working in the sector [188]. The plurality of funding sources presents a complex scene. Many non-governmental agencies have initiated programmes to provide village and small-town water supply and sanitation services directly to communities. About two-thirds of the total development budget allocated to this sector is financed by donors [206].

Private investment is also significant, and is particularly apparent for water and sanitation services in urban areas and for tubewells in the terai [187; 188]. Similarly, in large urban areas, water supply by private vendors in the absence of reliable government services is important [187].

Earthquake preparedness
As Nepal lies in a high-risk earthquake zone, there have been some attempts to assess preparedness in the sanitation and water sector. To date, studies have focused on the Kathmandu Valley. Assessments indicate that there would be thousands of breaks in the water supply system (about 10 pipe breaks per kilometre) that would completely stop water supply [208]. To mitigate the immediate and longer-term effects of an earthquake requires the establishment of temporary water supplies (deep tubewells or large storage tanks) at pre-defined emergency relief centres as well as the development of plans, chains of command, communication systems, supplies of emergency back-up equipment, and rosters of service suppliers (such as plumbers, equipment vendors, specialized personnel, etc.). Needless to say, this is still an ongoing process. The situation of towns and villages outside the Kathmandu Valley has not been assessed, but these areas must be assumed to be inadequately prepared.

Conflict
There is little documented evidence of how the conflict has affected sanitation and water supply activities, so most of the following account is based on media reports and anecdotal evidence.

As with other activities throughout the country, water and sanitation schemes are affected by the delays caused by frequent bandhs and blockades. However, in the vast majority of cases, supplies eventually arrive at their destination.

One commonly reported delay is caused by restrictions placed on the movement of steel pipes and equipment by the State’s armed forces, as a result of the security concerns that this type of material might be used by the Maoists for making improvised explosive devices (socket bombs). This has caused some problems for water supply schemes in many of the affected districts. One agency has developed a system using all plastic fittings that allows them to send materials to communities without any restriction.

Another delay that may occur is caused by Maoist cadres requiring development projects to obtain their ‘approval’ at regional, district and local levels, with associated increases in risks and delays. Organizations have spent months to obtain the necessary consultations, sometimes losing a full construction season. This is further complicated because of the Maoist attempts to impose their own district and regional boundaries. The need for Maoist approval is assumed to stem from sensitivities surrounding the collection of household information (social mapping) required for implementing sanitation and water schemes.
Local government bodies, such as DDCs and VDCs, play a major role in delivering sanitation and water supply services to communities in response to local demands and needs. However, the current lack of elected representatives—that stems from the conflict—has affected the capacity of local communities to voice their demands and ensure that the planning of appropriate sanitation and water activities takes place [187].

Community involvement in sanitation and water schemes—a requirement for government funding—is, in some cases, becoming more difficult to mobilize, following Maoist restrictions on the formation of community organizations and the provision of training. Resources in some communities are becoming scarce, as breadwinners leave their home villages. This has resulted in less cash and labour being available for community contributions, and increased the need for higher subsidies. Higher subsidies reduce a community’s sense of ownership, resulting in neglect of maintenance and increasing the risk of schemes falling into disrepair. In addition, committee members of sanitation and water user groups experience harassment by the Maoists, making people more reluctant to take on these roles. Many sanitation awareness-raising activities are carried out by child clubs that promote sanitation and hygiene. However, members of such child clubs have said they feel more exposed and are targeted for recruitment by the Maoists.

When communities are able to continue with sanitation and water schemes, it is essential that fully transparent procedures are followed to prevent the Maoists intervening. However, this has resulted in increasingly rigorous processes for supply of equipment that have caused some delays. In addition, this transparency means that the Maoists have more information on which to base their extortion demands.

The difficulties of travel/access faced by government officials and technical teams from support agencies result in poor supervision and monitoring of activities that are carried out. This probably results in lower quality of work that will affect the effectiveness of schemes in the future.

The most direct impact of the conflict is when Maoists target the water supply of military barracks, etc. Neighbouring communities may suffer as a result of disruption or discontinuation of their drinking water. At times, this can affect a considerable number of people. For example, after the Maoists in Dailekh District bombed the intakes of the Belsapur Drinking Water Project and Kalekhola Project and cut off pipes used to supply drinking water, local people in the headquarters town of Dailekh Bazaar now have to walk for one and a half hours to fetch water from neighbouring VDCs [209]. This affects 15,000 people. The Maoists issued a press release saying that they bombed the drinking water projects because employees at the Drinking Water Office started to collect bills for drinking water, as directed by the security forces, and have gone against directions given by the Maoists not to collect any money for the use of drinking water.

Finally, large influxes of displaced persons to district headquarters and other urban areas might cause problems in water supply and sanitation for local people in the future. This is of particular concern in the larger urban areas where progress in developing new water schemes is slow [187]. A rapidly increasing urban population may precipitate the collapse of sanitation and water systems, with potentially serious consequences.
The right of women to have access to health services that fully meet their needs is enshrined in the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). In addition to basic health services, this explicitly includes the right to services associated with their reproductive health. Gender discrimination is at the root of maternal death, and CEDAW requires States to eliminate discrimination against women and to introduce measures for affirmative action.

As well as protecting the lives of women, this right also acts a backstop to the protection of children's rights: by ensuring the survival and wellbeing of mothers, the survival, growth and development of their children are better secured.

**STATUS OF MATERNAL MORTALITY**

Maternal death is defined as the death of a woman while pregnant or within 42 days of the termination of pregnancy (regardless of duration) from any cause related to or aggravated by pregnancy or its management, but not from accidental or incidental causes [252].

The latest survey-based estimate of the maternal mortality ratio in Nepal is 539 deaths per 100,000 live births for the period 1990–96 [150]. An earlier estimate of the maternal mortality ratio in 1991 was 515 deaths per 100,000 live births [150]. However, owing to the small sample size and differences in methodology, these two estimates cannot be compared. With an estimated 900,000 live births in Nepal each year, the latest ratio translates into about 4800 maternal deaths annually or 13 per day—one woman dies every two hours. An updated estimate for the maternal mortality will come in the 2006 Nepal Demographic and Health Survey, currently estimates range from 415 to 740 [47; 327]. The UNFPA has ranked Nepal as the worst affected country in South Asia [253]. Indeed, the disparity between rich and poor countries is greater for maternal mortality than for child mortality or any other development indicator.

As these statistics show, far too many women, who are in the prime of their lives, die as a result of pregnancy and childbirth. This has serious social and economic consequences for the family, the community and the country. When a mother dies, the newborn faces a 10-times higher risk of death,
and even older children (up to aged 10 years) are 3–10 times more likely to die [254; 255]. In addition, older children, particularly girls, are often taken out of school in order to help in the household or to go out to work, perpetrating the cycle of poverty [254].

There is now global consensus on what must be done to eliminate maternal death. A joint statement by the WHO/UNFPA/UNICEF/World Bank calls on countries to ‘ensure that all women and their newborn receive care from a skilled attendant during pregnancy, childbirth and the immediate post-partum period’ [256].

The immediate cause of most maternal deaths is an obstetric emergency due to a complication such as haemorrhage (bleeding), infection, hypertensive disorders (eclampsia), obstructed labour, and the complications of unsafe abortion. These complications occur even in well-nourished, educated women, receiving adequate antenatal and delivery care. While some progress has been made in the prevention of some of these obstetric complications, many cannot be predicted, even in the best of circumstances. Low maternal mortality in developed nations today is due, in large part, to the fact that obstetric complications are identified and treated promptly within the context of a functioning health system [257]. If all women had access to the interventions for addressing the complications of pregnancy and childbirth, especially to emergency obstetric care, 74 per cent of all maternal deaths could be averted [258]. Other causes of maternal death include HIV/AIDS, malaria, anaemia, sexually transmitted infections, heart disease, surgical complications, etc.

Although it is difficult to ascertain the current maternal mortality ratio and its trend over time, it seems unlikely that Nepal will be able to achieve the Millennium Development Goal of reducing the ratio by three-quarters between 1990 and 2015 (to 129 deaths per 100,000 live births).

MATERNAL AND NEONATAL DEATHS

The mother and the newborn are inextricably linked and so are many of the interventions for addressing maternal and neonatal deaths. The UN Millennium Project Task Force on Child Health and Maternal Health makes a clear decision and strong recommendation to address the Child and Maternal Health Millennium Development Goals together, despite the many challenges that this poses. It recommends addressing maternal and neonatal deaths through the strengthening of health systems where, in an integrated primary healthcare system, every birth whether it takes place either at home or in a facility and is attended by a skilled birth attendant, and is backed up by facilities that can provide emergency obstetric care and essential newborn care, and a functioning referral system that ensures timely access to the appropriate level of services in case of life-threatening complications [233]. Whilst maximizing the synergies between maternal and newborn health, it is necessary to increase the emphasis on newborn health within maternal health programmes, and ensure that programmes do not foster a single focus on either maternal or newborn healthcare [259]. However, in this situation analysis, newborn mortality is addressed for convenience under Child Mortality, and is separate from maternal mortality, the subject of this chapter.

Current situation in Nepal

While skilled birth attendance is the key strategy for reducing maternal mortality, only 11 per cent of women in Nepal are delivered by skilled birth attendants [1]. The most recent, detailed study of conditions surrounding maternal death in Nepal is the Maternal Mortality and Morbidity Study, carried out in 1998. It covered three districts

<table>
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<th>Definition of a skilled attendant</th>
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<td>A skilled attendant is an accredited health professional—such as a midwife, doctor or a nurse—who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate post-natal period, and in the identification, management and referral of complications in women and newborns.</td>
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<td>Source: [256]</td>
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and 132 maternal deaths. In this study, it was found that 21 per cent of all deaths among women of reproductive age were due to pregnancy-related causes. Of these, 70 per cent were due to obstetric emergencies. Nearly half of all maternal deaths were caused by postpartum haemorrhage; followed by obstructed labour, pre-eclampsia, and puerperal sepsis [260].

These deaths could be prevented, if women had access to good quality emergency obstetric care services. However, utilization of emergency obstetric care services in Nepal is extremely low at only five per cent, reflecting a huge unmet need [1].

The location of most maternal deaths in Nepal reflects the fact that most births take place at home and families do not have the capacity to react effectively to an emergency. The Maternal Mortality and Morbidity Study found that most deaths occurred at home (68 per cent), with 11 per cent on the way to a primary healthcare centre, hospital or private clinic, and 21 per cent occurring in one of these health facilities [260].

FACTORS PRIOR TO PREGNANCY

Although obstetric emergencies are usually the immediate cause of maternal death, intermediate factors—such as early marriage, and lack of access to reproductive health services—can influence how well families and women are ‘prepared’ for pregnancy and its outcome. Moreover, the capacity of women to obtain the care they require prior to childbearing is underpinned by their status within society and their ability to seek care. See the chapter on Gender for an in-depth examination of gender issues and women’s status in Nepal.

Early marriage and childbearing

On a broad scale, the primary role of a woman in Nepal is considered to be that of a wife and mother. Parents (and extended families) regard it as their duty to ensure that their daughters are married before they reach a certain age—this age is usually determined by their culture. In many cultures, marriages are arranged before a girl is physically able to have children, and young girls are sent to live in their husband’s household when they reach puberty or soon after. The median age at first marriage (for this survey, the age at which a woman starts living with her husband) for women in Nepal is 16.6 years [1]. About 40 per cent of women aged 15–19 years are married [1].

Sexual intercourse for women in Nepal generally begins with marriage; the median age at first sexual intercourse for women is 16.7 years [1]. If these young women quickly become pregnant, early childbearing means that they are exposed to the dangers of pregnancy and childbirth before their bodies are fully mature. In Nepal, about 21 per cent of women aged 15–19 years are either pregnant or have borne at least one child [1].

Adolescent pregnancy is a critical issue for safe motherhood for two reason: firstly, teenage mothers account for a large and disproportionate share of maternal deaths and, secondly, early motherhood can contribute to problems such as missed education, lack of employable skills, frequent poorly-spaced pregnancies, and poverty. In 1998, the Maternal Mortality and Morbidity Study found that over 20 per cent of reproductive-age deaths were of women aged 15–19 years [260]. An additional 69 per cent of maternal deaths occurred in the low-risk age group of 20–39 years.

A decrease in early childbearing could have a considerable impact on the maternal mortality rate in Nepal, as well as on neonatal mortality. As most childbearing takes place within marriage in Nepal, an important way to influence early childbearing is to curtail early marriage. In response to the problem of early marriage, the government has enacted legislation that prohibits the marriage of all girls aged less than 18 years; girls aged 18 or 19 years must have parental consent to marry. Unfortunately, this legislation is yet to be strongly enforced.

Family planning

Too frequent and too many pregnancies contribute to high levels of maternal mortality. In Nepal, as a consequence of various public communication campaigns disseminated via
SituAtion of children and women in nepal 2006
radio, television, and the print media, knowledge of family planning is almost universal among women and men [1]. The contraceptive prevalence rate among currently married Nepalese women is 39 per cent [1]. The prevalence rate for contraceptive use is higher among urban women than rural women. Women with higher education are more likely to use modern methods of contraception than women with no education.

The use of modern methods of contraception in Nepal has grown over the last 25 years (Figure 49). Between 1996 and 2001, there was an increase of 35 per cent [1]. Twenty-eight per cent of married women in Nepal have an unmet need for family planning services, of whom 11 per cent have a need for spacing and 16 per cent have a need for limiting [1].

The government policy is to expand family planning services. The Second Long-Term Health Plan 2002-2017 sets out targets for increasing the contraceptive prevalence rate to over 58 per cent by 2017, with the expectation of reducing the fertility rate to 3.05 from the current level of 4.1.

The main actors involved in the provision of contraceptive advice and products include the Family Planning Association of Nepal (FPAN); Marie Stopes International/Sunaulo Pariwar Nepal; Adventist Development and Relief Agency (ADRA) Nepal; UNFPA; Nepal Family Health Project; Nepal Contraceptive Retail Sales (CRS) Ltd.; PSI Nepal; private medical facilities and practitioners; and local NGOs.

Care during pregnancy
As well as being suitably prepared for pregnancy, women need to receive appropriate care and information during pregnancy, and give birth in conditions that minimize adverse impacts on mortality. Therefore, families need to ensure that women have an adequate nutritional and health status, and that they have access to antenatal care during pregnancy and postnatal care subsequent to childbirth.

Nutritional status of women
An important way to improve maternal health and reduce the risk of maternal death is to ensure that women are nutritionally fit. Poor nutrition before and during pregnancy results in women exhibiting conditions such as stunting, anaemia, vitamin A deficiency, and other micronutrient deficiencies that contribute to poor maternal health, obstetric problems, and poor pregnancy outcomes. See chapter on Child and Maternal Nutrition for more details.

Although it is difficult to put figures on the relationship between poor nutrition and maternal mortality for Nepal, it is acknowledged that many maternal deaths could be avoided if women were in nutritionally better shape when childbirth complications occurred. This is particularly true for anaemia, a condition found in 75 per cent of pregnant women in Nepal. Anaemia can have serious consequences for women both during pregnancy and delivery. In the Maternal Mortality and Morbidity Study, two of the 31 hospital deaths were from severe anaemia during pregnancy, and one was categorized as anaemia, following admission after delivery at home [260]. Anaemic women who experience excessive bleeding during delivery are more vulnerable to death; two of four deaths from postpartum haemorrhage were of
severely anaemic women [260]. Blood is often not immediately available at hospital to treat anaemic women with serious bleeding [260].

**Response**

In response to the poor nutritional status of pregnant women, the government has launched a number of specific programmes. In the late 1980s, the Anaemia Control Programme began to distribute iron–folate tablets to pregnant women through health facilities. Although the programme suffered a slow start, it has been improved at various times. Now iron–folate tablets are distributed by community-level healthcare providers (Maternal Child Health Workers, Female Community Health Volunteers) to around a quarter of all pregnant women in Nepal. However, few women take the full course. Younger women and urban women are most likely to receive a full course. See chapter on Child and Maternal Nutrition for more details. As yet, no evaluation has been carried out to assess the impact of this programme on maternal mortality in Nepal.

Pregnant women in some districts also receive low-dose vitamin A supplementation to combat nightblindness and the effects of vitamin A deficiency on pregnancy outcomes. This is a pilot programme and is yet to be evaluated.

Attempts to improve the general nutritional status of pregnant women are made through the antenatal care programme. Women who attend antenatal care visits are advised on proper nutrition practices for pregnancy. See the section below for more details on antenatal care.

**Antenatal care**

Good antenatal care offers an opportunity to promote healthy lifestyles during pregnancy that improve long-term outcomes for the woman, her unborn child and possibly her family. Ideally the package of interventions should be delivered by the same health worker—the midwife—who will attend the mother during childbirth; this is the best way to provide seamless care through pregnancy and childbirth. Technically, however, antenatal care is delegated to other healthcare workers such as Maternal Child Health Workers, Health Assistants, Auxiliary Health Workers and even Village Health Workers, who would not necessarily qualify as having the skills needed for attending childbirth. As multipurpose workers are not in such short supply as midwives, they do however help to increase coverage of antenatal services in Nepal. Antenatal care has a greater role to play in the reduction of perinatal and neonatal mortality than in the reduction of maternal mortality [263].

The National Maternity Care Guidelines recommend a minimum of four antenatal visits for each pregnancy, encouraging women to seek antenatal care from a skilled health service provider as soon as the pregnancy is anticipated [264]. The timing of the subsequent antenatal visits depends on a woman’s needs and the clinical judgment of the health service provider.

Although these are the recommended protocols, most women in Nepal do not make four visits. The NDHS 2001 reported that 49 per cent of pregnant women obtain at least one antenatal visit (Figure 50). This falls to 14 per cent obtaining four antenatal visits. These levels are extremely low; in a world ranking of countries reporting antenatal coverage, Nepal is equal last with Pakistan [119].

![Figure 50: Women receiving at least one antenatal visit by background characteristics](image-url)
The quality of antenatal care was analyzed in the Nepal Multiple Indicator Surveillance of 1997 by interviewing service providers, examining tetanus toxoid immunization status, assessing iron–folic acid distribution, and asking about the content of counselling given during antenatal visits. Of those interviewees who had an antenatal care visit, only 10 per cent received iron–folic acid supplements during pregnancy, and only two per cent took them for more than three months [216]. Only a quarter of those interviewed reported being counselled on breastfeeding. Most interviewees (59 per cent) reported being ‘somewhat satisfied’ with the care they received [216]. The most common reasons for not obtaining antenatal care are ‘not perceiving a need’ and ‘not aware of the service’ [216]. Another survey found that about half of women who received antenatal care were informed about the signs of pregnancy complications, and three in five had their blood pressure measured [1]. In addition, 45 per cent received two or more doses of tetanus toxoid injections during their most recent pregnancy [1].

It is widely acknowledged that antenatal care is a potentially important way to connect a woman with the health system, which, if it is functioning, will be critical for saving her life in the event of a complication. Women reporting four or more antenatal visits are far more likely to have given birth with professional assistance than women reporting fewer visits [265]. This is particularly true in countries where the overall level of antenatal care use is low. In Nepal, 49 per cent of women who were attended by a healthcare professional at delivery had received four or more antenatal check-ups [265].

**Response**

Clearly, antenatal care as it is delivered in Nepal today is generally of poor quality and an ineffective formality rather than a series of useful interventions. The antenatal care protocols in Nepal need to be reviewed to provide re-focused antenatal care that prepares every pregnant woman and her family for birth and complication readiness. Antenatal care should link community outreach clinics (Gaon Ghar clinics) delivering these services as part of a functioning health system to facilities providing skilled attendance and emergency obstetric care, thus promoting the health of mothers and improving newborn outcomes. Antenatal care must also help to address harmful traditional beliefs and practices during pregnancy, delivery and the postpartum period.

**DELIVERY AND THE POSTPARTUM PERIOD**

The single most important intervention for preventing maternal death is to ensure that all women are delivered by a skilled birth attendant, and have transportation and finances available in case of an emergency [266]. However, this is rarely the situation for women in Nepal. It is also important to stress that skilled professional care at delivery is as critical for the newborn baby as it is for the mother.
Conditions of delivery

In Nepal, most women give birth at home. At the national level, only nine per cent of births are delivered in health facilities, compared with 89 per cent at home [1]. The proportion of deliveries by ‘trained health workers’ is one of the lowest in the world, although it has increased from eight per cent in 2001/02 to 18 per cent in 2003/04 [40].

Women in labour are usually assisted by untrained attendants (relatives and friends (55 per cent) or Traditional Birth Attendants (23 per cent); only about 13 per cent of births are attended by health workers (doctor, nurse, Auxiliary Nurse Midwife, Health Assistant, Auxiliary Health Worker, Maternal Child Health Worker, Village Health Worker), and these births are almost always within a hospital to urban residents [1]. About 11 per cent are assisted by ‘skilled attendants’ (Figure 51). Nearly nine per cent of births are delivered without any assistance at all.

An urban woman (45 per cent) is six times more likely to deliver at a health facility than a rural woman (seven per cent) [1]. Women living in the mountains are less likely to deliver in a health facility than those living in the hills and terai. Use of a health facility for delivery increases sharply with maternal education from four per cent of births among women with no education to 55 per cent among women with an SLC or higher level of education [1].

There are many factors hindering women’s access to skilled birth attendance. Firstly, the infrastructure necessary to provide skilled attendance to all women is lacking. Health institutions that offer delivery facilities are limited to district hospitals and primary healthcare centres. Given the lack of infrastructure for community delivery services, attempts to increase delivery services has focused on increasing homebirths. In the latter part of the last decade, a cadre of community health workers known as Maternal Child Health Workers were trained for the promotion of maternal and child health services at the community level. However, the proportion of deliveries assisted by Maternal Child Health Workers continues to remain extremely low (0.4 per cent) [1]. In an attempt to increase the competencies and skills of Maternal Child Health Workers so that they can provide community delivery services, the government has made a policy decision to provide 18 months of midwifery training to Maternal Child Health Workers who have completed Grade 10, and upgrade them to Auxiliary Nurse Midwives. However, even with these strategies, there is agreement that the crucial need for skilled birth attendants in the community, where most births occur, is not being met.

While the lack of maternal health services that can deliver skilled attendance is a major constraint, socio-cultural beliefs and practices in Nepal also impact negatively on maternal and newborn health, and prevent women from utilizing what services are available. In Nepal, childbirth is seen as a normal event requiring no special care. Thus, women are left to labour alone, sometimes in cowsheds, as delivery is believed to be ritually unclean and polluting. Furthermore, the status of women in society is low and, with a lack of education and decision-making power, women are both unaware of and cannot demand the care they need to protect their lives.

There is strong epidemiological evidence that shows most maternal deaths could be prevented if women received skilled care at critical moments during pregnancy and childbirth. This is evident from the comparison of percentage of deliveries attended by skilled attendants for example, Sri Lanka reports that...
97 per cent of births are delivered by a skilled attendant and has a maternal mortality ratio of 23 per 100,000 live births, while Nepal reports that 11 per cent of deliveries are by a skilled attendant and has a maternal mortality ratio of 539 per 100,000 live births.

**Response**

Perhaps the most important constraint for the National Safe Motherhood Programme is the lack of a clear policy on skilled birth attendance. Its major challenge is the development of human resources for maternal and newborn health.

A variety of issues, surrounding the production and use of skilled birth attendants, have been studied by consultants from USAID, WHO and Support to the Safe Motherhood Programme (SSMP) during 2004 and 2005. A consensus has been reached that doctors, nurses and Auxiliary Nurse Midwives alone meet the stringent definition of a skilled birth attendant [267]. As a matter of urgency, a long-term strategy has to be developed and implemented to ensure the right numbers of skilled birth attendants with the right skills are available in the right place, in order to meet national targets and the Millennium Development Goals [233; 261].

While the presence of a skilled attendant during labour and delivery will go a long way to reducing maternal mortality, the birth must also take place within an environment conducive to effective skilled attendance. This means that the necessary infrastructure to provide delivery services must be developed, and pregnant women must receive appropriate social and medical support during pregnancy, labour and birth; that professional attendants, in particular, midwives, are trained to an adequate level and are knowledgeable about referral; that an effective referral system exists; that facilities at each step of the referral chain are appropriately equipped and that trained staff are available; and that women are able to access services when they are required at each level of the healthcare system.

Through the DFID-funded Support to the Safe Motherhood Programme and other partners, the Family Health Division is now finalizing the skilled birth attendance policy and developing an implementation plan. Attempts to improve the infrastructure of health institutions providing skilled attendance are underway, although coverage is limited. The new policy is expected to promote institutional delivery at health posts, and the infrastructure of health posts is being upgraded to include birthing centres.

The financial cost of delivery services has been identified as a major barrier to utilization of services [268]. The government has thus developed a public financing policy for alleviating the user cost of delivery care, by making a commitment to provide delivery services free to clients in the 25 districts with the lowest Human Development Index. In addition, an incentive of NRs 300 is being provided to health workers (doctors, nurses, Auxiliary Nurse Midwives, Maternal Child Health Workers, and Health Assistants) to encourage them to provide delivery services, whether in a health facility or at home.

**Postnatal care**

The postnatal period is a critical period for both the mother and the newborn. Women receive more attention, better family support and are able to eat more in the postpartum period. However, there are also traditional beliefs associated with ritual pollution that mean women are considered untouchable by many communities in Nepal. This exclusion and lack of recognition of the dangers of the postpartum period puts both the mother and the newborn at an increased risk of death [269].

About 62 per cent of maternal deaths occur in the postnatal period. However, postnatal care receives low priority in Nepal. An overwhelming 79 per cent of women do not receive any postnatal care at all [1]. The National Safe Motherhood Programme recommends that mothers receive a postnatal check-up within two days of delivery to monitor and treat complications. However, only 17 per cent of mothers received this type of care [1]. Another four per cent received care during the six weeks following delivery.

The Nepal Multiple Indicator Surveillance found that 10 per cent of mothers reported
health problems for themselves or their babies soon after delivery [216]. The most common problems included fever/infection of mother, delayed discharge of placenta, excessive bleeding, and general weakness. Nearly three-quarters of women with problems sought assistance, mainly from either a district hospital or a private clinic (in urban areas); some 11 per cent went to traditional healer. Of the women who did not seek assistance, the majority thought it was not necessary; this indicates a lack of knowledge of the danger signs and poor healthcare-seeking behaviour. About 22 per cent of women thought facilities for postnatal care were too distant, and 13 per cent thought that care was too expensive.

Response
Recognizing that the immediate postpartum period provides the greatest risk of complications both for the mother and the newborn, the government is reviewing strategies for ensuring provision of postnatal care for both mothers and their newborn.

RESPONDING TO AN EMERGENCY SITUATION

Maternal mortality is the result of a complication related to pregnancy or childbirth that is either not treated or is treated improperly. Interventions targeted at this point can have a significant impact on maternal survival and thus the maternal mortality ratio. The most effective interventions are considered to be universal access to skilled attendance at delivery; improving facilities for and women's access to emergency obstetric care to treat pregnancy complications; and ensuring that referral and transport systems are in place so women with complications can receive needed care quickly [253].

Why do obstetric emergencies occur?
Obstetric emergencies are difficult to predict, as all pregnant women are at risk of a complication. However, it is possible to analyse why these emergencies take such a high toll on the lives of women. One useful approach is to assess the delays that occur when families attempt to access life-saving care. Essentially, there are three steps that need to be taken, and delays can occur at any of these points.

- The decision to seek medical care.
- The time taken to reach an appropriate medical facility.
- The time taken to receive adequate care at that facility.

This is known as the three delays model. A delay at any one of these stages may cause death [252]. The first delay can be divided into two elements: the delay in recognizing the need for medical care and the delay in deciding to seek care. The latter is influenced by the low social status of women, the lack of decision-making power, and their inability to exercise their reproductive right. This is further compounded by lack of faith in the healthcare system and the high cost of services. The second delay is related to access to services and, in Nepal, is a particularly important factor given the difficult topography with its hills and mountains and the absence of roads and transportation. Organizing such travel further adds to the cost of accessing emergency services. The third delay depends on the functioning of health facilities providing emergency obstetric care, and is related to the availability of a skilled provider, the necessary infrastructure for providing services, the behaviour of health workers, and the cost of services. Cost is thus a major factor contributing to all three delays.
Using the three delays model, it is possible to identify why women so frequently die during childbirth in Nepal. The first two delays mainly focus on what can be done within the community to reduce the amount of time it takes women to reach emergency care. Reducing the third delay addresses strengthening emergency obstetric care in health facilities.

It should be understood that a fully functioning emergency obstetric care programme that involves all levels of the healthcare system is required to provide the services that will reduce maternal mortality by a significant amount. While child mortality, especially the late neonatal period and after, can be reduced significantly by community-level interventions, reduction of maternal mortality and the early neonatal period is dependent on a functioning healthcare system.

The first delay: decision to seek medical care
The first delay can be divided into two elements: the delay in recognizing the need for medical care and the delay in deciding to seek care.

The inability to recognize the full range of danger signs associated with pregnancy and childbirth—the first part of the first delay—is widespread in the community. A study for the Nepal Safer Motherhood Project in 2002 found that danger signs that were not recognized were often attributed to ‘bad’ spirits rather than the complications of pregnancy, and gave rise to women being treated by traditional healers rather than at medical facilities [270]. Men and older women (i.e., mothers-in-law), in particular, were found to hold these types of beliefs. This situation feeds into the delay to seek medical care.

Although many women are able to recognize serious danger signs, they are often unable to make the decision to act upon their knowledge because of inequitable gender and power relationships with key family members such as husbands and mothers-in-law [270]. This is the second aspect of the first delay.

The third factor—cost of health services—contributes to the first delay and has been studied by the Nepal Safer Motherhood Project. This study found that the average charge for a normal institutional delivery was NRs 768 [268]. However, when transportation costs, ‘unofficial’ hospital charges, and opportunity costs were taken into account, the cost rose to about NRs 5400 for a normal delivery and to NRs 11,000 for a caesarean section.

Traditional healers are often a preferred source of treatment for obstetric complications and the first provider to be consulted for the following reasons [270].

- The sub health post—the closest health facility—does not have personnel, drugs and equipment for obstetric emergencies.
- The cause of obstetric problems is often thought to be spiritual.
- Traditional healers have flexible fees (payment in kind is possible); other sources of treatment (government health posts and private clinics) can be expensive, and do not always allow credit.
- Traditional healers treat women well and provide privacy.
- Traditional healers make home visits, whereas skilled attendants, most often female, often cannot make home visits.

Response
Family Health Division and partners (the Nepal Safer Motherhood Project and UNICEF), involved in strengthening emergency obstetric care services in 15 districts, have provided support to complementary interventions to reduce the first delay. These consisted of community awareness-raising, empowerment and development of emergency funds. These were implemented through NGOs, the District Health Office, and DDCs. Furthermore, the Department of Health Services with support from Saving Newborn Lives and the Nepal Family Health Project has piloted a Birth Preparedness Package in one terai district [271]. An evaluation of the project after 18 months found that six out of seven indicators of birth preparedness had increased substantially. These included knowledge of danger signs, financial and transportation preparedness, and antenatal and postnatal
care. The seventh indicator—use of a skilled provider—had not changed. It was concluded that many women appeared to believe that skilled attendance was only necessary after an emergency had occurred.

The second delay: reaching an appropriate health facility

The second delay occurs in reaching a health facility. Although transportation is likely to be a problem for women in remoter communities with no road access, where there is adequate transportation infrastructure, there seem to be fewer problems in arranging emergency transportation (either by motorized or animal-powered vehicles) and reaching a medical facility within one or two hours, provided money is available for its cost [260; 272].

The Maternal Mortality and Morbidity Study found that of those who could recall, about 45 per cent arranged transportation within two hours and 74 per cent spent less than three hours on the journey (it should be noted that no mountain district was included in the study) [260]. However, a few families reported delays of more than eight days in arranging transport and reaching a health institution.

The majority of Nepal’s population lives beyond the reach of motorable roads, especially in the hills and mountains. In the event of an emergency, many women have to be transported (carried or carted) along trails to a roadhead before they can obtain motorized transportation to a hospital. A study by the Nepal Safer Motherhood Project found that for a normal birth in an institution over 50 per cent of the cost to the family was for transportation [268]. In fact, in field interviews with women who had come to a health facility for emergency obstetric care, respondents indicated that, in some cases, access to transportation and the finances to pay for it was a greater factor in the decision to seek care than the cost of services themselves. The same study found that the cost of transportation ranged from an average of NRs 318 for travel by foot to an average of NRs 4778 for transportation on a chair, bed, bullock cart or in a doko basket on the back of a porter [268].

Other factors that affect transportation include conflict-related bandh and blockades, which frequently prevent the movement of people and vehicles. During their announced bandhs,
there have been reports of Maoists stopping people travelling on obstetric emergencies (often to district headquarters), but these are difficult to confirm or quantify. In addition, in some communities, men of higher castes will not carry women of lower castes; this might cause delays in transportation [273].

**Response**

Both the DFID-funded Nepal Safer Motherhood Project and UNICEF have supported interventions for reducing the second delay by providing forms of transport such as doko baskets, stretchers and ambulances as well as developing emergency community financing schemes to provide immediate access to funds to pay for the cost of travel and treatment in an emergency obstetric care facility. However, studies for the Nepal Safer Motherhood Project have shown that community financing schemes provide only limited coverage to 30 per cent of a district’s population and are under-utilized [268]. In addition, there have been reports that in some places the Maoists have looted funds created by community organizations to cover obstetric emergencies [230].

Recognizing the high costs of transport as a major barrier to accessing emergency obstetric care services and the somewhat low coverage and utilization of community financing schemes, the government has introduced a nationwide cost-sharing incentive to clients delivering in health institutions at all levels. The incentive consists of NRs 500 for women from terai districts, NRs 1000 for women from hill districts, and NRs 1500 for women from mountain districts to deliver in a health facility.

The third delay: receiving appropriate care

The third delay—in receiving appropriate treatment in hospital—is closely linked to the capacity of Nepal’s health service, including the cost of services and its associated referral system to function efficiently. See the chapter on Health Services for more details.

There are various reasons for the delay in receiving care in health facilities. These include the lack of availability of skilled doctors, nurses and other technical staff, lack of hospital infrastructure and equipment and medicines, and the poor attitudes of service providers [260]. Furthermore, pregnant women (and their families) are often unable to demand their right to quality care.

The Maternal Mortality and Morbidity Study reported that among avoidable factors reported in an audit of hospital maternal deaths, 78 per cent were due to health services and 13 per cent due to delays at the family level. Many of the factors related to delay in treatment were associated with delays in obtaining blood for transfusion.

Cost is a major barrier to utilization of emergency obstetric care services in health facilities. The cost of services in a hospital has been estimated to range from an average of NRs 6348 for a normal delivery and NRs 11,961 for a caesarean section [268]. The same study showed the impoverishing impact of the cost of emergency obstetric care. It found that 41 per cent of households reported difficulty in raising funds for hospital care, and 51 per cent of those delivering in hospitals had borrowed money. In 60 per cent of cases money was borrowed from friends and family, and in another 30 per cent of cases from money lenders at high interest rates [268].

**Response**

Safe motherhood is a priority for the government within the Essential Health Care Services Package in the National Health Sector Programme Implementation Plan. It was initiated with the National Safe Motherhood Plan of Action 1994–97 and followed by the Reproductive Health Strategy in 1998. In 2002, the National Safe Motherhood Plan 2002–17 was developed [274]. These plans have been implemented since 1997.

Strengthening emergency obstetric care services within safe motherhood has been prioritized by the Family Health Division and is supported by DFID (Nepal Safer Motherhood Project (NSMP) in nine districts) and UNICEF (Women’s Right to Life and Health Initiative in six districts). The current strategy aims to reduce maternal mortality by increasing both availability and access to
skilled attendance and 24-hour emergency obstetric care. UNFPA, GTZ, Adventist Development and Relief Agency (ADRA) Nepal, British–Nepal Medical Trust and JICA are also providing support to strengthening emergency obstetric care services at the district level.

In order to expand the availability of emergency obstetric care to global standards, Nepal will need 50 Comprehensive Emergency Obstetric Care sites (at district or regional hospitals) and 200 Basic Emergency Obstetric Care sites (at district hospitals or primary healthcare centres). In 2005, there were 32 Comprehensive Emergency Obstetric Care sites and 13 Basic Emergency Obstetric Care sites. At the current rates of expansion, it will take an additional nine years to add the required 18 Comprehensive Emergency Obstetric Care sites, and 19 years to add the required 187 Basic Emergency Obstetric Care sites.

The lack of adequately trained human resources is a serious challenge to Nepal’s plans to reduce maternal mortality. There is a critical shortage of skilled doctors and nurses, and it is difficult to retain skilled health workers in all facilities, particularly in remote locations. Interventions will be required to upgrade the training of medical workers, and provide incentives for skilled attendants.
As laid out in the Convention on the Rights of the Child, all children have a right to survival. This means more than the mere avoidance of death. It also embraces the right to wellbeing and to protection from disease. Although children face threats to their survival throughout their childhood and adolescence, the greatest mortality rates are found in the under-fives. Therefore, this chapter focuses on this age group. Information on the health of adolescents can be found in the chapters on Maternal Mortality and HIV/AIDS.

Threats to the under-five child’s right to survival can be separated into those that occur during the first month of life (the neonatal period) and those that occur between the age of one month and five years. Different threats emerge at different stages or with varying intensities. This analysis examines the causes of death for these two groups separately.

In Nepal, as elsewhere, neonatal threats to survival are usually the result of medical complications such as birth asphyxia and prematurity or of conditions and practices associated with pregnancy and birth that lead to low birth weight, infections and hypothermia. Threats to the older child’s survival are caused by common childhood illnesses such as diarrhoea and pneumonia. Most threats to the survival of a child in Nepal during its first five years of life are preventable, and those that cannot be prevented can be made more manageable with appropriate responses.

Improvements in child health during the post-neonatal and early childhood period are fuelled by factors such as the rising standard of living and nutrition, safe water, better sanitation, reduced fertility, and improved housing. At the same time, progress in the reduction of neonatal mortality has coincided with greater use of maternal healthcare services, improved quality of midwifery and obstetric services, and access to antibiotics [233].

**Mortality Rates**

By 2001, Nepal’s under-five mortality rate had declined to 91 deaths per 1000 live births from 158 deaths per 1000 live births in 1991 (Figure 41) [1]. This is a tremendous improvement that represents a fall of 42 per cent. However, there are still about 75,000 under-five deaths in Nepal each year, which equates to around 200 children dying every day. This places...
Nepal among the worst-performing third of the world’s countries, although at the higher end. In the region, Pakistan, India and Bhutan have lower rankings but only marginally so [119].

Under-five mortality can be broken down into death before one year (infant mortality) and death between the first and fifth birthday (child mortality). Although all divisions of under-five mortality declined between 1991 and 2001, analysis shows that the rate of reduction was higher for child mortality (50 per cent) than for infant mortality (40 per cent) [1]. This indicates that progress has been better for children at the upper end of the age group. An increasing proportion of under-five mortality is now occurring among children aged less than one year. In fact, more than two-thirds of deaths among under-fives now occur during the first year. Of these, 60 per cent are during the first month of life, with the majority being during the first week (Figure 42).

Many of the young lives saved in Nepal during the last decade or so have been the result of improved management of diarrhoea and acute respiratory infections, increased vitamin A supplementation, and expanded immunization. To reduce mortality further among children in Nepal will require greater attention to the care of newborns and infants. The implementation and success of strategies to achieve this will determine whether Nepal reaches the Millennium Development Goal of reducing the under-five mortality rate by two-thirds between 1990 and 2015.

In 2001, the early neonatal mortality rate was reported to be 27 per 1000 live births; the neonatal mortality rate was about 39 per 1000 live births; the infant mortality rate was 64 per 1000 live births; and the under-five mortality rate was 91 per 1000 live births [1]. Mortality is consistently lower in urban areas than rural areas, with under-five mortality being 41 per cent lower in urban areas than in rural areas, and infant mortality being 37 per cent lower (Table 13) [1]. There is also considerable variation in mortality by ecological zone, with children living in the mountains faring much worse than those living in the hills or terai. For example, one in six children living in the mountains dies before her/his fifth birthday compared with one in nine children living in
the terai and one in 11 children living in the hills [1]. Mortality is also much higher in the Far Western Development Region than in the other regions. Children born to mothers with no education experience much higher levels of mortality than children born to mothers with some education; children born to the most highly educated mothers are the least likely to die young. For example, under-five mortality for children of mothers with no education is 121 per 1000 live births, 64 per cent higher than for children of mothers who have some primary education and nearly double that of children of mothers who have some secondary education (Table 13) [1]. Birth spacing is also an important factor for mortality. Under-five mortality for children born less than two years after a sibling is 172 per 1000 live births, infant mortality is 124 per 1000 live births, and neonatal mortality is 80 per 1000 live births [1].

There are also gender disparities in mortality rates for children in Nepal. As is normal, neonatal mortality is higher among males than among females. For the first year of life, there is little variation in mortality rates between girls and boys. However, child mortality is nearly one and a half times higher for females than for males. Since female mortality is typically lower than male mortality at this stage, this suggests that there are gender-related differences in the care of these children [1].

The effect of the conflict on the mortality rate of children and the incidence of disease is extremely difficult to assess. However, it is well known that the conflict has affected the functioning of health services in Nepal, meaning that both preventative and curative health services for children are impacted. As such, the conflict is a potential threat that could reverse many of the achievements so far made in improving children’s health that are outlined below. See the chapter on Health Services for more on this.

**CAUSES OF NEONATAL MORTALITY**

It is estimated that over 32,000 children die each year in Nepal during their first month of life, with over two-thirds of these dying during their first week [234]. Nearly the same number of babies are stillborn [1].

Most deaths in the first month of life are caused across the world by infections such as sepsis and pneumonia, birth asphyxia and injuries, prematurity complications, and birth defects (Figure 43). In Nepal, low birth weight is an important underlying factor in many of these deaths. Hypothermia can also contribute to death, especially during winter.

**TABLE 13: Neonatal mortality rate (NMR), infant mortality rate (IMR) and under-five mortality rate (U5MR) for the 10-year period prior to 2001 by socio-economic characteristic**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>NMR</th>
<th>IMR</th>
<th>U5MR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>36.6</td>
<td>50.1</td>
<td>65.9</td>
</tr>
<tr>
<td>Rural</td>
<td>48.5</td>
<td>79.3</td>
<td>111.9</td>
</tr>
<tr>
<td>Ecological zone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain</td>
<td>64.9</td>
<td>112.0</td>
<td>157.4</td>
</tr>
<tr>
<td>Hill</td>
<td>41.9</td>
<td>66.2</td>
<td>93.9</td>
</tr>
<tr>
<td>Terai</td>
<td>49.7</td>
<td>80.8</td>
<td>112.8</td>
</tr>
<tr>
<td>Development Region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastern</td>
<td>50.5</td>
<td>77.5</td>
<td>104.8</td>
</tr>
<tr>
<td>Central</td>
<td>48.4</td>
<td>77.4</td>
<td>110.9</td>
</tr>
<tr>
<td>Western</td>
<td>39.1</td>
<td>60.1</td>
<td>83.7</td>
</tr>
<tr>
<td>Mid-Western</td>
<td>40.5</td>
<td>72.9</td>
<td>111.0</td>
</tr>
<tr>
<td>Far Western</td>
<td>64.4</td>
<td>112.2</td>
<td>149.2</td>
</tr>
<tr>
<td>Mother’s education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>51.6</td>
<td>84.6</td>
<td>120.7</td>
</tr>
<tr>
<td>Primary</td>
<td>41.2</td>
<td>61.0</td>
<td>73.5</td>
</tr>
<tr>
<td>Some secondary</td>
<td>31.3</td>
<td>49.9</td>
<td>63.5</td>
</tr>
<tr>
<td>SLC and above</td>
<td>(8.8)</td>
<td>(11.2)</td>
<td>(14.9)</td>
</tr>
<tr>
<td>Total</td>
<td>38.8</td>
<td>64.4</td>
<td>91.2</td>
</tr>
</tbody>
</table>

Notes: Rates in parentheses are based on small sample sizes. 
Source: [1]
The neonatal death rate is also exacerbated by inadequate or non-existent medical facilities for antenatal and delivery services, and by inappropriate newborn care practices in the family and community. In addition, mothers often have a poor nutritional status and generally in Nepal women have a low status in the family and in wider society. This situation leads to mothers who are ill-prepared physically and ill-informed about birth, and with little power to make decisions related to their health and that of their newborn. The neonatal mortality rate is higher for children of mothers who do not have the final say in any decisions (57 per 1000 live births) than for children of mothers who have the final say in some decisions (rates ranging from 39 to 50 per 1000 live births) [1].

There are a number of well-researched interventions to prevent neonatal deaths that can be divided into packages for scaling up within health systems, according to three service delivery modes (outreach, family and community, and facility-based clinical care). Universal coverage of these interventions could avert 40–70 per cent of neonatal deaths across the world. In the long run, increased access to skilled facility-based care is essential [235]. However, home- and community-based interventions can also be critical in reducing neonatal mortality, particularly in the late neonatal period [236]. In Nepal, a trial in Makwanpur District achieved a 30 per cent reduction in neonatal mortality by using participatory intervention through mothers’ groups, demonstrating the power of community education and participation to change unhealthy practices [237].

Although the emphasis on prevention and home care is important, it does not substitute in any way for the need for accessible health facilities providing antenatal care, skilled attendance and emergency obstetric care. Skilled professional care at birth is as critical for the newborn baby as it is for the mother.

**Low birth weight**

Although low birth weight is rarely a direct cause of death, it is an important contributing factor in the death of many neonates in Nepal. As well as playing a role in death, low birth weight may also lead to medical, nutritional and developmental problems later in life [6].

There are no national figures for low birth weight in Nepal. However, a study in 1998 found that low birth weight incidence in four hospitals across the country averaged 27 per cent, with a mean birth weight of 2.8 kg [7]. This figure is comparable with other countries in South Asia, where the prevalence of low birth weight is the highest in the world [238]. Studies in hospitals in Kathmandu have revealed that between 66 per cent and 83 per cent of neonatal deaths were associated with low birth weight [6].

The top five factors associated with low birth weight in Nepal are low maternal weight, low maternal height, low maternal body mass index, birth of a previous pre-term infant, and a birth interval of less than two years [7]. Maternal iron deficiency and the associated anaemia is an important cause of low birth weight. Primiparity, adolescent motherhood,
maternal illiteracy, rural residence and minimal antenatal care are also implicated. All these factors concern the mother rather than the unborn child. See the chapters on Maternal Mortality and Child and Maternal Nutrition for more information on women's health and nutritional status prior to conception, during pregnancy, and in the postnatal period. The poor condition and treatment of women before, during and after pregnancy are related to the low status of women in Nepalese society. See the chapter on Gender for more information on women’s status.

As is common in developing countries, the majority of low-birth-weight babies in Nepal are full term [7]. A study found that only 30 per cent of low-birth-weight babies were pre-term [7]. This implies that the greater part of low birth weight is the result of intrauterine growth retardation. Intrauterine growth retardation is closely linked with illnesses such as myocardial infarction, diabetes and stroke in later life.

**Response**

To date, very little attention has been paid to reducing the number of low-birth-weight babies born in Nepal. The newly developed National Neonatal Health Strategy does not specifically address this problem. In order to improve the situation, efforts would need to focus on attention to women’s health and nutrition throughout the lifecycle and not only during pregnancy, delivery and lactation [233]. Most women gain only a couple of kilograms during gestation. Pregnancy is viewed as an everyday event that does not warrant special consideration. Women are expected to carry on as normal, with heavy workloads and poor diets. The low status of women means that any specific needs related to ensuring that a woman gives birth to a strong, healthy baby are either unknown or given scant regard within the family or community. Community-based interventions aimed at increasing understanding in the family of women’s nutritional and other requirements during pregnancy would be useful. Antenatal care is an obvious point of contact with pregnant women in the community, and could be used to provide information on ways to avoid having a low-birth-weight baby. Parenting orientation could also be used to increase knowledge on appropriate care for pregnant women. An increase in the mother’s age at first pregnancy and longer birth intervals would also reduce the incidence of low-birth-weight babies. This requires interventions that tackle early marriage and provide better family planning.

Although reducing the number of low-birth-weight babies born to women in Nepal is an ideal response to lowering neonatal mortality, improvements in the care of low-birth-weight babies would also help. Extra attention should be given to warmth, feeding, and prevention or early treatment of infections. Complex technology is not a prerequisite. Interventions should also aim to provide appropriate training for facility-based medical staff in the primary healthcare system. In addition, since most babies are still born at home, it is important to provide primary caregivers (mothers and their relatives) with knowledge on the care of low-birth-weight babies, and to stimulate referral by community-based health providers, when it is needed. The National Neonatal Health Strategy includes proposals for ‘kangaroo’ care of low-birth-weight babies in hospitals (an approach based on continuous skin-to-skin contact with the mother to encourage breastfeeding and ensure warmth), and for improving community-based recognition and referral of low-birth-weight babies [234].

The main intervention that addresses the care of pregnant women and their newborn is the Ministry of Health and Population’s Safe Motherhood Programme, to which both the

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Profile of a woman at risk of delivering a low-birth-weight baby

She is a young woman who cannot read and write. Her family leads an agrarian lifestyle in a rural setting. As a result of lifelong malnutrition, she is stunted, underweight and anaemic. She has her first baby in her teenage years, probably pre-term. She receives little or no antenatal care, and conceives her children at short intervals.

Source: [7]
Nepal Safer Motherhood Project, supported by DFID, and UNICEF contribute. The Nepal Safer Motherhood Project and UNICEF also provide training to healthcare staff based in medical facilities on essential newborn care. Community-based interventions by Mother Infant Research Activities (MIRA) and CARE Nepal have included the care of small newborns; however, they have limited geographical coverage.

Hypothermia
Hypothermia is another underlying cause of neonatal death in Nepal, particularly during the cold winter months [6]. Again, there are no national figures or information for home births. One hospital-based study showed that during winter, most infants were moderately hypothermic by WHO criteria for much of their first eight hours of life [239]. Another study found that about 50 per cent of babies born at the Maternity Hospital in Kathmandu were still moderately hypothermic 24 hours after birth [240].

Neonatal hypothermia in Nepal can be attributed to inappropriate care practices for newborns. Although core body temperatures have not been recorded in the community, one study found that 92 per cent of newborns had been bathed within an hour of birth, and 36 per cent had not been properly wrapped within half and hour of birth [8]. Another study found that 70 per cent of newborns were bathed within the first hour, and over 60 per cent were not dried or wrapped warmly before the placenta was delivered (this usually occurs in the half-hour following birth) [241].

Response
The National Neonatal Health Strategy addresses hypothermia both at healthcare facilities and in the community. District hospitals should monitor for hypothermia and provide management through low-tech warming devices, where appropriate. In the community, healthcare workers should be knowledgeable on the causes of hypothermia and should be able to provide appropriate advice to primary caregivers about its prevention. There have been some community-based interventions that include the prevention of hypothermia as a strategy to reduce neonatal mortality. The Saving Newborn Lives Initiative Nepal, implemented by Save the Children US, aims to train home-based caregivers in appropriate care for newborns, including practices that prevent hypothermia. Mother Infant Research Activities (MIRA) and CARE Nepal also carry out activities aimed at reducing hypothermia in home-based births, although they cover a limited geographical area.

Birth asphyxia
Birth asphyxia is one of the commonest direct causes of neonatal death in Nepal, as it is throughout the world. Although exact figures for Nepal are scarce, a study in 1995 suggested that up to 48 per cent of neonatal deaths in the community might be the result of birth asphyxia [5]. Even hospital-based studies give a figure of about 30 per cent [242]. A study at the Maternity Hospital in Kathmandu found that five per cent of live births showed the presence of severe birth
asphyxia [4]. However, recent data from Kathmandu hospitals show a gradual decline in the proportion of birth asphyxia in neonatal death over the last five years [243]. This is probably the result of improvements in obstetric care in hospital.

**Response**

Birth asphyxia most often occurs when delivery is not facilitated by a skilled attendant. Increasing skilled attendance would significantly reduce birth asphyxia in Nepal and accordingly lower neonatal mortality. The National Neonatal Health Strategy recognizes this fact and has placed high priority on training skilled attendants to resuscitate asphyxiated babies. In addition, it proposes that home-based caregivers and community healthcare providers be given information so that they are able to recognize when a newborn baby has breathing difficulties, and be able to provide simple care or referral. Within health facilities, various ventilation practices are recommended.

Interventions for facility-based medical staff across the country have included training on neonatal resuscitation (incorporated into training on emergency obstetric care for skilled birth attendants) supported by the Nepal Safer Motherhood Project and UNICEF and conducted by the National Health Training Centre. In addition, on-site training has been conducted by professional associations such as the Nepal Paediatric Society (NEPAS) and the Perinatal Society of Nepal (PESON). Within the community, interventions by various donor-funded projects (CARE Nepal, UNICEF, MIRA) have focused on providing training for village-level healthcare providers.

**Infection**

Infection is considered to be a leading cause of death for neonates in Nepal, as it is globally. However, figures for Nepal are scarce. Hospitals in Kathmandu report infections to be responsible for most neonatal deaths. For example, the Teaching Hospital in Kathmandu recorded that 52 per cent of deaths in the first week of life during 2000/01 were caused by infection, including respiratory infections, umbilical and skin infections, meningitis, and severe diarrhoea [243]. These infections are becoming more important in neonatal mortality, as birth asphyxia is controlled—especially in hospitals [243]. Although community-based reports from Nepal are not available, it is estimated that probably a quarter of neonatal deaths, and maybe more, are due to infections [6].

Neonatal tetanus used to be the leading cause of infection, but an extensive vaccination programme targeting pregnant women as well as improvements in birthing hygiene and practices have dramatically reduced its prevalence [244]. During a vaccination campaign from 2001 to 2004, over 80 per cent of women aged 10–39 years were vaccinated (three doses of tetanus toxoid) [245].

The underlying cause of most neonatal infections is the lack of skilled attendance. In Nepal, only 13 per cent of births are attended by trained personnel, and the vast majority of these are in hospital [1]. Over 89 per cent of births are at home [1]. The lack of skilled attendance at most home births means that there are inevitably poor delivery practices that exacerbate the risk of inducing infections in newborns. These include long labour, unhygienic conditions, inappropriate care of newborns, a delay in recognizing that an infection may have started, and a further delay in seeking medical care.

**Response**

**Skilled attendance:** Although skilled attendance for all home births is still a long way off in Nepal, some progress has been made. See the chapter on Maternal Mortality for more information on skilled attendance. Long labour often results in newborns that have been highly stressed and are consequently vulnerable to various infections. The National Neonatal Health Strategy acknowledges that neonatal death is closely linked to the care of the mother during labour and delivery. The recognition by families and community-based healthcare providers of long labour as a danger sign for the child as well as the mother would help to prevent neonatal infections. Information provided during antenatal care can help home-based caregivers to recognize the danger signs associated with delivery and seek appropriate medical care.
**Birthing hygiene:** Another way of reducing neonatal infection is to improve birthing hygiene within the home. Traditionally, birth is viewed as a natural process that does not require special consideration. Moreover, it is considered by many Hindus to be ritually polluting. Families use their everyday spaces and their everyday tools to accomplish the task. A study in the late 1980s found that a razor blade, knife or sickle was commonly used to cut the umbilical cord; none of which was made clean (sterilized) beforehand [246]. In addition, materials such as mustard oil, ash, or cow dung were often applied to the cord to stop bleeding [216]. More recently, the Nepal Multiple Indicator Surveillance found that 41 per cent of households used un-boiled instruments [216].

The National Neonatal Health Strategy recognizes these practices as harmful, and focuses on preventing neonatal infection through the use of clean delivery practices. A health communication strategy called the ‘Three Cleans’ is used to train community members and Traditional Birth Attendants to ensure that women have a clean place to give birth (a plastic sheet), that attendants have clean hands (washed with soap), and that a clean instrument (a new blade) is used to cut the umbilical cord. This strategy has been packaged into a low-cost Clean Home Delivery Kit, and has been promoted by USAID since the early 1990s. In addition, some social marketing initiatives have been undertaken by other donors to spread its use. The kit currently costs about NRs 25 [1].

Across Nepal as a whole, the clean home delivery kit is being used in about nine per cent of home births [1]. Use is greater in urban areas than rural areas, and in the terai compared to the hills and mountains. A small survey in one district by the Saving Newborn Lives Initiative found that following a campaign to boost the use of home delivery kits over 25 per cent of women had used one at their last delivery. Moreover, of those families who had not used a kit, nearly 75 per cent had used a new or boiled blade to cut the child’s umbilical cord [241]. A trained Traditional Birth Attendant is twice as likely to use a kit as an untrained Traditional Birth Attendant [216].

In addition to use of home delivery kit, good personal hygiene helps to prevent infections. Eighty-five per cent of Traditional Birth Attendants reported that they washed their hands with water and soap before a delivery, 10 per cent washed their hands with water only, and four per cent did not wash their hands before attending a delivery (with no apparent difference between trained and untrained Traditional Birth Attendants) [216].

**Breastfeeding:** Another focus of attention to reduce neonatal infection has been home-based care practices of newborns. Breastfeeding, and particularly feeding of the first breast milk (colostrum), is extremely important in this context, as breast milk is rich in antibodies and highly nutritious. Although the NDHS 2001 found that breastfeeding is nearly universal in Nepal at about 98 per cent, it also found that initiation is delayed by more than 24 hours for many babies [1]. Just over 30 per cent of newborns received their first breastfeed within an hour of birth, and only 64 per cent had received breast milk within the first 24 hours. As well as a delay in the initiation of breastfeeding, only 69 per cent received colostrum and 41 per cent were given a prelacteal feed (i.e., something other than breast milk is given to the child before breastfeeding becomes regular). Both these practices increase the likelihood of infection. Children delivered at home and attended by a Traditional Birth Attendant are more likely than others to experience a delay in the initiation of breastfeeding, to be denied colostrum, and to receive a prelacteal feed [1].

The National Neonatal Health Strategy recommends that breastfeeding is initiated within one hour of delivery and that no prelacteal feed is given to newborns. It also promotes exclusive breastfeeding in order to reduce sources of infection for neonates (and older infants).

**Hypothermia:** Neonates can also become vulnerable to infection if they develop hypothermia. Most newborns are bathed within an hour of birth, and many are not
wrapped properly for some time after delivery. See the section above on Hypothermia for more details.

**Awareness of danger signs:** Another factor that leads to the death of neonates from infections is the inability of home-based caregivers to recognize the early danger signs. A study in one district by the Saving Newborn Lives Initiative found that only about 35 per cent of mothers recognized difficulty in breastfeeding, difficulty in breathing, fever, and umbilical infection as serious conditions that could lead to death [247]. The National Neonatal Health Strategy suggests that home-based caregivers and community healthcare workers should be able to recognize the symptoms of common infections and seek appropriate care. When infections become too serious for village-level treatment, community-based healthcare providers should be able to refer families to higher level healthcare facilities. In addition to an inability to recognize neonatal danger signs, many families do not seek timely appropriate healthcare for newborn babies. See the chapter on Health Services for more details. Initially, families try home-based herbal remedies to cure symptoms of sickness. If these fail, then they seek help elsewhere.

**Prematurity complications**
Although the complications of prematurity are an important cause of neonatal death, Nepal does not collect disaggregated data on their occurrence. They are subsumed into the low-birth-weight category. Most deaths in moderately pre-term babies can be prevented with the same measures for preventing deaths in full-term low-birth-weight babies (i.e. extra attention to warmth, feeding and prevention or early treatment of infections), as outlined in the National Neonatal Health Strategy.

**Congenital anomalies**
Congenital anomalies account for a relatively small number of neonatal deaths in Nepal [6]. According to neonatal ward records at the Teaching Hospital in Kathmandu, 42 congenital anomalies were seen in a total of 2935 births during 2000/01. The most common anomalies were neural tube defects, cleft lip and palate, club foot, hypospadius, and Downs syndrome. Neural tube defects account for about 15 per cent of congenital malformations [243].

**CAUSES OF DEATH IN UNDER-FIVES**
Once a child has survived the first month of life (the neonatal period), it is likely to encounter a new range of threats to its survival. In Nepal, as elsewhere across the world, diarrhoea, acute respiratory infection and measles are responsible for most under-five deaths. Underlying many of these deaths is malnutrition. See the chapter on Child and Maternal Nutrition for a discussion of malnutrition in Nepal.

**Diarrhoea**
The overall prevalence rate for diarrhoea in under-fives in Nepal is about 20 per cent (Table 14) [1]. Children living in households where the main source of drinking water is from a well (dug well, tubewell or borehole) are more prone to diarrhoea than children living in households with access to piped drinking water. Prevalence reaches a peak in children aged 6–11 months and then gradually falls off.

**TABLE 14: Prevalence of diarrhoea in children aged under five years**

<p>| Percentage of children with diarrhoea in the two weeks preceding the survey |</p>
<table>
<thead>
<tr>
<th>Age (months)</th>
<th>Sex</th>
<th>Residence</th>
<th>Source of drinking water</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 6</td>
<td>Male</td>
<td>Urban</td>
<td>Piped water</td>
</tr>
<tr>
<td>6–11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12–23</td>
<td>Female</td>
<td>Rural</td>
<td></td>
</tr>
<tr>
<td>24–35</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>36–47</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>48–59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: [1]
This pattern can be explained by simply examining a child’s world and activities. At under six months, most children in Nepal are breastfed; however, only two-thirds are exclusively breastfed and so some diarrhoeal events will occur [1]. From six months to one year, children start to consume prepared foods and water as well as breastmilk. However, their food at this age is often of poor quality and the first effects of malnutrition can be seen. Children also begin to move around their environment, usually on their hands and knees; as they explore their surroundings, they often chew on things and put items into their mouth. Moreover, their immune system is still developing. All these factors mean that children of this age are most susceptible to encountering the contaminants that cause diarrhoea, and least able to defend themselves against these contaminants. As children grow older, their food quality improves, they start walking upright and so reduce their contact with the ground, and their immune system becomes stronger and better able to fight off infections.

Incidence of diarrhoea shows some seasonal variation in Nepal, with an notable increase at the start of summer and the monsoon. In 2003/04, the number of reported cases increased about 50 per cent in March/April over the previous month, reached its peak in May/June, and was down to pre-monsoon levels by September/October [40].

The causes of diarrhoea are closely related to sanitation and hygiene facilities and practices. Inadequate access to safe water supplies combined with poor environmental sanitation and personal hygiene practices account for the vast majority of diarrhoeal cases in Nepali children. See the chapter on Water and Sanitation for more details.

The combination of increased coverage of safe water and latrines, more effective information messages, and greater access to and use of oral rehydration solution have had a significant impact on the incidence and severity of diarrhoea in recent years. The incidence of diarrhoea has fallen from 3.3 episodes per under-five child per year to 1.7 episodes per child per year [9].

**Response**

In response to this situation, the Child Health Division of the Department of Health Services has developed a number of strategies that aim to reduce the number of children aged under five years who die from diarrhoea each year.

In 1983, the first National Control of Diarrhoeal Diseases (CDD) Programme was launched [6]. It was strengthened in 1987 and 1993, with the aim of equipping health workers with the knowledge and skills necessary for satisfactory case management. In 1998, it was merged with Community–based Acute Respiratory Infection (ARI) Programme to form the Community-based ARI and CDD (CBAC) Programme. The CBAC strategy was then merged with the Community–based Integrated Management of Childhood Illness (CB–IMCI) strategy in 1999, and now covers 31 districts. It is implemented with support from WHO, UNICEF, USAID, Nepal Family Health Programme, CARE Nepal, Plan Nepal, Save the Children US, JICA, and AusAID.

The diarrhoea-control component of this programme aims to improve recognition of the danger signs of diarrhoea and ensure timely referral to a nearby health facility. It focuses on initial home treatment of diarrhoea, and particularly of its related dehydration, with oral rehydration therapy given by home-based caregivers. Oral rehydration therapy can include recommended home fluids (such as breastmilk) but the use of oral rehydration solution (ORS) is the main method being promoted. Female Community Health Volunteers serve as the primary providers of
ORS, now distributing about 40 per cent of ORS packets. If oral rehydration therapy is insufficient to stop the progress of the disease, community healthcare providers are expected to refer children to higher level health facilities. Oral rehydration therapy corners have been established in all hospitals, primary health centres, health posts, and sub health posts.

**Oral rehydration therapy:** Public communication messages about the treatment of diarrhoea have been widely heard. The NDHS 2001 found that over 98 per cent of mothers knew about ORS as a treatment for dehydration associated with diarrhoea [1]. However, putting this knowledge into practice is still taking some time. The NDHS 2001 also found that despite messages recommending that an increased amount of fluid is given during an episode of diarrhoea, about 16 per cent of children were given nothing to drink, and an additional 24 per cent were offered less to drink than normal [1]. It is known that some mothers restrict breastmilk to children under six months when they have diarrhoea, although this is harmful. However, there are no figures on its prevalence.

Of the children that had had diarrhoea in the two weeks preceding the survey, only 32 per cent had been treated with ORS (Table 15). An additional 27 per cent had received increased fluids (an acceptable initial response to diarrhoea) [1]. However, a large proportion of children with diarrhoea (35 per cent) were not given any treatment, and the remainder were given either a pill or syrup, or some other form of home remedy.

There are some noteworthy characteristics associated with therapeutic intervention. Generally, oral rehydration therapy and visiting a health provider increases with the age of the child up to 24–35 months and declines thereafter (Figure 45). Similarly, the proportion of children not treated decreases with age of the child after two years. There is little difference by the sex of the child. Urban children are more likely than rural children to receive ORS or be taken to a health provider. Children of educated mothers are more likely to receive oral rehydration therapy and be taken to a health provider than children of non-educated mothers.

Although there are still many children not receiving appropriate care for diarrhoea, the number of severe cases among all cases reported in health facilities has fallen over the last decade from 11 per cent in 1994/95 to less than three per cent in 2003/04, and case fatality rates are down [40; 248].

The efforts that are currently being made to reduce child mortality through the control diarrhoeal disease are beginning to pay

| TABLE 15: Percentage of children with diarrhoea treated with ORS, taken to a health provider, or receiving no treatment |
| --- | --- | --- |
| Age (months) | Treated with ORS | Taken to health provider | No treatment |
| < 6 | 11.2 | 9.9 | 64.2 |
| 6–11 | 23.8 | 23.1 | 39.1 |
| 12–23 | 39.2 | 26.3 | 28.8 |
| 24–35 | 32.9 | 20.1 | 28.1 |
| 36–47 | 41.3 | 18.3 | 32.5 |
| 48–59 | 29.2 | 19.9 | 37.4 |
| Sex | | | |
| Male | 32.5 | 20.2 | 33.4 |
| Female | 31.8 | 22.2 | 36.9 |
| Residence | | | |
| Urban | 45.6 | 23.1 | 25.7 |
| Rural | 31.4 | 21.1 | 35.6 |
| Mother’s education | | | |
| No education | 29.1 | 18.7 | 37.3 |
| Primary | 39.0 | 27.4 | 31.5 |
| Some secondary | 43.0 | 26.7 | 26.8 |
| SLC and above | (57.9) | (45.9) | (9.4) |
| Total | 32.2 | 21.2 | 35.1 |

Notes: Rates in parentheses are based on small sample sizes. Source: [1]
dividends for older children. However, more has to be done to reduce the incidence of diarrhoea among children aged 6–11 months. The Ministry of Health and Population has recently endorsed the use of zinc as a supplement during episodes of diarrhoea for children aged less than five years, and will be piloting it in five districts in 2005/06. Partners to the programme include UNICEF, CARE Nepal, USAID, Plan Nepal and JICA.

**Acute respiratory infection**

Acute respiratory infection is a major cause of child mortality in Nepal. It is estimated that between 17 per cent and 35 per cent of all under-five deaths are caused by pneumonia [6].

The NDHS 2001 found that about 23 per cent of children aged under five years had exhibited a cough accompanied by short rapid breathing (symptoms of acute respiratory infection) in the two weeks preceding the survey (Table 16) [1]. The prevalence of acute respiratory infection peaks in children aged 6–11 months and then gradually declines as children grow older (Figure 46). This is similar to the pattern for diarrhoea (see above). There are no significant differences in the prevalence of acute respiratory infection by sex of the child and urban–rural residence. However, there are marked differences by region of residence. The prevalence of acute respiratory infection is lowest in the hills, followed by the terai and the mountains. Prevalence tends to be lower in the western half of the country compared to the eastern half. It varies little by mothers’ education, with the exception of children of mothers with at least an SLC level of education, who are least likely to show symptoms. It should be noted that prevalence of acute respiratory infection is subject to a degree of seasonality.

**Treatment of acute respiratory infection**

Although it is difficult to prevent children from experiencing recurrent episodes of acute respiratory infection, mortality can be reduced with appropriate early treatment. For this to occur, caregivers need to be able to recognize the danger signs of the condition, and they have to be willing and able to take children to healthcare providers for treatment. Figures on the knowledge of danger signs associated with acute respiratory infection (coughing, short and rapid breathing, fever) are not available. However, the use of a healthcare facility or healthcare provider for the treatment of acute respiratory infection and/or fever is low in Nepal.
The NDHS 2001 found that mother reported that 23 per cent of children had had a cough or rapid breathing in the two weeks preceding the survey, and 32 per cent had had a fever [1]. However, less than 24 per cent of these children were taken to a healthcare facility or provider for treatment [1]. Children aged 24–35 months were least likely (19 per cent) to be taken for treatment, while those aged 6–11 months were most likely to be taken for treatment (28 per cent). A higher proportion of male children than female children were taken for treatment (26 per cent compared to 22 per cent), and a higher proportion of urban children than rural children were taken to a healthcare facility or provider (33 per cent compared to 23 per cent). Children of mothers with no education were least likely to be taken for treatment (21 per cent) compared to children of mothers with some education (more than 29 per cent).

The reasons for this reluctance to take children for treatment are complex. As explained in the chapter on Health Services, many families lack trust in the quality of the health service and feel that there is little point in using its facilities. Some people are not aware of the treatment options that are available or from whom to seek advice. Access to a healthcare provider or facility can be constrained by distance or time. In many cases, the costs associated with treatment (for transportation or medicine) are unaffordable. Some people will also consult a local traditional healer (shaman, guruba, etc.) in the belief that illness is caused by ghosts or bad spirit before using modern health facilities. A study in one district found that about 37 per cent of mothers used a combination of both traditional healers and modern health facilities [247].

Another determinant of a mother’s ability to obtain healthcare for her children is her status within the family. The NDHS 2001 shows that greater autonomy in decision-making is positively related to utilization of healthcare facilities. It found that 30 per cent of children of women who participate in five household decisions are taken to a healthcare provider for the treatment of acute respiratory infection compared to 20 per cent of children of women who have no decision-making authority [1].

**Measures to prevent acute respiratory infection**

Although total prevention is not possible, the incidence and severity of acute respiratory infection can be influenced by poor personal hygiene and childcare practices, and by indoor air pollution. Acute respiratory infection is spread by the coughing or sneezing of infected individuals. In Nepal, people generally make no effort to cover their mouth when they cough or to use a handkerchief. In fact, public spitting is commonplace. Although acute respiratory infection can be reduced by regular hand washing, most people in Nepal only wash their hands occasionally during the day and do not increase hand washing when they have a cough.

Malnutrition can also lead to and exacerbate acute respiratory infection. Children that are poorly nourished are often unable to fight off an initial infection and can quickly develop severe pneumonia.

Within the household environment, the pollution caused by an open wood-burning stove can lead to serious respiratory problems. The kitchen is often a communal space where families spend much time together. In many houses, it is inadequately ventilated and can be quite smoky. A recent study estimated that the air close to

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1 Particulate matter measuring less than 10 microns (PM10).
traditional stoves can contain up to over 8000 µg m⁻³ of particulate matter¹ compared to an international safe standard of 50 µg m⁻³ [249]. As mothers spend much of their time preparing and cooking meals, their children inevitably spend time in this low-quality atmosphere as well. This situation is likely worst in the mountain areas where the houses are not well ventilated and families gather round the fire during cold weather.

Response

The Child Health Division of the Department of Health Services launched a National Control of ARI Programme in 1987. It was merged with the National Control of Diarrhoeal Diseases (CDD) Programme in 1998, and now forms part of the Community–based Integrated Management of Childhood Illness (CB–IMCI) programme, which currently covers about 56 per cent of Nepal's under-fives. It is implemented with support from WHO, UNICEF, USAID, Nepal Family Health Programme, CARE Nepal, Plan Nepal, Save the Children US, JICA, and AusAID.

The strategy used to reduce mortality from acute respiratory infection includes the education of mothers and other caregivers in initial home treatment of simple cough and cold, and in the danger signs associated with pneumonia and more severe forms of acute respiratory infection. If caregivers suspect that the condition is becoming serious, they are encouraged to seek advice from community-level healthcare providers. At this level, cases are assessed and classified into three groups: severe pneumonia, pneumonia, or no pneumonia. Children who are diagnosed with pneumonia are treated at the local level with antibiotics, and children with severe pneumonia are referred to a higher-level health facility, e.g., health post or primary healthcare centre.

This strategy has shown promising results. Statistics gathered by health facilities nationwide suggest that the proportion of cases classified as severe has fallen from 12 per cent on 1995/96 to less than three per cent in 2003/04, and case fatalities have fallen in parallel [40; 248]. This indicates that children are receiving appropriate treatment at an earlier stage. During the same period, the incidence of acute respiratory infection has increased [40; 248]. This is probably the result of increased reporting, following expansion of programme coverage, and indicates that more children now have access to treatment.

Vaccine-preventable diseases

As a consequence of Nepal's immunization programme, many deaths of children aged under five years from vaccine-preventable diseases have been averted. The Government of Nepal has recognized that immunization is an extremely cost-effective way of reducing child mortality from measles and other vaccine-preventable diseases. The Expanded Programme on Immunization (EPI), implemented by the Ministry of Health and Population with support from UNICEF, WHO, JICA and USAID, is considered a priority [6]. Since 1989, the programme has covered all 75 districts, and all children are offered a full programme of vaccinations.

Most families in Nepal access immunization services for their children through outreach sessions that are run in the community. The government standard is that there are 3–5 outreach sessions in each VDC each month; this means that the relevant workers from the health facility in the VDC bring vaccines to 3–5 different locations in the VDC each month. Immunization is also available at health facilities and hospitals. However, immunizations is only available at sub health posts on certain days, as relevant health staff are away running outreach sessions on other days.

To be fully immunized, a child in Nepal should receive the following vaccinations before his/her first birthday: one dose of BCG², three doses each of DPT³, polio and hepatitis B vaccine, and one dose of measles vaccine. BCG is given at birth or at first clinical contact. DPT, polio and hepatitis B each require three vaccinations at approximately six weeks, 10 weeks and 14 weeks of age; measles vaccine is given at or soon after nine months of age. However, since this regime is not always followed in Nepal, it is recommended that if a child misses the measles vaccination before

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² BCG protects against tuberculosis.
³ DPT protects against diphtheria, pertussis and tetanus.
Table 17 presents survey data of vaccination for children aged 12–23 months [1]. Over 65 per cent of children aged 12–23 months have received full vaccination. Male children are slightly more likely to be fully immunized than female children [1]. Birth order has a negative

Routine immunization coverage

Since fully immunized data are not reported by the Ministry of Health and Population, DPT3 coverage is taken as a proxy indicator for full routine immunization. Annual reports from the ministry indicate that the routine DPT3 immunization coverage has increased gradually from 80 per cent in 2000 to 90 per cent in 2004 [40]. The NDHS 2001 indicates that the programme has reached over 99 per cent of children with at least one dose of vaccine; however only 67 per cent complete the schedule (Figure 47) [1]. In 2004, 22 districts fell below the minimum level of 80 per cent DPT3 coverage [40]. Four districts were extremely poor at less than 60 per cent.

Table 17 presents survey data of vaccination for children aged 12–23 months [1]. Over 65 per cent of children aged 12–23 months have received full vaccination. Male children are slightly more likely to be fully immunized than female children [1]. Birth order has a negative

### TABLE 17: Percentage of children aged 12–23 months who had received vaccinations

<table>
<thead>
<tr>
<th></th>
<th>BCG</th>
<th>DPT1</th>
<th>DPT2</th>
<th>DPT3</th>
<th>Polio0</th>
<th>Polio1</th>
<th>Polio2</th>
<th>Polio3</th>
<th>Measles</th>
<th>All</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>86.1</td>
<td>85.8</td>
<td>81.8</td>
<td>74.2</td>
<td>2.9</td>
<td>99.3</td>
<td>99.0</td>
<td>92.1</td>
<td>72.9</td>
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<td>98.7</td>
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<td>90.9</td>
<td>68.5</td>
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<tr>
<td>1</td>
<td>90.5</td>
<td>91.2</td>
<td>87.1</td>
<td>78.2</td>
<td>2.9</td>
<td>98.6</td>
<td>98.6</td>
<td>95.2</td>
<td>76.3</td>
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<tr>
<td>2–3</td>
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<td>87.1</td>
<td>82.3</td>
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<td>2.7</td>
<td>99.1</td>
<td>98.5</td>
<td>93.1</td>
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<td>70.9</td>
<td>62.8</td>
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<td>6+</td>
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<tr>
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<tr>
<td>Urban</td>
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<td>73.1</td>
<td>3.2</td>
<td>97.3</td>
<td>96.9</td>
<td>93.2</td>
<td>68.0</td>
<td>64.8</td>
<td>2.7</td>
</tr>
<tr>
<td>Mid-Western</td>
<td>81.7</td>
<td>80.5</td>
<td>86.4</td>
<td>74.0</td>
<td>1.2</td>
<td>99.2</td>
<td>98.7</td>
<td>86.4</td>
<td>76.1</td>
<td>69.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Far Western</td>
<td>69.5</td>
<td>68.7</td>
<td>64.1</td>
<td>63.2</td>
<td>1.0</td>
<td>99.6</td>
<td>98.3</td>
<td>85.3</td>
<td>66.5</td>
<td>59.7</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Mother’s education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>79.7</td>
<td>78.8</td>
<td>72.5</td>
<td>64.3</td>
<td>1.1</td>
<td>98.6</td>
<td>98.1</td>
<td>89.0</td>
<td>63.2</td>
<td>57.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Primary</td>
<td>94.4</td>
<td>94.7</td>
<td>90.8</td>
<td>87.8</td>
<td>3.2</td>
<td>100.0</td>
<td>99.4</td>
<td>96.5</td>
<td>84.6</td>
<td>83.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Some secondary</td>
<td>96.7</td>
<td>97.9</td>
<td>96.2</td>
<td>93.6</td>
<td>4.5</td>
<td>100.0</td>
<td>99.2</td>
<td>98.5</td>
<td>92.9</td>
<td>89.9</td>
<td>0.0</td>
</tr>
<tr>
<td>SLC and above</td>
<td>100.0</td>
<td>100.0</td>
<td>97.8</td>
<td>96.4</td>
<td>6.6</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>93.1</td>
<td>90.9</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>84.5</td>
<td>84.0</td>
<td>78.7</td>
<td>72.1</td>
<td>2.0</td>
<td>99.0</td>
<td>98.5</td>
<td>91.5</td>
<td>70.6</td>
<td>65.6</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Notes: 1 Polio0 is the polio vaccination given at birth. 2 All is BCG, measles and three doses each of DPT and polio vaccine (excluding polio0).

Source: [1]
relationship with vaccination coverage—as birth order increases vaccination coverage decreases. As expected, urban coverage is higher than rural coverage; however, the gap has narrowed over the last five years. The proportion of children fully immunized is higher in the hills than in the mountains and the terai. Full coverage is highest in the Eastern Development Region. The percentage of children fully immunized increases with mother’s educational level [1].

**Disease-specific interventions**

**Measles:** Among all vaccine-preventable diseases, measles is the major killer of children in Nepal. The Ministry of Health and Population estimates that measles accounts for 3000–5000 deaths each year, often from the related complications of diarrhoea and pneumonia. A national measles campaign targeting children aged nine months to 14 years was completed in 2005, with over 95 per cent coverage. This is expected to reduce measles deaths by over 90 per cent. Measles incidence follows a regular cycle, with peaks about every two to four years. Incidence rates for reported cases in Nepal range from 60 per 100,000 people to 28 per 100,000 people per year [250]. However, for every case reported at a clinic, it is estimated that nine cases go unreported [250]. Case fatality rates for Nepal are estimated to be about two per cent [250]. The incidence rate for infants is 23 per 100,000; for children aged 1–4 years, it is 43 per 100,000; and for children aged 5–9 years, it is 24 per 100,000 [250].

**Polio:** In addition to the routine doses of polio vaccines given during clinical visits, the Expanded Programme on Immunization includes supplemental immunization activities, including national immunization days (NIDs) for polio eradication and outbreak response immunization for all cases in high-risk areas [1]. The national immunization days have been held regularly since 1996 and more recently a modification of the immunization strategy has resulted in intensive national immunization days, including sub-national immunization days and mopping-up rounds. As a result of these activities, Nepal has reduced the polio disease burden dramatically. The last wild polio case was reported in November 2000. Since then, Nepal has successfully managed to sustain its zero-wild-case status. However, the country faces a tremendous challenge from cross-border transmission on account of its 800-kilometre open border with India (India reported 11 per cent of the global disease burden in 2004).

**Neonatal tetanus:** The death rate from neonatal tetanus used to be a major concern for Nepal. The true magnitude of the disease burden in Nepal is not known due to a weak surveillance system and the ‘silent killer’ nature of the disease, which kills neonates before the disease is identified and reported to a health facility. Annual reports from the Department of Health Services provide data on the number of cases reported to health facilities. These show a remarkable decrease in the number of neonatal cases since the initiation of the maternal and neonatal tetanus campaign in 2001 (Figure 48). The elimination of maternal and neonatal tetanus in Nepal (less than one neonatal tetanus case per 1000 live births) was validated by a WHO survey in late 2005 [326].

**New vaccines:** With support from the Global Alliance for Vaccines and Immunization (GAVI), Nepal introduced hepatitis B vaccine in 2002 in three districts. It will be gradually expanded to all 75 districts by 2005. In addition, from 2005 Nepal will be transitioning from the hepatitis B monovalent vaccine to the DPTHepB combination vaccine.
Nepal is preparing to introduce Japanese encephalitis (JE) vaccine from 2006. Japanese encephalitis is endemic in 24 southern districts, taking approximately 200 lives every year, mostly of children aged less than 15 years. In line with the Global Immunization Vision, Nepal has developed an immunization plan of action for 2007–2012. This plan envisages that Nepal will introduce two more new vaccines (measles, mumps, rubella (MMR) and *Haemophilus influenzae* type B (HiB)) in 2008.

**Financial sustainability**

In the past, UNICEF supplied all vaccines for routine immunization. However, over the last five years, Nepal has gradually increased its government budget allocation for vaccine purchase, and now purchases all vaccines except for polio vaccine, which is supplied by UNICEF, and hepatitis B vaccine, which is supplied by the Global Alliance for Vaccines and Immunization through UNICEF. With the plans to introduce new vaccines, the cost will increase tremendously. The Ministry of Health and Population has developed a financial sustainability plan that shows a significant funding gap from 2008 onward. Support from the Global Alliance for Vaccines and Immunization for vaccines and auto-disposable syringes will continue until the end of 2005. After that, Nepal plans to apply for the second round of support for 2006–10. Other major funders of immunization services include WHO, JICA, USAID, DFID, and the World Bank.

**Accidents and injuries**

Although it is extremely difficult to put an accurate figure on the number of under-five deaths that occur as a result of accidents and injuries in Nepal, it can be assumed that a substantial number do. The government collects statistics on the treatment of various conditions at health facilities, and this reveals that children are regularly treated for burns, broken bones, and snake bites. CWIN’s database records 190 deaths due to accidents and 90 serious injuries in the first six months of 2004 [251].

Accidents naturally have a number of causes. However, negligence—to a greater or lesser degree—probably plays a role in many of them. Children in Nepal are often left unattended or in the care of non-adult siblings for long periods of time. Better supervision of young children, for example, in crèches or child development centres, would go some way to preventing accidents and reducing the number of deaths.

Deaths from accidents also occur as a result of the lack of capacity at local-level health facilities for managing such events. Community health workers can often only offer limited care in the form of first aid or advice. Serious accidents usually require treatment in a high-level health facility that can be far from the community. Ambulance services are extremely limited or non-existent, and are often expensive. In addition, treatment in hospital is unaffordable for many families.

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**Vector-borne diseases**

Although vector-borne diseases kill relatively few under-fives in Nepal, they do cause some deaths, particularly of 3–4 year olds and those living in the *terai*. The three main vector-borne diseases that affect Nepal are malaria, *kala azar* (visceral leishmaniasis) and Japanese encephalitis. In 2000/01, there were 7805 reported cases of malaria; of which 40 per cent were in children aged 0–14 years. There were also 1794 cases of *kala azar*, of which 28 per cent were in children aged 0–14 years. There were 1729 reported cases of Japanese encephalitis, of which 55 per cent were in children aged 0–14 years.

*Source: [6]*
ORGANIZATION OF THE HEALTH SERVICE

The health system in Nepal has two components to its structure: the administration of health policy and the service provision that is determined by policy.

The administrative pillar is headed by the Ministry of Health and Population. This is the principal governmental institution that plans and monitors the healthcare delivery system. Within the ministry, there are several departments, including the Department of Health Services. The Department of Health Services oversees a number of divisions, including the Family Health Division and the Child Health Division. Each region has a Regional Health Directorate, and each district has either a District Public Health Office or a District Health Office. In addition to this basic structure, there are various councils and centres that focus on specific tasks such as leprosy control or training of health professionals.

The service-delivery pillar is headed by five central hospitals located in Kathmandu. Below this, there are 11 zonal hospitals and 62 district hospitals. These hospitals are linked to 188 primary healthcare centres, 697 health posts, and 3120 sub health posts. In addition, three to five outreach clinics are carried out on one day per month in each VDC. There is at least one health facility (primary healthcare centre, health post or sub health post) in each VDC, covering a population of between 3000–20,000 individuals, depending on the size of the VDC.

The sub health post is usually the first point of contact for basic health services within the community, and is also the referral point for community-based health volunteers. Each level above the sub health post is also a referral point, and can be a first place of contact as well. Table 11 lists activities undertaken at each level specifically for women and children. At the sub health post, health post, and primary healthcare centre levels, these activities are supervised and monitored by the District Public Health Office or the District Health Office.

Community and rural health facilities (sub health posts, health posts, and primary healthcare centres) have the following health providers (Figure 40). Within the community, there are 47,873 Female Community Health Volunteers, and over 15,000 Traditional Birth
### TABLE 11: Activities undertaken at each level of the health service for women and children

<table>
<thead>
<tr>
<th>Sub health post/health post</th>
<th>Women</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenatal care, postnatal care, delivery in selected health posts, emergency obstetric first aid services, family planning (condoms, pills and injectables)</td>
<td>Immunizations, acute respiratory infection and diarrhoeal disease treatment and referral</td>
<td></td>
</tr>
</tbody>
</table>

| Primary healthcare centre   | Antenatal care, postnatal care, delivery, emergency obstetric first aid service and, in select centres, Basic Emergency Obstetric Care, family planning (condoms, pills and injectables, and in select hospitals IUD and Norplant), post-abortion care |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Immunizations, acute respiratory infection and diarrhoeal disease treatment and referral |                                                                                                                                                                    |

| District hospital           | Antenatal care, postnatal care, delivery, and in select hospitals Basic Emergency Obstetric Care, family planning (condoms, pills and injectables, and in select hospitals IUD, Norplant and voluntary sterilization), post-abortion care, comprehensive abortion care |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Immunizations, acute respiratory infection and diarrhoeal disease treatment and referral, management of neonatal and reproductive morbidities |                                                                                                                                                                    |

| Zonal/sub-regional and regional hospital | Antenatal care, postnatal care, delivery, Comprehensive Emergency Obstetric Care, family planning (condoms, pills and injectables, and in select hospitals IUD, Norplant and voluntary sterilization), post-abortion care, comprehensive abortion care |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Immunizations, acute respiratory infection and diarrhoeal disease treatment and referral, management of neonatal and reproductive morbidities |                                                                                                                                                                    |

| National hospital               | Antenatal care, postnatal care, delivery, Comprehensive Emergency Obstetric Care, family planning (condoms, pills and injectables, and in select hospitals IUD, Norplant and voluntary sterilization), post-abortion care, comprehensive abortion care |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Immunizations, management of neonatal complications including intensive care, management and treatment of reproductive morbidities including cancer |                                                                                                                                                                    |

---

**FIGURE 40:**

Primary health service setup—how it is planned in Nepal

In any VDC, there should be at least one health centre performing monthly outreach clinics.

![Diagram of primary health service setup in Nepal](image-url)
Attendants. Each sub health post has one Auxiliary Health Worker, one Village Health Worker, and one Maternal Child Health Worker. Each health post has one Health Assistant, two Auxiliary Health Workers and one Auxiliary Nurse Midwife. Each primary healthcare centre has one Medical Officer (a doctor), one Health Assistant, two Auxiliary Health Workers, one Staff Nurse, and three Auxiliary Nurse Midwives. Table 12 lists the duties and qualifications of each health worker.

Poor human resource development and management policies have left large numbers of posts within the public health service vacant. This particularly affects remote areas, where many sub health posts and health posts are persistently without health workers; in some cases, district hospitals operate without doctors [223]. The conflict has also impacted on the full-time availability in post of health professionals. See the section on Conflict below for more details.

PEOPLE’S PERCEPTIONS OF THE HEALTH SERVICE

A common characteristic running through all analysis of the causes of mortality of women and children in Nepal is the reluctance of families to utilize the government-supported health service. This reflects the reality that many patients are not properly assessed and treated, and their caregivers are poorly advised.

As part of the Nepal Multiple Indicator Surveillance programme in 1997, people were asked about their overall perception of the quality of the health service. Only eight per cent thought it to be good. Fifty-nine per cent rated the service as neither good nor bad, and 33 per cent considered it to be bad [216]. The main problems identified were a lack of medicines, the poor condition of the facility, the ‘bad’ attitude of staff, and the lack of staff at certain times. The opening hours for clinical visits at health facilities are 10 a.m. to 2 p.m.

### TABLE 12: Activities related to maternal and child health undertaken by each rural health worker, and their qualifications/training

<table>
<thead>
<tr>
<th>Health Worker Type</th>
<th>Activities related to maternal health</th>
<th>Activities related to child health</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Child Health Worker and Village Health Worker</td>
<td>Antenatal care, postnatal care, normal delivery, Emergency Obstetric First Aid Service, family planning</td>
<td>Immunizations, acute respiratory infection and diarrhoeal disease treatment and referral</td>
<td>Eight years of school, and six months of training</td>
</tr>
<tr>
<td>Auxiliary Nurse Midwife</td>
<td>Antenatal care, postnatal care, delivery, manual removal of placenta, Emergency Obstetric First Aid Service, family planning</td>
<td>Immunizations, acute respiratory infection and diarrhoeal disease treatment and referral</td>
<td>10 years of school, and 18 months of training</td>
</tr>
<tr>
<td>Auxiliary Health Worker</td>
<td>Family planning, treatment of minor illnesses related to maternal health, referral</td>
<td>Treatment of minor illnesses related to child health, referral</td>
<td>10 years of school, and 18 months of training</td>
</tr>
<tr>
<td>Health Assistant</td>
<td>Family planning, treatment of minor illnesses related to maternal health, referral</td>
<td>Treatment of minor illnesses related to child health, referral</td>
<td>SLC, and two years of training</td>
</tr>
<tr>
<td>Medical Officer</td>
<td>Delivery, Basic Emergency Obstetric Care, family planning</td>
<td>Immunizations, acute respiratory infection and diarrhoeal disease treatment and referral</td>
<td>Intermediate in Science (ISc), and five years of training</td>
</tr>
</tbody>
</table>

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</tr>
</tbody>
</table>
six days a week. From 2 p.m. to 5 p.m. the clinic is closed for visitors, these hours are for administrative work.

The same survey found that nearly twice as many people had used a non-government healthcare provider (24 per cent) as had used a government-supported health facility (12 per cent) in the previous month [216]. The vast majority (91 per cent) of the former had used a private clinic (more common in urban areas), although 36 per cent had used a traditional healer [216]. Of those that had used a government health facility, 48 per cent had used a health post, 25 per cent had used a sub health post, and 22 per cent had used a district hospital [216].

The survey found that in less than a third of visits to government facilities were all medicines required for the treatment available [216]. To overcome the lack of medicines available at a local health facility, most people went to a local drug store (80 per cent) or a private clinic (11 per cent) [216].

There are over 12,000 pharmacy outlets registered in Nepal [224]. Staff at these drug stores often also provide examinations and diagnoses. A UNICEF study in 2003 of one district found that caretakers preferred taking their children to medical stores rather than government health posts, as the former were seen to offer better services (more thorough examination and medicines available) [225].

The Department of Drug Administration monitors about 1300 medical shops every year. In a recent check of 500 medical shops in 18 districts, 30 were unregistered and 130 were run without a certificate for selling medicines [226]. See box for details of the Community Drug Programme, which was initiated to improve the availability of drugs in health facilities.

People surveyed for the Nepal Multiple Indicator Surveillance said that staff at government health facilities were often rude and insensitive [216]. They also said that they were given poor advice, with minimal diagnostic support. A common complaint was the lack of privacy available at sub health posts and health posts, and the lack of female staff available to deal with ‘female’ problems.

Many people have little trust in health service providers. Lack of accountability and lack of transparency among staff were the two top perceived reasons for corruption (bribery) in the health sector in Nepal in a recent study by Transparency International. About 18 per cent of users of public hospitals reported corruption during regular visits [227]. All these factors mean that patients are either not taken to government health facilities for medical treatment or are taken when alternative options have been exhausted. This results in deaths that might have been prevented with prompt and effective treatment.

**GOVERNMENT RESPONSE**

Against this background, the government has focused on improving health services available at the community level. This analysis focuses on improved services for maternal and child health.

The Nepal Safe Motherhood Programme (2002–2017) aims to improve services for maternal care. One of the main foci of the programme is to ensure delivery by a skilled attendant (doctor, nurse, midwife) at 40 per cent of all community and facility-based births by 2017; and to provide access to 24-hour emergency obstetric care. Although it is too early yet to evaluate the full achievements of this programme, some progress has been made, particularly on training personnel (Auxiliary Nurse Midwife, Maternal Child Health Worker) at the health post level and sub health post level. See the chapter on Maternal Mortality for further details.

The Community-Based Integrated Management of Childhood Illness programme aims to improve services for the care and treatment for children. A major component of this programme consists of improving the knowledge and skills of community health providers (Village Health Workers, Maternal Child Health Workers, Female Community Health Volunteers). These personnel and volunteers have been trained to assess sick children for signs of diarrhoeal disease, acute respiratory infection, malnutrition, and measles; to select appropriate treatment or refer to a higher-level
HEALTH SERVICES

facility (health post or primary healthcare centre), if required; to administer the proper dosages of drugs or oral rehydration therapy or immunization (Female Community Health Volunteers do not administer but motivate communities to have their children immunized); to counsel caregivers on how to follow the recommended treatment regimens and provide supportive home care; and to follow up patients and refer them, if complications occur. Community health providers have also been provided with equipment for accurate diagnosis and with a reliable supply of drugs (antibiotics, packets of oral rehydration solution, vitamin A, etc.) for correct treatment.

Evaluation of the Community-Based Integrated Management of Childhood Illness indicates that more people are using government health facilities for the treatment of both diarrhoea and acute respiratory infection, and that they are using them at an earlier stage [228]. This suggests that people have seen an improvement in the services available.

Government data collection
The Health Management Information System (HMIS) gathers nationwide data on health service delivery. It is based on monthly reports from sub health posts to health posts and primary healthcare centres. These facilities in turn send a consolidated report to District Health Offices, who prepare a district report for the HMIS Section of the Department of Health Services in Kathmandu. In Kathmandu, monthly and annual HMIS reports are produced. The HMIS forms are extremely detailed and can be ambiguous. In addition, there is often a lack of staff capacity and time at the various levels in the chain to comply with reporting guidelines and deadlines. These factors lead to late, incomplete, and inconsistent form-filling. This affects the quality and timeliness of the final consolidated report. Due to delay in the production of the annual report, it cannot be used as a basis for planning for the next year. However, it is often used for tracking national trends and making district comparisons in health service delivery [229].

Decentralization
The health sector has been among the four first sectors to be devolved to local bodies, in accordance with the Local Self-Governance Act (see the Background chapter for more on decentralization in general). Local Health Management Committees (LHMC) have been

Community Drug Programme
Although the government healthcare system provides free drugs and consultations for patients, it has been unable to ensure the year-round availability of essential drugs at the community level (primary healthcare centre, health post, and sub health post). Government supplies to these health facilities usually last for only 3–4 months a year. This situation discourages people from using these health facilities, and compels patients to buy drugs from other sources, usually private medical shops. In remote areas, private medical shops are seldom available and people may have to travel for several hours to obtain the drugs they need, often at a high price. This is beyond the capacity of many poor families.

In 1995, the Department of Health Services launched the Community Drug Programme. To date, it has been initiated in 31 districts; some district have full coverage, in others, not all facilities in the district implement the programme. The Community Drug Programme encourages each Local Health Facility Operation and Management Committee to introduce fees for their services, and then utilize the funds raised in this way for replenishing the drug supply. Where the Community Drug Programme is implemented, people have to pay a one-time users’ (or registration) fee, which is normally around NRs 2–5. Then, they must pay for medicines, which are discounted by at least 15 per cent from the retail price. There is also a mechanism for exempting the poorest from paying for medicines.

This system has ensured the year-round supply of drugs at low prices. It has also activated co-management of local health services with the community, and has enabled health facilities to assess their annual drug need more precisely. The Community Drug Programme has improved the availability of essential drugs at the community level, and is being expanded through the Tenth Five-Year Plan.

The Community Drug Programme has been impacted by the conflict in several districts. The Maoist ideology insists that health services should be free and, therefore, they object to the purchase of drugs. In some places, the Community Drug Programme has closed down. There have also been some objections from private suppliers of medicine (usually government-employed health workers with private medical shops) who see the programme as a threat to their livelihoods.
established for each health facility, and funds are channelled through the DDC and VDC to the respective Local Health Management Committee. By 2003/04, the Ministry of Health reported that sub health posts in 25 districts had been ‘handed over’ [40]. A major issue related to health sector devolution is that Local Health Management Committees have not been able to function as envisaged because VDC Secretaries are not present (the VDC Secretary is the chair of the Local Health Management Committee). Another issue is that DDCs lack the technical capacity to function as the administrator of sub health posts and health posts. Devolution has made local supplementary funding easier, so that the centrally allocated funds for local health facilities can be supplemented for example at DDC or Local Health Management Committee level. However, so far this opportunity has in most cases not been fully utilized, often due to lack of funds and/or planning capability [223].

CONFLICT AND THE HEALTH SERVICE

The conflict has affected the health service in a number of ways; however, there are few of the political features seen in sectors such as education. The impact on the health sector seen so far is sometimes indirect and less often specifically targeted against health services.

Access to health services

The frequent bandhs, transportation blockades and curfews have caused problems for people trying to reach health facilities. Most people are willing to travel to local primary healthcare centres and health posts, but are more reluctant to undertake longer journeys. One study found that travel at night had been seriously restricted by heightened safety concerns, and that daytime travel was disrupted by security checkpoints and a reduction in the frequency of public transport [230]. These factors have caused problems with access, particularly for emergencies. It is difficult to determine the actual impact because data collected on the health service for the government’s information system show that utilization rates for most services are increasing, particularly at the community level, regardless of the conflict. However, there are reports from district headquarters that the day after a bandh hospitals are extremely busy [231]. This suggests that bandhs are affecting access and utilization of some health services, if only temporarily. In addition, a UNICEF study in Achham found that outpatients at the district hospital were only from the surrounding VDCs. This implies that there may be problems with access from more distant villages, and there have been reports that people from such areas are reluctant to go to district headquarters, even for medical care due to the questioning they face once they arrive [37]. The impact of bandhs and strikes at the level of primary healthcare centre and below is less noticeable.

Staffing at health facilities

It is widely acknowledged that the level of staffing at many rural health institutions is often sub-optimal. Although this was true prior to the conflict, it is likely that the conflict has caused understaffing to become more widespread and for longer periods of time. A UNICEF survey of one conflict-affected district found that only seven out of 20 health-facility in-charges were present [37]. The remainder had been absent for periods lasting from seven days to two months. Other health workers were also absent for periods lasting from two days to two months. Indeed, fewer than 50 per cent of assigned personnel were on duty. However, community members did not report any change in the work or effectiveness of Female Community Health Volunteers over the previous two years [37].

To overcome the problem of understaffing, local-level health facilities are frequently opened by health workers on a rotating basis rather than being fully staffed throughout opening hours [37]. Sometimes, only the caretaker (peon) is available. Services in these health facilities are run often at the discretion and commitment of the health workers in each particular facility [232]. Although it is difficult to ascertain the reasons for absence, it is well known that the Maoists use intimidation and extortion to frighten people. Health facility staff often cite security as the reason they leave villages for the safety of district headquarters.
In addition, bandhs may cause a reduction in the number of health workers on duty in some facilities, particularly of staff who have to use public transport to travel to work.

**Harassment of health workers**

Harassment of health workers is not unusual. In general, the Maoists consider government-salaried health workers to be acceptable and allow them to travel into Maoist areas. However, health workers often face questioning when returning to district headquarters. Members of the security forces have been known to demand that health workers provide information about the identity of Maoist patients, and have threatened health workers who provide treatment to Maoists [232]. In turn, this has led Maoists to suspect health workers of being informants, and has sometimes resulted in the temporary abduction of health workers by the Maoists [232].

Local-level health workers in conflict-affected districts are expected to ‘donate’ a part of their monthly salary, usually around five per cent, to the Maoists [37; 232]. INSEC reports that six health workers have been killed during the conflict [22].

**Health service provision**

Within the community, health services are still functioning at a certain level, with any stoppages being temporary rather than permanent. Generally speaking, health campaigns have been less affected than routine services. Indeed, the Maoists have been supportive of some campaigns (such as national immunization days and vitamin A distributions, etc.), allowing travel into ‘closed’ areas and sometimes aiding in advocacy [232]. The UNICEF survey found that Expanded Programme for Immunization outreach clinics were running regularly, and biannual vitamin A distributions were being undertaken on schedule [37]. However, primary health care outreach clinics were operating in only six of the 28 VDCs visited. The World Bank study found that targets for monthly outreach and immunization clinics were not being met in conflict-affected districts [232]. Although it is difficult to pinpoint the reasons for this, the study suggested that this may be because the in-charge is on ‘deputation’ to district headquarters and consequently the community-level health workers, who normally undertake outreach, have to stay in the health facility to keep it open [232].

The Maoists are known to take drugs from local health facilities. In the conflict-affected district surveyed by UNICEF, between 20 per cent and 35 per cent of medicines had been taken from health posts and sub health posts [37]. Maoists believe that health services should be free to all. As a consequence, Maoist cadres in some areas have refused to register or pay for treatment [37].

In general, there is a reduced level of supervision/monitoring from district headquarters to village health facilities due to restrictions on the movement of government staff [232]. However, the extent of this seems to differ from district to district, and over time. A study for the World Bank made the point that health service provision is increasingly being done by isolated health facilities, particularly in remote areas [232].

Health management committees have suffered a setback as a result of the conflict. Although many VDCs have formed a committee, few are functioning as expected and meetings are irregular [37]. The reasons given for this include the absence of the VDC Secretary, the irregular attendance of the health facility in-charge, threats from the Maoists, and an unwillingness to attend from committee members.

**Damage to and use of health facilities**

In a few locations, health facilities have been damaged or destroyed, as a result of bombings. This has usually been as a consequence of sharing the same building as other government offices rather than a targeted attack on a health facility. In addition, the armed forces have sometimes taken over the premises of health facilities to use as temporary barracks (incidences in Sunsari and Ramechhap districts). Very occasionally health facilities have been caught in crossfire, and staff, patients and visitors have been endangered.
Malnutrition is a serious obstacle to the survival, growth and development of children in Nepal. Even mildly or moderately malnourished children are more likely to die from common childhood diseases than those that are adequately nourished. In addition, malnutrition is closely associated with impaired overall child development. In Nepal, the most common forms of malnutrition are protein energy malnutrition, iodine deficiency disorders, and deficiencies of iron and vitamin A. Each form has its own impact on the human body and, in combination, they can have a severe cumulative effect.

**Protein energy malnutrition** constitutes a serious threat to the survival of young children in Nepal, and is a factor in more than half of all child deaths. It is a violation of rights to proper care and nurturing and, as it can lead to a weakening of the body’s defence against common infections, to protection from disease. In addition, it can reduce physical and mental capacities, and so deny the right to development of full potential [119].

Protein energy malnutrition is indicated by a child being short and/or thin for its age. The latest figures for Nepal show that nearly 51 per cent of children aged under five years are affected by stunting (short for their age), a sign of chronic undernutrition, and that 48 per cent of under-fives are thin (low weight for age) [1]. In addition, 10 per cent are wasted (thin for their height), an indicator of acute malnutrition (Table 10).

There is wide variation, both ecologically and regionally, in the distribution of malnutrition in Nepal. Stunting, underweight and wasting are more common in the mountains than in the terai [1]. All three indicators are also high in the mid-western and far western hills (Figure 22). Urban children (37 per cent) are less likely to be stunted than their rural counterparts (52 per cent).

The age of the child is an important factor in the level of malnutrition. There is a dramatic increase in undernutrition, by each indicator, in the first two years of life (Figure 23). Underweight reaches a peak at about 12 months of age, and stunting peaks at about 24 months. After the second year of life, malnutrition begins to decrease according to the measures of underweight and wasting.
Stunting, however, seems to continue to increase even after the second year.

Although local studies have found more undernutrition in girls than boys, nationwide surveys do not indicate significant gender differences for undernutrition in children aged under five years. However, the prevalence of stunting reduces as children in the terai grow older but continues to increase for children in the hills and mountains [2].

All national studies in Nepal have noted a reverse correlation between the educational level of the mother and her child’s nutritional status. Although it seems reasonable to assume that educational level does influence childcare behaviour, it is not clear to what extent. Malnutrition levels might reflect socio-economic conditions rather than education. However, surveys to date have not controlled for socio-economic factors, so it is not possible to say this for sure.

There has been a modest reduction in child malnutrition in Nepal over the last three decades. The level of stunting has gone down from 65 per cent to 49 per cent over a 26-year period (Figure 24). However, at an average of 0.62 percentage points per year, this rate is unlikely to ensure that Nepal meets the Millennium Development Goal of a 50 per cent reduction in the prevalence of underweight children under five years of age by 2015.

Causes of malnutrition

Protein energy malnutrition is the outcome of many interrelated causes operating at different levels (Figure 25). The immediate causes are inadequate food intake and a high disease burden. These factors are mutually reinforcing, as sick children often have reduced appetite and children with low food intake often fall ill.

Underlying causes include inadequate access to food, and insufficient basic health services and an unhealthy environment. Resolving these issues is crucial for ensuring adequate dietary intake and control of common diseases among children. However, plentiful food of good quality and the availability of

### TABLE 10: Prevalence of undernutrition

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Height-for-age</th>
<th>Weight-for-age</th>
<th>Weight-for-height</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severe</td>
<td>Moderate</td>
<td>Severe</td>
</tr>
<tr>
<td>Age (months)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 6</td>
<td>1.0</td>
<td>9.9</td>
<td>0.9</td>
</tr>
<tr>
<td>6–9</td>
<td>4.4</td>
<td>20.7</td>
<td>4.6</td>
</tr>
<tr>
<td>10–11</td>
<td>11.0</td>
<td>36.5</td>
<td>18.2</td>
</tr>
<tr>
<td>12–23</td>
<td>21.1</td>
<td>52.4</td>
<td>21.0</td>
</tr>
<tr>
<td>24–35</td>
<td>23.1</td>
<td>57.2</td>
<td>16.3</td>
</tr>
<tr>
<td>36–47</td>
<td>29.5</td>
<td>62.8</td>
<td>11.6</td>
</tr>
<tr>
<td>48–59</td>
<td>27.9</td>
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<td>8.8</td>
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<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>19.0</td>
<td>49.2</td>
<td>10.9</td>
</tr>
<tr>
<td>Female</td>
<td>23.6</td>
<td>51.8</td>
<td>14.2</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>11.4</td>
<td>36.7</td>
<td>6.7</td>
</tr>
<tr>
<td>Rural</td>
<td>22.0</td>
<td>51.5</td>
<td>13.0</td>
</tr>
<tr>
<td>Ecological zone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountains</td>
<td>28.2</td>
<td>61.2</td>
<td>13.9</td>
</tr>
<tr>
<td>Hills</td>
<td>21.5</td>
<td>52.7</td>
<td>10.0</td>
</tr>
<tr>
<td>Terai</td>
<td>20.1</td>
<td>47.1</td>
<td>14.6</td>
</tr>
<tr>
<td>Total</td>
<td>21.3</td>
<td>50.5</td>
<td>12.6</td>
</tr>
</tbody>
</table>

Note: Severe and moderate undernutrition refers to the proportion of children falling below three and two standard deviations, respectively, from the WHO international growth reference population.

Source: [1]
health services are not enough in themselves to ensure nutritional adequacy in children. A system of care that makes sure that these foods and services are properly used for the benefit of children and women is also required.

Many of the underlying causes reflect an unequal distribution of commodities and services within geographic areas or households. Disparate distribution is linked to control of resources as well as political, ideological and economic systems, and is based on culture, traditions and beliefs.

More specifically for Nepal, one of the important causes of the high malnutrition rates is that some 30–50 per cent of children are born with a low birth weight [7]. This contrasts sharply with a rate of about two per cent found in societies where the health and nutritional status of pregnant women is satisfactory. The high prevalence of low birth weight means that many Nepali children are already seriously affected by malnutrition when they are born.

Low birth weight also leads to an intergenerational cycle of malnutrition. Small baby girls become small mothers, giving birth to small babies. Using data collected in the Nepal Micronutrient Status Survey, it is possible to calculate that the average Nepali mother is 150 cm tall and weighs 45 kg [2]. Indeed, when measured against the WHO’s guidelines for body mass index, a quarter of Nepali women are too thin. The WHO considers a prevalence of over 20 per cent to be a serious public health problem. This situation is made worse by the fact that many Nepali girls enter motherhood when they are little more than children themselves. See the chapter on Maternal Mortality for details.

As previously noted, growth faltering starts early. By six months of age, some 20 per cent of children are both stunted and underweight. This is a reflection of breastfeeding practices in Nepal (Figure 26). Almost all mothers initiate breastfeeding and most continue to breastfeed for a long time—78 per cent of mothers are still breastfeeding children aged 32–35 months [1]. Despite this, exclusive breastfeeding is rarely practiced. Water and foods are introduced early; even in the youngest age group (below two months), only 87 per cent of babies are exclusively breastfed. The early introduction of water and foods increases the risk of infections, and thus contributes to malnutrition.

The prevalence of malnutrition increases drastically as children grow older. From 20 per
cent at six months of age, the proportion of underweight children jumps to 55 per cent by 12 months old. For most Nepali children, the explanation for this pattern is found in feeding practices and other aspects of care. From about six months of age, breastfeeding alone cannot sustain a child’s rapid growth, and other foods are needed. The food almost universally given to young children in Nepal is porridge prepared from local staple foods. It is usually of a liquid consistency that is easy to feed to young children. However, this practice is a key cause of malnutrition, as the energy and nutrient content of this kind of porridge is extremely low, most of it actually being water. In addition, the introduction of foods other than breastmilk increases the risk of infection for children of this age.

Moreover, these young children are beginning to move around and explore their world, often by chewing on everything they find. When these additional factors are coupled with poor nutrition, they result in increased vulnerability to infection. This situation is reflected in the high prevalence of acute respiratory infections and diarrhoea for this age group (Figure 27). Unfortunately, malnutrition and infection can develop into a vicious circle, each exacerbating the other.

Malnutrition could be greatly reduced if energy-dense foods (meat, fish and eggs) were mixed into the porridge. Unfortunately, for most mothers in Nepal such foods either are not affordable or are culturally unacceptable (as families are vegetarian). It is also possible to add other energy-dense foods such as cheese, yoghurt, ghee/oil, and energy-rich legumes.

Increased feeding frequency of the porridge commonly used would also be beneficial. Young children are often fed only three times a day. If fed more often—five or six times a day—energy intake would be greatly increased. Unfortunately, owing to heavy workloads and limited control of their own time, it is difficult for most Nepali mothers to feed their babies frequently enough.

As children grow older and are able to feed themselves with the solid food prepared for the adults of their household, standard meals are able to meet their calorie requirement. This is why older children generally do not develop malnutrition even though they need more calories than small ones.

**Interventions**

There have been several policy and planning initiatives aimed at improving the nutrition of children in Nepal. National nutrition strategies were developed in 1978, 1986 and 1998. A National Nutrition Coordinating Committee was set up under the National Planning Commission in 1976. Nutrition focal points
have been established in the Ministries of Health, Agriculture, Education, and Local Development. The WHO and UNICEF initiated a Joint Nutritional Support Programme in 1984. Despite this, there has been limited progress in the campaign against general malnutrition.

Under the leadership of the Nutrition Section in the Ministry of Health and Population, several programmes with an explicit nutrition objective have been implemented.

The health-facility-based Growth Monitoring and Promotion Programme was initiated at the end of the 1980s. This programme has not been as successful as was initially expected. In a busy health facility, this programme is often reduced to the mere weighing of children and the plotting of their weight on a growth chart. Too often health workers cannot find time to sit down with mothers to discuss their children’s growth pattern, the causes of inadequate growth, and ways to improve the situation. Even if health workers could find the time required for counselling, their advice would be generalized, and probably do little to help mothers who are overburdened at home and have no real say in how they use their time.

Another shortcoming with the programme is that, as it is facility based, most children are weighed only two or three times during their first few years, when their mother comes to the health facility for another reason such as immunization.

The Ministry of Health and Population’s Nutrition Section also promotes breastfeeding. In the 1990s, a breastfeeding policy was developed, and staff at 22 hospitals were trained as part of the Baby Friendly Hospital Initiative. However, although evaluation showed that behaviour was better in hospitals where training had been conducted, the initiative eventually lost momentum and fell into inactivity.

Although a Breastmilk Substitutes Marketing Control Act, based on the International Code on Marketing of Breastmilk Substitutes, was promulgated in 1992, implementation of the code and monitoring by a Breastfeeding Committee have failed to take root. A sub-committee on research and monitoring carried out a market survey of shops and hospitals in 2004. It found that breastmilk substitutes were being distributed in hospitals; this is a serious violation of the code.

The Ministry of Health and Population’s Nutrition Section has also set up a system of nutrition focal points in District Health Offices, and a process is ongoing to ensure that focal points are knowledgeable about various aspects of nutrition.

The Ministry of Health and Population is also implementing several programmes that contribute indirectly to reduction of child malnutrition, for example, the Expanded Programme of Immunization, the Control of Diarrhoeal Disease Programme, and the Acute Respiratory Infection Control Programme.

There are also several national and international NGOs implementing various activities aimed at reducing malnutrition. The United Mission to Nepal has long been addressing nutrition in its programmes. The Save the Children Alliance is also implementing nutrition projects. The Nepal Family Health Programme and its partners are supporting nutrition components as part of an integrated health project. The Lutheran World Alliance and World Vision are supporting projects with a nutrition objective. Although there are several programmes that have the potential to reduce malnutrition in Nepal, their impacts are often limited by their small-scale or scattered coverage, and by the lack of a unified approach.

Over the last few years, UNICEF has been supporting a community-based programme...
aimed at improving the situation of children and women—Decentralized Action for Children and Women (DACAW). As part of this programme, children are regularly weighed by community volunteers, and community organizations arrange discussions on the underlying causes of malnutrition and ways to improve the quality of food and care for young children. To date, results have shown a marked reduction in the prevalence of underweight children aged less than three years from 43 per cent to 18 per cent (Figure 28) [210].

IODINE DEFICIENCY DISORDERS

Although goitre is the most commonly known consequence of iodine deficiency, lack of iodine causes various other complications—commonly known as iodine deficiency disorders or IDD—that include stillbirth, cretinism, and mental retardation. In fact, iodine deficiency is the main cause of impaired mental functioning, whether induced in the womb or after a child is born [211]. Therefore, prevention of iodine deficiency protects a child’s right to development of their full potential.

Humans usually assimilate iodine in the body via their food. Iodine deficiency disorders occur where there is an insufficient supply of iodine in the soil, and consequently in the plant and animal food materials that people eat. It is most common in mountain areas and plains where iodine has been washed out of the soil by rain and snow over thousands of years.

Nepal was once known for its huge goitres. However, there has been good progress over the last three decades, and visible goitres have now almost disappeared. Furthermore, the World Summit for the Child’s goal of eliminating iodine deficiency disorders has been achieved, when using the indicator of low urinary iodine concentration.

Current status of iodine deficiency disorders

Although goitre rate used to be the key indicator for iodine deficiency disorders, it is no longer recommended. As control measures are put in place, existing goitres shrink in size and visible goitres often disappear. This means that goitre has to be identified through palpation, which is highly subjective and thus prone to error. Secondly, although goitres shrink in size, they may not disappear entirely. Therefore, as it is impossible to say if a goitre represents a present lack of iodine or a lack in the past, it becomes impractical as an indicator. Instead, urinary iodine excretion is now the ‘gold standard’ used for the assessment of iodine status and iodine deficiency disorders. Almost 90 per cent of all iodine is excreted in the urine and, as such, it provides an estimate of the current iodine intake, especially at population level.

There has been vast improvement in the rates of iodine deficiency disorders over the last few decades. Trends in goitre prevalence fell from over 90 per cent in 1965 to less than 40 per cent in 1985 [212]. In addition, the prevalence of low urinary iodine excretion has fallen from 52 per cent in 1985 to 39 per cent in 1998 [2; 213].

The Nepal Micronutrient Status Survey found that median urinary iodine excretion was 114 micrograms per litre among women and 144 micrograms per litre among school-aged children in 1998 (Figure 29) [2]. For both groups, this is just above the cut-off point designated by the WHO to indicate adequate iodine status (100 micrograms per litre),
suggesting that iodine deficiency disorders are no longer a significant public health problem in Nepal. However, the same survey found that 44 per cent of women and 35 per cent of school-aged children had urinary iodine excretion below 100 micrograms per litre, indicating that further progress is required [2].

In Nepal, iodine deficiency disorders used to be most severe in the mountains. However, now that access to these areas has improved, this is no longer the case. Now, more women and school-aged children in the terai are affected by low iodine intake than in the mountains (Figure 29). This is because of the inflow of salt with no or low iodine content from India. Median urinary iodine concentrations are also higher in urban areas compared to rural areas. The differences in urinary iodine excretion by region and locality correspond with levels of iodine found in salt at the household level. There seems to be no differences by age or sex among school-aged children [2].

Salt iodization
Since iodine is not available in locally grown foodstuffs, it has to be added to the diet from an external source. The most common and easiest way to do this is to add iodine to salt. Salt is eaten by everybody on a daily basis and the daily intake is relatively constant. This makes salt an ideal vehicle for fortification. Furthermore, the technology required for its iodization is simple, and the cost of adding iodine is low. Nepal initiated iodization of edible salt in 1973 with the establishment of the National Goitre Control Programme—now known as the Universal Salt Iodization Programme.

As iodine gradually evaporates, it is necessary to add it to salt at 50 parts per million (ppm) during production to ensure that its concentration at the time of consumption in the household is greater than 15 ppm.

A survey in 2000 found that 91 per cent of households were using salt containing some iodine. About 63 per cent of households were using adequately iodized salt (> 15 ppm) (Figure 30) [9]. The terai has the lowest use of adequately iodized salt, probably because of cross-border trade in non-iodized salt from India. Urban areas (88 per cent) have higher usage of iodized salt than rural areas (59 per cent).

To implement the National Goitre Control Programme, the Salt Trading Corporation (STC) was appointed as the sole authorized agency for salt trade in Nepal. With the exception of six tonnes produced annually in Mustang, there is no salt production in Nepal. Instead, the Salt Trading Corporation imports 150,000 tonnes of iodized salt each year from India. Three types of salt are imported in 50–75 kg sacks: refined, crushed, and large crystal salt. The salt is imported and taken to five main warehouses before being distributed through 18 depots to a network of 800 authorized dealers. These dealers then sell it to retailers across the country.
A nationwide social mobilization campaign has been implemented to encourage families to use adequately iodized salt. In Nepal, many people prefer phoda salt. However, it is difficult to ensure that phoda salt is adequately iodized at production levels because of the uneven size of the crystals. Moreover, large crystal salt is prone to high iodine loss during transport, storage and sale. Phoda salt is packed in sacks, and sold loose at the market place. Sacks are often placed outside with no protection from the sun. Inevitably, iodine evaporates. The salt can also become dirty, and more iodine is lost when consumers wash the salt prior to consumption.

To address this situation, the Ministry of Health and Population has implemented a national campaign since 1999 aimed at popularizing the use of fine iodized salt packed in small plastic bags. The use of plastic bags prevents the evaporation of iodine, and ensures that salt is adequately iodized at the household level.

Monitoring of household use of iodized salt was established in 2000 as an integral part of the vitamin A distribution surveys. The surveys take place twice a year (in April and October) and provide district-level information for about 12–16 districts each round. The survey also monitors retail availability of packed salt by visiting 50–75 shops in each district.

Salt is sold in three forms: large crystal phoda salt costing NRs 4–5 per kilogram, crushed salt costing NRs 6–7 per kilogram, and packed refined salt costing NRs 9–10 per kilogram. The government also makes iodized salt available at subsidized rates in remote districts along the northern border.

One of the components of the Universal Salt Iodization Programme has been to construct covered warehouses for storage of iodized salt. The Governments of India and Japan have provided assistance for this.

Other interventions that have been used in the past in Nepal include injection of iodized oil and the provision of oral iodized oil capsules.
The Goitre and Cretinism Control Project was established in 1978 by the Ministry of Health and Population in 40 hilly and mountainous districts. Although these approaches are costly and require intensive implementation, they have had a strong impact on iodine deficiency disorders in many highly-affected districts. As the infrastructure for the distribution of iodized salt has improved and expanded, this type of iodine supplementation was reduced to fewer districts and finally discontinued in 2001.

**Legislation**

Appropriate national legislation is essential to enforce universal salt iodization, including quality assurance for iodization and control of un-iodized salt inflow. The Salt Act, developed in 1995, was passed in 1999. To enforce the act, detailed regulations and guidelines are needed. After several years of preparation, the regulations and guidelines were completed in 2004, and are now awaiting cabinet approval. Regulation is important for monitoring, as it outlines the minimum requirement of an internal monitoring system for any company licensed to import and distribute salt. In addition, regulation gives guidelines on the establishment of an external verification system to complement salt dealers’ internal monitoring systems.

**VITAMIN A DEFICIENCY**

Vitamin A deficiency is a cause of eye problems—both a difficulty to see at night, and conditions that can lead to blindness. It has also become increasingly clear that even mild vitamin A deficiency with no visible symptoms leads to increased child mortality [214]. Vitamin A deficiency impairs the immune system, thus reducing a child’s resistance to disease such as diarrhoea and measles. In addition, new findings strongly suggest that vitamin A deficiency can also contribute to maternal mortality [215]. Therefore, vitamin A deficiency can violate a child’s right to protection from disease and, if it causes the death of its mother, to adequate care and nurturing.

**Current status of vitamin A deficiency**

While vitamin A deficiency was considered a serious public health problem in the 1980s, recent surveys show that there has been a significant decrease in nightblindness in children. Two surveys conducted in the mid-1990s reported nightblindness in children aged 24–35 months to be 0.9 per cent [150; 216]. By 1998, prevalence had fallen to 0.2 per cent for children of the same age group [2].

In 1998, the overall prevalence of nightblindness in women of reproductive age was five per cent [2]. Over 17 per cent of women reported having nightblindness during their last pregnancy. The same survey found that in children aged 6–59 months the prevalence of nightblindness was 0.3 per cent and the prevalence of Bitot’s spots* was 0.3 per cent. Among school-aged children, the prevalence of nightblindness was 1.2 per cent, and Bitot’s spots was 1.9 per cent (Figure 32) [2].

Rates of nightblindness increase with age in both preschool children and women. Furthermore, rates are higher in rural areas than urban areas—five per cent of rural women had nightblindness compared to 0.9 per cent of urban women [2]. No cases of nightblindness were reported in urban preschool children. The highest rates of nightblindness occur in the eastern and central terai.

According to serum retinol levels, 17 per cent of women, and 32 per cent of preschool children had vitamin A deficiency, indicating

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* Bitot’s spots are visible signs of deficiency within the eye.

**FIGURE 32:**

Age-specific prevalence of Bitot’s spots and nightblindness in children

- **Bito’s spots**
- **Nightblindness**

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Source: [2]
that the population is still at high risk despite ongoing national efforts [2]. Among both women and children, rates were higher in the terai and mountains (Figure 33). Among preschool children, those aged 6–11 months had the highest rates (41 per cent), indicating that the amount of vitamin A received through breastmilk and complementary feeding is insufficient. Similarly, women less than 20 years old had the highest prevalence (20 per cent), closely followed by women aged 20–30 years (18 per cent). Pregnant women also had rates of subclinical vitamin A deficiency twice as high as non-pregnant women.

These figures indicate that preschool children have benefited from distribution of vitamin A capsules. However, vitamin A deficiency remains a problem among the older population.

**Causes of vitamin A deficiency**

Vitamin A deficiency is caused by an inadequate intake of vitamin A. Humans absorb vitamin A from their food. Although many fruits and vegetables have a relatively high content of vitamin A, absorption is often poor. The best sources of vitamin A are liver, eggs and meat—foods that are too expensive for frequent consumption by most Nepalis. Treatment of vitamin A deficiency is important for certain conditions in children such as visual deficiency, when sick from measles and prolonged diarrhoea, and when suffering from severe general malnutrition. For women, it is important to treat nightblindness during pregnancy.

**Interventions**

Although dietary approaches to vitamin A deficiency could theoretically help reduce the problem, the poor absorption of vitamin A from vegetables and fruits means that daily intakes are extremely low. Foods rich in vitamin A are often too expensive for poor rural populations. However, increasing the availability and consumption of eggs does have some success. Food fortification is another possible approach—fortification of sugar, cooking oil and margarine is common in many parts of the world. However, the most common intervention in developing countries is vitamin A supplementation.

Since vitamin A can be stored in the body for a long time, the WHO recommends that high-dose vitamin A supplements should be given two or three times a year to children aged 6–59 months. The WHO also recommends that high-dose vitamin A supplements be given to women for up to six weeks after delivery.

There are some indications that low-dose vitamin A supplementation during pregnancy can significantly reduce maternal mortality. However, more evidence is required before large-scale implementation can be justified.

**Supplementation in Nepal**

The Nepal Blindness Survey conducted in 1981 and the Nepal Nutrition Intervention Project Sarlahi (NNIPS) undertaken at the end of the 1980s both demonstrated that vitamin A deficiency was a major problem in Nepal. NNIPS showed that tri-annual provision of 200,000 IU vitamin A capsules reduced mortality rates of children aged 6–60 months by 30 per cent [215].

In 1992, a five-year National Vitamin A Programme, jointly implemented by the Ministry of Health and Population, Helen Keller International and the Nepal Technical Assistance Group, was initiated to establish biannual supplementation with high-dosage vitamin A capsules to children aged 6–59 months in 32 districts.

In 1997, the Ministry of Health and Population reviewed the achievements of the National Vitamin A Programme. It concluded that while dietary approaches were important, they required a long time to change people’s eating
habits significantly. The immediate need, especially in terms of averting child deaths, was for vitamin A supplementation. This understanding led to a commitment to expand the National Vitamin A Programme throughout the country. The new programme is supported jointly by USAID, AusAID, and UNICEF, and the Nepal Technical Assistance Group continues to assist the Ministry of Health and Population with programme implementation. Programme coverage has been expanded over the years and in October 2002 all 75 districts were covered (Figure 34).

The success of the National Vitamin A Programme is in large part the result of the hard work and commitment of village-based Female Community Health Volunteers (FCHVs). The strategy of the programme has been to train FCHVs to conduct biannual distribution days in April and October. The FCHVs organize the distribution, mobilize the community and keep records. Each distribution round takes two days. During the first day, the FCHV sets up a distribution point in a central place in the community and child carers bring their children for vitamin A supplementation and deworming. The FCHV records supplemented children in a register. During the second day, the FCHV visits the homes of children who did not come the first day, thus ensuring that all children in her community are covered. Although the FCHVs are key to vitamin A supplementation, others are also involved. Before each distribution round, efforts are made to mobilize district-level officials, schoolteachers and other key functionaries.

The National Vitamin A Programme has been extremely successful. The programme has managed to reach more and more children over the years, and more than 3.2 million are presently covered (Figure 35). In addition, over 85–95 per cent of targeted children have been reached in each round [1; 2; 9].

The programme has had a major impact. As well as reducing child mortality, there has been a significant reduction of nightblindness and Bitot’s spots in children who received capsules compared to children who have not received capsules (Figure 36) [2]. The Vitamin A Programme is also responsible for treatment of children suffering from visible vitamin A deficiency, severe undernutrition, measles, chronic diarrhoea, and acute respiratory infection. In 1997, postpartum supplementation was included: high-dose vitamin A is given to all mothers within six weeks of delivery.

In 2002, the Ministry of Health and Population initiated a small-scale project of low-dose vitamin A treatment for pregnant women with nightblindness to determine the best treatment regime. The pilot is presently ongoing in Sunsari, Parsa and Chitwan Districts, with support from the Micronutrient Initiative, USAID and UNICEF.
Current status of iron deficiency anaemia

Iron deficiency anaemia continues to be a serious problem in Nepal. Various surveys over the last two decades have consistently shown high rates of anaemia for women and young children [221].

In 1998, the overall prevalence of anaemia in women of reproductive age was 68 per cent [2]. In pregnant women, the rate was 75 per cent, with six per cent of women exhibiting severe anaemia. There is distinct variation according to ecological zone, with the highest levels in the terai, followed by the mountains. Rural women have higher rates than urban women.

At 78 per cent, the overall prevalence was higher for preschool children than for women. An astounding 90 per cent of children aged 6–11 months were anaemic (Figure 37). There was little ecological difference for children, although rural children had higher rates than urban children. In addition, anaemia decreases with age of the child.

Causes

Anaemia is caused by low quantity and low bioavailability of dietary iron intake, which is linked to the generally low consumption of animal foods in Nepal. It is also linked to parasitic infections, most notably, malaria and intestinal worms (hookworms, whipworms and roundworms). In particular, hookworm causes blood loss that results in anaemia by feeding on blood through the lining of the intestine. Malaria is present in Nepal, but the rates of infection are relatively low. Worms, on the other hand, are extremely common.

Interventions

Interventions aimed at addressing food intake could theoretically reduce iron deficiency anaemia. However, food that is rich in easily absorbed forms of iron—such as meat products—are too expensive for the majority of Nepali families. Therefore, intervention instead focus on iron supplementation, especially for pregnant women who have a high requirement for extra iron.

Iron deficiency anaemia is by far the most common nutritional problem in Nepal affecting approximately three-quarters of women and children. Anaemia is an underlying factor in pregnancy and childbirth complications and mortality [218]. In addition, it is estimated that anaemia reduces work capacity of adults by 30 per cent and learning ability in children by up to 60 per cent [219; 220].

It must be noted that the National Vitamin A Programme depends heavily on donor support. Vitamin A capsules of an annual value of US$ 200,000 are provided free of charge by CIDA/Micronutrient Initiative through UNICEF. Promotional activities and monitoring is paid for by donors. Furthermore, the FCHV Programme cost about US$ 1 million a year, which is almost entirely provided by donors. There is also a high dependence on the continuing free work of FCHVs as volunteers.

Fortification

Fortification of commonly consumed food items is another possible approach. Although it is presently only possible to reach 30 per cent of the population with extra vitamin A through fortification of cooking oil and wheat flour, the Micronutrient Initiative is supporting industries to start fortification. So far, one refinery has started fortifying oil with vitamin A at a limited scale and five flour mills are fortifying flour with iron, folic acid and vitamin A [217].

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Although the high prevalence of anaemia in young children in Nepal calls for some form of supplementation, there is no large-scale standard intervention that can be used. In many parts of the world, iron fortification of commonly consumed food items is a standard approach. However, in Nepal no food item, other than salt, is centrally produced and eaten on a regular basis by a large proportion of the population. Although iron fortification of salt, together with iodine, is theoretically possible, large-scale operations have not been attempted.

Interventions aimed at reducing parasitic infections do have a considerable impact on rates of anaemia, and the WHO recommends the deworming of women during pregnancy and the regular deworming of children in countries with high prevalence of intestinal worms.

To address the problem of anaemia in women, the Anaemia Control Programme was introduced as a part of the Ministry of Health and Population’s Nutrition Programme, covering 60 districts. The programme focused on the distribution of iron–folate tablets to pregnant women through health facilities. However, by 1995, it was apparent that the programme was not reaching targeted women, and responsibility for distribution was shifted to Female Community Health Volunteers (FCHVs) and other frontline workers. However, a survey in 1998 found that only 10 per cent of women received iron supplements during pregnancy, and that compliance was low [2]. Only two per cent of pregnant women took iron–folate tablets for three months or more, and virtually none (0.6 per cent) took them for more than six months.

By 2001, the situation had improved, with 23 per cent of women who had been pregnant in the five years preceding the survey receiving iron supplements [1]. There was considerable age differentiation—30 per cent of women aged less than 20 years had received iron supplements compared to 11 per cent of women aged 35–49 years. There were also large differences between urban women (51 per cent) and rural women (21 per cent).

In 2002, a National Strategy for the Control of Anaemia among Women and Children was developed by the Ministry of Health, with the support of the Micronutrient Initiative and UNICEF. Again FCHVs are to distribute iron supplements and link it with deworming during pregnancy.

With the development of the new strategy, community-based distribution of iron supplements for pregnant women and postpartum vitamin A supplementation was initiated in 2003. It presently covers 12 districts with support from the Micronutrient Initiative, UNICEF and WHO. The programme will be expanded to 49 districts over the next
biannual vitamin A supplementation. By 2004, the entire country was covered. Surveys have found that more than 90 per cent of targeted children are reached, and some two million children are dewormed during each distribution round.

An impact evaluation conducted in four districts in 2004 showed that deworming had dramatically reduced anaemia in young children. From an initial level of 47 per cent, the prevalence of anaemia had fallen to 11 per cent after two rounds of deworming—a reduction of almost 80 per cent (Figure 38) [222]. The study also showed a considerable reduction in the prevalence and intensity of worm infections, especially for hookworms. Follow-up surveys have shown that prevalence of anaemia remains at around 11 per cent.

The deworming impact survey also noted that children below the age of two years are severely affected by worm infestation. Therefore, in 2004 the Ministry of Health and Population lowered the age limit for deworming from two years to one year. The implementation of this new policy started in October 2004, increasing the target group to 2.8 million children.

MULTIPLE MALNUTRITION

Although it is easier to consider each form of malnutrition separately, in reality they commonly occur together. A sample of preschool children from the 1998 Nepal Micronutrient Status Survey were examined for multiple nutritional deficiencies (Figure 39) [2].

Among preschool children, only 10 per cent had no deficiency, while 13 per cent had a combination of stunting, vitamin A deficiency and iron deficiency anaemia. As with the overall sample population, iron deficiency anaemia affects nearly all preschool children, followed by stunting. This results in a population in which 90 per cent of children are suffering from one form of malnutrition or another.
<table>
<thead>
<tr>
<th>Year</th>
<th>Title</th>
<th>Conducted by</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>Endemic Goitre in Nepal</td>
<td>Ministry of Health and Population</td>
</tr>
<tr>
<td>1975</td>
<td>National Nutrition Status Survey</td>
<td>Government of Nepal, with assistance from the Centre for Disease Control, Atlanta, USA, and in cooperation with USAID</td>
</tr>
<tr>
<td>1996</td>
<td>Nepal Family Health Survey</td>
<td>Ministry of Health and Population, New ERA, and Macro International</td>
</tr>
<tr>
<td>2000</td>
<td>Between Census Household Information, Monitoring and Evaluation System (BCHIMES)</td>
<td>National Planning Commission and UNICEF</td>
</tr>
<tr>
<td>2001</td>
<td>Nepal Demographic and Health Survey</td>
<td>Ministry of Health and Population, New ERA, and ORC Macro</td>
</tr>
</tbody>
</table>
Sanitation, Hygiene and Water

The Convention on the Rights of the Child ensures that children have the right to protection from disease. A mainstay of this protection must be the provision of clean water and a healthy environment. It is also essential to ensure that children and their families have access to information about adequate hygiene practices that can reduce the incidence of disease, and the resources to put their knowledge about good hygiene into practice.

CHILD HEALTH, SANITATION AND WATER

There is a close link between environmental sanitation, hygiene and water supply. It is essential to consider these three elements as part of a whole that together ensure a healthy environment. Indeed, studies have shown that interventions that combine all three elements are comparatively more effective at improving the health status of beneficiaries than most single-focus interventions [174]. Nevertheless, improvements in any one of these three areas will result in several important benefits for the lives of children and their families [175]. The impacts are most noticeable for Nepalese children in terms of improved health and nutrition, and greater human development. In addition, such improvements can generate economic benefits that positively affect families, and environmental benefits that lead to safer living conditions. This chapter will focus primarily on the health benefits. Other secondary benefits will be mentioned, where appropriate.

Diseases caused by lack of sanitation, personal hygiene, and water supply

Across the world, it is estimated that poor environmental quality is directly responsible for 25 per cent of all preventable ill health and seven per cent of all deaths, with two-thirds of this illness occurring among children [176]. The WHO estimates that 90 per cent of diarrhoeal problems result from an ‘unhealthy’ environment [176].

In Nepal, as in other parts of the world, diarrhoeal disease and acute respiratory infection cause a great number of deaths in children aged under five years. Although mortality figures for Nepal are not disaggregated by cause, it is estimated that each of these conditions account for about 18 per cent of deaths in this age group [177]. Using recent WHO calculations, it is possible to estimate that about 13,000 children aged under five years die each year in Nepal from
Another common condition affecting children and adults in Nepal is worms (hookworms, roundworms, and whipworms). A baseline evaluation for the national biannual deworming programme showed that about 40 per cent of children aged under five years were infected with worms; this is approximately 1.3 million children [10]. Moreover, school-aged children usually have higher worm burdens than younger children. Studies since 1996 have indicated that school children may have prevalence rates of up to 43 per cent for roundworms, up to 65 per cent for hookworms, and up to 19 per cent for whipworms [178;179]. In addition, the health of pregnant women can be seriously affected by worms (especially the hookworm that can cause anaemia). A small study in 1998 found that 79 per cent of pregnant women were infected with hookworms, and 56 per cent also had roundworms [180]. Worms are passed between people following contamination of the environment with human faeces containing fertilized worm eggs or worm larvae. Inadequate sanitation, poor hygiene and high population density coupled with warmth and humidity—conditions that prevail in large parts of Nepal—are all important factors influencing the transmission and survival of the eggs of roundworms and whipworms, and the larvae of hookworms.

Another common disease in Nepal is the bacterial infection, typhoid. Typhoid is spread by drinking water or eating food contaminated by faeces from an infected individual. The Department of Health Services reported over 215,000 cases in 2003/04 [40].

Vector-borne diseases, such as malaria and Japanese encephalitis, also cause widespread morbidity and many deaths in Nepal. These conditions are spread by mosquitoes. Poor environmental sanitation encourages the multiplication of mosquitoes and leads to a higher incidence of these diseases.

Trachoma, an eye infection that causes blindness if left untreated, is prevalent in Nepal, and can be prevented with proper personal hygiene.

Water-washed diseases such as scabies and body lice are also common, particularly in the hills and mountains where bathing is irregular and infrequent. They thrive on poorly-washed bodies, and can lead to serious skin infections, particularly in children.

As well as biological contaminants, in some parts of Nepal naturally-occurring chemical contaminants can cause ill health. In the terai, the contamination of groundwater by arsenic is a particular concern, and can lead to the development of arsenocosis. In addition, with growing industrialization in Nepal, particularly of soap, textile and leather tanning industries, concern is mounting over environmental contamination from the indiscriminate disposal of chemical wastes.

**How interventions can effectively reduce disease**

The links between sanitation, hygiene and water supply interventions and their health benefits are quite complex to analyse [175]. In simple terms, where interventions are able to break the transmission routes of organisms (or other contaminants) that cause poor health, then reductions in infections (or other conditions) are attainable.

An important and effective intervention is the safe disposal of excreta. Faeces contains agents that cause diarrhoea, worms, and typhoid. The transmission routes for these agents are via fluids (especially water), fields (and other parts of the natural environment), flies, and fingers. From these places, faecal contamination can be transmitted to the human body through food we eat (and the liquids we drink) (Figure 16). Breaks in these transmission routes can prevent the body from becoming infected. Therefore, safe disposal of faeces (through the proper use of toilets) prevents infectious organisms from reaching the environment.
Improved personal hygiene practices, in particular hand washing with soap at critical times, can have a significant impact on reducing the incidence of disease by breaking the transmission routes between fingers and food or other touched ‘items’, including the mouth, eyes and skin. Indeed, it is one of the most effective measures for reducing child mortality, and on its own can generate a fall of over 40 per cent in the incidence of diarrhoea [181]. It has also been found to reduce the incidence of acute respiratory infection [182]. Trachoma and water-washed diseases can also be reduced by regular hand and body washing.

Access to a plentiful water supply helps to improve personal hygiene. This in turn helps to break transmission routes for agents that cause a number of conditions, including diarrhoea, acute respiratory infection, typhoid, trachoma and water-washed diseases, thus reducing ill health. However, it is important that the water source, the transmission pipes, and the point of water collection (tap stand) are well-designed and properly maintained so that water remains free of microbiological contamination and can be considered ‘clean’. Microbiological contamination of water is common in Nepal, and obviously has a negative impact on the health of water consumers.

As well as the provision of water that is clean, measures to ensure that drinking water supplies are safe from chemical contaminants, such as arsenic, help to ensure that there are no long-term, adverse effects on health.

In 1996, a meta-study of the benefits to health of water supply, sanitation and hygiene interventions showed that toilets and hand washing had the greatest impact on reducing morbidity from diarrhoea and worm infestations, and on increasing child growth [183]. Improvements in water quantity and water quality had noticeable but lesser impacts. A more recent meta-study found the same thing-toilets and hand washing each reduced diarrhoea in a number of studies by an average of about 35 per cent, water quantity reduced diarrhoea by an average of 20 per cent, and water quality by an average of 15 per cent [174]. This review also indicated that a combination of all interventions (sanitation, hygiene and water supply) reduced the incidence of diarrhoeal illness by about 30 per cent.

The control of indoor air pollution (smoke from cooking fires) is considered to be effective at reducing acute respiratory infection.

Other interventions that help to reduce ill health include improved drainage of household wastewater (and rainwater) that reduces the incidence of vector-borne diseases; regulated disposal of industrial effluents to control the release of chemical contaminants into the environment; the controlled disposal of solid waste both at the household and community levels to control flies and contamination of water sources; the treatment of household water to reduce the levels of contaminants in drinking water; and proper food storage to prevent contamination via flies.

As this introduction shows, the quality of the physical environment is closely linked to the health of a young child [176]. Indeed, growing children are the most vulnerable of all people to the impacts of a poor environment—their physical characteristics, their childhood activities, and their natural curiosity all put them at greater risk from environmental hazards than older people. In fact, child health
depends at least as much on the control of environmental causes of disease as on clinical responses to it [176].

Cost-benefits
Investment by governments and communities in drinking water and sanitation can yield high dividends, as increased use of improved water and sanitation has many health benefits. In addition, the time saved may translate into higher productivity and greater school attendance, as well as less tangible benefits, such as convenience and wellbeing—all of which can have an economic impact. If these benefits are translated into monetary terms, it is possible to compare the total benefits with the costs of a potential intervention. A recent cost-benefits analysis undertaken by the WHO found that achieving the Millennium Development Goals target for water and sanitation would bring substantial economic gains: every US$ 1 invested would yield an economic return of between US$ 3 and US$ 34, depending on the region. This would include an average reduction in episodes of diarrhoea by 10 per cent worldwide [184].

Disparities
It must be noted that there are several important disparities associated with the provision of sanitation and water supply. The first is that in Nepal, as in many other countries around the world, the rich are more likely than the poor to have improved water and sanitation. The National Living Standards Survey found that the richest quintile are 13 times more likely to have piped water in their homes than the poorest quintile (39 per cent vs. three per cent), and are nearly eight times more likely to have improved sanitation (79 per cent vs. 10 per cent) [44]. Moreover, the gaps are widening. Although no studies have been done to identify the reasons for this, it can be reasonably assumed that the richest quintile are usually the best educated and the most able to afford the materials necessary for adequate sanitation and a private water supply. In addition, the richer percentiles usually live in the urban areas where more resources (and political influence) for water supply development are available.

Another disparity that must be considered when examining sanitation and water supply is that of gender. It is difficult to exaggerate the impact that access to private, safe and sanitary toilets would have on the daily lives and long-term prospects of women and girls. The lack of basic sanitation facilities means that women and girls have to defecate in the open in places that may be unsafe and undignified. In Nepal, girls often do not go to school because there is no private place to relieve themselves, or deal with personal hygiene during their menstrual cycle. Although all who lack adequate sanitation facilities are exposed to unpleasant and unhealthy daily routines, the impact on women and girls is greatest. They often suffer the discomfort and medical complications of not being able to relieve themselves conveniently and safely. In their household roles, they may more readily transmit disease-causing pathogens from exposed faeces to other family members. Furthermore, the burdens of water-hauling fall disproportionately on women and girls, often preventing a more productive use of their time, such as attending school [184]. It should also be noted that much of the burden of looking after sick children falls on women and girls [185].

In Nepal, a third disparity that is particularly significant is that of caste. There is a widespread belief, especially prevalent in the terai, that it is ritually polluting for high-caste groups to receive water from Dalits; this belief extends to the places from where water is collected. Many villages have separate water-collection points for different caste groups. This disparity can become a sensitive issue when community collaboration is dominated by high-caste groups, as is frequently the case [186]. It should also be noted that many of the frontline
workers—sweepers, plumbers, septic tank cleaners—in the sanitation and water supply sector are considered low-caste [186;187].

Institutional arrangements for the water and sanitation sector

The Ministry of Physical Planning and Works is designated the lead ministry for water supply and sanitation. It is responsible for formulating sectoral policy and plans, and institutional mechanisms to monitor progress made in the water and sanitation sector, in close collaboration with stakeholders at both national and local levels.

The Department of Water Supply and Sewerage ensures provision of technical skills and support to the rural water and sanitation sector. It does this by working jointly with the Ministry of Local Development. The Department of Water Supply and Sewerage, through its Water Supply and Sanitation Divisional Offices, provides technical inputs and services to communities with populations greater than 1000. The Ministry of Local Development, through its District Technical Offices, provides technical inputs and services to communities with populations smaller than 1000.

More recently under the decentralization policy, district line agencies are being consolidated under the DDC as a trial in 14 districts, and Water Supply and Sanitation Divisional Offices will probably be merged with other technical line agencies into a unit under the DDC. While this will resolve the long-standing misunderstanding of delegation of responsibility for water supply at the district level, it will not address the policy issue that is compelling government technical agencies in water and sanitation to restructure their organization to assume the function of a ‘facilitator’ rather than the traditional role as ‘implementer’.

DDCs are responsible for formulating and managing district-level plans that incorporate water supply and sanitation.

Water and Sanitation Users Committees ensure that communities are able to participate in all stages of the water supply and sanitation project cycle (pre-development, development, implementation and post-implementation phases).

NGOs assist Water and Sanitation Users Committees in the formulation and implementation of projects and the management of funds relating to such programmes. In addition, NGOs also research improved interventions and contribute to the process of policy formulation.

To help coordinate and implement water and sanitation programmes, the Ministry of Physical Planning and Works had formed the National Sanitation Steering Committee and the National Arsenic Steering Committee. These two committees are instrumental in promoting sanitation awareness and arsenic investigation in the country.

The current policy also envisages the establishment of a Water and Sanitation Users Federation for independently monitoring and auditing rural water and sanitation. A national body has been recently formed, comprising Water and Sanitation Users Committees from 15 districts. It is anticipated that membership of this federation will expand in the future.

The Tenth Five-Year Plan stipulates that more responsibility for implementation of water and sanitation projects be handed over to communities, NGOs and the private sector. Since the early 1990s, the World Bank has supported a programme that channels funds through an autonomous ‘Fund Board’, created in 1996, that in turn channels funds to communities through ‘Support Organizations’, usually NGOs or private technical service companies. While this arrangement has proven effective in delivering services to communities, for the most part, it has ignored the government’s role in the sector and has not been particularly effective in reaching the most remote and deprived communities. The second project (2004–09), recently approved, has been designed to ensure social inclusion, and has strengthened sanitation and hygiene components and income generation for women.

More recently, the Asian Development Bank undertook an exercise to prepare the fifth in a series of rural water supply and sanitation projects to support the sector. While the intention was to facilitate sector reform by
involving all stakeholders and attempting to develop a Sector-Wide Approach (SWAp) strategy, for the most part, agencies involved in the exercise have neither initiated significant changes in their operational modalities nor come much closer to a sector-wide approach than before. DFID has been a strong advocate of the Sector-Wide Approach and is working with stakeholders in moving closer to this approach. While the need for sector reform and a Sector-Wide Approach is recognized, its effective establishment will continue to be a challenge over the coming years.

ENVIRONMENTAL SANITATION

As explained above, it is essential to break the transmission routes of disease-causing pathogens within the environment to reduce the incidence of diseases that threaten the lives of so many under-fives in Nepal. A major component of this is to ensure the safe disposal of solid and liquid waste, and of surface water. This will reduce the sources of contamination and minimize hazards to human health as well as damage to the environment.

Disposal of excreta

The unsafe disposal of excreta, that in its most extreme form manifests itself as ‘open defecation’, can cause the contamination of water sources with faeces and the disease-causing pathogens it contains, the proliferation of flies, and the spreading of worms.

Open defecation is common in Nepal, often making areas around habitations quite unsanitary. Although people make a certain effort to defecate away from their houses and water sources, inevitably when the monsoon rains come there is serious contamination of the whole area, as the run-off disperses disease-causing pathogens wherever it travels, and pathogens picked up by flies are deposited on unprotected food. Indeed, there is an acknowledged increase in diarrhoea with the onset of the monsoon (Figure 17).

Toilet coverage

Over the years, much effort has been put into expanding the coverage of toilets in Nepal. Indeed, the country has made rapid progress during the last 15 years. The WHO recently estimated that toilet coverage has risen from 12 per cent in 1990 to 27 per cent in 2002—an increase of 125 per cent [184]. Although this puts Nepal high up the ranking of countries showing most improvement in the world, it must be noted that the baseline was one of the lowest recorded, and the current level of coverage is still the lowest within the group of most improved countries [184].

In 2001, the BCHIMES estimated that national coverage for a toilet of any type was 33 per cent, with 29 per cent of households having a toilet that is considered safe (Table 7) [9]. Urban coverage at 75 per cent is far greater than rural coverage at 27 per cent [9]. Although figures from different sources tend to vary, they generally indicate that about a quarter of rural households have access to a toilet compared to about three-quarters of urban households.

The BCHIMES also found that the main reason for not having a toilet was the household could not afford to construct one (51 per cent) [9]. It is more expensive to build a latrine in the terai than to install a tubewell. Thus, poverty can militate against latrines [188]. Nearly 17 per cent attributed the ‘lack of a habit’ as the main reason for not having a toilet—old habits of open defecation are not easy to change [9]. Another reason people give for not installing toilets is lack of space; this is common in poor urban households. For this reason, in some urban/peri-urban areas the only solution is to install community toilets.
facilities. Trials have been carried out in Kathmandu in providing support for community-owned and maintained toilet and bathing facilities. However, in saying this, it should be noted that poor disposal practices in urban areas can (and do) cause serious environmental pollution problems that promote the spread of disease.

As well as a disparity in rural–urban coverage, there is also a disparity in regional coverage [9]. Although there is a greater variation across the country, the terai tends to have lower coverage than the hills and the mountains, and the Mid-Western and Far Western Development Regions tend to have the lowest coverage of all regions.

Although urban coverage is much greater than rural coverage, there are pockets of extremely poor coverage in peri-urban slum areas, particularly in Kathmandu. At present, surveys estimate that only about a third of slum or squatter households have access to a toilet of any type, and approximately half of these are judged to be sanitary [189]. Current estimates put the population of these communities at about 15,000 people [189]. However, there is concern that displacement of people from rural areas as a consequence of the conflict will substantially add to the size of these communities, and that lack of toilet coverage will become a serious health hazard and an environmental danger.

### Types of toilet and associated disposal system

Toilets can be categorized into several types. BCHIMES data shows that eight per cent of households have flush toilets, 14 per cent have closed pits, 41 per cent have pan toilets connected to drainage, 26 per cent have pan toilets not connected to drainage, and 11 per cent have other types [9]. More important than the type of toilets are the methods for disposal of the wastes. Typically in the rural and peri-urban areas excreta from toilets are disposed of directly into the ground either from a simple pit latrine or into leach pits from pour-flush toilets. These disposal systems, if properly installed and maintained, ensure pathogens cannot be transmitted to humans. However, the effect that these disposal systems have on the environment is not known.

### Table 7: Percentage of households with toilet facilities

<table>
<thead>
<tr>
<th>Residence</th>
<th>Toilet of any type</th>
<th>Safe toilet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>74.7</td>
<td>72.5</td>
</tr>
<tr>
<td>Rural</td>
<td>27.1</td>
<td>23.1</td>
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</table>

<table>
<thead>
<tr>
<th>Ecological zone</th>
<th>Toilet of any type</th>
<th>Safe toilet</th>
</tr>
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<tbody>
<tr>
<td>Mountain</td>
<td>40.5</td>
<td>37.0</td>
</tr>
<tr>
<td>Hill</td>
<td>38.7</td>
<td>36.2</td>
</tr>
<tr>
<td>Terai</td>
<td>25.9</td>
<td>20.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sub-region</th>
<th>Toilet of any type</th>
<th>Safe toilet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern, Central and Western mountain</td>
<td>57.4</td>
<td>55.9</td>
</tr>
<tr>
<td>Mid-Western and Far Western mountain</td>
<td>16.3</td>
<td>9.9</td>
</tr>
<tr>
<td>Eastern hill</td>
<td>36.0</td>
<td>31.5</td>
</tr>
<tr>
<td>Central hill (excluding Kathmandu Valley)</td>
<td>27.5</td>
<td>21.9</td>
</tr>
<tr>
<td>Kathmandu Valley</td>
<td>85.8</td>
<td>83.3</td>
</tr>
<tr>
<td>Western hill</td>
<td>44.9</td>
<td>44.9</td>
</tr>
<tr>
<td>Mid-Western hill</td>
<td>16.8</td>
<td>15.7</td>
</tr>
<tr>
<td>Far Western hill</td>
<td>10.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Eastern terai</td>
<td>38.1</td>
<td>28.7</td>
</tr>
<tr>
<td>Central terai</td>
<td>14.3</td>
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<tr>
<td>Western terai</td>
<td>32.6</td>
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<td>Mid-western terai</td>
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<td>12.7</td>
</tr>
<tr>
<td>Far Western terai</td>
<td>24.0</td>
<td>14.7</td>
</tr>
</tbody>
</table>

Total                                                   33.2 29.4

Source: [9]

Disposal systems in urban areas consist of either septic tanks connected to soak pits and, in Kathmandu Valley municipalities, of sewerage. Septic tanks are currently the safest disposal system, although cleaning is generally expensive and can be difficult in congested areas. In addition, disposal of the untreated sludge into rivers or the sewerage system that drains directly into water courses is a serious environmental hazard.

As noted above, Nepal does not have an extensive sewerage system, with only 12 per cent of households, mainly in the Kathmandu Valley, connected to underground drains [44]. Most sewerage is discharged into local rivers without treatment and the underground drainpipes frequently clog, sending raw sewage into the streets.

### Toilets in public places

In Nepal, toilets tend to be ‘privately’ owned; that is, ‘owned’ or ‘maintained’ by the people who use them. The provision of toilets in so-called ‘public’ places, such as government
offices, public schools or government health facilities, is extremely poor, and the condition of toilets that are available is anecdotally ‘dismal’ [175].

Toilet coverage in schools is far from universal. A UNICEF analysis of 2002 EMIS data shows that 41 per cent of all public and community schools (including secondary schools) reported that they have a toilet. Of schools reporting that a toilet exists, only two-thirds report that it is ‘sufficient’ or ‘adequate’. This indicates that just over a quarter (28 per cent) of all schools have adequate toilets. In addition, only 26 per cent of schools report that they have a separate toilet for girls. If it is assumed that two-thirds of these are adequate, then only 17 per cent of schools have adequate toilet facilities for girls. Schools include all early childhood development/pre-primary centres, primary and secondary schools as well as all community, public and private schools.

The provision of toilet facilities in schools is important, as these facilities are essential for the convenience of children and teachers, particularly girls and female teachers, and help to protect health. In addition, they provide a useful opportunity for training children in good sanitary and hygiene practices. However, toilet construction by schools needs to be accompanied by a life-skills-based hygiene education programme, either as part of the regular curriculum or as an extra-curricular activity. Otherwise, toilets are not used properly or kept adequately clean. Their poor condition is then used as a justification for not constructing anymore toilets or for keeping the facilities locked and off limits to children.

Although there is gap in accurate data on toilet coverage in health facilities, anecdotal information suggests that most health posts and sub health posts do not have any toilet facilities, and that toilets at larger government health institutions are often inadequate and dirty. Health facilities need toilets for use by patients, visitors and staff, particularly females. An opportunity for teaching patients about the importance of toilets is lost, if facilities do not exist or existing facilities are not well maintained.

Disposal of babies’ faeces
In Nepal, there is a common perception that babies’ faeces is less dangerous than adult faeces [190]. Often no special effort is made to dispose of it safely. However, disposal of babies faeces close to households encourages flies, and promotes the spread of disease. The BCHIMES found that of households with a child under five years, about 32 per cent simply threw their child’s faeces into their yard, 19 per cent threw it indiscriminately outside their compound, 28 per cent threw it into their garbage pit or pile, and 19 per cent threw it into a toilet [9].

Use of toilets
An important component of analysis of toilet coverage is actual use. It is widely acknowledged that not all toilets are used consistently. It should be noted that in surveys examining the usage of toilets, respondents tend to overestimate their use. In most surveys, between 95 per cent and 99 per cent of respondents say that they use a toilet, if they have one [190]. However, as between a quarter and a third of toilets observed in surveys are considered to be ‘unclean’, it must be assumed that use is not consistent [9;190]. When toilets are clean they are used much more frequently than when they have been allowed to become dirty.

Causes of unsafe disposal of excreta
Although an increasing number of households have access to a toilet, the demand for one is far from universal and the condition of existing toilets is not always optimal. These two factors are important for understanding why so many people do not use a toilet.

Lack of awareness about the link between disease and sanitation is often suspected as a prime reason for households not having toilets. However, a survey of 17 districts for UNICEF in 2001 found that over 98 per cent of respondents recognized that there was a close connection between excreta and disease [190]. Of those who did not know of the link, two-thirds were women. Indeed, many respondents were able to identify diseases and conditions that were caused by human excreta. Over 90 per cent named diarrhoea, dysentery or cholera, 40 per cent named other ‘abdominal complications’, and
about 25 per cent named vomiting [190]. About 18 per cent of people thought that fever was caused by it (possibly a link with typhoid).

However, few people are aware of the link between worms and excreta [191]. The UNICEF study found that only about 20 per cent of respondents could connect the two [190]. Most people think that the cause of worms is related to eating habits rather than excreta in the environment [191]. Only a few were aware of worm transmission through bare feet.

When asked about the most common transmission routes for disease, most people (90 per cent) knew that flies carry disease [190]. However, only 28 per cent thought that dirty hands transmitted disease, and less than nine per cent suggested that water could also carry disease.

With widespread general knowledge about the link between human excreta and disease, one would expect toilets to be everywhere and considered a high priority. However, there seems to be a disconnect between knowledge and practice. Many people simply do not connect the use of a toilet with the prevention of disease.

Only 52 per cent of respondents suggested that building toilets would keep people ‘safe from disease’ [190]. Although connected to sanitation, the most often cited reason for building a toilet was to keep the environment ‘clean and odour-free’. About 30 per cent of people felt that toilets were only for the convenience of ‘children, the sick, the elderly and pregnant women’, and nearly 20 per cent thought that toilets should only be built to maintain privacy while relieving oneself [190]. This belief that toilets are considered necessary for privacy rather than hygiene was found in other studies too [187].

Members of households that do not have a toilet are most likely to use a forest (33 per cent) or field (31 per cent) for defecation [9]. In the terai, people often use riversides rather than forests [192].

When asked why they defecate in the open, people say that they have the habit of relieving themselves outside and do not feel comfortable inside a toilet [191]. They also say that there is no bad smell when defecating in the open air. People who have a toilet but do not use it consistently cite the bad smell and lack of water as reasons for not using it [190]. Indeed, the BCHIMES found that 31 per cent of toilets were considered to be ‘unclean’ [9]. In addition, cultural taboos in some communities restrict males from using the same toilet as their daughters-in-law.

In conclusion, the causes of unsafe disposal of excreta within communities are most closely connected to an unwillingness or inability to turn knowledge into practice, and a lack of the resources required for construction and maintenance of sanitary toilets.

**Drainage of wastewater**

Another aspect of sanitation that needs to be considered is the drainage of wastewater. Pools of stagnant water can be a health hazard that aid the transmission of disease-causing pathogens. They can act as a reservoir for mosquitoes that spread such diseases as malaria and Japanese encephalitis [176]. In addition, water that is not drained away from water collection points and household tap-stands as well as rainwater run-off can easily become contaminated with pathogens that abound in the environment (as a result of open defecation). This polluted water can seep into the ground and contaminate water sources and associated water supply infrastructures.

Industrial effluents can cause ill health, if they are allowed to contaminate water supplies.

**Household wastewater**

A survey for UNICEF in 2002 found that 96 per cent of respondents agreed that ‘stagnant water around the house was not a good thing’ [190]. However, when household management of wastewater was examined, some 30 per cent of households simply allowed it to flow indiscriminately from the house or external washing area. About 37 per cent regulated the flow of wastewater into ditches or pits, and 33 per cent collected it in a container for disposal elsewhere (drain, ditch, pit or roadside). Nepal’s rural settlements and the majority of urban areas do not have systematic
wastewater drainage networks. Most domestic wastewater and rainwater run-off is simply discharged into local waterways without treatment [193].

In urban areas (basically the towns of the Kathmandu Valley), wastewater and stormwater drainage systems are combined with the sewerage system. Generally the water, together with the sewage is not treated before its release into local rivers [194]. Although the rivers of the Kathmandu Valley have abundant natural flows during the monsoon that effectively dilute untreated wastewater, these flows decrease drastically during the dry season and can result in rivers becoming ‘open sewers’. Major wastewater management infrastructure in the Kathmandu Valley consists of wastewater treatment plants, pump stations, collector mains and interceptors. However, four out of five treatment plants were not operating in 2005 [76].

**Industrial wastewater**

Although industrial effluent is not currently a major concern in Nepal, there are pockets of concentrated industrial activity that produce a growing amount of polluted water, particularly in Kathmandu, Biratnagar and Birgunj. Children have rapidly developing nervous, reproductive, immune and respiratory systems that are particularly sensitive to poisons ‘pumped’ into water, soil and air [176]. In addition, environmental pollution exposure by pregnant women can have an effect on foetus [176].

In 1992, over 40 per cent of Nepal’s total industrial units were potentially a source of water pollution [193]. The main industries responsible for generating polluted wastewater are textile and carpet factories [195]. This polluted water is discharged without regulation into the environment and quickly contaminates local water bodies and soil [193]. Existing industries do not currently have discharge limits [195].

**Solid waste management**

Within rural communities in Nepal, the main types of solid waste produced are household garbage and animal dung. The indiscriminate dumping of domestic garbage creates a breeding place for flies, and allows contamination of groundwater and soil by seepage. The poor management of animal dung also encourages flies and can lead to pollution of water sources.

In urban areas, the accumulation of household garbage can create extremely unsanitary dumping sites. In addition, solid waste from industries and hospitals can cause problems.

Households are the main sources of solid waste in Nepal. The per capita waste generation is estimated to be 0.48 kg per day. Of total waste generation in the country, domestic waste made up about 83 per cent, agricultural waste constituted 11 per cent, and industrial waste accounted for six per cent [193]. In 1999, about three million urban residents in Nepal’s 58 municipalities generated a total of 426,486 tonnes of waste, to which the city of Kathmandu alone contributed 29 per cent [193]. However, it has been estimated that much is not collected, with perhaps 65 per cent going into regulated landfill sites [175].

Ideally, rural households should dispose of their garbage in specially built pits that drain away from water sources. However, most households dispose of their garbage on an open dung heap (42 per cent). Some households use a garbage pit (18 per cent), and some pile garbage in a corner of the yard (17 per cent). The rest (23 per cent) throw their garbage indiscriminately outside their compound [9].

In urban areas, there is often systematic collection of household garbage, with over 28 per cent of households covered by municipal schemes and an unknown but growing number covered by private schemes [9]. In addition, 24 per cent of households have a garbage pit and 21 per cent use a dung heap or garbage pile.

Although there are municipal schemes to collect garbage from households, rapid urbanization puts growing pressure on urban solid waste management services and on dumping sites [193]. Urban solid waste management problems are caused by the introduction of plastic materials [193]. While Nepal’s solid waste composition is mostly
organic, it is estimated that 15–30 per cent is plastic [195]. Dumping sites are a particular problem, with substantial water and air pollution emanating from inadequate sites [175].

Hospital waste is a potentially serious threat to health. Risks tend to be microbiological in nature rather than chemical. Only one hospital in each of Kathmandu and Biratnagar uses an incinerator [195]. There is generally little control of hospital waste, with nearly all of it being dumped in municipal waste. It is estimated that hospitals across the country generate 500 tonnes of hazardous waste per year [195]. Other types of hazardous waste are battery wastes, pesticides, and a few types of industrial waste. Most of these wastes are either dumped with the rest of the garbage or burnt in ordinary kilns.

In 1980, solid waste management was first introduced to Nepal with the formation of the Solid Waste Management and Resource Mobilization Centre. Landfill sites were established for Kathmandu. However, with the increasing difficulty of obtaining access to adequate landfill sites, the reduction of solid waste through local recycling and composting (of organic wastes) seems to be critical.

**Response to sanitation needs**

**Policy and legislation**

In general, past policies in Nepal have given low priority to sanitation compared to water supply. Indeed, current policies still tend to reflect to a certain degree the notion that government is responsible for providing sanitary services rather than acting as a facilitator, by developing policies that support the promotion of sanitation by civil society organizations and local-level institutions. However, in an effort to ensure that sanitation is more effectively promoted across the country, the government’s current policy is to support (and even insist on) the integrated development of sanitation services with water supply schemes. This also ensures that health benefits are optimized, as neither sanitation nor water supply alone can have the desired impacts on a community’s health status [175]. In addition, some support is provided for independent sanitation activities, and for activities aimed at sanitation motivation and hygiene education. However, some would argue that the country’s sanitation needs would be more effectively served by focusing efforts on changing sanitation and hygiene behaviour rather than simply building toilets.

Indeed, a coalition of partners has agreed to work together on a ‘total sanitation’ strategy that promotes no open defecation, using schools and child clubs as entry points for hygiene education. This approach has shown promise in other South Asian countries, and trial projects have been started in a number of communities in Nepal.

To date, there is no specific legislation with regard to sanitation [196]. Sanitation is addressed together with drinking water as an essential component of clean water supply. Legislation that pertains to sanitation includes the Water Resources Act (1992), Water Resources Regulations (1993), Solid Waste Act (1987), Solid Waste Regulations (1989), Water Aquatic Animals Protection Act (1965), and Local Self-Governance Act (1999) [193]. However, most legislation is enforced only weakly.

**Targets and budget**

While there is some indication that Nepal will be able to achieve the Millennium Development Goal target of halving the proportion of its urban and rural populations without access to improved sanitation between 1990 and 2015 (Figure 18), it must be stressed that current rates of promotion will

---

**FIGURE 18:**

Rural sanitation coverage 1990–2015

<table>
<thead>
<tr>
<th>Percentage</th>
<th>100</th>
<th>90</th>
<th>80</th>
<th>70</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>20</th>
<th>10</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>NFHS 91</td>
<td>AM 92</td>
<td>普查 1</td>
<td>NFHS 93</td>
<td>AM 94</td>
<td>NFHS 95</td>
<td>AM 96</td>
<td>NFHS 97</td>
<td>AM 98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>NFHS 92</td>
<td>AM 93</td>
<td>普查 2</td>
<td>NFHS 94</td>
<td>AM 95</td>
<td>NFHS 96</td>
<td>AM 97</td>
<td>NFHS 98</td>
<td>AM 99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>NFHS 93</td>
<td>AM 94</td>
<td>普查 3</td>
<td>NFHS 95</td>
<td>AM 96</td>
<td>NFHS 97</td>
<td>AM 98</td>
<td>NFHS 99</td>
<td>AM 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>NFHS 94</td>
<td>AM 95</td>
<td>普查 4</td>
<td>NFHS 96</td>
<td>AM 97</td>
<td>NFHS 98</td>
<td>AM 99</td>
<td>NFHS 100</td>
<td>AM 101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>NFHS 95</td>
<td>AM 96</td>
<td>普查 5</td>
<td>NFHS 97</td>
<td>AM 98</td>
<td>NFHS 99</td>
<td>AM 100</td>
<td>NFHS 101</td>
<td>AM 102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>NFHS 96</td>
<td>AM 97</td>
<td>普查 6</td>
<td>NFHS 98</td>
<td>AM 99</td>
<td>NFHS 100</td>
<td>AM 101</td>
<td>NFHS 102</td>
<td>AM 103</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: [1; 44; 47; 64; 184]
have to be accelerated [197]. Toilet coverage achieved during the Ninth Five-Year Plan (1996–2001) was 21 per cent for the rural population and 53 per cent for the urban population [47]. The Tenth Five-Year Plan (2002–07) aims to expand coverage to 43 per cent of the rural population and 83 per cent of the urban population [47]. If these targets can be achieved, then Nepal is on course to meet the Millennium Development Goal for sanitation. Best progress will be made by encouraging innovative pilots alongside larger government-led water and sanitation programmes [197].

Although there is a need to intensify efforts to expand promotion of sanitation, the budget available for these activities is limited. As sanitation is generally a component of water supply schemes, it is difficult to assess the actual budget allocated to it. However, as indication, the Eighth Five-Year Plan (1992–97) allocated 12.5 per cent of the water and sanitation budget to sanitation, and the Ninth Five-Year Plan (1997–2001) allocated only 6.7 per cent [198].

HYGIENE

The second important element of ensuring that disease transmission routes are broken is hygiene. Hygiene is essentially about people’s behaviour, and can be divided into personal hygiene, household hygiene, and food and water hygiene.

Personal hygiene

Personal hygiene focuses on keeping the body, and particularly the hands, clean so that people do not act as a transmitter of disease. It is mainly a case of developing hygienic behaviour, but it also requires access to the materials (water, soap, towels, etc.) necessary for ensuring adequate cleansing.

A recent meta-study has shown that the most effective intervention for reducing diarrhoea is hand washing with soap at critical times (after defecation, before handling food, and before feeding children) [174]. Indeed, there is widespread awareness in Nepal that hand washing prevents the transmission of disease. A survey for the Hand Washing with Soap Initiative in 2003 found that 75 per cent of people acknowledged that hand washing with soap ‘freed the hands of germs’ and 41 per cent said it can ‘prevent diarrhoea’ [192]. Over 33 per cent said it was ‘good for health’ and 26 per cent said it ‘prevented disease’.

No one mentioned the link between hand washing with soap and reduction in the incidence of acute respiratory infection.

It is important to emphasize that washing hands with soap is the most effective method of cleaning hands and thus breaking the transmission route for disease-causing pathogens. Washing with water alone or with other cleansing materials is simply not effective enough.

A recent survey looked at the hand washing practices of mothers and adolescents [192]. While the great majority of both mothers and adolescents claimed to wash their hands after defecation, it was found that only 80–83 per cent of them used soap (Table 8). A smaller proportion of hand-washers (55–56 per cent)
used soap after changing a baby's nappy. Only 29–38 per cent of hand-washers used soap before handling food, and only 26–30 per cent used with soap before eating or feeding children [192].

Many people who do not use soap use other materials, such as ash or soil, as a cleanser [191]. However, it is most common for people to wash their hands with water alone, if they do not use soap [192]. People who do not use soap regularly say it is not necessary (64 per cent), it is not readily available (25 per cent) or they cannot afford it (23 per cent) [192].

As well as keeping their hands clean, people can reduce their exposure to health problems, particularly skin infections, by regularly cleaning their body and clothes. A survey in 2002 found that although 90 per cent of people acknowledged that taking a bath regularly was essential for good personal hygiene, in practice only 67 per cent of people did so [190]. In addition, 95 per cent of people said that washing clothes was important but only 82 per cent of people were wearing reasonably clean clothes. As with hands, not all people who claim to wash their body and clothes do so with soap. About two-thirds of people use soap to clean their body, with 29 per cent using plain water and the remainder using a local cleanser (ash, soil, herbs, etc.) [191].

It is important to note that, as well as appropriate behaviour, personal hygiene is also enhanced by an adequate supply of washing materials, particularly water. Although almost all households had access to water, soap and towel for hand washing, findings on the gap between knowledge and practice suggest that people do not always use them and that hand washing techniques are often not adequate [190]. Some people report that water is not available close to toilets, making it difficult to clean hands satisfactorily after defecation [192]. In addition, about 35 per cent of people report that they do not use soap on occasion, as it is not nearby [192].

In an attempt to raise awareness of the need to wash hands with soap at critical times and to close the gap between knowledge and practice, many water and sanitation projects now have a component on hygiene education.

For instance, the Nepal Hand Washing Initiative was launched nationwide with an intensive focus in four districts in October 2003. The primary objectives of the initiative are to generate increased awareness on the importance of hand washing with soap and its benefits, and to gradually shift the pattern of hand washing with soap among the target audience to optimal and correct hand washing practices. In addition, the National Sanitation Action Week, an annual event since 2000, aims to act on improving hygiene and sanitation as a critical component to child survival, growth and development. The promotion of hand washing with soap is an integral component of the week.

However, it is often the case that hygiene and sanitation education is targeted at women, with access to men limited or not available [185]. Men also need to understand the importance of good sanitary practices,
because while they show similar behaviour to women with regard to personal hygiene (including hand washing), they are more likely to defecate in the open and are less likely to be concerned with keeping the surroundings of the household clean [190].

**Household hygiene**

As well as ensuring that excreta is disposed of safely and that the body is kept clean, another way to ensure that the transmission routes of disease are broken is to keep the environment around homes free of potential pollutants, especially of materials that attract flies. In addition, the reduction of smoke in the kitchen can help to reduce the incidence of acute respiratory infection in family members and, particularly, young children.

**Household surroundings**

For most people, the most obvious characteristic of a ‘clean house’ was a well-swept yard (94 per cent) [190;191]. Others suggested that a toilet (42 per cent) or a biogas plant (98 per cent) indicated that the household took care of the surroundings to their house [190;191]. In addition, well-plastered walls and floors (82 per cent), disposal of animal excreta far from the house (24 per cent), separate cattle sheds (30 per cent), and control of wastewater (17 per cent) were also mentioned [190;191]. However, this knowledge was not always put into practice.

When conditions around people’s houses were observed, the greatest gaps between knowledge and practice were found in separate cattle sheds (gap of 25 per cent), disposal of animal excreta far from the house (gap of 15 per cent), and well-swept houses and yards (gap of 13 per cent) [190].

**Indoor air pollution**

The World Health Report 2002 indicates that indoor air pollution may cause nearly as many deaths worldwide as unsafe water [149]. Women and children are most at risk from indoor air pollution, as they spend considerable time close to smoky kitchen fires. Air pollution disproportionately affects children, as they inhale more air per unit of body weight than adults and take in twice as many pollutants [176]. Indeed, children under five years accounted for 56 per cent of total deaths from diseases caused by indoor air pollution [149].

However, surveys in Nepal indicated that this type of pollution is not considered a threat by most families. Less than five per cent of people mentioned this as important [190;191]. Indeed, 55 per cent of people had no provision for ventilation of smoke from their kitchen, and 42 per cent simply let smoke drift through windows and holes in the roof [191]. The remaining three per cent had either smokeless stoves and/or chimneys for ventilating kitchen smoke.

Increasing the coverage of improved cook stoves (ICS) in poorer rural households would help to reduce the incidence of acute respiratory infection in young children. These stoves use solid fuel but emit much less smoke, which is funnelled out of the house through a chimney. Initially there were problems in the expansion of the programme. However, the National ICS Programme, currently supported by the DANIDA-funded Energy Sector Assistance Programme (ESAP), is aiming to expand their coverage [199].

An alternative to the use of improved cook stoves in rural areas is biogas stoves. Biogas is an extremely clean fuel that is produced from renewable materials such as dung and other organic waste. It is estimated that since 1992 the Biogas Support Programme has assisted the construction of over 120,000 biogas plants in 65 districts, spread almost equally between the terai and the hills [200]. Less than three per cent are built in the remote hills and high altitudes, as biogas production is less efficient in cold climates. Farmers are mobilized by over 35 local NGOs to engage local private companies to construct biogas reactors that are manufactured in Nepal through 13 workshops. The suppliers of reactors have to find customers and build reactors according to pre-defined standards. The total cost for construction is approximately NRs 21,000. Farmers contribute about 30 per cent of the cost in labour, receive a subsidy of NRs 6000, and cover the rest of the cost with a loan. About 97 per cent of biogas plants are currently operational [200].
The benefits are significant. The health benefits include a reduction of 20 per cent in the incidence of coughs and colds over three years for biogas households [200]. In addition, these households also experienced reduction in tapeworm infestation, eye infection, burn cases, and diarrhoea cases. Other benefits included an average reduction in workload per household of about 900 hours per year. Biogas households were also more likely to have constructed a private toilet than non-biogas households, with 90 per cent owning one compared to 60 per cent for non-biogas households [200].

**Food and water hygiene**
The hygienic handling and storage of food and water within the household can also help to reduce the incidence of disease as a result of poor sanitation. The primary aim is to prevent contamination of food and water by flies and dirty hands. In addition, water can be treated before use to minimize the transmission of disease.

**Food handling and storage**
Knowledge of how to protect leftover food from contamination is not universal. In one survey that asked respondents to suggest methods to prevent contamination, about 66 per cent mentioned using clean cooking utensils, and 52 per cent said that food storage containers should be covered [190]. About 76 per cent stated that they would put leftovers in a clean container before storage.

The treatment of leftover food was examined by the BCHIMES. Nationally about 62 per cent of people kept leftovers in a covered container, and 16 per cent used an uncovered container [9]. In a more recent survey for UNICEF, of those who keep leftover food for later consumption, only 46 per cent put it into a clean, covered container. There are some differences between practices in urban and rural households. About 78 per cent of urban households cover leftovers compared to 59 per cent of rural households [9].

**Household treatment and storage of water**
It is common for households in Nepal to store water for future use; some 96 per cent of respondents reported storing water in a survey for UNICEF [190]. Therefore, it is important for households to take proper precautions to keep their water safe after it has been collected from a water point. Generally speaking, awareness that disease is caused by unclean water is low, with only nine per cent of respondents suggesting this transmission route [190].

The BCHIMES found that nationally 57 per cent of households covered water containers and 33 per cent did not (others were either unobserved or not storing water) [9]. There was a particularly significant urban–rural disparity, with 82 per cent of urban households covering water vessels compared to 53 per cent of rural households [9].

In terms of water treatment, about six per cent of households boiled water, 4.5 per cent used domestic filters, and less than one per cent
used water-purifying tablets [9]. In the Kathmandu Valley, 30 per cent of households boiled their water, and 35 per cent used domestic water filters [9]. A WHO study on the cost-benefits of water and sanitation interventions shows that, in a country like Nepal, disinfecting water at the point-of-use is the most cost-effective option for ensuring ‘safe’ water. Benefits were estimated to be about US$ 2 to US$ 7 for every dollar invested (depending on a range of conditions, and assuming that water and sanitation services were also improved) [201].

In addition, to the treatment of water, the proper cleansing of water collection vessels and the discarding of stale water somewhat reduces the risk of consuming contaminated water. Over 99 per cent of people clean their water collection vessels and 95 per cent discard stale water [191]. Yet, in the UNICEF survey only eight per cent of people covered water collection vessels while carrying them from the water source, and 24 per cent of people transferred water from a large collection vessel into a smaller drinking vessel with a small cup without a handle, creating the possibility of contamination [190].

**Response to hygiene needs**

Hygiene has been a low priority for both the government and donors, although there have been some small-scale, scattered, successful initiatives. The school curriculum now includes hygiene, but it is taught at the theoretical level only. Attempts in the past to introduce a more practical approach to teaching hygiene in schools have met with limited success. Only since the late 1990s, following the introduction of a school sanitation and hygiene education initiative using life-skills-based and child-to-child approaches, have improvements in hygiene practice been noticeable.

**WATER SUPPLY**

Water supply is the third element for ensuring that the transmission routes for disease are broken. Studies have shown that water quantity has a greater impact on disease reduction than water quality [174]. However, water quality in Nepal is a particular issue, with regard to microbiological contamination in all regions and arsenic contamination in the terai.

**Access and reliability**

Access to a reliable and plentiful water supply improves both environmental sanitation and personal hygiene [202]. It also allows time and energy savings, particularly for women and girls. When water is piped directly into the house or compound, it has a particularly significant impact on reducing diarrhoea, as it encourages better hygiene behaviour and usually increases the quantity of water available to the household for improved sanitation practices [184].

Although the Government of Nepal is in the process of setting standards for assessing

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**TABLE 9: Standards for water supply in Nepal**

<table>
<thead>
<tr>
<th>Service level</th>
<th>Quantity (per person per day)</th>
<th>Quality</th>
<th>Accessibility</th>
<th>Reliability (hours per day)</th>
<th>Sustainability (months per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>According to WHO standard*</td>
<td>According to WHO standard*</td>
<td>According to WHO standard*</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>Good</td>
<td>According to WHO/national standard*</td>
<td>According to WHO/national standard*</td>
<td>Installed inside the house compound</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>Basic</td>
<td>20–45 litres</td>
<td>Processed, generally not injurious to health</td>
<td>Available up to a distance of 20 minutes</td>
<td>4</td>
<td>12</td>
</tr>
</tbody>
</table>

Note: *In the absence of a national water quality standard, the WHO standard has been used as a guideline for water quality.*
water supply indicators, these have differed from international standards in the past and are only now coming into line with WHO standards (Table 9). This means that the various agencies and organizations collecting data related to water supply have used differing criteria. Therefore, caution is needed when judging and comparing figures for access, reliability and quality [197]. Some agencies have included a time element (e.g. collection of water within 15 minutes), others simply record access to improved technology [203].

**Water supply coverage**

Bearing in mind the difficulty of comparing figures from different sources, it is still possible to conclude that water supply coverage in Nepal has grown substantially over the last decade. The WHO states that rural water supply coverage has increased from about 65 per cent in 1990 to about 85 per cent in 2000—a rise of over 30 per cent [204]. Urban coverage has remained stable at about 95 per cent. However, it is should be noted that demand for water is also increasing rapidly, particularly for drinking water, industrial use, and irrigation [76].

In Nepal, people collect water from a variety of sources: most use improved sources such as piped water, shallow tubewells (hand pumps), dug wells, and protected springs, while others have to use unprotected sources such as open ponds, irrigation canals, streams and so forth. According to the BCHIMES, nearly half (48.3 per cent) of the population was served by piped water; 31.6 per cent was served by tubewells and boreholes, and 16.9 per cent by dug wells and springs [9]. A small proportion of households (3.2 per cent) used other sources of drinking water.

As well as looking at simple coverage data, time taken to fetch water is a good indicator of access. Households with a water point within their dwelling are regarded by the BCHIMES as taking zero minutes to fetch water. However, it should be noted that in urban areas, and particularly in Kathmandu, having water piped into the house does not always indicate that water is immediately available. Many households do not receive a regular supply and still have to collect water from distant points, particularly during the pre-monsoon season. However, according to the BCHIMES, 34 per cent of households (68 per cent for urban and 29 per cent for rural) have a water source within their dwelling [9]. An additional 44 per cent of households spend less than 10 minutes on a trip to fetch water. However, 11 per cent spend between 11 and 29 minutes, and another 11 per cent spend more than 30 minutes. The worst-affected sub-regions are in the hills and mountains of the Mid-Western and Far Western Development Regions, where more than a quarter of all households spend more than 30 minutes on a trip to fetch water.

The BCHIMES questioned people about whether they were able to obtain sufficient water for their needs. About 91 per cent of households reported that they have sufficient drinking water. Households in the terai were most satisfied with the quantity of water they received, while households in Kathmandu Valley were least satisfied, with only 74 per cent of households having sufficient water [9].

Poor peri-urban communities are often considered to be vulnerable to problems associated with water supply. However, a study by the NGO Lumanti found that over 83 per cent of slum households in Kathmandu had access to a free public water supply [189]. Most of this was provided by traditional stone water spouts—managed by urban communities rather than the government. Nevertheless, government water supply services (household connections, public standpipe, and yard tap-stands) were found within slum and squatter settlements, confirming that, despite official policy, services are not necessarily refused due to lack of land title.

As improved water supply often means less time spent on water collection, it is interesting to identify who might be most affected by this. The BCHIMES found that women are most involved in water collection. On average, in 31 per cent of households women made two trips a day, in 28 per cent of households women made three trips a day, and in 27 per cent of households women...
made four or more trips a day (Figure 19) [9]. Men also collected water but generally less frequently than women. In nearly 57 per cent of households men made no trips for water. When men collected water, it was usually only once or twice a day [9]. Some children under 15 years also collected water, but not frequently [9].

Many schools lack a water supply. UNICEF analysis of data collected for the government’s Education Management Information System in 2002 indicates that about 35 per cent of all schools (including secondary schools) have an adequate water supply. Lack of water at schools has implications for health, as students and staff members cannot ensure their personal hygiene. It is also an inconvenience, as children have to bring their own drinking water to school.

Although information on water to supply to hospitals and other health facilities is not readily available, anecdotal evidence suggests that health posts and sub health posts rarely have their own water supply.

Quality
Although figures on water supply coverage imply that most households in Nepal have access to an adequate water supply, many households, in fact, do not have access to a water supply that can be considered safe. Table 9 shows the indicators for safe water that the government will be using to measure progress in national development plans over the next 20 years. By these standards, five per cent of the population currently has access to a high-quality water supply, 20 per cent has access to a good-quality water supply, and 75 per cent has access to a basic-quality water supply.

While definitions for safe water sources vary, sources such as piped water from a closed tank and sealed hand-pumps are considered safer than open sources such as ponds or rivers. Although, data for Nepal show that about 80 per cent of the population has access to ‘safe’ water supply sources (piped, tubewell and borehole), it is difficult to say how many of these sources are properly protected [9]. Indeed, many so-called ‘safe’ water sources may become contaminated through the seepage of wastewater around the outlet, and contamination at the source or along the transmission lines. A survey by the Department of Water Supply and Sewerage found that 55 per cent of tubewells in 20 terai districts were microbiologically contaminated [11]. A study carried out for UNICEF in 2001 of a few VDCs in Kavre District showed that the contamination of water collected from springs was high, with between 64 per cent and 86 per cent of water samples being contaminated [205].

Another aspect of quality relates to chemical contamination. In Nepal, there are two main categories of chemical contaminant: naturally-occurring arsenic and man-made industrial pollutants.
Arsenic is a potentially fatal poison that occurs naturally in the groundwater of the terai. Although the issue of arsenic contamination of groundwater only emerged in Nepal during the late 1990s, a few studies have been carried out to assess the extent of the problem. As of June 2005, over 400,000 tubewells have been tested primarily in 10 terai districts. The test results indicated that 2.8 per cent of tubewells contain water with arsenic concentrations above the Nepal Interim Standard of 50 parts per billion (ppb), and 13 per cent above the WHO standard of 10 ppb. The districts of Nawalparasi, Bara, Kapilvastu, Parsa, Siraha, Rautahat and Kanchanpur are the most affected, with more than 1.5 per cent of tubewells having an arsenic concentration of over 50 parts per billion (ppb) (Figure 20). However, it must be borne in mind that these results are provisional at present.

There has been no study of industrial contamination of groundwater in Nepal. Wastewater analysis from industries in the Kathmandu Valley and along the Dharan–Biratnagar corridor indicate that several pollutants are released into the environment. This suggests that water supplies in some localized areas may be contaminated.

**Causes of poor access to a quality water supply**

There are a number of reasons that many households in Nepal suffer from a lack of access to water and unreliability of supply.

**Time for collection**

A significant cause of an inadequate water supply is simply the time that it takes to collect. Where a water trip takes more than 10 minutes, it can add a substantial burden to a household’s workload. This situation affects about 22 per cent of households nationally [9]. Moreover, it is usually already-busy women who are responsible for water collection. Where water supplies are insufficient, then households often make unhealthy compromises with regard to sanitation and hygiene that are likely to lead to increased incidence of water-related disease. Where improved water schemes have been constructed, people, both in the hills and the terai, are pleased to have easier access to more drinking water in less time. The time saved is used for better care of household and children, and for income-generating activities such as kitchen gardening or care of increased numbers of livestock [188].

**Cost of new schemes**

The cost of developing new schemes can sometimes be a deterrent to certain communities. The government subsidizes implementation of basic-service schemes, but stipulates that the community must share the cost, with a contribution in cash and kind of at least 20 per cent of the capital cost of hardware, of which one per cent must be cash [206]. The per capita cost for gravity schemes in the hills is estimated to be about NRs 1800–2000 and for shallow tubewell in the terai to be NRs 410–520 [185].

In addition, strict adherence to governmental norms can disadvantage some communities, particularly those that are poorly scattered or remote. For example, in the terai, the norm of 10 households per water point is considered to be too many [188]. This norm also causes problems for scattered households in the hills [188].

**Rehabilitation of schemes**

Another important constraint to the provision of adequate water supply is the number of schemes in need of repair. It is reported that 10 per cent of existing schemes need rehabilitation, more than 50 per cent need major repairs, and 11 per cent are not functioning at all [206]. In addition, just under 50 per cent of schemes are not functioning to
design capacity [206]. Diminishing discharges from failing schemes mean that existing systems may no longer be able to support their catchment populations.

Drinking water facilities deteriorate with use, time and geological movement. Typical design life for drinking water schemes is 20 years. Hence, approximately five per cent of projects need replacement or rehabilitation every year [188].

Other reasons for failing schemes include poor initial survey and design; poor construction; and improper maintenance. Environmental risks can be avoided with careful planning and design. Potential problems include the possibility of landslides from gravity schemes; drainage problems around artesian wells; pollution of aquifers due to poor-quality well-head construction and the siting of toilets close to well points; ponded wastewater around water points leading to water-related diseases [206].

**Lack of capacity to manage**
Another important reason for the failure of many schemes is the lack of capacity within communities to plan, manage, and operate appropriate schemes.

Although women are usually the main collectors and users of water for the household, they often have little input into the management of water supply systems. Men, in general, assume that water supply is a technical matter and that women are not able to play a meaningful role in its management [207]. Although the policy is for water user committees to be made up of 50 per cent women, in practice, women are usually under-represented. This can lead to water supply schemes that do not take into account women’s concerns and with support systems that discriminate against women. For example, although the aim of many water supply systems is to reduce women’s workloads by shortening the amount of time needed to collect water, the siting of tap stands in public places with no means of privacy, especially from passing men, means that women no longer feel comfortable washing themselves or their clothes beside the water source. Instead they make several extra trips to carry water to their households, using more time and energy [207]. Women have reported that they used to collect water four or five times a day (80 litres per family) but with water closer to their homes they now fetch water 10–15 times a day (200–300 litres of water) [207].

**Discrimination**
Lack of access to water is often linked to a lack of access to decision-making power. This is particularly true for disadvantaged groups and low castes. In the Far Western Development Region, caste-based segregation remains strong, with the Dalits facing problems of access, as high-caste groups believe that using the same water source as Dalits is ritually polluting [186]. Location of new tubewells often benefits high-caste families at the expense of low-caste households [207]. Dalits may also experience problems accessing water supplies in institutional facilities, such as government offices and schools, because of caste discrimination.

Dalits also face discrimination on the basis of cost, as their communities are generally among the poorest. To address this issue at least partially, the government has included a pro-poor component in the 2004 Water Supply and Sanitation Policy that allows for reducing the minimum contribution of poor communities from 20 per cent to 10 per cent, and eliminates the requirement for a one per cent cash contribution. Costly private investment in drinking water, particularly in the terai, may also put Dalits and the poor at a disadvantage [186].

**Seasonal variation and lack of viable source**
In a country such as Nepal, where the availability of water varies greatly with the season, some areas will experience seasonal water stress. In the dry season, some sources do not function 24 hours a day and, in some places, may dry up altogether. Although this is undoubtedly true, there are no figures available for the number of people affected.

Where viable sources of water that can be transmitted through gravity are not available,
rainwater collection has been tried. Rainwater collection schemes have been introduced by FINNIDA in Lumbini zone, benefiting 13,000 people (Arghankanchi, Gulmi, Palpa) [185].

**Urban problems**

Urbanization has exacerbated risks associated with inadequate water supply, especially for the poor [176]. Existing water supply systems in municipal areas or emerging towns outside the Kathmandu Valley cannot meet current demands, as they were installed without anticipation of rapid urban growth and are designed for water distribution via public standpipes. Most schemes are functioning only partially and require major repairs to satisfy demand created by rapid urbanization. To begin addressing these needs the government, with financing from the Asian Development Bank, has initiated a Small Town Water Supply Project whereby the municipality assumes responsibility for management and contributes 25 per cent toward the cost of improvements.

In Kathmandu, the population is rapidly increasing. At present, the government only supplies about 79 per cent of drinking water for the city [194]; the rest is supplied from private sources. Leakage is also a problem, with about 40 per cent of water lost through leaking pipes [194].

**Response to water supply needs**

**Policy and legislation**

The government has recently prepared the Rural Water Supply and Sanitation National Policy 2004, the Rural Water Supply and Sanitation Strategy 2004, and the Rural Water Supply and Sanitation Sectoral Strategic Action Plan 2004 [196]. These policy and strategy documents recognize that all people have a right to access to basic water supply services, and that these services are necessary for socio-economic development and to combat water-related disease.


**Targets and budget**

Nepal is well positioned to meet its Millennium Development Goal target of halving the proportion of its urban and rural populations without access to improved drinking water supply between 1990 and 2015. Water supply coverage achieved during the Ninth Five-Year Plan (1997–2002) was 71 per cent for the rural population and 76 per cent for the urban population [47]. The Tenth Five-Year Plan (2002–07) aims to expand coverage to 85 per cent for both rural and urban populations [47].

Although funds for water supply are not allocated separately from sanitation in the government’s budget, it is acknowledged that expenditure on water supply consumes the major part of the allocation to the sector. The water supply and sanitation budget has been about three per cent of the government’s total budget since the early 1990s, at about NRs 2 million a year (Figure 21). The Basic Social Services Study 2004 shows that the basic services component for this sector is decreasing. This may be a reflection of basic services being delegated to Ministry of Local Development and DDCs, so that the study was not able to capture the true figures.

**Programmes and donors**

There are three major programmes that cover water supply in the country.

The Rural Water Supply and Sanitation Project is funded by the Asian Development Bank. It operates in 25 districts mainly in the Mid- and Far Western Development Regions, and has a well-funded sanitation and hygiene component.
The Melamchi Water Supply Development Project was initiated to augment water supply in the Kathmandu Valley. However, it has been seriously delayed, and there are some doubts as to whether the project will be completed. This is a large programme that has been allocated 46 per cent of the government’s budget for the water and sanitation sector [47].

The Small Town Water Supply Project aims to complement the marginalized supplies of water in urban and semi-urban areas outside the Kathmandu Valley, where the operation and maintenance would be eventually taken over by the Water and Sanitation Users Committees.

Foreign aid for the water sector has increased over the years, with approximately a dozen bilateral and multilateral agencies working in the sector [188]. The plurality of funding sources presents a complex scene. Many non-governmental agencies have initiated programmes to provide village and small-town water supply and sanitation services directly to communities. About two-thirds of the total development budget allocated to this sector is financed by donors [206].

Private investment is also significant, and is particularly apparent for water and sanitation services in urban areas and for tubewells in the terai [187; 188]. Similarly, in large urban areas, water supply by private vendors in the absence of reliable government services is important [187].

**Earthquake preparedness**

As Nepal lies in a high-risk earthquake zone, there have been some attempts to assess preparedness in the sanitation and water sector. To date, studies have focused on the Kathmandu Valley. Assessments indicate that there would be thousands of breaks in the water supply system (about 10 pipe breaks per kilometre) that would completely stop water supply [208]. To mitigate the immediate and longer-term effects of an earthquake requires the establishment of temporary water supplies (deep tubewells or large storage tanks) at pre-defined emergency relief centres as well as the development of plans, chains of command, communication systems, supplies of emergency back-up equipment, and rosters of service suppliers (such as plumbers, equipment vendors, specialized personnel, etc.). Needless to say, this is still an ongoing process. The situation of towns and villages outside the Kathmandu Valley has not been assessed, but these areas must be assumed to be inadequately prepared.

**CONFLICT**

There is little documented evidence of how the conflict has affected sanitation and water supply activities, so most of the following account is based on media reports and anecdotal evidence.

As with other activities throughout the country, water and sanitation schemes are affected by the delays caused by frequent bandhs and blockades. However, in the vast majority of cases, supplies eventually arrive at their destination.

One commonly reported delay is caused by restrictions placed on the movement of steel pipes and equipment by the State’s armed forces, as a result of the security concerns that this type of material might be used by the Maoists for making improvised explosive devices (socket bombs). This has caused some problems for water supply schemes in many of the affected districts. One agency has developed a system using all plastic fittings that allows them to send materials to communities without any restriction.

Another delay that may occur is caused by Maoist cadres requiring development projects to obtain their ‘approval’ at regional, district and local levels, with associated increases in risks and delays. Organizations have spent months to obtain the necessary consultations, sometimes losing a full construction season. This is further complicated because of the Maoist attempts to impose their own district and regional boundaries. The need for Maoist approval is assumed to stem from sensitivities surrounding the collection of household information (social mapping) required for implementing sanitation and water schemes.
Local government bodies, such as DDCs and VDCs, play a major role in delivering sanitation and water supply services to communities in response to local demands and needs. However, the current lack of elected representatives—that stems from the conflict—has affected the capacity of local communities to voice their demands and ensure that the planning of appropriate sanitation and water activities takes place [187].

Community involvement in sanitation and water schemes—a requirement for government funding—is, in some cases, becoming more difficult to mobilize, following Maoist restrictions on the formation of community organizations and the provision of training. Resources in some communities are becoming scarce, as breadwinners leave their home villages. This has resulted in less cash and labour being available for community contributions, and increased the need for higher subsidies. Higher subsidies reduce a community’s sense of ownership, resulting in neglect of maintenance and increasing the risk of schemes falling into disrepair. In addition, committee members of sanitation and water user groups experience harassment by the Maoists, making people more reluctant to take on these roles. Many sanitation awareness-raising activities are carried out by child clubs that promote sanitation and hygiene. However, members of such child clubs have said they feel more exposed and are targeted for recruitment by the Maoists.

When communities are able to continue with sanitation and water schemes, it is essential that fully transparent procedures are followed to prevent the Maoists intervening. However, this has resulted in increasingly rigorous processes for supply of equipment that have caused some delays. In addition, this transparency means that the Maoists have more information on which to base their extortion demands.

The difficulties of travel/access faced by government officials and technical teams from support agencies result in poor supervision and monitoring of activities that are carried out. This probably results in lower quality of work that will affect the effectiveness of schemes in the future.

The most direct impact of the conflict is when Maoists target the water supply of military barracks, etc. Neighbouring communities may suffer as a result of disruption or discontinuation of their drinking water. At times, this can affect a considerable number of people. For example, after the Maoists in Dailekh District bombed the intakes of the Belsapur Drinking Water Project and Kalekhola Project and cut off pipes used to supply drinking water, local people in the headquarters town of Dailekh Bazaar now have to walk for one and a half hours to fetch water from neighbouring VDCs [209]. This affects 15,000 people. The Maoists issued a press release saying that they bombed the drinking water projects because employees at the Drinking Water Office started to collect bills for drinking water, as directed by the security forces, and have gone against directions given by the Maoists not to collect any money for the use of drinking water.

Finally, large influxes of displaced persons to district headquarters and other urban areas might cause problems in water supply and sanitation for local people in the future. This is of particular concern in the larger urban areas where progress in developing new water schemes is slow [187]. A rapidly increasing urban population may precipitate the collapse of sanitation and water systems, with potentially serious consequences.
STATUS OF HIV/AIDS EPIDEMIC

The HIV/AIDS epidemic poses a serious threat to the population of Nepal, especially the lives of children and young people. It jeopardizes their rights to survival and protection from disease as well as increasing the risk that children will find themselves without a primary caregiver. Although the estimated prevalence of HIV/AIDS among the general population is still relatively low in Nepal compared to some countries around the world, the epidemic has the potential to spiral out of control and affect a growing number of people [275].

The first case of AIDS in Nepal was reported in 1988. By the mid-1990s, Nepal had entered a ‘concentrated’ epidemic, with HIV prevalence consistently over five per cent in some sub-populations such as injecting drug users and female sex workers [276]. As in many countries, estimates of HIV prevalence in Nepal are based on reported cases, surveillance data and study findings. These sources of data have shown that in recent years infection rates have increased rapidly (Figure 52). As of 31 August 2005, the National Centre for AIDS and STD Control (NCASC) at the Ministry of Health and Population reported 5338 HIV infections and 907 cases of AIDS (Table 22) [277]. Among reported HIV cases, more than half are clients of sex workers or patients with sexually transmitted diseases (53.7 per cent), followed by injecting drug users (19.2 per cent), housewives (12.6 per cent), and female sex

![Recorded cases of HIV and AIDS in Nepal](Source: [276])
workers (12.2 per cent) (Figure 53) [278]. These numbers are assumed to be gross underestimates, as is the case in many other countries.

Current data indicate that HIV prevalence is around 0.5 per cent in the adult population (15–49 years) [279]. Therefore, the number of people (adults and children) living with HIV at end of 2003 was estimated to be 61,000 [279]. Of these, about half live in districts along the highways, and a quarter are women [279]. In addition, UNICEF estimates that AIDS has orphaned 13,000 children in Nepal, and that 111,000 children may be affected by the HIV infection of their parents [280].

The existing HIV/AIDS sentinel surveillance in Nepal was initiated in 1991 by the WHO. It was intended to cover five sub-populations (female sex workers, patients with sexually transmitted diseases, injecting drug users, antenatal care attendees, and tuberculosis patients) in six surveillance sites (Kathmandu, Pokhara, Nepalgunj, Damak, Birgunj, Mahendranagar). Surveillance was planned to take place at six-month intervals. However, the sites, intervals between the rounds, and the sub-groups targeted were changed after a few rounds. Since 1998, the government has adopted a second-generation surveillance system, with collection of both behavioural and HIV-prevalence data, that has been rolled out in sub-populations including injecting drug users, female sex workers, truckers, and clients of sex workers. From 2006, data on migrants will also be collected.

Although to date most attention has been placed on tackling the HIV/AIDS epidemic in high-risk groups, there is growing recognition of the potential for rapid spread into the general population. The dynamics of the HIV/AIDS epidemic have taken a predictable path of rapid increase in high-risk groups (female sex workers, injecting drug users), followed by spread via ‘bridge’ populations (e.g., clients of female sex workers, including labour migrants, and partners of injecting drug users) into the general population (e.g., housewives and children). Without effective interventions, it is predicted that there may be a generalized epidemic by the end of the decade, with an estimated HIV prevalence of 1–2 per cent in

### Table 18: Cumulative HIV infection by sub-group and gender

<table>
<thead>
<tr>
<th>Sub-group</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients of sex workers/STD patients</td>
<td>2,767</td>
<td>93</td>
<td>2,860</td>
</tr>
<tr>
<td>Injecting drug users</td>
<td>1,032</td>
<td>16</td>
<td>1,048</td>
</tr>
<tr>
<td>Housewives</td>
<td>-</td>
<td>699</td>
<td>699</td>
</tr>
<tr>
<td>Sex workers</td>
<td>-</td>
<td>597</td>
<td>597</td>
</tr>
<tr>
<td>Children</td>
<td>75</td>
<td>47</td>
<td>125</td>
</tr>
<tr>
<td>Blood or organ recipients</td>
<td>7</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3,884</td>
<td>1,454</td>
<td>5,338</td>
</tr>
</tbody>
</table>

Notes: * Mode of transmission (injecting drug use or sexual) 
Source: [277]

### Figure 53:

Distribution of reported HIV cases by sub-group

Epidemiological facts for Nepal

- There is evidence of an explosive increase in the number of infections since 1996.
- Highest rates of HIV have been identified in injecting drug users.
- Data indicate that risk behaviours are widespread among sex workers, their clients, injecting drug users, labour migrants, and young people.
- The predominant mode of transmission is sexual contact, presumably heterosexual.
- Limited information is available about homosexual/bisexual transmission.
- Increasing levels of sexually transmitted infections have been reported; the presence of a sexually transmitted infection is a risk factor for HIV/AIDS.
the age group 15–49 years [276]. This would make AIDS the leading cause of death in this age group. Fortunately, Nepal, unlike other countries in Asia, has been successful at controlling the epidemic in high-risk populations groups. For example, the HIV sero-prevalence rate in female sex workers has stabilized at about three per cent throughout the terai and in Kathmandu and Pokhara.

For Nepal, a generalized epidemic with high morbidity and mortality in the productive age group would start a ‘vicious circle’. The spread of HIV/AIDS would increase poverty and vulnerability that would lead to a greater number of HIV/AIDS infections with a higher impact.

UNDERLYING FACTORS AFFECTING HIV/AIDS

Underlying factors associated with HIV/AIDS in Nepal are poverty, gender inequality, migration, and political turmoil. These factors can lead to an increase in vulnerability of children and women to HIV/AIDS. Widespread sex work, increasing drug use, broad stigmatization of sexually transmitted diseases, ignorance, and competing development priorities together with a lack of institutional and management mechanisms and capacity to implement national AIDS programme also worsen this problem [281; 282].

Poverty
Nepal is one of the least economically developed countries in the world, being ranked 136 out of 177 in the Human Development Index for 2005 [18]. Its poverty places many people in situations that directly and indirectly increase their risk of exposure to HIV/AIDS. For example, it is due to poverty that some people choose to sell sex for a living (survival sex), and others seek alternative livelihood options, such as migration to other countries, that might then put them at increased risk.

Poverty also results in many people being excluded from education, especially the poor and women. Only 12 per cent of women and 37 per cent of men in the poorest households can read and write [44]. This makes it difficult for people to access information on HIV risk behaviours and prevention messages through the print media (pamphlets, newspapers, billboards, posters) and for them to use this information effectively.

In addition, widespread poverty means that most people do not have a radio or television on which they might receive audio or visual messages. The NDHS 2001 found that 62 per cent of women with no education and 35 per cent of women with primary education had no access to mass media, including radio [1]. The pattern is not too different for men, with 32 per cent of men with primary education having no access to mass media. These factors increase general vulnerability to the HIV epidemic.

Gender inequality
Generally, women in Nepal are afforded low status by society. Their low status means that it is hard for them to overcome the impacts of poverty, stigma and conflict and, therefore, they are especially vulnerable to HIV/AIDS. See the chapter on Gender for more details.

Gender inequality contributes to Nepal’s high rate of early marriage. The median age of marriage for women is 16.6 years [1]. According to a WHO/UNFPA/Population Council communication brief, girls married before 18 years of age face a significant increase in their risk of contracting HIV [283]. Crossing the threshold into marriage greatly intensifies sexual exposure via unprotected sex, which is often with an older partner who, by virtue of his age alone, has an elevated risk of being exposed to HIV/AIDS.

As noted in the NDHS 2001, general awareness of HIV/AIDS is lower among women than men, reflecting their limited access to information, lower education and literacy levels. Physically immature bodies, poverty, lack of negotiating power and skills, unsafe sex, and misconceptions about HIV/AIDS all increase risks for women and girls. The discriminatory nature of society also hinders a woman’s ability to protect herself from sexually transmitted infections and HIV/AIDS, even from her husband. Gender
discrimination propagates low levels of self worth and body awareness.

**Migration**

Migration has long been a strategy used by rural families to supplement household income in times of need. The 2001 census found that more than 762,000 people were absent from Nepal and presumed to be external migrants; 89 per cent were male [13]. Of these, over 77 per cent were in India. The 2001 census also found that there were 2.93 million inter-district migrants within the country—13.2 per cent of the native-born population [13]. Although the split between males and females was more balanced, there was a preponderance of males. However, people aged 20–39 years dominated this category. Moreover, people in this age range are considered to be the most sexually active [1].

It is widely acknowledged that mobile populations have an increased risk of exposure to HIV/AIDS because they are more likely to indulge in unsafe/risk behaviours such as alcohol, drugs, having multiple sexual partners and using the services of female sex workers. They also generally lack knowledge of how to protect themselves, and have limited access to essential services such as condoms and treatment for sexually transmitted infections.

Mobile populations in Nepal include rural labourers looking for seasonal work, permanent migrants employed in newly-emerging manufacturing industries, long-distance truck drivers and their helpers, the armed forces and police, students, and a growing number of people displaced by the conflict. When infected migrants return to their home villages and wives, they often act unknowingly as a channel for the transmission of HIV into the settled general population.

**Political turmoil and conflict**

Nepal’s political turmoil and its associated conflict with the Maoist insurgents have resulted in conditions that could pose a challenge to the country’s response to the HIV/AIDS epidemic [276]. It is important to consider how conflict, and the emergency situations it engenders, create conditions favourable to the spread of HIV/AIDS. These include the breakdown of family units and social networks, large population movements, areas of lawlessness and impunity, and the disruption and destruction of vital infrastructure including health facilities.

In such situations, already-vulnerable populations (such as children and women) are less able to rely on survival strategies that could limit their exposure to HIV/AIDS—they tend to opt for high-risk coping mechanisms. For example, when social infrastructure and economic opportunities are destroyed, and male heads of households leave the family (either voluntarily or through compulsion), the women left behind often have to provide for the family alone. Efforts to look after a family may put the female head of a household or her daughters in a situation where their exposure to HIV/AIDS is increased.

Other groups made vulnerable by the conflict include migrant men, uniformed services, single young women, and children without primary caregivers. In peace time, rates of sexually transmitted infections among armed forces are generally two to five times higher than in civilian populations, in times of conflict the difference can be much higher [284]. Young women and children without adequate social protection are often placed in sexually vulnerable situations such as rape, sexual coercion, drug use, and prostitution [285].

The conflict has caused varying degrees of disruption to the health system. For example, one social marketing programme that covers the terai, urban areas and the Mid- and Far Western Development Regions has found that the number of condoms marketed through retail outlets/mobile services has decreased as a result of general strikes [286]. In some places, health services have been destroyed or are dysfunctional or severely under-resourced. This makes it difficult to provide adequate care and treatment for sexually transmitted infections and opportunistic infections; a natural consequence of this will be an increase in the number of people infected and affected HIV/AIDS. In addition, some parts of the country are impossible to access, and health workers involved in HIV education have complained that the conflict has caused
problems in disseminating even basic HIV/AIDS messages to rural villages.

**Stigma and discrimination**

Denial and stigma associated with HIV/AIDS are widespread in Nepal. These issues have deep roots in social fears, misconceptions and cultural beliefs. Public attitudes to sexuality, sexual activity and drug use in Nepal are often negative, and these subjects are taboo. HIV positive people are generally stigmatized for (presumed) immoral behaviour or character.

Lack of correct knowledge and understanding of the basic facts surrounding the transmission and prevention of HIV infections is linked to this stigma and discrimination. Many people believe that God is punishing HIV positive people for 'bad' behaviour [287]. This situation increases the likelihood that HIV positive people will keep their condition secret and take little action to prevent the spread of the disease into the general population. One study found that people living with HIV/AIDS (PLWHA) experienced the following forms of stigma [288].

- In the family, there are physical and social restrictions. Some families will reject HIV positive family members; many PLWHA have suffered separation from and loss of contact with their family. PLWHA also fear a loss of social standing within their family; in Nepal, a person's standing within their family often determines their ability to access common (and often limited) resources.
- In the community, PLWHA also suffer physical and social restrictions, a loss of standing or honour, and can be opened up to intense stigma and discrimination as a result of strongly-held social beliefs.
- In the healthcare setting, PLWHA are often treated poorly because of a lack of knowledge about HIV/AIDS and its transmission routes, facilities that are not equipped to take care of HIV positive people, and the attitude that it is futile to treat opportunistic infections among PLWHA.
- In society in general, PLWHA face the psychological and socio-economic consequences of stigma and discrimination, which are reinforced for women and children because of their already-low status within society. There is inadequate coverage of programmes specific to women and children, PLWHA and their families, and there are no laws that specifically address HIV issues of stigma and discrimination.

Women, in particular, suffer greatly from stigma and discrimination. One study found that they receive less support than their husbands when both were HIV positive; they were morally condemned and blamed for their HIV status, regardless of how they contracted it; they faced serious loss of social and economic support; and some had to also confront the psychological burdens associated with having been trafficked or with producing HIV positive children [289].

Women who are widowed as a result of HIV/AIDS experience a particularly tough time. In addition to already existing stigma and discrimination against widows in general, a recent study has found that many HIV positive widows are stereotyped as having contracted HIV through immoral sexual behaviour [290]. They are, thus, blamed for being HIV positive, regardless of whether they had contracted the disease from their husbands or through trafficking and coercion into the sex trade. HIV positive widows are not welcomed by either their husband's family or their parental family, as they are considered either immoral or a health danger and, as their condition worsens, are an unwanted burden on their families [290]. Dispossessed orphans are often obliged to leave their homes and to live in unfamiliar and sometimes unwelcoming places (often with step-parents/family). Children orphaned by AIDS are more likely to be rejected by extended family members than those orphaned due to other causes [291].

**Competing development priorities**

In a resource-poor country such as Nepal that is struggling with armed conflict, the national budget is severely strained by increasing security costs and decreasing economic income. The competing demands placed on the limited budget results in emphasis being put on the problems of today rather than the
problems of tomorrow. It is also important to note that not all resources available for HIV/AIDS programmes in Nepal are effectively channelled to grassroots beneficiaries.

A post-conflict situation may trigger dynamics that could impact on the HIV/AIDS programme (competing priorities of communities, damage to infrastructure and service delivery, returning displaced persons, back-migration, etc.).

**IMMEDIATE FACTORS AFFECTING THE SPREAD OF HIV/AIDS**

**Knowledge of HIV/AIDS prevention**
A widespread lack of correct knowledge and understanding of HIV/AIDS prevention and control means that few people are able to protect themselves adequately from the disease. The NDHS 2001 questioned people about general awareness and knowledge of HIV/AIDS. General awareness of HIV/AIDS is much higher among men (72 per cent) than among women (50 per cent) [1]. Although women’s awareness of HIV/AIDS is lower than men’s, the percentage of women who have heard of HIV/AIDS has risen from 27 per cent in 1996, nearly doubling in five years [48]. Younger women, residents of urban areas, those living in the hills, and those with more education are more likely to have heard about AIDS (Figure 54).

Knowledge on HIV transmission varies among the sub-populations, with a similar pattern as for general awareness. It is of concern that awareness and knowledge levels are low in areas where some high-risk groups live such as the migrant population in the Mid- and Far Western Development Regions and the trucking routes along the terai.

Fortunately, general awareness of HIV/AIDS and ways to avoid it are greater among recognized high-risk groups. However, significant proportions of these groups still have misconceptions about how HIV/AIDS is spread. A UNICEF survey of seven districts in 2003 indicated that 83 per cent of adolescents (12-24 years) had heard of HIV/AIDS. However, only 40 per cent of adolescents knew that HIV is not transmitted by mosquito bites. Of those who had heard about HIV, 62 per cent knew of all three ways to prevent HIV (having only one faithful uninfected sex partner, use of a condom every time sex occurs, and abstinence from sex).

A study among migrant and non-migrant males of Achham District found knowledge of HIV/AIDS is higher among those who are younger and more educated than those who are older and uneducated. For example, level of knowledge about use of condoms every time sex occurs as an effective prevention measure against HIV/AIDS was higher for the youngest age group (92 per cent for 18–25 year olds) compared to older age groups (87 per cent for 26–35 year olds, and 58 per cent for 26–50 year olds) [292]. The study also found that knowledge about prevention methods is lowest (40 per cent) among those who have never been to school compared to those who were educated in school or college (90 per cent had correct knowledge of HIV prevention methods).

**Condom use**
Although condoms have been promoted in Nepal as an important way to avoid HIV/AIDS, their use is still low among both the general population and high-risk sub-populations. Condom use is acceptable as a form of contraception in Nepal; however, it is not widely practiced. Only 2.9 per cent of currently married women use condoms as a contraceptive method (39.3 per cent of women who use any contraceptive method) [1]. Men do use condoms for contraception at a higher rate. Presently, 6.3 per cent of ‘currently married
men's use condoms as a contraceptive method, although 35 per cent have used them at some time [1]. In addition, about half report having used condoms during their last sexual intercourse with a non-regular partner. However, most men use condoms inconsistently—often only during their partner’s fertile days [1]. This is probably because 40 per cent of men felt that condoms are inconvenient to use and 44 per cent believed that condoms reduce a man’s pleasure during sex. Although 81 per cent of men agreed that condoms protect against disease, only six per cent of men who used them reported that they used them with this primarily in mind and only five per cent used them to avoid HIV/AIDS [1].

Clients of sex workers are more likely to use condoms with sex workers, girlfriends and female friends than with wives. Condom use reported in 2005 by clients of sex workers in the Kathmandu Valley during their last sexual encounter with a female sex worker was 85 per cent [293]. However, the same survey found that only 14 per cent of married clients used a condom with their wife during their last sexual act, and consistent condoms use was about 10 per cent during the past year [293]. Another study in Achham found that consistent condom use with female sex workers was much lower, with 56 per cent of internal migrants and 45 per cent of international migrants using a condom during sex with a female sex worker. Similarly to the Kathmandu study, only 15 per cent of internal migrants and 12 per cent of international migrants used a condom during their last sexual encounter with their wife [292].

A survey of 1400 young people from across Nepal found that three-quarters knew they should use condoms when having sex [16]. However, rate of use was lower; 65 per cent of boys who had had sex reported using a condom and 74 per cent of girls said their partner had used a condom [16]. Condom use was higher in Kathmandu (89 per cent) but lower in other districts (Dang 50 per cent, and Parsa 30 per cent). It was also higher among in-school teenagers (70 per cent) than out-of-school teenagers (61 per cent) and among urban teenagers (74 per cent) than rural teenagers (52 per cent).

**Sexually transmitted infection**

It is well recognized that the presence of a sexually transmitted infection is a significant risk factor in the transmission of HIV/AIDS. Sexually transmitted infections increase the likelihood of HIV being transmitted. No recent sentinel surveillance has been carried out, so it is difficult to assess the current situation of sexually transmitted infections in Nepal. Prevalence rates among patients of clinics treating sexually transmitted infections fluctuate greatly and provide little information for analysis of trends. Nevertheless, Nepal is considered to have a high level of sexually transmitted infections, and there are estimated to be about 200,000 episodes annually.

Surveillance carried out in 2001 showed an average national syphilis rate of 3.4 per cent. The prevalence rate for sexually transmitted infections in women ranged from 2.7 per cent to 5.4 per cent [1]. Access to treatment is poor, especially for women. In addition, the use of condoms for effective prevention of infection is not widely known or accepted in Nepal. The more permanent methods of contraception (i.e., sterilization and hormonal methods) are commonly used and emphasized, and this places women at a disadvantage when negotiating condom use for prevention of sexually transmitted infections [1].

In Nepalgunj, the situation remained static between 1996 and 1999 (the latest figures available). In Mahendranagar, there was a clear upward trend during the 1990s. In Kathmandu, prevalence rates ranged from one per cent to five per cent during 1998. In essence, prevalence rates across the country ranged from zero to three per cent during the 1990s. In 2001, HIV prevalence among patients of clinics treating sexually transmitted infections was 5.3 per cent in Nepalgunj and 8.3 per cent in Mahendranagar.

**Access to reproductive health services**

Many women and girls in Nepal lack adequate access to sexual and reproductive health services, which includes family planning, screening and treatment of sexually transmitted infections, and antenatal services.
According to the NDHS 2001, only 28 per cent of women received antenatal services from a doctor, nurse, or auxiliary nurse midwife, and almost 50 per cent of women did not receive any antenatal care at all. Although youth-friendly sexual and reproductive health services are made available in some districts, coverage is still low and often unmarried girls are excluded as priorities from programmes on sexual and reproductive health and family planning.

Most women in Nepal do not have sufficient knowledge on modes of transmission of sexually transmitted infections and HIV/AIDS or their prevention. They are often unable to acquire adequate knowledge and skills to exercise their reproductive health rights. They are not able to find out their HIV status nor do they know how to remain HIV negative. If they become HIV positive, they do not know how to avoid unplanned pregnancies or how to reduce risk of transmission of HIV from mother to child, if they decide to have a baby.

**Access to voluntary counselling and testing (VCT) services**

Most of the 61,000 people living with HIV/AIDS do not know they are infected and so many must be engaging in unsafe sexual practices. Pervasive stigma and discrimination prevents these people and others in high-risk groups from practicing safe sex, undergoing testing and, if they know they are infected, from seeking treatment and care [276].

Nepal has only recently introduced HIV testing and counselling as a component of its HIV/AIDS programme, with the development in 2003 of National Guidelines for Voluntary HIV/AIDS Counselling and Testing (VCT). Currently, VCT services are provided at 23 sites-three centres are run by the government and 20 are run by NGOs with funds and support from Family Health International (FHI). They are mainly targeted at high-risk groups. Other health service institutions include KYC (Kirat Yakthung Chumlung, Dharan), B.P. Koirala Institute of Health Sciences (Dharan), Koshi Zonal Hospital, Help Group (Biratnagar), Family Planning Association of Nepal (FPAN), Association of Medical Doctors of Asia (AMDA) and a few others. Some other NGOs working on HIV in general provide partial (non-comprehensive) VCT services (testing without pre- and post-test counselling, only counselling but no testing, etc.) [294]. Several reasons have been identified for the limited number of people knowing their HIV status, disclosing their status, and/or receiving care, treatment and support services in Nepal [287].

- There are a limited number of HIV/AIDS counselling, testing, care and support services in general.
- Many people who may be at risk do not know where to be tested and what kinds of services are available if they are found to be HIV positive.
- Some people do not approach health facilities for HIV testing because they fear the attitudes of health workers, and are afraid that they might have to answer personal questions related to their sexual activities.
- People who are willing to be tested and want to seek care recognize that the referral system within the national health services is weak and that they probably will not receive the treatment they require; therefore, they do not bother trying to access care.
- Many people are afraid to reveal an HIV positive status to their families and community because of stigma and discrimination and, therefore, they do not seek counselling support and care.
- For some, the high cost of testing (rapid test, CD4 cell count, etc.) as well as treatment services stops them from seeking testing or care services.

This is a vicious cycle. Because testing it not available, people are not aware of their HIV status; this means that few people come forward and demand treatment, so there is a lack of well-supported services and a high level of stigma and discrimination both from health service providers as well as from within communities.

**Access to prevention of mother-to-child transmission (PMTCT) services**

The National Centre for AIDS and STD Control conducted a situation assessment in 2004 prior to initiating a PMTCT pilot programme in Nepal [295]. The PMTCT Working Group was
established and the government introduced National Guidelines for the PMTCT Programme. The programme was launched in July 2005 at three sites (Maternity Hospital in Kathmandu, Bheri Zonal Hospital in Nepalgunj, and B.P. Koirala Institute of Health Sciences (BPKIHS) in Dharan), with expansion planned to additional sites in 2006. The programme aims to reach over 37,000 pregnant women with counselling and testing services, of whom up to 300 pregnant women would be likely to be infected with HIV. These women would then receive anti-retroviral prophylaxis to prevent transmission from mother to child. However, coverage is limited, as only four per cent of total expected annual pregnancies (900,000 per year) will be covered by PMTCT services at only three sites. It is planned that other service sites such as clinics for sexually transmitted infections, VCT centres, and Youth Friendly Health Service Centres will also provide entry points to PMTCT services. These venues will provide health education and counselling and testing for high-risk pregnant women, who can then be referred to PMTCT service sites for anti-retroviral prophylaxis, and other care and support services.

**Anti-retroviral therapy (ART) services**

Until recently, HIV intervention efforts in Nepal mostly revolved around HIV prevention activities. Facilities that provide HIV/AIDS clinical care are virtually non-existent. The National Guidelines for Anti-retroviral Therapy (ART) were published in 2004, and are currently being revised to update treatment protocols for ART. Guidelines for opportunistic infection prevention and management have not been developed. As of August 2005, government institutions providing ART are Teku Hospital, Tribhuvan University Teaching Hospital (TUTH), Bheri Zonal Hospital in Nepalgunj, and B.P. Koirala Institute of Health Sciences (BPKIHS) in Dharan [279]. Some 100 people have received anti-retroviral treatment in these government facilities. In Teku Hospital, 25 patients started anti-retroviral treatment in early 2004; this expanded to 75 patients in February 2005. At the Teaching Hospital in Kathmandu, 30 patients have received anti-retroviral treatment since the programme started in 1999. Several private clinics and some NGOs in Kathmandu also offer HIV clinical care, including ART and hospice care [294].

An additional 700 adult patients will be provided with ART through currently available funding from the government and the Global Fund. The provision of ART to a total of 3000 adult patients and 50 paediatric patients has been planned within the government’s National Action Plan for 2005/2006. For paediatric ART, a National Paediatric AIDS Guideline Development Working Group was formed in June 2005; guidelines will be finalized and the treatment programme will start in 2006.

**Post-exposure prophylaxis (PEP)**

As part of HIV/AIDS prevention measures, the National Centre for AIDS and STD Control has developed post-exposure prophylaxis guidelines. Post-exposure prophylaxis kits have been made available to several hospitals with support from the WHO.

**Community care and support**

There are very few organizations currently providing community care and support services in Nepal. People living with HIV/AIDS who have resources of their own often run community care centres. Services offered at these centres include nutrition, referral to district hospitals or private facilities for medical care, HIV testing and counselling, and psychosocial support for people living with HIV/AIDS and their families. According to one study, HIV positive injecting drug users receive more support than any other group affected/infected by HIV/AIDS. It must be noted that most organizations providing basic community and home-based care are under-funded; therefore, their reach is limited in terms of both geographic and target group coverage [294].

**Vulnerability analysis of high-risk groups**

A national situation analysis identified female sex workers, clients of female sex workers, mobile populations, men who have sex with men (MSM), injecting drug users, young people, and infected and affected children as the groups most vulnerable to HIV in Nepal today [296]. To date, most attention has been paid to high-risk groups such as female sex workers
and their clients, and injecting drug users. Few programmes have targeted at newly emerging vulnerable groups such as labour migrants and young people. However, as explained in the following section, these high-risk groups are closely linked to one another in terms of their risk to HIV infection. In this section, the vulnerability of each of these groups and its link to other high-risk groups is analysed.

**Female sex workers**

Female sex workers have a high vulnerability to HIV/AIDS because they have multiple sex partners, they do not use condoms for every sexual encounter, and they are often in situations where they are exploited and have little control over negotiating protection measures. In addition, they are often poorly educated, which restricts their access to information and healthcare services. Cultural perceptions result in their marginalization and provide them with limited protection before the law—violence against female sex workers is often met with impunity. However, Nepal has long recognized the close relationship between HIV/AIDS and sex work, and several programmes have been targeted at this high-risk group.

Studies conducted between 2001 and 2003 by Family Health International, CREPHA and New ERA estimate that there are about 12,780–16,120 female sex workers in Nepal [279]. HIV prevalence among female sex workers in towns outside Kathmandu is less than four per cent. Studies in the 16 terai districts along the highway between Jhapa and Rupandehi found that HIV prevalence among female sex workers was 3.9 per cent in 1999 and three per cent in 2003 [297; 298]. A recently conducted study shows HIV prevalence among female sex workers in the Kathmandu valley is comparable to the rest of the country, at about two per cent [299].

The HIV risk factor for girls and women who have worked anywhere in India is 13 times greater than for those who have not, and even greater for those who have worked in Mumbai [298]. Among female sex workers who had recently worked in Mumbai, HIV prevalence was 50 per cent [297]. This means that individuals who have unprotected sex with Mumbai-returned female sex workers run a higher risk of infection.

An estimated 20 per cent of female sex workers in Nepal are girls aged less than 16 years [300]. Many young girls enter the business along the terai highways and in the Kathmandu valley, and can be as young as 13 or 14 years old [298; 301; 302]. In one survey, 44 per cent of female sex workers had had their first sexual experience before the age of 15 years, with the youngest being nine years old.

Female sex workers are also disadvantaged by their lack of education. A study found that 60 per cent of female sex workers were illiterate, with only 0.2 per cent having completed SLC and above [298]. This severely restricts their options for other forms of employment. Furthermore, the same study found that 36 per cent of female sex workers are separated, divorced or widowed.

A survey among 300 female sex workers in Kathmandu revealed that 15 women had also injected drugs, representing five per cent of the sample [303]. Of these 15 women, 11 were found to be HIV positive.

**Clients of female sex workers**

In Nepal, truckers, migrant or seasonal labourers (often made up of single, young men), uniformed services (police and security forces), businessmen, and students are all reported to be common clients of female sex workers [276]. In addition, the conflict has seen an increase in the number of displaced people—who are often young men moving to urban areas in an effort to escape the conflict.

In Nepal, reported HIV/AIDS cases show that the highest level of HIV infection is found in clients of female sex workers (54 per cent). These groups tend to have multiple sexual partners and tend not to use condoms with their regular sexual partner. Reported cases suggests that they are increasingly becoming a ‘bridging population’ for transmission of HIV/AIDS to the general population though their other sexual partners, including their wives.
**Truckers**

Truckers are one sub-group that has been closely surveyed since the end of the 1990s. For a number of years, truckers (or transport workers) have been regularly reported as the largest client group of female sex workers [297]. A survey in 1999 found that 75 per cent of truckers along the highway in the terai had had sex with a female sex worker during the last year, and that only 70 per cent had used a condom at the last sexual encounter [297]. Another study of 400 truckers who used female sex workers along the highway in the terai found that HIV prevalence was 1.5 per cent in 1999 and 1.75 per cent in 2003 [304].

**Labour migrants**

One study of migrants from the far west of the country found that young males aged 12–18 years are the most likely to migrate. More than half of these admitted to visiting female sex workers at least once every two months, and 50 per cent of them did not use a condom [305].

Seasonal labour migrants make up 40 per cent of reported HIV cases in Nepal [279]. A survey by USAID of labour migrants and their families in the Far Western Development Region found an HIV prevalence of four per cent [306]. Prevalence of sexually transmitted infections was 19.4 per cent for migrants, and 11 per cent for their wives [306].

One of the reasons for these high HIV prevalence rates is that migrants often go to areas with high HIV/AIDS prevalence rates, such as Mumbai in India, where almost 70–90 per cent of female sex workers are estimated to be HIV positive [307]. An estimated 400,000 migrants from Nepal reside in the Mumbai region [306]. One study found that nearly nine per cent of migrants returning from Mumbai to Achham District were HIV positive compared to 0.7 per cent of non-migrants [307]. Migrants returning from other areas of India had much lower prevalence rates. In a qualitative assessment among Nepali migrants in Mumbai, many men did not report their own risk behaviour, instead they reported that their friends had visited sex workers [308]. Alcohol, being away from families, ready cash available, and peer pressure influenced such risk behaviour—men reported that visits to sex workers often happened in groups. The same study found that, although most migrants knew about HIV/AIDS and sexually transmitted infections though schools and HIV/AIDS prevention programmes, many did not use condoms consistently—sex workers frequently had to ask men to wear a condom.

**Men who have sex with men**

Although Nepal has a public self-image of a country where homosexuality does not exist, small-scale surveys report that sex between men seems to be relatively common, particularly within Kathmandu [309]. Men who have sex with men have a high vulnerability to HIV/AIDS because they often have multiple partners and frequently do not use a condom during sex. Furthermore, in Nepal, many of these men are married, putting their spouses at a high risk of being infected with HIV [276].

Although the current status has not been assessed, anecdotal evidence suggests that a growing number of Nepali boys are being trafficked. In the first place, this is usually for the purpose of labour exploitation in factories or as domestic help, but some have also been sold directly into male brothels in Indian cities. Nonetheless, wherever boys are being exploited, they are vulnerable to sexual abuse and, hence, to HIV infection [310]. In addition, there are several reports from the terai that meti (effeminate males) are being abducted by the Maoists or are being forced to leave their villages. In many cases, these meti travel to India to jobs as wedding dancers, and are exposed to the dangers of sexual exploitation including HIV infection.

**Injecting drug users**

Injecting drug users are vulnerable to HIV/AIDS because the virus can be transmitted via blood when sharing needles—a common practice. In addition, when under the influence of drugs, users are less likely to employ safe sex techniques such as using a condom and limiting the number of sexual partners. Injecting drug users in Nepal are marginalized by society. This limits their access to healthcare services and drug treatment programmes, further increasing their vulnerability to HIV/AIDS. In addition, surveys have revealed that between one-third and a half are married and are, therefore, a bridge for HIV transmission into the general population.
Estimates of the number of injecting drug users in Nepal have been highly variable in the past and lacking in reliability. Latest figures from the early 2000s suggest that there may be 4000–5000 injecting drug users in Kathmandu, 600 in Pokhara, and over 2300 in the Jhapa–Morang–Sunsari eastern corridor [279]. Figures for the rest of the country are usually extrapolated from these estimates and should be regarded with some caution. Family Health International is currently preparing new estimates, following a recent survey. Most injecting drug users are male, and tend to have some education, with literacy rates well above the national average [311; 312]. Most are in their twenties, although around a quarter are teenagers [311; 312]. Female injecting drug users are often also sex workers and have unprotected sex with their husbands, who also tend to be injecting drug users [312].

National figures indicate that 14 per cent of Nepal’s HIV cases are of injecting drug users [279]. However, this picture is not considered to be complete; some estimates suggest that one-third of HIV infections in the country are among injecting drug users [311]. A study of injecting drug users in the Kathmandu Valley in 2000 revealed that HIV prevalence was 68 per cent [313]. In 2003, the HIV prevalence for injecting drug users in Pokhara was 22 per cent [311] and for injecting drug users in Jhapa District was 35 per cent [312]. HIV prevalence rates are higher among ever-married injecting drug users [311]. This is probably because married men tended to be older than unmarried men, and longer use of drugs is linked to higher HIV prevalence rates.

Knowledge of HIV/AIDS is universal, and knowledge of ways to prevent HIV infection is also high. In Pokhara, 90 per cent of injecting drug users correctly identified consistent condom use as an effective means of preventing the sexual transmission of HIV; 78 per cent also said that limiting sexual activity to a single partner would reduce the risk of transmission [311]. However, consistent condom use with all partners, and restricted sexual activity (not having risky sexual practice with regular/non-regular partners, not having multiple partners, etc.) were rare [311]. Knowledge of their HIV status is low, although about two-thirds of injecting drug users in Pokhara knew that voluntary counselling and testing is available, but only 27 per cent had had the blood test [311].

The drug-use behaviour of most Nepali injecting drug users puts them at high risk of contacting HIV/AIDS. Needle sharing and re-use of discarded needles is common [311; 312]. Even when needles are not shared, drugs are usually pulled from a common container [311], which exposes users to a collective infection. Only one in 10 injecting drug users cleaned used needles properly with bleach and distilled water. However, 97 per cent knew clean needles could be obtained from drugstores [311]. Many injecting drug users also report high alcohol use [311].

Of those in Pokhara who had had sex in the last year, 33 per cent had had it with female sex workers, with 60 per cent reporting consistent condom use [311]. About 30 per cent of those having sex with non-commercial partners reported consistent condom use and nine per cent of those having sex with a wife or girlfriend reported consistent condom use [311]. Similar figures were found in Biratnagar [314] and Jhapa [312]. Sexual activity for unmarried injecting drug users tends to be low [314].

Nepal was the first developing country to establish a harm-reduction programme with needle exchange for injecting drug users. However, current coverage of the UNDP-supported harm-reduction programme is limited, reaching 7500 injecting drug users in 11 districts.

Young people
Young people in Nepal are becoming more vulnerable to HIV/AIDS because pre-marital casual sex with multiple partners is increasing for this group, and many do not feel comfortable obtaining and using condoms. Young people also tend to make up a large proportion of particular high-risk sub-groups such as migrants, female sex workers, injecting drug users, and men who have sex with men. In addition, the conflict has greatly increased the number of young
people migrating by themselves both inside the country and abroad.

These young people often live without protection and assistance, and have little access to information, counselling or testing, and care or treatment. Although many young people are sexually active, there is still great reluctance on the part of parents, teachers and other professionals to discuss sexual and reproductive health openly with adolescents. Young people are considered a priority group for prevention care and support programmes in the National HIV/AIDS Strategy.

There has been no HIV prevalence study specifically aimed at young people, so it is not possible to estimate prevalence in this group. However, from October 2005 to January 2006, four sexual behaviour surveys targeting young people will be conducted by UNAIDS, Global Fund/UNDP, UNFPA and UNICEF in more than 10 districts and these surveys will provide a more concrete picture of the current status of knowledge, attitudes and sexual behaviour (related to HIV/AIDS and sexually transmitted infections) among young people.

In Nepal, most young people begin to experience sexual activity during their middle to late teens. The NDHS 2001 found that the median age at first sexual intercourse for women aged 20–24 years was 16.9 years, and for men aged 20–24 years was 18.7 years [1]. Women usually initiate sexual activity at the same time as marriage, although men tend to initiate sexual activity one year before marriage [1]. Several studies have found that premarital sex is becoming more acceptable for both sexes, with 20 per cent of teenagers considering it acceptable among young people [16]. In another study of 800 students, over 70 per cent claimed to have had sex before the age of 19 years; only eight per cent of these students were married [315].

The NDHS 2001 found that 54 per cent of married young women aged 15–24 years and 87 per cent of married young men aged 15–24 years had heard of HIV/AIDS (Figure 55) [1]. Yet smaller proportions have the knowledge to avoid transmission. Among young women, only 39 per cent knew of two or three ways to avoid it—42 per cent would limit the number of sexual partners and 39 per cent would use a condom. Among young men, 60 per cent knew of two or three ways to avoid it—81 per cent would use a condom and 61 per cent would limit the number of sexual partners [1].

A survey among 1400 unmarried young people in seven districts also confirmed the same trend: that teenagers are generally aware of HIV, but that this awareness does not always translate into correct knowledge about transmission route and methods to preventing transmission [16]. Although an overwhelming majority (92 per cent) of teenagers had heard of HIV/AIDS, only 74 per cent knew that they should use condoms when having sex, and only two-thirds could say that they should not have sex with sex workers.

A survey of young factory workers revealed that while awareness about family planning methods is high, knowledge about the risk of HIV infection through unsafe sex is low [316].

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**FIGURE 55:**

Young people’s knowledge of HIV/AIDS (18–25 years old)

![Graph showing knowledge of HIV/AIDS prevention methods among young people](image)

<table>
<thead>
<tr>
<th>2 or 3 ways to avoid HIV/AIDS</th>
<th>Using condoms prevents transmission</th>
<th>Having only one sexual partner prevents transmission</th>
<th>A healthy looking person can have AIDS</th>
<th>HIV/AIDS can be transmitted from mother to child</th>
<th>Knows a source for condoms</th>
<th>Could get a condom</th>
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<td>Women</td>
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<td>Men</td>
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*source: [1]*
The vast majority of young factory workers do not perceive themselves at risk of contracting HIV/AIDS, although sexual activity among unmarried and non-regular partners is common.

Condom use is not routine in Nepal, and young people who are sexually active before their marriage may not feel comfortable obtaining condoms from public sources because of the taboos surrounding sexual activity. The NDHS 2001 found that among men who have ever used condoms, only two per cent first used condoms before the age of 16 years, and eight per cent first used condoms when they were aged 16–17 years [1]. However, a survey of teenagers found that of those who had had a sexual experience, 65 per cent of boys said that they had used condoms, and 74 per cent of girls said that their partners had used a condom [16]. The NDHS 2001 found that 93 per cent of married young men aged 15–24 years and 74 per cent of married young women knew of a source for obtaining condoms [1]. However, only 36 per cent of women aged 15–24 years felt that they would be able to obtain a condom by themselves [1].

In Nepal, adolescents generally experience difficulty in accessing sexual and reproductive health services. The attitudes of health workers are seen as a barrier, with many health workers reluctant to provide adolescents with reproductive health services such as condoms or contraception. The provision of treatment for sexually transmitted infections is often provided in a judgmental and moralistic manner, which deters repeat utilization and creates a negative image of the service among adolescents in the community. Adolescents also face difficulties obtaining sexual and health-related advice from health facilities and IEC materials on sexuality, sexual health, contraceptives, and consequences of early pregnancies, HIV, AIDS, and sexually transmitted diseases. It is particularly difficult for girls (and young women) to access health services, education, information and resources [317]. One source of relevant information aimed at young people is the national radio programme,'Chatting with my Best Friend'.

Officially in the formal education sector, topics related to HIV and AIDS and sexual/reproductive health is taught through the national health curriculum from Grade 6 onwards. A review of health and social studies textbooks from Grades 1 to 10 to assess the content related to HIV prevention education found that the content focused mainly on information regarding transmission and prevention of HIV [318]. Information on counselling and referrals was lacking, and some of the information was unclear and not up-to-date. It also tended to be judgmental, and promoted stereotyping and discrimination.

In 2003, the Ministry of Education and Sports approved the integration of life-skills-based education into the curriculum for Grades 1 through 10, and a new curriculum is being developed by the ministry for release in 2005.

The difficulties of ensuring quality sex education in Nepal are related to a lack of

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**Chatting with my best friend (sathi sangha manka kura)**

- ‘Chatting with my Best Friend’ is a radio programme produced by and for young people, and aired by Radio Nepal and various other radio stations. It has reached over nine million listeners since it began in January 2001.
- The programme addresses various life-skills (self-awareness, empathy, effective communication, interpersonal relationship, ability to manage emotions, and cope with stress, creative thinking, decision-making and problem-solving).
- The programme is extremely popular with young people. It has received over 30,000 letters from listeners since 2001 and an average of 50 emails per week. About 850 listeners’ groups have been formed around the country.
- Most letters address young people’s concerns, and reflect the needs that young people feel to learn more and discuss their issues.
- Recently, listeners have banded together and started a magazine called Manka Kura (Matters of the Heart) that will deal with the same issues as the radio programme. It is considered by its young clientele to be more accessible and have a greater shelf-life than the radio programme.
trained teachers, and an insufficiency of teacher training programmes that focus on HIV/AIDS and sexual/reproductive health. In addition, a lack of resource materials in most of the country means that neither teachers nor students are not able to keep abreast of the latest developments related to HIV/AIDS.

**Children**

Young children are vulnerable to HIV/AIDS in various ways. Babies born to HIV positive mothers are at risk of being infected during pregnancy. When a parent or caretaker becomes ill with HIV, children can be affected. Firstly, there are the emotional and psychological impacts on a child dealing with the serious illness of a parent. Secondly, a family’s livelihood might be affected, and children might have to leave school to contribute to the family income; they may even have to leave their family in search of a job. On top of this, children might be orphaned, if their parents die from AIDS. UNICEF estimates that 111,000 children may be affected by the HIV infection of their parents, and that AIDS has orphaned 13,000 children in Nepal [280]. AIDS orphans are often stigmatized by association with the disease [280].

In addition, the conflict is also increasing the HIV threat to children, as a growing number of families are unable to provide care and protection for their children. Anecdotal evidence suggests that more children are living (and working) away from their parents and are, therefore, more vulnerable to sexual exploitation and exposure to HIV/AIDS.

Children with little or no education are particularly vulnerable to exploitation because they are not able to acquire knowledge and skills to protect themselves against HIV/AIDS, and they face reduced employment opportunities. In Nepal, girls tend to be less educated than boys, and are particularly vulnerable to trafficking and commercial sexual exploitation.

Child labourers are vulnerable to HIV/AIDS because they are often are separated from their families and are more susceptible to sexual abuse and exploitation as well as drug and alcohol abuse [319]. There are currently an estimated 2.6 million children aged 5–14 years engaged in various forms of child labour [300]. Street children are without doubt one of the most vulnerable groups, widely exposed to various types of danger including sexual exploitation. The conflict has seen a sharp rise in the number of young children working

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**A letter to ‘Chatting with my Best Friend’**

Dear SSMK friends,

I really want to thank you for adding ‘Sathi Sanga ManKa Kura’ to your programming. I love your programme … [It] has been a source of meaningful lessons and positive directions for life to me. There are rarely such programmes around in FM. Your programme has inspired me to be a responsible citizen and I really want to thank you for that.

Five years ago, I used to be a TV addict. This had not only harmed my eyes but had also badly affected my studies. I couldn’t live without TV. One day I heard about your programme and planned to listen to it instead of watching TV for a day. But when I started listening to your program, I forgot about the TV. However, for many days I couldn’t listen to your programme due to an electricity cut. So I asked my parents to get me a small battery radio. They agreed to get me the radio only if I promised to stop watching [TV] and to study. Then I kept the promise, and they got me a radio. So because of this programme, I stopped watching TV and focused on my studies. I had even started taking drugs with some of my friends. Then when I heard in your programme that drugs could take lives, I immediately quit the habit and the bad company. Then I focused on my studies totally. I learned to make a schedule for my studies which helped me to get better in subjects like Maths and English, and I even stood first in my class and I still do. I have learnt about skills development through this programme. With the help of them, I have been able to speak in public. It has helped me to develop my interpersonal skills which I extremely lacked before. Now I’ve also been able to participate in inter-school public speaking competitions, and have won for my school. And all the credit goes to SSMK.

SSMK has become a part of my life and has a great impact on it. I wish the very best for your programme and the SSMK team.

A listener from Baglung District in the Western Development Region
and living alone on the streets of Nepal's towns and cities [320].

In terms of paediatric AIDS, or children under 15 years diagnosed with AIDS, only 120 cases have been officially reported to date. However, this may under-report the actual situation, since clinical signs and symptoms of paediatric AIDS are likely to be missed in most cases (this is particularly true for children less than 18 months of age). According to WHO/UNAIDS estimates, at the end of 2003, there were 940 children below the age of 15 years living with HIV/AIDS in Nepal [276]. The HIV prevalence in pregnant women is estimated to be 0.2 per cent, based on sentinel surveillance studies undertaken among women attending antenatal clinics in 2000.

**Women**

Housewives in Nepal are facing increasing risks of infection and vulnerability. As it is not common practice in Nepal to negotiate safe sex with a husband, many are at risk of infection from their husbands.

Furthermore, the gender division of labour means that it is the task of women to care for the sick at home, which would also includes family members suffering from AIDS. Caring for a sick person creates an additional financial burden. Normally, women will receive part of a husband’s income to manage expenses for food, clothing, children’s schooling and health services. Caring for a sick family member places a new drain on this often scarce resource. Moreover, caring for a sick person at home over a long time (as in the case of AIDS) means that women have to do more (and unpaid) work which is physically exhausting. Finally, women often suffer from emotional stress and tension, partly caused by the fact that the sick person is a family member and partly caused by stigmatization from outside.

**NATIONAL RESPONSE**

**Government policy and strategies**

The first National AIDS Prevention and Control Programme was initiated in 1987. In 1992, the National AIDS Coordination Committee (NACC), the national coordinating body for HIV/AIDS prevention and control and a mechanism for public–private partnership, was established. It was chaired by the Health Minister. By 1995, the National AIDS Prevention and Control Programme was merged into the larger National Centre for AIDS and STD Control, formed within the Department of Health Services. A National Policy on AIDS Prevention with 12 key policy statements was adopted by the government in 1995 (see box) and the National Centre for AIDS and STD Control launched its first strategic plan (1997–2001). In 2002, the current coordinating mechanism was established, building on the National AIDS Coordination Committee and other existing bodies such as Roll-Back Malaria, and Tuberculosis Control Network (TBCN).

Recently, the monitoring capacity of the National Centre for AIDS and STD Control had been strengthened, with the formulation of monitoring and evaluation unit, development of monitoring and evaluation plans and protocols, and the adoption of tools to monitor the various activities. Programmes run or managed by the National Centre for AIDS and STD Control are also monitored and evaluated. Initiation of a second-generation surveillance system is in process and planned to be completed by the end of 2005.

Despite the policy commitment on multi-sectoral programmes and wider awareness and willingness to become involved in HIV/AIDS programmes, HIV/AIDS is still perceived as a ‘medical’ issue. This creates an obstacle for the Ministry of Health and Population when it wants to involve and proactively coordinate with other ministries. Although the government has responded quickly to the care and treatment needs of people living with HIV/AIDS, the epidemic cannot be tackled through medical/clinical interventions alone. It needs to go hand-in-hand with a strong prevention programme run across different sectors of the national development programme. Reports from districts show that district coordination and planning capacity is low and some District AIDS Coordination Committees are not functioning.

Recently, a legal audit was conducted by the National Centre for AIDS and STD Control,
USAID's POLICY Project, and the Forum for Women, Law and Development in order to develop an improved legal framework for controlling the spread of HIV and protecting the rights of people infected and affected with HIV/AIDS. Mapping of many legal instruments was undertaken, and out of a possible maximum score of 100, the Nepalese legal system scored 40 [321]. Based on the study, Nepal has developed an HIV and AIDS (Treatment, Prevention and Control) Bill and an amendment proposals on existing laws. There will need to be further targeted advocacy of key stakeholders in order to adopt the amendment proposals and the HIV and AIDS umbrella legislation.

A task force was formed under the leadership of the Ministry of Labour and Transport with management and technical support from the ILO, to develop a National Policy on HIV/AIDS and the World of Work. This policy had already been drafted, and covers the issues in public, private and informal sector workplaces in Nepal.

**Partners’ response**

A number of multilateral and bilateral donors, and national and international NGOs are supporting and promoting various initiatives aimed at preventing the spread of HIV/AIDS in Nepal. Recently, the relationship and communications between the government, the NGO community, and donor community as well as among NGOs themselves has become more active. However, it is important that all partners converge under the National HIV/AIDS Strategy.

**UN and bilateral agencies**

- The UN Theme Group on HIV/AIDS in Nepal is made up of UN agencies that co-sponsor UNAIDS (UNDP, UNICEF, UNFPA, ILO, WHO, UNHCR, UNESCO, WFP, the World Bank, and FAO). Others, such as people living with HIV/AIDS, the government (National Centre for AIDS and STD Control, and the National Planning Commission), and external development partners, are occasionally invited to UN Theme Group meetings. Its main objectives are to support an expanded national response; to facilitate and support new partnerships; to advocate jointly for a sustained broad response at all levels; and to design and implement programmes in support of the national response.

- WHO supports the strengthening of surveillance systems; the provision of services for sexually transmitted infections, anti-retroviral therapy, and prevention of mother-to-child transmission at public healthcare centres; the training of health workers on treatment for HIV/AIDS; school health programme on HIV/AIDS; and district-level responses to the epidemic [322].

- UNICEF focuses on HIV prevention programmes targeting children, young people and pregnant women to improve their access to correct information/

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**National policy on AIDS and STD control in Nepal**

1. The government will give high priority to HIV/AIDS and STD prevention programme.
2. HIV/AIDS and STD prevention activities will be conducted as multisectoral programme.
3. HIV/AIDS and STD prevention activities will be implemented on the basis of decentralization at village, district and regional level.
4. HIV/AIDS and STD prevention activities will be implemented through both governmental and non-governmental sectors.
5. HIV/AIDS and STD prevention activities will be integrated with other programme both in governmental and non-governmental sectors.
6. HIV/AIDS and STD prevention activities will be coordinated, followed up and evaluated constantly in both governmental and non-governmental sectors.
7. Safer sexual behaviour will be promoted.
8. Counselling and other services will be provided to PLWHA.
9. Discrimination on the basis of HIV status will be tackled.
10. Results of blood tests will be treated with confidentiality.
11. Reports of blood tests will be made available to NCASC by fastest means.
12. All donated blood will be screened before transfusion.
There are six major programmes: (1) life skills in the formal health education curriculum and life skills for vulnerable most-at-risk urban out-of-school children and young people using peer education approach; (2) establishment of youth-friendly multipurpose service centres for vulnerable most-at-risk urban out-of-school children and young people; (3) basic awareness-raising training for young people through community communicators (female community health workers, village facilitators, community mobilizers, child club facilitators, out-of-school facilitators, teachers, health workers) in 15 UNICEF-supported districts; (4) providing care and support to children affected by HIV and AIDS; (5) prevention of mother to child transmission; (6) media-based edutainment life skills communication programmes using the radio [323].

UNFPA has addressed issues related to HIV/AIDS and sexually transmitted diseases through its country programmes. It supports implementation of the National HIV/AIDS Strategy by developing networks for management of HIV and sexual health services. It is also involved in condom programming and the supply of drugs for treatment of sexually transmitted diseases. HIV/AIDS and sexually transmitted infections are integrated into UNFPA-supported trainings, and captured in IEC materials.

Furthermore, HIV is addressed through the Population and Reproductive Health Integrated (PARHI) projects of UNFPA, the Reproductive Health Initiatives for Young People in Asia (RHIYA), the Youth Friendly Service, and the Global Youth Partnership initiative.

- From the beginning of 2003, UNDP engaged a full-time national professional in its Rural Urban Partnership Programme (RUPP) for mainstreaming HIV/AIDS into local bodies. As a result, 12 municipalities have included the issues of HIV/AIDS in their municipal planning cycle, and have prepared an HIV/AIDS Municipal Profile. Municipal Development Fund by-laws (currently in draft) have proposed provisions for seed grant, credit, and donor resources for HIV/AIDS activities. The Ministry of Local Development has included HIV/AIDS issues in its guideline for periodic planning.


- AusAID is providing funding to several local NGOs for HIV/AIDS prevention activities, and has pledged A$ 3 million to support the National HIV/AIDS Strategy.

- DFID has pledged US$ 20 million for the National Strategy and additional support for the annual HIV/AIDS National Action Plans.

- GTZ and Kreditanstalt fuer Wiederaufbau (German Development Bank) are addressing HIV/AIDS prevention as a priority in their support to the health sector. Interventions include financing condom supply, supporting the introduction of voluntary counselling and testing services in nine districts, awareness trainings, and peer educator training for adolescents.

- USAID support is provided through the National Centre for AIDS and STD Control
as well as its partners such as Family Health International, the POLICY Project and PSI. Its main focus has been on work in 16 districts on the Birgunj–Kathmandu highway and along the east–west highway. It also supports the national condom social-marketing programme as well as advocacy programmes.

**National and international NGOs**

- There are currently at least 100 NGOs and INGOs working in the area of HIV/AIDS prevention, care and support in Nepal. Most INGOs implement their programmes with funds received from various donors. Prominent among them are Family Health International, Save the Children US, Save the Children UK, Centre for Development and Population Activities (CEDPA Nepal), United Mission to Nepal, Asia Foundation, and Save the Children Norway. Many work with local and national NGOs.

- The National Association of NGOs working in HIV/AIDS in Nepal (NANGAN) is a consortium of NGOs working on HIV/AIDS issues. NANGAN serves as a coordinating body to share experiences, information, education, and communication materials, experiences, and lessons learned.

- The National Association of People Living with HIV/AIDS (NAP+N) is a registered association with central and regional secretariats. NAP+N is working to strengthen groups for people living with HIV/AIDS from across the country and to build their capacity to participate actively in a national response to the epidemic. Among the groups registered at NAP+N, there are several groups working specifically for women, such as Karuna Bhawan, Maiti Nepal, Sneha Samaj (all are Kathmandu-based) and various support groups in the districts (for example, Makwanpur Support Group of Women).

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- The Federation of Nepalese Chambers of Commerce and Industry (FNCCI), a private-business collaborative, has signed a declaration of commitment and has designed an initial HIV/AIDS-at-workplace initiative with UNAIDS and the ILO. Ten participating enterprises are now in the process of developing an enterprise-level workplace policy under the guidance of the ILO. As of August 2005, two enterprises (Hotel Radisson in Kathmandu and Trishakti Textile in Nawalparasi) have already endorsed the policy.


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