HUMAN DEVELOPMENT IN SOUTH ASIA 2004

THE HEALTH CHALLENGE

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ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ANM	Auxiliary Nurse Midwife
ARI	Acute Respiratory Infections
ART	Anti-Retroviral Therapy
ARV	Anti-Retroviral Drugs
BBS	Bangladesh Bureau of Statistics
BCG	Bacille Calmette Guerin
BDHS	Bangladesh Demographic and Health Survey
BHU	Basic Health Unit
BMI	Body Mass Index
CHC	Community Health Centre
CIDA	Canadian International Development Agency
CMR	Child Mortality Rate
CPR	Contraceptive Prevalence Rate
CRC	Convention on the Rights of the Child
CSR	Child Sex Ratio
CSW	Commercial Sex Worker
DDT	Dichloro Diphenyl Trichloroethan
DOTS	Direct-Observed Treatment Strategy
DPT	Diphtheria, Pertussis and Tetanus
EPI	Expanded Programme on Immunisation
ESP	Essential Services Package
FATA	Federal Administrated Tribal Areas
FPO	Family Planning Officer
FWC	Family Welfare Centre
GAVI	Global Alliance for Vaccines and Immunisation
GDI	Gender-related Development Index
GDP	Gross Domestic Product
GIPA	Greater involvement of People living with HIV/ AIDS
GNP	Gross National Product
GOBI	Growth Monitoring, Oral Rehyderation, Breast Feeding and Immunisation
HALE	Healthy Life Expectancy
HDI	Human Development Index
HI	Health Index
HIV	Human Immunodeficiency Virus
HNPSP	Health, Nutrition and Population Sector Programme
HPSP	Health and Population Sector Programme
ICESCR	International Covenant on Economic, Social, and Cultural Rights
ICPD	International Conference on Population and Development
IDA	International Development Agency
IDU	Injected Drug User
IMR	Infant Mortality Rate
JE	Japanese Encephalitis
LHV	Lady Health Visitor
LHW	Lady Health Worker
LHWP	Lady Health Worker Programme
MCH	Maternal Child Health
MCHC	Maternal and Child Health Centre
MDG	Millennium Development Goal
MDT	Multi Drug Therapy
MMR	Maternal Mortality Ratio
MOHFW	Ministry of Health and Family Welfare
MSM	Men having Sex with Men
NACO	National AIDS Control Organization

NCD	Non-Communicable Disease
NFHS	National Family Health Survey
NGO	Non-Government Organisation
NHP	National Health Policy
NNMB	National Nutrition Monitoring Bureau
NSS	National Sample Survey
NTP	National TB Control Programme
NWFP	North West Frontier Province
OBC	Other Backward Castes
OECD	Organization for Economic Cooperation and Development
ORS	Oral Rehyderation Salt
ORT	Oral Rehyderation Therapy
PEM	Protein Energy Malnutrition
PHC	Primary Health Centre
PIHS	Pakistan Integrated Household Survey
PLWHA	People Living With HIV/AIDS
PoA	Programme of Action
PRSP	Poverty Reduction Strategy Paper
RBM	Roll Back Malaria
RHC	Rural Health Centre
RNTCP	Revised National Tuberculosis Control Programme
SAARC	South Asia Association of Regional Cooperation
SAP	Social Action Programme
SC	Scheduled Caste
SHAKTI	Stopping HIV/AIDS through Knowledge and Training Initiatives
SHC	Sub Health Centre
ST	Scheduled Tribe
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TB	Tuberculosis
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
THC	Thana Health Complex
TT	Tetanus Toxoid
U5MR	Under-Five Mortality Rate
UDHR	Universal Declaration of Human Rights
UHC	Upazila Health Complex
UHFPO	Upazila Health and Family Planning Officer
UK	United Kingdom
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly Special Session on HIV/AIDS
UNHFWC	Union Health and Family Welfare Centre
UNICEF	United Nations Children's Fund
US	United States
VCT	Voluntary Counselling and Testing
WHO	World Health Organization

Foreword

The principle of philanthropic giving and voluntary service to humanity is an essential part of all major religions of South Asia, Hinduism, Islam and Christianity. In this region many individuals have translated this principle into their daily lives. As such to write a report about health and healthcare facilities in South Asia without giving due credit to them would be a great omission on my part. So I would like to start this foreword by paying tribute to all those dedicated individuals, as well as great industrial houses, who have established charitable institutions for health and education in South Asia. But for their dedicated efforts, the health indicators of South Asia could have been worse.

This Report is about the condition of health in South Asia and its link to poverty reduction and economic growth. Since the 1970s, South Asia has achieved much progress in improving the health of its population. But this progress has neither been adequate nor equitable to improve the health of the majority of its population. Half a billion people are still in poverty, and because of poor health, a great number of them cannot get out of poverty. Many are in danger of falling deeper into poverty. Economic growth of South Asia in the 1980s and 1990s did not translate into better health and economic wellbeing of the majority.

To assess the performance of health sector in South Asia has been a very difficult undertaking because of lack of availability and reliability of up to date data. Every source of data gives different numbers based on methodology and definition used. Thus comparability of data across countries, and harmonisation within the Report was a difficult task. This was compounded by the fact that definition of South Asia region differs even within the international organisations, the main source of our data.

The Report presents in-depth analysis of the experience of three South Asian countries: India, Bangladesh and Pakistan. But the Report describes the condition of health in all seven South Asian countries, including Bhutan, Maldives, Nepal and Sri Lanka. The questions the Report raises and tries to answer are: What has been the performance of South Asian governments in providing quality healthcare to its masses? Why has there been such a delink of economic growth and improvement in human development, particularly health? What is the appropriate role of the state in social sector development in a competitive world economy? Did the South Asian governments play this role efficiently and equitably? And, what will it take for South Asia to develop policies for economic growth that will improve productivity of the poor and improve the quality of life of people everywhere?

The Report contains nine chapters, in addition to the Overview. Chapter one introduces the theme of this year's Report by presenting a conceptual framework for the challenge of health in South Asia. Chapter two provides a comparative analysis of the status of health in South Asia vis-à-vis the rest of the world. Chapter three and four analyse the condition of health of South Asian children and women. Chapter five discusses the issue of HIV/AIDS in South Asia. Chapter six, seven and eight provide analytical overview of the condition of health in Bangladesh, India and Pakistan and the performance of respective governments in proving healthcare to their citizens. And finally in chapter nine, the Report sets out a framework of policies and recommendations for achieving better health for South Asians, particularly women, children and those living in rural areas. The Report suggests that if economic growth is to be sustained and equitable,

macroeconomic policies have to be combined with policies for poverty alleviation and human development.

In this Report we have introduced a new index, Health Index, as a proxy for overall health status of a country. The Health Index that we have constructed looks at health condition of various countries on the basis of some quantitative data that we believe are more representative of the health status of a country than only life expectancy at birth, currently used by many international organisations. As this is only a preliminary exercise, we hope to be able to refine this Index further in future.

I would like to acknowledge the contribution of the Canadian International Development Agency (CIDA) for its consistent support to the Centre. I would also like to put on record my very grateful thanks to the Norwegian Agency for Development Cooperation. Both CIDA and NORAD have been on the forefront in supporting and advocating the cause of social justice in South Asia, as well as in other developing regions. A special thanks to UNDP, particularly the Director of the Regional Bureau for Asia and the Pacific, for continuing support to the Centre's annual report.

The Report has benefitted tremendously from supervision of research work by Fateh Chaudhry and Dilawar Ali Khan – both provided their valuable time and expertise at a time of great need. The country case studies were prepared by Mohan Rao from India, and Simeen Mahmud and Sharifa Begum from Bangladesh. The small research team at the Centre worked hard and for long hours to complete this Report. Towards the end of the Report preparation the research team was joined by the newly-recruited Executive Director. I thank Faisal Bari for providing valuable support at the final stage of preparation of the Report. I thank Shazra Murad for taking care of the final details of manuscript preparation. The research team, consisting of Feyza Bhatti, Umara Afsar, Muhammad Daud Munir, Farah Mueen Dar, and for a short time joined by Rehman Swati, collected and compiled data and prepared tables and charts, besides preparing background papers for chapters. My special thanks to Taha Mustafa for composing and designing the Report, and Malia Asim for handling the administrative details.

Islamabad
December 24, 2004

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About the Mahbub ul Haq Human Development Centre

Mahbub ul Haq Human Development Centre was set up in November 1995 in Islamabad, Pakistan by the late Dr. Mahbub ul Haq, founder and chief architect of UNDP Human Development Reports. With a special focus on South Asia, the Centre is a policy research institute and think tank, committed to the promotion of the human development paradigm as a powerful tool for informing people-centered development policy nationally and regionally, in order to reduce human deprivation.

The Centre organises professional research, policy studies and seminars on issues of economic and social development as they affect people's wellbeing. Believing in the shared histories of the people of this region and in their shared destinies, Dr. Haq was convinced of the need for cooperation among the seven countries of the region. His vision extended to a comparative analysis of the region with the outside world, providing a yardstick for the progress achieved by South Asia in terms of socio-economic development. The Centre's research work is presented annually through a Report titled, *Human Development in South Asia*.

Continuing Mahbub ul Haq's legacy, the Centre provides a unique perspective in three ways: first, by analysing the process of human development, the analytical work of the Centre puts people at the centre of economic, political and social policies; second, the South Asia regional focus of the Centre enables a rich examination of issues of regional importance; and third, the Centre's comparative analysis provides a yardstick for the progress and setbacks of South Asia vis-à-vis the rest of the world.

The current activities of the Centre include: preparation of annual reports on *Human Development in South Asia;* preparation and publication of a journal, *Mahbub ul Haq Human Development Review;* preparation of policy papers and research reports on poverty reduction strategies; organisation of seminars and conferences on global and regional human development issues, South Asian cooperation, peace in the region and women's empowerment. The Centre also organises an annual Mahbub ul Haq Memorial Seminar and a Mahbub ul Haq Lecture.

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Overview

In 1972, at a conference of the Society for International Development in Ottawa, Canada, Mahbub ul Haq first introduced his revolutionary idea that GNP growth is not a sufficient reflection of people's lives. He said, 'let us put GNP on its head, because it does not tell us anything about how people are doing, it is only concerned with how the economy is doing'. Thirty-three years later, and over a dozen global, over a hundred national and seven South Asia human development reports, the policymakers around the world are still judging a country by its GNP growth. Although there has been a conceptual breakthrough. All the component parts of Human Development Indicators (HDI), and the poverty dimension, are discussed in all policy forums. Yet, in practice, the rate of growth of the economy determines the development strategy, not the profile of poverty or the HDI. Had it been so, the challenge of health in South Asia, the region where the largest country is going through a phenomenal economic growth, could not have been so shockingly challenging. The cover of this Report graphically paints the magnitude of health deprivation in South Asia, compared to the rest of the world. South Asia, though has only 25 per cent of the world's population, is home to 40 per cent of the world's malnourished people; 33 per cent of the world's child mortality and 35 per cent of maternal mortality occur in South Asia.

Health is a fundamental human right. It is perhaps the most basic right next to the right to live. It is the prerogative of each individual irrespective of class, gender or locality to have access to quality healthcare facilities, safe drinking water and sanitation facilities, and the provision of a minimum level of food required to maintain good health. Good health is both the means and the end of development. A healthy population is a prerequisite for economic growth; in turn this income growth can be channelled to improve human lives through the provision of a decent education, good healthcare facilities, increased job opportunities, improved security, good governance and all other requirements for human wellbeing.

As with all our previous reports, availability of reliable and accurate data, which are also comparable across the region, has been a major problem in preparing this Report. We have tried our best to collect data from the most reliable national and international sources. But there may still be some gaps in both reliability and accuracy for which we apologise.

Based on our analysis, the Report comes up with four broad findings: First, as we have seen in our previous reports, economic growth in the region has not been translated into better health for the majority of population, just as it has not improved the condition of education, employment, agriculture and rural development. The delink between growth and human development continues to health as well, in fact more so in health than in education.

Secondly, whatever improvement in health has happened, it has not reduced the existing inequity based on gender, class and location.

Thirdly, efficiency and accountability have been missing from health service delivery system provided by both public as well as private sectors. Health sector budgets have been grossly underfunded, but even when allocation to health sector had increased, as in Bangladesh, the utilisation of funds fell behind the allocated amount.

Economic growth in the region has not been translated into better health for the majority of population

The importance of investing in health for reducing poverty and accelerating economic development has not been sufficiently appreciated by policymakers in South Asia

And, finally, health sector reforms have not worked well. Many well-intentioned reforms remained unimplemented, badly implemented or suffered from political interference.

Poor health is a major constraint to human development in South Asia.

The importance of investing in health for reducing poverty and accelerating economic development has not been sufficiently appreciated by policymakers in South Asia. Government spending on health in South Asia remained at one per cent of GDP. Worse still, the meagre sums that are allocated to this sector are also not equitably distributed across various groups; there is a bias towards urban areas over rural ones and curative over preventive healthcare. The health of women and children suffers most.

The communicable diseases such as tuberculosis, typhoid and diarrhoea still have high incidence while Hepatitis B and C are gaining epidemic-like proportions. The emergence of HIV/AIDS, in an increasingly globalised world, has added a new dimension to the already poor health of South Asians. There are 5.25 million estimated cases of AIDS in South Asia, 5.1 million in India alone. There is little knowledge and awareness about the disease, particularly in rural areas and among women, and there has been limited effort on the part of South Asian governments to conduct awareness campaigns and look after the infected.

Five years after the UN Millenium Summit, where delegates from 189 countries including South Asian governments adopted eight Millenium Development Goals, with three goals explicitly for health, the situation in South Asia, compared to even other developing countries, remains poor.

Large and growing populations in South Asia place an added burden on the already insufficient healthcare facilities. Although the region is going through demographic transition as population growth rates are falling quite rapidly in most countries, the region will have very young populations for many years to come. This underscores the urgency of focusing on the provision of reproductive, maternal and child health facilities.

South Asian governments have failed to keep pace with the increasing demands for the provision of basic health, safe drinking water and sanitation facilities, and maintaining a healthy environment. The challenge in South Asia is to ensure that everyone receives at least the basic healthcare, in particular the poor, people living in rural areas, women and children, and people belonging to disadvantaged areas and groups. There is an urgent need to improve the living conditions of the millions who lack even the most rudimentary sanitation facilities, have no access to safe drinking water, and live in the most unhygienic conditions that expose them to fatal diseases.

As the region integrates with the rest of the world, South Asians must also be prepared to tackle diseases like HIV/AIDS that pose a threat to future generations. What South Asian governments must realise is that in a globalised world it is imperative to improve the prevailing systems of healthcare in South Asia. The policymakers must realise that a healthy population is the greatest asset that the region can have to meet the challenges of the future.

Despite progress made in health indicators over the last decades, the Alma Ata goal of 'health for all' is still a distant dream for South Asia.

Overall life expectancy in South Asia has increased from 44 years to 63 years over the last four decades. Infant and under-five mortality have both declined. During 1990-2000, 145 million more people had access to improved water sources, and 130 million more had access to sanitation. However, this progress has been uneven and unequal among different countries and within each country. Compared to

other regions, the performance of South Asia in improving health is poor. South Asia still has one of the highest infant and under-five mortality rates in the world. Compared to East Asia, where infant mortality decreased four-fold during 1960-2002, over the same period South Asia managed only to double the reduction. Tuberculosis (TB), Hepatitis B and HIV/AIDS are major challenges for the future. About 27 per cent of the new cases of TB in the world (in 2002) occurred in South Asia. Almost half the burden of disease is due to preventable, communicable diseases. Smoking and environmental pollution are also causing a substantial disease burden through respiratory tract infection. Inadequate investments in health coupled with poverty, illiteracy, particularly among women, and an inefficient health system continue to push large segments of population of the region into further deprivation.

To compare the health status of South Asia with other countries, the Report presents a measurement of health, the Health Index (HI). The Health Index may not be the perfect index. No single number can hope to capture all the essential features of health. We have tried to be as comprehensive as possible in the construction of the Index, with the use of 13 variables to represent health status, infrastructure and limitations. The indicators selected were the ones we thought most relevant and revealing in the context of health situation in different countries. Consideration was also given to the reliability and accuracy of data. The weights assigned were also based on a judgement of the relative importance of each of the indicators in the context of health outcomes of a country. The intention was to construct an index parallel to the Human Development Index but focussed exclusively on health issues. The Index, discussed in Chapter 2, presents a dismal picture of the health status of South Asia. Only Sri Lanka and Maldives make it to the top 100, while the other five countries rank among the last 50. Compared to the ranks of HDI, all South Asian countries except Sri Lanka and Maldives rank lower on the Health Index. South Asian countries do not do very well on the HDI, but on the Health Index, they do even worse.

South Asia faces huge challenges in ensuring the survival of all its children.

The region carries a large burden of morbidity and mortality among the children in the world: one out of every three child-deaths in the world occurs in South Asia; two-thirds of the malnourished children of the world live in this region; and infant mortality rate is still very high. There are some 329 million children in the region who live in poverty or are vulnerable to significant insecurities.

The region carries a large burden of morbidity and mortality among the children in the world

Aggregate numbers for each of the countries, and the region as a whole, do not reflect the entire picture. There are marked differences in mortality rates for boys and girls, rich and poor children, and among the children from urban and rural areas. Mortality rates among children from poorer backgrounds, girls and rural populations are usually higher across all countries in the region. There are also variations in progress that has been made within South Asia. For example, Pakistan has the highest infant and child mortality rates in the region, and the rate of decline for Pakistan has been the slowest. With an annual decline of three per cent in infant and child mortality rates, the progress in Bangladesh has been particularly significant. Sri Lanka's performance, particularly in health outcomes for children, stands out in the region.

Diseases such as diarrhoea, malaria, and respiratory infections are the major causes of child morbidity and mortality in South Asia. The Report finds that contaminated water is a major cause of these diseases. The sad part is that many of the deaths among children resulting from such communicable diseases could

be avoided by small, low cost interventions. Malnutrition, resulting mainly from poverty, is another problem hindering the healthy development of children. Children from poorer households have limited access to immunisation even though they are the hardest hit by diseases.

South Asian women bear a greater burden of disease and deprivation than men.

High levels of mortality among girls and women are the result of discriminatory practices in healthcare

Chapter 4 discusses the poor state of women's health in South Asia. An estimated 185,000 women in the region die each year due to pregnancy and birth-related complications alone. Both men and women are exposed to diseases like tuberculosis, malaria, hepatitis, and HIV/AIDS, but the burden of these diseases is exacerbated if you are a woman. South Asia is the only region in the world where men outnumber women: there are only 94 women to 100 men. The high levels of mortality among girls and women are the result of discriminatory practices in healthcare provision and lack of decision-making power of women.

A majority of women suffer from malnutrition and several micronutrient deficiencies. It is estimated that more than 30 per cent of women in the childbearing age are underweight and around 15 per cent are stunted as a result of poor nutrition as a child. More than half the women in the region are anaemic. This results in high rates of maternal mortality, and also higher risks of infant deaths. Nearly half of the maternal deaths in the world occur in South Asia. Each day 507 women in South Asia die due to pregnancy and delivery complications. Antenatal care, which is very important in reducing the risks of fatality of mother and child, is also insufficient with nearly half the mothers in the region not receiving such care. Fertility rates are falling in South Asia, but the region still has one of the highest fertility rates in the world. Contraceptive prevalence rates, except for Sri Lanka, are below the 70 per cent mark considered to be acceptable internationally.

South Asia, with the second highest number of people living with HIV/AIDS, is facing a threat of an epidemic that could be as severe as the one experienced by Sub-Saharan Africa.

HIV/AIDS is the main health challenge of this century. It has already caused the death of or infected more than 60 million people worldwide. The first case of HIV/AIDS in South Asia was identified in the mid-1980s, and it has spread rapidly since, especially during the 1990s. More than five million people with HIV/AIDS live in South Asia, constituting about 13 per cent of world's HIV/AIDS cases. This is a huge threat to a region that has very poor health infrastructure to deal with such a situation. Only in the last two years the number of people living with HIV/AIDS increased by 27.3 per cent. However, the epidemic is still at an early stage in the region with less than one per cent prevalence rates in all countries except India. India accounts for 97 per cent of all the HIV/AIDS cases in the region. The rest of South Asia is still termed as low prevalence but high-risk region. It is high-risk due to the relative ignorance of the general population about HIV/AIDS and its prevention.

The main modes of transmission of HIV/AIDS in the region are unsafe sex, reuse of HIV contaminated syringes particularly by drug users, and blood transfusion. In South Asia, although the reported cases of HIV/AIDS remain low the actual numbers of those infected with the virus are estimated to be much higher. The Report finds that more men than women are currently infected with the virus in South Asia. Young people, migrant workers, and sex workers are more at risk.

South Asia's healthcare system is overwhelmed by poor infrastructure and poorer management.

South Asia's poor performance in health can be judged from the performance of healthcare system in Bangladesh, India and Pakistan, the three countries which together have nearly 97 per cent of South Asia's population. Chapter 6, 7 and 8 discuss the condition of health in these three countries, including the health infrastructure and the system of governance that are in place. Sri Lanka is the only exception in the region that, even at relatively low levels of income, has achieved the standard of health that is comparable to many industrialised countries. While there has been significant progress in some health indicators, the gains are often not enough compared to the magnitude of problems that South Asia faces.

All the countries studied share many common characteristics and problems. But the national averages do not reveal the huge differences that exist within different states and areas in each country. For example, in India, Kerala has health indicators that are comparable to those in industrilised countries, while some states in the north have health indicators that are similar to those in Sub-Saharan Africa. Similarly, in Pakistan the situation in Balochistan is far worse than other provinces. There are also variations in health outcomes among rural and urban populations, among the rich and poor, and also among different tribes and castes in all the countries. Women also bear a greater burden of disease in all the countries reviewed. The average female to male ratio in India, Pakistan and Bangladesh is less than 950, reflecting the discrimination that girls and women face in nutrition and access to healthcare.

Health systems in all of these countries are weak and poorly managed. Public health provision suffers from poor accounting, inventory control, human resource and control systems. Governments lack commitment to health and the focus is not on providing primary healthcare for all but on tertiary level facilities mostly based in urban areas. The facilities, if any, in rural areas are understaffed and lack essential drugs and equipment. Poor quality public healthcare provision therefore forces people, especially in rural areas, to turn to private healthcare providers. These are not only more expensive, but they too vary in quality. Lack of effective regulation on the part of government increases private sector incentives to compromise on quality. Vertical programmes, targeting specific areas like maternal and child health, immunisation, HIV/AIDS, family planning and communicable diseases such as malaria and tuberculosis, exist in all South Asian countries. These programmes, run by governments, suffer from some of the same systemic problems as other public sector healthcare provision.

Private sector provision of tertiary and curative healthcare, in the region, has increased in size and significance over the last two decades. But most of tertiary level services are based in urban areas and are quite expensive and out of reach of the poor people. There has been an expansion in the role of not-for-profit providers of healthcare as well. In partnership with the government and/or with the help of local and international donors some of these providers have expanded provision rapidly, but their number and role still remains small in comparison to the public sector. Designing an effective regulatory environment for the private healthcare providers has emerged as one of the challenges that governments in South Asia have to face in the near future.

Designing an effective regulatory environment for the private healthcare providers has emerged as one of the challenges

Macroeconomic policies have to be combined with the policies for poverty alleviation and human development

South Asian governments must increase their spending on health substantially in order to harmonise the goals of economic growth and human development.

The last chapter sets out a framework of policies and recommendations for achieving better health for South Asians, particularly women, children and those living in rural areas. The Report suggests that if economic growth is to be sustained and equitable, (i) macroeconomic policies have to be combined with the policies for poverty alleviation and human development including improvement of health of the majority of people; (ii) the provision of healthcare has to be more accessible and qualitatively better; (iii) focus must be on the health of women and children; and (iv) private healthcare providers have to be regulated in order to improve their quality and responsibility to patients.

Health sector funding has to increase substantially. Currently the region is spending only around one per cent of GDP on the health sector. There is also a need to formulate health policies that are responsive to the needs of the people. This will happen only when there is greater participation of the community in policy making and debate. Effective monitoring and control is also essential as the public sector health facilities are fraught with problems like corruption, leakages, inefficiencies and wastage.

For removing the gaps that exist in the provision of basic health facilities, there is a need to focus on preventive care and knowledge dissemination rather than on providing only curative services. Many diseases can be prevented, and millions of lives saved, in South Asia through relatively inexpensive interventions and access to knowledge. Coverage of healthcare should be expanded to focus on the more vulnerable groups like women, children, rural populations and the poor.

In order to remove the inequalities and inequities in access to and use of health facilities, governments in South Asia must focus on other areas that perpetuate these inequities. Action in three main areas has been identified as vital for improvements in health outcomes: education, especially of women, eradicating poverty to achieve a more fair distribution of incomes, and providing access to safe drinking water and sanitation. All these factors contribute to the poor health of millions of South Asians. Creating a more just environment with the provision of these basic amenities would save many of these lives.

Lastly, the Report emphasises the need to regulate the private sector health providers. In the last decade the private sector role has increased substantially, substituting for the poor facilities or lack of these in the public sector. However, the private sector too offers sub-standard care or is too expensive and beyond the means of the poor populations. Private healthcare providers need to be regulated in order to improve their services. It is suggested that large corporate hospitals share a certain percentage of their profits for the health of the poor in their countries.

Chapter 1

The Challenge of Health: A Conceptual Framework

The concept of health is a broad one. According to most interpretations, a person is considered to be healthy if their body is performing all its physiological functions normally. This is, however, only one aspect of being healthy, since we now know that apart from physiological well being, several other factors determine human health. These include, among others, environmental, social, and psychological factors, and the list continues even beyond these parameters for several modern definitions of health. Studies by medical anthropologists[1] have revealed the diversity in the concepts of health, illness, and disease. The definition of health can now be enlarged to include the spheres of emotional, spiritual, and intellectual wellbeing.

The breadth of the concept of health can pose a challenge to those involved in analysing and reporting global and regional health trends. Faced with such multidimensional parameters, it is often difficult to determine the scope of a report, or the exact focus and contribution of its research. In the opening chapter of this particular Report, it is therefore imperative to first define and determine the framework of the policy debate on health in South Asia, and highlight the specific health issues that are of relevance to the vast majority of people living in the region. In order to prepare a conceptual framework, it is also necessary to consider the following stark facts:

- The life expectancy at birth of South Asians is 63 years, which is lowest in the world after that of Sub-Saharan Africa.
- Ninety-two out of 1,000 children under the age of five die in South Asia, mostly from disease and conditions for which interventions exist.
- Around 30 per cent of children in South Asia still do not receive immunisation against preventable childhood diseases.
- The maternal mortality ratio in South Asia is 516 per 100,000 live births, much of which is due to conditions which can be avoided.
- Around one-third of South Asians live in absolute poverty and cannot afford quality healthcare.
- Forty-six per cent of children under-five are underweight.
- Two-third of South Asians lack access to sanitation facilities.
- More than five million people in South Asia are infected with HIV/AIDS, the awareness of which is very low in the region.

Right to live is the most basic human right

The right to live is the most basic human right. In the context of health, it means that within the limitations of existing technology and resources, efforts must be made to ensure that everyone can lead a life where he or she has at least the ability to perform the activities of daily life.

Health, therefore, is the attainment of the proper physical functioning of the human body so that one is able to at least perform the daily activities of life, and to perform their role in society, including that of productive work. Good health is also an end in itself. Freedom from illness and disease is itself a valuable freedom for human beings. From the point of view of human development, freedom from illness and disease implies increased time and resources (both physical and mental) towards better education, the acquisition of further skills, as well as increased participation in economic and political life.

Therefore, for the purpose of this Report, an improvement of health

conditions in South Asia primarily implies a massive enhancement of the existing physical health of South Asians. Improvement in other domains can only result through the creation of an environment where the risks of disease and illness are reduced.

A focus on public health

Public health is concerned with collective action to secure the health of all members of a community

Since this Report aims to address the broader health issues concerning the people and communities of the region, it does not restrict itself to an evaluation of the medical health profession only. The concerns of public health are wider – to enhance the general level of health of all people in South Asia – and go beyond questions examining the best possible clinical care for a few.

But what should be the scope of research when looking at public health in South Asia? Some believe that work on public health should be restricted to disease prevention alone, while others believe that it should involve addressing the underlying conditions that lead to disease and illness in a community. Since the ultimate concern of this Report is human development for South Asia, it is binding that its research on public health work must consider the problems of disease and illness from a wider perspective than just biological infection. In this sense, the following concise definition captures what we mean by public health in this Report:

'Public health' can be defined as 'what we as a society do collectively to ensure the conditions in which people can be healthy'.

(Institute of Medicine, US)[2]

This definition demonstrates how public health is concerned with the whole society, and not just with individuals. For instance, the action of draining a swamp near a village (to prevent mosquitoes from breading) is a public health action. It is not directed towards the wellbeing of any particular individual, but towards that of the entire community. Public health is also concerned with collective action to secure the health of all members of a community. Such measures include community action to ensure environmental hygiene, uncontaminated food and drinking water, safe roads, and the prevention of infectious diseases. Correspondingly, if the majority of a population lacks the adequate economic resources to safeguard their health, it necessitates the collective action of several institutions (government, civil society, international organisations, community organisations) to safeguard the health of the poverty-stricken population.

There are many social problems that increase an individuals' susceptibility to disease. These include lack of education, housing and access to safe drinking water; improper sanitary conditions; malnutrition; discrimination based on socio-economic status, ethnicity, and gender; and political powerlessness. In order for public health work to be effective and to have a positive long-term impact on health status of all South Asians, all of these social problems must also be addressed.

To prevent disease and promote better health of all people, public health can work at three different levels:[3]

- *PRIMARY:* Public health work at this level attempts to avoid health problems from occurring in the first place. Examples of this level of prevention include ensuring immunisation to protect against measles, iron intake to protect against anaemia, and creating awareness about the harmful effects of needle sharing to protect against HIV/AIDS.
- *SECONDARY:* If the first line of defence (that of primary prevention) is not successful, and an individual's health is compromised due to some condition, its swift detection and treatment to avoid lasting damage to the body is known as secondary prevention.
- *TERTIARY:* In case an individual's body has already been damaged

because of the failure of the primary and secondary strategies, tertiary prevention attempts to ease the burden of disability and prolong life.

For this Report, the focus of public health at primary level prevention is of the utmost importance. Although secondary and tertiary level interventions are important, they are not critical for the majority of people in poor countries. Usually the terms health and illness are associated with hospital wards, medicines and doctors. As we shall see in the subsequent chapters, South Asian governments have often invested in huge projects catering to tertiary level prevention for urban population, at the cost of more widespread primary level prevention for the entire population. A much wider impact is possible through affordable public health projects at the primary level than through expensive tertiary level provision.

Health for human rights, economic development and poverty reduction

The Report argues its case for the imperative of improving healthcare on the basis of ensuring human rights, increasing economic productivity and alleviating poverty.

The human rights argument holds that health is a basic right of every individual, and it is the responsibility of the state to make provisions for this right. The fulfilment of this right on part of the state is not only a moral obligation, but a legal one as well.[4] The normative content of this right has been enumerated in various legal documents. The Report believes that the 'health as a human right' approach is an important way to consider the health issues and challenges facing South Asia. Through the utilisation of the human rights approach, discrimination based on any ground is avoided by definition. The urban resident is as important as the rural resident, even though the former may add more value to the economy. Health is a public good that has to be extended to everyone. It becomes the responsibility of the whole society that no one should suffer ill health, especially when affordable and quality interventions exist. According to this approach, it is not justifiable that any child should die merely because his or her family does not possess the economic means to purchase curative medicines. Nor is the stark and increasing inequality in healthcare justifiable, such that there are affluent hospitals located in urban centres, while rural areas are unable to access even basic health services. The Report argues that nothing more than a change of priorities is needed to achieve an immense improvement in the health status of South Asia.

This Report also underscores health as an investment towards the formation of human capital. Research has already well established the fact that increased investment in health leads to increased worker productivity, which in turn results in increased economic growth. Thus public health projects are viewed in terms of the net economic gain attained by investment in health. But there may exist a large proportion of the population who may not be able to contribute very much in economic terms to justify the investment in their health. In many cases, the rate of return on investment may even be negative. However, the Report argues that investment in health is not a waste of resources, but has the potential to deliver economic returns in the long run. In the South Asian context particularly, with the government spending on health averaging only one per cent of the gross domestic product (GDP), it is important for governments to recognise that money spent on health leads to the formation of human capital, and ultimately towards economic growth. However, since the main concern of this Report is human development, worker productivity is just only one aspect of the picture. The ultimate goal of health improvement should be overall human development and poverty alleviation.

Ill health and poverty are inextricably connected. Interventions that protect

Increased investment in health leads to increased worker productivity

Interventions that protect people from ill health can also alleviate poverty

people from ill health can also alleviate poverty. The poor have very few private assets. Although people in rural areas may own land or livestock, most people belonging to the poorest segment of society usually own very little land and work as labourers in rural areas. In urban areas, poor people may own housing, which constitutes their primary capital asset, but again, many of these settlements are illegal squatter settlements. Because of this, they rarely work towards the improvement of their housing, or towards equipping it with basic necessities. In both the rural and urban areas, therefore, the poor are usually deprived of sufficient capital assets. Their main asset is their labour. Using this 'human capital', they work hard to make ends meet. And almost always, there are several people in a household that depend on the primary breadwinner of the household for the fulfilment of their needs. An episode of illness can be a huge strain on the household resources of the poor. They do not own sufficient assets that can be disposed off to pay for the costs of treatment.

In South Asia, where the majority of treatment is paid through private expenditure, even the non-poor are at a significant risk of being driven into poverty by an episode of illness. In studies conducted in several countries, the most common reason for people being driven into poverty was illness or death.[5] When a poor household is hit by a major illness, they may fall into a 'poverty trap'.[6]

Health and human rights

In *Pathologies of Power,*[7] a ground-breaking text about the anthropology of illness, disease and politics, Paul Farmer makes a claim that must become central to policymaking decisions regarding the health of the poor. While providing health interventions to the destitute in Haiti, Peru, Mexico and Boston, he claims that he never thought if his work was 'cost effective', nor did he imagine that his projects would be replicable. He simply states that this was the 'right thing to do', and the 'human rights thing to do.'[8]

The human rights agenda provides the only proper rationale to provide food, education, healing, and housing to those who do not have them. Every human being is entitled to certain rights. Fortunately, many of these rights have moved from the realm of moral obligations to legal frameworks such that any state or non-state actor who denies these rights is legally guilty and can be held accountable.

In this Report, human rights are the lens through which the health improvement of South Asians is viewed. Healthcare facilities must be extended to the millions of people that live in abject poverty in the region. The benefits of such alleviation are important of course, but must be viewed as secondary to a much more important and essential task: the provision of basic human rights to the people of South Asia.

Traditionally, human rights work has focused on civil and political rights which are *negative* rights, or rights that prevent negative actions. Commonly, the term 'human rights' brings to mind protection from torture, freedom to practice religion, freedom of speech etc. However, the importance of *positive* rights, such as social and economic rights, is now becoming increasingly established. This means that it is now mandatory upon governments to not only refrain from perpetrating human rights violations (negative rights), but to also provide basic facilities such as healthcare and education as essential human rights (positive rights).[9]

Internationally, the Universal Declaration of Human Rights (UDHR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR)[10] provide a set of norms with respect to governments' obligations towards the right to health. The relevant Articles from these documents are:

Everyone has the right to a standard of living adequate for the health of himself and of his family, including food, clothing,

housing and medical care and necessary social sciences.

(Article 25, UDHR)[11]

Everyone has the right to 'the enjoyment of the highest attainable standard of physical and mental health'.

(Article 12, ICESCR)[12]

Can the people of South Asia claim health as a basic human right? Do they have any entitlement from their states for access to healthcare and related services? To answer these questions, we must look at the constitutions of South Asian countries. Box 1.1 contains excerpts from the constitutions of the five largest South Asian countries. The articles relating to health contained in these constitutions promise improvement of public health for around 1.4 billion people in South Asia. In addition, there are various international treaties and conventions (notably the ICESCR) that most South Asian states have ratified, which make it incumbent upon the governments of the region to provide health-related rights to their people. This is the basis upon which this Report argues that the governments of South Asia are responsible for the health of their people, and that health is a legally accepted human right in the South Asian context.

What, however, does the right to health mean in the South Asian context? What exactly is expected from governments when it is stated that they are responsible for the health of the people? The work of Jonathan Mann and colleagues at the Francois-Xavier Bagnoud Center for Health and Human Rights at Harvard University[13] reveals that in the context of developing countries, right to health consists of more than simply health services extension. In South Asia, for instance, illiteracy, malnutrition, poor environmental conditions and poverty exacerbate the health status of the population. The logic is that if certain socioeconomic conditions are related to morbidity and premature mortality, then addressing these fundamental determinants is essential to health improvement. Table 1.1 provides an overview of the current status of some of the most important determinants of ill health.

Provision of healthcare services certainly constitutes the most important aspect of the right to health. However, it does not necessarily root out the problems of ill health. Poverty, illiteracy, lack of safe water and sanitation, and the

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Box 1.1 What the constitutions of South Asian countries say about health

INDIA: The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health. (Directive Principles of State Policy Part IV, Article 47).

PAKISTAN: The State shall provide basic necessities of life, such as food, clothing, housing, education and medical relief, for all such citizens, irrespective of sex, caste, creed or race, as are permanently or temporarily unable to earn their livelihood on account of infirmity, sickness or unemployment. (Article 38 d).

BANGLADESH: The State shall regard the raising of the level of nutrition and the improvement of public health as its primary duties, and in particular shall adopt effective measures to prevent the consumption, except for medical purposes or for such other purposes as may be prescribed by law, of alcoholic and other intoxicating drinks and drugs which are injurious to health. (Article 18, i).

NEPAL: The State shall pursue a policy of raising the standard of living of the general public through the development of infrastructures such as education, health, housing and employment of the people of all regions by equitably distributing investment of economic resources for balanced development in the various geographical regions of the country. (Article 26, i) .

SRI LANKA: The State shall establish a just, equitable and moral social order, the objectives of which include -the realisation of an adequate standard of living for all citizens and their families including adequate food, clothing, housing and medical care. (Article 52, 4, e).

Sources: GOB 1996b; GON 1990; GOI 2004; GOP 2004c and GOS 2004.

magnitude of malnourishment, particularly among children, are all inextricably connected to health. In South Asia, governments have been concerned more with secondary and tertiary level facilities, and that too mainly in urban areas, and have been less interested in addressing the root causes of ill health.

World leaders realised the need for a strategy towards health enhancement at the International Conference on Primary Healthcare at Alma Ata in 1978. The Alma Ata Declaration called on countries to take urgent action to ensure the availability of essential primary healthcare. It stated:

If poverty were like an infectious disease it would have been eliminated long ago

Primary healthcare includes at least: education concerning prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition; an adequate supply of safe water and basic sanitation; maternal and child healthcare, including family planning; immunisation against the major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; and provision of essential drugs.

(Alma Ata Declaration 1978; VII, 3)[14]

The urgency with which this Declaration was drafted is still alive today. Infectious diseases have been much more successfully tackled because it is in the self-interest of the rich to eliminate them. Nobel Laureate Amartya Sen said that if poverty were like an infectious disease it would have been eliminated long ago. Thus political will needs to be mobilised to show the rich that healthy poor are in their self-interest.

Table 1.1 Fundamental determinants of ill-health in South Asia

Fundamental determinants of ill-health (other than lack of health services)	Percentage of South Asia's population (%)
Adult illiteracy rate, 2002	43.0
Population below poverty line ($1 a day), 1990-2002	32.3
Population without access to safe water, 2000	14.1
Population without access to sanitation, 2000	65.4
Malnourished children (underweight), 1995-2002	46.0

Sources: MHHDC 2004; UNDP 2004 and UNICEF 2003b.

Implementation of health-related human rights

The normal procedure for implementing human rights exists at two levels.[15] At the first level, the governments themselves make an effort to *promote* human rights. They may therefore provide special assistance to marginalised communities and vulnerable groups, or draft policies that are guided by human rights documents that they have ratified. At this level, the governments need to be aware of the human rights discourse, and need to have the political will to implement it. In South Asia, unfortunately, promotion of human rights at this level has been a failure. Those in influential positions in policymaking institutions are often not concerned about extending human rights to the marginalised sections of society.

The second level for implementing rights is the *protection* of human rights. This consists of a network of national and international mechanisms for monitoring, judging and denouncing governments on the status of human rights in the country. This is potentially a very powerful mechanism for preventing and protecting against violations of human rights. However, the only thing that states are currently required to do is to submit reports on the status of human rights in their countries to an international body responsible for monitoring under a specific treaty. United Nations institutions that deal with health (WHO, UNAIDS, UNICEF) also submit reports on their versions of the state of human rights in the country. Non-governmental organisations (NGOs) can also submit informal 'shadow' reports to present their perspective on issues. So far this process of reporting has not been very efficient or

effective. However, successful national-level cases have taken place in a few countries, and can demonstrate what can potentially be done (box 1.2).

Health and economic development

Traditionally, health has not been an area of priority for the majority of the South Asian governments. Average public expenditure on health, as a percentage of GDP in South Asia, was a trifling one per cent in 2001. The average for health spending was 2.7 per cent in developing countries for the same year, and 6.3 per cent for high-income countries.[16] This demonstrates how the public sector in South Asia spends the least amount of money on health.

The low priority that South Asian governments have given to health is a cause for concern for two reasons, as discussed earlier. First, health is a fundamental human right which the South Asian governments have pledged to provide to their people. Secondly, a healthy population is a necessary prerequisite for economic growth. One of the objectives of this Report is to highlight the importance that health has held for policymakers in South Asia. Currently, the dominant thinking amongst this group views health as an output of the economic growth process, and not an input. This is evident by the dwindling and scarce resource allocations to health services in the region, especially at the primary level. Policymakers argue that once the economy is strong, everyone enjoys the ability to purchase healthcare. In this sense, healthcare appears to be a *luxury* of sorts, one which only the rich are able to afford. This is reflected in the fact that in most South Asian countries, it is only the urban elite who can access quality healthcare. Health, however is not a *luxury*; it is a *necessity*. It is necessary for individual wellbeing at the micro level, and for growth and development in a country at the macro level.

Much of South Asia is lagging behind in achieving the four health-related Millennium Development Goals (MDGs). These include reducing child mortality, improving maternal health, combating HIV/AIDS and other diseases, and

Box 1.2 Human rights advocacy for health

There are a few promising human right cases that deal with health internationally which serve as excellent premises for health rights activism. In South Asia, legal means have rarely been used to fight for marginalised people who have been denied adequate healthcare, although the constitutions of these countries can be valuable premises for such legal arguments. The following are a few such cases from developing countries. All these incidences resulted in better healthcare opportunities for the people of these countries.

- *HIV PATIENT PROVIDED ANTI RETROVIRAL (ARV) DRUGS ON ORDER OF DELHI HIGH COURT*: In a recent case, a released prisoner in India was assured access to ARV drugs. The prisoner, while he was in prison, was being provided treatment. He was informed that after his release on bail, the treatment would be discontinued. As he could not afford this treatment, the issue was brought before the Delhi High Court through a writ. The case turned out to be complex, but resulted in assured access to ARV drugs and release from jail. The treatment is now the responsibility of the Government.

- *FREE MEDICINE AND HEALTH-CARE FROM THE STATE FOR AIDS PATIENTS IN VENEZUELA:* As a result of a legal struggle by non-governmental organisation Citizen Action Against AIDS, the Supreme Court of Venezuela in 2001 ruled that all HIV patients have the right to free public health. This verdict was based on the country's constitution. The treatment at that time cost $1000 per person per month in Venezuela, where the minimum monthly wage is $200. The legal battle to achieve this took four years.

- *THAI COURT REPEALS EXCLUSIVE RIGHT OF PHARMA-CEUTICAL GIANT TO PRODUCE ANTIRETROVIRAL DRUG:* The AIDS Access Foundation sued Bristol Myers Squibb (BMS) and the Department of Intellectual Property in Thailand for the exclusive rights granted to BMS to produce antiretroviral didanosine. The Thai Central Intellectual Property and International Trade Court deemed the exclusive patents 'unlawful', thereby making way for other companies to produce the drug at more affordable prices.

Sources: AEGIS 2002; MSF 2004 and YOUANDAIDS 2004b.

ensuring environmental sustainability.[17] The achievement of most of these goals requires only the provision of primary level interventions.

Health and economic growth: the linkages

Countries that enjoy higher per capita incomes also experience a higher health status

Countries that enjoy higher per capita incomes also experience a higher health status. Certainly, high incomes enable people to buy better health. However, the process also works in reverse: a higher health status translates into increased economic growth rates. Globally, there is a high correlation between per capita income and health indicators such as infant mortality rate and life expectancy. In general, it is true that disease alleviation and health enhancement are important contributing factors towards fuelling economic growth. However, some countries, such as Sri Lanka, have achieved lower infant mortality and higher life expectancy at lower levels of per capita income. This implies the existence of factors other than income levels that can influence the outcome of health enhancement programmes. However, the linkages between health and economic growth remain strong.

The importance of health as an engine of growth can be gauged from studying the 'booms' in economic history. The Nobel Laureate Robert Fogel studied the historical relationship between health and economic growth in Europe, and concluded that an improvement in the health status contributed significantly to the economic growth rates in France and Great Britain.[18] According to Fogel, the effect of increased and improved nutritional intake could alone account for 30 per cent of United Kingdom's per capita growth in the last two centuries. More recently, the economic prosperity attained by the East Asian countries has also been associated with significant improvements in public health and nutrition. For instance, the infant mortality rate in Indonesia was 201.2 in 1950-55, but decreased to 49.5 in 1995-2000 with increased economic growth.[19] On the other hand, the high incidence of disease may also retard economic growth. For example, a study[20] showed that more than half of Africa's low economic performance, when compared to that of East Asia, could be attributed to disease burden, geography and demography.[21]

Some of the mechanisms by which improved health and nutritional status impact economic growth are:

- *IMPACT ON WORKER PRODUCTIVITY:* Healthier workers are generally more productive. This is because of several reasons. First, due to episodes of illness, workers lose crucial time because they are unable to work. During this time, they lose out on earnings as well as work experience. Second, healthier workers are more energetic. This owes a great deal to proper nutritional intake, especially of micronutrients. When they are more energetic, they are able to do their work more efficiently. Third, workers who have had a healthy childhood have well developed physiological and cognitive processes. Episodes of illness during childhood have a lasting impact on an individual's physical and mental abilities.

- *IMPACT ON DEMOGRAPHY:* Another mechanism through which improvement in health spurs the economy is through the impact of health on demography. Women belonging to poorer households generally have higher fertility. The reason for this is not poverty *per se,* but some other factors which keep people in poverty and increase the fertility rate. One of the most important of these factors is infant mortality. When the chances of survival of their children are uncertain, poor parents over insure themselves so that they are looked after in their old age, especially by sons. Guaranteeing that they are looked after would remove an important factor in the desire of the poor for large families.

An improvement in health can provide such guarantee. If the infant mortality rate is sufficiently lowered, such that the predictability of a child's survival increases, parents will stop producing children after they have achieved their desired family size. A household will be able to invest much more in each child when the family is of a smaller size. The parents will have much more time and resources to adequately feed, clothe, educate, and nurture their children. As a result they will grow up to be more robust, energetic and skilled workers in the labour force. At the macro level, with a decline in fertility, the population growth rates slow down, and the average age of the population increases. As a result, the number of people who are 'dependents' in a society decreases. The number of people in the working age group rises. The proportion of people who have a higher saving rate also increases. All these factors give a boost to the economy, which is known as the 'demographic dividend'. However, a significant and sustained economic boost is possible only when accompanied by investments in education and skill building opportunities for the youth.

- *IMPACT ON TRADE, TOURISM AND INVESTMENT:* In an increasingly integrated world, trade and tourism are perhaps the two most important sectors influenced by the status of health in a country. Communicable diseases such as HIV/AIDS, malaria, tuberculosis etc. in a country reduce its attractiveness for trade (especially of agricultural and food products) and tourism. There have been numerous cases globally in which both trade and tourism suffered in countries owing to the spread of disease. Improvement in health also enhances the utilisation of natural resources. A notable example is the near eradication of malaria in Sri Lanka during 1947-77, which made otherwise unusable land fit for cultivation and settlement. As a result of this, the national income is estimated to have increased by nine per cent in 1977.[22] Several other tropical diseases also hinder successful utilisation of natural resources, and discourage investments in agriculture, mining, and utilisation of water resources. The construction of the Panama Canal provides a classic example of how a disease can hinder a development project. The Canal took about 28 years to complete because of the spread of malaria and yellow fever in the early years of the construction. Between ten to twenty thousand workers died during its construction.[23] Disease also reduces the economic viability of firms such that they cut back on investments. This happens primarily because of the high turnover and absenteeism of workers. In addition, foreign direct investment is curtailed because disease-ridden areas are not attractive for most firms. Examples of the losses to enterprise are most stark in Africa. Many firms have cut back investments in Southern Africa because of the high rate of disability and mortality. It has been reported that multinationals in South Africa sometimes hire up to three workers for a skilled position 'to ensure that replacements are on hand when trained workers die'.[24] With HIV/AIDS and tuberculosis on the rise in South Asia, efforts must be made to avoid the tragic circumstances that are prevalent in Sub-Saharan Africa.

- Finally, the impact of disease on household, community and national level budgets can be significantly straining. The opportunity cost of treating sick individuals is immense, and leads households and communities into poverty. The lesson that South Asia must learn is that it should invest significantly in preventative care, such that costly tertiary level treatment can be avoided. This includes not only preventative medicine, but also awareness and education that can lead

A significant and sustained economic boost is possible only when accompanied by investments in education and skill building opportunities

to a change in behaviour. This is especially relevant for diseases such as HIV/AIDS, which pose to be a major health and economic problem for South Asia.

Health and poverty reduction

It is the 450 million poor people of this region who face the gravest risk of ill health, disease and malnutrition

It is a well established fact that poor people do not get enough to eat. The water they drink is often not suitable for consumption. The children of poor people face high risks of dying, often due to diseases that are inexpensive and simple to prevent. A high percentage of poor mothers die during childbirth. The poor are at a greater risk of being inflicted with disease, and when they become sick, they have to travel extensive distances to health providers to whom they must pay sizeable amounts of their resources. The poor are also more vulnerable to several health related social ills such as alcoholism, drug addiction, and prostitution.

Since this Report addresses the challenges of health in South Asia, it is important to identify the people in South Asia who suffer the greatest health deprivation. The specification of the target group is an essential first step towards successful social sector programmes. In South Asia, the formulation and implementation of social sector programmes have not been well informed by research. Money has often been channelled into inadequate or incorrect programmes due to misinformed strategies. It is unfortunate that the number of people in poverty has actually risen in this region during the last decade. The message of this Report is clear: it is the 450 million poor people of this region who face the gravest risk of ill health, disease and malnutrition. The health sector must reform its current orientation and focus on the health of the poor.[25]

Advocacy for the marginalised groups in a society is an extremely difficult agenda to pursue. Although the literature on development has been revolutionised by thinkers such as Mahbub ul Haq, who put people at the centre of the economic growth process, it is often very difficult to change development preferences, even if they are clearly harmful for a country and its people, especially when governments have been following a prescribed set of priorities for a very long time. However, it is not an impossible task. In the early 1990s, UNICEF's GOBI (growth monitoring, oral rehydration, breast feeding and immunisation) programme revolutionised child health in the developing world. As box 1.3 shows, the developing world has seen several success stories with regards to improving the health status of the poor. The single most important lesson from these success stories has been that when the political will is present, resources can be mobilised to successfully eradicate poverty.

As mentioned earlier, when a poor household is hit by a major illness, they may fall into a 'poverty trap'.[26] Significant resources of the household, as well as those borrowed from social support networks, have to be channelled into treating the illness. They must make provisions for the payment of services from their incomes, which is often at the cost of other necessities. The opportunity cost of paying for health services can be immense for a poor household. They may have to compromise on their nutritional intake by eating less, and consuming cheaper food products. The children of the household may have to be pulled out of school to save money, and may even have to be put to work to bring in much needed income. This exposes them to being at risk from disease.

In the areas where poor people live, there are often very few modern health services. When the illness is severe, the sick individual has to be taken to health centres at considerable distances, often by other earning members of the family. An illness therefore gives a household a health shock, which translates both into lower earnings, and increased risk of illness for the rest of the household members. This is the downward spiral of

Box 1.3 Success stories from the developing world

Health sectors in most developing countries suffer from a lack of funds and political will. But there exist some inspiring success stories. The experiences of Iran, Cuba, Sri Lanka and Costa Rica show that increased investment in the primary healthcare and community-based health systems extended equally in urban and rural areas, are the key to better health outcomes for even the poorest members of the society.

COSTA RICA: In Costa Rica the improvement in health indicators was mainly due to economic growth and aggressive and innovative public health programmes. Costa Rica's real per capita income increased by 25 per cent from 1960 to 1970, and coincidentally infant mortality declined at the same rate. Costa Rica reached universal health coverage in the 1980s, which led to a further 60 per cent decline in infant mortality.

IRAN: In 1974, the infant mortality rates in Iran were 120 per 1,000 live births for rural areas and 62 per 1,000 live births for urban areas. In 2000, infant mortality stood at 28 for urban and 30 for rural areas. Maternal mortality ratio dropped in rural areas from 370 per 100,000 to 55 from 1974 to 1996. All this happened as a result of political will. After 1980, the Iranian government pursued a policy of increasing access to basic health services, especially in the rural areas.

CUBA: With low per capita income, Cuba has managed to keep infant mortality rates almost as low as some of the industrial countries. Strong political commitment was again the foundation of this exceptional achievement in infant mortality rates in Cuba. The public sector became the sole health service provider in 1961. Community based approach as well as strengthening the network of primary healthcare units contributed to better health outcomes. Cuba spent 6.6 per cent of its GDP on the health sector in 2002, substantially more than other Latin American countries (averaging around 3.3 per cent).

SRI LANKA: Life expectancy at birth in Sri Lanka in 2002 was 73, ten years higher than the South Asian average. Under-five mortality in 2002 was 19 per 1000 live births compared to 92 for South Asia, and 89 for the developing world. This was possible through massive budgetary allocations to the social sector by successive governments until the seventies, when the expenditure had to be restructured for economic growth and export. However, the massive investment ensured near universal literacy and access to basic health facilities in the county.

Sources: World Bank 1998c, 2003a and MHHDC 1997.

poverty known as the poverty trap from which is it often very difficult to escape.

Often it is not only the expenditure on treatment that is burdensome on the household finances, but also the loss of income if the sick person is the main breadwinner. In South Asia, where the breadwinner is usually male, the women and children are forced to earn for the family. This puts women and children at a risk of being exploited. Poor people also resort to various social coping mechanisms, such as borrowing from relatives and friends. Although these mechanisms are helpful to the poor, who have very little support from the state, they are uncertain and fragile especially in times of social unrest.

In case the breadwinner dies, the rest of the family members face a grave risk of poverty. Inheritance is important to sustain the family until they can recuperate from the financial and emotional loss of the death of their family member. However, inheritance customs in South Asia marginalise a widow, especially if she does not have sons.[27]

Apart from the sickness of the breadwinner, chronic illness of the member of a poor household is another condition that puts people into the poverty trap.[28] When incomes are low it is extremely difficult to deal with a continuous expenditure on treatment. After some time, the informal coping mechanisms such as borrowing from relatives also do not work. In such circumstances, the household is forced to make a difficult choice, to sustain the rest of the family members, or to spend for the treatment of the sick.

Poverty alleviation through better provision of health, education and nutrition

It is an unfortunate reality that the risks the poor face from illness are grave, and that the magnitude of the problem in South Asia is enormous. Therefore, it is important to ask the following questions:

i) How can the poor be lifted out of poverty trap, and how can the non-poor be prevented from falling into poverty?

ii) Whose responsibility is it to alleviate poverty?

From the point of view of health, it is not enough to say that economic growth in a country, spurred by greater liberalisation and privatisation, will eventually benefit the poor. The idea that economic gains will trickle down to the poor sooner or later is not a justifiable argument. As John Maynard Keynes put it 'in the long run we are all dead' Keynes' statement about reviving a slowing economy applies appropriately to poverty alleviation as well. The interventions have to happen now. If we wait for too long for things to sort themselves out, the people we are primarily concerned about will already have endured unbearable suffering from disease and death. Not only this, timely intervention is also a rational thing to do, since the poor are operating at a sub-optimal level in society. By improving their condition, we ensure that they will be productive participants in the economic and social life of their country.

Improving the health of the poor can be an effective strategy for alleviating poverty

Improving the health of the poor can be an effective strategy for alleviating poverty. This, however, will require more effort than merely improving the incomes of the poor. Surely, income is an important determinant of the quantity and quality of healthcare accessed by poor people. It is, however, not the only determinant, and arguably, not the most important one either. Nutrition, health and education are interrelated and mutually supporting. Inadequate nutrition in childhood (and even in the womb) affects long-term physical and mental development and, therefore, productivity later in life. There is some evidence that mental defects caused by malnutrition are irreversible. But equally the education of mothers affects nutrition of their children.

A well-educated mother knows what food to give to her children and how to prepare it. South Africa's old age pension programme has led to an improvement in the health and nutrition of children, especially of girls. But this is entirely due to pensions being received by women. Men do not spend money for this purpose. Education in hygiene is important in order to benefit from the food. If the children wash their hands but dry them in dirty towel and get an infection or acquire parasites, the benefit of the food is lost. Receiving more food does not necessarily meet the basic needs of children. It may simply meet the needs of the parasites in their stomachs. Malnutrition is a problem of the pathology of the environment, and increasing food intake by itself may not help. Cases have been recorded where it has made things worse because the extra food consumption of the earning members of families was matched by extra physical efforts, and the children get less. It may be not food that is needed, but education, safe water, medical services or a land reform to permit people to make better use of the available food supply.

Some of the determinants[29] that we think are most relevant to lift millions of people in South Asia out of poverty are:

i) HEALTH SERVICES EXTENSION AND IMPROVEMENT: Various indicators can be used to assess how widespread health services are in a country. Two such indicators are immunisation rates, and births attended by skilled staff. In South Asia, the child immunisation rate for measles in 2002 was 68 per cent, and only 38 per cent of the births in 1995-2002 were attended by skilled health personnel. Clearly, the absence of health services explains much of the increased risk of illness that poor people face. The *accessibility* and *availability* of services is low, such that there is limited health infrastructure in the areas where the majority of the South Asians live. Where the services are available, they are often expensive and substandard. *Affordability* and *quality* are important factors that influence the use of health services. In order to improve the health condition of the poor, health

services must be made cheaper and more extensive, and their quality must be improved. This will substantially increase the use of these services by the poor.

ii) HOUSEHOLD INCOME AND USER FEES: Income is a key determinant of health status. The demand for both private and public sector care increases with increased income. Healthcare use by the poor is very sensitive to the price of provision.[30] In South Asia, most of the health expenditure is through private out-of-pocket payments. Insurance schemes are not widespread, and public sector funding for healthcare is limited and invested mostly in tertiary level care in urban centres. Measures should be taken for lowering user fees for the poor, and for finding effective ways for risk pooling that benefit the poor.

iii) EDUCATION, PARTICULARLY GIRLS' EDUCATION: The multiple benefits of girls' education have been well-established and discussed at length in *Human Development in South Asia 1998*. Increased levels of girls' education lead to delayed marriage, better nourished mother and children, lower infant mortality rate (IMR) and under-five mortality rate (U5MR), more immunisation of children, lower rates of child mortality, and the practice of better health hygiene by themselves and their children. Statistics show the strong correlation between higher educational levels with better health. Female education especially enhances the ability of women to participate in household matters, including those related to health. In South Asia, only 43 per cent of women are literate. This means that the majority of South Asian mothers cannot adequately care for their children's healthcare needs. This situation must change, if the goals of poverty alleviation and health enhancement are to be achieved.

iv) PUBLIC HEALTH SERVICES (NUTRITION, SAFE WATER, SANITATION): As stated earlier in this chapter, it is a dangerous misconception to think of healthcare merely in terms of clinical services. South Asian governments invest much of the resources allocated for health on expensive tertiary level facilities. Much more should be invested in primary level preventive services. Three important areas that need special attention because of their connection to ill health, and ultimately to poverty, are nutrition, safe water and sanitation. As discussed in Chapter 3, malnutrition has severe consequences for health, especially for children's health. Lack of proper nutritional intake exposes people to various kinds of diseases. In 1995-2002, 46 per cent of the children (under-five) in South Asia were underweight. A significant number of pregnant mothers and children also suffer from micronutrient deficiencies, which increases the risk of maternal and child mortality, and inflicts children with various diseases. Public health interventions are available for tackling the problem of malnutrition, which must become an area of priority for the South Asian governments. Safe water and proper sanitation services are two other areas that are essential for betterment in health. The provision of these services considerably lowers the risk of disease in communities. Two-thirds of the people in South Asia do not have proper sanitation facilities. Although statistics reveal that 86 per cent of South Asians have access to safe water, the water South Asians drink is not safe from various diseases.[31] To improve the health of the poor effectively, governments must invest in these preventive measures.

Healthcare use by the poor is very sensitive to the price of provision

At the joint UNICEF/WHO Alma Ata Conference in 1978, primary healthcare for all was advocated as a basic human right. The Conference had the effect of bringing the 'health for all' objective into the workings of the health sector internationally. Although much has improved in global health since the seventies (as evidenced by increasing life expectancies throughout the world), the progress has been far from adequate.

Box 1.4 South Asia and the twentieth century 'revolution' in human health

The twentieth century saw impressive declines in mortality in many countries of the world. For instance, females in Chile had a life expectancy of around 33 in 1910, which increased to 78 in 1998. In Japan, the life expectancy of both males and females in 1910 was only 43, which increased to 77 for males, and 83 for females by 1998. The main causes of this decline in mortality, and consequent increase in life expectancy, were:

- Innovation and extension of health and medical technologies.
- Improvement of education, particularly girls' education.
- Increased awareness of better health practices (aided by increased literacy).
- Increased per capita incomes.
- Lower fertility.

In South Asia, however, the life expectancy was still 63 in 2002, 18 years lower than in Japan. Although mortality has declined in South Asia, there is still a huge gap between the rates of mortality in the industrialised countries and South Asia. There is a huge burden of preventable communicable diseases. Non-communicable disease, including those caused by tobacco use, also pose a serious health challenge. The interventions for many of the health conditions faced by the South Asians already exist. But it appears that South Asia was only a marginal participant in the twentieth century revolution in human health. South Asia must accelerate the factors responsible for mortality declines (access to medical technologies, increased education and awareness, increased incomes and lower fertility).

Sources: World Bank 1993 and WHO 1999.

Poverty levels have been increasing in many countries, and there are widespread inequalities in health internationally and within countries.

The vision of Alma Ata has slowly faded, and rather than the 'health for all' discourse, health improvement is now being considered through various piecemeal approaches. This global and regional approach seems to accept totally inadequate budgetary allocations to the health sector, and to utilise what is available for various 'vertical' projects.[32] These projects identify the most problematic conditions, and work towards their eradication. This is, of course, not an ineffective strategy. However, it is hardly enough in terms of achieving the ultimate objectives of poverty alleviation and economic growth through enhanced health of the entire population.

How to strengthen the healthcare system in South Asia?

The previous sections have made three important points about the health situation in South Asia: First, health is a human right which South Asian governments have pledged to extend to the people; second, health enhancement in South Asia is necessary for economic growth; and, third, ill health is a major reason for driving and keeping people in poverty. These three points would make it clear that health should be an area of priority for the regional governments. Taken together, they make a forceful argument for taking prompt and active measures to relieve the burden of disease, malnutrition, and mortality that weighs so heavily on the people of South Asia. But what exactly is it that South Asia needs to do? It is clear that measures have to be taken to make provisions for better healthcare in South Asia. But, what are these measures? And what provisions must top the priority lists of policymakers? In this section, the Report will make an attempt to answer such vital questions.

The preventable health problems in South Asia

In South Asia, a little less than half of all deaths occur due to avoidable communicable diseases. So, the agenda for health enhancement must take into account the major causes of disease and disability in this region. Communicable diseases are especially amenable to interventions. For most of them, effective interventions already exist which need to be extended to those who need them most. Saving the people of the region from disease and death would not take a

miracle, but a mixture of political commitment and adequate financial allocation will. Some of the areas of high priority for South Asia are:

- *MATERNAL MORTALITY AND MORBIDITY* (see Chapter 4): One out of 52 women faces lifetime risk of maternal death in the region. The major causes include haemorrhage, infections (sepsis), unsafe abortions, hypertension, and obstructed labour. Effective interventions exist for all of these conditions, but require antenatal checkups, skilled birth attendants, and emergency obstetric care. For this, a primary healthcare system that is accessible to pregnant women has to be present.

- *INFANT MORTALITY* (see Chapters 3 and 4): Pneumonia and tetanus are major causes of death among newborns. After infection, asphyxia usually results in death. Premature births and low birth weight also contribute towards neonatal mortality. Antenatal care for the mother is decisive for survival of her child. Providing tetanus toxoid and iron supplements to the mother are effective interventions to ensure the good health of the child. Many of these cases can be avoided if pregnant women undergo a few antenatal checkups, and if skilled delivery staff is available.

- *CHILD MORTALITY AND MORBIDITY* (see Chapter 3): The under-five mortality rate in South Asia is 92 per thousand live births. In high-income countries, the rate is seven. Childhood diseases include those that are vaccine-preventable (measles, tetanus, pertussis, diphtheria, polio and tuberculosis), acute respiratory infections (ARI) and diarrhoea. Interventions to lower child deaths include increased vaccination, oral rehyderation therapy (for diarrhoea), basic antibiotics (for ARI) and improved case management. All of these interventions require the presence of a well-equipped and accessible primary healthcare system.

- *MALNUTRITION* (see Chapter 3): Forty-six per cent of the children in South Asia were underweight in 1995-2002. In addition, a significant proportion are also micronutrient deficient. Lack of proper nutrition can directly cause death, but it is the indirect effects of malnutrition that are more severe. Malnutrition lowers the resistance of the body against various diseases, particularly in the case of children. Effective interventions exist including promotion of breastfeeding, creating awareness about safe and proper diet for children, and provision of micronutrient supplements. All these interventions require an extended healthcare system, with outreach services.

Malnutrition lowers the resistance of the body against various diseases

- *TUBERCULOSIS (TB)* (see Chapter 2): Amongst the infectious diseases, TB is the second most major killer in the region after diarrhoea. TB incidence is linked to the prevalence of HIV/AIDS. In India, 60 per cent of those infected with HIV are co-infected with TB. Direct-observed treatment strategy (DOTS) is the most effective intervention for treating TB. DOTS involves multi-drug therapy, which is closely monitored through a healthcare system or by community members. DOTS prevalence level in South Asia is very low. The DOTS detection rate in the region varies from 13 per cent in Pakistan to 79 per cent in Sri Lanka. Clearly, for proper administration of DOTS, a healthcare system that reaches areas with TB infected people is urgent.

- *TOBACCO USE* (see chapter 2): Smoking is a major cause of non-communicable diseases in South Asia. According to a study, 27 per cent of the burden of disease in India was due to tobacco use.[33] Awareness raising about the health hazard of tobacco use and

Table 1.2 Proxies for the extent of healthcare system in South Asia		
Countries	Immunisation coverage rate for measles (% of children ages 12-23 months, 2002)	Births attended by skilled staff (% of total, 1995-2000)
India	67	43
Pakistan	57	20
Bangladesh	77	12
Nepal	71	11
Sri Lanka	99	97

Source: World Bank 2004j.

the imposition of high taxes on tobacco are some of the steps that the governments of South Asia are pursuing at the moment, but these have not made a significant change in the habit of tobacco use in South Asia.

- *HIV/AIDS* (see Chapter 5): More than five million people in South Asia are infected with HIV/AIDS. The bulk of these live in India, which ranks second in the world in the number of HIV cases after South Africa. Knowledge about HIV/AIDS is low in the region, and even when it is there, it does not always alter behaviour. The most important interventions include creating awareness about HIV, promoting condom use, implementing programmes that target 'high risk' groups, taking measures to remove social stigma against people living with HIV, and making anti-retroviral therapy (ART) available.

All these conditions, as will be discussed in subsequent chapters, are amenable to effective and inexpensive interventions (except ART, which is currently an expensive therapy).[34] But there is one fundamental requirement for extending these services: a quality healthcare system. This, unfortunately, does not exist in South Asia.

Table 1.3 Per capita spending on health in South Asia, 2001	
Countries	Per capita spending on health $ (required $30-$45)
India	24
Pakistan	16
Bangladesh	12
Nepal	12
Sri Lanka	30

Source: World Bank 2004j.

Healthcare system in South Asia

The healthcare system in South Asia is inadequate, inefficient, and expensive. In most countries in the region, the healthcare system consists of an underfunded and inefficient public sector along with a mixed, expensive and unregulated private sector. The current system is wholly inadequate to support the health needs of the 1.4 billion people of the region.

Various indicators can be used to assess the adequacy of the healthcare system in a country. As stated earlier, immunisation coverage and births attended by skilled staff are two such indicators. These services belong to the category of primary health, and it can be reasonably assumed that people who are not provided these basic services also lack access to secondary and tertiary level services.

As table 1.2 shows, Sri Lanka is the only country in the region where the healthcare system seems to be adequate. In some sense, the data for skilled birth attendants is a better proxy for the quality of healthcare system. This is because it requires the presence of a health infrastructure that is accessible to pregnant women.

A limited scope is not the only problem the South Asian healthcare system faces. A significant number of people cannot access the system because of the way the system is split between the public and private sectors, and the way the healthcare is financed.

South Asia's expenditure on healthcare is extremely inadequate, even compared to other developing countries. It has been estimated that lower-income countries would need $30 to $45 as the 'minimum per capita sum to introduce essential health interventions.'[35] Table 1.3 provides per capita spending by South Asian countries.

For most South Asian countries, a vast gap exists between required expenditure and the current level of expenditure on health. The developing countries, on average, spend $47 per capita on health for purchasing the essential services, compared to high income countries which spend $2,841 on healthcare per capita. In South Asia, per capita spending on health ranges from $12 in Nepal to $30 in Sri Lanka.

Not only is the total expenditure on health low in South Asia, most of it also private expenditure. Public expenditure on health is extremely low in South Asian countries, at an average of one per cent of GDP, compared to the developing countries average of 2.7 per cent, and developed countries average of 6.3 per cent.

All the countries of South Asia spend very little on health out of government budgets. It is apparent that most of the spending on health is through private means. This is happening in a situation of almost non-existing health insurance programmes. Most health expenditures of the South Asians are out-of-pocket payments in a region where a significant number of people are poor. When they have to take care of healthcare expenses by themselves, without public support or risk sharing, they end up being driven, or pushed further, into poverty, as discussed earlier.

The provision of healthcare in South Asia

Despite the very small amount of money that is being spent on health, a question still needs to be asked: does the amount that is being spent on healthcare actually benefit the people of the region? An analysis of the provision of healthcare by public and private sector is necessary to answer this critical question.

Public sector provision

Much of the government funding of the public sector healthcare goes into expensive tertiary level projects in urban centres. For instance, in India, the largest country in the region, health spending on primary and secondary levels has increased by 50 per cent in the nineties, but the spending on healthcare at the tertiary level has gone up by more than one hundred per cent. The states/provinces in India and Pakistan are, however, still the main provider of preventive primary health services.

One of the ways to assess the quality and effectiveness of the public healthcare sector is to study its share in outpatient services. That the public is not satisfied with public healthcare provision in the region is reflected in its low level of utilisation, especially for outpatient services. In the two largest countries in the region, India and Pakistan, the share of the public sector in outpatient services is only about 20 per cent, and has decreased during the last decade (see chapters 7 and 8). This is despite the fact that public services are cheaper than private services. The following problems seem to impair the performance of the public sector provision:

- Lack of adequate health infrastructure, including near-patient health facilities, community health centres, health posts, and outreach services.
- Inadequate provision of medicines and other consumables.
- Perceived low quality of public healthcare services.
- Inadequate and poorly trained health personnel, and absenteeism of staff.
- Health personnel in public sector do not give adequate attention to individual cases.
- Preoccupation of governments with 'vertical' projects, which utilise the same health personnel that provide basic services.

Private sector provision

The private sector dominates the healthcare provision in most countries in the region. Its share in outpatient services is extremely high, about 80 per cent in India and Pakistan. This is alarming for several reasons. The most important reason is that the private sector in the region is completely unregulated. The private sector has moved in to fill the immense void in healthcare left by the inadequate provision by the public sector. However, this alternative healthcare system is far from perfect. It is, first of all, very expensive. There is very little

Much of the government funding of the public sector healthcare goes into expensive tertiary level projects in urban centres

pooling of risks in the region, and public-private partnerships are still at an experimental phase. This means that the majority of expenses for private services are through out-of-pocket payments. For a public steeped in poverty, this expensive provision poses to be an immense challenge to households. But this is not all. The provision in the private sector is often of very poor quality. Many private practitioners of medicine are not properly qualified. In a region where almost half the people are still illiterate, it is very easy to exploit them. However, despite the low quality of healthcare provision in general, there are some excellent high quality corporate hospitals in urban centres in most countries. But these are extremely expensive and out of reach for the vast majority of people.

How to revitalise the healthcare system in South Asia?

There are at least seven key interventions that can be taken to make the healthcare system more suitable for the people of South Asia, especially for the poor. These interventions are:

i) INCREASE PUBLIC FUNDING FOR HEALTH: Public expenditure on health stands at a low of one per cent (as a percentage of GDP) in South Asia, which is the lowest in the world. Increased public spending on health is essential, and is a prerequisite for revitalising the healthcare system in the region. To finance basic health in South Asia, much of the additional funding has to be provided by the governments. This is a responsibility, which they have pledged to fulfil, both in their constitutions (see box 1.1) and in various conventions and declarations. Merely increasing spending, however, is not enough. The money has to be channelled properly into effective programmes.

ii) ENHANCE PUBLIC HEALTH INFRASTRUCTURE: The greatest need in South Asia is for primary and community health services, a sector in which private providers are not very interested. When considering which kind of public infrastructure has to be established, preventive healthcare must be the focus of attention. The governments have to curtail expenditure for expensive tertiary level care, and should build smaller health units that are accessible to people. A key factor in improving the access of people is to have adequate and properly trained health personnel. The tendency in South Asia is to consider doctors as the main stewards of healthcare, and not to recognise nurses, lady health workers, community health workers, midwives and paramedics. In fact, much preventive healthcare can be extended to people without the presence of a single doctor. Providing proper training to various kinds of health workers, and increasing their numbers, is an important step that needs to be taken in South Asia. Geographical access to health facilities is also a factor that needs attention, because a vast number of people have to travel long distances to reach the nearest facility. There have to be health posts and outreach services to make sure that people who live away from urban centres also have access to basic services. These health centres must be adequately equipped and staffed to tackle the main health problems of people. Access (both geographical and financial) to essential medicines, vaccinations, and micronutrient supplements also has to be ensured. As part of revitalisation of health system, efforts also have to be made to create more demand for health services. With almost half of the population illiterate, awareness about better health practices must also be created.

iii) LOWER BURDEN OF OUT-OF-POCKET EXPENDITURES FOR POOR CLIENTS: The majority of expenditure

for health services comes from out-of-pocket payments to private providers. This trend must be questioned on ground of equity, since the majority of South Asians cannot afford to pay for health services, and surely a huge number of people are denied quality treatment owing to high costs. Mechanisms must be found to ensure more financial accessibility of poor people for health services. Reducing out-of-pocket expenditures on health by poor people can be an effective way to rescue them from poverty.

iv) REGULATE PRIVATE SECTOR: The extensive private sector in South Asia is largely unregulated. As mentioned, low awareness about health issues amongst the people leaves them susceptible to exploitation by quacks. The private sector also includes various traditional practitioners. It is important that this sector be monitored to make sure they are not exacerbating the health conditions of the people. Monitoring the private health sector is an enormous task, because the governments of the region have not even begun the process to assess the extent of private sector. However, this is an extremely important step towards ensuring that there is no malpractice, and to counter various shortcomings of the market in healthcare so that poor people are not exploited.

v) INCREASE DONOR FUNDING: Governments in the region have various priorities, and health is severely under funded. Additional domestic resources must be mobilised to fill much of the gap. But to ensure quality health services for all South Asians, increased donor funding would be necessary. In addition, it has to be made sure that there are no leakages once the funding has been provided. Monitoring mechanisms have to be in place to ensure that the money reaches the targeted programmes.

vi) CURTAIL USER FEES FOR PUBLIC SECTOR CARE: Some governments in the developing world, including in South Asia, have imposed user fees on public services in order to improve services. Studies show that this has been a major disincentive for people to use public facilities. The utilisation of health services by poor people is especially sensitive to user fees. Better mechanisms must be put in place (such as offering government funded incentives to health staff and monitoring) to ensure the efficiency of public healthcare system.

vii) EFFECTIVE PUBLIC-PRIVATE PARTNERHIPS: Encouraged by the structural adjustment programmes in the nineties, some South Asian countries have been experimenting with public-private partnerships. As definitive studies on this area are limited, it is difficult to assess the success of these experiments. Some studies from India have shown that these partnerships have, on the whole, not been very successful. The focus of the governments, we believe, should be on more publicly funded public services in rural areas. Partnerships can be, and must be developed, but such provision should not be made the norm.

viii) EMPOWER LOCAL GOVERNMENTS TO IMPLEMENT SERVICES: In South Asia, education, health and other social sector activities are the responsibility of state/provincial governments. In India and Pakistan, central government sets policies and allocate resources and state/provincial governments are in charge of implementation of programmes. To effectively deliver basic education, primary healthcare and nutrition, it is essential to recognise the role that the local communities and government agencies must play.

Reducing out-of-pocket expenditures on health by poor people can be an effective way to rescue them from poverty

Chapter 2

State of South Asia's Health

Health is perhaps the biggest challenge for human development in South Asia

'Health, which is a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity, is a fundamental human right and the attainment of the highest possible level of health is a most important world-wide social goal whose realisation requires the action of many other social and economic sectors in addition to health sector.'

(Declaration of Alma Ata, 1978)

The Declaration of Alma Ata outlined a revolutionary strategy called the primary healthcare approach to reach the goal of 'Health for all' by the year 2000. After 26 years, we have still a long way to go to reach this target. The essential question then is: why were the targets, presented and accepted by the member states, not achieved? As stated in the Alma Ata Declaration, the goals of the health sector are essentially affected by the policies and developments in many other social and economic spheres. During 1980s and 1990s, many developing countries implemented structural adjustment programmes under the guidance of the World Bank and International Monetary Fund. This resulted in reducing the role of states in many areas that directly or indirectly impacted on education and health. The reduced role of governments in social sector, combined with high indebtedness, constrained the public provision of healthcare. With the private sector filling the gap, health became more of a privilege than a right. This resulted in huge expenses on the budget of the poor contributing to an increased incidence of poverty. The past decade also saw an increase in the inequality between the rich and poor, especially in developing countries. The vertical health programmes gained popularity among the governments of the developing world neglecting the comprehensive vision of the Alma Ata Declaration of tackling the socio-economic determinants of ill health.

Health is perhaps the biggest challenge and constraint for human development in South Asia. Health sector is facing, on one hand, the dual burden of communicable and non-communicable diseases and, on the other hand, the challenges of new and resurging diseases like HIV/AIDS and tuberculosis. With the changing international environment due to globalisation, concerted efforts are needed to strengthen the health systems to endure the wave of globalisation of diseases.

This Chapter provides an introduction to the current state of health in South Asia, introduces the Health Index to measure South Asia's health status vis-à-vis the rest of the world, and assesses South Asia's progress towards achieving the United Nation's Millennium Development Goals (MDGs).

Current state of health in South Asia

South Asia has made substantial progress in the health indicators over the past few decades. Overall life expectancy increased from 54 years in 1980 to 63 years in 2002. Globally, however, South Asia still ranks very low in life expectancy, only above that of Sub-Saharan Africa. Infant mortality declined from 115 per 1000 live births in 1980 to 66 per 1000 live births in 2002. Under-five mortality also declined from 176 per 1000 live births in 1980 to 92 per 1000 live births in 2002. From 1990 to 2000,around 145 million more people had access to improved water sources and 130 million more had access to improved sanitation.

Yet the performance of the health sector of South Asia, as compared to other regions in the developing world, has not been satisfactory. In 2002, with the exception of Sub-Saharan Africa, South Asia has the highest infant and under-five mortality rates in the world. The rates of progress have also been slower than other parts of the developing world. During the period 1960-2002 infant mortality rate in East Asia decreased four-fold whereas South Asia managed to lower infant mortality by only two times. For every 100 children born in South Asia, seven die within their first year compared to approximately one in every 100 in industrialised countries. South Asia has the highest percentage of underweight, stunted and wasted children under five years of age in the world. Malnutrition is one of the important causes for high rates of mortality and morbidity among children. Only 35 per cent of the population in South Asia has access to improved sanitation facilities, while 86 per cent have access to improved water resources. Tuberculosis (TB), Hepatitis B and HIV/AIDS are major challenges for the region in the coming decades. About 27 per cent of the estimated cases of TB in the world occur in South Asia. The growing number of urban slums is becoming the nurturing ground for TB. Cardiovascular disease is a major cause of morbidity and mortality among the South Asians, one of the major causes being the prevalence of smoking. Thus, the major health challenges facing South Asia could be summed up as:

- High levels of infant and child mortality. Around 2.4 million infant deaths occurred in 2001 in South Asia.
- High maternal mortality and morbidity. Annually about 185,000 women die of complications due to pregnancy and childbirth.
- South Asia faces a huge burden of both communicable and non- communicable diseases.
- HIV/AIDS is another looming threat facing South Asia; already over five million people are estimated to be HIV positive.

Whatever progress in health that has taken place in South Asia has been uneven. There are large variations in the health statistics between countries and within each country. Health indicators show an exceptionally good progress in the case of Sri Lanka compared to other countries of the region. Pakistan and India have made progress, but the rates of progress have been slower. Health expenditure has remained incredibly low in the region. Overall, the health sector in South Asia suffers from lack of funds, inadequate infrastructure, inefficient management of health system and inadequate political commitment to provide healthcare for the masses.

South Asia has the highest percentage of underweight, stunted and wasted children under five years of age in the world

Health indicators

Despite a reduction in the number of malnourished children in South Asia, it is estimated that two out of five children will still be malnourished in 2020.[1] Diarrhea, acute respiratory infection and malaria are still the major causes of childhood mortality and morbidity. There is also a gender disparity in all the health indicators. Child mortality rates were higher for girls (37 per 1000 live birth) as compared to boys (25 per 1000 live births) during 1997-2002.[2]

Life expectancy

Life expectancy at birth has been improving throughout the world. South Asia saw an increase by nine years in its life expectancy from 54 years in 1980 to 63 years in 2002. This increase in life expectancy is a result of an overall decline in mortality especially infant mortality, which has declined from 115 in 1980 to 66 in 2002. In 2002, life expectancy in the industrialised countries on average was 78 years, 65 years in developing countries and 59 years in the least developed countries. Japan has the highest life expectancy in the world and on average a

Japanese is expected to live 19 more years than a South Asian. Life expectancy in Sub-Saharan Africa is the lowest in the world. This is a consequence of the wide spread of the HIV epidemic that has resulted in the loss of almost 20 years in life expectancy.[3] Within South Asia all countries have reached the World Health Organization (WHO) minimum target of 60 years for life expectancy, ranging from 73 years in Sri Lanka to 60 years in Nepal.

Maternal mortality ratio in South Asia is the second highest in the world

Infant and child mortality

Communicable diseases are still a major cause of death among children in South Asia. In 2001, 2.4 million infant deaths occurred in South Asia. High levels of malnutrition and micronutrient deficiencies have increased the vulnerability of children against infectious diseases. About 63 per cent of the overall death burden due to communicable diseases is among the children under-five.[4] Neonatal mortality is estimated to be 46.3 per 1000 live births in South Asia with around 400,000 in India alone. Malaria is responsible for five per cent of the mortality of children in South Asia.[5]
There are other threats to morbidity and mortality of children in South Asia.

- RISK OF VIOLENCE AND ABUSE: Millions of children in South Asia are at a risk of abuse, violence, discrimination and trafficking. An estimated 135 million children are engaged in child labour. According to one estimate, there are around 10,000 street children in the cities of Lahore and Karachi in Pakistan. These street children live in unsanitary and unhygienic conditions (non-availability of public toilets, access to a safe water source). Also, very early in their lives they get exposed to drugs, physical and sexual abuse, which makes them vulnerable to HIV and other sexually transmitted diseases (STDs).[6]

- HIV/AIDS: is another threat that has deprived many South Asian children of one or both parents. In 2003, 120,000 children up to the age of 14 years were living with HIV/AIDS in India. These children face exclusion in the society and discrimination in schools. Furthermore, 2,100 children were orphaned by AIDS in Bangladesh, 13,000 in Nepal and 2,000 in Sri Lanka in 2001.

- MALNUTRITION: In 1996-2002, 46 per cent of the under- five children were underweight and 44 per cent were stunted. Children are also likely to suffer from severe micronutrient deficiencies, as only 42 per cent of children get vitamin A supplementation during six to 59 months.[7] Only about 48 per cent of the households in South Asia use iodised salt, with the highest number of iodine deficient people living in India.[8]

Maternal mortality

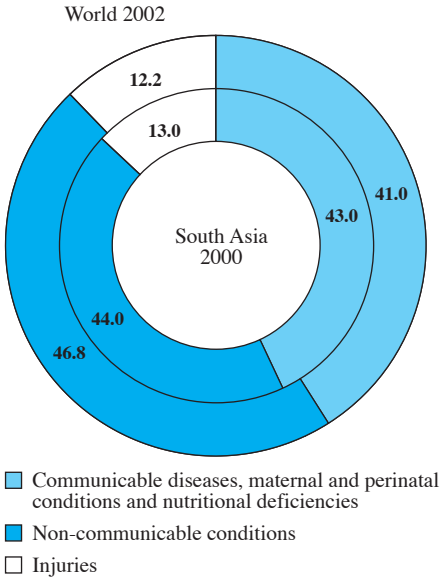
Maternal mortality ratio (MMR) in South Asia is the second highest in the world at 516 deaths per 100,000 live births. An estimated 185,000 women die from complications during pregnancy and childbirth. Women also suffer from nutritional and micronutrient deficiencies that contribute to higher rates of morbidity and mortality. Iron deficiency is one of the most common with more than 50 per cent of South Asian women affected. Anaemia caused by shortage of iron in the blood increases the risk of maternal mortality.

At the World Summit for Children in 1990, the strong correlation between the health of the mother and that of her child was recognised when the Summit called for reducing maternal deaths by half by the year 2000. The Millennium Development Declaration has also included the goal of cutting maternal mortality to half. But most South Asian countries are still a long way from achieving this target, with the exception of Sri Lanka. The access to antenatal care and the presence of skilled birth attendants during delivery can

substantially lower the risks of maternal death. Only 54 per cent of women in South Asia receive antenatal care.

Recognising women's health rights means ensuring better health and education rights of their children. The increase in the school attendance of girls, in the latter part of the 20th century, has contributed to the falling of birth and deaths rates. But South Asia had the lowest female to male net primary enrollment ratio (80 per cent of male enrolment in 1997-2000), as compared to all other regions in the world. This indicator highlights the deeply rooted gender inequality in the region. Most of the girls, especially in rural areas, stay at home and help their mothers in child rearing, farming and household chores. This entrenched gender inequality keeps on nurturing the cycle of poor health and poverty.

Figure 2.1 Burden of disease by cause



Sources: Basnyat and Rajapaksa 2004 and WHO 2004m.

Entrenched gender inequality keeps on nurturing the cycle of poor health and poverty

Burden of disease

Both communicable and non-communicable diseases constitute an equal share in the burden of disease in South Asia being 43 and 44 per cent respectively (see figure 2.1). But the distressing fact is that almost two thirds of the people who bear the burden of communicable diseases are the South Asian children.

The non-communicable diseases that mainly occur in South Asia are due to cardiovascular problems, diabetes, cancer and chronic obstructive pulmonary disease. The share of cardiovascular disease is increasing in South Asia. In India, for instance, deaths from cardiovascular diseases increased by 36 per cent during 1990-2000.[9] Cancer and diabetes are the other two major causes of non-communicable disease burden in South Asia. The proportion of people living with diabetes ranges from two per cent of the total population in Bangladesh, Nepal and Bhutan to seven per cent in Pakistan.[10] Cardiovascular diseases, diabetes and cancers are highly associated with the unhealthy dietary consumption patterns, physical inactivity and tobacco use, including tobacco chewing.

The magnitude and pattern of disease in Bangladesh, India and Pakistan are discussed later in this Report in chapters 6, 7 and 8. Because of its re-emergence, TB in South Asia as a major communicable disease, we briefly discuss this disease here. We also discuss smoking which is a cause of a variety of non-communicable diseases, and a serious health hazard in South Asia.

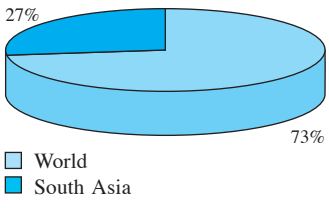
Tuberculosis in South Asia

Three of the ten countries in the world with the largest number of tuberculosis cases are in South Asia.[11] South Asia accounted for 27 per cent of all the estimated new tuberculosis cases occurred in 2002.

In 2002, the estimated new number of TB patients in South Asia was around 2.4 million, with an estimated incidence rate of 979 per 100,000 people. This means that approximately one in every 100 person was infected with TB.

This situation and the overall numbers are likely to increase because of the

Figure 2.2 Share of South Asia in estimated new cases of TB in the world, 2002



Source: WHO 2004j.

Table 2.1	Estimated number of TB cases and incidence in South Asia, 2002	
Countries	Estimated number of new TB cases (000)	Estimated incidence rate of TB cases (per 100,000)
India	1,761	168
Pakistan	272	181
Bangladesh	318	221
Nepal	47	190
Sri Lanka	10	54
Bhutan	2	118
Maldives	0.145	47
South Asia	2,410	979

Source: WHO 2004j.

rapidly increasing threat of HIV/AIDS epidemic, and the emergence of multi-drug resistance strains of TB in the region. According to a WHO survey, in Tamil Nadu (India) 3.4 per cent of new cases were found to be multi-drug resistant.[12] The cost per person to treat the multi-drug resistant strains with modern antibiotics is US$5000.[13]

The average detection rate of Direct Observed Treatment (DOTS) in South Asia was 30 per cent for 57 per cent coverage of the population.[14] The coverage of DOTS in Pakistan was the lowest (45 per cent) in 2002, and highest in Bangladesh (95 per cent), Bhutan (100 per cent) and Maldives (100 per cent). The governments of South Asia contribute more than 80 per cent of the total cost of the TB control programmes. The per case budget available for national tuberculosis programme is US$26 in India, US$33 in Bangladesh and US$27 in Pakistan.

Table 2.2	Tuberculosis detection and treatment in South Asia, 2002	
Countries	DOTS detection rate	Treatment success rate
India	31	85
Pakistan	13	77
Bangladesh	32	84
Nepal	64	88
Sri Lanka	79	80
Bhutan	31	93
Maldives	92	97
South Asia	30	84

Sources: UNDP 2004 and WHO 2004j.

Globalisation has served as a fertile ground for the spread of communicable diseases including TB. One of the most important implications of the globalisation of TB is the increase in the multi-drug resistant strain of tuberculosis throughout the world. The reason for this is the inefficiency of the healthcare systems to support the growing number of patients, negligence among the health practitioners to keep a record of the patient, and the failure to reduce the drop-out rates from the programmes. The global economic situation has also impacted negatively on the prevention of diseases.

Smoking

Tobacco smoking is a major cause of a number of non-communicable diseases. In most of the developing world tobacco use is more common among the poorer, less educated groups, thus accelerating the inequality between the mortality and morbidity rates of the poorer and the richer groups. Poor households spend the money they need for food and education on tobacco. The children may suffer from malnutrition because money is spent on tobacco instead of food. In Bangladesh, for example, it has been estimated that 10.5 million fewer people would be malnourished if poor people did not smoke. Another social ill that has been aggravated due to the increasingly growing tobacco industry is the increased use of child labour.[15]

Tobacco is one of the fastest growing causes of death in the world, together with HIV/AIDS and is set to become the leading cause of premature death by 2020s.[16] The proportion of diseases caused by tobacco use in the world is: 12 per cent for cardiovascular disease, 66 per cent for trachea bronchus and lung cancer and 38 per cent for chronic respiratory disease. Of the total global burden of tobacco-related illnesses, 16 per cent occurred in the Western Pacific region and 20 per cent in the South East Asian region, mainly in Bangladesh, India, Myanmar and Nepal.[17]

Smoking increased in all the countries of the region between 1990 and 1999. One of the reasons was the shift in focus of multinational tobacco industries towards the countries with low standards of regulation.[18] Although most South Asian countries have no regulation to ban tobacco commercials on private television channels, in 2001 a landmark ruling in India directed all the states and centrally ruled territories to ban smoking in public places and on public transport.[19] In Bangladesh, India, Maldives and Sri Lanka minors are not allowed to buy tobacco.[20] In Bhutan and Pakistan, health warnings on tobacco products are now in place. A few islands of Maldives have declared themselves as tobacco free. And the State of Andhra Pradesh in India has banned the sale, distribution and manufacturing of tobacco products.[21] Governments in South Asia have also been using cigarette tax as a disincentive to smokers while generating considerable revenues. Cigarette tax as a percentage of the total tax revenue varied from one per cent in Sri Lanka to eight per cent in Pakistan in 1999.[22]

Causes of poor health in South Asia

Health in South Asia, as well as in other developing regions, is inextricably linked to the lack of access of the majority of population, particularly women, to income, education, food, water and sanitation, and an affordable healthcare system.

Poverty

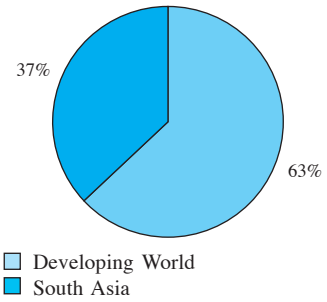
About 32 per cent of the people in South Asia live under dollar one a day. Yet the majority of the poor in South Asia have to pay for their healthcare. According to one study, poor people in the developing world spend more than 70 per cent of their income on health.[23]

In South Asia, more than 70 per cent of the people live in rural areas while the provision of healthcare services is skewed towards urban areas. In Nepal, for example, only 20 per cent of the posts of rural physicians are filled, as compared with 96 per cent in urban areas.[24] Healthcare provision is increasingly becoming a daunting challenge for the South Asian governments, especially with the emergence of new diseases such as HIV/AIDS.

Illiteracy

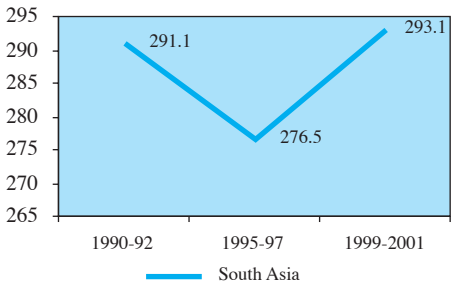
At least 394 million adults in South Asia are still illiterate. Illiteracy reduces the capacity of people to work productively, while education helps them understand the importance of health and nutrition thus lowering the incidence of disease. As discussed in chapter 3, the children of illiterate mothers are less likely to be immunised. In Pakistan for example, 98 per cent of the children of mothers with higher secondary education were fully immunised in 2000-01 as compared to only 65 per cent of illiterate mothers. Similar results have also been recorded for infant mortality, child nutrition and vulnerability to diseases. Illiterate women, who make up about 57 per cent of the adult female population in South Asia, tend to have higher rates of fertility, mortality and morbidity. The state of Kerala in India, where literacy is almost universal, has the lowest infant mortality rate in the developing world.[25]

Figure 2.3 Undernourished South Asians in the developing world (%)



Source: FAO 2003b.

Figure 2.4 Undernourished people (millions) in South Asia during 1990s



Source: FAO 2003b.

Undernourishment

According to recent estimates, globally 842 million people were undernourished in 1999-2001. An analysis of recent trends reports a setback in the war against hunger. The World Food Summit target of halving the number of hungry people in the developing world by 2015 would require the annual reduction of hungry people by 26 million, which is more than 12 times the reduction (2.1 million) achieved to date.[26]

South Asia has the largest number of undernourished people in the world. The number of undernourished people had declined by 14.6 million in the first half of 1990s, but from 1995-97 to 1999-2001 the number of undernourished people actually increased by 16.6 million.

One in every four people in South Asia goes undernourished. India is home to the largest number of undernourished people. From 1990 to 1997 India saw a decline of 20 million in the number of undernourished people. However, this trend reversed and during the period of just four years (1997-2001), the number of undernourished people increased by 19 million. Bangladesh, Nepal and Sri Lanka were successful in turning the tide against hunger by 1999-2001 (see table 2.3).

The high prevalence of undernourishment in South Asia is the result of a number of factors. The first and foremost reason being the presence of chronic poverty in the region. *Human Development in South Asia 2002* highlighted the fact that hunger is not due to non-availability of food. In fact the production of food grains has more than doubled in the region since 1960s.[27] The lack of purchasing power of the poor and high population growth rates negatively impact on nutrition of people. Also the lack of irrigation water is strongly linked to poverty and undernourishment. For example in India, it has been found that 69 per cent of people in the non-irrigated districts are poor as compared to only 26 per cent in the irrigated districts.[28]

Undernourishment is highly correlated with income poverty in South Asia. To reduce the number of undernourished people in South Asia, policies have to be directed towards increasing the purchasing power of the poor. As agriculture employs two-thirds of the labour force in these countries, a decline in employment of just 10 per cent in the agricultural sector would require the employment in other sectors to increase by 30 per cent.[29] Governments have to play an important role in the provision of food safety net and the efficiency of the food distribution system. And the governments must invest in rural infrastructure, improve the functioning of rural markets, and ensure that price reforms are accompanied by more accessible and credible policies.

Table 2.3 **Number of undernourished people in South Asia, 1990-2001** (*millions*)

Countries	1990-92	1995-97	1999-2001
India	214.5	194.7	213.7
Pakistan	29.0	24.1	26.8
Bangladesh	39.2	47.9	44.1
Nepal	3.4	5.0	3.8
Sri Lanka	5.0	5.0	4.6
South Asia	291.1	276.5	293.1

Source: FAO 2003b.

Lack of health infrastructure

The biggest impediment facing the health sector in South Asia is the appalling condition of the healthcare system. Given the meagre budgets allocated to the health sector, it is not surprising that healthcare infrastructure is in poor shape. Increasingly large investments in health infrastructure are being directed towards modern public hospitals and health facilities in urban areas. Rural areas, where more than 70 per cent of the population in South Asia lives, are severely deprived of even the primary level health facilities.

Public expenditure on health

Higher levels of health expenditure are generally associated with higher levels of overall health status. Also, if we disaggregate the data into public and private expenditure, countries with higher levels of public spending in the health sector are more likely to perform better in improving the health of the majority of the population.[30] But this linkage could only be established confidently if the health facilities were accessible to all people, were of good quality, and the services were delivered efficiently. On all these counts South Asia's healthcare system fails miserably.

In South Asia, the total expenditure on health, both public and private, as a percentage of gross domestic product (GDP) averages 4.8 per cent, and public expenditure as a percentage of GDP averages only one per cent. These are the lowest numbers in the world. Private sector is the major provider of health services, accounting for 78 per cent total expenditure. In the absence of social safety nets and low public health provision in South Asia, almost all the health expenditure is met through out-of -pocket expenditure. Per capita health expenditure is also the lowest in the world, compared to all other regions (table 2.4).

Within South Asia, Maldives is the only country that spends more than six per cent on health as a percentage of GDP. Private sector is the major provider in the health sector. Per capita expenditure on health increased nominally in all countries from 1997 to 2001, except in Pakistan where it declined from US$19 to US$16 during this period.

Lack of access is one of the major failures of the health systems in South Asia. Access to water, sanitation, health facilities, doctors and transport is limited. In Pakistan, 49 per cent of the extremely poor patients have to travel over six kilometres for medical consultation. Also, on average 54 per cent of the poor people go to private practitioners, compared to 13.3 going to government hospitals and eight per cent to government dispensaries. The availability of health services, including health provider, is another factor that determines the accessibility of healthcare for the poor. Eighty five per

Table 2.4 Health expenditure by region, 2002

Regions	Total health expenditure as % of GDP	Public health as % of GDP	Public % of total	Health expenditure per capita (US$)
East Asia & Pacific	4.9	1.9	38.8	48
Europe & Central Asia	5.8	4.3	72.4	123
Latin America & Caribbean	7.0	3.4	48.0	255
Middle East & N. Africa	4.9	2.8	59.3	166
South Asia	4.8	1.0	21.6	22
Sub-Saharan Africa	6.0	2.5	41.3	29
High income countries	10.8	6.3	62.1	2,841
Europe EMU	9.3	6.8	73.5	1,856

Source: World Bank 2004j.

Table 2.5 Health expenditure in South Asia, 2001

Countries	Total expenditure on health as % of GDP		General government expenditure on health as % of total expenditure on health		Private expenditure on health as % of total expenditure on health		Health Index (rank)
	1997	2001	1997	2001	1997	2001	
India	5.3	5.1	15.7	17.9	84.3	82.1	140
Pakistan	3.8	3.9	27.2	24.4	72.8	75.6	147
Bangladesh	2.9	3.5	33.7	44.2	66.3	55.8	146
Nepal	5.4	5.2	31.3	29.7	68.7	70.3	162
Sri Lanka	3.2	3.6	49.5	48.9	50.5	51.1	79
Bhutan	3.6	3.9	90.4	90.6	9.6	9.4	132
Maldives	6.5	6.7	81.9	83.5	18.1	16.5	78
South Asia		4.8		22.1		77.9	

Note: General government expenditure on health is defined as public expenditure on health.
Source: WHO 2003c.

cent of the rural poor in India pay for health services they receive. High rates of absenteeism among the publicly hired staff add to the perceived inadequacy of the basic health units (BHUs) and primary health centers (PHCs) (see chapters 6, 7 and 8).

In addition to inadequate health service provision in South Asia, these services are also qualitatively poor, especially in rural areas. The low quality of public services can be gauged from the fact that 80 per cent of the population in South Asia seeks private practitioners for health problems (most of the time bypassing a nearby public health facility). Usually, health workers in a public health facility are found to be low skilled and negligent.

Health provision is highly biased in favour of urban areas

Box 2.1 Global Alliance For Vaccines and Immunisation (GAVI)

The Global Alliance for Vaccine and Immunisation was launched in 2000 with a view to strengthening the immunisation programmes of the poorest countries of the world. It is based on cost effective interventions in developing countries through the consolidation of their immunisation programmes. GAVI extends its services through public-private partnerships consisting of national governments of developing and developed countries, international organisations (WHO, UNICEF, World Bank), philanthropic institutions (Bill and Melinda Gates Foundation and Rockefeller Foundation), private sector (International Federation of Pharmaceutical Manufacturers), and research and public health institutions.

South Asian countries are receiving grants according to their multi-year immunisation plans with GAVI. These plans primarily focus on building health infrastructure, to purchase vaccines, and to promote safe methods of immunisation. The table below provides the funding programme for each country in South Asia. Apart from this GAVI fund, the national governments of South Asia are very active in financing their routine immunisation programmes. For example, India and Sri Lanka finance 100 per cent of their routine immunisation expenses, while Bhutan and Bangladesh finance more than 80 per cent of the routine expenses.

Total value of support for South Asian countries

(*US$ million*)

Countries	Hepatitis B	Injection safety	Cash support for immunisation services
Pakistan	26.2	9.5	32.6
India	4.1	*	0.1
Sri Lanka	2.3	0.6	0.1
Bangladesh	16.4	8.2	27.0
Nepal	3.6	1.4	4.5
Bhutan	0.4	0.03	0.1

Note: *India is eligible but not received any grant yet.

Source: GOP 2004b.

In South Asia, the rural-urban bias in health provision is stark. Health provision is highly biased in favour of urban areas and larger funds are allocated to secondary and tertiary healthcare. In Pakistan, only 53 per cent of the population in rural areas had access to adequate drinking water supply, and 27 per cent had proper drainage or sanitation facility, as compared to 83 per cent and 59 per cent in urban areas, respectively, in 2000-01.[31]

Child immunisation

South Asia has lower levels of immunisation of children compared to Latin America and the Caribbean, Central Europe and Eastern Europe, Commonwealth of Independent States and Organisation for Economic Cooperation and Development (OECD) countries. In all of these regions the immunisation of children is almost universal. The immunisation of children in South Asia saw a downward trend during the 1990s. In 1995-96 the overall immunisation was averaging 77 per cent for South Asia, which declined to 68 per cent in 2002.[32] Several factors may have contributed to this, the two most important ones being the weakness in the management of Expanded Programme for Immunisation (EPI), and high population growth rates. Also not enough public funds were available to fill the gaps caused by the withdrawal of some donor support. But since 2000, a programme called Global Alliance for Vaccines and Immunisations has been launched in the world to improve the immunisation rates in the participating countries (see box 2.1).

In South Asia, Sri Lanka and Maldives have reached almost universal immunisation coverage. All other countries still have a long way to go before they achieve 100 per cent coverage. Nepal started its EPI program in 1988. One of the immediate objectives of the programme was to eradicate polio by the year 2000. Nepal has made exceptional progress in polio eradication since then, polio

Table 2.6 Trend in immunisation coverage, 1995-2002

(*% of children*)

Countries	BCG		DPT3		Polio		Measles	
	1995-96	2002	1995-96	2002	1995-96	2002	1995-96	2002
India	96	81	89	70	90	70	81	67
Pakistan	93	67	77	63	77	63	78	57
Bangladesh	88	95	66	85	66	85	59	77
Nepal	73	85	51	72	48	72	45	71
Sri Lanka	88	99	90	98	91	98	86	99
Bhutan	98	83	87	86	86	89	86	78
Maldives	98	98	95	98	95	98	94	99
South Asia	93	80	83	71	83	71	77	68

Sources: UNICEF 1998 and 2003b.

coverage increasing from 48 per cent in 1996 to 90 per cent coverage in 2001.

Table 2.6 shows that there has been a decline in the overall coverage of immunisation in South Asia. In Bacillus of Calmette and Guein (BCG), Diphtheria, Pertussis and Tetanus (DPT), polio and measles vaccinations, both India and Pakistan recorded lower percentages of children immunised in 2002 compared to 1995-96. Bangladesh and Nepal had improved their rates of immunisation.

Access to water and sanitation

Every year there are four billion cases of diarrhoea in the world causing two billion deaths among children under-five (15 per cent of these deaths in developing countries).[33] Contaminated water is the most important cause of diarrhoea among children. There are other water pollutants such as long-term exposure to arsenic in drinking water which can cause cancer of skin, lungs, urinary bladder and kidney. In Bangladesh, several districts are reported to have ground water arsenic concentration above 0.05 mg/L.[34]

Simple hygiene practices can improve health outcomes dramatically, for example, the practice of washing hands can lower the incidence of diarrhoea by one-third.[35] But in Nepal, for example, it takes on average 4.8 minutes to reach the nearest water source in rural areas.[36] This has negative consequences for hygiene and cleanliness.

Globally, improved water coverage increased from 79 per cent in 1990 to 82 per cent in 2000. Sanitation coverage increased from 55 per cent in 1990 to 60 per cent in 2000. Thus at the beginning of the new millennium one-sixth of the world population was without improved water source and two-fifths were without improved sanitation facility.[37] There is also a large gap in the provision of water and sanitation in rural and urban areas. The coverage of sanitation in rural areas is less than half the coverage in urban areas. The increase in the population is projected to be in urban areas. This would result in an increased pressure on the existing services in rural areas, in addition to the provision of services to the increasing population in urban areas.[38]

South Asia has made progress in the provision of water coverage which increased from 61 per cent in 1993 to 86 per cent in 2000; an additional 145.9 million have access to safe water source.[39] But South Asia has failed to provide

The coverage of sanitation in rural areas is less than half the coverage in urban areas

Table 2.7 Access to water and sanitation by region, 2000

Regions	Population with access to improved sanitation (%)	Population with access to improved water source (%)
Arab states	83	86
East Asia & the Pacific	48	76
Latin America & Caribbean	77	86
South Asia*	35	86
Sub-Saharan Africa	53	57
Developing countries	51	78

Note: *The aggregate average calculated by MHHDC used here differs from UNDP calculations as it refers to only seven South Asian countries excluding Iran and Afghanistan.

Source: UNDP 2004.

Table 2.8 Access to water and sanitation in South Asia, 2000

Countries	Population with access to improved sanitation (%)		Population with access to improved water source (%)	
	1990	2000	1990	2000
India	16	28	68	84
Pakistan	36	62	83	90
Bangladesh	41	48	94	97
Nepal	20	28	67	88
Sri Lanka	85	94	68	77

Source: World Bank 2004j.

sanitation to its rapidly growing population. Although the percentage of total population having access to sanitation has increased from 30 per cent (361 million) in 1993 to 35 per cent (491 million) in 2000, the total number of people without access to sanitation has increased. In 1993, 830 million people were deprived of proper sanitation, which increased to 835 million in 2000.[40] Around 175 million more people were added to South Asia's population in just seven years (1993-2000). This rapid increase in the population has resulted in the increase in the number of people without sanitation. There are also wide urban-rural gaps in the provision of water and sanitation in South Asia. In 2000, sanitation coverage was 94 per cent in urban areas and 72 per cent in rural areas.

Tables 2.8 and 2.9 show that access to water and sanitation has improved in all countries. However, sanitation facilities still fail to meet the requirements of all population groups, especially in India and Nepal where access to sanitation needs much progress. More than 80 per cent of the population in South Asia has access to improved water source. It varies from 97 per cent in Bangladesh to 77 per cent in Sri Lanka. However, sanitation coverage is low in all the countries except Sri Lanka where it is 94 per cent.

Globalisation and its impact on health

With globalisation the healthcare systems all over the world are faced with newer challenges. In South Asia, globalisation has added to the vulnerability of the already inadequate and inefficient healthcare system. Increase in the mobility of the people has resulted in increase in the incidence of HIV/AIDS and resurgence of TB throughout in South Asia as well as around the world. Tobacco industries have benefited by extending their markets in the less-developed countries with fewer restriction. Tobacco has emerged as a serious threat to health as more and more young people in South Asia use tobacco in their productive age leading to higher incidence of non-communicable diseases in the region. Though the health systems were inadequate even before the phase of liberalisation, the detrimental impact of the market- oriented health provision may further reduce the accessibility of healthcare to 450 million people living under dollar one a day in South Asia.[41] This would result in higher disease burden among the poor segments of society, and increase their indebtedness, deepening the incidence of poverty. With the reduced role of the state in health provisions,

Table 2.9 Access to water and sanitation in South Asia by urban and rural areas, 1990 and 2000

Countries	Urban population with access to improved sanitation (%)		Urban population with access to improved water source (%)		Rural population with access to improved sanitation (%)		Rural population with access to improved water source (%)	
	1990	2000	1990	2000	1990	2000	1990	2000
India	58	73	92	92	8	14	73	86
Pakistan	78	94	96	96	13	42	79	84
Bangladesh	78	82	98	99	27	44	89	97
Nepal	68	75	96	85	16	20	63	80
Sri Lanka	93	91	90	91	80	83	59	80

Sources: WHO and UNICEF 2000.

financing the management of the health infrastructure has become one of the major constraints to healthcare services.

Globalisation also impacts the level of poverty and income distribution. Increasing income inequality between the rich and poor countries, and between the rich and poor within countries, have increased the potential for social unrest. In almost all countries of South Asia, the gap between the richest 20 per cent and the poorest 20 per cent has shown an increasing trend. Lower purchasing power of the poor has resulted in increasing numbers of undernourished people in South Asia. This further strengthens our argument that globalisation may result in a threat to food security in the region. Another emerging health issue is the changing patterns of diets. Manufactured food and more fat concentrated food habits are increasingly becoming the diets of these countries, raising new nutritional concerns.

Globalisation promotes privatisation of services such as education and health. This market-oriented approach to health may worsen the provision of education and healthcare. Reduced governmental role in the provision of health services and their regulation may not only reduce the access of the vulnerable and poor to health but could also reduce the quality of health services. The reductions in health budgets have already resulted in the cuts in some preventive programmes, and increased the financial risks of the poor who tend to be more dependent on the publicly-provided services. The public-private partnership has resulted in more curative than preventive healthcare. The development of infrastructure is concentrated in urban areas, while the majority of the rural population do not have access to facilities, ranging from water and sanitation to medical facilities and doctors. The metropolitan cities of South Asia boast of high-class health facilities that attract patients from all over the world, including the industrialised ones (see box 2.2). This is a good example of how to benefit from globalisation, but could this trend be made more equitable by the private sector, by withholding a small percentage of their

Box 2.2 Health for the rich

While the public health system in India has failed to provide quality healthcare to India's poorest millions, some state-of-the-art corporate hospitals are catering to the rich. A growing number of 'medical tourists' from the developed countries are travelling thousands of miles to India in search of quality healthcare at low prices. In 2003, an estimated 150,000 foreigners visited India for medical treatment. This number is increasing at an annual rate of about 15 per cent. Most of these patients travel either from other developing countries in Asia, Africa or the Middle East, where quality care is not readily available, or from North America and Europe for medical treatment that would either be too expensive in their home countries or for which they would have to wait. In some circumstances the wait can be as long as two to three years, which is far too long especially in the case of bypass surgery for which waiting for that long could actually result in death of the patient.

Outsourcing the job to India is more efficient in terms of cost, time and quality. Indian hospitals charge less than their American and European counterparts because of lower pay scales and higher volumes of patients in India. Other costs, like malpractice insurance, are also lower for doctors in India (see table). Costs of operation are up to 20 times lower in some cases while the quality of professional care and facilities is the same or even better. For example in 1999, the death rate for coronary bypass patients was 0.8 per cent for an Indian hospital while for the same procedure at a New York hospital the death rate was 2.35 per cent. The surgeons in India's state-of-the art private hospitals are mostly trained in the developed countries and have recently returned to their country of origin. There is hardly a hospital in the United States without a doctor of Indian origin. Thus nobody questions the capabilities of these medical professionals. Time is also a major consideration, particularly for patients from Britain and Canada where patients normally have to wait up to three years for surgery under their overstretched government plans. In India, on the other hand, the patients receive immediate care that costs much less.

Private hospitals have been mushrooming in recent years to profit from globalisation of health services. There are hospitals that are offering special services to foreign customers, such as pick-up services from airport, Internet facilities in room etc. Some hospitals even offer traditional Indian healing services. It is estimated that India's medical industry could yield as much as $2.2 billion annual revenue by 2012. Even if a small portion of this huge profit of the private hospitals is allocated to a 'health fund' created for providing primary level health facilities for the millions of India's poor, it would go a long way in addressing some of the challenges that the health sector faces in India.

Estimated medical costs in India and the US

	India	United States
Magnetic resonance	$60	$700
Hip resurfacing	$5,000	$21,000
Total cost of surgery	$10,000	$200,000
Malpractice insurance for heart surgeons	$4,000	$100,000
Death rate for coronary bypass	0.8%	2.35%

Source: Lancaster 2004.

profits from such services, for healthcare for the poor?

As discussed in *Human Development in South Asia 2003*, globalisation has also served to increase the already high levels of gender disparity in the region. The export processing industries in South Asia initially increased the female participation in the labour markets. But it increasingly resulted in employment related discrimination as the majority of women occupied lower paid jobs than men. Women's increasing participation in employment, without reducing their domestic responsibilities, has exposed them to a variety of health-related problems. Export processing zones, in electronic, textile and clothing industries are examples of globalisation-led industries where women are exposed to an increasing number of health hazards.

Export processing zones, are examples of globalisation-led industries where women are exposed to an increasing number of health hazards

A measurement of South Asia's health

The purpose of this chapter, as also of this Report, is not only to describe the condition of health of the majority of the people in South Asia, but also to compare South Asia's health with the health of the rest of the world. To do that, we need to get a number that is representative of the overall health condition of each country. The most common indicator used to assess the health status in a country is the life expectancy at birth. But the average life expectancy may be influenced by geographical and climatic factors particular to a country. This indicator also may not adequately reflect many other aspects of the determinants of health condition such as health infrastructure; socio-economic, cultural and environmental conditions related to health; and nutritional status.

Conscious of the limitations of the life expectancy indicator, we have tried in this Report to prepare a new index which is based on a broader set of health-related indicators. The Health Index that we have constructed looks at health conditions of various countries on the basis of some quantitative data that we believe are more representative of the health status of a country. Since this Index presents a cross-country analysis, we have used the comparable data from international sources. International publications on global health statistics[42] provide data for over seventy health indicators. The most critical decisions that we faced in constructing the health index were (i) to pick the most relevant indicators that captured the condition of health in a country, and (ii) to give each indicator a proper weight. This we have tried to do to the best of our knowledge and expertise. As this is only a preliminary exercise, we hope to be able to refine it further in the future.

We have studied the health situation along three dimensions: current status of health, health infrastructure, and limitations to good health. We have selected 13 indicators that are representative of these dimensions, and accorded them weights according to their importance to that particular dimension of health. The construction of the indices for the three dimensions, and for the final health index, is based on the methodology employed for the construction of the Human Development Index (see technical note).

The Health Index is a composite weighted index of indicators measuring current state of health deprivation (status dimension), health infrastructure dimension; and the prevailing socio-economic and cultural limitations on health.

The *status dimension* covers the current health condition as represented by the rates of infant and maternal mortality, and by the proportion of undernourished people.

Infrastructure dimension, we believe, is the most important dimension to consider while assessing the commitment to health advancement in a country. There is a strong link between the presence of infrastructure and health outcomes. However, a good infrastructure is also an indicator of the progress that is still possible. For instance, it may be that two

countries achieve the same rate of immunisation, but country A may do it through a vertical campaign, while country B sets up health posts to achieve the target. The health outcomes may be the same in both cases, but country B may use the same infrastructure that has already been established for several other health interventions. We have selected six representative indicators for this dimension:

i. Public expenditure on health
ii. Child immunisation rate
iii. Skilled birth attendants
iv. Access to safe water
v. Access to sanitation facilities
vi. Physicians per population

Limitations to health improvement dimension account for the factors that limit the ability of the health sector to improve the health of the people. Some socio-economic and cultural conditions, and behavioral patterns make it difficult to bring significant improvement in health. Four of these are:

i. Illiteracy rate
ii. Population living in absolute poverty
iii. Contraceptive prevalence rate
iv. Prevalence of smoking

The Health Index is the weighted average of the above three dimensions. The dimensions are given the following weights in the construction of the index: status dimension 25 per cent weight (infant mortality 10 per cent, maternal mortality 10 per cent, undernourishment five per cent); health infrastructure 50 per cent (public expenditure 15 per cent, physician per population five per cent, skilled birth attendants 10 per cent, immunisation rate 10 per cent, access to sanitation five per cent, access to safe water five per cent); and limitations dimension 25 per cent (illiteracy 7.5 per cent, extent of poverty 10 per cent, contraceptive prevalence 3.75 per cent, prevalence of smoking 3.75 per cent).

Drawing on the available data of these indicators, Health Index has been calculated for 177 countries, including all developed countries (see annex table at the end of this chapter). There are several data exceptions in order to take account of the very different socio-economic conditions in developed countries. For example, the missing values for undernourished people (as a percentage of total population), poverty, and for illiteracy for the countries that are in the high human development category of Human Development Index (HDI), are assumed to be zero. The missing values for indicators for the countries that are in the medium and low human development levels have been assumed to be the average of available data in each human development category of HDI.

Health Index of South Asia

Table 2.10 shows the health index of South Asian countries and annex table shows the health index and the ranks of 177 countries of the world. The Health Index of the South Asian countries paints a very dismal picture of the health status of these countries. Only Maldives and Sri Lanka make it in the top 100, and the other five countries rank among the last 50 on the list. This, however, comes as no surprise since South Asia, particularly Pakistan, India, Nepal and Bangladesh, seems to be doing poorly in almost all the components of the Health Index. The relative ranks of the South Asian countries

Table 2.10 Health Index for South Asia, 2002

Countries	Health Index Value	Status Index	Infrastructure Index	Limitations Index	Human Development Index (HDI) Value
Maldives	0.751	0.830	0.704	0.769	0.752
Sri Lanka	0.751	0.892	0.618	0.875	0.740
Bhutan	0.544	0.743	0.417	0.596	0.536
India	0.476	0.708	0.310	0.575	0.595
Bangladesh	0.458	0.733	0.332	0.435	0.509
Pakistan	0.458	0.701	0.283	0.565	0.497
Nepal	0.379	0.681	0.275	0.285	0.504

Note: Data obtained from UNDP 2004 and World Bank 2004 used in calculating the indices.
Sources: UNDP 2004; World Bank 2004j and MHHDC staff calculations.

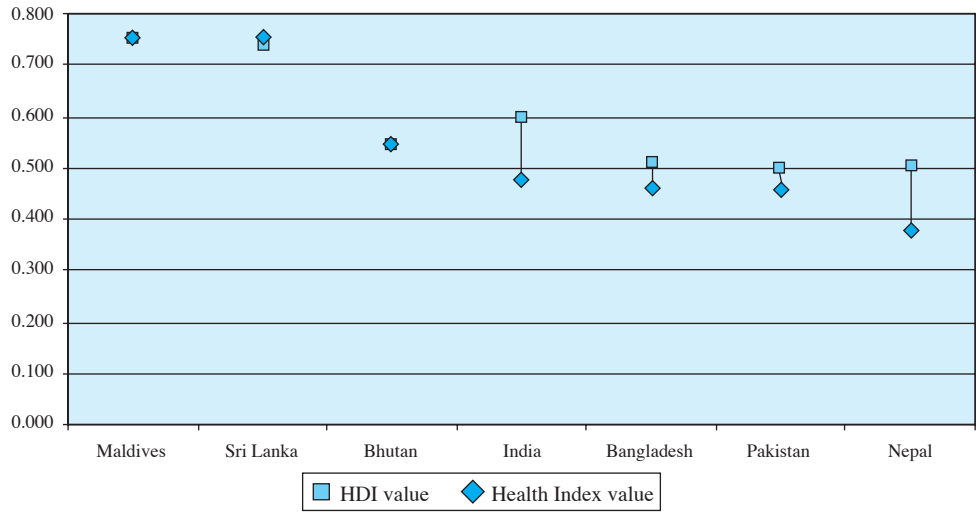
stays almost the same as it is in the Human Development Index. However, the ranks of India, Pakistan, Bangladesh and Nepal have fallen from their ranks in the Human Development Index. This can be attributed to the fact that the Health Index refers specifically to the health sector of the countries, whereas the HDI encompasses education and income indicator as well. The figure 2.5 shows the relationship between health index and human development index. The values for health index for the four large countries of South Asia have been consistently lower than those of HDI.

The poor performance of the South Asian countries can be attributed mostly to the various factors that are common among all South Asian countries. For example,

INDIA: The Indian health indicators do reasonably well on the status and limitations dimensions, but its performance on the infrastructure dimension is very poor. This can be attributed to the fact that India spends less than one per cent of its GDP on health, access to sanitation is very low (only 28 per cent of the population have access to sanitation), the doctor to population ratio is also poor, and its immunisation rate is also relatively low (70 per cent). Only 43 per cent of the deliveries are attended by skilled birth attendants. All these factors give an extremely poor health infrastructure rank to India. Since the infrastructure dimension has 50 per cent of the weight of the Health Index, India's rank has fallen 13 points from her rank in the Human Development Index.

PAKISTAN: It seems to be doing poorly in all areas of human development but its performance in the health sector is the worst, even amongst the South Asian countries. There is no single reason for Pakistan's poor performance in HI. It is a result of an overall poor performance in all three dimensions. The maternal mortality and infant mortality rates are very high; illiteracy, undernourishment and poverty rates are also high, and population with access to sanitation is extremely low. Pakistan allocates only one per cent of its GDP towards health, only 20 per cent of the births are attended by skilled attendants, and the doctor to population ratio is also very low. This results in an extremely dismal health infrastructure index for Pakistan (approximately 0.28 on a scale of 0 to 1),

Figure 2.5 The relationship between HI and HDI for South Asian countries, 2002



Note: Data used in calculating Health Index is obtained from UNDP 2004 and World Bank 2004j.
Sources: UNDP 2004; World Bank 2004j and MHHDC staff calculations.

which has 50 per cent of the weight on the Health Index.

BANGLADESH: The low rank of the Health Index of Bangladesh can be attributed to its poor performance on the limitations and infrastructure dimensions. Bangladesh does relatively better than the rest of the South Asian countries on the status dimension. Reasons for doing poorly on the limitations dimension include high incidence of poverty and high levels of illiteracy. On the infrastructure dimension, Bangladesh does poorly due to the fact that only 48 per cent of the population has access to sanitation, the doctor to population ratio is extremely low, and only 12 per cent births are attended by skilled attendants. This condition is exacerbated by the fact that only 1.5 per cent of GDP is allocated to health.

NEPAL: It ranks the lowest in South Asia on the Health Index. This also signifies a sharp decline of 22 points of Nepal's rank in the Human Development Index to the Health Index. This is a result of an overall poor performance in all the components of the Health Index. Extremely high mortality rates, high incidence of poverty and illiteracy, lack of sanitation facilities to the majority of the population have contributed to this low rank. Nepal has the lowest doctor to population ratio in the world, only 11 per cent births are attended by skilled professionals, and the immunisation rates are also low by world standards. All these factors have led to sharp decline in Nepal's rank from the HDI to HI.

The Health Index has been constructed for 177 countries and is annexed to this chapter.

Millennium Development Goals

In September 2000, at the largest-ever gathering of heads of state, world leaders from 189 countries, attended the United Nations Millennium Summit where they adopted the Millennium Declaration that pledged to make collective efforts to overcome poverty, promote equality, peace and achieve sustainable development. Specific, measurable targets were set which would be achieved in a defined period. World leaders from countries, rich and poor, vowed to work together to help each other in accelerating the pace of development and reducing poverty by 2015 or earlier. At the Summit the roadmap to achieving the commitments was laid down that resulted in the MDGs. The MDGs are made up of eight goals, 18 targets and 48 indicators (box 2.2).[43] These were built on earlier agreements made at United Nations conferences in the 1990s. However, the difference between the MDGs and earlier agreements was that rather than just setting targets for developing countries to achieve, these goals recognise the contribution that developed countries can and must make towards the development of poorer countries. The final goal encompasses the need for forging this partnership among the developed and developing countries. This point was reaffirmed in March 2002 at the International Conference on Financing Development in Monterrey, Mexico, and again in September 2002 at the World Summit on Sustainable Development in Johannesburg.

The main focus of the MDGs is to eradicate poverty and improve the lives of about a billion people

The main focus of the MDGs is to eradicate poverty and improve the lives of about a billion people. At a time when human lives are at danger not only from disease but also from heightened international terrorism there is an even greater urgency to eradicate poverty and create a more equal world. As the United Nations Development Programme (UNDP) Human Development Report 2003 puts it *'the need to eradicate poverty does not compete with the need to make the world more secure. On the contrary, eradicating poverty should contribute to a safer world—the vision of the Millennium Declaration'*.

The Millennium Development Goals put human well being and poverty reduction at the centre of efforts to achieve overall development. These Goals reinforce the philosophy of Mahbub ul

Haq that the purpose of development is not merely to achieve economic growth but to enlarge people's choices. These choices include education, good health, political freedom, personal and environmental security and human wellbeing in general. Thus, the MDGs encompass the objectives of human development. They set out an agenda that governments and people must embrace to achieve the goals of development.

The MDGs lay down the basic constraints that exist in the way of accelerated growth and human development of all countries and people. They also set priorities that must be followed and quantitative targets that must be achieved within a given time frame. In summary, the Millennium Development Goals encompass a complete agenda for improving the lives of the millions of people who live in extreme poverty and have been excluded from the benefits of growth in the past.

Box 2.3 The key MDGs

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

Health-related goals

Health is an important component of the Millennium Development Goals. Three of the eight goals are directly health-related (see box 2.3). Goals four, five and six deal with basic health issues like maternal health, child mortality and communicable diseases like malaria, tuberculosis and HIV/AIDS. Health also contributes to other goals. For example, the first goal of eradicating extreme poverty and hunger can lead to better health of an individual. Poor health is both a cause and result of poverty and hunger. The poor cannot afford to buy medical care and resort to cheap, often unsafe methods of treatment. The poor are also extremely malnourished. This results in poor health. In turn, ill health results in low productivity and income. Thus, these individuals and countries are stuck in an inescapable poverty trap. Improvements in health can lead to substantial improvements in reducing poverty and hunger.

The goal of ensuring environmental sustainability, which includes the target of halving the number of people without access to safe water, also affects the health of people. Many diseases result from the use of unhygienic water. Thus, improvements in provision of safe and clean drinking water can reduce the prevalence of many water-borne diseases.

Progress towards achieving these goals is being made globally. However, stark differences exist among regions where some are moving fast towards achieving the Millennium Development Goals while some are being left behind. Similarly, there are huge differences within regions where some countries are progressing fast while the regional trends are poor. In others, some countries are lagging behind while the region is moving ahead.

The MDGs represent the greatest challenges that exist in the health sector today and ultimately in the attainment of high human development levels for all. The AIDS epidemic is one of the greatest challenges for both developed and developing countries. However, reductions in child and maternal mortality rates still claim many lives in the developing countries. Diseases like malaria, tuberculosis, and hepatitis B and C also pose a grave threat to many developing countries. Progress in all these areas has been slow and uneven in most parts of the world. There is an urgent need to improve the quality and delivery of healthcare systems in the developing countries. Partnerships between the private and public sectors and developed and developing countries must also be strengthened to provide better healthcare facilities to the people.

South Asia and the Millennium Development Goals

The road to achieving the goals in South Asia is uphill. There is, however, hope for the region, which has made progress in the last decade. The region has abundant

natural and human resources that if used wisely can lift it from the low levels of development. The region has progressed towards achieving the MDGs without any reversals in the key indicators.

As summarised in the MDGs balance sheet for South Asia, the region contains over one-fifth of the world's population and is home to the largest number of poor people. There are today around 450 million people who live in poverty in this region making it one of the most deprived regions in the world. It has one of the lowest HDI values (measure of key dimensions of human development), second only to Sub-Saharan Africa. More than one-third of South Asians lack access to improved sanitation, one in every four persons goes hungry, one-fifth of children are out of primary school, one in every 10 children dies before the age of five, and 516 per 100,000 women die in childbirth.

Aggregate numbers for the region do not reflect the huge variations that exist among different countries in the region and also within different areas in the country. For example, Bangladesh and Bhutan reduced their under-five mortality rates by more than six percentage points, and Nepal by more than five points. The progress in Pakistan has been much slower thus the country now lags behind the rest of the region with more children dying before age five. India's performance varies enormously across states, with states like Kerala having health indicators similar to those of the United States despite a per capita income 99 per cent lower and annual spending of just US$ 28 per person.[44]

Though progress has been made in all areas during the 1990s, substantial efforts are still required to meet the goals set out at the Millennium Summit. If we go by the rate of progress during the 1990s, the region would only be able to meet the goals of halving the number of people who live below $1 a day and halving the number of people without access to safe water by the goal year of 2015. Although the proportion of people in poverty has gone down, there has been little progress in reducing the gaps between the rich and the poor that have been widening in almost all countries of South Asia. South Asia also has the highest number of hungry people. One in every four persons goes hungry in South Asia. India alone has 233 million people who are hungry. There have been efforts to increase food availability by some governments in South Asia particularly in India where food stocks have been maintained to stave off the threat of famines. In Kerala ration shops distribute grains even in rural areas, this has led to greater food security for the people. Sri Lanka, too has provided food subsidies since independence in 1947. In 1979 a food stamp scheme was introduced that covered 40 per cent of the population.

The progress of South Asia in the health related MDGs are explained in the following part through radar charts in which zero represents the starting year for the specific target (1990) and one represents the MDG target for the year 2015.

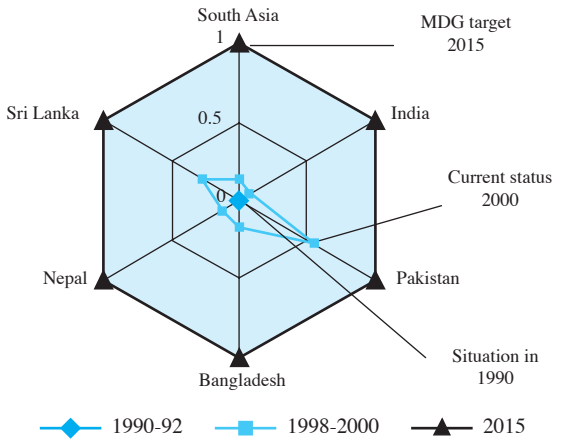
Goal one of the MDGs is to eradicate extreme poverty. Figure 2.6 shows the progress that has been made by South Asian countries in reaching target 2 of goal 1, which is halving the proportion of people who are suffering from hunger by 2015. South Asia has been extremely slow in reducing the proportion of people who are suffering from hunger. In 1998-2000, South Asia stands far away from the target to be attained in 2015. Within the region, except Pakistan none of the countries are likely to attain the target by 2015.

Goal two of the MDGs is to ensure that all children complete a full course of primary schooling by 2015. In South Asia, the primary school enrolment rate has increased from 73 per cent in 1990-91 to 79 per cent in 2000-01. This rate of growth is not sufficient to achieve the goal of universal primary education by 2015. In India alone 40 million children are not in school, a third of the world's total. Moreover, enrolments do not show the number of children who actually complete primary school. In South Asia – children drop out before completing primary

Substantial efforts are still required to meet the goals set out at the Millennium Summit

Figure 2.6 Progress of South Asia in eradicating extreme poverty

Goal 1 Eradicate extreme poverty
Target 2: *Halve, between 1990 and 2015, the proportion of people who suffer from hunger (Indicator used: Percentage of people who are malnourished)*



Sources: UNDP 2003a and MHHDC staff calculations.

education. The enrolment rates for rural and urban populations and male and female ratios also vary considerably. The female to male primary and secondary school ratios are lowest in the South Asian region. Moreover, 40 per cent of the world's out-of-school children are in South Asia.

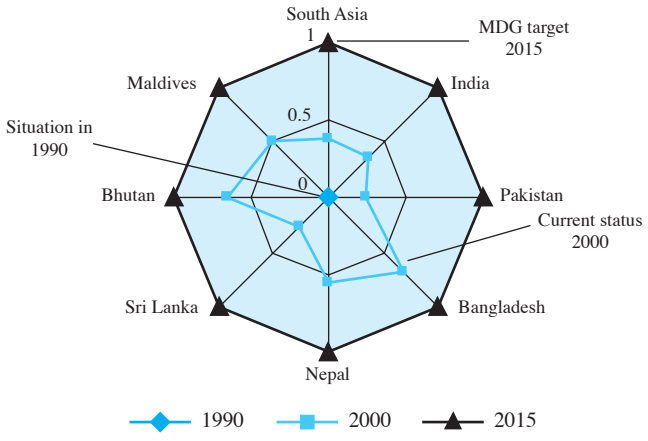
Despite significant progress since 1990, one in every ten child dies before seeing his fifth birthday in South Asia. At the halfway to MDG target year, Bangladesh, Bhutan, Nepal and Maldives have showed notable progress by crossing the midway and coming closer to their respective targets (see figure 2.7).

South Asia has one of the highest maternal mortality ratios in the world. This ratio had declined from 582 in 1990 to 516 per 100,000 live births in the year 2000. The achievements have been particularly outstanding in Bangladesh, Nepal and Bhutan that have more than halved the number of maternal deaths (figure 2.8). However, this progress is far from sufficient, for the remaining South Asian countries, to meet the MDG of reducing by three-quarters the maternal mortality ratio between 1990 and 2015. The high numbers of women dying in childbirth are the result of the low status of women in South Asian society. Cultural norms coupled with poor healthcare facilities result in the high rates of maternal deaths. Most deliveries in South Asia are attended by unskilled attendants at home who are not trained to handle emergencies. The number of women receiving prenatal and antenatal care is also low thus resulting in deaths that could be avoided.

Combating diseases like malaria, hepatitis B and C, tuberculosis and more recently the spread of HIV/AIDS also pose a major threat to the health of the people in South Asia. South Asia has 27 per cent of the world's new TB cases, and three of the ten countries in the world with the highest numbers affected by the disease are in South Asia. There are, at present, around 20 million people who are suffering from TB in the region and it is estimated that one in every 100 persons is a TB patient. Within South Asia, India alone has 14 million cases of TB. Unhygienic living conditions, particularly for urban populations, result in the spread of diseases like malaria and diarrhoea. Many of these diseases can be avoided through the adoption of simple measures like the provision of bednets, cleaning of slum areas and surroundings, and

Figure 2.7 Progress in reducing child mortality

Goal 4 Reduce child mortality
Target 5: *Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate*



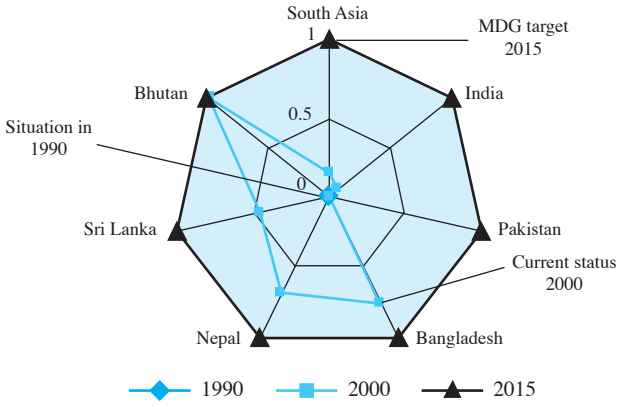
Sources: UNDP 2003a and MHHDC staff calculations.

awareness campaigns about the prevention of these diseases.

South Asia, despite its current low level of HIV/AIDS cases (below one per cent), is a high-risk region. South Asia's high levels of poverty, low literacy levels and poor status of women contribute to this risk factor. Currently there are over five million HIV/AIDS cases in South Asia. India has the second highest number of HIV positive cases in the world. It is estimated that if the current trends continue by 2025 India would have 110 million HIV/AIDS cases. This would result in an estimated decline in life expectancy of 13 years for India. The growing threat of HIV/AIDS, which weakens the immune system, also increases the risk of the patient catching other diseases like tuberculosis. There have been some efforts on the part of all South Asian governments to create awareness among the masses about the disease through the print and electronic media, the cheap provision of condoms, proper screening of blood, and various projects to target high-risk groups like drug users and commercial sex workers.

Figure 2.8 Progress in improving the maternal health

Goal 5 Improve maternal health
Target 6: *Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio*



Sources: WHO, UNFPA and UNICEF 2002 and MHHDC staff calculations.

In order for South Asia to meet the MDGs, particularly the health goals, it is necessary that public spending on the social sectors increase. With the governments spending only one per cent of their GDP on health it is no wonder that this important service sector has remained so inadequate and inefficient. We provide below a balance sheet to show South Asia's progress so far in achieving MDGs and the remaining challenges.

Millennium Development Goals' Balance Sheet — SOUTH ASIA

Millennium Development Goals and targets	Achievements	Remaining challenges
Goal 1		
Eradicate extreme poverty		
Target 1: *Halve, between 1990 and 2015, the proportion of people whose income is less than $1 a day*	GDP per capita increased from (PPP$) 1,370 in 1993 to 2,587 in 2001. Percentage of people living under $1 a day has declined from 44 per cent in 1993 to 34.1 percent in 1990-2001. With the current rate of decline South Asia is likely to halve the proportion of people living below $1 a day by 2015.	South Asia is home to the largest number of people living on less than $1 a day. In 1999, 39 per cent (488 million) of the world's poor were living in South Asia. The poverty is imbalanced depending on the locality and the sex. The rural residents and women are markedly affected by the poverty than their urban and men counterparts. Despite the progress in poverty reduction, the income gap between the rich and poor is widening. Since 1990s, the income gap has increased in almost all of the countries in South Asia.
Target 2: *Halve, between 1990 and 2015, the proportion of people who suffer from hunger*	Prevalence of undernourishment decreased from 26 per cent in 1990-92 to 24 percent in 1998-2000. The policies for food security, particularly of India and Sri Lanka, have been successful in staving off widespread famine.	One in every four people in South Asia goes undernourished. With this rate of decline, South Asia will achieve this goal not before 2050.
Goal 2		
Achieve universal primary education		
Target 3: *Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling*	Net primary enrolment ratio increased from 73 per cent in 1990-91 to 79 percent in 2000-01.	One in every five children is out of primary school in South Asia. The gender and ethnic gaps are still highly prevalent, decreasing the pace of improvement in this indicator. With this pace of improvement, South Asia is unlikely to reach this goal by 2015.
Goal 3		
Promote gender equality and empower women		
Target 4: *Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015*	The gender gap in primary and secondary school enrolment ratio is closing. In 1990-91, there were 68 girls in primary schools for every 100 boys, this increased to 77 girls for 100 boys in 2000-01. In Bangladesh, Sri Lanka and Maldives the girls' enrolment rates in secondary schools are higher than that of boys. The literacy rates of women have improved threefold since 1970s.	The female to male primary and secondary school enrolment ratio is lowest in the world. Around 40 per cent of the worlds out-of-school children are in South Asia. The region is the most gender insensitive region of the world, which delays South Asia's achievement in this indicator till 2050s.

Millennium Development Goals and targets	Achievements	Remaining challenges
Goal 4		
Reduce child mortality		
Target 5: *Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate*	Under-five mortality rate declined from 124 to 92 (per 1,000 births) over the last decade.	South Asia has the second highest U5MR in the world. One in every ten children dies before reaching the age of five, making a death toll of 3.6 million each year. There exist gaps in U5MR depending on the sex, the mothers' educational level and the poverty status of the household. The progress has been uneven within the region. In Bangladesh, Bhutan and Nepal the decline in U5MR was more than five per cent, while in Pakistan it was sluggish. Most of the under-five deaths are avoidable with easy and cost effective interventions. The U5MR goal will be achieved as early as 2050 with the current pace of progress.
Goal 5		
Improve maternal health		
Target 6: *Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio*	The MMR declined from 582 to 516 over the last decade. The progress was immense in Bangladesh, Nepal and Bhutan. The birth attended by skilled personnel has increased by ten percentage points during the last decade. The decline in fertility rates from 5.6 to 3.1 in over the last three decades has contributed to the better health of the mothers. The new policies and legislation to protect and promote the women's health indicate the shift of target towards mothers.	South Asia has the second highest MMR of the world and unlikely to reach this goal by 2015. In South Asia, the proportion of mothers who have their babies with the assistance of skilled attendance is lowest in the world. Most of the deliveries occur at home without the presence of skilled attendants. The healthcare system is weak in addressing the needs of pregnant women, particularly in case of emergencies. Gender discrimination is eminent in the region affecting the health seeking behaviour of most of the girls and women.

Millennium Development Goals and targets	Achievements	Remaining challenges
Goal 6		
Combat HIV/AIDS, malaria and other diseases		
Target 7: *Have halted by 2015 and begun to reverse the spread of HIV/AIDS*	The adult prevalence rate remains below one per cent in all the countries of South Asia. All of the countries have programmes and strategic plans that aim at combating HIV/AIDS. Blood safety has become priority in healthcare systems. There have been small-scale projects that have been successful in preventing the spread of HIV among the risk groups. South Asian countries promised to provide antiretroviral therapy to the people who need it and this is likely to contribute to the prevention efforts.	The number of HIV/AIDS cases in India, which is home to the second highest number of HIV positive people, has increased by 25 per cent since 2001. With the current trend India is expected to have 110 million people living with HIV/AIDS by 2025. Despite the low levels of HIV prevalence, South Asia is a high-risk region due to high poverty, low literacy and awareness levels, large young populations, mobility, the prevalence of high-risk groups and the weaknesses in the healthcare systems. The culture, which makes talking about the most common method of HIV transmission a taboo, is a barrier in combating HIV/AIDS. Provision of treatment through public sector is a challenge for already weak and inefficient health systems.
Target 8: *Have halted by 2015 and begun to reverse the incidence of TB, malaria and other major diseases*	The countries of the region adopted DOTS strategy for detection and treatment of TB.	Around one in four new TB cases occur in South Asia. Growing threat of HIV/AIDS is likely to increase the TB cases. The spread of multi drug resistant TB cases are likely to overburden the healthcare systems, besides causing millions of premature deaths.
Goal 7		
Ensure environmental sustainability		
Target 10: *Halve by 2015 the proportion of people without sustainable access to safe drinking water.*	The proportion of population without access to safe drinking water declined from 18 per cent in early 1990s to 14 per cent in 2000. With the current progress South Asia will be able to reach the target by 2015.	Diarrhoea and other vector born diseases are still a major cause of childhood deaths in South Asia. This indicates that data on access to safe water is misleading and that reaching this target will not benefit the health of South Asians. High levels of Arsenic have been reported in different parts of Bangladesh and Pakistan.

Sources: MHHDC 1997,2004; UNDP 2003a and FAO 2003b.

Annex Table 2.1 Health Index

Health Index rank	Countries	Status Index	Infrastructure Index	Limitations Index	Health Index Value	HDI Value	HDI rank
1	Sweden	1.000	0.905	0.916	0.931	0.946	2
2	Germany	0.996	0.923	0.864	0.926	0.925	19
3	Denmark	0.998	0.910	0.879	0.924	0.932	17
4	Iceland	0.999	0.899	0.886	0.921	0.941	7
5	Canada	0.993	0.867	0.920	0.912	0.943	4
6	Czech Republic	0.995	0.871	0.902	0.910	0.868	32
7	Cuba	0.956	0.907	0.867	0.909	0.809	52
8	Norway	0.995	0.876	0.876	0.906	0.956	1
9	Australia	0.994	0.851	0.914	0.903	0.946	3
10	United States	0.989	0.845	0.925	0.901	0.939	8
11	France	0.992	0.872	0.866	0.900	0.932	16
12	Croatia	0.959	0.889	0.864	0.900	0.830	48
13	Slovenia	0.994	0.847	0.896	0.896	0.895	27
14	New Zealand	0.994	0.834	0.920	0.895	0.926	18
15	Israel	0.992	0.859	0.869	0.895	0.908	22
16	Netherlands	0.994	0.851	0.871	0.892	0.942	5
17	Portugal	0.995	0.839	0.892	0.891	0.897	26
18	Finland	0.996	0.833	0.901	0.891	0.935	13
19	Spain	0.995	0.833	0.896	0.889	0.922	20
20	Switzerland	0.994	0.828	0.906	0.889	0.936	11
21	Japan	0.995	0.849	0.859	0.888	0.938	9
22	Italy	0.995	0.833	0.889	0.887	0.920	21
23	United Kingdom	0.992	0.806	0.932	0.884	0.936	12
24	Belgium	0.994	0.827	0.887	0.884	0.942	6
25	Hungary	0.988	0.820	0.860	0.872	0.848	38
26	Luxembourg	0.992	0.805	0.886	0.872	0.933	15
27	Uruguay	0.970	0.816	0.885	0.872	0.833	46
28	Slovakia	0.978	0.834	0.839	0.871	0.842	42
29	Greece	0.995	0.816	0.845	0.868	0.902	24
30	Austria	0.996	0.788	0.877	0.862	0.934	14
31	Lithuania	0.989	0.802	0.839	0.858	0.842	41
32	Poland	0.989	0.788	0.865	0.857	0.850	37
33	Argentina	0.961	0.816	0.818	0.853	0.853	34
34	Estonia	0.964	0.782	0.873	0.850	0.853	36
35	Hong Kong, China (SAR)	0.986	0.774	0.863	0.849	0.903	23
36	Costa Rica	0.964	0.768	0.894	0.848	0.834	45
37	Malta	0.997	0.759	0.860	0.844	0.875	31
38	Belarus	0.961	0.821	0.772	0.843	0.790	62
39	Cyprus	0.986	0.741	0.875	0.836	0.883	30
40	Seychelles	0.977	0.753	0.858	0.835	0.853	35
41	Ireland	0.995	0.729	0.876	0.832	0.936	10
42	Barbados	0.965	0.734	0.885	0.830	0.888	29
43	Latvia	0.950	0.755	0.849	0.827	0.823	50
44	Jordan	0.933	0.769	0.830	0.825	0.750	90
45	Kuwait	0.978	0.736	0.844	0.823	0.838	44

Annex Table 2.1 Health Index (*Continued*)

Health Index rank	Countries	Status Index	Infrastructure Index	Limitations Index	Health Index Value	HDI Value	HDI rank
46	Saint Kitts and Nevis	0.965	0.719	0.878	0.820	0.844	39
47	Bahamas	0.969	0.709	0.870	0.814	0.815	51
48	Macedonia, TFYR	0.936	0.788	0.743	0.814	0.793	60
49	Samoa (Western)	0.899	0.774	0.804	0.813	0.769	75
50	Antigua and Barbuda	0.979	0.717	0.837	0.812	0.800	55
51	Bahrain	0.976	0.714	0.845	0.812	0.843	40
52	Chile	0.970	0.698	0.881	0.812	0.839	43
53	Russian Federation	0.950	0.766	0.754	0.809	0.795	57
54	Ukraine	0.958	0.743	0.789	0.808	0.777	70
55	Brunei Darussalam	0.988	0.689	0.865	0.808	0.867	33
56	Korea Rep. of	0.993	0.647	0.882	0.792	0.888	28
57	Qatar	0.980	0.695	0.795	0.791	0.833	47
58	Singapore	0.993	0.634	0.902	0.791	0.902	25
59	United Arab Emirates	0.981	0.684	0.804	0.788	0.824	49
60	Moldova, Rep. of	0.920	0.709	0.785	0.781	0.681	113
61	Bulgaria	0.932	0.723	0.732	0.778	0.796	56
62	Saudi Arabia	0.952	0.710	0.722	0.774	0.768	77
63	Iran, Islamic Rep. of	0.916	0.657	0.860	0.773	0.732	101
64	Grenada	0.886	0.719	0.759	0.771	0.745	93
65	Colombia	0.911	0.653	0.860	0.769	0.773	73
66	Romania	0.921	0.704	0.746	0.769	0.778	69
67	St.Vincent & the Grenadines	0.886	0.733	0.720	0.768	0.751	87
68	Jamaica	0.934	0.650	0.836	0.767	0.764	79
69	Dominica	0.901	0.734	0.697	0.767	0.743	95
70	Tunisia	0.900	0.707	0.742	0.764	0.745	92
71	Lebanon	0.921	0.709	0.713	0.763	0.758	80
72	Albania	0.940	0.675	0.758	0.762	0.781	65
73	Thailand	0.905	0.628	0.884	0.761	0.768	76
74	Saint Lucia	0.895	0.686	0.761	0.757	0.777	71
75	Guyana	0.830	0.688	0.812	0.755	0.719	104
76	Panama	0.867	0.687	0.769	0.753	0.791	61
77	Turkmenistan	0.840	0.662	0.843	0.752	0.752	86
78	Maldives	0.829	0.704	0.769	0.751	0.752	84
79	Sri Lanka	0.892	0.618	0.875	0.751	0.740	96
80	Malaysia	0.941	0.619	0.823	0.750	0.793	59
81	Brazil	0.877	0.656	0.805	0.748	0.775	72
82	Occupied Palestinian Territories	0.905	0.671	0.745	0.748	0.726	102
83	Mexico	0.933	0.632	0.787	0.746	0.802	53
84	Suriname	0.896	0.673	0.739	0.745	0.780	67
85	Bosnia and Herzegovina	0.951	0.638	0.752	0.745	0.781	66
86	Armenia	0.807	0.693	0.783	0.744	0.754	82
87	Tonga	0.893	0.653	0.774	0.744	0.787	63
88	Uzbekistan	0.833	0.664	0.805	0.742	0.709	107
89	Kyrgyzstan	0.877	0.666	0.755	0.741	0.701	110
90	Kazakhstan	0.795	0.688	0.789	0.740	0.766	78

Annex Table 2.1 Health Index (*Continued*)

Health Index rank	Countries	Status Index	Infrastructure Index	Limitations Index	Health Index Value	HDI Value	HDI rank
91	Mauritius	0.959	0.628	0.742	0.739	0.785	64
92	Dominican Republic	0.854	0.622	0.852	0.737	0.738	98
93	Algeria	0.891	0.624	0.781	0.730	0.704	108
94	Trinidad and Tobago	0.912	0.607	0.778	0.726	0.801	54
95	Azerbaijan	0.780	0.650	0.818	0.725	0.746	91
96	Turkey	0.922	0.591	0.780	0.721	0.751	88
97	Venezuela	0.906	0.628	0.721	0.721	0.778	68
98	Mongolia	0.780	0.671	0.750	0.718	0.668	117
99	El Salvador	0.881	0.660	0.668	0.717	0.720	103
100	Syrian Arab Republic	0.922	0.610	0.716	0.714	0.710	106
101	Egypt	0.921	0.599	0.736	0.714	0.653	120
102	Oman	0.925	0.601	0.704	0.708	0.770	74
103	Paraguay	0.893	0.561	0.808	0.705	0.751	89
104	Georgia	0.887	0.600	0.730	0.704	0.739	97
105	South Africa	0.823	0.598	0.793	0.703	0.666	119
106	Libyan Arab Jamahiriya	0.915	0.589	0.693	0.697	0.794	58
107	Cape Verde	0.877	0.604	0.697	0.695	0.717	105
108	Ecuador	0.926	0.539	0.754	0.690	0.735	100
109	Botswana	0.764	0.677	0.639	0.689	0.589	128
110	Honduras	0.869	0.581	0.701	0.683	0.672	115
111	Fiji	0.916	0.530	0.754	0.683	0.758	81
112	Solomon Islands	0.901	0.564	0.698	0.682	0.624	124
113	Belize	0.876	0.559	0.699	0.673	0.737	99
114	Peru	0.837	0.545	0.745	0.668	0.752	85
115	China	0.908	0.479	0.781	0.662	0.745	94
116	Viet Nam	0.872	0.491	0.787	0.660	0.691	112
117	Nicaragua	0.823	0.623	0.567	0.659	0.667	118
118	Bolivia	0.761	0.552	0.736	0.650	0.681	114
119	Morocco	0.880	0.472	0.714	0.635	0.620	125
120	Philippines	0.852	0.457	0.738	0.626	0.753	83
121	Guatemala	0.820	0.514	0.650	0.624	0.649	121
122	São Tomé and Principe	0.754	0.515	0.677	0.615	0.645	123
123	Namibia	0.830	0.537	0.547	0.613	0.607	126
124	Indonesia	0.878	0.386	0.783	0.608	0.692	111
125	Tajikistan	0.692	0.488	0.743	0.603	0.671	116
126	Swaziland	0.686	0.482	0.719	0.592	0.519	137
127	Vanuatu	0.875	0.466	0.551	0.590	0.570	129
128	Comoros	0.753	0.486	0.579	0.576	0.530	136
129	Gabon	0.772	0.438	0.643	0.573	0.648	122
130	Lesotho	0.704	0.496	0.588	0.571	0.493	145
131	Papua New Guinea	0.738	0.456	0.583	0.559	0.542	133
132	Bhutan	0.743	0.417	0.596	0.544	0.536	134
133	Myanmar	0.758	0.362	0.680	0.541	0.551	132
134	Ghana	0.722	0.455	0.514	0.536	0.568	131
135	Sudan	0.686	0.355	0.695	0.523	0.505	139

Annex Table 2.1 Health Index (*Continued*)

Health Index rank	Countries	Status Index	Infrastructure Index	Limitations Index	Health Index Value	HDI Value	HDI rank
136	Zimbabwe	0.505	0.449	0.673	0.519	0.491	147
137	Djibouti	0.561	0.497	0.468	0.506	0.454	154
138	Kenya	0.532	0.399	0.593	0.481	0.488	148
139	Uganda	0.577	0.435	0.457	0.476	0.493	146
140	India	0.708	0.310	0.575	0.476	0.595	127
141	Equatorial Guinea	0.569	0.290	0.724	0.468	0.703	109
142	Senegal	0.606	0.408	0.451	0.468	0.437	157
143	Gambia	0.645	0.468	0.281	0.466	0.452	155
144	Tanzania, U. Rep. of	0.355	0.443	0.619	0.465	0.407	162
145	Cameroon	0.550	0.357	0.597	0.465	0.501	141
146	Bangladesh	0.733	0.332	0.435	0.458	0.509	138
147	Pakistan	0.701	0.282	0.565	0.458	0.497	142
148	Zambia	0.448	0.467	0.432	0.454	0.389	164
149	Côte d'lvoire	0.576	0.338	0.559	0.453	0.399	163
150	Timor-Leste	0.599	0.383	0.410	0.444	0.436	158
151	Benin	0.570	0.399	0.380	0.437	0.421	161
152	Mauritania	0.517	0.386	0.451	0.435	0.465	152
153	Eritrea	0.589	0.350	0.418	0.427	0.439	156
154	Yemen	0.650	0.269	0.494	0.421	0.482	149
155	Malawi	0.296	0.424	0.511	0.414	0.388	165
156	Togo	0.623	0.279	0.461	0.410	0.495	143
157	Lao People's Dem. Rep.	0.673	0.196	0.570	0.409	0.534	135
158	Congo, Dem. Rep. of the	0.669	0.208	0.527	0.403	0.365	168
159	Madagascar	0.605	0.274	0.434	0.396	0.469	150
160	Mozambique	0.383	0.378	0.399	0.385	0.354	171
161	Haiti	0.563	0.243	0.485	0.383	0.463	153
162	Nepal	0.681	0.275	0.285	0.379	0.504	140
163	Rwanda	0.354	0.290	0.565	0.375	0.431	159
164	Cambodia	0.616	0.184	0.493	0.369	0.568	130
165	Burundi	0.347	0.392	0.319	0.362	0.339	173
166	Guinea-Bissau	0.390	0.310	0.359	0.342	0.350	172
167	Nigeria	0.562	0.218	0.361	0.340	0.466	151
168	Guinea	0.541	0.272	0.272	0.339	0.425	160
169	Congo	0.314	0.239	0.481	0.318	0.494	144
170	Angola	0.163	0.359	0.363	0.311	0.381	166
171	Central African Republic	0.411	0.240	0.290	0.295	0.361	169
172	Chad	0.409	0.177	0.380	0.286	0.379	167
173	Ethiopia	0.479	0.101	0.449	0.283	0.359	170
174	Burkina Faso	0.464	0.202	0.256	0.281	0.302	175
175	Sierra Leone	0.067	0.352	0.254	0.256	0.273	177
176	Mali	0.392	0.246	0.117	0.250	0.326	174
177	Niger	0.216	0.165	0.184	0.183	0.292	176

Note: Data obtained from UNDP 2004 and World Bank 2004j used in calculating the indices.
Source: MHHDC staff calculations.

Chapter 3

Health of South Asia's Children

The Convention on the Rights of the Child (CRC) states:

States Parties recognise the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health. States Parties shall strive to ensure that no child is deprived of his or her right of access to such healthcare services.

(Article 24-1,CRC)

All the countries of South Asia have ratified this Convention. Yet there are millions of children in South Asia who face acute deprivations in terms of ill health, illiteracy, malnutrition, and lack of safe water and sanitation. According to United Nations Children's Fund (UNICEF), the rights to health and education are fundamental human rights that must be extended to every child, and that it is a moral imperative for every government that a child must be provided with adequate means to grow into an educated, healthy and productive individual, and that these rights must be ensured for all children irrespective of their race, ethnicity, religion, and gender.

Studies have shown that disease and malnutrition early in life can leave a person permanently damaged in his/her physical and cognitive abilities.[1] Besides ethical and legal reasons, providing good healthcare and nutrition to children are an investment in human capital formation. Healthier children grow up to be more productive and energetic individuals. Thus from the economic growth point of view as well, it is necessary to invest adequately and very early in child health to build a strong and productive labour force.[2]

Child health challenges in South Asia

South Asia, as a region, faces huge challenges in ensuring survival and healthy growth of all its children. Statistics, however inadequate or faulty they might be, present a very shocking picture:

- One out of every three child-deaths in the world occurs in South Asia. The region also carries two-thirds of the global burden of malnourished children.
- Infant mortality rate (IMR), though declined since the 1980s, is still double the rate of East Asia and the Pacific and more than double the rate in Latin America and the Caribbean. In 2002, among South Asian countries there were also wide gaps in IMRs and under-five mortality rates (U5MR) ranging from 17 IMR and 19 U5MR in Sri Lanka to 83 IMR and 107 U5MR in Pakistan. Also, within each country there were gender and rural-urban gaps, highlighting the nature of the challenge.
- To protect children from communicable diseases, all countries have been implementing immunisation programmes, yet all countries of South Asia have not reached the goal of universal child immunisation.
- About half the children in South Asia are underweight for age, a result of malnutrition.
- Pervasive poverty, including lack of food, safe water, sanitation, and high rate of illiteracy among mothers pose a tremendous challenge to the overall health of South Asia's children.

Some of these issues are briefly reviewed in this chapter.

It is a moral imperative for every government that a child must be provided with adequate means to grow into an educated, healthy and productive individual

Table 3.1 Trends in IMR by regions, 1980-2002
(*per 1,000 live births*)

Regions	1990	2002
East Asia & Pacific	42	32
Europe & Central Asia	45	31
Latin America & Caribbean	42	27
Arab States	63	48
South Asia	84	66*
Sub-Saharan Africa	111	108
Central & Eastern Europe & CIS	30	18

Note: *This is weighted average of SAARC countries calculated by MHHDC.
Sources: UNDP 2003a and 2004.

Table 3.2 Trends in IMR in South Asia, 1980-2002
(*per 1,000 live births*)

Countries	1990	2002
India	80	67
Pakistan	96	83
Bangladesh	96	51
Nepal	100	66
Sri Lanka	19	17
South Asia	84	66*

Note: *This is weighted average of SAARC countries calculated by MHHDC.
Sources: UNDP 2003a and 2004.

Infant and child mortality

South Asia and Sub-Saharan Africa have the highest rates of infant and child mortality among all the regions of the world. Starting from 1990s, substantial progress has been made in South Asia where infant mortality rate has decreased from 84 per 1000 live births in 1990 to 66 in 2002. But these rates are still high compared to all other regions of the world (table 3.1).

Within South Asia, Pakistan has the highest infant and under-five mortality rates. As the tables 3.2 and 3.3 show, Bangladesh, Nepal, Pakistan and India were having almost same rates of IMRs and U5MRs during 1990. But by 2002, all other countries showed tremendous improvement in their performance in reducing both IMR and U5MR except Pakistan. The rate of decline in infant mortality was very slow for Pakistan, about one per cent annually, compared to India, Sri Lanka and Nepal where the decline was around two per cent per year, and it was three per cent per year in Bangladesh. The performance of Bangladesh in improving its health indicators had been very significant during the last decade because of two important factors: (i) increased investment in the health sector during the 1990s, and (ii) a successful community health worker programme. In Pakistan, neonatal mortality had remained almost unchanged at 94 deaths per 1,000 live births during 1992-98. Of every 1,000 children born in Pakistan today, more than 90 will fail to see there first birthday. Of these, over half will die within the first four weeks after birth.

Child survival is still a daunting task in India. In 1999, 2.1 million children died in India out of ten million child deaths in the world. Most of these deaths could have been avoided with adequate provision of basic health interventions such as immunisation and oral rehydration therapy (ORT).[3]

Sri Lanka has the lowest rates of infant and under-five mortality rates within the region. Sri Lanka's higher rates of female literacy and raising the age of marriage contributed to low levels of infant and under-five mortality, compared to other countries in the region. In Sri Lanka, 97 per cent of child delivery is attended by skilled health personnel. This is an important reason for healthy survival of both infant and mother.[4]

In Nepal, under-five mortality declined at a faster pace than infant mortality. Infant mortality was much lower in urban than in rural areas: in 2001 IMR was 50.1 in urban areas and 79.3 in rural areas. Infant mortality was higher among boys (79.2) than girls (75.2). However, this ratio reversed in case of child mortality, following the pattern of other countries in the region. In Nepal, child mortality was higher among girls (40.2) than boys (27.8).

Box 3.1 Definitions related to mortality of children

Infant mortality refers to the death of a child within the first year of her birth. Infant mortality is further divided into neonatal mortality and post neonatal mortality. ***Neonatal mortality*** means death during the first month or first 28 days due to immaturity, certain inherent congenital conditions, or circumstances of birth that are relatively independent of postnatal care. ***Post-neonatal mortality*** is that which occurs after the first month but before one year of age. It may result from environmental causes such as deficiencies and from infectious disease. The ratio of neonatal to post-neonatal deaths would provide a sensitive measure of adverse environmental condition. A relative concentration of deaths in the neonatal period would therefore indicate a more favorable condition.

Under-five mortality refers to death of a child before the age five.

Child mortality rate is the probability of dying between the ages of one and five.

Source: IIPS 2002 and World Bank 2004j.

Table 3.3 Trends in U5MR in South Asia, 1980-2002
(*per 1,000 live births*)

Countries	1990	2002
India	123	93
Pakistan	128	107
Bangladesh	144	77
Nepal	145	91
Sri Lanka	23	19
South Asia	126	92*

Note: *This is weighted average of SAARC countries calculated by MHHDC.
Sources: UNDP 2003a and 2004.

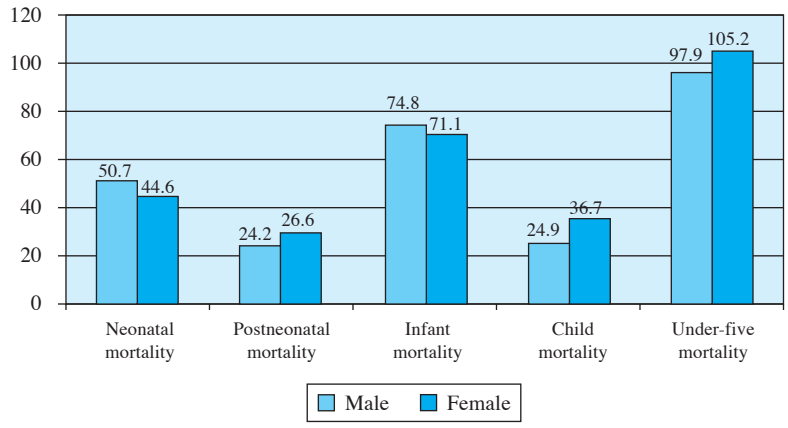
These statistics clearly reveal the gender discrimination in healthcare practices that are faced by girls and women in South Asia.

Gender differentials in infant and child mortality

South Asia is the only region in the world where demography is biased towards men. Studies show the importance of the sex of the newborn infant as a determinant of postnatal depression of mothers. The preference of male children is deeply rooted in South Asian culture. Women are often blamed for the birth of a girl child.[5]

In India, there was a high rate of neonatal mortality among boys as compared to girls. This ratio was reversed in case of child mortality with higher deaths of girls than boys (figure 3.1). Once again, this is a reflection of gender disparity in feeding and healthcare practices. A girl child in South Asia is more vulnerable to malnutrition and poorer growth. In a number of southern states of India, abortions of female foetuse have caused a demographic imbalance. The social, cultural and economic factors attached to a girl child are important determinants of high U5MR in South Asia.

Figure 3.1 Gender differentials in child and infant mortality in India, 1998-99



Source: IIPS 2002.

Childhood diseases

Childhood diseases such as diarrhoea, malaria and acute respiratory infection are among the major causes of child morbidity and mortality in South Asia. These diseases form the major share of the burden of childhood disease in the region.

Diarrhoea

Severe diarrhoea in case of infants and young children is detrimental to their lives. Contaminated water is the major source of diarrhoeal infection. Diarrhoea is more prevalent in areas with shortage of clean water and appropriate sanitation facilities.

In India, 19 per cent of children under the age of three suffer from diarrhoea. Three per cent of all the children in this age group (14 per cent of all children suffering from diarrhoea) suffer from diarrhoea with blood loss (dysentery). The prevalence of diarrhoea varies by states, ranging from eight per cent in Assam and West Bengal to 33 per cent in Jammu and Kashmir.

In Pakistan, the incidence of diarrhoea for children under-five declined from 26 per cent in 1991 to 12 per cent in 2000-2001. The rural-urban gap in the incidence of diarrhoea had diminished over time from 27 per cent in rural and 22 per cent in urban areas in 1991 to 12 per cent in both areas in 2000-01 (table 3.4).

Over six per cent of children under-five in Bangladesh[6] had diarrhoea (table 3.5). Its prevalence was highest among the children in the age group of six to 23 months. There was a slightly higher prevalence of diarrhoea among boys (6.4 per cent) than among girls (5.8 per cent). Diarrhoea was more prevalent in the urban than in rural areas.

Within the region, Nepal had the highest prevalence of diarrhoea, 20.4 per cent in 2001. The prevalence of diarrhoea was significantly higher in the rural (20.7 per cent) than in urban areas (16.6 per cent). Incidence of diarrhoea was also high for the children living in households

Table 3.4 Trends in incidence of diarrhoea for children under-five in Pakistan, 1991-2001

(%)

Years	Total	Male	Female
1991	26	27	25
1995-96	18	18	17
2000-01	12	13	11

Note: The data period for the incidence of diarrhoea is 'within 30 days prior to survey'.

Source: UNDP, UNOPS and CRPRID 2003.

Table 3.5	Prevalence of diarrhoea among children in South Asia (*% of children under-five*)	
Bangladesh	1999-2000	6.1
Nepal	2001	20.4
India	1998-1999	19.2
Pakistan	2000-2001	12.0
Sri Lanka	2000	6.7

Sources: GOS 2002; IIPS 2002; MOHN, New ERA, and ORCM 2002; and NIPORT, MA, and ORCM 2001 and UNDP, UNOPS and CRPRID 2003.

where the main source of drinking water was a well than those households that had access to piped water.

TREATMENT OF DIARRHOEA: ORAL RE-HYDRATION THERAPY: The dehydration caused by diarrhoea can be easily treated with the administration of ORT. The treatment includes the intake of Oral rehydration salts (ORS) in boiled water. Breastfeeding and increased fluids are also recommended as part of treatment for diarrhoea. Almost all the countries in South Asia have a public ORT promotion programme, although the reach and use of the programme vary from country to country depending on the knowledge of mother about the symptoms and availability of ORS packets (table 3.6).

In India, according to National Family Health Survey 1998-99, 2.62 per cent of mothers knew about the ORS packets, and only 37 per cent knew about two or more signs for medical treatment of diarrhoea. Of the children who had diarrhoea, only 22.2 per cent received increased fluids while 52 per cent were not given ORT. The use of ORT increased substantially with the increased educational levels of mothers in India as they acquired the knowledge and ability to recognise the symptoms and could access proper healthcare facilities.[7]

According to Pakistan Integrated Household Survey 2002, the percentage of children with diarrhoea who were taken to a medical practitioner of some kind declined from 86 per cent in 1995-96 to 82 per cent in 2001-02. This decline was significant in rural areas of all provinces except Punjab. Most of the practitioners consulted were private practitioners of medicine. The reasons given for not using a public facility was 'lack of government facility' or the facility was 'too far way'. The Survey found the use of ORS increased from 49 per cent in 1995-96 to 54 per cent in 2001-02, and more ORS was used in urban than in rural areas.[8]

The prevalence of diarrhoea was lowest in Bangladesh as compared to other countries in South Asia. In case of Bangladesh, about 24 per cent of the children under-five were taken to a health facility in 1999-2000. More than 60 per cent of the children with diarrhoea were given ORS.[9]

In Nepal, 98 per cent of the women who gave birth in five years preceding the survey knew about the ORS packets for the treatment of diarrhoea. In 2001, almost half of the children with diarrhoea received some form of ORT, 32 per cent were treated by ORS and 27 per cent with increased fluids.[10] One in every five children with diarrhoea was taken to a health facility. The use of ORT varied by place of residence, 46 per cent in rural to 63 per cent in urban areas.

In Sri Lanka, 72 per cent of the children under-five suffering from diarrhoea were taken to a medical facility, and 36 per cent were provided with oral rehydration salt preparation.

Table 3.6	Oral re-hydration therapy in South Asia, 1998-2001 (%)
India	22.2
Pakistan	19.0
Bangladesh	49.6
Nepal	26.6
Sri Lanka	36.1

Sources: GOS 2002; IIPS 2002; MOHN, New ERA, and ORCM 2002; and NIPORT, MA, and ORCM 2001 and UNDP 2003a.

Acute respiratory infections

Acute respiratory infection (ARI), primarily pneumonia, is one of the major causes of morbidity and mortality among the children in South Asia. About 19 per cent of the children under three years of age in India suffered from ARI in 1998-99. Children who live in the households with piped water and facilities for water purification have lower prevalence of ARI than those without. According to a survey in 1998-99, 64 per cent of children with ARI were taken to a health facility or provider. ARI was more common among boys (20.7 per cent) than girls (17.9 per cent).[11]

In Pakistan according to a study conducted in Islamabad during 1989-92, about 18 to 26 per cent[12] of all the children under-five who were registered in an Islamabad hospital had ARI. Pakistan had launched the National ARI programme in 1989. Although significant research was undertaken regarding the management of ARI in Pakistan, the implementation at the national level had been a problem. World Health Organization (WHO) and UNICEF conducted a review of ARI management in 1997 and found that lack of funding, inadequate training of lady health workers, and lack of monitoring were among the reasons for ineffectiveness of the programme.[13]

Bangladesh Demographic and Health Survey 1999-2000 recorded an increase in the prevalence of ARI from 13 per cent in 1996-97 to 17 per cent in 1999-2000. The proportion of children with ARI who were taken to a health facility had decreased from 33 per cent in 1996-97 to 27 per cent in 1999-2000.[14] In Bangladesh, ARI was slightly more prevalent among the children under-two years. Boys were more likely to be taken to a health facility than girls.

ARI was one of the leading causes of childhood illness among the children in Nepal. The table 3.7 shows that 23 per cent of children under-five in Nepal had symptoms of ARI. The prevalence was highest among the children of six to eleven months of age. Children of mothers who smoke had a higher prevalence (25 per cent) than among children of mothers who did not smoke (22 per cent).[15]

Children and HIV/AIDS in South Asia

Globally there are about 2.1 million children with HIV/AIDS, of which around 90 per cent are in Sub-Saharan Africa. In South Asia, the numbers of children with HIV/AIDS and those children that are AIDS orphan are not known. According to Joint United Nations Progaramme on HIV/AIDS (UNAIDS), there are 120,000 HIV positive children in India. This number is likely to increase in the coming years unless the spread of HIV/AIDS among the general population in stopped, and measures taken to eliminate the transmission of HIV/AIDS from mother to her child.

The transmission of the virus to children can be stopped by providing anti-retroviral drugs (ARV) to HIV-infected pregnant women during pregnancy and delivering the baby by a caesarean section. India, Nepal and Sri Lanka have identified mothers as a priority group for the provision of ARV drugs in order to curb the mother to child transmission of AIDS. However, providing ARV to all infected mothers remain a challenge for South Asia because of the lack of testing facility in all antenatal clinics. Also not all pregnant women receive antenatal care. These issues are discussed in more detail in Chapter 5.

Reaching children with immunisation in South Asia

Immunisation is one of the greatest public health achievements of the twentieth century, with sustained global coverage of 70 per cent of children immunised by the 1990s. The immunisation programmes, along with improved environmental hygiene and sanitation have revolutionised child health throughout the world. However, this global progress masks inequality in immunisation coverage between different regions and countries, and groups within countries. In 2000, 37 million children worldwide still did not receive routine immunisations during the first year of their life.[16] The eradication of smallpox and control of polio are some of the success stories of immunisation. The Expanded Programme on Immunisation (EPI) which includes vaccination against neonatal tetanus, polio, diphtheria, measles, tuberculosis and pertussis, launched in 1974 and adopted by different countries, has prevented millions of child deaths throughout the world.

But the poor children in South Asia have limited access to a small range of

Table 3.7 Prevalence of acute respiratory infections in South Asia, 1995-2001
(*% of under-five children*)

Countries	Prevalence of ARI	Children with ARI taken to a health facility
India	19.3	64.0
Pakistan	37.0*	53.0*
Bangladesh	18.3	27.2
Nepal	22.8	23.7

Note: *1995.
Sources: IIPS 2002; MOHN, New ERA, and ORCM 2002; NIPORT, MA, and ORCM 2001; and Zaidi, Khan and Akram 2004.

Table 3.8 Child immunisation rate by region, 2002
(*% of children ages 12-23 months*)

Regions	Measles	DPT
East Asia & Pacific	70	78
Europe & Central Asia	93	92
Latin America & Caribbean	91	88
Middle East & North Africa	92	92
South Asia*	**68**	**71**
Sub-Saharan Africa	58	54

Note: *This is weighted average of SAARC countries calculated by MHHDC.
Source: World Bank 2004j.

immunisations, though they are the hardest hit by these diseases (table 3.8). The coverage of immunisation has a very strong correlation with income, location and the efficiency of the healthcare delivery system. The poorest 20 per cent in the world suffer significantly greater proportions of infectious diseases and their children account for half of all the childhood deaths in the world.[17]

In many developing countries, particularly the least developed ones, the healthcare systems are concentrated either in urban areas or they barely exist. The healthcare delivery system lacks the capacity to immunise all children. According to international standards, all children should be fully immunised before they are one year old. But in the face of the prevailing inequality in access to and delivery of vaccines, millions of preventable child deaths still occur in the world.

In South Asia, Sri Lanka is the only country, which has reached the goal of universal immunisation coverage. All other countries still have a long way to go (table 3.9).

The EPI programme was started in India in 1978, and till 1985-86 vaccinations against all six communicable diseases were included in the programme. In 1985-86, the universal immunisation programme was introduced with targets including coverage of at least 85 per cent of the children, self – sufficiency in vaccine production and manufacturing of the cold chain equipment.[18] In 2002, 67 per cent of children were immunised against measles and 70 per cent against diphtheria, pertussis and tetanus (DPT). Polio had a higher coverage mostly because of polio campaigns which was started in 1995.

Pakistan launched its national EPI programme in 1978, reaching 80 per cent coverage rates by 1990. But this progress was decelerated and by 2002, 57 per cent of children (of 12-23 months) were immunised against measles and 63 per cent against DPT. These lower rates of immunisation were a result of deteriorating EPI programme delivery and coverage. There were also regional disparities between different provinces.

Immunisation is almost universal in Sri Lanka: nearly 99 per cent of children were fully immunised against bacille calmette guerin (BCG), DPT, polio and measles in 2002. Most of the Sri Lankan mothers are issued a health card at the time of birth of their child. All the information about the child health, including the regular vaccination they receive, is recorded in it. In Sri Lanka, 86 per cent of mothers received health card at the time of the birth of their child.[19]

All the 75 districts of Nepal have been a part of the EPI programme since 1988. Following the WHO guidelines, Nepal made a steady progress in vaccination coverage in the past five years. The full vaccination coverage was around 60 per cent of one-year old children,[20] 71 per cent were immunised against measles, and 72 per cent against DPT in 2002.[21] Polio coverage is much higher as 90 per cent of the children received three doses in 2001. The EPI programme in Nepal includes activities such as national and sub-national immunisation days, which are serious efforts towards polio eradication.

Nutrition of children

The most vulnerable group affected by the adverse consequences of malnutrition are children under the age of five and women during and after pregnancy. Mother's nutritional status and healthcare practices have a strong impact on child health.

Table 3.9 Child immunisation rate in South Asia, 2002
(*% of children ages 12-23 months*)

	Measles	DPT
India	67	70
Pakistan	57	63
Bangladesh	77	85
Nepal	71	72
Sri Lanka	99	98
South Asia*	**68**	**71**

Note: *This is weighted average of SAARC countries calculated by MHHDC.
Source: World Bank 2004j.

Intake of necessary micronutrients like vitamin A, iodine and iron reduces maternal and child mortality. Cost-effective interventions are already available to provide necessary nutrients at various stages of child development. The arguments for eradication of malnutrition through the public sector interventions are based on both ethical and economic grounds.

Malnutrition is inextricably connected to poverty. It is both a cause and consequence of poverty and disease. As Gro Harlem Brundtland, former Director-General of the World Health Organization put it:

'Poverty, hunger and malnutrition stalk one another in a vicious circle, compromising health and wreaking havoc on the socioeconomic development of whole countries, entire continents. Nearly 30 per cent of humanity, especially those in developing countries – infants, children, adolescents, adults, and older persons – bear this triple burden. This is a travesty of justice, an abrogation of the most basic human rights.'[22]

In 1990 an ambitious goal of halving child malnutrition was set at the World Summit for Children, one third of the world's children (174 million) under the age of five were malnourished.[23]

Currently, 150 million children are malnourished in the developing world, 78 million of these live in South Asia, 32 million in Sub-Saharan Africa, 27 million East Asia and Pacific, seven million Middle East North Africa, four million in Latin America Caribbean and two million in CEE/CIS Baltic states.[24] This really is a travesty of justice.

The percentage of underweight children in the developing world, due to malnutrition, declined from 35 per cent in 1980-94 to 27 per cent in 1995-2001 (table 3.10). If we compare the prevalence of underweight children in different regions of the world, the most significant progress was achieved by East Asia, mostly due to China, which had achieved the World Summit For Children Goal of halving malnutrition by 2000. South Asia also showed decline in the prevalence of underweight children from 64 per cent in 1980-94 to 46 per cent in 1995-2002, but this rate was still the highest among the developing regions.

Table 3.10 Trends in prevalence of underweight children age under-five by region, 1980-2002

(%)

Regions	1980-94	1990-97	1995-2002
South Asia	64	51	46
Sub-Saharan Africa	31	30	29
East Asia and Pacific	23	20	17
Latin America and Caribbean	11	10	8
Middle East and North Africa	12	17	14
Developing countries	35	30	27

Note: Data includes children who are moderately or severely underweight.
Source: UNICEF 1996, 1998 and 2003b.

The World Summit Goals of halving the child malnutrition till 2000 was achieved by a very few countries: 18 countries in the world had achieved 25 per cent or more reduction including two South Asian countries, Bhutan 51 per cent and Bangladesh 27 per cent.[25] But still in the four largest South Asian countries, approximately half the children were underweight. Although during the last two decades, all countries made progress in reducing the number of malnourished children, the pace of progress was not adequate to the challenge faced by these countries (table 3.11).

The three main indicators of malnutrition among children are

Table 3.11 Trends in prevalence of underweight children in South Asia, 1980-2002

(*% of children ages under-five*)

Countries	1980-94	1990-97	1995-2002
India	69	53	47
Pakistan	40	38	38
Bangladesh	67	56	48
Nepal	70	47	48
Sri Lanka	38	38	29
Bhutan	38	38	19
Maldives	…	39	30

Note: Data includes children who are moderately or severely underweight.
Source: UNICEF 1996, 1998 and 2003b.

Table 3.12 Trends in prevalence of stunted and wasted children in South Asia, 1980-2002

(*% under-five*)

	Children suffering from wasting		Children suffering from stunting	
Countries	1980-94	1995-2002	1980-94	1995-2002
India	…	16	65	46
Pakistan	9	13	50	37
Bangladesh	17	10	63	45
Nepal	14	10	69	51
Sri Lanka	16	14	24	14
Bhutan	4	3	56	40
Maldives	…	13	…	25

Note: Data includes children who suffer moderately or severely from wasting and stunting.
Sources: UNICEF 1996, 2000 and 2003b.

underweight, wasting (severe case of very low weight for age) and stunting (low height for age). Table 3.11 shows the prevalence of underweight in South Asia. Table 3.12 shows the prevalence of wasting and stunting in South Asia, underlining the chronic malnutrition situation in South Asia.

In India in 1995-2002, while 47 per cent of children were underweight, 46 per cent were stunted, and 16 per cent were wasted. The disaggregated data by rural-urban divide of India shows that both stunting and wasting were more prevalent in rural than in urban areas. Bihar had the highest level of malnutrition among its children and Kerala had the lowest.[26]

Available data in Pakistan reveal a decline in the prevalence rate of underweight and stunting, but an increase in wasting from 1980-94 to 1995-2002. The indicators of stunting and underweight prevalence appeared to be higher in rural areas than in urban areas. However, wasting appeared to be higher in urban areas (table 3.13). This could be due to lower levels of breast-feeding in urban areas. The province of Sindh had the highest level of malnutrition as compared to all other provinces.[27]

In Bangladesh during 1995-2002, the prevalence of underweight was 48 per cent among children under-five, and 45 per cent were stunted. Girls were more likely to be underweight (50 per cent) than boys (46 per cent). Although these rates had declined from 63 per cent in 1980-94, it was still high and suggested food insecurity and recurring childhood illnesses. The prevalence of wasting among children was 10 per cent; it was highest among the children of 12-23 months of age.

In Nepal, almost half the children under-five were classified as underweight (48 per cent in 1995-2002), 51 per cent stunted, and 10 per cent wasted (table 3.11 and 3.12). Children in rural areas were more likely to be stunted (52 per cent) than in urban areas (37 per cent) during 1999-2000. Nepal had the highest rate of diarrhoea prevalence within South Asia. Stunting has a high correlation with illness of children and mother's education. According to Nepal Demographic and Health Survey 2001, children born to mothers with no education are more likely to be stunted than children born to mothers with secondary and higher level of education.

Malnutrition is one of the biggest child health challenges that South Asia faces in the 21st century. However, it is important to remember that some of the causes of nutritional deficiency are preventable at a very low cost per child. The technology and methods for effective interventions already exist, such as salt fortification with iron and iodine, which may prevent 40 to 60 per cent of children in the developing world from iron and iodine deficiency.

Protein energy malnutrition

It has been estimated that more than half of the young children in South Asia suffer from protein energy malnutrition (PEM).[28] The prevalence of protein energy malnutrition in most countries, particularly in Bangladesh, India, Nepal and Bhutan is still alarming. Most of these

Table 3.13 Percentage (percent median) of malnutrition by sex and locality in Pakistan, 2001-02

Sex/Location	Underweight	Stunted	Wasted
Male	41.5	29.9	11.6
Female	40.4	27.5	11.8
Urban	38.7	24.5	12.1
Rural	42.3	32.5	11.2

Source: GOP and UNICEF 2004.

countries have a very large number of underweight and stunted pre-school children and effective remedial measures are needed to save these children from the risks of morbidity and mortality.[29]

In Sri Lanka, PEM prevalence is very low as compared to other countries of the region. This is due to strong government commitment to allocate significant government resources and to build capacity at the community level. But sustaining this low level of malnutrition in Sri Lanka seems to be a difficult task as the government expenditure for social sector has been reduced since early 1980s, resulting in the withdrawal of food subsidy. Although the recent governments in Sri Lanka have been giving social sector top priority, the budgetary cuts as well as ethnic violence have severely limited the access of the poor to food and health services.[30]

In May 2002, the General Assembly of the United Nations agreed that the control of key vitamin and mineral deficiencies should be one of the global goals to be achieved in the early years of the new millennium. It has called for virtual elimination of iodine deficiency by 2005, vitamin A deficiency by 2010 and reduction of at least 30 per cent of the global prevalence of iron deficiency anaemia by 2010.

Vitamin A deficiency

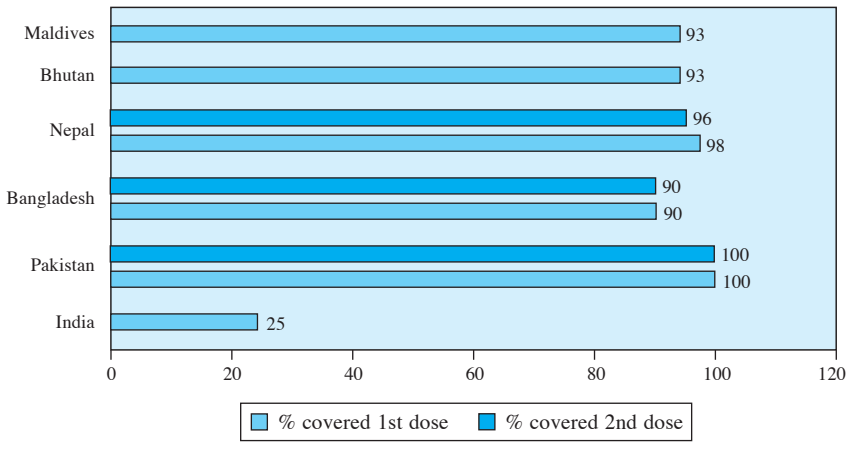
Vitamin A is essential for the functioning of the immune system. Its deficiency causes blindness, poor growth, increased mortality and morbidity. A child with vitamin A deficiency faces 25 per cent greater risk of dying from a number of childhood diseases such as measles, malaria or diarrhoea. Increasing evidence now shows that improving vitamin A status among pre-school children increases their chances of survival by as much as 30 per cent.[31] At least 100 million of the world's children under-five are deficient in vitamin A.

According to a fact sheet on India, an estimated five to seven per cent (6.6-9.2 million) of pre-school children in India suffered from xerophthalmia (clinical eye lesions leading to nutritional blindness), which caused at least 60,000 children to go blind each year.[32] Food fortification with vitamin A, along with regular vitamin A supplementation, is a sustainable solution for this condition.

In India, the prevalence of acute form of vitamin A deficiency had declined from 1.4 per cent in 1976 to 0.7 per cent in 1989 for children under-five, and in Sri Lanka, from 1.1 per cent 1977-78 to 0.3 per cent in 1987.[33] The coverage of nutritional supplementation with high doses of vitamin A capsule had reached the high level in most countries during 1994 to 1996. The estimates of the programme indicated that Bangladesh had 90 per cent capsule coverage, and in India the programme coverage ranged from 25 to 90 per cent.[34]

To assist national governments to achieve universal coverage, UNICEF and Canadian International Development Agency (CIDA) launched the Micronutrient Initiative, in collaboration with other organizations to provide resources, consultancy and training. More than 40 developing countries are now reaching two-thirds or more of their young children with at least one high dose of vitamin A capsule every year (figure 3.2).

Figure 3.2 Children under-five receiving two doses of vitamin A supplementation in South Asia, 2000-2003



Source: UNICEF and Micronutrient Initiative 2004.

Table 3.14 Percentage of the households consuming iodised salt in South Asia, 2000-03

Countries	Estimated % of household using iodised salt	Estimated number of children born mentally impaired
India	50	6,600,000
Pakistan	17	2,100,000
Bangladesh	70	750,000
Nepal	63	200,000
Bhutan	95	…

Source: UNICEF and Micronutrient Initiative 2004.

This coverage is still not enough. The basic fact is that the poor children are least likely to receive vitamin A supplement and are at the greater risk from vitamin A deficiency because of their poor diets that are deficient in vitamins and minerals.

Iodine deficiency disorders

The lack of iodine causes brain damage and mental retardation in children. Much damage due to iodine deficiency happens even before they are born. In addition, iodine deficiency increases the risk of stillbirth and miscarriage in pregnant women. Iodine deficiency disorder is rampant despite the simple technology available for its elimination. Universal iodisation of salt has been adopted as a policy by most of the countries in the region, but consumption of iodised salt varies within the region, ranging from 17 per cent in Pakistan to around 95 per cent in Bhutan (table 3.14). The consumption also varies between different locations and socio-economic groups within a country.

Iron deficiency

Iron deficiency is a major cause of anaemia. For pregnant women, lack of iron significantly increases the risk of mortality; in children it impairs their physical and mental growth. Children who are iron deficient tend to have shorter attention span, fall ill more frequently and fail to grow as well as other children.

About three-quarters of South Asian children under-five are deficient in iron, and about one-half of women between the ages of 15 to 49 suffer from iron deficiency (table 3.15). This is a serious nutritional deficiency causing higher rates of mortality and morbidity of children and pregnant women. Significant advance has been made in raising awareness and in delivering some targeted programmes, but South Asia still needs to do more in this area.[35]

Breastfeeding and mother's nutrition

Breastfeeding has a significant effect on the health of both mother and child. Starting from the birth of child till two years of age, breastfeeding provides proper nutrition for the child's growth, and protects the child against infectious diseases. The mother to child connection which is established during this period of child development, provides the basis for the emotional and physiological well being throughout the life of a child.

On the other hand, the mother benefits through delayed fertility which directly lowers the overall fertility rate. Longer space between births significantly reduces the risk of maternal and child mortality. Studies show that delaying a child birth by a minimum of two years could almost halve the risk of a child dying before the age of five.[36]

The prevalence of breastfeeding tends to be lower in the developed countries compared to the developing ones. The reason for this is lower infant mortality

Table 3.15 Iron deficiency prevalence in South Asia, 2000

(%)

Countries	Estimated prevalence of iron deficiency anemia in children under-five	Prevalence of anemia among women aged 15-49 during pregnancy (1985-2000)
India	75	52
Pakistan	56	37
Bangladesh	55	53
Nepal	65	65
Sri Lanka	…	39
Bhutan	81	35

Sources: IIPS 2002; UNICEF and Micronutrient Initiative 2004, and World Bank 2003.

and better access to health services and more hygienic environment, all of these tend to offset the detrimental consequences of a lower prevalence of breastfeeding in these countries. In the case of developing countries, breast-feeding of prolonged duration helps to protect children from detrimental effects of poor hygienic environment and poor access to health services.

International initiatives as well as community-based programmes that have resulted in the reduction of malnutrition, have focused on the promotion of breastfeeding. In 1981, the World Health Assembly adopted the Code of Marketing of Breast milk Substitutes, which established minimum standard to regulate the marketing of breast milk substitutes. The Baby Friendly Hospital Initiative, with the collaboration of WHO and UNICEF, initiated a structured pro-gramme, and brought a significant number of hospitals in developing countries to promote breastfeeding.[37]

During 1995-2002, the overall rate of exclusive breast-feeding[38] in South Asia was 36 per cent, and about 67 per cent of children under-two years of age were still breastfed. Bangladesh and Nepal had the best record in breast feeding, and Pakistan had the worst (table 3.16).

Table 3.16 Trends in breastfeeding in South Asia, 1986-2002

	% of children who are					
	Exclusively breastfeed (<6 months)		Breastfeed with complementary food (6-9 months)		Still breastfeeding (20-23 months)	
Countries	1986-94	1995-2002	1986-94	1995-2002	1986-94	1995-2002
India	51	37[b]	31	44	67	66
Pakistan	25	16[b]	29	31	52	56
Bangladesh	54	46	…	78	…	87
Nepal	83[a]	69	63[a]	66	88[a]	92
Sri Lanka	14	54[b]	47	…	46	62
Maldives	8[a]	10	…	85	…	…

Notes: a: 1990-96; b: refers to exclusive breastfeeding for 4 months.
Sources: UNICEF 1996, 1998, 2001c and 2003b.

Table 3.17 Early childhood mortality by mother's education in India, 1998-99 (*per 1000 births*)

	Neonatal mortality	Post-neonatal mortality	Infant mortality	Child mortality	Under-five mortality
Illiterate	55.3	31.2	86.5	39.7	122.8
Literate, <middle complete	40.5	18.0	58.5	18.4	75.8
Middle school complete	33.7	14.4	48.1	10.5	58.1
High school complete & above	24.3	8.5	32.8	4.4	37.1

Source: IIPS 2002.

Child health and education of mothers

Mother's education is a vital tool for improving her children's health and development. Studies have shown strong links between mother's education and morbidity and mortality of her children. Children born to mothers with no education experience much higher levels of mortality rates than children born to mothers with some education, and children born to highly educated mothers are least likely to die young.

Table 3.17 show the positive impact that mother's education had in India in reducing post-neonatal and child mortality. But mother's education did not have as much impact in reducing neo-natal mortality, which is strongly determined by biological factors.[39]

In Pakistan, infant mortality was almost half for children of mothers who had post secondary education, compared to those with no education. Similarly, higher levels of mother's education were also associated with lower levels of morbidity among children, especially in rural areas as simple healthcare practices, such as washing hands, boiling water and sterilising bottles (if the baby was not breastfed) can prevent susceptibility to disease. The impact of mother's education on child health was higher in rural areas compared to urban areas, perhaps due to crowded and unhygienic living conditions in slums and other low-income areas (table 3.18).

The infant mortality rate in Bangladesh had declined sharply with increasing education of mothers, ranging from a high of 92 deaths per 1000 live births for mothers with no education to 55 per 1000

Table 3.18 Early childhood mortality by mother's education in Pakistan, 2001-02 (*per 1000 live births*)

	Infant mortality rate
No education	89
Below primary	80
Below secondary	61
Secondary and above	49

Source: GOP 2002c.

Table 3.19 Early childhood mortality by mother's education in Bangladesh, 1999-2000

(*per 1000 births*)

	Neonatal mortality	Post-neonatal mortality	Infant mortality	Child mortality	Under-five mortality
No education	55.4	36.6	92.0	42.3	130.4
Primary	50.4	28.7	79.1	27.9	104.8
Some secondary	43.4	22.0	65.4	26.3	89.9
Secondary and above	41.0	13.7	54.7	13.5	67.4

Source: NIPORT, MA and ORCM 2001.

Table 3.20 Early childhood mortality by mother's education in Nepal, 2001

(*per 1000 births*)

	Neonatal mortality	Post-neonatal mortality	Infant mortality	Child mortality	Under-five mortality
No education	51.6	33	84.6	39.5	120.7
Primary	41.2	19.8	61.0	13.4	73.5
Some secondary	31.3	18.6	49.9	14.3	63.5
Secondary and above	8.8	2.3	11.2	3.7	14.9

Source: MOHN, New ERA and ORCM 2002.

live births for women with secondary education (table 3.19).[40]

In Nepal, under-five mortality for children of uneducated mothers was 121 per 1000 births, compared to 74 for children of mothers who had some primary education and 64 for children of mothers who had secondary education (table 3.20).[41]

Mother's education and immunisation

Various studies conducted by UNICEF show that schooling of mothers is strongly associated with an increase in immunisation. Education increases the awareness of women about hygienic health practices, including vaccinations. Educated mothers make special efforts towards having their children immunised.

Tables 3.21, 3.22, 3.23 and 3.24 show the rates of child immunisation in various South Asian countries by levels of mother's education. The immunisation rate increases in all countries as the level of mother's education goes up. The difference is especially stark in case of India, where only 28 per cent of the children of illiterate women were immunised, whereas the number increased to 73 per cent of children for women with high school education and above. In Pakistan, an impressive 98 per cent of women with higher secondary education had their children immunised.

Nutrition of child and mother's education

In cases where poverty and lack of access to food are not serious constraints, education of mother plays an important role in the nutrition of children. Children of uneducated mothers have high probability to be malnourished and micronutrient deficient because of two reasons: first, due to mother's lack of awareness about the importance of vitamin, mineral and protein intake both during pregnancy and the early years of child development; and, secondly, due to her lack of access to proper health facilities. Educated mothers tend to be more aware of the nutritional needs of the child. Educated mothers also use health facilities more often than uneducated mothers. Education also brings about the

Table 3.23 Immunisation by mother's education in Bangladesh, 1999-2000

(%)

	Fully immunised
No schooling	53.7
Primary incomplete	55.6
Primary complete	67.7
Secondary and above	72.5

Source: NIPORT, MA and ORCM 2001.

Table 3.24 Immunisation by mother's education in Nepal, 2001

(%)

	Fully immunised
No education	57.0
Primary	83.2
Some secondary	89.6
Secondary and above	90.9

Source: MOHN, New ERA and ORCM 2002.

Table 3.21 Immunisation by mother's education in India, 1998-99

(%)

	Children fully vaccinated (age under-five)
Illiterate	28
Literate, <middle complete	52
Middle school complete	63
High school complete & above	73

Source: IIPS 2002.

Table 3.22 Immunisation by mother's education in Pakistan, 2001-02

(%)

	Ever immunised	Fully immunised[a]	Fully immunised[b]
No schooling	18	10	65
Primary	36	16	88
Secondary	41	21	91
Higher Secondary	41	26	98

Note: a: holding cards; b: holding cards or recall.
Source: SPDC 2003.

importance of good hygiene and clean environment.

Demographic and health surveys in India, Bangladesh and Nepal show that the children of women with no education have more probability of being stunted, wasted and underweight than those of educated mothers. The results of these surveys are so significant that it seems almost criminal not to empower women with education and knowledge in order to give children a healthy start in life (table 3.25).

Child mortality, fertility and mother's education

Research has well established the strong link between female education and lower levels of fertility. Mothers who have fewer children are able to give more time, attention and resources to each child. Educated women are able to use more contraceptives, and access health facilities more often. As a result, their children have a greater chance of survival. With lower infant and child mortality, parents can invest more in their children's development.

Tables 3.26, 3.27 and 3.28 show the decline of fertility rates with increase in the levels of mother's education in India, Bangladesh and Nepal. The total fertility rates in each country were two children more for illiterate women as compared to women with a high school education.

Poverty and child health

Children are often hardest hit by poverty. Child poverty causes life-long damage to the minds and bodies of the very young. Providing basic social services of good quality to all children is key to building their basic capabilities to live in dignity. But, as we have noted in Chapter 1, 32 per cent of South Asia's population lives in poverty, and half of the world's illiterate population lives in South Asia.

Investing in child health is particularly important for South Asia because:

Table 3.25 Prevalence of malnutrition among children under-five by mother's education in South Asia

	Height for age (stunting)		Weight for height (wasting)		Weight for age (underweight)	
	% below -3 SD	% below -2 SD	% below -3 SD	% below -2 SD	% below -3 SD	% below -2SD
Bangladesh (1999-2000)						
No education	23.9	52.4	1.4	12.0	17.3	55.5
Secondary or above	7.8	28.5	0.5	7.6	5.6	32.1
India (1998-99)						
Illiterate	30.2	54.4	3.4	17.1	24.1	55.0
High school complete or above	8.2	25.4	1.6	11.0	5.8	26.6
Nepal (2001)						
No education	24.9	54.9	1.3	10.8	15.0	53.1
Secondary and above	2.4	27.9	0.7	3	0.7	21.9

Note: Each index is expressed in terms of the number of standard deviation (SD) units from the median of the WHO international reference population. Children are classified as malnourished if their Z- scores are below minus two or minus three standard deviations (-2 SD or -3 SD) from the median of population. -3 SD means children are severely underweight, wasted or stunted while -2 SD means children are moderately underweight, wasted or stunted.

Sources: IIPS 2002, MOHN, New ERA and ORCM 2002 and NIPORT, MA and ORCM 2001.

Table 3.26 Fertility rate by mother's education level in India, 1998-99

	Total fertility rate	% of women currently pregnant	Mean number of children ever born to ever married women age 40-49 years
Illiterate	3.47	6.20	4.98
Literate, <middle complete	2.64	5.40	4.06
Middle school complete	2.26	5.10	3.41
High school complete or above	1.99	4.70	2.66

Source: IIPS 2002.

Table 3.27 Fertility rate by mother's education level in Bangladesh, 1999-2000

	Total fertility rate	Mean number of children ever born to ever married women age 40-49 years
No education	4.12	5.77
Primary	3.30	5.84
Some secondary	3.42	5.46
Secondary and above	2.40	4.30

Source: NIPORT, MA and ORCM 2001.

Table 3.28 Fertility rate by mother's education level in Nepal, 2002

	Total fertility rate	% of women currently pregnant	Mean number of children ever born to ever married women age 40-49 years
No education	4.8	7.5	5.6
Primary	3.2	6.7	4.5
Some secondary	2.3	6.1	3.7
Secondary and above	2.1	5.7	2.6

Source: MOHN, New ERA and ORCM 2002.

Table 3.29 Children living in absolute poverty by regions

(%)

Latin America and Caribbean	17
South Asia	58*
Middle East and North Africa	40
Sub-Saharan Africa	65
East Asia and Pacific	7
Developing world	37

Note: *This is weighted average of SAARC countries calculated by MHHDC.

Source: Gordon *et al*. 2003.

Table 3.30 Children living in absolute poverty by regions and locality

(%)

	Rural	Urban
Latin America and Caribbean	41	6
South Asia	70	22
Middle East and North Africa	57	9
Sub-Saharan Africa	78	25
East Asia and Pacific	9	3
Developing world	48	12

Source: Gordon *et al*. 2003.

- In 2001, 41 per cent of South Asia's population was below the age of 18.
- A healthy start right from birth, with proper nutrition and protection against communicable diseases through immunisation, provide a critical opportunity to influence the intellectual, physical and emotional development of children.
- Without such early investment, poor children may grow to be poor parents, thus perpetuating the vicious cycle of poverty.
- Protecting children from the ill effects of poverty and discrimination is a moral imperative for every society.

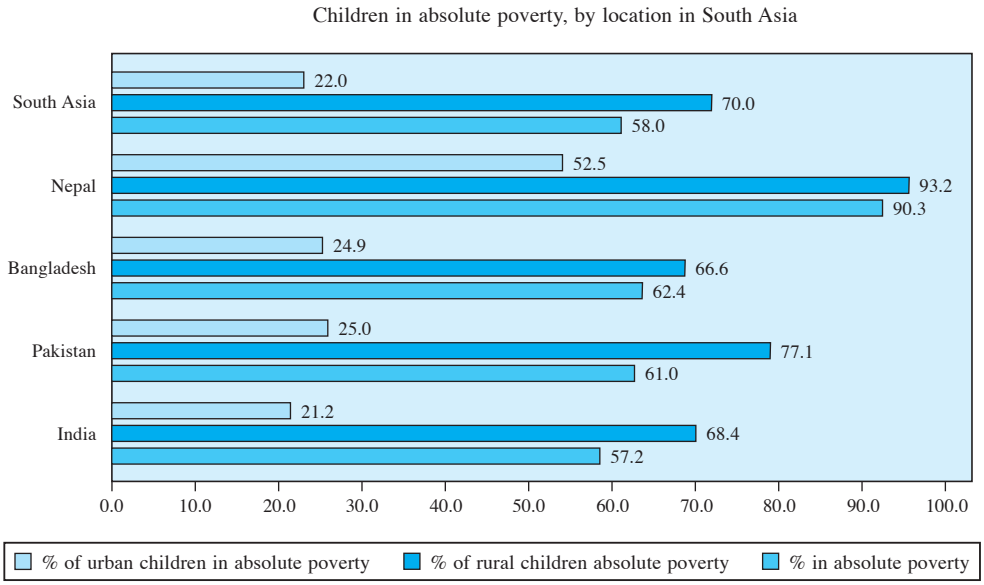
Child poverty in South Asia

South Asia is home to the largest number of children in poverty, 329 million, according to a study[42] done in 2003. Although in percentage terms Sub-Saharan Africa had the highest percentage of children in absolute poverty (65 per cent), 207 million children were in poverty in Sub-Saharan Africa. Table 3.29 underlines the magnitude of this poor condition of children in the world. About one-third of children in the developing world and the majority of children in South Asia and Sub-Saharan Africa were in absolute poverty, defined as a condition of severe deprivation of basic needs such as food, health, education, sanitation, drinking water and shelter.

Most of the poor children lived in rural areas in all the regions surveyed. In Sub-Saharan Africa, 78 per cent of the poor children lived in rural areas, compared to 25 per cent in urban areas. In South Asia, 70 per cent of poor children lived in rural areas (table 3.30). This urban-rural disparity shows the paucity of public service in rural areas, particularly health and education facilities.

The acute deprivations in health, education, sanitation, water and shelter are manifestations of the nature of poverty in South Asia. Figure 3.3 shows child poverty by country and rural-urban location in South Asia.[43] India had the lowest child poverty rate at 57 per cent in 2000 while Nepal had the highest rate of child poverty 93 per cent in the region. The rural-urban distribution of child poverty highlights that almost 90 per cent of children lived in absolute poverty in rural areas.[44] Also in South Asia, 61 per cent of the children had no sanitation

Figure 3.3 Deprivation among children of South Asia



Source: Gordon *et al*. 2003.

facilities, which is one of the major causes of high prevalence of communicable disease like diarrhoea, measles and malaria.

The deprivation profile (table 3.31), based on the study[45] mentioned earlier, documents seven different kinds of deprivations facing South Asian children that are the cause and consequences of poverty.

- There are staggering numbers, 93.9 per cent and 89.7 per cent of children in Nepal and Bangladesh respectively, who did not live in proper shelter.
- More than half the children in India, Pakistan and Nepal did not have sanitation facilities. As mentioned above, South Asian average was only 61 per cent.
- Nepal also had the highest percentage of children who were deprived of safe drinking water.
- Education deprivation ranged from 38.4 per cent of children in Pakistan to 15.6 per cent in India.
- The deprivation of basic health facilities was most prevalent among children in Pakistan and Nepal at 33.5 and 32.6 per cent respectively.

Table 3.31 Prevalence of deprivation among children in South Asia

(%)

	India	Pakistan	Bangladesh	Nepal
Deprived of water	19.4	19.5	2.5	37.0
Deprived of sanitation	68.3	51.0	24.6	85.1
Deprived of shelter	36.8	46.7	89.7	93.9
Deprived of education	15.6	38.4	19.7	28.7
Deprived of information	38.3	45.4	47.4	41.6
Deprived of health	21.4	33.5	16.5	32.6
Deprived of food	26.3	22.9	30.2	27.4

Source: Gordon *et al*. 2003.

- In case of food deprivation, 30 per cent of children in Bangladesh were malnourished.
- Information poverty was at a high level throughout the region.

In South Asia, investing in child health and education is the only way to a sustainable solution to poverty eradication. The investment in health and education of children and mothers can be the most effective way to address the challenges of poverty and the HIV/AIDS pandemic. The following Chapters 4 and 5 will discuss these challenges.

Chapter 4

Health of South Asia's Women[1]

An estimated 185,000 women die annually due to pregnancy and birth-related complications

The preceding chapters have shown that a majority of South Asian men, women and children bear a much heavier burden of disease compared to people in other parts of the world, including the developing world. But the burden of disease and deprivation that South Asian women bear, particularly in poor areas and in poor income brackets, is much heavier than that of their male counterparts. The previous reports of this Centre have demonstrated the linkage of women's lower educational, health and employment status and their participation in political and economic life to their overall low status in society, thus highlighting the vicious cycle that perpetuates women's deprivation throughout their life time.

As documented in *Human Development in South Asia 2000: The Gender Question,* women are denied the rights and privileges afforded to their male counterparts, both within and outside the domestic spheres. Throughout their lives, women endure discrimination based on gender, the manifestations of which range from preferential treatment of boys in provision of food and healthcare, to rape, dowry death, and female foeticide and infanticide. They are expected to eat last, leave the best food for men in the family, and to ignore their own illnesses and needs. This often results in malnutrition, and is one of the reasons for the high rate of morbidity and mortality of women in South Asia.

Further, South Asian women suffer greatly from a lack of access to healthcare, based not only on an absolute lack of health facilities, particularly in the rural areas as Chapters 6, 7 and 8 document, but also on the relative inaccessibility of such facilities to them. South Asian women often face traditional taboos against consulting doctors based on erroneous interpretation of traditions and religious beliefs.

Health statistics clearly reflect gender discrimination in South Asia. An estimated 185,000 women[2] die annually due to pregnancy and birth-related complications. Norms of early marriage continue to predominate, and a large majority of girls become mothers before the age of twenty. The use of contraception is low, and there exists a substantial unmet demand for family planning services. An estimated 63.5 million currently married women would like to limit or postpone having children, but are not practicing any form of birth control. A large proportion of women do not receive ante-natal care and a majority of them suffer from chronic energy deficiency due to insufficient daily caloric intake.

As seen earlier in this Report, women and men in South Asia are vulnerable to many preventable and curable diseases – tuberculosis, malaria, hepatitis – which become life threatening when the diseases are accompanied by lack of information, poor health facilities, lack of sanitation and safe drinking water. These burdens become exacerbated for women. Often the most trivial health problems and normal processes of child bearing become a cause of mortality.

Women need to access healthcare services for fertility control and for care during pregnancy. For this reason, women's health issues are generally defined as those related to their reproductive health, and exclude other factors such as the physical and mental consequences of heavy domestic work, or the lack of an adequate diet, water or sanitation. While the impact of inadequate cooking facilities is felt by the whole family in terms of food safety, home

hygiene, and risk of accidents, women and girls are in particular more adversely affected by work burden, accidents, injuries, and exposure to indoor air pollution which is a risk linked almost entirely to poor cooking facilities. Poor cooking facilities are a contributing factor towards acute respiratory infection among infants as well as of high levels of chronic respiratory and heart disease among women in some of the world's poorest countries, including those in South Asia. Most households in rural South Asia depend on unprocessed solid fuels (biomass) such as dried animal dung, agricultural waste and wood, which are burned in traditional stoves without a proper ventilation system. These fuels release 50 times more toxic pollutants than cooking gas. On average, a South Asian woman spends about six hours a day in such a polluted indoor environment, causing not only chronic respiratory diseases, but also resulting in adverse pregnancy outcomes.[3]

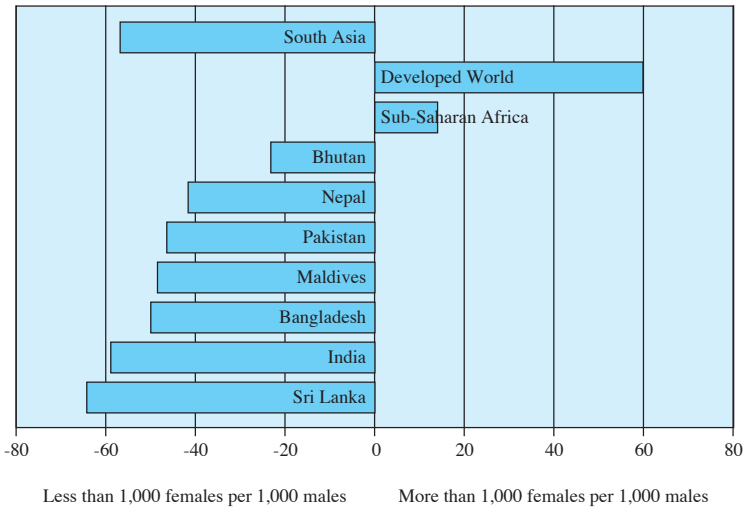
The nature and burden of women's domestic and reproductive work also causes acute mental health problems. The reasons for this are manifold, and include the low status of to domestic work, as well as isolation and the lack of an economic and social support system. From the womb to the grave, South Asian women are exposed to violence, be it through the denial of their right to be born by the abortion of female fetuses, in the form of mental and emotional torture within the household, or through rape, acid burning, or dowry deaths. Evidence of the high rates of violence against women has placed this issue high on the agenda of women's health advocates, especially in view of the Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome (HIV/AIDS) pandemic in South Asia. However, reliable data on violence against women is difficult to obtain. Women are often extremely reluctant to report such cases out of fear of being further victimised. However, it is estimated that rape and domestic violence account for five per cent of the total burden of disease for women of reproductive age in developing countries.[4]

South Asia: a region of fewer women than men

South Asia is one of the few regions of the world, in addition to China and parts of the Arab world, where men outnumber women (figure 4.1). In the developed world, the ratio of females to males is 106, whereas in South Asia there are only 94 women per 100 men. Such sex ratios in South Asian countries are primarily a consequence of high levels of mortality among young girls and women in their childbearing age.

The disproportionately high mortality rates associated with women are a consequence of discriminatory practices, particularly when they are perceived as being an economic burden. Their lack of decision-making power also undermines their efforts to seek timely healthcare for themselves and for their daughters. For South Asian women, discrimination begins at birth, and since the introduction of prenatal screening methods, sometimes even before then. In some communities in South Asia there is evidence of inequitable feeding practices of boys and girls from infancy. The gender bias in

Figure 4.1 Sex ratios in South Asia, Sub-Saharan Africa and developed world, 2002

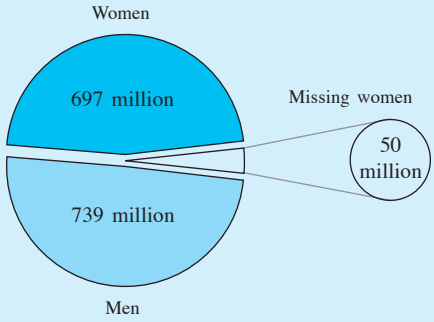


Note: Medium variant used for population estimations.
Source: UNPD 2004b.

Box 4.1 Missing women of South Asia

Nobel laureate Amartya Sen first introduced the concept of missing women in 1989, which has also been referred to in the first report of *Human Development in South Asia 1997* by Dr. Mahbub ul Haq. According to studies conducted in 1989 and 1990, there were around 100 million women 'missing' in the world as a result of higher, and unnatural, female mortality, particularly in South Asia, West Asia, China, and certain parts of North Africa. Subsequent estimates provided by researchers such as Claudia Wink and Stephan Klasen, placed the number of missing women in the world between 60 to 90 million, which is significantly lower than the original estimates. According to the most recent estimates by the same researchers, the number of missing women in the world today stands much higher, at around 102.2 million women. It is estimated that South Asia's share of 'missing women' is about 50 million (figure 4.2).

Figure 4.2 Estimated number of missing women in South Asia, 2002



Source: MHHDC Staff calculations.

Sources: Klasen and Wink 2000; UNPD 2004b; and MHHDC staff calculations.

feeding practice continues into adulthood and results in chronic undernutrition and micronutrient deficiencies in girls and women. Failure to nourish girl children limits their capacity for a healthy adulthood, through stunting for example, while an overarching reluctance to provide medical care compounds these problems. As a result of these various forms of discrimination against women, it is estimated that about 50 million women are missing in the region (box 4.1).

The United Nations (UN) conferences of the 1990s not only linked social and economic development of poor countries to the empowerment of women, they also galvanised the global community into preparing concrete plans of action and implementing them in order to empower women around the world. However, although the countries of South Asia have taken many steps to implement their policies in an attempt to reduce gender disparities, actual progress has been slow across the board, and in all the regions within countries. The most recently calculated Gender-related Development Index (GDI) of UNDP for five South Asian countries shows that except for Sri Lanka, all other countries have GDI values that demonstrate high levels of gender inequality in education, health and earned income (table 4.1).

The positive impact of women's education has been well documented by numerous studies and by our previous reports. The education of women is directly correlated to reducing poverty (by enhancing their capability to earn an income), improving their own health and that of their children (by practicing better environmental and nutritional health),

Table 4.1 Gender Development Index, 2002

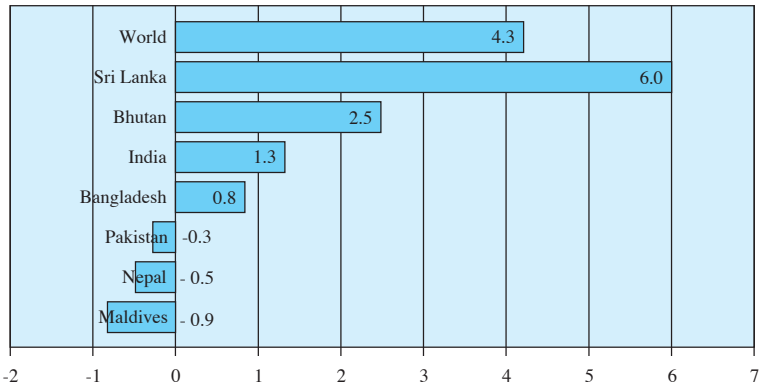
Country	Gender-related development Index (GDI)	Life expectancy at birth (years)		Adult literacy rate (%)		Combined gross enrolment ratio for primary, secondary and tertiary level schools (%)		Estimated earned income (PPP US$)	
	Value	Female	Male	Female	Male	Female	Male	Female	Male
Sri Lanka	0.738	75.8	69.8	89.6	94.7	66.0	64.0	2,570	4,523
India	0.572	64.4	63.1	46.4	69.0	48.0	62.0	1,442	3,820
Bangladesh	0.499	61.5	60.7	31.4	50.3	54.0	53.0	1,150	2,035
Nepal	0.484	59.4	59.9	26.4	61.6	55.0	67.0	891	1,776
Pakistan	0.471	60.7	61.0	28.5	53.4	31.0	43.0	915	2,789

Source: UNDP 2004.

delaying marriage, thus reducing the fertility rate, and improving their self-image and decision-making power. Research further shows that education beyond the primary level has even greater social benefits for women's empowerment. However, as the data in table 4.1 show, there is unfortunately still a huge gap between female and male literacy rates in South Asia, ranging from a high of about 35 percentage points in Nepal, to a low of five percentage points in Sri Lanka. The gender gap in combined education enrolment rates is also a matter of worry, except in Sri Lanka which shows a higher enrolment of girls, and Bangladesh which appears to be close to eliminating the enrolment gap.

Figure 4.3 Gender differences in life expectancy at birth, 2002

(*years*)



Sources: UNDP 2004 and WHO 2004m.

Women live longer than men, but not a healthier life

Biologically, women are more likely to live a longer life than men are. In fact, the women of today's world live around four years more than their male counterparts. But in South Asia this biological advantage is reduced by the deprivations suffered by women in all aspects of life. Thus the difference between life expectancy at birth for women and men is not more than two years in South Asian countries, except in Sri Lanka and Bhutan where women live six and 2.5 years longer than men, respectively (figure 4.3).

Patterns of health and illness differ markedly between men and women. Women tend to live longer than men in any given set of conditions. Yet despite their greater longevity, women in South Asia suffer from illness more than men. While the nature of this disproportionate female morbidity and its underlying factors varies amongst different social groups, the broad picture presents a scenario in which women's lives seem to be less healthy than those of men. The explanation for this apparent paradox lies in the complex relationship between the biological and social influences on human health and illness. When the female potential for greater longevity is not realised, it is an indication of serious health hazards within women's social and physical environment. World Health Organisation (WHO) has estimated the number of years that women and men in the world are expected to live in good health. The Healthy Life Expectancy (HALE) indices for South Asian countries, defined by WHO as *'number of years in full health that a new born can expect to live based on current state of ill-health and mortality'*, are presented in table 4.2, based on WHO calculations.

Table 4.2 Healthy Life Expectancy and percentage of total life expectancy lost in South Asia, 2002

	Healthy Life Expectancy (years)		Percentage of total life expectancy lost*	
Countries	Female	Male	Female	Male
India	53.6	53.3	13.6	11.3
Pakistan	52.3	54.2	15.0	11.3
Bangladesh	53.3	55.3	14.8	11.7
Nepal	51.1	52.5	15.1	12.4
Sri Lanka	64.0	59.2	13.9	11.8
Bhutan	52.9	52.9	15.2	12.1
Maldives	56.6	59.0	13.8	11.3

Note: *The life expectancy at birth used by WHO is different than the life expectancy used by UNDP. The percentage of life expectancy lost data is therefore not consistent with the data used in table 4.1.

Sources: WHO 2004m.

Table 4.2 clearly shows the impact of gender discrimination associated with women's health in South Asia. Women who live longer than men do not necessarily spend healthier lives.

Nutritional challenges faced by South Asian women

The majority of South Asian women are chronically ill as a result of malnutrition, lack of adequate healthcare and frequent childbearing. One-third of women in their childbearing age in South Asia are underweight and around 15 per cent of the women are stunted by inadequate diet during their childhood. A majority of rural women in South Asia are anaemic during pregnancy, and many suffer from chronic energy deficit.

Poverty is a major contributing factor towards the ill health and malnutrition of women. In traditional societies, poverty affects women's nutritional status more than that of men. Whatever food is available within the household tends to be distributed in a manner that entitles women to a smaller portion. Some communities in South Asia practice the tradition of sequential feeding - male adults eat first, then boys, then girls and women. Such a tradition takes a heavy toll on the health of girls and women.

Women with nutritional deficiencies cannot reach their full growth potential and may face complications during pregnancy and childbirth. Women with short height and low weight are more likely to face maternal and infant deaths, and deliver infants with low birth weight.

Protein energy malnutrition

South Asia is the region that experiences the highest prevalence of chronic energy deficiency among women.[5] In the countries for which data is available, nutritional status measured by anthropometic indicators is found to be very poor for women. Around 15 per cent of women of reproductive age (15-49) in India, Bangladesh and Nepal have height shorter than 145 cm – a statistical measure of stunting. Stunted women are more likely to have small pelvic sizes, which may cause obstructed delivery and higher risk of maternal and infant mortality. Furthermore, 45.4 per cent of women in Bangladesh, 41.2 per cent of women in India, one quarter of women in Nepal, 21.8 per cent of women in Sri Lanka and 13.3 per cent of women in Pakistan have a Body Mass Index (BMI) of less than 18.5, indicating that these women are underweight (table 4.3).

Table 4.3 Maternal anthropometric indicators for selected countries of South Asia, 1998-2001
(*% of women age 15-49*)

Countries/Year	Shorter than 145 centimetres	Whose BMI is less than 18.5*
India 1998/99	13.2	35.6
Pakistan 2000/01	…	13.3
Bangladesh 1999/2000	15.9	45.4
Nepal 2001	15.3	26.7
Sri Lanka 2000	…	21.8

Note: *The BMI index excludes pregnant women and those who are less than three months postpartum.
Sources: GOP and UNICEF 2004; GOS 2002; IIPS 2002; MOHN, New ERA, and ORCM 2002; and NIPORT, MA, and ORCM 2001.

Micronutrient deficiencies

South Asian women also suffer from deficiencies of several critical micronutrients such as iron, iodine and vitamin A. Iron deficiency is one of the most prevalent deficiencies in the developing world, affecting nearly two billion people. Pregnant and postpartum women are most commonly and severely affected due to a higher demand for iron during pregnancy. Anaemia, caused by shortage of iron in the blood, increases the risk of maternal mortality because of the possibility of haemorrhage[6] during and after childbirth, as well as cardiac arrest during pregnancy. About one-fifth of peri-natal mortality and one-tenth of maternal mortality in developing countries is attributed to iron deficiency.[7]

More than half of the pregnant women in South Asia are anaemic. The prevalence of anaemia among pregnant women is as high as 65 per cent in Nepal, 53 per cent in Bangladesh and 52 per cent in India (table 4.4).

Many pregnant women in South Asia also suffer from iodine deficiency which is associated with lower birth weight, higher risk of infant and child mortality, stillbirths, spontaneous abortions, as well as cretinism and congenital abnormalities in the newborn.[8]

Vitamin A deficiency causes visual impairment. Women of reproductive age are at higher risk of this deficiency and its other adverse health consequences such as maternal mortality, foetal loss, low birth weight, pre-term birth and infant mortality. A study has shown that maternal mortality has decreased by 44 per cent in rural Nepal for those women who received adequate vitamin A and beta-carotene supplements before and during their pregnancies.[9]

Pregnant women are especially susceptible to night blindness, which is an indicator of severe vitamin A deficiency. The night blindness is common for one in every ten pregnant women in South Asian countries: 12 per cent women in India, and eight per cent in Pakistan and Nepal reported night blindness during their last pregnancy.[10]

A significant number of maternal and infant deaths and mental retardation of children could be prevented if all women were adequately nourished before and during their pregnancy. It is estimated that the number of maternal deaths attributed to severe anaemia of women is 25,600 in South Asia - 38 percent of the world's total. Similarly, the global share of South Asia in children born mentally impaired due to iodine deficiency is 55 per cent. Every year, an estimated 9.65 million children are born mentally impaired in South Asia.[11]

Table 4.4 Prevalence of anaemia among pregnant women in South Asia, 1985-2000

(%)

India	52
Pakistan	37
Bangladesh	53
Nepal	65
Sri Lanka	39

Sources: IIPS 2002 and World Bank 2003g.

Reproductive health of women

Universal access to reproductive healthcare, including family planning services, was a central objective of 1994 International Conference on Population and Development. All participating countries agreed that empowering women and meeting women's needs for education and health were necessary for society's advancement and balanced development. The processes of conception, childbirth and childrearing are profoundly affected by broader social and cultural factors, particularly by inequalities in access to food, health and education between men and women within the household. In South Asia these factors exacerbate threats to women's vulnerable health status. Health problems of women in South Asia increase during the reproductive ages due to deteriorated nutritional status weakened by successive pregnancies. There is also increased risk of maternal mortality and morbidity caused by inappropriate care before, during and after childbirth.

Maternal mortality in South Asia

The death of a mother during pregnancy or while giving birth has a devastating effect on the family, the community, and the country. Millions of South Asian women face this risk every year. Over one-third of maternal deaths occur in South Asia. These deaths represent an important indicator of the social and economic inequalities between women in developed and developing countries. In developed countries maternal mortality is rare, but in developing regions this is one of the main reasons for high female mortality.

Every year around one million children lose their mothers as a result of maternal deaths. These children are three to ten times more likely to die within the first two years of their life, relative to children whose parents are both living.[12] Globally, maternal conditions constitute 4.7 per cent of the total burden of disease in the world.[13] Every year, 529,000 women lose their lives due to complications during pregnancy and childbirth. Disparity between developed and developing countries is huge in maternal mortality as

Box 4.2 Obstetric fistula in South Asia

Obstetric fistula- the most devastating of all pregnancy related morbidities- occurs to women who face obstructed labour and are out of reach of emergency obstetric care when it is essential. There are at least two million women living with fistula in the world and every year another 100,000-200,000 women develop fistula while giving birth. Obstetric fistula is virtually unknown in the developed countries, but it is widespread in Africa and Asia, particularly South Asia.

The exact number of women living with obstetric fistula is not known, but in South Asia the magnitude of poverty, early childbearing, tradition of home deliveries and lack of emergency obstetric care indicate that tens of thousands of women are suffering from obstetric fistula. It is estimated that half of the total number of women living with fistula are living in South Asia. According to United Nations Population Fund (UNFPA), there are 400,000 fistula cases only in Bangladesh.

In 2003, Bangladesh carried out a survey to assess the extent of fistula. The survey covered six unions in six districts and indicated that there were 1.69 fistula cases per 1000 ever-married women in Bangladesh. The women who had fistula were usually neglected by their families and friends, and even by the healthcare staff. Furthermore, most of those surveyed did not know that fistula is preventable and treatable.

In India, data based on the community surveys conducted in four states indicated that the percentage of women having fistula ranged from 0.3 per cent to 7.6 per cent.

Nepal conducted a reproductive health morbidity survey in gynaecological clinics in two district hospitals. That survey indicated a one per cent prevalence of obstetric fistula among Nepalese women in these two districts.

No survey has been undertaken in Pakistan, but a team conducts fistula camps in different parts of the country, aimed at raising awareness and providing services.

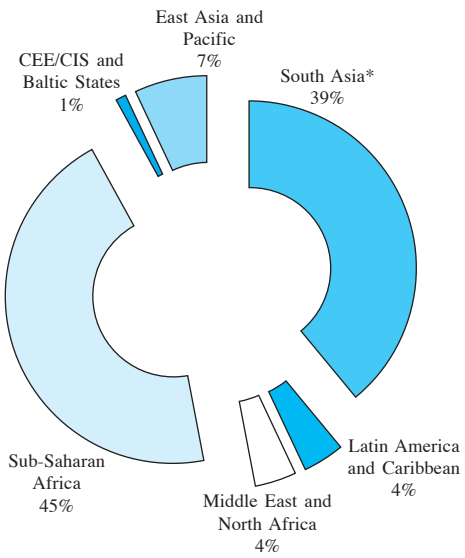
Recently, corresponding with the UNFPA campaign to end fistula, awareness about the prevalence and treatment of fistula has increased in South Asia. A conference was held in Bangladesh in 2003 to share knowledge, and to draw a framework for the prevention and treatment of this affliction.

In 2003, surgeons from Ethiopia and Australia visited Bangladesh to train 20 local doctors and nurses. Bangladesh established a Fistula Repair Centre in Dhaka for the treatment of fistula and for the training of service providers in South Asia.

Sources: Ashford 2002 and UNFPA 2003a,b and 2004c.

almost all maternal deaths- 99.6 per cent- occur in the developing countries.[14]

Figure 4.4 Regional share of maternal deaths, 2000



Note: *Includes Afghanistan as well which contributes four percentage points to South Asia's MMR.
Sources: WHO, UNICEF and UNFPA 2002.

The magnitude of maternal deaths[15] is only a part of the tragedy. For every woman who dies, around 30 women[16] - 1.5 million women per year - face maternity related morbidities such as severe anaemia, infertility, damage to the uterus or reproductive track and, most devastatingly, obstetric fistula[17] (see box 4.2).

Pregnancy and childbirth becomes a nightmare for the majority of poor women in South Asia. It is estimated that everyday 507 women die due to the complications of pregnancy and childbirth, making the annual maternal death toll at 185,000.[18] With this death toll, South Asia is the region with the second highest number of maternal deaths in the world: around 40 per cent of the total number of maternal deaths occurs in South Asia (figure 4.4).

In terms of the maternal mortality ratio (MMR)[19] South Asia with 516 per 100,000 live births has the second highest ratio after Sub-Saharan Africa. Lifetime risk of dying due to complication during pregnancy or childbirth is one in 52 for a South Asian woman. The risk is almost

Table 4.5 Maternal mortality ratio and lifetime risk of maternal death by regions, 2000

Regions	Maternal mortality ratio	Lifetime risk of maternal death 1 in:
Sub-Saharan Africa	940	16
Middle East and North Africa	220	100
East Asia and Pacific	110	360
Latin America and Caribbean	190	160
CEE/CIS and Baltic States	64	770
South Asia*	516	52
World	400	74

Note: *This is a weighted average calculated by MHHDC.
Sources: Background tables; WHO, UNICEF and UNFPA 2002.

twice than for a woman living in the Middle East and North Africa, seven times higher than a woman living in East Asia and the Pacific and 15 times higher than a woman living in Central East Europe/ Commonwealth of Independent States and Baltic States (table 4.5).

With an estimated 136,000 maternal deaths per year, India is the country with the highest number of maternal deaths in the world. In the region, India is followed by Pakistan (26,000) and Bangladesh (16,000). Data available on MMR and the lifetime risk of maternal death indicate huge disparities between the countries within the region. The MMR ranges from 92 per 100,000 live births in Sri Lanka to 740 in Nepal. Similarly, the lowest lifetime risk of maternal death is in Sri Lanka (1 in 430), followed by Maldives (1 in 140) while the highest risk is observed in Nepal (1 in 24) and Pakistan (1 in 31) (table 4.6).

Globally, three-quarters of the maternal deaths occur due to five direct complications: haemorrhage (25 per cent), sepsis (15 per cent), unsafe abortion (13 per cent), eclimpsia (12 per cent) and obstructed labour (eight per cent).[20] Looking at the whole scenario of maternal mortality, it is stunning to note that millions of such deaths could be prevented with the provision of skilled care during pregnancy, delivery, and the postpartum period; by ensuring access to emergency obstetric care when there is a complication during childbirth; and by averting a great many of these pregnancies by providing family planning services.[21]

Table 4.6 Number of maternal deaths and lifetime risk of maternal death in South Asia, 2000

Countries	Number of maternal deaths	Life time risk of maternal death 1 in:	Maternal mortality ratio
India	136,000	48	540
Pakistan	26,000	31	500
Bangladesh	16,000	59	380
Nepal	6,000	24	740
Sri Lanka	300	430	92
Bhutan	310	37	420
Maldives	10	140	110

Source: WHO, UNICEF and UNFPA 2002.

Antenatal care

The antenatal care[22] service that a mother receives during her pregnancy is important for reducing possibly fatal risks for both mother and child. Antenatal care forms a bridge between women and the health system in order to provide essential health services to pregnant women. Good antenatal care facilitates, the monitoring of pregnancies for signs of complications, detecting and treating existing problems of pregnancy, guiding pregnant women about diet, delivery care, postnatal care, and providing supplements like iron, vitamin A and immunisation for tetanus. Three-quarters of pregnant women in the world receive at least one antenatal check-up. Table 4.7 indicates that almost half the mothers in South Asia do not receive such care. This figure represents the lowest percentage of women receiving antenatal care anywhere in the world.

Within the region, Nepal present the worst case scenario, with only 28 per cent of pregnant women receiving antenatal care during the reporting period 1995-2002. Sri Lanka, on the other hand, with 98 per cent coverage, has reached almost universal antenatal care in the indicator showing at least one antenatal visit. Sri Lanka is proceeded by Maldives at 81 per cent, and India at 60 per cent (table 4.8).

Table 4.7 Antenatal care by regions, 1995-2001
(%)

Regions	Women aged 15-49 reporting 1+ antenatal visits with a skilled attendant (doctor/ nurse/midwife)
Sub-Saharan Africa	68
Middle East and North Africa	65
East Asia and Pacific	82
Latin America and Caribbean	86
CEE/CIS and Baltic States	84
South Asia*	55
World	72

Note: Data is for 1995-2002 and is calculated as a weighted average.
Source: WHO 2003a.

Table 4.8 Antenatal care in South Asia, 1995-2002
(%)

Countries	Women aged 15-49 reporting 1+ antenatal visits with a skilled attendant (doctor/ nurse/midwife)
India*	60
Pakistan	43
Bangladesh	40
Nepal	28
Sri Lanka	98
Maldives	81

Note: *The figure is provided from an international source and is slightly different than the national data provided in Chapter 7.
Source: WHO 2003a and World Bank 2004j.

Table 4.9 Pregnant women receiving tetanus vaccination in South Asia, 1996-2000 (%)	
India	67
Pakistan	58
Bangladesh	64
Nepal	33
Sri Lanka	97

Note: Tetanus vaccinations refer to the percentage of pregnant women who receive two tetanus toxoid injections during their first pregnancy and one booster shot during each subsequent pregnancy.

Sources: World Bank 2003g and GOS 2002.

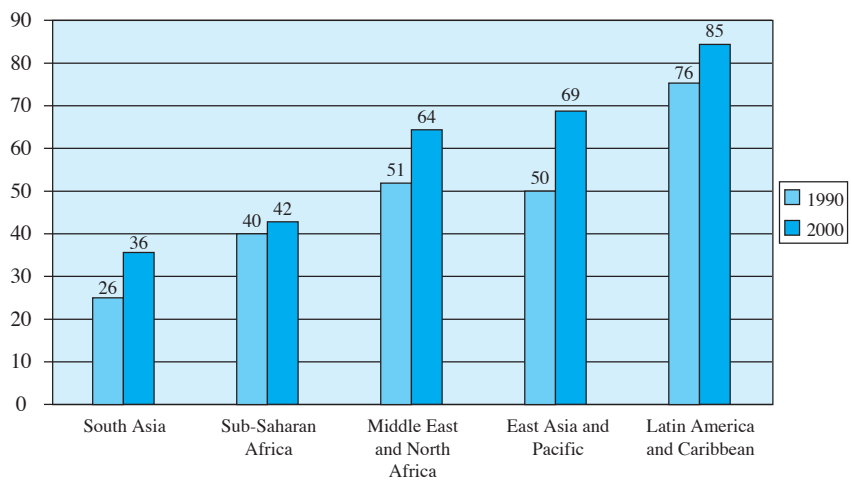
Table 4.10 Births attended by skilled health personnel in South Asia, 1995-2002 (%)	
India	43
Pakistan	20
Bangladesh	12
Nepal	11
Sri Lanka	97
Bhutan	24
Maldives	70

Source: UNDP 2004.

Availability and use of antenatal care is dependent on location, education and the income levels of pregnant women. A study by WHO shows that residence in rural areas, low education levels of the mother, and persistent poverty are the main determinants of the low number of antenatal checkups in South Asia, particularly in Pakistan, Bangladesh, Nepal and India. For example, urban women in Pakistan, Bangladesh and Nepal are six times more likely to receive antenatal care than those living in rural areas. Women who have completed secondary education are six to seven times more likely to receive four or more antenatal checkups in Pakistan, Bangladesh and Nepal, and three times more likely to receive four or more antenatal checkups in India, than the women with no education.[23] The ratio between the richest 20 per cent to the poorest 20 per cent of women receiving one antenatal check-up is as high as 10.1 in Pakistan, 4.1 in Bangladesh, 3.6 in India and 3.1 in Nepal.[24]

In addition, the quality of antenatal care provided to the majority of pregnant women in South Asia is not of a satisfactory standard. For instance, among the women who received antenatal care in Nepal, only half were informed about the dangers that can occur during pregnancy, only one-third received iron/folic acid tablets, and less than 30 per cent had their blood and urine samples taken.[25] In Bangladesh, among the women who received antenatal care, only 35.6 per cent had had an examination of abdomen, one-third had the measurement of weight or height and 35 per cent had her blood pressure measured. Less than one-fifth of those women who received antenatal care had their blood and urine tested.[26]

Figure 4.5 Trends in skilled care at delivery by regions, 1990-2000



Source: UNICEF 2001b.

Maternal tetanus in South Asia

Maternal tetanus is responsible for at least five per cent of total maternal deaths in the world. Tetanus arises from unhygienic practices at the time of delivery, or from unsafe abortions. It is life threatening for both the mother and the baby.

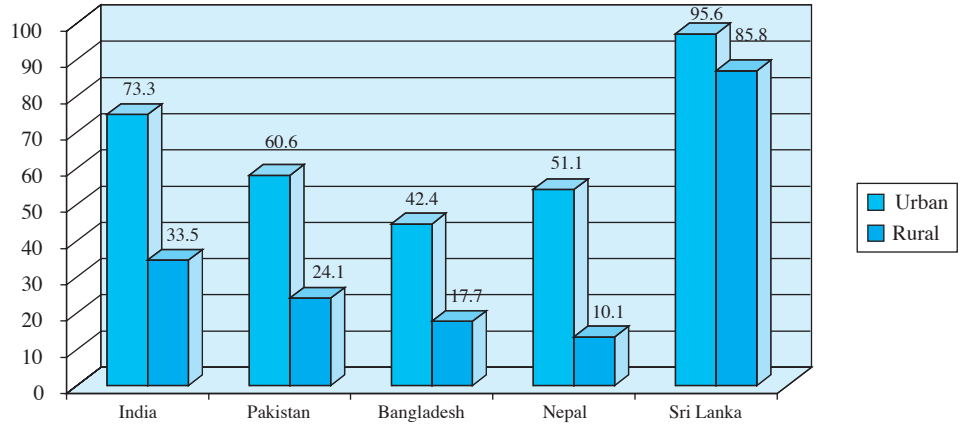
WHO, UNICEF and UNFPA recommend that 90 per cent of women of childbearing age should be immunised in order to effectively eliminate tetanus as a cause of maternal and neonatal mortality. This has been achieved by 104 of 161 developing countries in the world. However, large countries of South Asia such as India, Pakistan, Bangladesh and Nepal are not among these 104 countries.[27] Table 4.9 provides data on immunisation coverage of pregnant women who received the recommended doses of tetanus vaccination in South Asia during the period 1996-2000.

Skilled care at delivery

Although the number of births attended by skilled personnel has increased from 26 per cent to 36 per cent during 1990-2000 (figure 4.5), South Asia's record in this regard is still lower than that of Sub-Saharan Africa – a region with the highest number of maternal deaths in the world.

In most South Asian countries, between one-tenth to one-fifth of the deliveries are attended by skilled personnel. In India, around half the deliveries are attended by skilled care. Sri Lanka and Maldives have much higher rates of skilled care at delivery (table 4.10).

Figure 4.6 Skilled care at delivery by locality, South Asia



Sources: UNFPA and PRB 2003.

As expected, there is a huge disparity in the provision of skilled care at delivery between urban and rural areas. Women living in urban areas in India, Pakistan and Bangladesh are two to three times more likely to receive skilled care than women living in rural areas. In Nepal, urban women are five times more likely than rural women to have a skilled attendant during their delivery. In Sri Lanka this rural-urban gap in skilled care at delivery has almost been closed (figure 4.6).

One of the reasons that South Asian countries lack skilled care at delivery is due to the widespread practice of home delivery. Most often, particularly in rural areas and among the lower income groups, deliveries take place at home, and therefore increase the chances of mortality due to complications arising during the time of delivery. Most home deliveries occur in rural areas. Of all the deliveries that took place in rural areas during 1998-2001, the percentage of home deliveries was 94.5 per cent in Bangladesh, 86.5 per cent in Pakistan, and about 75 per cent in India. About half the women living in urban areas in Pakistan and Nepal deliver their babies at home. One-third of Indian women and three-quarters of Bangladeshi women living in urban areas also give birth at home (table 4.11). In Sri Lanka, where the maternal mortality ratio is lowest in comparison to all other countries of South Asia, the culture of home deliveries is almost nonexistent: only two per cent of the deliveries take place at home.[28]

However, skilled care at delivery is not enough to protect South Asian women from maternal deaths since physical, financial, and most importantly, socio-cultural barriers limit their ability to seek or receive care on time, particularly when there is a pregnancy or delivery related complication. Four types of delays account for a large proportion of maternal deaths in South Asia:

i) Delay in recognising danger signs. Women, their families or untrained caretakers may not recognise the signs of life-threatening complications during pregnancy and childbirth. For instance, according to Bangladesh Demographic Health Survey of 1999-2000,[29] 36.8 per

Table 4.11 Place of delivery in South Asia, 1998-2001

(*% of deliveries*)

	Urban			Rural		
	Health facility	At home	Other	Health facility	At home	Other
India 1998/99	65.1	34.5	…	24.6	74.8	…
Pakistan 2000/01	48.2	51.3	0.6	13.2	86.5	0.3
Bangladesh 1999/2000	17.8	72.7	9.1	3.8	94.5	1.3
Nepal 2001	43.2	52.4	3.0	6.3	90.4	1.2

Note: Data missing is not included in the table.
Sources: ORCM 2004 and NIPS 2001.

cent of women who had complications during pregnancy took at least one day to recognise the signs;

ii) Delay in seeking care due to financial or cultural constraints. For instance in Nepal, 17 per cent of women needed their husbands' approval to go for a treatment, 66.3 per cent delayed seeking care due to financial constraints, and nearly half the women expressed concern over the availability of a female health provider;[30]

iii) Delay in reaching a health institution. Distance to a health facility is a huge barrier to receive timely care. Nearly half the women in the survey cited above mentioned distance as a constraint to receive care in Nepal; and

iv) Delay in receiving care at the health facility. According to a survey[31] in Bangladesh, 13.9 per cent of women who had complications during pregnancy had to wait for more than an hour to receive care in a health facility.

The burden of fertility in South Asia

South Asia is one of the most densely populated regions in the world. Fertility rates in most countries of the region, though decreasing over the last few years, are still high compared to all other regions except Sub-Saharan Africa. Since 1970, fertility rates in most regions of the world have almost halved but the pace of decline has remained slow in South Asia, compared to South-East Asia, East Asia, and Latin America and the Caribbean (figure 4.7).

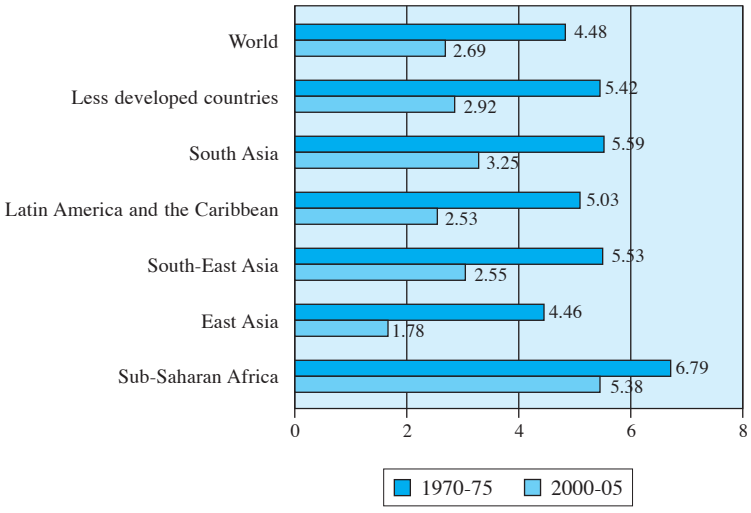
Aside from the fact that women's ability to control their fertility is also essential for their overall health and well being, there are many social and economic benefits that accrue to a country from the productive participation of women in economic and political life. It has been seen that high rates of population growth negate the poverty alleviation efforts of a country and exacerbate the social and economic deprivation of urban slum dwellers.

Despite the fact that population planning has been the primary focus of health sector policies and programmes in the region, the actual pace in reducing total fertility rate (TFR)[32] has been slower in the region than expected. This is due to a variety of reasons, including the lower levels of human development and the low status of women in the region. However, as a result of its higher levels of human development, Sri Lanka has drastically reduced its TFR within two decades.

In 2002, total fertility rate in South Asia was 3.4 children per woman. The fertility rates vary widely among the countries from two children per woman in Sri Lanka to five children per woman in Pakistan, Bhutan and Maldives. Figure 4.8 shows the trend of TFR for different countries in South Asia.

The figure demonstrates that since the 1950s, all the countries of South Asia have observed some decline in their fertility rates, but only Sri Lanka has shown an impressive progress by reducing the TFR from six to around two births per woman. With this progress, Sri Lanka has illustrated how, despite being a low-income country, investments in the social sector combined with a strong commitment by the government can drastically reduce fertility rates.[33]

Figure 4.7 Trends in TFR by selected regions of the world, 1970-2005



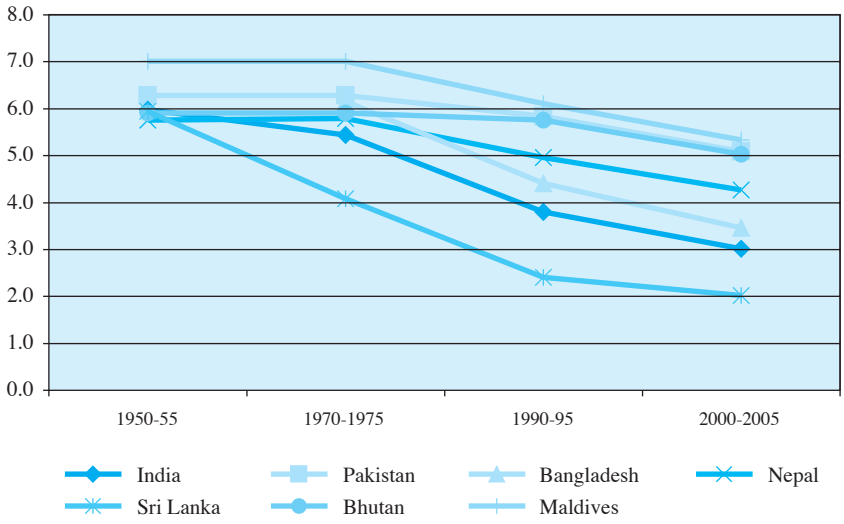
Source: UNPD 2004b.

This transition from high fertility to low fertility in Sri Lanka is not only a demographic transition but also a human development revolution. Sri Lanka's success in fertility transition is mostly attributed to the importance successive governments gave to human development, and is reflected in Sri Lanka's high levels of literacy, including female literacy, and low levels of child mortality.[34] These government policies were aided by the strong commitment and dedication of health personnel and population planners.[35]

Following Sri Lanka, India and Bangladesh have also shown notable reductions in the TFR, particularly after 1970-75. The decline in the fertility rate in India is a result of socio-economic developments, as well as the intense implementation of family planning programmes. However, although the level of fertility is currently at a moderate level (three children per woman) in India, there are huge regional variations between the north and south of the country, reflecting gender inequality. In the northern states of India, such as Bihar, Madhya Pradesh, Rajastan and Uttar Pradesh, where the status of women is low, dowry and son preference is prevalent, and the neglect of girls' education and health is extreme, the fertility rates are still above four children per woman. On the other hand, southern states such as Kerala and Tamil Nadu have nearly achieved the replacement level of fertility. Not surprisingly, these states are known to have better human development indicators, including that of gender equality.[36]

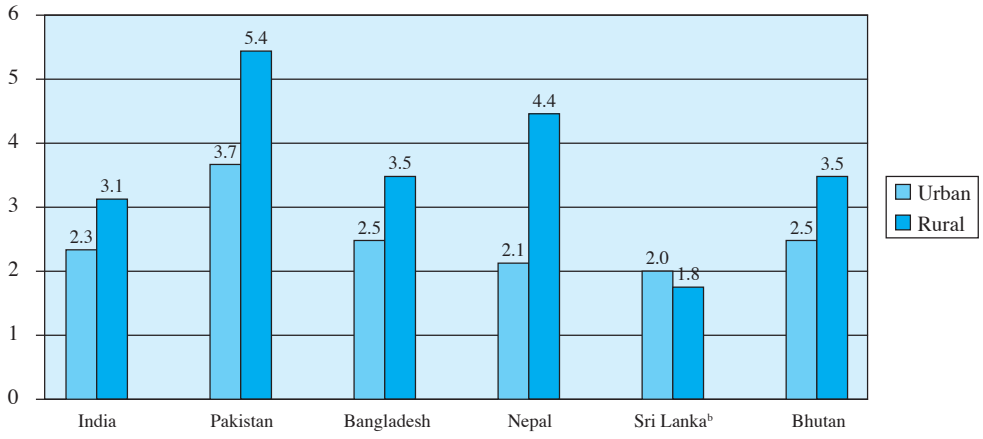
In Bangladesh, with the help of a strong commitment by the government and culturally sensitive family planning campaigns, TFR has been reduced within two decades, despite low levels of human development and persistent poverty. However, research notes that the continuing high levels of son preference

Figure 4.8 Trends in fertility rates in South Asia, 1950-2005



Note: Medium variant has been used for the estimations of fertility.
Source: UNPD 2004b.

Figure 4.9 TFR in rural and urban areas of South Asia, 1991-2001[a]



Notes: [a]Latest available year.
[b]Does not include TFR in Estates.
Sources: UNFPA and PRB 2003 and GOS 2002.

Box 4.3 Why Bangladesh has achieved better results in controlling its population than Pakistan?

Three decades ago, Pakistan and Bangladesh had almost the same fertility rates. But now Pakistan is lagging far behind Bangladesh. What could be the reasons?

i) Since gaining independence in 1971, Bangladesh has made family planning a priority. The strong commitment of Bangladesh has led to strong financial help from donors. On the other hand, although Pakistan's Family Planning Programme was formed in the 1960s, it could not gain momentum until the 1980s due to political turmoil. This is because Pakistan's family programmes have had difficulty in achieving political support and commitment and, therefore, financial support has also been weak.

During the 1970s, international and domestic concern about high fertility rates grew all over Asia. Subsequently, international organisations, mainly United Nations Population Fund (UNFPA), initiated the provision of financial and technical support to family planning programmes in South Asia. However, financial support to Bangladesh and Pakistan was different due to the varied levels of political commitment to family planning in the two countries.

ii) Approaches to family planning have also been different in two countries. The Bangladesh programme, besides supplying contraceptives, has been successful in creating demand for family planning through reaching communities through partnerships. As a result, the Bangladesh programme reached groups with much lower socio-economic and educational background than the programme in Pakistan.

iii) Bangladesh has an extensive family planning network that is delivered to almost all of its citizens through a variety of service providers, including non-governmental organisations (NGOs) and community-based organisations. Around 400 NGOs are engaged directly in family planning and maternal and child health activities in Bangladesh, and they provide family planning to one-fifth of the total female population. Bangladesh Association of Voluntary Sterilisation, Family Planning Association of Bangladesh and Bangladesh Women's Health Coalition are some of the NGOs that offer family planning services. In addition, the NGOs such as Bangladesh Rural Advancement Committee (BRAC) and Grameen Bank, which have been quite successful in empowering women through education, employment and income generating activities, have also helped to create the necessary demand for family planning services as well as supplying contraceptives. In contrast, in Pakistan the partnership with NGOs and community-based organisations has remained insignificant, mostly due to lack of governmental support to NGOs and other civil society groups.

(iv) Bangladesh has involved the religious leaders as advocates for the promotion of family planning. The elected leaders and journalists have also become a part of the advocacy efforts. In Pakistan, on the other hand, the opposition of religious leaders against family planning is a factor inhibiting the demand for family planning.

(v) The education levels as well the employment opportunities for women are necessary conditions to increase the utilisation of family planning services. In Bangladesh, demand for women's education started earlier than Pakistan, and the NGOs such as Grameen Bank and BRAC, among many others, provided educational opportunities to rural women. Also, with the global demand for women workers, particularly in garment industries, Bangladeshi women got increased employment opportunities. Bangladesh further empowered its women through micro-credit and a scholarship programme for secondary education for girls. On the other hand, women in Pakistan are among the most deprived in the region in terms of education and job opportunities.

As a result of these differences, Pakistan and Bangladesh have experienced very different outcomes. In Pakistan, the reduction in fertility rates has been slow. The fertility rate has started decreasing only in the late 1990s, and the contraceptive prevalence rate has increased four per cent in 1970 to 27.6 per cent in 2000-01. In contrast, in Bangladesh the fertility rate started decreasing earlier and at a faster pace than Pakistan, and the contraceptive prevalence rate has increased from 7.7 per cent in 1975 to 53.8 per cent in 2000.

Sources: Cleland and Louisiana 1997; Cross *et al.* 2002; GOB 2002a; GOP 2002b; Guest 2003; Jones 2001; MHHDC 2000; NIPS 2001; Robinson 2001 and Rukanuddin 2001.

and the deteriorating quality of care in Bangladesh may slow down the pace of fertility transition.[37]

On the other hand, despite being one of the pioneers in commencing family planning programmes in South Asia, Pakistan has the worst record in controlling its population growth. Among the many contributing factors, the most significant reasons are related to the low status of women in Pakistan and lack of political commitment to family planning. Similarly, in Nepal the key factors for continuing high fertility rates seem to be the low status of women, and low levels of female education and health.

Since urban women are more educated, enjoy higher incomes, and have better access to family planning services, higher levels of fertility have become a mostly

rural phenomenon in South Asia. In this region, women in rural areas give birth to a higher number of children than their urban counterparts, except for Sri Lanka. The rural-urban gap in fertility rates is the highest in Nepal, followed by Pakistan (figure 4.9).

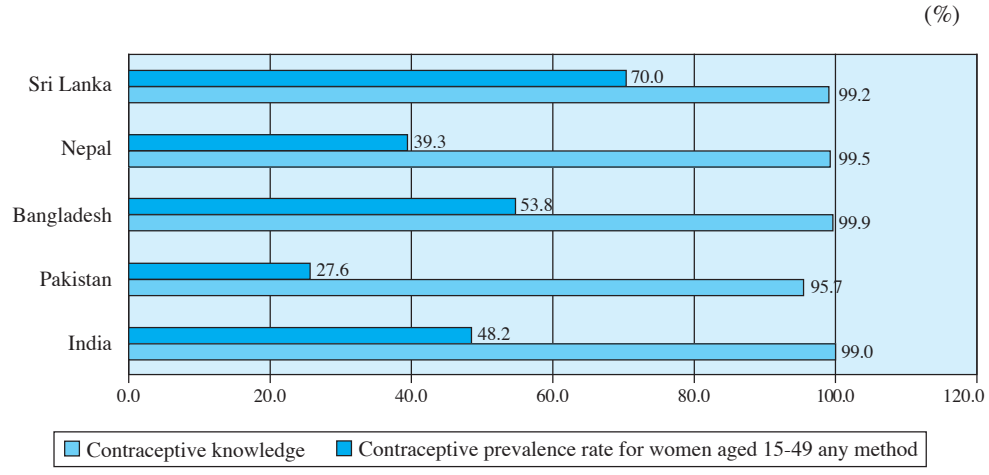
A number of policies and programmes are required to effectively plan the size of family. Well-designed and well-implemented education, health and poverty alleviation programmes are some of the priority ones. But along with these, a well-designed and targeted family planning services are needed to help willing couples to access the required services. Thus adequate information and provision of different methods of contraception have a direct effect on controlling fertility. Figure 4.10 provides data on the knowledge of at least one method of contraception and the contraceptive prevalence rates (CPR) in South Asia. Although the knowledge of at least one method of contraception is almost universal in South Asia, the contraceptive prevalence rates[38] remain quite low, particularly in Pakistan (27.6 per cent) and Nepal (39.3 per cent). Almost half of the Indian and Bangladeshi women are currently using contraceptives while Sri Lanka has the highest rate of CPR (70 per cent).

It is estimated that at least 137 million women in the world would have preferred to control their family size, but were unable to do so because of a lack of family planning services or their inability to access them.[39] It is further estimated that in South Asia over 63.5 million women would prefer to limit or space the birth of their next child.[40] Around 20 per cent of currently-married South Asian women want to limit or postpone their pregnancies but do not use any method of contraception. The total unmet need is highest in Pakistan with 31.7 per cent, followed by Nepal at 27.8 per cent. Unmet need in India and Bangladesh is relatively moderate at approximately 15 per cent (figure 4.11), while it is lowest in Sri Lanka where only one in ten women are not able to practice family planning though they want to limit or space births.[41]

The high levels of unmet need in South Asia is associated with unwanted pregnancies.[42]

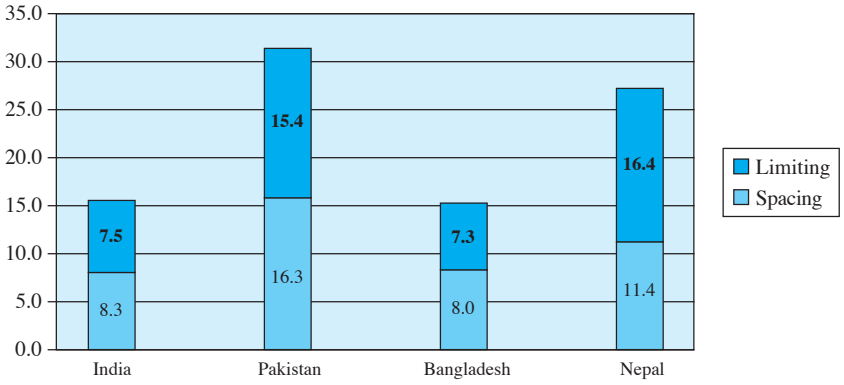
The pregnancies that are unwanted are likely to end up with abortion- particularly unsafe abortion[43] in South Asia, where they contribute 13 per cent to the maternal mortality (box 4.4).

Figure 4.10 Contraceptive knowledge and prevalence of South Asian women, 1998-2001



Sources: GOS 2002; IIPS 2002; MOHN, New ERA and ORCM 2002; NIPS 2001 and NIPORT, MA and ORCM 2001.

Figure 4.11 Unmet need for family planning in South Asia, 1991-2001*



Note: *Latest available year.
Sources: UNFPA and PRB 2003.

Even where access to knowledge and provision of services are assured, there might exist cases where currently married women use no form of contraception. This can be due to a variety of reasons, ranging from lack of education of women, to fear of side effects, opposition of the husband or religion. Lack of communication between the couple is also considered to be an indirect cause of the low utilisation of contraception. Various family health surveys in the region provide some data on these factors, which can only be overcome by improving the status of women through education and job opportunities, and by ensuring their basic human rights.

One of the reasons for high fertility rates in South Asia is the tradition of early marriage. This factor also leads to maternal mortality and morbidity and can be eliminated through increasing opportunity cost of early marriage, i.e. the provision of education and employment opportunities to girls can change the attitudes of parents towards their daughters' marriage.

In spite of legislations forbidding marriage of girls before the age of 18 in all the countries, about half the girls in Bangladesh, one in every four girls in India, and one in every five girls in Nepal

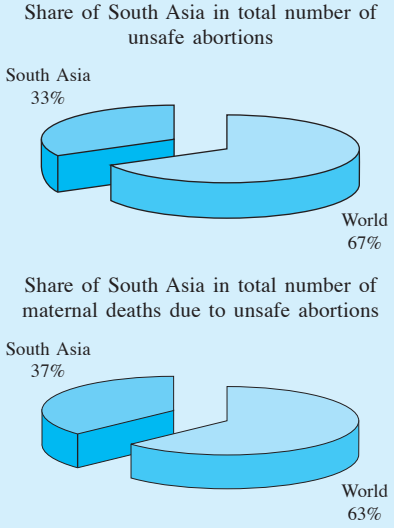
Box 4.4 Unsafe abortion in South Asia

At the International Conference on Population in Mexico in 1984, unsafe abortions were recognised as a major cause of maternal mortality, and governments were advised 'to take appropriate steps to help women avoid abortion, which in no case should be promoted as a method of family planning' (Recommendation 18c). In the International Conference on Population and Development held in Cairo, governments were once again asked to reinforce their commitment to women's health, 'to deal with the health impact of unsafe abortion as a major health concern, and to reduce the recourse to abortion through expanded family planning services' (para 8.25).

Globally, South Asia has the highest number of unsafe abortions as well as maternal deaths caused by unsafe abortions, although the unavailability of reliable data makes it almost impossible to know the real extent of the matter. WHO estimates that around one-third of unsafe abortions take place in South Asia, which means that approximately 6.5 million women go through unsafe abortions. A staggering 37 per cent of total maternal deaths in the world caused by unsafe abortion occurs in South Asia (figure 4.12).

Numerous studies have found a strong association between restrictive abortion laws and the practice of unsafe abortion. Although abortion has been legal in India, the availability of good abortion services is very rare. In Pakistan, Bangladesh and Sri Lanka, abortion is illegal and restricted to cases where the mother's health is in danger. Nepal has legalised abortion only two years ago. Women with unwanted pregnancies may choose to go to a service provider who may not have the basic knowledge, skill, and hygienic environment to perform such an operation.

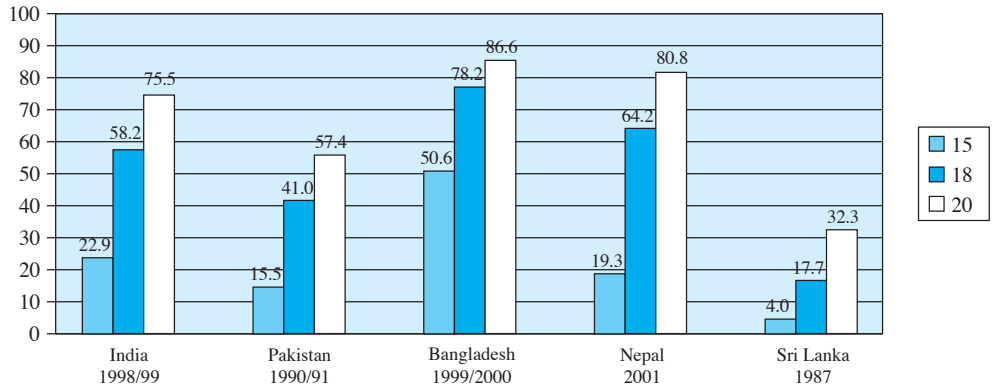
Figure 4.12 Share of South Asia in unsafe abortions and maternal deaths due to unsafe abortions, 1997



Source: WHO 1997.

Sources: WHO 1997 and The Centre for Reproductive Rights 2004.

Figure 4.13 Percentage of women aged 20-49 who are first married by exact age of 15, 18, 20



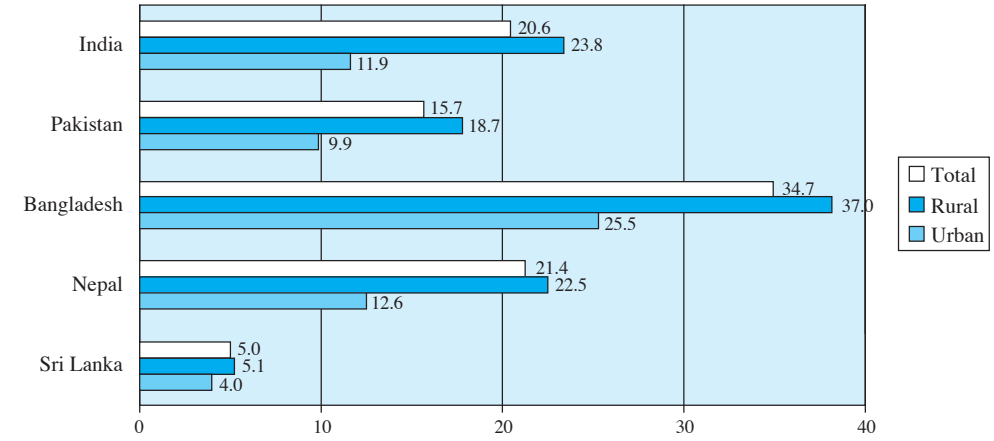
Note: Data originated from Demographic Health Surveys of the countries.
Source: ORCM 2004.

is married by the age of 15. Similarly, almost nine in every ten girls in Bangladesh, eight in ten girls in Nepal and three in four girls in India are married by the age of 20. The percentage of girls married by the age of 20 is lowest in Sri Lanka. It is believed that this delaying of marriage has been the most important factor responsible for the rapid decline in fertility in Sri Lanka[44] (figure 4.13).

One result of the high prevalence of early marriages is that girls start bearing children at an earlier age in South Asia. In 2000, one-third of adolescent girls (aged 15-19) in Bangladesh and approximately one-fifth of adolescent girls in India and Nepal had given birth or were pregnant (figure 4.14).

Numerous studies and surveys have established the strong connection between the education of girls and women, and rates of fertility. Consequently, in the developed world, population growth has slowed down to less than replacement level. The multiple benefits of female education have been documented in the Centre's 1998 report. A few recent surveys mentioned here show the continuing link between female education, particularly the level of education, and fertility decline.

Figure 4.14 Adolescent women who have begun childbearing, 1987-2001*



Note: *Latest available year.
Sources: UNFPA and PRB 2003 and ORCM 2004.

- In India, women who are illiterate have a fertility rate of 3.5 while women with secondary or above secondary school education have reached the fertility transition level of two.[45]
- In Bangladesh, women with no formal education are likely to have a fertility rate of 4.1 compared to 2.4 for women with secondary education.[46]
- In Nepal, women with secondary education or above have a fertility rate of 2.1 while illiterate women have a rate of 4.8.[47]
- In Pakistan and Sri Lanka, the fertility rate of women with no education is estimated to be twice that of women with secondary education.[48]

Women's health in South Asia ten years after International Conference on Population and Development

Last decade witnessed various international conferences aimed at improving the health status of women. The largest one, the International Conference on Population and Development (ICPD), was held in September 1994 in Cairo. This conference adopted a 20-year Programme of Action (PoA)[49] defining benchmarks to monitor progress in gender equality, end violence against women, and ensure women's ability to control their own fertility as cornerstones of population and development policies (Principle 4 of PoA). PoA sets its benchmarks as:

- Attaining universal primary education and closing the gender gap in education by 2015;
- Reducing infant mortality rate (IMR) below 35 per 1,000 live births and child mortality rate below 45 per 1,000 live births by 2015;
- Reducing maternal mortality ratio to half the 1990 levels by the year 2000, and by half again by 2015;
- Ensuring universal access by 2015 to reproductive healthcare, including family planning, assisted childbirth and prevention of sexually transmitted infections including HIV/AIDS by 2015; and
- Increasing life expectancy at birth to 75 years or more by 2015.

One year after the Cairo conference, the Fourth Conference on Women was held in Beijing in 1995. Beijing Platform of Action advanced the progress made in Cairo by supporting ICPD Plan of Action. In June 1999, United Nations General Assembly assessed the progress made in the first five years of ICPD. During the ICPD+5, the Key Actions for the Further Implementation of the ICPD Programme of Action was adopted and a new set of benchmarks was agreed upon in the following areas:

- Enrolment of 90 per cent of boys and girls in primary schools by 2010, achieving universal access to primary education by 2015, and halving the 1990 illiteracy rate for women and girls by 2005;
- Ensuring that 60 per cent of primary healthcare and family planning facilities offer a wide range of services by 2005, including family planning, obstetric care, and prevention and treatment of reproductive track infections, and that 80 per cent offer the same services by 2010;
- Ensuring that 90 per cent of all births are assisted by skilled attendants by 2015;
- Reducing the unmet need for contraceptives by half by 2005 and eliminating it altogether by 2015; and
- Ensuring adolescents' access to the information, education and services that are necessary to develop the life skills to reduce their vulnerability to HIV infection. HIV infection rates in persons 15-24 years of age should be reduced by 25 per cent in the most-affected countries by 2005 and by 25 per cent globally by 2010.

In September 2000 at the UN Millennium Summit, heads of 189 nations

agreed on the Millennium Development Goals (MDG) which aimed at halving global poverty and hunger by 2015, reducing maternal and child deaths, curbing HIV/AIDS, advancing gender equality, and promoting environmentally sustainable development (see Chapter 2). Prior to ICPD, all South Asian countries were implementing population policies and programmes that were focused solely on decreasing the population growth rates through fertility reduction rather than addressing the broader health, education and other economic needs of couples and individuals. In addition, these policies and programmes did not focus on the need for quality care and the reproductive health needs of adolescents and unmarried youth. Lack of knowledge and inadequate access to reproductive heathcare services were also some of the barriers preventing the improvement of the reproductive health of women.

ICPD linked reproductive health to women's status in society and to overall economic development policies. This changed the focus of public policy toward an overall improvement in the status of women. Since the ICPD, South Asian governments have been trying to improve the reproductive health of women through reorientation of polices and programmes, as well as introducing legislations to protect the rights of the women and girls. South Asian countries have taken steps to integrate reproductive health services into the primary healthcare system and established Essential Services Packages or Integrated Reproductive Health Packages which define the reproductive health services that are to be provided by government healthcare facilities. However, effective integration of reproductive health, including family planning programmes, into primary healthcare remains a challenge with the existing vertical programmes.

South Asian countries have also expanded the delivery of reproductive healthcare through out-reach services and distribution networks that are mainly community based. In addition, South Asian countries have approved the use of a new contraceptive, called emergency contraception or the 'morning after pill'.

The policies, programmes and legislations that have been introduced in the post ICPD era, and the challenges that remain, are provided in the ICPD + 10 scorecard.

ICPD linked reproductive health to women's status in society and to overall economic development policies

ICPD + 10 score card in South Asia

Policy and programme response	Remaining challenges
India	
• National Family Welfare Programme reoriented and updated by Reproductive and Child Health Programme in 1997. The focus of the Programme changed from target specific to a client-centred approach. • National Population Policy in 2000 formulated with the goal of reaching population stabilisation through improvements in healthcare infrastructure and quality, and meeting the unmet need. It indicated a paradigm shift from population control to reproductive health. • Tenth-Five Year Plan (2002-2007) recognised the need for a life cycle approach to reproductive health, and also called for ensuring equal access to education, employment and health. • National Commission for Women and the Task Force on Women and Children established in 2000 to review the legislation relating to women and provide recommendations when necessary. • National Policy for the Empowerment of Women formulated in 2001 to eliminate gender discrimination and empower women economically and socially. • Constitution amended in 2002 (86th Amendment), making education free for all children age six to 14. • Protection from Domestic Violence Bill introduced to halt domestic violence in 2002. • National Policy and Charter for Children that drafted in 2001, recommended elimination of child marriages and trafficking of girls into prostitution. National Population Policy 2000 and its action plan also called for delaying marriages and increasing awareness of adolescents about sexually transmitted diseases. • National AIDS Prevention and Control Policy and National Blood Policy adopted in 2002, and an Action Plan for Blood Safety formulated in 2003 to prevent the growth of HIV infections by 2007.	• In order to achieve the ICPD goals by 2005, IMR has to be reduced by 25 per cent and under-five mortality rate by 36 per cent, and these reduced rates have to be halved to achieve the ICPD goals by 2015. • MMR has to be reduced by 74 per cent to achieve the ICPD goal of 2015. • Skilled care at delivery has to be increased by 110 per cent to reach the ICPD goal of 90 per cent skilled care at delivery by 2015. • Female illiteracy has to be reduced by 42 per cent to reach the ICPD goal by 2005.
Pakistan	
• Ninth Five Year Plan (1998-2003) included a more clear policy of expanded and improved reproductive health services. • Reproductive Health Services Package developed in 1999. It was created to promote the reproductive health of all women through an integrated approach of service delivery. Efforts of Ministry of Health and Ministry of Population Welfare integrated, and National Steering Committee on Reproductive Health also formed in 2001. • National Reproductive Health Policy formulated in 2000. It was constructed to improve the reproductive health status through increasing awareness about the reproductive health services, and through providing universal, quality care services.	• To achieve the ICPD goals of 2005 and 2015, IMR has to be reduced by 40 per cent and 58 per cent respectively; and under-five mortality rate by 44 per cent and 58 per cent respectively. • To achieve the ICPD goal of 2015, MMR has to be reduced by 83 per cent. • Skilled care at delivery has to be increased by 4.5 times from the current level to attain the ICPD goal of 2015. • Female illiteracy has to be reduced by 44 per cent to reach the ICPD goal by 2005.

Policy and programme response	Remaining challenges
Pakistan	
• National Health Policy of 2001 formulated to include improvements in reproductive health as one of its main goals. • Population Policy formulated in 2002. The Policy aimed to reduce unwanted fertility, promote small family norm, and involve young people and men in the reproductive health programmes as part of important strategies to reduce population growth. • The Poverty Reduction Strategy Paper of 2003 called for an increase in the 'public sector health expenditures through a focus on prevention and control of diseases, reproductive health, child health, and nutrient deficiencies.' It aimed at reaching gender equality through increasing targeted interventions such as Lady Health Workers and improvements in maternal care through improving systems. • Population Welfare Programme in the process of being devolved to district governments. • The first permanent National Commission on the Status of Women developed in 2000 and the National Policy for Development and Empowerment of Women formulated in 2002. The Policy included increasing access of women to healthcare including reproductive health among its goals. • National Education Policy formulated, which aimed at eliminating gender disparities in education. • National HIV/AIDS Strategic Framework developed for 2001-06. • Bill for preventing honour killings accepted. • Population Perspective Plan for the years 2001-10 developed by the Ministry of Population Welfare in order to convert the ICPD commitments into action and to co-ordinate the multi-sectoral programmes.	
Bangladesh	
• National Reproductive Health Strategy developed in 1997. Based on the principles set in the ICPD Programme of Action, which aimed to provide reproductive health services that target the needs of clients with a life-cycle approach. • National Health Policy formulated in 2000. The policy, besides portraying the overall health policy goals of the Government of Bangladesh, aimed at providing rights based health, nutrition and reproductive health services for all citizens, with a special focus on women and children as well as envisaging the expansion and strengthening of family planning services. • Health, Nutrition and Population Sector Programme (2003-06) initiated in 2003 as an expansion of the Health and Population Sector Programme of 1998. Reproductive health established as one of the primary components of the Programme that aims to attain sustainable improvement of health, nutrition and family welfare of all, particularly poor and the vulnerable groups.	• The IMR goal of 2005 has been achieved. To achieve the goal of 2015, IMR has to be further reduced by 31 per cent. But under-five mortality has to be reduced by 22 per cent by 2005 and 42 per cent by 2015. • To achieve the ICPD goal of 2015, MMR has to be reduced by 44 per cent. • Skilled care at delivery has to be increased considerably by 7.5 times to achieve ICPD goal of 2015. • Female illiteracy has to be reduced by 46 per cent to reach the ICPD goal by 2005.

Policy and programme response	Remaining challenges

Bangladesh

such as women and children. Also, Essential Services Package developed to reach the goals of the Programme. The Package aimed to improve reproductive health, nutrition of mothers and adolescents, and the nutrition and care of children, besides the other health components such as communicable disease control, curative care and behavioural change communication.

- National Policy on Women's Advancement adopted, and its implementation plan, National Policy on Women's Advancement Action Plan carried out in 1997 and 1998, respectively. The policy mainly aimed to improve the status of women through establishing gender equality in all spheres of life, eliminate gender discrimination and violence, recognise women's contribution in the economy, as well as to ensure adequate health and nutrition to women.
- National Strategy on Economic Growth, Poverty Reduction and Social Development (Poverty Reduction Strategy Paper) recognised reproductive health as a social development objective and determined the access to choice in reproductive healthcare as a weakness in the heathcare system. Maternal and child health stated as highest public priorities. Strategy also recognised gender inequality as a core development issue to be addressed and called for curbing the violence against women and children by 2015. The Strategy also called for the elimination of gender differences in education and employment for furthering the status of women.
- National Education Policy adopted in 2000. The Policy envisaged uniform, free and compulsory education for eight years by 2010. The Policy also called for special action to increase the school enrolment of girls for primary and secondary schools.
- National Plan of Action against the Sexual Abuse and Exploitation of Children including Trafficking adopted in 2002. The Plan of Action aimed to protect the rights of the children and eliminate child marriages.
- Prevention of Oppression against Women and Children Act passed in 2000 in order to provide a legal basis for the punishment of crimes against women, such as violence, rape, and trafficking.
- National Policy on HIV/AIDS and sexually transmitted diseases (STD) related issues approved in 1997, which aimed to reduce HIV infections, to provide services for the management of sexually transmitted infections, and to reduce the impact of HIV on individuals and communities with a right-based approach. National AIDS/STD Programme developed. The government also prepared a national Strategic Framework 2002-06 for the implementation of the National Policy.

Policy and programme response	Remaining challenges
Nepal	
• National Reproductive Health Strategy adopted in 1998. The Strategy aimed to incorporate gender equality and women's empowerment into all existing health programmes related to safe motherhood and childcare, family planning, nutrition, and STI and HIV/AIDS with a life cycle approach. Integrated Reproductive Health Package developed to implement the strategy. • National Plan for Action for Gender Equality and Women Empowerment developed. It aimed to improve the reproductive health of women through improving quality of and access to health care services. • National Reproductive Health Research Strategy adopted in 2000 with the aim of assisting and improving the existing reproductive health programmes • Tenth Five-year plan, (2002-07), the PRSP of Nepal, called for improving the education and health status of women through expansion of services provided, construction of roads, and targeted programmes. • National Safe Motherhood Programme initiated in 1994. The Programme aimed to decrease the maternal deaths and morbidities by providing 24-hour emergency obstetric care services and ensure skilled attendance at delivery. The first phase of the Programme was initiated in three districts and later the coverage increased to nine districts in 2001. The Programme envisaged providing services in 75 districts. • Abortion legalised through the Eleventh Amendment to Muluki Ain in 2002. Safe Abortion Services Directive adopted in 2003 to define the rules and regulations about the law and to provide the strategy on management of post-abortion care. • Nepal HIV/AIDS Initiative Programme developed in 2001. • Ministry of Women, Children and Social Welfare established in 1995, which formulated National Plan of Action for Gender Equality and Women Empowerment and also established National Women's Commission in 2002 to enhance women's status. • National Adolescent Health and Development Strategy formulated in 2000 with the aim of increasing the availability and accessibility of information on adolescent health, increasing the availability and use of reproductive health services by adolescents, providing a supportive environment through improving their legal, economic and social status. • Eleventh Amendment to Muluki Ain raised the legal age at marriage and brought higher penalties for child marriage. • National Plan of Action Against Trafficking in Children and their Commercial Exploitation formulated in 1997 to raise awareness and collect data on trafficking.	• To reach the ICPD goal of 2005, IMR has to be reduced by 24 per cent and under-five mortality rate by 34 per cent, and these rates have to be halved by 2015. • MMR has to be reduced by 49 per cent by 2015. • Skilled care at delivery has to be increased by eight times from the current levels to reach the 90 per cent goal by 2015. • Female illiteracy has to be reduced by 43 per cent to reach the ICPD goal by 2005.

Policy and programme response	Remaining challenges
Sri Lanka	
• Population and Reproductive Health Policy formulated in 1998, which aimed to ensure safe motherhood and minimise the mortality and morbidities due to reproductive health system. Population and Reproductive Health Policy Action Plan for 2000-10 prepared. • Six Year Development Programme on Family Health 1999-2004 formulated. The Programme established the framework for specific programmes in maternal health and nutrition, health education, adolescent heathcare, and family planning. • National Plan of Action for Women (2002-07) identified several objectives related to women's education and health as well as violence against women. • Directorate for youth in Ministry of Health established in 1998, in order to minimise the reproductive health problems of adolescents. • National Strategic Plan for Prevention and Control of HIV/AIDS (2002-06) developed in 2002. It aimed to minimise the risks of vulnerable groups through behavioural change. National HIV/AIDS Policy drafted and a National Blood Policy adopted. • Marriage Registration (Amendment) Act, 1995 raised the minimum age at marriage to 18 years. • Law on Domestic Violence drafted. • National Plan of Action to Combat Trafficking of Children adopted in 2002. • IMR and U5MR goals of 2005 and 2015 of the ICPD already reached, the ICPD goal of 90 per cent skilled care at delivery attained, and the MMR reduced to a level lower than 100 per 100,000 live births before 2005.	• MMR has to be reduced further by 35 per cent by 2015. • Female illiteracy rate has to be reduced by 32 per cent in order to halve the female illiteracy rate of 1990 by 2005.

Sources: GOB 2003a; GON 2003; GOP 2003b; Seetharam 2004; The Center for Reproductive Rights 2004; UNFPA 2004b and UNICEF 2003b.

Chapter 5

HIV/AIDS in South Asia

'Deeply concerned that the global HIV/AIDS epidemic, through its devastating scale and impact, constitutes a global emergency and one of the most formidable challenges to human life and dignity, as well as to the effective enjoyment of human rights, which undermines social and economic development through the world and affects all levels of society – national, community, family and individual'

(Declaration of Commitment on HIV/AIDS, Article 2).

HIV/AIDS has emerged as one of the main health challenges of the 21st century, killing or infecting more than 60 million people during the short period of just two decades. It has become the leading cause of death in Sub-Saharan Africa, and the fourth largest global killer in the world. Considering its devastating humanitarian and economic impact, it would be inaccurate to label this deadly epidemic simply as a health challenge. HIV/AIDS is undeniably one of the most significant development challenges of this era.

Acquired immunodeficiency syndrome (AIDS) is caused by the human immunodeficiency virus (HIV), which works by gradually weakening the immune system of the human body. Once the immune system becomes so weak that it can no longer fight the infection,[1] the patient develops AIDS and eventually dies from secondary diseases such as diarrhoea, fever, pneumonia, tuberculosis, or skin cancer.

The leading mode of transmission of HIV in the world today is unsafe sex between men and women or between two men, which together accounts for 80-90 per cent of all global infections.[2] HIV is also transmitted through unsafe injecting practices, the transfusion of contaminated blood or blood products, as well as from mother to child during pregnancy, childbirth or breastfeeding. Any person who acquires HIV can live up to nine to 11 years in the absence of treatment[3] and the known end can be delayed by around four years when the infected person has access to antiretroviral treatment (ART).[4] A good nutritious diet can also contribute positively to the life span of people living with HIV/AIDS, but the disease always culminates in the death of the patient.

Unfortunately, no cure for the disease exists to date, and a vaccine for its prevention is also not available yet. This, and a number of other reasons, makes HIV/AIDS a cause of grave concern in the world, and especially in South Asia. It is a disease that is communicable and has an inescapable and unavoidable end: premature death of the patient. In addition to this, its potential capacity to affect social and economic conditions is tremendous and is not just limited to individuals, but also to families, communities, and countries as a whole. Moreover, the main modes of transmission of HIV imply that reverting its' spread will prove to be a challenge in itself, since the topic of sex is taboo in most countries and the groups most susceptible to it are those that are already marginalised and hard to access due to existing social structures. Effective containment of the disease also requires the existence of a strong and effective healthcare infrastructure, a feature which is often lacking in poor countries that are most affected.

The presence of HIV also results in discriminatory practices against those infected by the virus. People living with HIV/AIDS are usually ostracised by society and denied their basic right of living with dignity. In most cases, they are also denied access to basic education and

HIV/AIDS has emerged as one of the main health challenges of the 21st century, killing or infecting more than 60 million people during the short period of just two decades

health. In short, HIV/AIDS is a disease of misery and suffering, which is quick to spread and requires exhaustive and lengthy efforts to contain. Considering its dreadful and widespread impact on populations and countries, the earlier HIV is combated, the better.

The impact of HIV/AIDS on human development

The impact of the grief and destruction caused by the epidemic, on the families, communities and economies is enormous

The experiences from the world have shown that HIV/AIDS has a disparaging impact on human development. The epidemic worsens economic growth, human capital formation, functioning of education, health and agricultural sectors, deteriorates poverty and income inequality, and hence progress in human development. This section puts forward the impact of HIV/AIDS on human development with examples from the world and the region.

1. *Impact on the progress in Millennium Development Goals:* The rapid spread of HIV/AIDS is threatening the achievement of Millennium Development Goals (MDGs), adopted by 189 countries at the Millennium Summit in September 2000.

- MDG 1, eradicating poverty, is threatened by decreasing economic growth and increasing food insecurity resulting from the high rate of AIDS-related mortality among the young, working population.
- MDG 2, achieving universal primary education, is endangered due to the inability of HIV/AIDS infected parents to send their children to school.
- MDG 3, promoting gender equality, is threatened as women become the patients of HIV/AIDS, and girls are taken out of school to look after their sick family members.
- MDG 4, reducing child mortality, seems very hard to achieve since almost all the children infected with HIV/AIDS die at a very early age.
- MDG 5, reducing maternal mortality, is also threatened as the mortality of pregnant women and mothers with HIV/AIDS increases.
- MDG 6, combating against HIV/AIDS, malaria and other diseases, is a difficult goal to achieve since HIV/AIDS increases the risk of developing malaria and tuberculosis.

Indeed, HIV/AIDS appears to be a most devastating disease, which threatens to reverse the gains achieved in human development. This reversal of progress in human development has been most stark in sub-Saharan Africa, a region that hosts two-thirds of the people living with HIV/AIDS in the world today. The impact of the grief and destruction caused by the epidemic, on the families, communities and economies is enormous and is expected to deepen as the death toll of infected people mounts. In 2003 alone, 2.3 million people in Sub-Saharan Africa died a premature death. The number of orphans living in the region increased to 12.1 million by the end of 2003. And today, Sub-Saharan Africa loses between one to two per cent of its annual economic growth due to HIV/AIDS, in addition to suffering human capacity crises in vital sectors such as agriculture, education and health.[5]

2. *The impact of HIV/AIDS on demography* will prove to be even more devastating if the current trend continues. The seven African countries that experience infection rates of more than 20 per cent will lose one-third of their population by 2025.[6] The loss of life will also be high in the most populous countries of the world. For instance, it is estimated that by 2025, 31 million additional deaths will take place in India, and 18 million in China,[7] as a direct consequence of AIDS.[8]

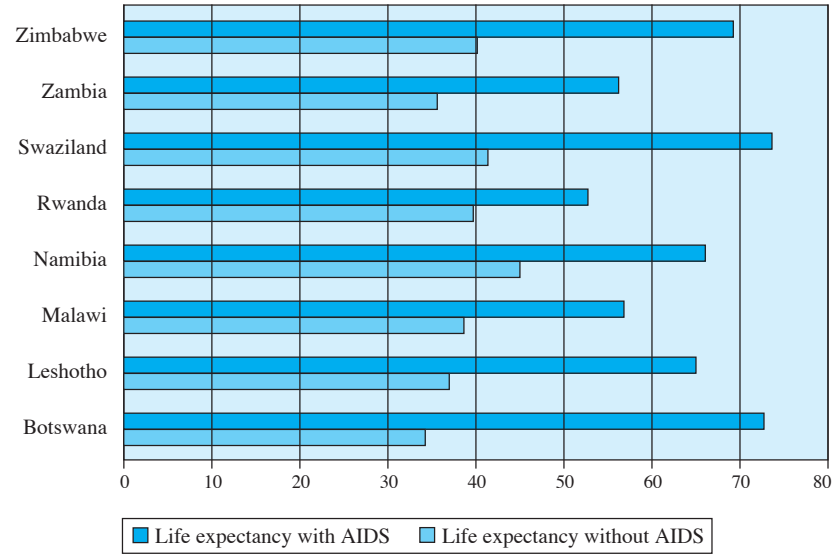
Life expectancy in these countries is also being reduced as a result of high mortality rates among the young. In the most affected countries such as Botswana, Lesotho, Zambia and Zimbabwe, a 15-year-old person has less than a 20 per cent chance to live till the age of 65. Similarly,

in Malawi, Namibia, and Rwanda, only one in four 15 year olds will live to see their 65th birthday.[9]

This demonstrates how the life expectancy at birth has declined dramatically in highly infected countries of Sub-Saharan Africa, and any gains achieved in life expectancy levels over the decades have been reversed (figure 5.1). This decrease in life expectancy levels has, in turn, reversed the overall development gains made by countries, which is reflected by the Human Development Index (HDI).[10] For instance, Botswana, Swaziland and Lesotho have observed an approximate ten per cent decrease in HDI values since 1990, while there has been a fall of nearly 20 per cent in the ranking of Zimbabwe.[11]

Also, in addition to adult populations, HIV/AIDS is likely to have an effect on infant and child mortality rates. Since 1990, there has been substantial increase in infant and under-five mortality rates in the three most affected countries of the world (figure 5.2). HIV/AIDS has also become one of the major causes of maternal mortality in Sub-Saharan Africa, which has the highest maternal mortality ratio in the world.

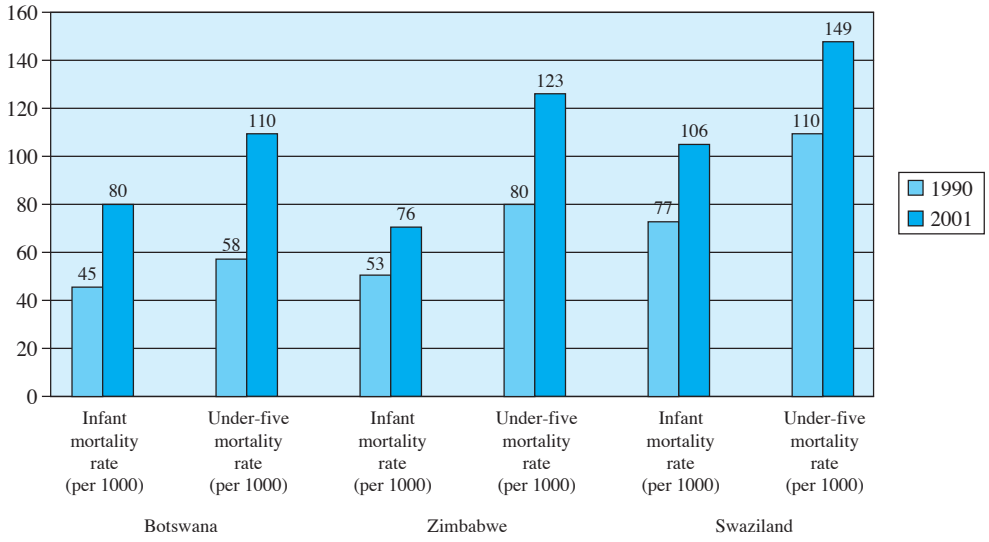
Figure 5.1 Life expectancy with and without AIDS for selected countries of Sub-Saharan Africa, 2002



Source: US Census Bureau 2004.

Such trends threaten to spread to South Asia as the prevalence of the HIV/AIDS virus gains a hold in the region. As cited in the United Nations Development Programme (UNDP) *Human Development Report 2003*, the life expectancy rate of India is projected to decrease by 13 years by 2025, if the current rate of HIV infection continues.

Figure 5.2 Trends in infant and under-five mortality in three most HIV/AIDS affected countries of the world, 1990-2001



Source: UNDP 2003a.

When the children themselves are HIV positive, they are usually denied their basic right to education

3. Another devastating consequence of HIV/AIDS is its *impact on households*. Families bear not only the psychological burden of witnessing the slow death of their loved ones, they also have to face the stigma and social isolation attached to AIDS, irrespective of their own HIV status. Moreover, particularly in poor settlements and situations where the person living with HIV/AIDS is the breadwinner, the financial burden is felt by each family member. The loss of income, as well as the increased cost of medical care, can easily drag the families into poverty. For instance, in South Africa and Zambia the households that were affected by AIDS experienced a decrease of 66 to 80 per cent of their income.[12] In India, nearly half of the household income was spent on treatment and care. The burden of HIV/AIDS on low-income households (82 per cent of the income) is substantially higher than the higher income households (28 per cent of the income).[13] As is the case in India, and considering the long duration of the illness, HIV/AIDS leads to the impoverishment of many households since the families, while trying to cope with the illness, sell their assets or borrow money.[14] The nutritional status of the family members also deteriorates because a high proportion of available earnings need to be spent on medicine rather than food.

Women are also affected disproportionately from the disease, especially where the capacity of the healthcare systems is inadequate. The demand for women's labour at home increases, in addition to an increased demand for women's paid labour, since the family has to compensate for the loss in earnings. Also, women widowed by AIDS usually lose their property or inheritance after the death of their husbands, and are therefore more likely to face isolation and discrimination, even from family members.

The death of family members can transform the composition and social structure of households, particularly once HIV/AIDS reaches the general population. The number of female-headed households has been increasing significantly as a result of the higher numbers of male deaths from the disease.

The number of AIDS orphans in the world has already reached 15 million, and is increasing everyday.[15] Sometimes children may lose any or both of their parents due to AIDS-related illnesses. Orphans can be viewed as lost opportunities of development, since the experiences from Sub-Saharan Africa have shown that these children are less likely to gain education after the death of their parents.[16] When the children themselves are HIV positive, they are usually denied their basic right to education.

4. The epidemic is also associated with an unfavourable *impact on the firms*, and thus the economic progress of countries. It affects the size and the quality of the labour force, as the majority of people infected with the virus fall in the prime age group of 15-54.

Private firms, depending on the number of people with HIV working in the firm and the stage of their illness, may face increasing costs and lowering productivity levels as a result of increasing absenteeism and death of experienced workers. For instance, absenteeism due to illnesses caused by HIV/AIDS in East African firms accounts for 25 to 54 per cent of company costs.[17]

Both the quantity and the quality of products might deteriorate as a result of the labour lost, as well as the overload of work on other workers who try to compensate for the time lost by their sick colleagues. The decreasing morale of the workers due to losing a friend is another factor that may lead to inferior quality and quantity of products produced by the firm.

HIV/AIDS also increases labour costs. Aside from having to hire more employees than required to compensate the labour hours lost and ensure that the vital posts that require trained personnel are immediately filled after the loss of the

worker, the firms may face increased labour costs due to augmented healthcare benefits to employees living with HIV/AIDS.[18] In Southern African countries, firms are losing six to eight per cent of their profits due to HIV/AIDS-related absenteeism, fall in productivity, and increased expenses due to healthcare, recruitment and training.[19]

5. *The impact of HIV/AIDS on the agricultural sector* is enormous, and borne mostly by the agrarian countries and the communities. HIV/AIDS can make farmers sick and kills them during their productive years. Illness or loss of farm workers results in a decrease in production due to the shortage of labour at peak seasons such as planting and harvesting.

HIV/AIDS may also lead to a shift in the crops produced, as sick farmers unable to supply long hours may shift to less labour intensive crops. However, this would decrease the variety of crops produced, particularly in most affected countries, and may result in inferior nutritious diet.[20]

The death of farmers also means loss of experienced staff in the agricultural sector. Furthermore, the impact of losing a farmer can continue for generations. In rural settings, farmers usually accumulate knowledge on farming methods and transfer it to the following generations. The death of the farmer, therefore, also means breaking off the cycle of acquired indigenous knowledge.

HIV/AIDS also results in food insecurity by hampering households' ability to produce food. HIV/AIDS is believed to be responsible for killing 26 per cent of the agricultural labour force in most-affected African countries over the duration of just two decades, and for decreasing food consumption by 40 per cent in the homes afflicted by HIV/AIDS.[21]

6. *Impact on health system*. HIV/AIDS is a major burden on the health systems of countries that experience high prevalence levels. It increases the demand for healthcare services and endangers the supply and quality of the services provided.

As the number of HIV positive people increases, and a higher quantity of people start becoming sick, the need for hospitals beds and the health staff increases. For example, one-third of patients hospitalised in Tanzania and half in Zimbabwe were infected with HIV. In the next few years, the total number of beds needed is expected to exceed the number of beds available in Swaziland and Namibia.[22]

In addition, as the epidemic spreads to the general public, a country is likely to have more doctors infected by HIV and die. In African countries, governments have lost 19 to 53 per cent of their health employees as a consequence of HIV/AIDS.[23] Thus, the quality of healthcare also deteriorates, since healthcare providers might be reluctant to interact with the AIDS patients. Discrimination against AIDS patients, either through the refusal to admit them to hospitals, or by withholding appropriate treatment, is not uncommon.

HIV/AIDS is also a burden on the health budgets of countries. It obliges governments to divert resources to HIV/AIDS prevention and treatment programmes. This may lead to the neglect of other health areas, and the deterioration of overall health status. The trade-off between HIV/AIDS and other health sector programmes is high in developing countries, which already have very inadequate social sector budgets.

The trade-off between HIV/AIDS and other health sector programmes is high in developing countries

7. *Impact on the education system*. The HIV/AIDS epidemic has a negative consequence on both the demand for, and supply of, educational services. On the demand side, families may become reluctant to educate their children, since the increasingly short lifespan of people in highly infected countries prevents children and families from reaping the long-term benefits of education. HIV/AIDS also decreases the school attendance of children, particularly girls, as their support- both financial and

physical- is required in HIV stricken homes.[24] For instance, it is estimated that in the Central African Republic and Swaziland, school enrolment has dropped by 20-36 per cent due to AIDS.[25]

This disease can also weaken the entire education system, particularly when the number of HIV positive teachers increases to significant numbers. In Kenya, Uganda, Swaziland, Zambia and Zimbabwe there will be a shortage of primary school teachers,[26] leading to barriers for attaining the school enrolment goals. The supply of education services can decline, and the quality deteriorates due to the death or absenteeism of teachers. Furthermore, the training of new teachers places a strain on the already limited education budgets of countries.

Infected persons and their families have been pushed into the poverty trap as their savings and assets decreased due to increasing health expenditures

8. *Impact on economic growth and poverty*. The impact of HIV/AIDS on the economies has been devastating, bringing most African countries to the edge of economic collapse. Many of the highly infected countries have observed decreasing gross domestic product (GDP) per capita levels, indicating increasing poverty among their populations. Besides, infected persons and their families have been pushed into the poverty trap as their savings and assets decreased due to increasing health expenditures. Poor families are forced to sacrifice the education of their children, which is likely to cause a further decline in economic growth, in the long run.

Although the impact of HIV/AIDS is not yet visible at the country level in South Asia, it has already had a destructive effect on the lives of more than five million HIV infected people in the region, and their families. It is not difficult to foresee the future direction of this epidemic, as the numbers are continuously growing in South Asia- one of the most populous regions of the world.

Prevalence of HIV/AIDS in South Asia

HIV/AIDS exploded into a global epidemic particularly after 1994. The first wave of the epidemic had already taken place in Sub-Saharan Africa, one of the least developed regions of the world, causing the devastation of millions of people in the region. The second wave of the epidemic erupted in Asia, which is home to two of the most populous countries of the world- China and India. The first case of AIDS in Asia was reported in Thailand in 1984, by 1986 it had spread to Myanmar, and it gradually

Table 5.1 Estimated number of people living with HIV/AIDS, new infections and adult prevalence rate by regions, 2004

	People living with HIV/AIDS (millions)	People newly infected with HIV/AIDS during 2003 (thousands)	Adult prevalence rate (%)
Sub-Saharan Africa	25.4	3,100	7.4
North Africa and Middle East	0.54	92	0.3
South and South-East Asia	7.1	890	0.6
South Asia	**5.25**	**…**	**0.7***
East Asia	1.1	290	0.1
Latin America	1.7	240	0.6
Caribbean	0.44	53	2.3
Eastern Europe and Central Asia	1.4	210	0.8
Western and Central Europe	0.61	21	0.3
North America	1	44	0.6
Oceania	0.035	5	0.2
World	39.4	4,945	1.1

Note: *The figure is calculated as the weighted average in relation to the population sizes of the countries, using the data provided in table 5.2.

Sources: UNAIDS 2004 and UNAIDS and WHO 2004.

spread to the countries of South Asia as well. The first HIV/AIDS case in South Asia was identified in the mid 1980s, and has spread widely since the 1990s.

Today, South Asia is home to the second highest number of people living with HIV/AIDS. More than five million people with HIV/AIDS live here, constituting around 13 per cent of the global total (figure 5.3). In fact, South Asia is now facing the potential threat of an epidemic as severe as the one experienced by Sub-Saharan Africa. Only in the last two years, the number of people living with HIV/AIDS increased by 27.3 per cent- which amounts to nearly 1.126 million people.[27] To date, 0.7 per cent of South Asian adults have acquired HIV.

However, adult prevalence rates are less than one per cent in all countries of the region, indicating that the epidemic is still at an early stage. The prevalence rates of HIV/AIDS among adults range from a negligible share in Bangladesh, Sri Lanka and Bhutan, to 0.9 per cent in India.[28] According to global estimates, India (5.1 million) has 97 per cent of the HIV/AIDS population in South Asia, followed by Pakistan (74,000) and Nepal (61,000) (table 5.2).

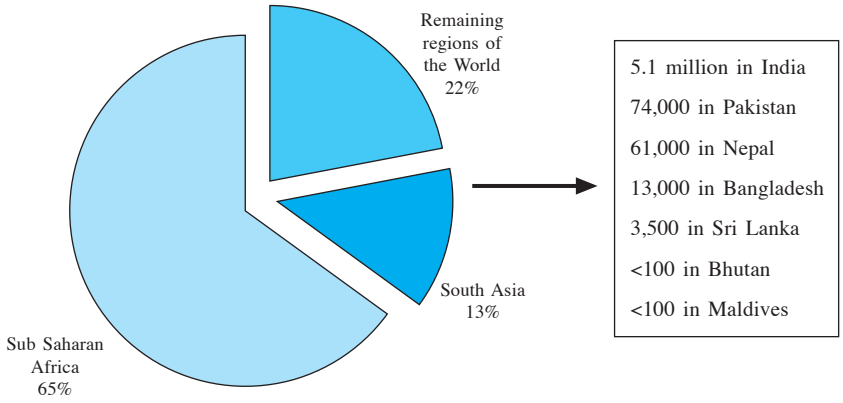
Currently, more men than women are infected with HIV/AIDS in South Asia. In 2003, about sixty per cent of HIV infected people were men in South Asia, while 37 per cent were women, and two per cent were children (figure 5.4). This was also the situation in Sub-Saharan Africa at the beginning of the epidemic, but the trend has now reversed and currently more than half of the HIV positive people in the region are women.

Although the total death toll for South Asia is unknown, in the year 2003 alone, HIV/AIDS has killed at least 300,000 people in India,[29] 4,900 people in Pakistan, 3,100 people in Nepal and about 200 people in Sri Lanka.[30] The epidemic had been spreading at a different pace in each country, and even in the various regions within a country. In Pakistan, Bangladesh, Sri Lanka, Maldives and Bhutan, the epidemic has spread at low or moderate levels, while it has reached concentrated levels in Nepal and three states of India, and affected the general populations in six states of India (figure 5.5).

The main mode of transmission of HIV in all countries of South Asia is unsafe sex, and also the reuse of HIV contaminated syringes, particularly in India, Pakistan, Bangladesh and Nepal. Therefore, groups that are most vulnerable to the HIV infection are commercial sex workers (CSWs), injected drug users (IDUs), men having sex with men (MSM), and their clients and partners.

***INDIA*:** The first case of HIV/AIDS in India was reported in Chennai (Madras), in the state of Tamil Nadu in 1986. Since then, HIV/AIDS cases have increased significantly, reaching more than five

Figure 5.3 Share of HIV/AIDS by regions and the estimated number of people living with HIV/AIDS in South Asia, 2004



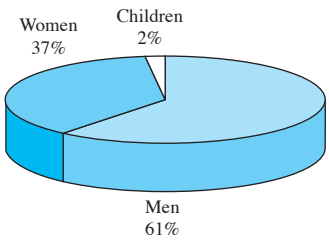
Sources: UNAIDS 2004 and UNAIDS and WHO 2004.

Table 5.2 Estimated number of people living with HIV/AIDS in South Asia, end 2003

	First detection of HIV/AIDS (Year)	Total	Adults (aged 15-49) living with HIV/AIDS	Adult prevalence rate (% of total population aged 15-49)
India	1986	5,100,000	5,000,000	0.90
Pakistan	1987	74,000	73,000	0.10
Bangladesh	1989	13,000	13,000	<0.10
Nepal	1988	61,000	60,000	0.50
Sri Lanka	1986	3,500	3,500	<0.10
Bhutan*	1993	<100	<100	…
Maldives*	1991	<100	<100	…

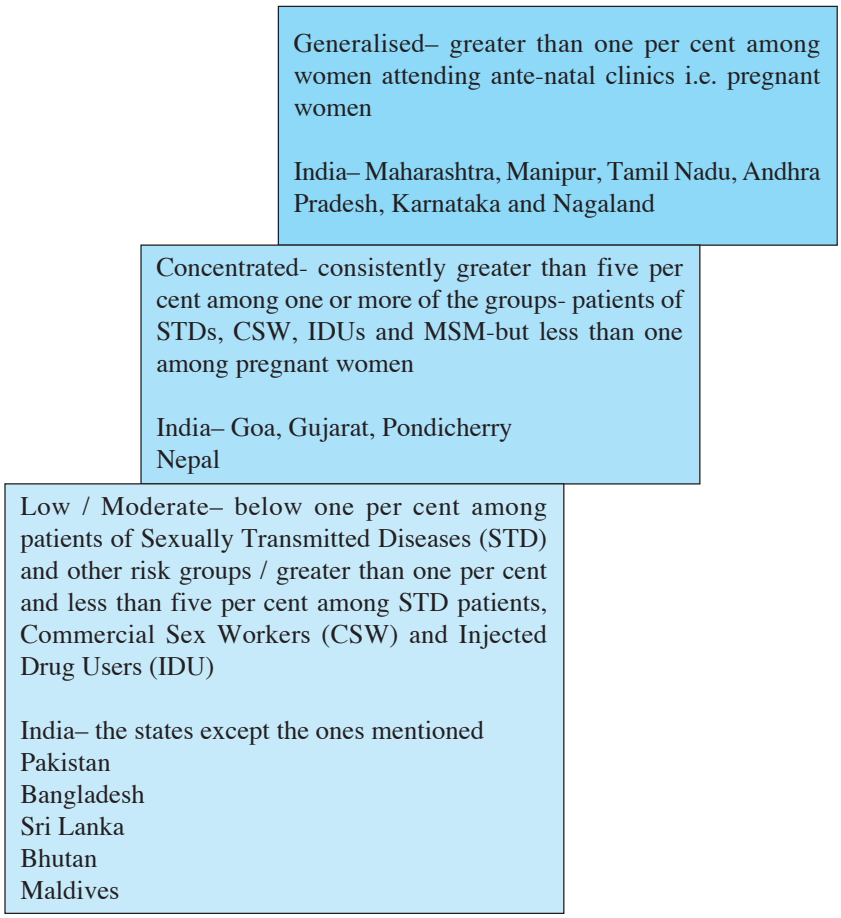
Note: *Data of end 2001.
Sources: UNAIDS 2002c, 2004.

Figure 5.4 Share of women, men and children in people living with HIV/AIDS in South Asia, 2003



Source: UNAIDS 2004.

Figure 5.5 Defining the HIV/AIDS epidemic in South Asia



Source: World Bank 2003c.

million by 2003.[31] According to Joint United Nations Programme on HIV/AIDS (UNAIDS), by the end of 2003, nearly 0.9 per cent of the adults had acquired HIV/AIDS in India.[32]

India is a low prevalence but high-risk country, where the epidemic has gained a strong hold in scattered regions of the country, and among the various high-risk groups. In India, despite low prevalence among the total adult population, HIV/AIDS has taken a localised but serious form and indicates the signs of spread to the general population. Six states, namely Maharashtra, Manipur, Tamil Nadu, Andhra Pradesh, Karnataka and Nagaland, in which around a quarter of the total population is settled, are home to 80 per cent of the people living with HIV.[33] Here, HIV prevalence among high-risk groups is consistently higher than five per cent and the HIV prevalence among pregnant women – an indicator of the spread of HIV to the general population – has exceeded one per cent in these states. Furthermore, three other states, Goa, Gujarat and Pondicherry, have concentrated epidemics, which means that HIV is likely to affect the lives of the general populace within a couple of years. In the rest of the states, the prevalence levels have indicated low to moderate epidemics.

The reported number of cases has remained miniscule in India as well as in all other countries of South Asia, mostly due to the stigma and discrimination against AIDS, as well as the lack of voluntary counselling and testing (VCT) services. As of end May 2004, the registered number of cases of AIDS with the National AIDS Control Organisation (NACO) was 70,453, with a male to female ratio of three to one.[34]

Among the registered cases, heterosexual sex is the predominant mode of transmission (86 per cent), followed by mother to child transmission (three per cent), and transmission due to contaminated blood and blood products (two per cent), (see Chapter 7, figure 7.9).

PAKISTAN: The first official HIV/AIDS case in Pakistan was recorded in 1987 in Lahore.[35] Since then, the number of people living with HIV/AIDS has increased steadily according to both official records and estimates, reaching to around 74,000 in 2003.

When the first case of HIV/AIDS was reported in the country, it was not considered to be a threat to the general Pakistani populace since strong cultural values did not allow for the fact that prohibited activities, such as those of CSWs, IDUs and MSM, may increase the likelihood of acquiring HIV. However, HIV/AIDS became a reality when, in 1988, people receiving blood transfusions from commercial blood donors, were found to be HIV positive. An increasing number of HIV infections were reported during the early 1990s, which was

attributed to the return of HIV positive people previously living or working abroad. There were also reports of entire families of HIV positive migrants becoming infected with the disease. During the late 1990s, aside from the continuingly large number of HIV positive migrants returning to Pakistan, the appearance of HIV/AIDS in sub-groups such as CSWs, IDUs, transport workers, internal migrant workers and jail inmates was also witnessed.[36]

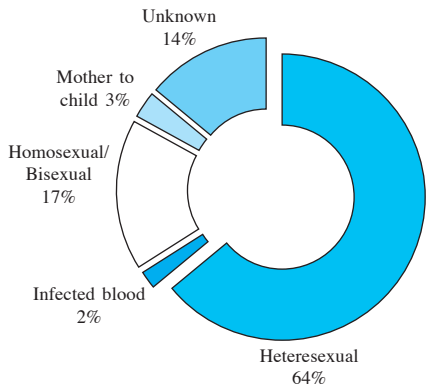
The lack of proper voluntary counselling and testing services, weaknesses in the reporting system, as well as the extreme stigma attached to HIV/AIDS, has kept the number of cases recorded significantly lower than the estimated number of actual infections. According to official government figures, by 2004 the total number of HIV cases was recorded as being 2,748, of which around 250 were full-blown AIDS cases.[37] On the other hand, according to UNAIDS, 74,000 people were living with HIV/AIDS in Pakistan in 2003, although the prevalence of HIV/AIDS among the adult population was low at 0.1 per cent.[38]

In Pakistan, out of the registered cases, the majority of the people living with HIV/AIDS were men.[39] Recent estimates show that the male to female ratio of people living with HIV/AIDS (PLWHA) is six to one.[40] Most of the cases were reported in major urban areas, from all over the four provinces. However, the high mobility of people and rural-urban migration, in addition to a high prevalence of commercial sex work on the truck routes and near labour camps, indicates that the risk of acquiring HIV is not limited to men and/or to urban areas only.[41]

Unsafe sex emerges as the main mode of transmission among registered cases in Pakistan (63 per cent), followed by the HIV contaminated blood transfusion (seven per cent), and men to men sex (six per cent), (figure 5.6).

Like India, Pakistan is a low prevalence but high-risk country. Though the adult prevalence rate is less than one per cent,

Figure 5.6 Models of transmission as percentage of total reported cases in Pakistan, 2003



Source: World Bank 2003e.

increasing use of injections among drug users since the 1990s, low knowledge, and low condom use by pose a high risk for the country.[42] Thus far, IDUs are the most vulnerable group in terms of acquiring HIV in Pakistan, followed by CSWs and their clients, such as truck drivers and migrant workers.[43]

***BANGLADESH**:* The first case of HIV/AIDS was recorded in 1989 in Bangladesh. According to UNAIDS, 13,000 people were living with HIV/AIDS in the country at the end of 2003.[44] Subsequently, Bangladesh is classified as a low prevalence country, with adult prevalence rate of less than 0.1 per cent.

However, there is a huge disparity between the estimated and recorded HIV/AIDS cases in the country, mainly due to the limited voluntary testing and counselling capacity of Bangladesh, as well as the social stigma attached to the disease. Only 363 HIV cases have actually been reported in Bangladesh by the end of 2003.[45]

IDUs are the most vulnerable group in Bangladesh, having the highest rate of HIV infection, at four per cent. The other high-risk groups identified as being vulnerable to HIV are CSW, MSM, and male clients of sex workers.[46]

NEPAL: The first case of HIV/AIDS was reported in Nepal in 1988. By January 2004, 3,388 HIV cases, and 708 full-blown AIDS cases were reported to the National Center for AIDS and Sexually Transmitted Diseases (STD) Control in Nepal.[47] The majority of people who had acquired the virus were men (75 per cent).

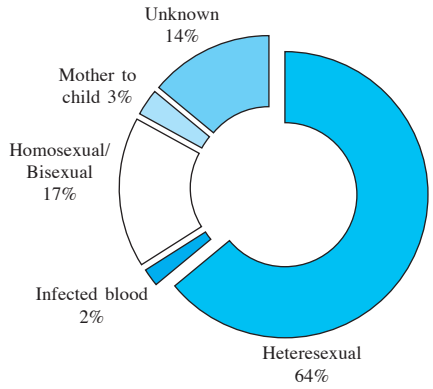
According to UNAIDS, the estimated number of cases is much higher- 61,000 people are currently living with HIV/AIDS in Nepal, and nearly 3,100 people lost their lives to the disease in 2003.[48]

In Nepal the adult prevalence rate of HIV/AIDS is low at 0.5 per cent of the total adult population. However, the high prevalence rates among high-risk behaviour groups, such as injecting drug users (40.4 per cent nationwide and 68 per cent in Katmandu) and sex workers (17 per cent) characterise the epidemic in Nepal as concentrated. Early sexual activity of teenagers, prevalence of commercial sex work, and high levels of unsafe sex between both women and men, as well as between men and men, needle sharing among the injected drug users, and the interaction between the IDUs, CSW and MSM are all indicators heralding a full-blown epidemic, unless necessary precautions are taken in Nepal.

Given the unchecked spread of the virus, it is estimated that over the next decade, the prevalence rate will increase to one to two per cent among the 15-49 year old population in Nepal, and that the total AIDS cases and deaths will reach nearly 10,000-15,000, emerging as the leading cause of death among adults in the country.[49]

SRI LANKA: The first HIV/AIDS case in Sri Lanka was reported in 1987. Due to limited availability of counselling and testing services, and the fear of stigma, the reported cases have remained low- by December 2003 only 161 cases had been reported officially. However, UNAIDS estimates show that around 3,500 adults and children were living with HIV/AIDS in Sri Lanka in 2003.[50]

Figure 5.7 Models of transmission in Sri Lanka, 2001



Sources: UNAIDS, UNICEF and WHO 2002.

Sri Lanka is classified as a low prevalence country, and experienced an adult prevalence rate of 0.1 per cent in 2004. The male to female ratio of HIV/AIDS infections is 1.4 to 1. The major mode of HIV transmission in Sri Lanka is heterosexual sex (64 per cent), followed by sexual transmission (17 per cent) (figure 5.7). Only a few cases of mother to child transmission, and transmission through blood transfusions, have been recorded. There are no reported cases of infection due to IDU transmission.[51]

The presence of a sex industry, injected drug use, high mobility of the populace, the existence of insecure Free Trade Zones, and the high incidence of child abuse are factors that pose the risk of HIV in Sri Lanka. In addition to these, the two decade-long civil war in the North and East of the country has increased the number of army personnel, and has caused an influx of commercial sex workers into brothels near army camps in Sri Lanka. Thus, army personnel have also been identified as a high-risk group in Sri Lanka.

BHUTAN: The HIV epidemic in Bhutan has a history that is only one decade long. The first case of HIV/AIDS in the country was reported in 1993. Since then, only 36 people are officially recorded as being HIV positive.[52] The UNAIDS estimates

that the number of people living with HIV/AIDS is 100, and that the adult prevalence rate is less than 0.1 per cent. The only mode of transmission in Bhutan is heterosexual sex.

Despite the scant evidence on HIV/AIDS prevalence, Bhutan is not free from the risk of an HIV epidemic. In addition to high mobility, and prevalence of STDs, the flexibility of sexual norms poses a risk of HIV spread in Bhutan.[53]

Mobility often increases the opportunities for engaging in casual or commercial sex. Increased mobility and migration have also resulted in an enlarged commercial sex sector in Bhutan. In addition, the risk of HIV transmission is high among commercial sex workers, since STDs are quite common. For example, according to World Bank, among the 60 sex workers of Phoensoling, 3.34 per cent has been found HIV positive and 72 per cent has been found positive for syphilis.[54] The cross border trade and migration between Bhutan, Nepal and India (particularly the Indian States of Manipur, Nagaland and Mizoram, which already have concentrated epidemics), are also factors contributing towards the increasing vulnerability of Bhutan to HIV.

MALDIVES: The first HIV case in Maldives was reported in 1991. The total number of HIV/AIDS cases officially recorded till January 2004 was 142. The main mode of transmission in the country is heterosexual sex.[55]

Despite being a low prevalence and low-risk country, Maldives has a number of risk factors which may lead to the spread of HIV/AIDS in the country. These factors include high mobility of students and workers, high divorce and remarriage rates, increasing drug use, and dispersed settlements that prevent the utilisation of programmes which aim to raise awareness and distribute condoms for the treatment of STDs. Small islands also lack the necessary resources and infrastructure, such as newspapers, radio and television, to disseminate messages through mass media.

A large influx of people from other countries poses another risk for Maldives. Around 5,000 immigrants from India and Sri Lanka are working in the tourism sector in Maldives. In addition, the number of tourists that visit the country every year is higher than the total population of Maldives. This has the potential to introduce HIV through unsafe sex or injecting drug use.

South Asia's vulnerabilities to HIV/AIDS

A number of common factors, such as the high percentage of young people in total population, high levels of poverty and illiteracy, low status of women particularly in the lower strata of society, high mobility of people within and outside country, lack of awareness and knowledge about HIV/AIDS and the high prevalence of stigma attached to HIV/AIDS, may increase the spread of HIV infections in South Asia. In addition, refugee populations resulting from either internal or external conflict, or natural disasters, increase South Asia's vulnerability to HIV/AIDS.

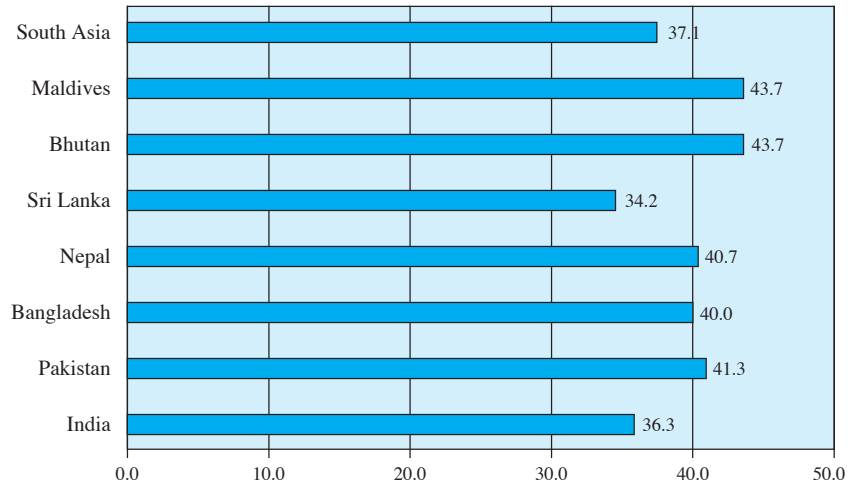
Vulnerability due to high proportion of young people in the population

In 2002, one-third of the people living with HIV/AIDS in the world belonged to the age group of 15-24 years.[56] Globally, young people account for half of all new infections among the adult population.[57] Generally, young people are at the centre of HIV vulnerability for a number of reasons. First, high risk behaviour such as unsafe sex and drug use are common among young people. Second, they usually lack access to information and preventive services, and therefore their knowledge about how to protect themselves from acquiring the virus remains scant.

South Asia is home to more than 250 million young people, who account for one-fifth of the total population. The youth

High percentage of young people in total population, high levels of poverty and illiteracy, low status of women … may increase the spread of HIV infections in South Asia

Figure 5.8 Percentage share of young people (aged 15-24) among the adult population (aged 15-49) in South Asia, 2000

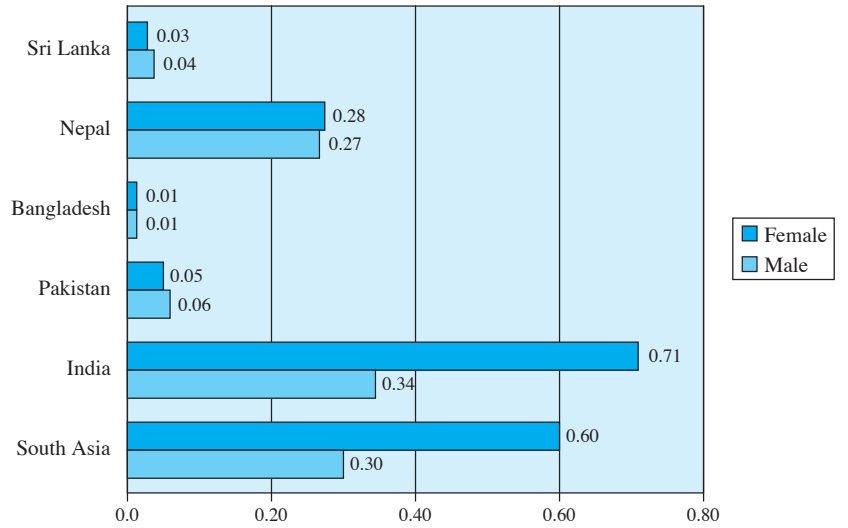


Source: UNPD 2004b.

in South Asia constitutes around 37 per cent of the adult population aged 15-49, ranging from 34.1 per cent in Sri Lanka, to 43.7 per cent in Bhutan and Maldives (figure 5.8).

In South Asia HIV prevalence rates among male and female youth were 0.3 and 0.6 per cent, respectively, in 2001. The figure 5.9 indicates that the infection among youth is still lower than the overall prevalence among adults, but the effect of

Figure 5.9 HIV/AIDS prevalence rates among youth by sex, 2001



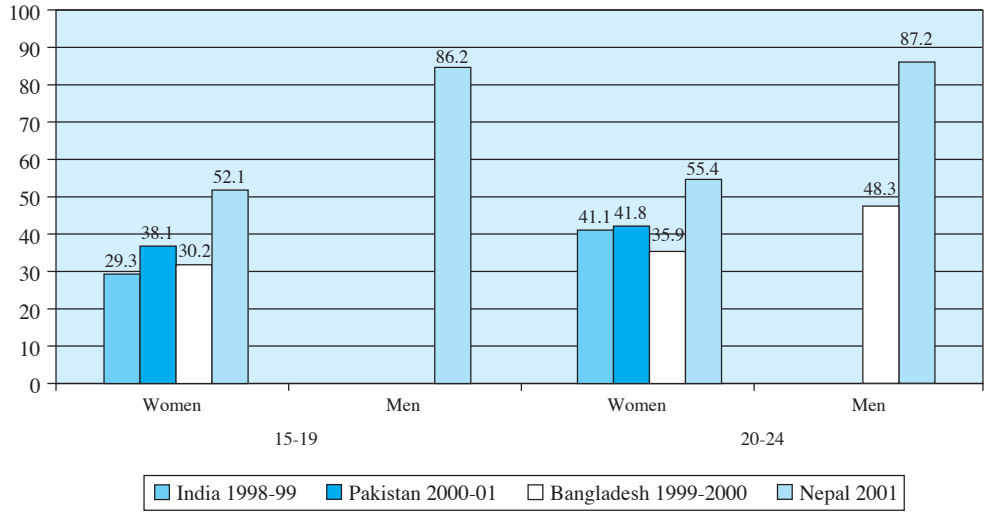
Note: Mid-values of low and high estimates among youth have been used in the figure.
Source: UNAIDS 2002c.

the epidemic is turning towards young women in South Asia.

The young people in South Asia are highly exposed to risks of acquiring HIV for a number of reasons:

- First, sexual issues have been one of the biggest taboos among the South Asians. Talking about crucial information on sexuality with young people is feared as being a factor that might encourage young people to start practicing sex. Therefore, families are reluctant to provide the necessary information to their children, and attempts to provide HIV/AIDS education in schools are hampered by such social and cultural constraints.
- Second, the time of youth is considered to be a sexually inactive period and, therefore, the sexuality and reproductive health needs of youth are usually ignored and inadequately addressed by policymakers and families.
- Furthermore, incidents of violence, abuse and exploitation of young people, particularly against girls, are widespread in South Asia. The trafficking of girls into prostitution is one of the biggest threats fuelling HIV transmission among young girls of South Asia.
- Early marriages, which are a common social phenomena in the region (see chapter 4), are also one of the factors increasing the risk of acquiring the virus for young women. The right to negotiate for the use of condoms, particularly with the spouse, is almost unimaginable for young women of South Asia.
- HIV/AIDS awareness and knowledge is also limited among the South Asian youth, particularly among young women. More than half the women aged 15-19 and 20-24 in India, Pakistan and Bangladesh are unaware of the existence of HIV/AIDS (figure 5.10). HIV awareness among young women in Nepal is higher than in other South Asian countries, except Sri Lanka. In

Figure 5.10 HIV/AIDS awareness among youth in selected countries of South Asia, 1998-2001



Sources: IIPS 2002; MOHN, New ERA and ORCM 2002; NIPS 2001 and NIPORT, MA and ORCM 2001.

Sri Lanka, despite the fact that overall HIV awareness is above 90 per cent in the population, the awareness in the age group of 15-19 years is low.[58]

High prevalence of sexually transmitted diseases

Sexually transmitted diseases fuel the spread of HIV infections by increasing the risk of acquiring the virus by two to five times.[59] For instance, the HIV prevalence rate among STD patients in India ranged from 3.78 to 32 per cent during the last decade. Similarly, in Pakistan, 6.1 per cent of patients attending selected STD clinics were found to be HIV positive.

Information about STD prevalence in South Asian countries is limited, particularly that concerning men. Blood tests of pregnant women in urban Bangladesh in 1997-99 and Sri Lanka in 2002 indicated that the prevalence of syphilis was 2.1 and 0.9 per cent, respectively.[60] STDs are usually higher among commercial sex workers. The estimated prevalence of curable STDs such as syphilis and gonorrhoea among the sex workers of Bangladesh was 29.8 per cent and 35.6 per cent, respectively. In Nepal, syphilis prevalence among CSWs was 14.3, while around one in ten CSWs suffered from gonorrhoea.[61] Early detection and treatment of STDs is crucial for combating HIV/AIDS. However, due to the attached stigmas, people, especially women, often bear the symptoms of STDs silently without taking any measure.

Poverty and HIV/AIDS

One-third of all South Asians, over 450 million people, live below the poverty line. The share of people living below US$1 a day is highest in Nepal (37.7 per□cent), followed by Bangladesh (36 per□cent).[62]

Poverty is considered to be one of the leading factors contributing to an increase in the risk of HIV transmission. Poor people often lack access to education and health services, which also means less access to adequate information and means of protection. Furthermore, poverty increases the vulnerability of poor people to commercial sex or drug use. Poverty also causes people to migrate for better livelihood opportunities to urban areas within the country, or to other countries. All these factors result in a higher risk of contracting HIV/AIDS.

Migration, trafficking and HIV/AIDS

The link between migration and HIV/AIDS is rather complex since mobility itself cannot put populations under the risk of acquiring HIV/AIDS. However, the coming together of populations from different levels of risk behaviour that occurs as a result of migration is one of the significant determinants of the spread of HIV.

Experiences from all over the world show that migration and HIV/AIDS are highly linked when people on the move are ignored and/or isolated, and especially when they lack information regarding HIV. When the emotional pressure of being away from the usual home environment, particularly from the families, combines with isolation and lack of information, it can result in situations and actions that drive up the risk factor. Similarly, such women become more vulnerable to exploitation or sexual assault, and in some circumstances, can be dragged into the sex industry through trafficking.

Experiences from all over the world show that migration and HIV/AIDS are highly linked when people on the move are ignored and/or isolated, and especially when they lack information regarding HIV

Around 15 per cent of South Asians are on the move. Lack of employment opportunities, landlessness, low agricultural productivity, discrimination, and conflict have been the major motivating factors for more than 200 million South Asians who have migrated within and outside the region. For example,

- Each year one million workers, mostly from India, Pakistan, Bangladesh and Sri Lanka emigrate from South Asia to other countries, mainly the Middle East. This figure only represents the registered cases- actual figures are likely to be 30-50 per cent higher.[63]
- In India, 200 million people are currently not residing at their place of birth.[64]
- Pakistan is host to more than one million Afghan refugees and sends 150,000 people abroad every year.[65]
- 300,000 people leave Bangladesh every year to work outside the country. Thousands of people are temporarily displaced due to recurring floods almost every year.
- Currently, around 250,000 Nepalese migrants live in India.[66]
- 800,000 Sri Lankan nationals, of whom 60 per cent are women, live outside the country. Sri Lankan women are usually employed as housemaids in the Gulf countries. Around 100,000 Sri Lankan refugees live in India.[67]

In most South Asian countries, HIV infections have been reported among migrant workers and their families. For example, seven to ten per cent of the migrant workers from Nepal that are currently working in India have been found HIV positive.[68]

Internal migration from rural to urban areas, particularly increasing labour movements from low prevalence rural areas to high prevalence industrial areas has made a large number of labourers and their regular and non-regular partners vulnerable to HIV/AIDS. For example, among the male labourers surveyed in 2001 in Nepal, nearly one-third had visited CSWs, and out of these only 45 per cent had used a condom consistently. A majority (82 per cent) of the labourers surveyed reported themselves as being married as well, and only one in ten used condoms with their wives.[69]

Mobile populations such as truck drivers and rickshaw drivers have been identified as high-risk groups. These groups expose the general population to HIV through their sexual behaviour and patterns of mobility. The majority of mobile populations surveyed reported having visited commercial sex workers, but the use of condoms was not universally practiced. For example, according to a behavioural survey conducted in Nepal, more than half of the transport workers were married, around two-thirds of them had visited commercial sex workers, but only 60 per cent used a condom consistently.[70] In Bangladesh, two- thirds of the rickshaw pullers had sex with CSWs as well as their wives during

a week prior to the survey. The condom use with CSWs was only 22.2 per cent.[71]

Migration also bears connection with HIV/AIDS in the form of human trafficking since a large number of women are trafficked to brothels in neighbouring countries in South Asia. In addition, mobility of CSWs is also a factor that contributes to the spread of HIV from high risk places to low risk places. For example, in the Terai region of Nepal, 17 per cent of the commercial sex workers surveyed had previously worked in India. Their contribution to HIV positive cases in Nepal is estimated to be around 75 per cent.[72]

A multilateral response led by governments of both the source and destination countries is required to prevent the spread of HIV/AIDS from high to low prevalence places or countries. Governments should place focus on the provision of information about the choices and risks surrounding HIV/AIDS in the source, transit, and destination countries, as well as teaching both migrants and their families the means by which they can protect themselves from HIV/AIDS infection when migrants return home.

HIV/AIDS and illiteracy

High illiteracy levels in South Asian countries – except in Sri Lanka and Maldives – continue to be a limiting factor in the full utilisation of health sector programmes, including the programmes on HIV/AIDS. Such high illiteracy rates also hamper progress in increasing HIV/AIDS awareness; demographic health surveys of countries indicate a highly significant and positive relationship between HIV awareness and education levels. The majority of people in South Asia, particularly young people, are unaware of the risks of HIV/AIDS, its mode of transmission, and the ways in which it can be prevented (table 5.3).[73]

HIV/AIDS and gender in South Asia

On a global level, women's share among the population that has been infected with HIV is growing rapidly. Women bear a heavier burden of HIV/AIDS. For instance, in African countries 56.7 per cent of the adults living with HIV/AIDS are women.[74] This trend is growing, as the number of women infected with HIV/AIDS is also on the rise in South Asia, especially among the younger generations. By the end of 2003, 11.3 per cent of the world's HIV positive women were living in South Asia.

Biologically, women are more prone to acquiring the HIV infection than men.[75] Besides biological reasons, gender inequality has perpetuated the vulnerability of women to HIV/AIDS. Gender inequality often translates into oppressive behaviour against women and becomes a source of exploitation, trafficking and sexual abuse, and can also limit the ability of women to protect themselves from the HIV infection by negotiating safer sex.

Stigma and discrimination against people with HIV/AIDS

Cultural stigmas and discrimination have hampered efforts to limit the spread of HIV, and to enhance the provision of adequate care, support and treatment to people living with HIV/AIDS. People are

Table 5.3 Awareness and knowledge about HIV/AIDS in South Asia by sex, 1998-2001

(%)

	Have heard about HIV/AIDS		Knows HIV/AIDS but does not know of valid way to avoid it		Believe there is no way to avoid HIV/AIDS	
	Women	Men	Women	Men	Women	Men
India 1998-999	40.3	…	32.8	…	…	…
Pakistan 2000-01	41.7	…	…	…	…	…
Bangladesh 1999-2000	30.8	50.2	17.3	23.1	12.3	10.5
Nepal 2001	49.6	71.7	8.0	3.3	3.2	0.9
Sri Lanka 2000	90.3	…	19.8	…	…	…

Note: The sample taken in the surveys are ever-married women and currently married men aged 15-49 except for Bangladesh, where the men aged 15-59 were the sample.

Sources: GOS 2002; IIPS 2002; MOHN, New ERA and ORCM 2002; NIPS 2001 and NIPORT, MA and ORCM 2001.

Many people living with HIV/AIDS in the world, as well as in South Asia, have been deserted by their families, expelled from educational institutions, their jobs, and/or have been denied care in hospitals

less willing to take an HIV test due to the stigma attached to the disease, and the fear of discrimination. People infected with HIV/AIDS prefer to hide their HIV status and/or refuse to take medical help out of fear of the consequences. Obscuring such information can further accelerate the spread of the virus.

In addition, stigma and discrimination lead to human rights violations against people living with HIV/AIDS and their families. Many people living with HIV/AIDS in the world, as well as in South Asia, have been deserted by their families, expelled from educational institutions, their jobs, and/or have been denied care in hospitals.

Discrimination arising from stigma starts in the closest community of infected people. Their families usually desert them, particularly if they are women and HIV positive. For example, in a study conducted recently in India showed that women were more likely to be deserted by their husbands (13 per cent) than men deserted by their wives (six per cent).[76] There is also evidence that the HIV positive people were humiliated, experienced discrimination from friends and even forced to change their residence.[77]

Due to a lack of mass awareness about the HIV virus, many children have to face discriminatory attitudes at school. In India, two children were expelled from school in 2003 because of their HIV positive status.[78] Similar incidents go unreported most of the time.

Although the right to health is a basic human right, HIV infected patients also face discrimination in healthcare services, which can take many forms, such as the denial of treatment, breaches of confidentiality, early discharges etc. In a study in Mumbai and Bangalore, a majority of clinics visited by a dummy HIV patient refused to treat the patient (nine of the 13 clinics visited in Bangalore and 15 of the 24 clinics in Mumbai). The patients denied treatment in private hospitals were usually referred to public hospitals.[79] Another study conducted in India has shown that 30 per cent of the HIV positive patients have experienced a kind of discrimination from a healthcare worker, around the same proportion have the breach of confidentiality, one-fifth refused to give treatment and 12 per cent of the HIV positive people included in the survey were denied treatment for the last one year, which is a considerable time span for a HIV/AIDS patient.

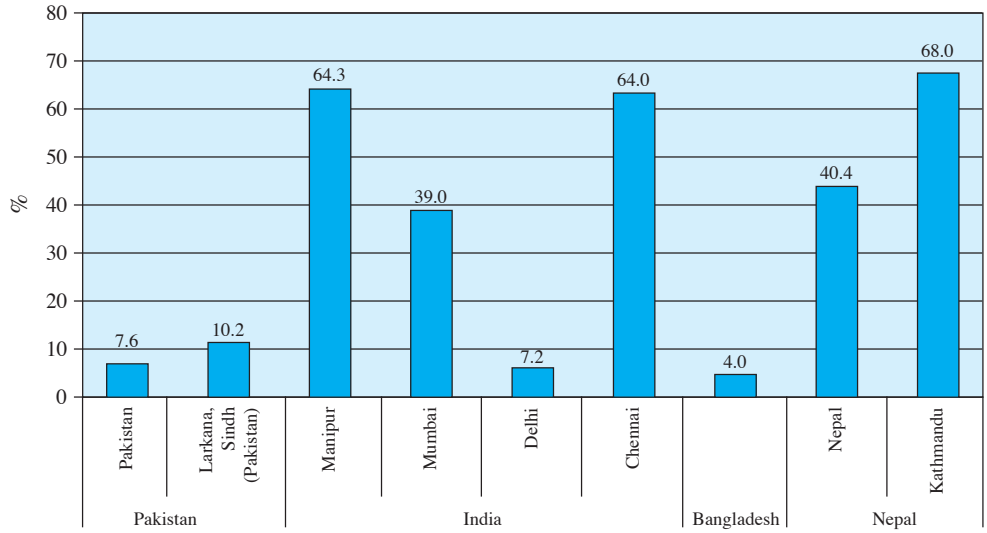
The reasons for discrimination in the healthcare settings are mainly due to the lack of knowledge and understanding of the healthcare staff, as well as the lack of adequate systems to manage HIV/AIDS cases. For example, in Nepal and Pakistan the healthcare system is inadequately equipped to handle HIV/AIDS cases. There are reports that HIV patients suffer physical isolation, discrimination and abuse. In a recent case in Peshawar, Pakistan, a HIV positive mother and her two children were denied treatment on the grounds of not having separate ward for HIV/AIDS patients.[80]

Lack of knowledge about the correct way to handle the outbreaks of HIV/AIDS may also result in human rights violations. For example, at the first outbreak of HIV in Larkana, Pakistan, the names of the patients were published in the newspapers.[81]

Similar incidents have been reported in Sri Lanka, Maldives, and Bhutan, and clearly indicate that not only is there discrimination against HIV patients amongst the general public, but they are also marginalised in the education and health sectors.

Governments, despite being signatories to United Nations General Assembly Special Session on HIV/AIDS (UNGASS) Declaration of Commitment, have remained almost indifferent to the need for a legal framework to protect the rights of people living with HIV/AIDS. None of the countries of South Asia have any special legislation to address the issue as discussed later in the chapter.

Figure 5.11 Prevalence of HIV among infected drug users in selected countries of South Asia



Sources: Abbasi 2004; MAP 2004; UNAIDS 2004 and UNAIDS, UNICEF and WHO 2004a,c,ef.

The high risk groups: IDUs, CSWs and MSMs

Injected drug users constitute a group that faces a high risk of acquiring the HIV. According to World Health Organisation (WHO), there are two to three million injected drug users in the world today, and 110 countries have witnessed HIV epidemics caused by the sharing of HIV contaminated needles.[82] Addressing the health problems associated with IDUs is important since the spread of HIV/AIDS is the fastest among IDUs, more than any other high-risk group.

More than half of the injected drug users in the Indian states of Manipur and Nagaland, as well as the country of Nepal, have already acquired the virus (figure 5.11). Pakistan reported an increase from 0.4 per cent prevalence rate among IDUs in December 2003 to 7.6 per cent in September 2004. Pakistan also witnessed its first HIV outbreak in 2003, among the IDUs in Larkana, Sindh.[83] In Larkana, out of 167 IDUs tested, 10.2 per cent had been found to be HIV positive. In Bangladesh, the prevalence of HIV among IDUs has reached the four per cent mark in Dhaka. The sharing of needles and syringes has also been reported in India, Pakistan, Bangladesh and Nepal, indicating the possibility of a future increase in the numbers of drug users living with HIV/AIDS.[84]

The risk of HIV transmission is not limited to IDUs themselves, as they are usually sexually active and more likely to have unsafe sex with CSWs. This means that once HIV enters into IDU groups, it can cause larger epidemics in broader populations, making prevention and treatment goals nearly impossible.

The key harm reduction strategy is needle and syringe exchange programme that aims at ensuring the usage of new needles and syringes every time IDUs inject drugs. Governments of South Asia are not fully committed to address HIV/AIDS and the risks faced by IDUs since they face the policy dilemma of eliminating drug use or decreasing the risks of using drugs. There have been various needle exchange programmes in South Asia, which have all been implemented by non-governmental organisations (NGOs), (box 5.1).

There is no doubt that people involved in the sex industry are more likely to acquire HIV/AIDS through increased exposure to the most common mode of transmission. The risk of acquiring the HIV infection increases substantially for commercial sex workers with a higher

client turnover, lower use of condoms, and higher prevalence of untreated STDs. Using condoms can limit transmission of the virus from one person to another by 90 per cent.

The HIV prevalence rates for CSWs vary widely among South Asian countries, ranging from less than one per cent in Bangladesh and Sri Lanka, to over 50 per cent in certain states of India.[85]

There are thousands of women working in the brothels and streets of India. The HIV prevalence among them has reached dangerous levels of more than 50 per cent in the states of Andhra Pradesh, Tamil Nadu, Maharashtra, Karnataka, and Pondicherry, and in the city of Mumbai.[86] In Pakistan, commercial sex workers are common in major cities, on truck routes, and near labour camps, although HIV prevalence among commercial sex workers is still recorded to be low. Sentinel surveillance surveys have shown that HIV prevalence among CSWs in Pakistan was only 1.67 per cent in 2002.[87] In Bangladesh, there are an estimated 36,000 brothel, street and hotel based CSWs. Nepal has more than 100,000 CSWs working in India alone. In Sri Lanka, about one-third of the 45,000 CSWs are men and boys.

Consistent condom use can be one of the most effective ways of preventing the transmission of HIV among CSWs. For example, in Thailand the '100 % Condom Use Programme' for sex workers and their clients has led to an increase in condom use and a reduction in the number of sex partners. Thus Thailand is one of the several countries that have been successful in reducing their HIV infection rates. Condom promotion among the general population, besides promotion of being faithful to the partner, has also proved to be an effective prevention method in Uganda.[88]

However, behavioural surveys conducted in South Asian countries indicated that condom use among CSWs was far from universal in the region. To

Box 5.1 NGOs in needle and syringe exchange programmes

Nepal was the first developing country to initiate the needle and syringe programme in 1991. Currently, there are two needle and syringe exchange programmes operating under the NGOs Life Giving and Life Saving Society in Kathmandu, and International Nepal Fellowship in Pokhara. Life Giving and Life Saving Society was established in Kathmandu in 1991 with the aim of reducing IDUs vulnerability to blood-borne diseases through the provision of education and sterilised needles. An evaluation of the programme found that knowledge of HIV increased from 58 per cent to almost 100 per cent, and that needle sharing among the IDUs halved by 1994.

In Bangladesh, CARE International's project, Stopping HIV/AIDS through Knowledge and Training Initiatives (SHAKTI), in addition to providing services to CSW (see box 5.2), included harm reduction for IDUs in Dhaka as one of its areas of focus in 1998, and established seven drop-in centres in the city to achieve this goal. The efforts of CARE-Bangladesh expanded these services to Rajshahi and Chapai Nawabgonj by 2001. In 1999, it was estimated that nearly 3,500 IDUs had been reached and provided around 90,000 needles and syringes through peer educators based in drop-in centres in Dhaka.

The effectiveness of needle and syringe programmes encouraged various NGOs operating in Manipur, New Delhi, Mumbai, Kolkata and Chennai to help provide such facilites to IDUs in India. Organisations such as the Society for Service to Urban Poverty in New Delhi, Sahai Trust in Chennai, and Society for HIV/AIDS and Lifeline Operation in Manipur are some of the NGOs that are engaged in needle and syringe programmes, as well as the provision of various other services such as peer education, primary healthcare, drop-in facilities, and counselling for IDUs living in India.

The only needle and syringe programme in Pakistan is operated by the NGO Nai Zindagi. Nai Zindagi was established in Lahore in 1990, and its initial services were to provide drug treatment, outreach, counselling, drop-in facilities, and primary healthcare facilities to drug users. The needle and syringe programme was initiated in 2000, and reached 95 IDUs every year. Currently, Nai Zindagi provides street outreach services and referral for drug treatment in five cities, namely Lahore, Rawalpindi, Karachi, Quetta and Peshawar, and has more than 4,000 registered IDUs.

Despite the valuable work of all these NGOs, the threat of an IDU driven epidemic in the region continues since its scale is so much vaster than these small-scale efforts.

Sources: Peak *et al.* 1995; Reig and Costigan 2002 and UNAIDS 2003.

counter such practices, various NGO projects have been involving CSWs and their partners in an effort to increase the use of condoms. The Sonagachi Project in Kolkatta, India is an example of how such endeavours have proved to be successful in promoting condom use at the grassroots (see Chapter 7, box 7.2). Another NGO project taking place in Bangladesh is also doing good work in this regard (box 5.2).

Pakistan also initiated a pilot project in 2003, with the aim of determining the needs of female commercial sex workers in the brothels of Hyderabad. The project is being implemented by Green Star Social marketing, with financial support from UNAIDS and United Nations Population Fund (UNFPA).[89]

MSM has been included as a high-risk group in the surveillance surveys of India, Bangladesh and Pakistan. According to available data, seven per cent of MSM in Chennai[90] and 16.8 per cent in Mumbai[91] were HIV positive in 2001 and 2002, respectively. In Bangladesh, 0.2 per cent of MSM surveyed in 2002 were HIV positive.[92] Surveys conducted in Pakistan indicated zero to 1.64 per cent prevalence rates among MSMs in mid-1990s.[93] Truck drivers, jail inmates, as well as IDUs belong to this group. The risky behaviour of these people is a cause of their higher vulnerability.

Hijras (transvestites, transsexuals and eunuchs) are another group of people who are engaged in unprotected sex, use injected drugs, and often sell their blood commercially. But there is no evidence of HIV prevalence in this group, except in Bangladesh. In Bangladesh, a survey conducted in 2002 found that 0.8 per cent of the *hijras* surveyed were HIV positive.[94]

Contaminated blood transfusions

Sub-standard healthcare services, which lead to the transmission of HIV either through transfusion of contaminated blood or by using unhygienic medical instruments, are also a significant factor in placing the general population at risk of HIV.

Blood transfusion is usually the primary mode of HIV transmission in countries where the blood screening system is inadequate, and the number of private donors is high. According to WHO, five to ten per cent of total HIV infections stem from contaminated blood transfusions.[95]

As embodied throughout the Report, the quality of health services in South Asia is highly constrained by a lack of trained health personnel, equipment, and adequate infrastructure. Although all countries in the region include ensuring blood security as a goal in their HIV/AIDS prevention polices, universal blood screening system has not been achieved in South Asia. According to official figures, India, Sri Lanka and Bhutan have reached universal blood screening for HIV, and Pakistan and Nepal are screening 95 and 99 per cent of their blood donations, respectively. However, these statistics are highly

Box 5.2 SHAKTI (Stopping HIV/AIDS through Knowledge and Training Initiatives)

SHAKTI is a project implemented by CARE Bangladesh, and was initiated in 1995 with the aim of bringing about behavioural change in sex workers in Bangladesh.

The first component of the project was initiated in 1995 in the brothels of Tangail. The second component was initiated in 1996 in the streets of Dhaka. The SHAKTI project aimed to increase condom use and the treatment of STDs in 600 brothels and 3,000-5,000 street-based female and hijra (transvestites, transsexuals and eunuchs) sex workers.

The baseline surveys, conducted at the initial stages of the programme, demonstrated the high vulnerability of Bangladeshi sex workers to STDs and HIV, as only three per cent of the sex workers in Tangail, and only ten per cent in Dhaka, had used condoms within the last 24 hours, despite having a turnover of three to five clients over the same duration.

SHAKTI provided education and training for the sex workers, established clinics for the treatment of STDs, and made provisions for a drop-in facility for street workers that did not have a place to sleep. Peer educators from within the sex workers helped to increase awareness about the prevention of STDs and HIV through condom use by reaching nearly 70 per cent of CSWs in the brothels, and around 3,200 female and 100 hijra sex workers on the streets.

Fourteen months after the initiation of the project, awareness about the importance of condom use had increased from 36 per cent to 87 per cent, reported condom use within the last 24 hours had increased to 59 per cent, and consistent condom use had also doubled from 14 to 28 per cent.

Source: UNAIDS 2000a.

Comprehensive care of people with HIV/AIDS includes care of the physical and mental health of patients, as well as the prevention of further spread

controversial. According to World Bank, 40 per cent of the blood used for transfusion in Pakistan was not screened for HIV.[96]

All South Asian countries have adopted National Blood Polices to reach universal blood screening as a prevention method. But commercialisation of blood donation, and the lack of regulation in the health sector in some countries of South Asia, such as Pakistan and Bangladesh, require much more committed efforts on the part of governments in order to prevent HIV/AIDS transmission.

In addition to blood transfusions, unsafe medial injection is another cause of HIV spread. Globally, unsafe injections are the cause of millions of Hepatitis B and C cases, in addition to around quarter of a million HIV infections every year. The majority of HIV infections that occur as a consequence of unsafe injections are found in South Asia and Africa.[97]

Mother to child transmission of HIV

Globally, in 2003 alone, 640,000 children became infected with HIV and another half a million died as a result of this disease. Today, there are 2.1 million children living with HIV/AIDS.[98] The majority of the infections in children are due to the transmission of HIV during pregnancy, at the time of delivery, or due to breastfeeding.

Mother to child transmission in South Asia is not common, as the HIV infection among pregnant women is low, except in the six states of India in which the prevalence levels among women visiting antenatal clinics have crossed one per cent.

However, according to recent estimates by UNAIDS, there were 120,000 children aged zero to 14 living with HIV/AIDS in India. The government of India has introduced a mother to child prevention programme that provides the HIV prevention package to young women, offers reproductive health services to prevent unintended pregnancies among HIV positive women, along with other services to prevent the transmission of HIV from mother to child. Nepal and Sri Lanka have also decided to provide antiretroviral drugs (ARV) for the prevention of mother to child transmission. Various cases around the world have shown that treating the mother with ARV during pregnancy and at the time of birth, delivering the baby through caesarean operation, and providing supplementary feeding instead of breastfeeding, can decrease the likelihood of mother to child transmission by 90 per cent.[99]

Treatment, care and support of people with HIV/AIDS in South Asia

In June 2001, a special session of the United Nations General Assembly, UNGASS, was held, which committed the participating countries to combating HIV/AIDS, and adopted a Declaration of Commitment.[100] South Asian countries were among the 189 participant countries that made a commitment to fight against HIV/AIDS, and to reach the targets determined by UNGASS Declaration of Commitment.

Comprehensive care of people with HIV/AIDS includes care of the physical and mental health of patients, as well as the prevention of further spread of the virus. Such care initiatives involve a mixture of VCT services, prevention and treatment of the opportunistic infections and illnesses related to HIV/AIDS, and a supportive social environment that upholds the human rights of those infected.

Although the extent of care, treatment, and support for HIV/AIDS patients in South Asia has been improving recently, it is still largely inadequate. Centres providing proper VCT services, though increasing in number, are still not universally available. Despite the global commitment to make treatment available to at least half of the people needing immediate help by 2005, the gap between those who need treatment and those actually receive it remains large.

Furthermore, the stigma and discrimination in the region still hampers HIV/AIDS prevention and treatment efforts.

Treatment and care

Despite efforts spanning two decades, there has been, so far, no vaccine developed that can prevent HIV infections. Similarly, no treatment has been found that can eliminate the virus from the body. However, since its introduction in 1996, ART has supported people living with HIV/AIDS by extending their life span and enabling a healthy life. With this support, HIV-infected people- mostly in industrialised countries- continue to contribute to the social and economic wellbeing of their families and societies as they are able to live a relatively normal life. For instance, in United States the use of ART since 1996 has decreased AIDS cases, and AIDS related hospital admissions and deaths by half. Similar results are also reported in Brazil, the first developing country providing free ART to all HIV patients.

The ART delays the death of AIDS patient by around four years, allowing the children to benefit from the presence of their parents for a longer time. In addition, it not only affects the physical health of people living with HIV, but also improves their mental health, since it reduces the stigma associated with HIV infection through ensuring a longer productive life that PLWHA can contribute to the society. The availability of therapy may also reduce the hesitation of people towards taking HIV tests. More importantly, ART, together with performing a caesarean section delivery and by using breast milk substitute after the delivery, can prevent mother to child transmission of HIV by 90 per cent.[101]

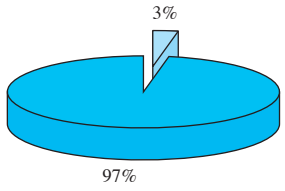
About six million people that have reached the critical stages of the disease are in need of ART.[102] However, only 400,000 – seven per cent – actually received HIV treatment in 2003.[103] Around 12 per cent of the people needing ART (725,000 people) live in South Asia, where only three per cent of the total need is satisfied. Almost 97 per cent of the PLWHA who need ART in South Asia wait desperately for drugs to prolong their lives, but cannot access the medicines (figure 5.12).

Within the region, the percentage of people receiving treatment ranges from one per cent in Pakistan and Bangladesh, to 35.7 per cent in Bhutan (table 5.4).

Availability of ART, particularly in developing countries, is constrained by two main factors: high prices of the medicines that make the treatment almost impossible for the majority of people, and trade restrictions imposed by the Trade Related Intellectual Property Rights agreement of World Trade Organisation. Recently, with emerging global commitment to fight against HIV/AIDS, both these restrictions have been eased to some extent.

The international barrier to the access of ARV drugs was partially lifted in 2001 by the Doha Declaration on the TRIPS Agreement and Public Health, which allows governments to issue a compulsory licence authorising the use of patented products in case of public health crises, including HIV/AIDS, tuberculosis and malaria. Furthermore, the annual cost of ARV drugs has also been reduced from an initial amount of US$15,000 to US$140, as a result of dialogue between international organisations, governments and large pharmaceutical manufacturers. The William J. Clinton Presidential

Figure 5.12 Share of people who have access to ART in South Asia, 2003



Sources: UNAIDS, UNICEF and WHO 2004a-g.

Table 5.4 Coverage at ART in South Asia, as of June 2004

	Total people needing ART	Number of people on ART in 2003	Percentage receiving treatment
India	710,000	21,000	3.0
Pakistan	10,000	100	1.0
Bangladesh	510	5	1.0
Nepal	4,000	77	1.9
Sri Lanka	280	25	8.9
Bhutan	14	5	35.7
Maldives	14	0	0.0

Sources: UNAIDS, UNICEF and WHO 2004a-g.

Foundation has played a major role in decreasing prices through engaging generic drug manufacturers from India and South Africa. The price of ARV medicines is cheapest in India. However, treatment is still not easily accessible in South Asia.

Most governments of the region have initiated the process of providing treatment for HIV/AIDS patients. For example, the decision of government of India to provide free access to HIV positive children and women, as well as to all infected people in high prevalence states, is praiseworthy. Similarly, the governments of Sri Lanka, Nepal and Bhutan have also decided to provide ARV to HIV infected people.[104] Government of Pakistan also decided to provide free access of ARV to HIV/AIDS patients, starting from the end of 2004.[105] Unfortunately, lack of financial and human resources may stand in the way of proper treatment for all, in all countries.

In order to address the financial problems of the low and middle-income countries, the international community joined hands, and the Global Fund to fight against AIDS, tuberculosis and malaria came into being in 2002 (box 5.3).

Protecting rights of people with HIV/AIDS

Although countries in the region have introduced polices and programmes focusing on the prevention and treatment of HIV/AIDS, very little legislation in South Asia addresses the rights of HIV/AIDS infected patients. In fact, none of the countries have enacted laws to protect the rights of infected people, even though the constitutions of these countries recognise the basic human rights of each individual. Also, despite the fact that all the countries are signatories to one or more international human rights instruments,[106] they usually fail to provide adequate protection against the already high degree of discrimination, mostly due to inadequacies in implementing mechanisms.

Despite the Constitutional guarantees, various cultural practices in South Asian countries are already the sources of discrimination against some particular groups such as women and girls, disadvantaged castes or groups

Despite the Constitutional guarantees, various cultural practices in South Asian countries are already the sources of discrimination against some particular groups such as women and girls, disadvantaged castes or groups – Dalits in India, people who sell sex, drug users, men having sex with men. Therefore these groups are highly disadvantaged against HIV/AIDS threat without proper protection. Similarly, the illegality of certain actions – MSM, drug use and sex work- increases the likelihood of exploitation of these groups by law enforcing systems which are already corrupt in South Asia.[107]

In 2001, International Labour Organisation adopted a Code of Practice on HIV/AIDS and the World of Work defining how to formulate policies at the national and enterprise level to mitigate the effects of HIV/AIDS at the workplace. The workplaces in South Asia have yet to formulate any specific policy on how to deal with the HIV/AIDS situation. In a study in Mumbai, out of fifty small, medium and large public and private enterprises, none had a written policy or an AIDS related measure to deal with HIV/AIDS at the workplace.[108]

Voluntary testing and confidentiality are of central importance to HIV infected patients, and the inability to protect these can lead to further stigmatisation of PLWHA. The principle of voluntary testing is not recognised in South Asia. However, there are examples of mandatory testing of migrant workers, sex workers and prisoners. For example, in Maldives the testing of people who stay outside the country for more than one year is mandatory. There are some legal provisions that protect confidentiality as well, particularly in the Constitutions of Nepal and Bangladesh. Legislation covering the testing and confidentiality issues, however, mainly depends on the judicial precedent at the time of implementation.

There have been a number of examples from the region demonstrating the

Box 5.3 Global Fund to fight AIDS, tuberculosis and malaria

In 2001, at the United Nations General Assembly Special Session on HIV/AIDS (UNGASS), member states of United Nations committed to scaling up ART within their national HIV/AIDS programmes. By 2003, WHO and UNAIDS declared the inequalities in access to treatment as a global public emergency. At that time, WHO launched the project called "3 by 5" that aimed to provide ARV to three million people living with HIV in developing countries by the year 2005. The funding required for this project was estimated to be US$5.5 billion, which included scaling up the programmes of prevention and treatment via training of health workers and a comprehensive treatment regime, including free access to ART and medicines for opportunistic infections. However, most of the developing countries that were experiencing economic turmoil due to HIV/AIDS, were unable to allocate funds from their budgets.

In 2002, following a call by United Nations Secretary General Kofi Annan, the Global Fund to Fight AIDS, Tuberculosis and Malaria was created with objectives to increase resources to fight three of the world's most devastating diseases, and to distribute the resources effectively to areas of greatest need.

The Fund relies on donations from governments, foundations and corporations and reallocates the funds according to the needs of specific countries. Since its establishment, the Global Fund has collected US$3.4 billion and the annual pledges of the donor countries and private foundations have reached around US$1 billion.

The amount of grant to each country depends on the proposals made for the grant and their evaluation and approval. To date, the Global Fund has approved 25 proposals that aim to prevent or treat HIV/AIDS, tuberculosis and malaria related illnesses in South Asia. The total amount of funding for these three illnesses will be around US$180 million for the next two years and a majority of it, around 45 per cent, will be disbursed to HIV/AIDS projects. Funding to South Asia has increased significantly.

Table 5.5 presents data on the total amount of funds requested, approved and disbursed to South Asian countries. The total funds requested by the South Asian countries for the HIV/AIDS projects alone add up to US$319 million. The projects, costing around US$80 million, have already been approved.

As the numbers indicate, there is a huge gap between the commitment and disbursement of funds. Only around ten per cent of approved funds have actually been disbursed to South Asian countries. This gap can be partially explained by a significant increase in the approved funding, only very recently. In addition, the administrative bottleneck has proved to be a factor in widening the gap between approval and disbursement. The time lag between approval and disbursement does, however, mean delay in treating very ill patients.

The Global Fund is the first of its kind, as it forms a partnership between governments, civil society, the private sector, and affected communities, and provides international health financing in an innovative way.

Table 5.5 Total funding request to Global Fund, 2 year approved funding and funds disbursed till December 2004 in South Asia

(*in millions US$*)

	Total funding request	2-year approved funding	Funds disbursed
India*	279.900	64.324	2.859
Pakistan	8.312	3.883	2.139
Bangladesh	19.961	6.010	2.420
Nepal	11.174	4.366	0.054
South Asia	319.347	78.583	7.472

Note: *Also includes a HIV/TB joint programme.

Source: Global Fund 2004a,b.

importance of having judges who are aware of the disease, particularly when the legislative protection of the HIV positive people is inadequate. In India, the courts reinforced the Constitutional guarantee of freedom from discrimination for HIV positive people. For example, in early 2004, two workers whose jobs were terminated due to their HIV status were reinstated by the judgments of Bombay High Court, which ordered the reemployment of HIV positive workers by the public sector companies.

Besides providing legislation that protects HIV/AIDS patients from discrimination, ensuring involvement of PLWHA to all the spheres of life is also important for their wellbeing and elimination of HIV/AIDS related stigma. Greater Involvement of People living with HIV/AIDS (GIPA) initiative, which has built HIV positive peoples networks all

Box 5.4 Greater Involvement of People living with HIV/AIDS in South Asia

The foundations of Greater Involvement of People Living with HIV/AIDS (GIPA) were laid in 1983 in Denver, Colorado when a group of HIV positive people protested their exclusion from the planning process at a workshop on AIDS. This demand for the inclusion of people living with HIV and AIDS (PLWHA) into planning and programming gained further legitimacy in the 1990s, and in 1994 during the Paris AIDS Summit, in which 42 countries signed a Declaration committing to:

- support the greater involvement of people living with HIV and AIDS through initiatives to strengthen the capacity and coordination of networks of people with HIV and community-based organisations, in order to stimulate the creation of a supportive political, legal and social environment;
- involve the infected people fully in decision-making, formulation and implementation of public policies;
- protect and promote the rights of individuals, in particular those living with, or most vulnerable to, HIV/AIDS through legal and social environments;
- make available the necessary resources to better combat the pandemic including adequate support for PLWHA, NGOs and community-based organisations working with vulnerable and marginalised populations; and
- to strengthen national and international mechanisms connected to human rights and ethics related to HIV/AIDS.

UNDP and its partners initiated work on GIPA in South Asia, and initiated the first pilot project in 2001 in five countries including Bangladesh, India, Nepal, Pakistan and Sri Lanka. The project was implemented jointly by UNDP and a New Delhi based NGO, Sahara, along with close partnership with 17 PLWHA groups in the region. The Project aimed at forming a participatory process among the PLWHA groups in order to share experiences, and enhance awareness building, sensitisation, care and support activities and employment.

The involvement of affected people was very weak when the project started in South Asia. India had the maximum number of active networks of positive people, but they were unable to cover even one per cent of the PLWHA in India. Nepal and Pakistan had only one group, and another was at an initial stage in Nepal. There were no registered groups in Bangladesh and Sri Lanka. The main reason behind this was the fear of discrimination against HIV infected people.

However, the pilot phase of the GIPA project, which ended in early 2002, was successful in organising different groups within the region to work collectively. Five new groups were established to organise wives and widows of migrant workers, IDUs, and trafficked survivors in India and Nepal. Bangladesh established its first registered group, the Ashar Alo Society, while the first network to organise HIV positive MSM was established in Mumbai, India.

GIPA has expanded its reach to South-East Asia and South-West Asia. In 2003, the Asia-Pacific Initiative for Empowerment for PLWHA emerged, and the Asia-Pacific PLWHA Resource Centre was established in India to provide support to Asian people through coordinated efforts. The initiative is implemented by Asia Pacific Network of People Living with HIV/AIDS (APN+) and Indian Network for People Living with HIV/AIDS (INP+), with the support from UNDP.

Sources: Actionaid 2003; UNDP 2002a and UNDP and SAHARA 2001.

around South Asia, has been one of the best examples of assisting these patients to have a collective voice for their rights (box 5.4).

South Asia's response to HIV/AIDS

Recently, the global responses for prevention and treatment have increased substantially, mostly in the form of financial and technical support provided by the multilateral and bilateral donors and international organisations, as also discussed in the previous part.

All South Asian countries receive external technical and financial support from United Nations partners and bilateral organisations. For example, in India, the first phase of National AIDS Control Project was mainly financed by the World Bank credit of US$84 million. The government contributed only 14 per cent of the cost of the Project, while WHO supported the project with two million US dollars. The second phase of the National AIDS Control Project is financed by US$191 million credit from the World Bank and US$38 from the government of India. Since early 1990s, India has received considerable donor support for state level interventions from Department for International Development (around US$200 million), United States Agency for International Development (US$70 million), and Canadian International Development Agency (US$11 million). The Bill and Melinda Gates Foundation

have also pledged to contribute US$200 million for the period 2004-05. The Global Fund will also provide a considerable amount (see box 5.3).

National responses

As a result of the growing threat of HIV/AIDS, South Asian countries have also scaled up their efforts to provide prevention and treatment to the HIV affected people. The countries while expanding their existing prevention and treatment efforts also joined hands with the civil society organisations to provide outreach services to the vulnerable groups.

India

The government established the National AIDS Committee in 1986 and National AIDS Control Programme in 1987, immediately after the first case was reported in India in 1986. Initially, the aim of the Programme was to monitor the HIV infection among the high-risk groups in urban areas, raise awareness about HIV/AIDS, prevent its spread among high-risk groups, assure blood safety, as well as to improve the surveillance systems.

Initially, the implementation of the programme was slow due to a lack of political leadership, and a weak health system that could not provide the essential support to the programme in each state. Therefore, the responses and activities remained limited to only some states and populations.[109]

In 1992, government of India formulated a multi-sectoral policy and established National AIDS Control Organisation under the Ministry of Health and Family Welfare. NACO was responsible for the formulation and implementation of policies and initiatives that aimed to curb the spread of HIV/AIDS at the national level. At the state levels, AIDS Cells were established for improving implementation.

As a result of the National Programme, awareness among the general public increased significantly, blood banks were upgraded to ensure blood safety, and the surveillance systems improved. The second phase of the National Programme was started in 1999. It aimed at reverting the spread of HIV infection in the country and strengthening the response to HIV/AIDS through changing behaviour patterns among high-risk groups, protecting human rights, decentralising delivery of services and improving operational research and management.

In 2002, the government launched the National AIDS Prevention and Control Policy, aiming to restrain HIV transmission by 2007, and reducing the impact of HIV/AIDS on infected people. The policy accepted a wide variety of interventions as a means to reaching its objectives.

India also formulated a National Blood Policy in 2002, and developed an Action Plan in order to eliminate the diseases arising from contaminated blood transfusions.

Pakistan

Government officials recognised the threat posed by HIV/AIDS and acted swiftly just after the first case of HIV/AIDS occurred in Pakistan to better address the epidemic. A Federal Committee was established in 1987, and a National AIDS Prevention and Control Programme (NACP) was formulated and launched in 1988.

Despite the swift action, during the early years of NACP, the programme focused only on identifying HIV/AIDS cases. Gradually, the programme focus shifted from identification to prevention, including ensuring safe blood transfusion, training of health staff, and reducing the prevalence of STD. In addition to these initiatives, establishing the surveillance system and improving the management of the programme were other goals of the programme.

Although the programme was effective in creating awareness through the publication of educational materials, electronic media campaigns, and the organisation of workshops and meetings, the full utilisation of the programme was not achieved due to a lack of political

commitment and financial resources. In 1994, the NACP was extended to 1997, with the financial commitment of the government. However at the end of 1997, the funds provided for the programme were only 15 per cent of the promised total commitment. Such was the political commitment!

In addition, the decentralisation effort of the programme failed. In 1994, to increase the coordination between federal and provincial governments, NACP established Provincial Implementation Units in each province. However, they have been largely ineffective in fighting HIV/AIDS due to poor management and inadequate financial resources.

The collaboration between the government ministries and departments for HIV awareness also remained negligible. In 1997, NACP and Ministry of Labour organised 23 awareness-raising seminars for factory workers in various parts of Pakistan. The education policy, formulated in 1998, included HIV education in secondary schools. However, this was not implemented.

The government formulated the National HIV/AIDS Strategic Framework (2001-06) in 2001, after consultations with concerned parties, and initiated the second phase of the National Programme, Enhanced National AIDS Control Programme in 2003. The programme is included under the general health programme of Government of Pakistan.

The Strategic Framework recognised HIV/AIDS as a development issue, and underlined the need for a multi-sectoral approach and prioritised nine areas, which included i) ensuring a harmonised multi-sectoral response, ii) reducing the risk among high-risk groups and vulnerable populations, iii) reducing the vulnerability of the young populace, iv) improving systems to have an understanding of HIV/AIDS and other Sexually Transmitted Infections (STIs), for the betterment of policy formulation, implementation, and evaluation, v) reducing the prevalence of STIs, vi) improving awareness in the general population, vii) ensuring blood safety, viii) preventing transmission in the healthcare systems, ix)and providing care and support for people with HIV/AIDS.[110]

Under the recently launched Enhanced HIV/AIDS Programme, a national policy for the ART is to be developed in order to provide free ARV drugs to HIV patients. Under the same programme, Government of Pakistan has envisaged the establishment of five centres- four in each province, and one in Islamabad- to provide free comprehensive HIV/AIDS related care, including ARV drugs by the end of 2004.

Bangladesh

Bangladesh formulated a National AIDS Committee in 1985, before the first HIV/AIDS case was observed in the country. The committee, which was made up of nine ministries and various community organisations, was responsible for formulating the policies and strategies, coordinating the sectors involved in implementing the programmes, and mobilising resources.

In 1995, National AIDS Commission was established to promote multi-sectoral response and to develop policies to fight against HIV/AIDS. In 1997, Bangladesh had become the first country of the region to formulate a comprehensive National Policy on HIV/AIDS and STDs. The Policy recognised the need for an environment free from discrimination as the fundamental principle to fight against HIV/AIDS, and aimed at preventing transmission of HIV/AIDS and STDs, providing services for the treatment of STDs at the grassroot levels, and to lessen the impact of HIV/AIDS.

National STD/AIDS Control Programme, which started in 1996, called for a wide range of interventions (including initiating behaviour change programmes for high-risk groups, improvement of surveillance system, training of health staff on counselling and care, and strengthening of the diagnostic capacity) to prevent the spread of HIV and to manage the epidemic effectively.

Government of Bangladesh has also prepared a National Strategic Framework for 2002-06 and adopted Safe Blood Legislation in 2002 for prevention and control of future epidemics.

Nepal

The first formal initiative of government of Nepal was in 1986 with the establishment of AIDS/STD Control Committee. The first national programme, National STD and AIDS Control Programme of Nepal, was initiated in 1988. This was a short-term programme, which aimed at progress in HIV/AIDS prevention efforts through ensuring blood safety, increasing awareness and knowledge about HIV/AIDS, as well as improving the services for the treatment of STIs.

By 1993, the National Centre for AIDS and STD Control was established to coordinate government initiatives and strengthen the coordination between several governmental and non-governmental organisations. The Centre was the main body to deal with STDs and HIV in Nepal. The same year, a policy to ensure the blood safety through screening of donated blood was adopted by the government.

In 1995, Nepal formulated a national policy focusing on 12 key areas. In the light of the national policy, 'A strategic Plan for HIV and AIDS in Nepal' was developed and adopted for 1997-2001. National HIV/AIDS Strategy has been updated for 2002-06. The new strategy aims at confining HIV/AIDS epidemic with increased number of partners as well as enhanced effectiveness. The Strategy defines five priority areas: i) preventing STD and HIV infection among high-risk groups, ii) preventing new infections among youth, iii) ensuring that care and support for the PLWHA are available and accessible, iv) expanding monitoring systems, v) capacity building through establishment of an effective and efficient management system.[111]

With the joint efforts of government, multilateral and bilateral agencies, Nepal HIV/AIDS Initiative Programme was started in 2001. The Programme, which has a budget of US$2.5 million, aims at addressing the harm reduction needs of female CSWs, their clients and IDUs. Ministry of Health has also started providing antiretroviral treatment to prevent mother to child infection.

Sri Lanka

The government of Sri Lanka has been committed to reverting the spread of HIV/AIDS since mid-1980s. National AIDS Committee was established in 1988 and the first medium term plan for HIV/AIDS was developed in the same year. The second medium plan for HIV/AIDS was formulated in 1994. In 1998, the first National Strategic Plan, National Integrated Work Plan, was completed. The implementation of the second National Strategic Plan 2002-06 has started.

National Integrated Work Plan was successful in broadening the response to prevention efforts. Military, education, labour and youth were the sectors that provided their support to prevention efforts. The programme has also helped the expansion of STD services by increasing the numbers of clinics, equipments and staff. The National Strategic Plan aims at preventing the transmission of HIV through unsafe sex, blood transfusion and mother to child, providing care and support to PLWHA and reducing the impact of HIV/AIDS.

National AIDS Control Programme is the main national programme to fight HIV/AIDS in the country. The programme aims at preventing and controlling STDs and HIV/AIDS, and providing care and support to the infected.

A National Blood Policy has been developed. Blood screening of all the donated blood to the public sector has been made universal and the promotion of voluntary blood donation has increased the share of voluntary blood donations to 87 per cent.[112]

Bhutan

The government has shown a strong commitment in the fight against HIV/AIDS. The government of Bhutan acted long before the first case of HIV/AIDS reported in the country and established the National HIV/AIDS and STD Control Programme in 1988. The programme aimed at improving knowledge regarding the behaviour of high-risk populations, ensuring blood safety, integrating STD services into primary healthcare, establishing VTC centres, training health staff, and increasing awareness through enhanced information materials.[113]

The programme has a multi-sectoral approach and is completely supported by international donors like Danish International Development Agency and United Nations organisations, and run by the Health Department of Ministry of Health and Education.

Maldives

Like Bhutan, the government of Maldives initiated its national programme, AIDS Control Programme before the first case was reported in 1991. The programme focused on specific areas on awareness raising and public education, blood safety, and the care of HIV/AIDS patients. The screening of returning citizens, who have stayed out of the country for one year, is compulsory.

Initiatives of NGOs

In South Asia, NGOs and civil society have played an important role in combating HIV/AIDS, particularly by providing outreach services to the most needy and increasing awareness among the populaces of South Asian countries.

There have been various projects implemented by NGOs that have become successful in providing services and changing risky behaviour among the high-risk groups, such as IDUs and CSWs. Some of the successful projects have been replicated in other countries. Despite their success, the scope of NGO efforts remains limited to specific areas and populations.

The number of NGOs dealing with HIV/AIDS related issues varies significantly among the countries of South Asia, depending on the stage of the epidemic. In India, a large number of international, national, state and local level NGOs (835 in total) are working in the field of HIV/AIDS. The NGO efforts range from raising awareness to providing care.

There are around 100 NGOs in Pakistan that are involved in increasing public awareness and providing care and support to people living with HIV/AIDS. In order to coordinate the activities of NGOs, Provincial HIV/AIDS Consortiums have been established in the four provinces. The NGOs provide HIV/AIDS education to drug users, commercial sex workers, truck drivers and other high-risk groups. However, their outreach is to less than five per cent of the vulnerable groups.[114]

In Bangladesh, there are around 300 NGOs working on STDs and HIV/AIDS, and around half of them are actively working to provide services to particularly hard to reach populations, such as commercial sex workers and IDUs.[115]

In Nepal, around 100 NGOs are working in providing awareness and harm reduction services to the people who are at risk. The NGOs in Nepal are also trying to address problems surrounding the trafficking of girls and women, and HIV at the workplace.[116]

In Sri Lanka, the number of NGOs working on HIV/AIDS prevention and/or treatment has been low. Existing NGOs have only been successful in covering less than ten per cent of the high-risk populations.[117]

There are no NGOs in Bhutan, but religious bodies and youth groups have been effective in conveying the messages of HIV/AIDS prevention while in Maldives, a small number of NGOs provide awareness raising activities and education on prevention methods through radio programmes and seminars.[118]

Chapter 6

State of Health and Healthcare in Bangladesh: A Brief Overview

The Constitution of Bangladesh has made it an obligation on the part of government to secure good health for all people in the country so that they can lead a productive life in the society. To that end the government accepted the global goal of '*Health for all by the year 2000'* and has shifted much of its attention to the promotion of healthcare services, particularly in rural areas, and to programmes for the prevention of traditional diseases.

In this chapter, a profile of the current status of health and healthcare in Bangladesh is provided using the parameters of infant, child and maternal mortality; basic healthcare facilities; a survey of diseases; provision and management of healthcare system; and a critical analysis of health sector reform policies and programmes in recent years.

Health status

This section provides an assessment of the health status of Bangladesh on the basis of its infant and child mortality rates, the reproductive health of women, the condition of basic healthcare services, and the nutritional status of its people.

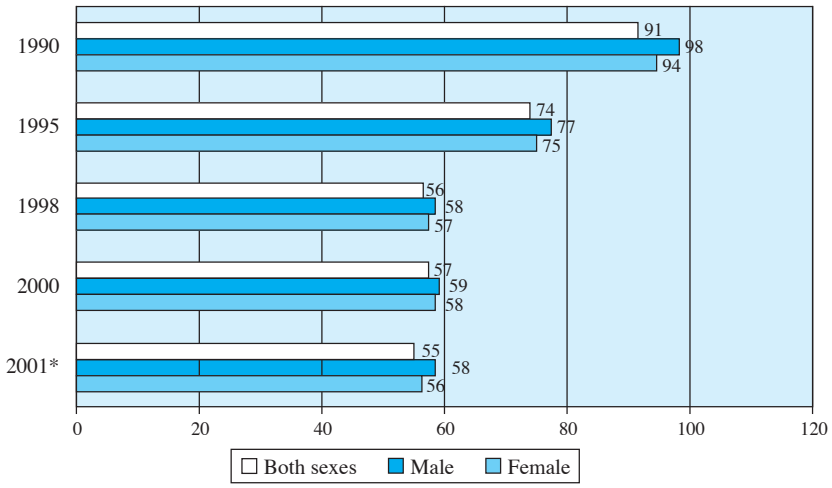
Infant and child survival

During most of the 1980s, the infant mortality rate (IMR) in Bangladesh was well above 100 per 1000 live births.[1] However, in the early 1990s it dropped to less than 100. This downward trend continued throughout the 1990s and by 1998 the IMR stood at 57 per 1000 live births. Over the last twenty years IMR in Bangladesh has declined by nearly half, and by nearly two-thirds when compared to the 1970 levels.[2]

Female IMR was slightly lower in the early 1990s than that of male infants. But over the decade the sex-differential in IMR has narrowed due to higher relative improvement in male IMR. In 1990 the male IMR stood at 98, while the female IMR was around 91. However, in 2000 the male IMR dropped to 59 and the female IMR was 57 (figure 6.1).[3]

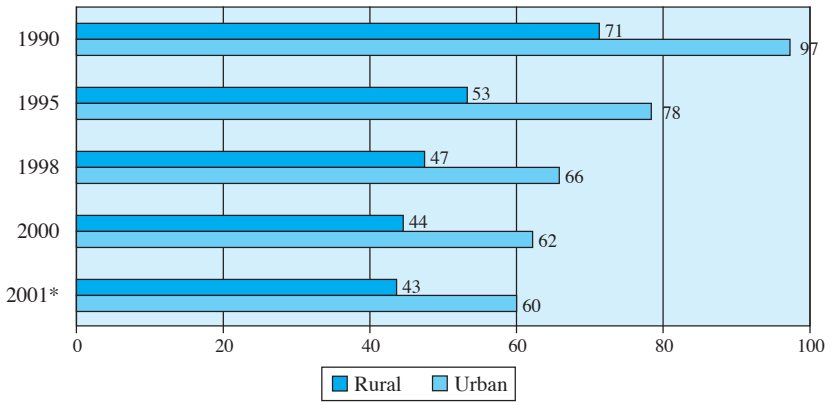
In addition, as shown in figure 6.2, infant health in Bangladesh is better in

Figure 6.1 Trends in estimated infant mortality rate by sex, 1990-2001



Note: *Provisional figure.
Source: GOB 2003c.

Figure 6.2 Trends in infant mortality rate by locality, 1990-2001



Note: *Provisional figure.
Source: GOB 2003c.

Note: Data in this chapter is drawn from national data sources, there might be some discrepancy between these numbers and those presented in the tables at the end of the Report which are based on international sources.

Table 6.1 Trends in child mortality rate by socio-economic classes, 1983/93-1998/99			
	1983-93	1986-96	1998-99
Mother's education			
No education	64.4	51.6	42.3
Primary incomplete	45.5	33.9	27.9
Primary complete	25.8	29.0	26.3
Secondary/higher	34.7	14.5	13.5
Ratio of no education/high education	1.9	3.6	3.1
Wealth quintile*			
Poorest		141.1	
Second		146.9	
Middle		135.2	
Fourth		122.3	
Richest		76.0	
Ratio of poorest to richest		1.9	

Note: *Estimates relating to quintile refer to under-five mortality.
Source: NIPORT, MA and ORCM 2001.

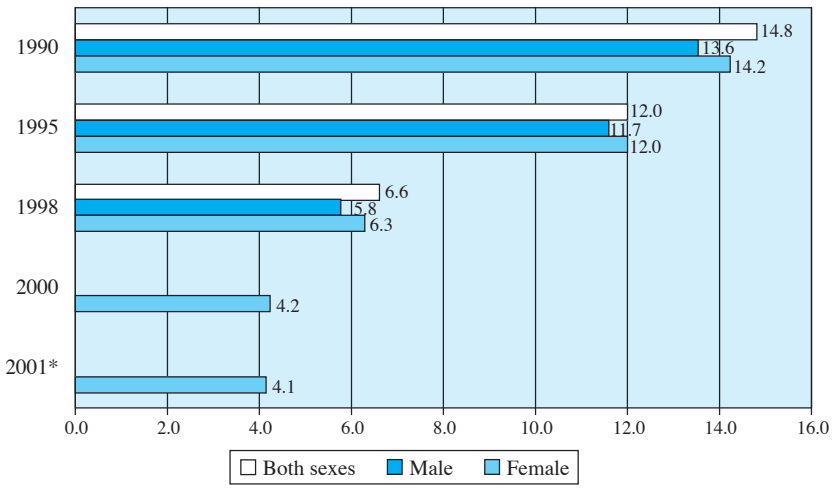
urban areas as compared to rural ones. This rural-urban differential persisted from the early 1990s, but has narrowed in recent years. Infant health has improved in both areas during the 1990s, with relative improvement being greater in rural areas. In 2001, the rural IMR was 60 compared to an urban IMR of 43.

The IMR also differs significantly across different socio-economic classes, measured by the educational level of the mother and the wealth quintile. Similar to the disparities among sex and region, it is found that the IMR across socio-economic classes has also closed down over recent years, following the higher relative improvement in health of the disadvantaged groups in society. In the early 1980s through to the early 1990s, the average IMR for children of uneducated women (113) was nearly twice that of women with secondary education or more (57). In the mid-1990s, the children of the poorest people had an IMR 86 per cent higher than that of the richest quintile in the country. However, while large rural-urban and class variations in health status still persist in the country, these have narrowed down in recent years, with poorer groups benefitting more from the ongoing improvements in health. This has primarily been due to various public sector programmes such as, Expanded Programme for Immunisation (EPI), mother and child health (MCH) and reproductive healthcare, as well as the drastic decline in fertility.

Compared to infant mortality, the improvements in child (ages one to four) mortality have been substantial. This is a result of community level interventions such as the oral rehydration therapy (ORT), acute respiratory tract infection (ARI) and EPI programmes that deal with major childhood diseases. Estimates show that child mortality rate (CMR) came down by about two-thirds in 2000, from the early 1990s level. The CMR was 14 per 1000 children in 1990; it came down to 4.2 in 2000 (figure 6.3).

In Bangladesh child mortality is higher among girls while IMR is higher among boys. This reversal in trend reflects the gender discrimination that girls face from birth: they are fed last and least; and if they fall sick they are less likely than male children to receive treatment. This male preference results in the poor health of female children and higher mortality rates as compared to male children. According to Bangladesh Bureau of Statistics (BBS), although the difference between boys and girls CMR is not high, it has been consistent over the years. Some later studies have suggested that the sex differential may be even higher than the one noted by the BBS (figure 6.3).

Figure 6.3 Estimated child mortality rates by sex, 1990-2001

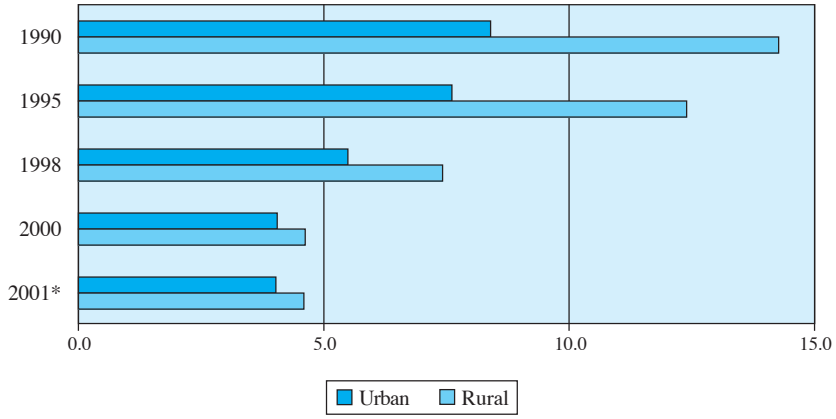


Note: *Provisional estimate.
Source: GOB 2003c.

The rural-urban variation in child mortality was quite prominent in early 1990s when the rural rate was more than 70 per cent higher than the urban rate. However, over recent years, particularly in the mid-1990s, the rural child mortality rate has declined sharply in comparison to urban child mortality (figure 6.4), thus narrowing the rural-urban gap in CMR.

The status of child health also varies significantly across different socio-economic classes, and this variation is more marked than that for infant mortality. More disturbing, however, is the fact that the socio-economic gap in child mortality has been widening in recent years.

Figure 6.4 Child mortality rate by locality, 1990-2001



Note: *Provisional estimate.
Source: GOB 2003c.

Maternal health

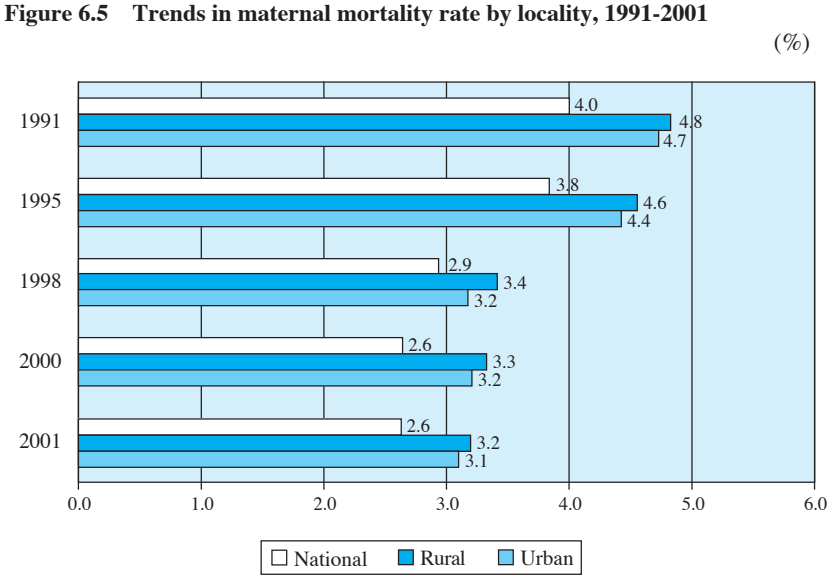
National level statistics for maternal mortality are not easily available in Bangladesh. However, according to available data, it is clear that Bangladesh experienced considerable reduction in maternal mortality rates over the years. The estimated maternal mortality ratio (MMR) in the early 1990s was around 500 per 100,000 live births. This dropped to 380 in 2000.[4] This is still higher than many developing countries. Maternal deaths at present account for nearly one-fourth (24 per cent) of the total deaths among women aged 15-49, down from nearly 30 per cent a decade ago. The recent decline in maternal mortality is primarily due to a decline in fertility, and to an improvement in reproductive healthcare, particularly with respect to safe deliveries. However, according to recent evidence, 60 per cent of all pregnancies in Bangladesh still encounter complications, while 45 per cent experience life-threatening situations.[5]

Compared to urban women, rural women encounter a higher risk of maternal mortality. Although the situation has improved in both localities, there has been a slightly higher improvement in the rural areas in recent years (figure 6.5).

Reproductive healthcare

According to a recent survey,[6] 37 per cent of pregnant mothers in Bangladesh receive some kind of antenatal care. Access to such care is 62 per cent in urban areas as compared to only 32 per cent in rural areas. Significant variation also persists across groups from different socio-economic backgrounds. The proportion of women receiving antenatal care is 23 per cent among uneducated groups and 64 per cent among highly

Figure 6.5 Trends in maternal mortality rate by locality, 1991-2001



Source: GOB 2002b.

Table 6.2 Safe motherhood practices in Bangladesh by locality and education level of the mother, 2000			
	Received antenatal care	Deliveries took place in the health facilities	Deliveries attended by skilled staff*
Bangladesh	37.0	7.9	21.8
Residence			
Rural	31.7	4.6	17.7
Urban	62.3	25.1	42.4
Education of mother			
No education	23.1	3.1	14.3
Primary incomplete	33.2	4.7	16.7
Primary complete	38.5	5.3	19.0
Secondary/higher	64.1	21.4	42.2

Note: *Skilled staff include doctor, nurse, midwife and trained TBAs.
Source: NIPORT, MA and ORCM 2001.

educated ones (table 6.2). The number of antenatal visits made by each individual pregnant mother is also very low. The median number of visits made was around two (1.8), and more than half sought such care only during the second trimester of pregnancy.[7] Although there are many reasons for this low level of utilisation of maternal care, the major reason is cultural. Pregnancy is often regarded in the traditional society of Bangladesh as part of a woman's life cycle that requires no special attention, care, or preparation.

Not only is the access to antenatal care poor in Bangladesh, the quality of this care is also very poor. Antenatal care has so far been limited to the tetanus toxoid (TT) injection alone, and other basic services have been neglected.[8] In 2000, 64 per cent of pregnant women had received the TT injection. Only eight per cent of deliveries took place in hospitals in 2000. This situation is worse in rural areas. Only around five per cent of rural deliveries, as opposed to 25 per cent of urban deliveries, took place in hospitals. Untrained personnel often assist such deliveries. In fact, 78 per cent of all deliveries were handled by untrained personnel, whereas only around 22 per cent of deliveries were assisted by trained professionals such as doctors, nurses, midwives and trained traditional birth attendants (TBAs).[9] The incidence of deliveries by untrained personnel is higher in rural and poorer areas. More than 40 per cent of all deliveries in urban areas were assisted by trained personnel, against only 17 per cent of rural deliveries. This number is 14 per cent among uneducated women, as compared to 42 per cent among educated mothers.[10]

Nutritional status

According to the latest Nutrition Survey of the BBS,[11] per capita food availability has increased in the country in recent years: food availability was 420 units during 1994-95, which increased to 440 during 1997-98. More importantly, recent increases in food availability have taken place due to a higher availability of non-cereal items such as meat, egg, fish, milk, and milk products, which are a more efficient source of daily nutrients (annex table 6.1). But there is little room for complacency, since only one-third of the country's population is able to satisfy its daily caloric needs.[12] In fact, the extent of hunger and food deprivation in the country is still alarming. Available data on food consumption reveals: only ten per cent of households are perceived to have surplus food; 60 per cent experience some food deficits, 18 per cent experience it throughout the year, and 42 per cent face it occasionally or seasonally. The availability of food is relatively better in urban than in rural areas — 15 per cent of urban households are declared as having surplus food, compared to only nine per cent of rural households (annex table 6.2).

Despite higher levels of urban consumption caloric need is satisfied for only 21 per cent, protein requirement for 49 per cent, fat for 40 per cent, calcium for 24 per cent, and iron for only 16 per cent of the urban population (annex table 6.3).[13]

Although recent years have witnessed some improvements with regard to child nutrition, the levels of child nutrition in the country are highly worrying. In 1996-97, 55 per cent of children under-five years of age were stunted, 18 per cent were

wasted, and more than half were underweight. According to the Bangladesh Demographic Health Survey (BDHS) of 1999-2000, these figures are now 45, 10, and 48 per cent respectively (table 6.3).

Levels of severe malnutrition are also quite high among children. More than 18 per cent are severely stunted, and 13 per cent severely underweight. However, in recent years, the prevalence of severe malnutrition has declined among children.

As is to be expected in a traditional male-dominated society, male children in Bangladesh enjoy a better nutritional status than female children. This is evident in all three measures shown in table 6.4. More importantly, while both boys and girls have experienced some improvement in nutritional status over recent years, sex differentials remain unchanged (table 6.4).

Compared to rural children, urban children in Bangladesh enjoy a much better nutritional status. In 2000, the proportion of moderately stunted children was 47 per cent in rural areas and 35 per cent in urban areas; wasting of children was 11 per cent in rural and nine per cent in urban areas. The proportion of underweight children was 49 per cent in rural areas and 40 per cent in urban areas. Similar rural-urban gaps persist for severe malnutrition as well. Yet it is encouraging to note that during the second half of 1990s, when nutritional status improved universally across all regions, the relative improvement was higher in rural areas leading to a narrowing in the urban-rural gap by the year 2000 (tables 6.3 and 6.4).

Child nutrition varies considerably, and positively, across socio-economic classes as measured by mother's education. However, malnutrition persists even among children of educated mothers: around 29 per cent are stunted and 32 per cent underweight. The nutritional improvement in recent years has benefited all children in the country irrespective of socio-economic background. However, gaps between classes still persist. The statistics for wasted and underweight children demonstrate this persistence of socio-economic gaps over the second half of 1990s.

The gender gap in nutritional status is mostly confined to the poorer classes (annex table 6.4). This suggests that discrimination against women, particularly with regard to the basic necessities of life, may be an outcome of poverty and inadequate resources, rather than cultural discrimination against females sex *per se*. Similar observations have been noted for healthcare usage as well.[14]

Table 6.3 Malnutrition among children under-five in Bangladesh by sex, locality and education level of the mother, 1996/97 and 1999/2000

	Stunted		Wasted		Underweight	
	1996/97	1999/2000	1996/97	1999/2000	1996/97	1999/2000
Bangladesh	54.6	44.8	17.7	10.0	56.3	47.8
Sex						
Male	54.3	44.3	18.6	11.0	54.6	45.9
Female	55.0	45.3	16.8	10.0	58.0	49.8
Residence						
Rural	56.2	46.7	18.2	11.0	57.8	49.4
Urban	39.4	35.2	12.8	9.0	41.9	39.8
Education of mother						
No education	60.8	52.4	19.4	12.0	63.2	55.5
Primary incomplete	58.7	47.9	15.9	11.0	55.0	51.1
Primary complete	52.5	43.1	14.7	9.0	50.9	43.9
Secondary/higher	30.9	28.6	15.9	7.6	38.3	32.1

Note: Malnutrition index includes children whose Z- scores are below minus two standard deviations from the median of population.
Sources: NIPORT, MA and MII 1997 and NIPORT, MA and ORCM 2001.

Table 6.4 Severe malnutrition among children under-five in Bangladesh by sex, locality and education level of the mother, 1996/97 and 1999/2000

	Stunted		Wasted		Underweight	
	1996/97	1999/2000	1996/97	1999/2000	1996/97	1999/2000
Bangladesh	28.0	18.4	3.7	1.0	20.6	13.1
Sex						
Male	26.7	17.3	3.9	1.0	18.8	11.7
Female	29.4	19.4	3.5	1.1	22.4	14.4
Residence						
Rural	29.2	19.4	3.9	1.0	21.3	13.8
Urban	16.9	13.0	1.7	1.2	14.2	9.1
Education of mother						
No education	33.2	23.9	3.9	1.4	25.0	17.3
Primary incomplete	28.2	20.7	3.9	0.9	19.0	13.9
Primary complete	24.5	14.1	3.7	0.9	16.6	8.5
Secondary/higher	12.7	7.8	2.9	0.5	9.9	5.6

Note: Severe malnutrition index includes children whose Z- scores are below minus three standard deviations from the median of population.
Sources: NIPORT, MA and MII 1997 and NIPORT, MA and ORCM 2001.

Table 6.5 Maternal nutritional status in Bangladesh, 2000

	Height		BMI	
	Mean	< 145 cm (%)	Mean	< 18.5 (%)
All Area	150.4	15.9	19.3	45.4
Residence				
Rural	150.4	15.9	18.9	48.7
Urban	150.5	15.7	20.8	29.9
Education of mother				
No education	149.8	18.2	18.7	52.1
Primary incomplete	150.2	17.3	19.0	48.8
Primary complete	150.1	15.5	19.1	48.3
Secondary/higher	151.7	10.9	20.5	30.1

Source: NIPORT, MA and ORCM 2001.

While poor nutrition plagues most people in Bangladesh, it is more prevalent in the form of maternal malnutrition. Any concerted efforts and interventions to improve nutritional status in the country, while yielding positive results for children, have proved ineffective in restoring the wellbeing of mothers.[15]

In Bangladesh, the food and nutrient intake of women across all ages is lower than that of their male counterparts. This situation is worse among adults, and deteriorates further for pregnant and lactating mothers. It prevails in both rural and urban areas. Thus, a large number of pregnant and lactating women suffer from anaemia and malnutrition; 53 per cent of pregnant women, and 84 per cent of the lactating women are anaemic in Bangladesh.[16] Experts believe that about 10-20 per cent of the country's maternal deaths are associated with anaemia during and after pregnancy.[17]

With an index value of less than 18.5, around 45 per cent of Bangladeshi mothers are malnourished according to the body mass index (BMI). Using this parameter, it is found that a higher number of mothers are malnourished in rural areas than in urban areas (48.7 per cent and 30 per cent, respectively). The BMI also varies significantly with socio-economic conditions. More than half the uneducated mothers experienced a BMI of under 18.5, compared to only 30 per cent among educated ones (annex table 6.5).

In terms of height, almost 16 per cent of Bangladeshi women are found to be critically short, their height falling below 145 centimetres (table 6.5).[18]

Nutrition levels enjoyed by mothers have recorded some improvement in recent years, benefiting both rural and urban areas and all socio-economic groups. However, the gap between regions and among different groups remains largely unchanged (annex table 6.5).

Table 6.6 Household access to safe drinking water by locality, 1999/2000

(%)

Source of drinking water	National	Rural	Urban
Safe source	96.3	95.6	99.2
Tap	6.1	0.4	30.6
Tubewell	90.2	95.2	68.6
Unsafe source (river/pond, etc.)	3.7	4.3	0.7

Source: NIPORT, MA and ORCM 2001.

Basic health facilities

Access to safe drinking water and sanitation facilities are basic human rights that are critical to the health and wellbeing of a population. In Bangladesh, there is a large incidence of water-borne diseases, which can only be eliminated through the provision of basic health facilities such as clean water, and hygienic waste disposal and sanitation.

Access to safe drinking water

In recent years, Bangladesh has made tremendous strides in improving the access of safe drinking water to its people. The country set out a target to provide 80 per cent of all households with safe drinking water by the year 2000 (annex table 6.6). The success it achieved has been far greater than the stipulated target. In 2000, nearly 97 per cent of all households had access to safe water for drinking, compared to only 37 per cent in the early eighties. Access to clean drinking water is now almost universal in the urban areas of the country (table 6.6). Even 95 per cent of landless households have access to safe drinking water.[19] Yet it must be noted that

availability of safe water for other domestic purposes is still very limited in the country, thus placing a barrier in harnessing the full benefits of safe drinking water. Although the prevalence of water-borne diseases, particularly diarrhoea, has come down substantially over recent years, it is still the major cause of mortality and morbidity in the country.

Shallow tubewells are the primary source of safe water in the country. At the national level, only six per cent of households have access to tap or piped water for drinking purposes, while 90 per cent obtain it from shallow tubewells. In rural areas, tubewells account for nearly the entire supply of safe drinking water, whereas in urban areas, one-third of all households obtain drinking water from the tap, and the remaining two-thirds through tubewells.

However, the success achieved in the provision of safe drinking water is now under threat from contamination of ground water by arsenic. Almost all districts in the country are now affected by this problem, making tubewell water unusable. This has made populations residing in the affected areas exposed to arsenic poisoning, at the same time increasing the risk of water-borne diseases such as diarrhoea and typhoid. Estimates suggest that nearly 50 million people in Bangladesh are currently vulnerable to this health risk.

Access to sanitation facilities

Success in expanding sanitation facilities has been limited as compared to providing safe drinking water. Factors such as historical backwardness, cultural practices, lack of health awareness, and large-scale poverty have all restricted improvements in this area. Against a target of achieving 80 per cent sanitation coverage, only around one-third of all households have access to sanitary latrine facilities.[20] The situation in rural areas is noticeably worse. Less than 30 per cent of rural households, as opposed to two-thirds of urban households, have access to acceptable sanitation facilities. Within urban areas, conditions vary markedly between different localities, and the worst circumstances are prevalent in urban slums. Less than ten per cent of urban slum dwellers have access to sanitary means of waste disposal, and more than 90 per cent have no sanitary means of waste disposal.[21] Nearly one-fifth of the country's households have no fixed latrine facility. This figure has increased to nearly one-quarter in rural areas and more than three per cent in urban areas (table 6.7).

The burden and pattern of disease

Determining and reporting the cause of death is not a widespread practice in developing countries where there is often a lack of trained medical personnel, and where a large number of sick people are treated by *quacks* or inadequately trained medical practitioners. Thus the diseases that result in death are often not identified properly, and the statistics on morbidity are often collected through unscientific reporting methods.

According to available data, the major causes of death in Bangladesh are diseases like respiratory ailments (asthma, pneumonia etc.); varieties of fever; all types of diarrhoeal diseases, jaundice/liver problem and malnutrition; high blood pressure, cardiac problems, diabetes/ veneral problems, cancer, rheumatism, gastric/ulcer, old age complications that are non-communicable in nature. Another category includes immunisable diseases like measles, diphtheria, and tuberculosis. Lastly suicide/violence and accident/

Table 6.7 Household access to sanitary provision by locality, 1999/2000

(%)

Type of latrine water	National	Rural	Urban
Sanitary (septic/ water sealed/slab)	35.8	29.3	67.0
Non-sanitary but fixed	44.1	46.7	32.9
No facility	20.7	24.1	3.3

Sources: NIPORT, MA and ORCM 2001.

injuries also result in some deaths in the country.

The prominence of diarrhoeal diseases and fever as a cause of death has declined over the 1990s. This is also the case with immunisable diseases. Credit for this can be attributed to vertical health programs like the ORT and EPI programmes launched to control such illnesses. However, the significance of respiratory ailments has escalated, and all other non-communicable diseases have also become more prevalent. Cardiovascular diseases have become the most widespread non-communicable disease in recent years.[22]

Cardiovascular diseases have become the most widespread non-communicable disease in recent years

With minor variations, the overall mortality disease-pattern appears to be the same for both rural and urban areas. However, more urban people die from non-communicable diseases such as diabetes, venereal diseases, and cancer, while people living in rural areas suffer from diseases like respiratory illness, tuberculosis, rheumatism, tetanus and injuries. Interestingly, diarrhoea still claims almost equal numbers of lives in both areas (annex table 6.7).

The disease pattern is largely similar for both men and women (annex table 6.8), however, women encounter an additional mortality risk due to their reproductive role. Pregnancy and childbirth related causes account for 2.4 per cent of the total deaths of women. As village level statistics[23] (for Matlab) indicate, around nine per cent of deaths of women belonging to the 15-44 age group are directly related to obstetric causes.[24]

Village level statistics (annex table 6.9) further suggest that infants in rural areas die mostly from 'other neonatal causes' such as prematurity, congenital defects, hyaline membrane, and respiratory problems, which are mostly related to the health status of mothers. Perinatal causes remain the highest risk factor for infants. The contribution of neonatal tetanus towards infant death is, however, currently negligible due to the successful administration of the EPI program.

Children aged one to four die mostly from accidents or injuries, diarrhoeal diseases, and respiratory problems. However, the contribution of diarrhoeal diseases towards child death has come down substantially during the 1990s, largely due to ORT interventions. The contribution of other infectious diseases, too, has declined for child death (annex table 6.9). An increase in health knowledge and practice, and increased access to healthcare services are seen to be the main reasons for this decline.

Health problems related to reproductive functions are the major cause of morbidity among women, particularly in rural areas. Women in the reproductive ages (15-44) are extremely vulnerable to pregnancy-related health hazards.[25] The type of morbidity suffered by women during pregnancy are: excessive bleeding, fits and convulsion, hypertension, oedema, urinary problem, anaemia/malnutrition, vomiting, abdominal pain, and problems relating to heart. The prominent hazards during delivery are: excessive bleeding, retained placenta, fits/convulsion, obstructed labour and tear (perineal/cervical). Postpartum morbidity arises primarily from fits/convulsion, severe bleeding, foul discharge, loss of consciousness, abdominal pain, urinary problems, and breast abscess.[26]

The disease-pattern of morbidity for acute illness is not much different across economic classes.[27] There is also not much variation between rural and urban areas.[28] Thus the physical, non-food environment and other extraneous factors still play a major role in determining the morbidity scenario in Bangladesh.

The prevalence of HIV/AIDS is low in Bangladesh, but because of its geographical location and growing globalisation, the country is now under increasing threat. The official figures suggest that there are less than 400 HIV/AIDS infected individuals in the country. But based on the estimations of Joint United Nations Programme on HIV/AIDS, the number of HIV/AIDS cases was 13,000 in 2003. The national HIV and Syphilis Sentinel Surveillance indicates disturbingly high levels among high-risk groups. For

example, the first round surveillance in 1998 revealed that 56 per cent of street-based commercial sex workers (CSWs) and 49 per cent of brothel based CSWs tested positive for HIV and other sexually transmitted diseases (STDs).[29]

Provision of healthcare

The health service system in Bangladesh consists of three major sectors: public, private and non-governmental organisations (NGOs). In addition, a number of bilateral and international agencies are also part of the system, since they provide support in developing health services management in the country.

Public healthcare system

Bangladesh inherited a system of healthcare that was urban based and curative biased. After the Alma Ata Conference in 1978, it adopted the primary healthcare approach for delivering health services to the people. Rural areas started receiving priority for healthcare service delivery in the country. Following this reorientation in health culture, and in order to achieve the Millennium Development Goals, the Government of Bangladesh emphasised the Essential Services Package (ESP) in its Health, Nutrition and Population Sector Programme 2003 (HNPSP) as a strategy to deliver services to people. The ESP comprises of elements critical to the survival and wellbeing of women, children, and the poor. The five components of ESP are: reproductive health services (including family planning and maternal and adolescent nutrition), child healthcare and nutrition, communicable diseases control, limited curative care, and health education and promotion.

The Ministry of Health and Family Welfare in Bangladesh is responsible for designing a national health strategy, and developing a plan of action for achieving health policy objectives. It consists of two divisions, the Health Division and the Family Planning Division. The two divisions are responsible for administrative direction, manpower management and development, budgetary control, provision of supplies and logistics, as well as the management information system of the health and the family planning and MCH services respectively.

The country's healthcare system is a three tier one, with primary, secondary and tertiary level healthcare facilities. Currently around 85,000 trained health staff and 52,000 trained family planning staff are working under the public programmes to provide static and domiciliary services at the primary and secondary levels covering all regions of the country.

Bangladesh inherited a system of healthcare that was urban based and curative biased

The Union and Thana level health centres act as primary healthcare facilities. The union level facilities usually serve around 20,000 people, and are of two kinds: Union Sub-Centres run by graduate doctors, and Family Welfare Centres (FWC) controlled by the family planning department. The FWCs are headed by a medical assistant, and include a family welfare visitor and a pharmacist. These health facilities provide ambulatory care and serve as the first institutional platform for the delivery of healthcare services to rural people. They also serve as local level centres for health and family planning workers responsible for domiciliary care. The domiciliary health and family planning services include family planning counselling, preventive healthcare, and the treatment of minor ailments. Generally, a male health assistant and a female family welfare assistant provide domestic care or serve one ward (community clinics)[30] comprised of around 7,000 people.[31] The ongoing HNPSP of the country decided in 2003 to keep a provision of one doctor at the FWC to improve the quality of services at this level.

The Thana Health Complex (THC) serves as the first referral point for primary healthcare. A THC is designed to serve an average of 200,000 to 450,000 patients. It has three functional elements: (i) a 31 bed hospital including six beds for maternal and child health; (ii) an

outpatient department for ambulatory medical care, and (iii) a domiciliary healthcare wing staffed with field personnel. It is staffed with nine doctors, which include three specialist medical officers (one in medicine, surgery, and gynaecology each), one for maternal and child health, and one dental surgeon. In addition there is one family planning officer, five nurses, and other paramedical and non-medical functionaries. The ongoing HNPSP is aiming to upgrade the hospital attached to the THC from 31 bed to 50 beds, and provide clinical and preventive services at the Upazila level and below through Upazila or THC.

Besides these static services a number of preventive and promotive health and family planning services are also delivered by an army of field workers through home visits. The Health Directorate employs three field level health workers known as health assistants in each union who are supposed to make home visits every two months for preventive healthcare services and immunisation. Health assistants are also supposed to provide family planning motivation to the male population. Health assistants are supervised by health inspectors located at the Upazila. The Family Planning Directorate employs one family planning assistant (male) who supervises three family welfare assistants (female field workers) at the union level who supply condoms, oral pills and injections through home visits. These field staff are supervised by the family planning officer (FPO) located in the Upazila Health Complex (UHC).

There are 402 UHCs, covering nearly all thanas of Bangladesh. UHCs are the first referral facility and provide curative, preventive and surgical health services, including emergency obstetric care and caesarean operations in some centres that have operating theatres. The UHC is supposed to be staffed by nine medical officers of various specialities, including the FPO, who are all supervised by the upazila health and family planning officer (UHFPO), a medical doctor. The UHFPO is also the overall supervisor of all health and family planning domiciliary field workers. Thus, at the thana level there is an attempt to unify the supervision of health and family planning services. The field operations of vertical projects like the EPI and tuberculosis (TB) and leprosy control and vitamin A capsule distribution are also directed from the UHC.

In addition, there are 90 Maternal and Child Welfare Clinics (some initiated in the early 1990s), of which 55 are located at the district headquarters, aimed at providing family planning (mostly clinical) services, antenatal and postnatal care, diagnosis and treatment of reproductive tract infections, normal delivery services and some limited emergency obstetric care. Health staff includes one medical officer and one family welfare visitor trained for safe delivery of births. There is also a programme of monthly satellite (mobile) clinics at different health facilities at the union level for providing family planning, antenatal care, immunisation and identification of communicable diseases, as a step towards the gradual withdrawal of domiciliary services. Both field and clinic based workers participate in service provision at the satellite clinics.

The secondary level facilities are located at district level and are known as the district hospital. District hospitals are designed to serve one to two million people and have a 50-150 bed hospital attached to them. They provide inpatient and outpatient care and a limited number of specialised services such as, medicine, surgery, gynaecology and obstetrics, and paediatrics. There are around 59 district hospitals in the country and they also supervise and implement all Upazila health and family planning activity and coordinate other government and non-government activity at the district level.[32]

Medical colleges and post-graduate medical colleges and other specialised hospitals or institutions serve as tertiary level healthcare facilities in the country, and are designed to serve 10-15 million people. At the national level there are 13 medical college and post-graduate

hospitals providing a wide variety of specialty services.

In all secondary and most tertiary level facilities basic healthcare is provided through outpatient departments.[33]

Quality and access to healthcare

Although in recent years there has been a notable expansion in the number and availability of healthcare institutions in Bangladesh, the quality of care in the public sector facilities, particularly in rural areas is very poor leading to under-utilisation of these services. The occupancy rate of beds in THCs was found to be 67 per cent in 2000.[34] The poor quality of care in these facilities is generally attributable to non-availability of adequately trained personnel, absence of transparent professional standards, poor patient-doctor interaction, sub-standard diagnostic and physical facilities, and the non-availability of drugs and supplies.[35]

A large number of THCs have inadequate physical facilities. A substantial number of sanctioned posts of doctors, paramedics, and technicians remain unfilled. There is a critical shortage of laboratory technicians, dental technicians, and radiographers, which is aggravated by absenteeism of doctors. The majority THCs lack appropriate storage facilities for drugs and other medical supplies.

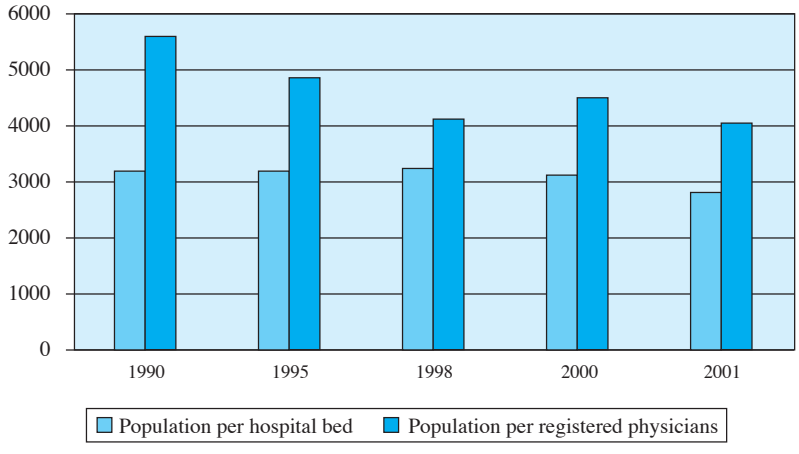
The share of public sector in total curative healthcare is low and has further shrunk in recent years from 20 per cent in 1984 to under 12 per cent in 1995. The total bed strength in the public sector hospitals in 2001 was 33,368 and in private sector hospitals 12,239. Indeed the private sector makes a considerable contribution in supporting the general healthcare system in Bangladesh. The private facilities have been growing fast: in 1983 there were only 164 private hospitals; this number has increased to 712 in 2001, as opposed to only 670 in the public sector. Other emerging healthcare providers in the private sector, particularly in rural areas are pharmacies mostly operated by untrained pharmacist.

At the national level the number of registered graduate doctors in 2001 was 32,498 producing a doctor-population ratio of 1 to 4,000. In early 1990s, this figure was around 1 to 5,500. The number of specialist doctors is miserably low in the country. In 2001 the number of registered nurses in the country was 18,135. The current ratio of doctors to nurses is approximately two doctors for one nurse; ideally there should be at least four nurses for one doctor. In 2001 the hospital bed to population ratio in the country was 1 to 2800. This figure was more than 1 to 3,200 in early 1990s (figure 6.6).

The quality of care in the public sector facilities, particularly in rural areas is very poor

Currently there is reasonable access to curative healthcare services. More than 90 per cent of acute illnesses receive treatment.[36] For treatment, overwhelming preference at present is for modern allopathic medicine. About 90 per cent of the total treatments originate from this branch of medicine. Another notable feature has been that there is very little use of traditional and/or spiritual healing at present for treatment. Less than two per cent of treatments originate from them. Growing awareness about health and increasing facilities for allopathic

Figure 6.6 Trends in healthcare facilities (number of hospital beds and population per bed) in Bangladesh, 1990-2001



Source: GOB 2003c.

treatment have contributed to a reduction in more traditional means of treatment.[37]

Major health programmes

Bangladesh has conducted a series of programmes to address the growing burden of disease in the country. Some programmes have enjoyed varying degrees of success, while others have had only a limited effect on the incidence of disease and morbidity in the country.

HIV/AIDS

Bangladesh initiated its HIV/AIDS prevention efforts in 1985 by establishing a National AIDS Committee. Subsequently, National AIDS Commission was formed in 1995 and a National STD/AIDS Control Programme was initiated in 1996 with the aim of preventing the spread of HIV/AIDS by improving the technical capacity and increasing awareness among the public, particularly among the vulnerable groups.

Bangladesh also formulated a National Policy on HIV/AIDS and STD in 1997 and a National Strategic Framework for the years 2002-06 in order to address HIV/AIDS pandemic in a more organised and efficient way. Despite the prevention efforts, the number of people living with HIV/AIDS in Bangladesh is estimated to reach 13,000 since the first case in 1989 (though the registered cases are very low). The prevalence rate of HIV/AIDS in adult population is quite low but there are various factors, as discussed in Chapter 5, which categorise Bangladesh as a potential risk country. One of them is the low awareness level about the disease.

By now the country has spent a notable amount of money on educating vulnerable groups and building awareness about the dangers of the infection. According to recent BDHS, only around one-third of ever-married women, and 50 per cent of currently married women had heard of HIV/AIDS. The knowledge level is lower in rural areas than in urban areas. In rural areas, only 23 per cent ever-married and 44 per cent currently married women had heard of HIV/AIDS, as compared to 64 and 76 per cent, respectively, in urban areas. Television has been the most important source of conveying this knowledge to women.

Out of the women who possessed knowledge of HIV/AIDS, 33 per cent did not know whether it could be avoided, 12 per cent believed that there was no way to avoid it, while eight per cent who were aware that it could be avoided did not know how. The remaining 47 per cent expressed some degree of knowledge about how to avoid AIDS.[38] This knowledge also varies significantly among women from different educational levels: among uneducated females only 12 per cent ever-married, and 23 per cent currently married women knew of HIV/AIDS, as opposed to 68 and 85 per cent, respectively, among educated women.[39]

Child immunisation programme

In order to reduce infant mortality Bangladesh officially launched the EPI programme in 1979, although efforts in this direction were only seriously made after 1985, when Bangladesh made a commitment to reach universal child immunisation by 1990. The intensified immunisation programme was expanded in the country in phases, and near universal coverage was achieved by the end of 1989.[40]

The programme initially achieved impressive success, although it fell far behind the target of reaching universal immunisation by 1990. The estimated EPI coverage by the target year of 1990 was 62 per cent for three doses of diphtheria, pertussis and tetanus (DPT) and polio, 54 per cent for measles, and 86 per cent for tuberculosis (annex table 6.10). The programme progressed well until 1993, when coverage for three doses of DPT and polio was 88 per cent, measles 86 per cent, and tuberculosis 96 per cent, but faced a set back in the mid-1990s. It started improving again from 1998, but by 2000 it was no longer able to reach the level of

performance achieved in 1993. In 2000, only 60 per cent children were fully protected against all diseases.[41]

With respect to individual vaccines, the performance of bacille calmette guerin (BCG) vaccine against tuberculosis has been very good, as almost 93 per cent coverage was achieved by the year 2000. The polio vaccine has been successful as well, since the country reached the 90 per cent target by 2000. Performance in other areas has, however, been poor (annex table 6.10).

Control of diarrhoeal diseases

Diarrhoeal diseases are the major cause of mortality and morbidity among children in Bangladesh, and dehydration from the disease is often identified as the direct cause of death. Thus, a national oral rehydration project was launched in 1970 and by 1995-96 there were four oral rehydration salts (ORS) production units in the country.

The strategies adopted to control diarrhoea in the country were: (i) epidemiological surveillance, (ii) the formation of emergency medical teams for emergencies (iii) temporary mobile hospitals and (iv) special health education drives through radio, television, posters and leaflets.[42]

ORT corner in district hospitals and diarrhoeal cells in all government medical colleges were set up. NGOs, particularly Bangladesh Rural Advancement Committee, have been active in this programme. Following this programme morbidity due to diarrhoea has not declined substantially, however, the mortality rate has shown a significant downward trend.

ARI programme

The ARI Control Programme was started in September 1992. The objectives of the programme were to reduce ARI mortality and morbidity through improving the home management of acute respiratory infections, including recognition of signs of pneumonia and prompt seeking of care; improving the diagnostic skills and case management practices of service providers; and ensuring rational use of antibiotics.

Malaria control program

In 1960s, the government pursued a major programme for eradicating malaria through killing mosquitoes using dichloro diphenyl trichloroethane (DDT) spray. In 1976, malaria incidence was reviewed and the vertical malaria eradication programme was integrated into the health complex (primary healthcare) scheme. The country was divided into low and high-risk regions, and the high-risk zone was divided again into 15 malaria control zones. Some staff was assigned for specialised services in these zones. In the low risk areas, malaria control was entrusted to the general health staff. The main strategy of malaria control included:

- regular insecticide spraying in high-risk areas and focal spray in low risk areas;
- strengthening the management and logistic support system;
- monitoring p. falciparum (parasite) resistance to drugs, and
- surveillance and presumptive treatment of malaria.

Although the program was unsuccessful in eradicating the disease, it was a relatively successful and strong program, which kept malaria under control for a long time. In recent years malaria is staging a come back in Bangladesh and epidemiological data show that between 1992 and 2000 the number of malaria cases have increased in the country. Recently, early diagnosis and prompt treatment, and the use of insecticide treated bed nets have been adopted as part of the malaria control strategy.

Kala-azar control programme

Visceral Leishmaniasis, commonly know as kala-azar, was prevalent in Bangladesh

Diarrhoeal diseases are the major cause of mortality and morbidity among children in Bangladesh

In 1998 Bangladesh achieved the goal of elimination of leprosy, two years ahead of the target date

up to the late 1950s. In late 1970s, kala-azar reappeared in Bangladesh sporadically and since then, kala-azar cases have been increasing. In late 1990s, the kala-azar situation had assumed an epidemic proportion. The disease pattern is extremely focal with most cases reported from rural areas, exhibiting a familial and contiguous household clustering pattern among the lower socio-economic groups.

Although kala-azar has been a notifiable disease in Bangladesh since 1987, reporting as well as diagnostic and curative capabilities of rural health services are still limited. In 1996, five Direct Agglutination Test laboratories were established in five districts for the diagnosis of kala-azar. Between 1994-97, its rapidly rising trend created alarm. In 1997, nearly 9,000 cases were detected.[43]

Dengue

Dengue was never considered seriously in Bangladesh. However, since July 2000 there has been an outbreak of Dengue/ Dengue Haemorrhagic Fever in Dhaka and cases have also been reported from other big cities. By end 2001 a total of 7,985 cases and 137 deaths were recorded in the country.

Considering the emerging situation of dengue in the country, the Ministry of Health and Family Welfare became concerned about taking necessary actions. Since Dengue does not have any specific treatment, there has been an initiative to develop a national guideline by adapting the World Health Organization (WHO) guidelines to local needs. The purpose of the guideline is to provide a scientific, affordable and appropriate clinical diagnosis, management and reporting so that early diagnosis and management of the disease is possible and there is a reduction in the morbidity and mortality.[44]

National tuberculosis programme

TB is a major public health problem in Bangladesh. The country ranks fifth among the high TB prevalent countries in the world. The national tuberculosis control and prevention program started in the country in 1965. The services were mainly curative and were provided through 44 TB clinics, eight segregation hospitals and four TB hospitals. TB services expanded to 124 UHCs during 1980-86 through the 'Strengthening TB and Leprosy Control Service' project. The present revised National TB Control Programme adopted the Directly Observed Treatment Short-course (DOTS) strategy to deal with TB cases. In 1993, the implementation was started in a few Thanas, and by 1998 the programme was expanded to all 460 Upazilas with technical assistance from WHO and partnership with NGOs.[45]

Leprosy control programme

Leprosy has been a major health problem in Bangladesh for a long time. In 1993, Bangladesh was estimated to have a leprosy prevalence rate of 13 per 10,000 population, which made Bangladesh the third highest leprosy prevalent country in the world. Bangladesh is a signatory of the 1991 WHO resolution, calling for the elimination of leprosy by 2000. Bangladesh followed the WHO Multi Drug Therapy (MDT) to eliminate leprosy and intended to cover the entire country with MDT programme. Intensive MDT implementation was started in 1993. Since 1996, 625 MDT units were established in the country, and in 1998 Bangladesh achieved the goal of elimination of leprosy (one case per 10,000 population), two years ahead of the target date.[46]

Prevention of blindness

A programme for the prevention of nutrition related blindness was implemented through the distribution of high potency vitamin-A capsules to children. Other causes of blindness, such as cataracts, infections, ocular injuries, and glaucoma are also widely prevalent. This programme was thus extended to

include programme for the control of other causes of blindness and visual impairment. A national programme has been formulated recently with the participation of the Bangladesh National Society for the Blind. This programme focuses on the training of primary healthcare personnel in basic eye care, assistance in the seasonal distribution of vitamin A capsules, eye camps for cataract surgery, and dissemination of information on eye health to the public. The Institute of Ophthalmology in Dhaka and the Eye Infirmary and Training Complex in Chittagong provide the training for ophthalmic medical officers and other health workers. But the number of supportive medical staff is inadequate.[47]

Nutrition

Bangladesh is one of the 159 countries that participated in the International Conference on Nutrition held in 1992 and adopted a World Declaration and Plan of Action for Nutrition. In order to improve the nutritional situation in Bangladesh activities undertaken by the government include improving national nutrition surveillance, providing nutrition services through health infrastructure facilities, and control measure for specific nutritional deficiencies. A national nutrition unit has been established. The nutritional surveillance system helped early identification of the population at risk and also helped to measure the effect of the supplementary feeding program.

Development programs for the poor, landless and seasonally unemployed population such as, the 'Food for Work Programme' and 'Vulnerable Group Feeding Programme' continue to provide nutritional support to such nutritionally deprived groups. In this context, agricultural development, including crop diversification, with the particular aim of reaching food self-sufficiency, is a major programme to eliminate the present levels of nutritional inadequacy and imbalance. Recently, Bangladesh has adopted an Integrated Nutrition Project with comprehensive intervention programmes. This program is yet to achieve country-wide coverage. Notwithstanding these interventions, the nutritional status of the population does not appear to have significantly improved and it cannot improve without a significant reduction in poverty.

Level and pattern of expenditure on health

Bangladesh spends very little on health. Estimates suggest that it allocates only about one per cent of its gross domestic product (GDP) on health.[48] Looking at both revenue and development expenditures, the health sector expenditure in the budget accounts for only seven per cent of total government expenditure. Around six per cent of the revenue budget is spent on health, while around eight per cent of the development expenditure is spent on health. Currently, the per capita government expenditure on health is around $2.60 (Tk.150).[49] Despite the low levels of expenditure on health, this sector has recently been able to attract additional attention and resources. The allocations of funds and actual expenses have both increased over time. These will be discussed in greater detail at a later part in this chapter.

According to the Ministry of Health and Family Welfare (MOHFW)[50], government expenditure on health and family planning was less than seven per cent in early 1990s, above seven per cent during 1995-98 period, and declined thereafter, reaching 5.3 per cent in 1999-2000. In 1998-99, the decline in the overall health budget was due to a decline in development expenditure on health and family planning, while in 1999-2000 there was a significant fall in the share of MOHFW in revenue budget, although there was no decline in terms of absolute expenditure.

The MOHFW share in the total revenue budget was 6.6 per cent in 1993-94, remained around six per cent during 1994-95 to 1998-99 period and then fell

Table 6.8 Trends in government expenditure on health and family welfare in Bangladesh, 1993/94-1999/2000

Year	Expenses on MOHFW (in million Tk.)			MOHFW share in total govt. expenses (%)		
	Total	Revenue	Development	Total	Revenue	Development
1993/94	10,720	5,040	5,690	6.6	6.6	6.7
1994/95	13,740	5,930	7,810	7.2	6.2	8.1
1995/96	14,590	6,470	8,120	7.2	6.0	8.5
1996/97	17,580	7,330	10,250	7.6	6.2	9.2
1997/98	18,980	7,860	11,120	7.5	6.0	9.0
1998/99	18,570	8,760	98,10	6.5	6.0	6.9
1999/2000	19,690	9,430	10,260	5.3	3.4	10.9

Note: $1 was equal to 39.57 Tk. in 1993, 40.21 Tk. in 1994, 40.28 Tk. in 1995, 41.79 Tk. in 1996, 43.89 Tk. in 1997, 46.91 Tk. in 1998, 49.09 Tk. in 1999 and 52.14 Tk. in 2000.
Sources: GOB 2001a; and World Bank and ADB 2003.

Table 6.9 Trends in share of development expenditure in total expenses and sources of funds, 1993/94-1999/2000

Year	Share of development expenses	Source of expenses	
		Govt	Donor
1993/94	53.0	64.5	35.5
1994/95	56.8	69.0	31.0
1995/96	55.7	65.8	34.3
1996/97	58.3	65.0	35.1
1997/98	58.6	63.7	36.3
1998/99	52.8	66.1	33.9
1999/2000	52.1	62.0	38.0

Source: GOB 2001a.

Table 6.10 Trends in per capita expenditure by MOHFW, 1993/94-1999/2000

Period	Per capita expenditure on health and family welfare		Share in GDP (%)
	At current price	At constant price (1993/94) = 100)	
1993/94	92.71	92.71	1.12
1994/95	116.58	107.09	1.27
1995/96	121.63	104.75	1.21
1996/97	143.95	120.93	1.36
1997/98	152.82	119.99	1.34
1998/99	135.30	103.80	1.15
1999/2000	153.50	115.18	1.10

Note: $1 was equal to 39.57 Tk. in 1993, 40.21 Tk. in 1994, 40.28 Tk. in 1995, 41.79 Tk. in 1996, 43.89 Tk. in 1997, 46.91 Tk. in 1998, 49.09 Tk. in 1999 and 52.14 Tk. in 2000.
Source: GOB 2001a.

to 3.4 per cent in 1999-2000. The share in the development budget, on the other hand, was 6.7 per cent in 1993-94, rose slowly to nine per cent by 1997-98, fell down to seven per cent in 1997-98 and rose to 11 per cent again in 1999-2000 (table 6.8).

The majority of MOHFW expenses were in the form of development expenses. Around two-thirds of the resources spent originated from domestic sources, while the rest were funded by donors (tables 6.9 and 6.10).

The share of government expenditure in the total plan outlay during first five year plan (1973-78) was 3.74 per cent, it rose to 4.86 per cent in the second plan (1980-85), to 5.68 per cent in the third plan (1985-90), 7.66 per cent in the fourth plan (1990-95/97) and 10.58 per cent in the fifth plan (1997-2002).[51] Of these expenses, more than half was spent on salaries and the rest on non-salary items. Of revenue expenses, more than two-third is spent on salary and of development expenses 29 per cent is in salary account (table 6.11).

Expenses on salary account have been increasing over time. The salary component in primary healthcare facilities located in rural areas claimed an even higher share. It was somewhere between 84 to 92 per cent, although at secondary and tertiary level facilities the figure was lower.[52]

The country's health and family planning expenditures at present represent little more than one per cent of the GDP. It did not increase over the 1990s. The share of MOHFW in GDP in 1993-94 was 1.12 per cent, rose to 1.36 per cent in 1996-97, started to decline thereafter, and reached a figure of 1.10 per cent in 1999-2000. Per capita government expenses on health and family planning was estimated at Tk.153.5 in 1999-2000. It had increased in current price by about 66 per cent during the 1993-2000 period, but at constant price[53] the increase had been very modest.[54] More importantly, this per capita expenditure, which was around US$3.5, was much below the cost for

ESP[55], adopted by the government to deliver essential healthcare services to the people.[56]

Table 6.11 Distribution of MOHFW expenditure by salary and non-salary items and by ESP and non-ESP items

Items	Total expenses	Revenue expenses	Development expenses
Salary	51.1	67.5	28.5
Non-salary	48.9	32.5	71.5
ESP	69.7	57.6	80.8
Non-ESP	30.3	42.4	19.2

Source: GOB 2001a.

Health sector reform policies and performance

Historically, health and population sectors in Bangladesh have been viewed as distinct policy areas for public action and investment. The rationale for public action in the health sector was derived from the belief that the state was responsible for looking after its citizens, and the best way to deliver healthcare to the population was through a facility-based system for a broad range of curative services that were ideally accessible to all, including the poor and the rural population, through a functioning referral system. Thus, initially public health services were not targeted specifically at the poor, but the fact that services were provided free suggested an implicit concern that the poor should not be excluded, especially because the limited market at that time could not provide affordable and accessible healthcare to all. Since everyone, regardless of class or position, used the same service, there was a natural pressure on healthcare providers to maintain the quality of service.

The pressure to provide good quality curative healthcare, requiring expensive technology and costly human and physical infrastructure, automatically generated an urban bias and also an anti- poor bias. A visible gender bias resulting in the neglect for women's health, causing high levels of pregnancy related mortality and morbidity also emerged as a reflection of the low value placed on women by society. The need to shift to a pro-poor service delivery content and structure, and to place greater emphasis on preventive rather than curative care was widely recognised after the Alma Ata declaration of *health for all* in 1978. Attempts were made to address the urban and elite bias of the health system by complimenting facility-based provisioning with several vertical and relatively independent field based delivery systems providing relatively narrow and focused preventive care. Domiciliary services were also introduced quite early on to reach women (especially to deliver contraceptives) and households that had low access. This was possible because of the advent of low cost effective technology for communicable disease prevention that was relatively easy to deliver.[57] Unfortunately, however, the shift from curative to preventive healthcare and from urban to rural areas was not welcomed by professional providers, leading to unfilled posts of medical officers at the Upazila level, widespread absenteeism, and negligence of duty. Eventually, the quality in the health facilities could not be maintained.

Public policy in the population sector, on the other hand, was driven by a clearly articulated rationale of population control. An important distinction was the extreme donor dependence of public action in the population sector with serious implications for the articulation of programme goal and design of delivery structure. Government was especially receptive to donor ideas for curbing explosive and runaway population growth, and it is no surprise that the First Five Year Plan of Bangladesh (1973-78) stated that 'no civilised measure would be too drastic to keep the population of Bangladesh on the smaller side of 15 crore for the sheer ecological viability of the nation'.[58] It was believed that the goal of lowering the birth rate could be achieved by supplying modern contraceptives to married women through an intensive doorstep service, accompanied by an aggressive motivational campaign promoting the two-child norm and legitimising the use

Women's liberties were abused through the absence of choice in birth control methods, very low quality of care and negligence of health needs

of modern methods of contraception. Donors also advised that programme effectiveness would be maximised if family planning activities were totally segregated from health activities, a structure that was also useful for allocating donor funds earmarked for population control.

An excessive contraceptive bias in family planning service provision, totally marginalising the health needs of contraceptive users who were overwhelmingly poor women, was reflected in the fact that programme success was measured in terms of contraceptive prevalence rate (CPR). The absence of a broad development goal of the family planning programme that would contribute to social development and enhance individual wellbeing led very easily to errors of policy choice and over ambitious targets. Women's liberties were abused through the absence of choice in birth control methods, very low quality of care and negligence of health needs, and non-accountability of service providers. Women also carried a disproportionate share of the costs of using modern contraceptives and internalised the high health costs, but had little decision making power with respect to contraceptive use.[59] The contraceptive bias also led to the belief that broadening the programme mandate would undermine success attained in raising the CPR, thereby creating the grounds for resisting unification of health and family planning services under the new sector-wide programme.

In 1998 the Bangladesh government, as signatory to the International Conference on Population and Development (ICPD) Programme of Action which required an explicit policy shift from the 'exclusive focus on demographic concerns to one that holds the well-being of individual women and men at the centre of sustainable development',[60] initiated the five year sector wide Health and Population Sector Programme (HPSP). In practical terms the shift required a conscious policy move to a pro-poor reproductive health agenda with a client centred and responsive integrated service for health and family planning. This was a shift in strategy to provide essential services to the most vulnerable and deprived groups, namely women, children and the poor. For the Bangladesh government, with well-entrenched, vertically segregated and parallel systems for delivering health and family planning services, this shift had considerable implications for activities in both the population and the health sector.

First, the new imperative of reproductive healthcare called for a functional integration of the health and family planning activities of the Ministry of Health and Family Welfare. Second, developing capability of integrated programmes to provide comprehensive reproductive healthcare services meant a total reorientation of service delivery and administration. Third, the resource requirements of such an agenda, including institutional and human resource commitments, enhanced budgetary allocations and viable resource mobilisation strategies, were also quite significant. Fourth, the sector-wide approach entailed decentralisation of planning and decision making and a common pooling of funds for line activities within the sector instead of independent project based activities. Thus, it depended crucially upon fundamental institutional reforms that had been historically resisted in a sector with traditionally low budgetary allocations.

Currently Bangladesh is preparing the Poverty Reduction Strategy Paper committed to attaining the Millennium Development Goals. Out of the ten targets set for 2015 in this strategy paper, four are health related targets (infant and child mortality, malnutrition, maternal mortality and reproductive health). Some of these are quite ambitious,[61] and admittedly require huge additional resources.[62] A new Health Nutrition and Population Sector Programme has also been formulated.

Implementation of policies

A number of features distinguish the implementation of public health and family planning programmes in Bangladesh. First, there is unbalanced utilisation of services, with over utilisation of facilities at the district and teaching hospitals and extreme under utilisation at UHCs and Union Health and Family Welfare Centres (UHFWCs). The latter facilities are particularly notorious for the poor quality of services provided.[63] The common perception is that UHFWCs are only meant for the delivery of contraceptives with some limited child health service like immunisation and distribution of ORS sachets.[64] Although some preventive maternal and child health services are supposed to be provided, very little service is actually available for other health problems of women or the whole range of common childhood diseases besides diarrhoea. This negative perception is reinforced by the long-standing hostility between the medical (health) and non-medical (family planning) personnel.

Another feature of public health facilities that affects implementation of programmes is the widespread incidence of collection of unofficial user fees, which are unauthorised payments that co-exist with 'free care' and formally approved service charges such as hospital admission, and because of failure to deliver required levels of services, commodities or accessibility.[65] Unofficial fees represent a major proportion of user's opportunity costs of healthcare.[66] Since poorer patients pay the greatest amount of unofficial fees at the UHC these work to their disadvantage. Fees are levied primarily on commodities (medicines and surgical supplies) and collected by health facility staff on an individual basis.[67]

Finally, the family planning programme's excessive reliance on external funds, which was on average nearly 65 per cent during the last decade, has also affected implementation and care seeking behaviour of the population. Heavy donor dependence has meant that service delivery has had to conform to donor priorities and sentiments, often imposed through tied loans and conditionalities. For example, it was initially donor pressure pushing for the single-minded delivery of modern contraceptives which led to the supply driven and target oriented delivery structure of the Bangladesh family planning programme. The emphasis on door-to-door contraceptive delivery by poorly trained field workers led to a passive demand for services, encouraged the neglect of the health aspects of modern contraceptive use and legitimised the poor quality of service delivery. Such a delivery mechanism also perpetuated and consolidated existing patriarchal norms that restricted women's mobility and prevented them from demanding better service quality.

The HPSP, initiated in 1998, quite predictably ran into serious implementation problems with only 41 per cent of allocated funds spent by February 2003, the last year of the programme.[68] The inability to implement programme activities and spend allocated funds in a timely fashion jeopardised health and population sector activities by creating negative donor perceptions about government commitment to a pro-poor health strategy and its willingness to undertake necessary reform. There is an ongoing tug of war between donors and government, with donors insisting upon the unification of health and family planning infrastructures and government alleging that attempts at unification have undermined family planning service delivery.[69]

Family planning programme's excessive reliance on external funds has affected implementation

Impact of policy on access and quality

Attendance rates based on exit surveys show that the bottom two quintiles account for half of all visits at facilities at Upazila level or below while the richest group accounts for only 13-15 per cent.[70] The fact that the poor are more likely than the rich to use public facilities and services show that attempts at creating a more pro-poor service delivery have been partially successful. Some of the vertical

programmes like the EPI and vitamin A capsule distribution particularly were highly successful programmes in terms of coverage and effect, contributing significantly to improving the health status of the poor through reduction in child mortality, morbidity and under-nutrition.[71] More recently efforts to reduce maternal mortality have also been made using low cost easily deliverable technology, such as TT coverage of pregnant women, training of birth attendants and awareness raising campaigns for identifying risky pregnancy. But further improvement in women's health may prove difficult since this will require costly facility-based technology like emergency obstetric care, for which financing will be a problem.

Only 12 per cent of rural illnesses receive treatment at public facilities at Upazila level and below

The family planning programme, too, has been more relevant for the poor because the existing traditional values and practices that militate against birth control, such as early initiation into childbearing, the high premium placed on motherhood, sanctions against childlessness, the prestige attached to dependence upon sons in old age and religious restrictions, all tend to be reinforced by poverty.[72] Within the context of rising demand for birth control, the programme has speeded up the pace of fertility decline by supporting the efforts of couples to implement their changing fertility preferences.

However, only 12 per cent of rural illnesses receive treatment at public facilities at Upazila level and below,[73] indicating that public health facilities are not their preferred choice in health seeking behaviour, although many continue to rely on public services. On the other hand, rising incomes and education levels have increased awareness and expectations, causing many to purchase private healthcare which gives relatively greater choice of healthcare and is less demeaning than the free public care with its high opportunity cost.[74] The supply gap has been filled in by a rapidly expanding private health system not only in urban areas but increasingly in rural areas too. The market now supplies a large proportion of curative care and private out-of-pocket expenditure by households account for up to two-thirds of healthcare financing.[75]

Access of the poor to facility based public services at the community level is constrained by the high incidence of unofficial user fees and very low quality of care, and at the district and higher levels by cost of travel and distance. Average distance to a district hospital is about eight miles and distance travelled by service users varies positively with landholding status of the household, with a stronger relationship in the case of users of district hospitals.[76] A recent study shows that public health service utilisation is dominated by limited curative care (53 per cent of surveyed patients), 19 per cent for essential child health, seven per cent for reproductive health, three per cent for communicable diseases and 14 per cent for non-ESP services.[77] In other words, since the poor are relatively less likely to be able to travel to Upazila and district hospitals because of the cost of travel they are also less likely to be able to access curative care, especially facility based care like emergency obstetric care. Public spending on maternal health is in fact not pro-poor.[78]

The poor spend 38 per cent of their monthly household income on healthcare compared to only three per cent by the rich, although the absolute amount spent by poor households is only half of what non-poor households spend indicating that access to public health services by the poor is also constrained by resource scarcity and lack of purchasing power. Unofficial user fees also provide considerable disincentives for the poor in availing public health services as these inflate the costs of using public services. It is not surprising that a relatively greater proportion of healthcare is purchased from the market, and increasingly, the public health system has become a secondary source of supply of healthcare, even for the poor. Thus, the health of the poor remains largely outside the purview of public provision. Although the majority of users of public health services are still

the poor, they come from the poorest sections of the population who simply cannot afford private services.

Studies on the benefit incidence analysis of public expenditure on health show that public health expenditures are more equitable than private expenditures, and among the public expenditures, essential service for child health reduce inequality the most.[79] On the other hand, allocations to limited curative care and maternal health are the most unequal. Within the public health system only immunisation services are used more often by the poor compared to the non-poor, while the use of curative care, facility-based deliveries and pre and postnatal visits are dominated by the non-poor.[80] Another study concludes that public health spending for essential child health and curative care at Upazila level and below are the most pro-poor.[81] However, the poor incur higher trans-action costs in terms of higher unofficial fees and also because of differential behaviour of public providers and differential access to inpatient and outpatient services and medical tests, and so on.

Macroeconomic adjustment and health sector reform

Against the backdrop of serious macroeconomic imbalances in the early 1980s, the government initiated policy reforms for stabilisation and structural adjustment along the guidelines of the World Bank and the International Monetary Fund.[82] During the 1980s, the reforms focused mainly on reducing public development expenditures and putting constraints on credit, aimed at narrowing the fiscal and trade deficits to sustainable levels that was consistent with the reduced level of aid availability. In the early 1990s, the reforms were more directly related to fiscal and trade policies and aimed at moving towards a more open economy.

The pattern of the government's current and development expenditures shows that, while there were fluctuations from one year to the next, the relative share of total public spending in the health and population sectors actually increased slightly during the 1990s.[83]

With regard to total current expenditure, while the share of overall social services increased slightly during the 1990s (from 31 per cent in 1991 to 33 per cent in 1998), the share of health and population services under the MOHFW remained almost the same at around six per cent, and actually declined to 3.4 per cent in 2000.[84] With regard to the government's total development expenditure, although the share of the entire social sector (including education, health and family planning, and social welfare) nearly doubled during this period, the share of health and population sector expenditure was quite erratic. This share jumped from 6.7 per cent in 1994 to 9.2 per cent in 1997, then declined to 6.9 per cent in 1999, but picked up again in 2000. Thus, share of MOHFW in total government expenditure hovered around six to seven per cent during the 1990s, although nearly doubling in absolute terms,[85] but showed a decline to 5.3 per cent in 2000. It may be noted that the fairly sharp rise in development expenditure on health and family planning after 1995 coincides with the ICPD in 1994 and the Beijing Conference on women held in September 1995.[86]

This suggests that although within the social sector, health and population have received less priority than education, their relative importance in the context of the country's overall development objectives of growth and poverty reduction has not altered visibly during the 1990s. In fact, one estimate reveals that in constant 1972-73 prices, per capita public spending on health and family planning doubled from Tk. 6.67 in 1983-84 to Tk. 12.33 in 1993-94.[87] Moreover, the same study estimates that the bottom 20 per cent of rural households, in per capita income terms, have access to nearly 22 per cent of public spending on rural health compared to 21 per cent access by the top

20 per cent of rural households. Thus, the distribution of public health expenditure is less skewed than rural income distribution, underscoring the importance of access to public health facilities for the rural poor.

The expansion in health facilities during the last decade has been quite impressive. However, figures on the expansion of health facilities and increase in per capita public healthcare expenditure do not reveal the quality and equity aspects of such expenditures. For example, despite increases in the number of trained medical personnel, the ratio of doctors and nurses to population continues to be dismally low.[88] The share of investment in secondary healthcare increased at the expense of the share of primary healthcare during the early 1990s, while the share of investment in family planning actually declined slightly.[89] The low quality of service provision at public health facilities is commonly acknowledged, causing people of all socio-economic classes, including the poor, to rely on private healthcare facilities to a larger degree.

The expansion in health facilities during the last decade has been quite impressive

At the household level, the proportion of total per capita health expenditure spent on public health facilities is very low at 13 per cent, and has not shown any signs of increasing during the recent past.[90] Given that public services are 'free', this indicates a lack of effective demand for public services, which may be partly linked to the high opportunity cost of public healthcare. In other words, while the aggregate pattern of public spending during the 1990s attests to the government's commitment to expand public health facilities, the nature of the expansion so far appears to be more in terms of quantity than quality.

Although budgetary allocations to health and population increased during the 1990s, actual expenditures both in real per capita terms, and as share of GDP, have declined since the late 1990s.[91] During the last two years of the HPSP, total annual health spending declined by 0.8 per cent in real terms, compared to an 18 per cent increase in the previous two years. This shortfall in spending is primarily due to implementation failures arising from the new budgetary and procurement requirements of the HPSP.

Annex Tables

Table A 6.1 Per capita availability of some selected food items in recent years

Food Items	1994/95	1995/96	1996/97	1997/78
Rice	154.1	153.4	150.0	154.5
Wheat	20.0	20.4	24.7	22.2
Food grains including minor cereals	173.6	174.3	175.2	177.2
Potato, & sweet potato	15.0	14.9	14.5	14.6
Meat	3.6	3.7	5.0	5.1
Fish and marine	9.5	10.0	12.7	13.1
Milk/milk product	9.0	10.1	13.3	13.1
Egg	19.0	21.0	22.0	23.0
Pulse	4.6	4.5	4.9	4.9
Cloth (new/old)	11.7	10.7	12.4	12.4

Source: GOB 2000.

Table A 6.2 Self-reported food consumption of the people

(%)

Food Consumption	National	Rural	Urban
Deficit, whole year	17.7	18.9	12.8
Sometimes deficit	41.8	44.0	32.6
Neither deficit nor surplus	30.1	28.0	39.1
Surplus	10.1	9.0	15.3

Source: NIPORT, MA and ORCM 2001.

Table A 6.3 Percentage of population able to meet nutrient requirements by locality, 1995/96

Nutrients	Areas		
	All	Rural	Urban
Calorie	32.2	35.1	21.5
Protein	46.0	45.0	49.4
Fat	25.2	21.0	40.2
Calcium	20.8	20.0	23.7
Iron	12.5	11.4	16.3
Vitamin A	44.1	42.6	49.5
Thiamine	52.4	54.2	46.0
Riboflavin	1.3	1.2	1.5
Niacin	69.6	70.9	64.7
Vitamin C	43.7	42.3	48.9

Source: Jehan and Hossain 1998.

Table A 6.4 Ratio of stunted and underweight girls to stunted and underweight boys by education of mother and per capita income

	Ratio for	
	Stunted	Underweight
Education of mother		
No education	1.01	1.03
Primary	1.01	1.05
Secondary	0.99	0.94
Higher	0.68	0.95
Income per capita		
< 2000	1.36	
2000-2999	1.13	
3000-3999	1.04	
4000-4999	1.00	
5000-5999	0.90	
6000-7999	1.07	
8000-9999	0.84	
10,000+	0.97	

Source: INFS 1998.

Table A 6.5 Recent trend in maternal nutritional status by locality and education level of the mother, 1996/97 and 1999/2000

	% having height < 145 cm		% with BMI < 18.5	
	1996/97	1999/2000	1996/97	1999/2000
All area Residence	17.3	15.9	52.0	45.4
Rural	17.4	15.9	53.8	48.7
Urban	16.1	15.7	35.8	29.9
Education of mother				
No education	19.4	18.2	57.7	52.1
Primary incomplete	15.1	17.3	49.7	48.8
Primary complete	18.6	15.5	51.4	48.3
Secondary/higher	12.0	10.9	37.7	30.1

Sources: NIPORT, MA and MII 1997 and NIPORT, MA and ORCM 2001.

Table A 6.6 Trends in percentage household having access to potable drinking water and sanitary latrine facility, 1990-2000

	1990	1993	1995	1997	2000	Goal 2000
Access to potable water supply						
National	89	94	97	97	97.5	80
Rural	88	91	96	97	97.3	
Urban	96	98	99	99	99.5	
Access to sanitary means of excreta disposal						
National	21	34	48	40	43.4	80
Rural	16	33	44	37	41.3	
Urban	40	–	70	71	61.2	

Source: UNICEF 2000.

Table A 6.7 Causes of death by locality, 2001

Causes	National	Rural	Urban
Measles	0.9	0.9	0.9
Fever of all types (typhoid/influenza etc.)	9.1	10.0	5.8
Diarrhoeal diseases including dysentery	6.4	8.0	8.8
Tuberculosis	1.3	1.9	3.8
Respiratory diseases (asthma, pneumonia, etc.)	12.2	12.8	4.2
High blood pressure/heart diseases	10.5	7.5	5.7
Diabetes/veneral diseases	3.0	1.1	3.5
Jaundice/liver diseases	0.7	2.4	2.2
Rheumatism	3.6	3.2	1.7
Gastric/ulcer	1.5	1.2	1.8
Diptheria/meningitis	0.7	0.8	0.8
Tumor, leprosy, skin diseases	0.9	0.9	0.8
Cancer	4.5	1.5	3.3
Malnutrition	2.4	3.2	3.4
Tetanus	5.6	9.7	7.1
Old age complications	13.5	15.4	15.2
Suicide/murder/other accident	9.1	6.4	4.0
Other disease/problems	11.8	15.4	15.7

Source: GOB 2003c.

Table A 6.8 Causes of death by sex, 2001

Causes	Both sexes	Male	Female
Measles	0.9	0.9	0.9
Fever of all types (typhoid/influenza etc.)	9.1	8.4	10.2
Diarrhoeal diseases including dysentery	6.4	6.8	6.0
Tuberculosis	1.3	1.7	1.1
Respiratory diseases (asthma, pneumonia, etc.)	12.2	13.0	11.3
High blood pressure/heart diseases	10.5	12.4	8.5
Diabetes/veneral diseases	3.0	3.2	2.7
Jaundice/liver diseases	0.7	0.7	0.7
Rheumatism	3.6	3.6	3.6
Gastric/ulcer	1.5	1.9	1.5
Diptheria/meningitis	0.7	0.8	0.5
Tumor, leprosy, skin diseases	0.9	1.0	0.8
Cancer	4.5	4.6	4.3
Malnutrition	2.4	1.8	3.2
Pregnancy and child birth related	–	–	2.4
Tetanus	5.6	6.0	5.8
Old age complications	13.5	12.8	14.9
Suicide/murder/other accident	9.1	8.8	9.4
Other disease/problems	11.8	11.3	12.3

Source: GOB 2003c.

Table A 6.9 Causes of death of the infants and children aged 1-4 years in Matlab, Bangladesh

Causes of death	Year				
	1990	1992	1995	1998	2001
	Infants (<1 year)				
Diarrhoeal disease/dysentery	10.4	15.1	11.6	9.1	6.4
Infectious diseases	2.5	1.8	1.1	1.7	2.7
Nutritional causes	5.6	5.2	6.6	5.7	4.0
Respiratory illnesses	20.2	17.7	21.8	27.5	27.6
Neonatal tetanus	2.7	0.4	1.1	0.3	–
Other neonatal causes	52.5	52.9	49.2	49.0	49.2
Other and unknown	2.5	4.8	4.1	5.4	9.8
	Children aged 1-4				
Diarrhoeal diseases/dysentery	29.7	37.7	33.7	19.0	12.7
Infectious diseases	6.6	5.6	1.9	2.9	1.3
Respiratory illnesses	3.3	11.7	10.6	6.7	10.1
Accident/injuries	17.6	12.2	11.2	51.4	50.6
Other	29.1	15.8	32.5	20.0	25.3

Source: BICDDR, various issues, Demographic Surveillance Systems.

Table A 6.10 Estimated EPI coverage and target by 2000

Vaccine	Year					
	1990	1993	1995	1997	2000	Goal by 2000
DPT3	62	88	69	68	71	90
Polio3	62	88	69	67	90	90
Measles	54	86	79	71	76	90
BCG	86	96	–	91	92	90
TT2	75	-	59	57	67	90

Source: UNICEF 2000.

Chapter 7

Health and Healthcare in India: A Brief Overview[1]

India is a country of bewildering and rich diversities – diversities of geography, language, religion, food, and culture. To this may be added the huge diversities in health. At one extreme is the southern state of Kerala, with health indices on par with some of the developed countries of the world. At the other end lie some of the larger states of Northern India, home to a large proportion of India's population, with health indices comparable to those of Sub-Saharan Africa. Aggregate health figures can therefore mask the wide differentials that exist between the regions, states, rural-urban areas, and the social groups that can be found in this vast country. Nevertheless, while bearing these limitations in mind, a brief overview of India's health achievements and failures is presented in this Chapter, drawing attention, where data allows, to these differentials and exploring some of their underlying causes.

At the beginning of the twentieth century, India experienced life expectancy at birth in the region of 22 years. The crude death rate at this time was an astonishing 42.6 and the crude birth rate stood at 49.2 per thousand live births. The infant mortality rate (IMR) during 1911-1915 was 204 per thousand live births.[2] Widespread poverty and appalling health characterised the country despite a population of merely 238 million in undivided British India. This was a terrible indictment against centuries of colonial rule, and an aftermath of the epidemics and famines that accompanied it throughout the nineteenth century.

However, since gaining independence in 1947, India has made substantial gains in the field of health. The IMR, which was 134 per thousand live births at the time of Independence,[3] declined to around 70 in 1999. The crude birth rate, which stood at 39.9 in 1941-51, reflecting the huge mortality load, dropped down to 26.1 in 1999. The crude death rate declined from 27.4 in 1941-51 to 8.7 in 1999. As a consequence, expectation of life at birth is now 64, down from a figure ranging in the early 30s at the time of Independence.

While these are significant gains, they are, however, relatively modest in comparison to China - the only other country in the world with which India can legitimately be compared. Despite the fact that at the time of her revolution China was relatively more disadvantaged than India in health indices and food availability, by the late nineties China had surpassed India in her healthcare achievements. Thus, in 1999, China had an IMR of 38 while India's was 71. The under-five mortality rate (U5MR) for China stood at 47 while it was 108 for India, and the life expectancy at birth was 69.8 years in China when it was 62.6 years in India. The proportion of low-birth weight infants was nine per cent in China and 33 per cent in India, and the tuberculosis (TB) prevalence rate per 100,000 was 38.1 in China, while it was 136.9 in India.[4]

Table 7.1 International comparisons of health, manpower and hospital beds, 1990-1998

	Physician per 1000 population	Nurses per 1000 population	Midwifes per 1000 population	Hospital beds per 1000 population
Indian public sector	0.2	–	0.2	0.4
India total	1.0	0.9	0.2	0.7
World	1.5	3.3	0.4	3.3
Low income countries	1.0	1.6	0.3	1.5
Middle income countries	1.8	1.9	0.6	4.3
High income countries	1.8	7.5	0.5	7.4

Note: Income category is defined by per capita Gross National Product (GNP) in 1999; low income countries <$755; middle-income countries $756-9265; high-income countries >$9265. Country income averages are unweighted. Table is reproduced from World Bank 2001c.
Source: World Bank 2001c.

Table 7.2 International comparisons of health service utilisation and Disability Adjusted Life Years (DALYs) lost per 1,000 population, 1990-1998

	Inpatient admissions per capita per year (%)	Average length of inpatient stay (days)	Outpatient visits per capita per year	DALYs (per 1000 population)
Indian public sector	0.7	14.0	0.7	–
India total	1.7	12.0	3.9[a]	274
World	9.0	13.0	6.0	234
Low income countries	5.0	13.0	3.0	256[b]
Middle income countries	10.0	11.0	5.0	–
High income countries	15.0	16.0	8.0	119

Note: Income category is defined by per capita GNP in 1999; low income countries <$755; middle-income countries $756-9265; high-income countries >$9265. Country income averages are unweighted.

[a]Includes all visits to health providers, regardless of system of medicine.

[b]Estimated for low and middle income countries combined. Table is reproduced from World Bank 2001c.

Source: World Bank 2001c.

Box 7.1 The story of Mato Soren

Mato Soren is dead. In January 2002, during *sohrai* – the biggest of festivals for Santals – he left behind his wife, two children, and a debt of Rupees (Rs.) 5,000 (US$103). A series of disasters in the form of diseases not only took his life, but also exposed his family to an uncertain destiny. It all started with his elder son, who suffered from malaria in 2000. Mato had to sell his poultry and pigs to repay the debt he incurred for his son's treatment. It was a year of drought and the yield from his land could only sustain the family for a month. Both he and his wife, along with his children, migrated to Barddhaman for work, but even here they could afford to eat only once a day, for almost the whole year. Then, towards the end of 2000, his wife fell sick – again a malarial attack. The doctor's bill came to a total of Rs.□2,500 (US$57) and this time Mato had to sell his bullocks. In 2001, he was unable to cultivate his land, as there were no bullocks, and also because he had no seed left to sow. Moreover, he had no grain left at home to eat during the cultivating season. He made up his mind to let out his land to a fellow Santal for sharecropping, but before he could do so, he started coughing blood. He visited a quack that advised him to go to Pakur Sadar Hospital, but only after squeezing Rs.□60 (US$ 11) from him. Mato took a loan of Rs. 5,000 from a non-tribal belonging to a neighbouring village, and mortgaged his three bighas (1.2 hectare) of land. Part of the money was spent on buying some rice to eat and Rs. 3,200 (US$68) was spent on his medication – he did not get any help from the government hospital and was seen by a private practitioner (who also happened to be a government doctor). By the end of the year his family had nothing to eat, and his wife and two sons had fallen prey to malaria again. Mato starved for three days before death finally saved him. He had stopped taking his medication two months earlier to his death.

Source: Rana and Johnson 2003.

India's relatively poor performance in the health sector is brought to light even more starkly when compared to international data on healthcare infrastructure and utilisation. As the data in table 7.1 indicates, India falls below the low-income countries in terms of personnel and facilities for healthcare. Given this weakness of India's healthcare infrastructure, it is not surprising that the utilisation of healthcare facilities in India, as demonstrated in table 7.2, is also lower than in other low-income countries. Clearly, then, India's achievements in the health sector have to be approached with caution, as is illustrated by the regrettably common story of Mato Soren (box 7.1).

There are many Mato Sorens in India, a country whose poor constitute a third of its population. Around 35 per cent of the population of India survives on less than a dollar a day. The high incidence of poverty makes the provision of an adequate and accessible healthcare system all the more imperative.

In 1978, India also became a signatory to the Alma Ata Declaration, which resolutely states: 'The Conference strongly affirms that health, which is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity, is a fundamental human right and that the attainment of the highest possible level of health is a most important world-wide social goal whose realisation requires the action of many other social and economic sectors in addition to the health sector'[5] and adopted its very first health policy in 1983, which set out to provide 'universal, comprehensive primary healthcare services, relevant to the actual needs and priorities of the community'[6] in an effort to address the deficiencies in its health sector.

There has, however, been a wide gap between policy commitment and its transformation into reality. This section provides a brief overview of the Indian health scenario and surveys some factors underlying this situation.

The current health scenario

Infant and child survival

The data in table 7.3 reveals that the IMR has shown a decline in the long term. But it also makes it evident that the rate at which this decline of IMR has occurred has significantly slowed in the last decade. The percentage decline in IMR between 1971-1981 was 14.7; between 1981-91 it was an even more remarkable 27.3 per cent. However, in the period between 1991-99, there appears a marked stagnation in the rate of decline of IMR by 12.5 per cent. In 2002, IMR was recorded as 67 in India. Further, as the data in the table reveals, despite policy commitments to provide equal access to healthcare provision in rural as well as urban areas, marked rural-urban differences remain unchanged due to a lack of implementation of these policies.

Aside from this aggregate stagnation, significant IMR differentials exist between individual states. Kerala shows the lowest IMR at 14 in 2000, while Maharashtra, Tamil Nadu, Punjab, Karnataka and Himachal Pradesh have met the national goal of reducing the IMR to 60 or less by 2000. However, major states such as Madhya Pradesh (91), Orissa (97), Uttar Pradesh (84), and Rajasthan (81) still lag far behind. Also, it should be noted that the figures listed above are for rural and urban areas combined; the rural areas of these states experience even higher IMR of 96, 100, 87 and 85 respectively. It is therefore not surprising that these states are often collectively referred to as *bimaru* (sick) states.[7]

Another set of differentials that is highlighted by the Nationl Health Policy NHP 2000 is the disparities in the IMR within the marginalised social groups in India. The IMR among the scheduled castes (SC) stands at 83, at 84.2 among the scheduled tribes (ST), 76 among other disadvantaged groups, and at 61.8 among all 'others'.[8] In addition, data from the National Family Health Survey indicates that the IMR among households with a low standard of living is 76.1 compared to 33 among households with a high standard of living. The post-neonatal mortality rate is almost three times higher in households with a low standard of living, than in households with a high standard of living.[9]

In sum, not only is the IMR still unconscionably high at the national level, there exist stark differences among states and regions, and rural and urban populations. In addition, there are worrying IMR differentials between the various economic classes, and amongst the marginalised groups in Indian society. Thus the SC, ST, and other backward castes (OBC) bear a disproportionate burden of infant deaths, as do the poor in general. This trend is cause for even greater concern when viewed in light of the percentage reduction in the rate of decline of IMR over the last decade.

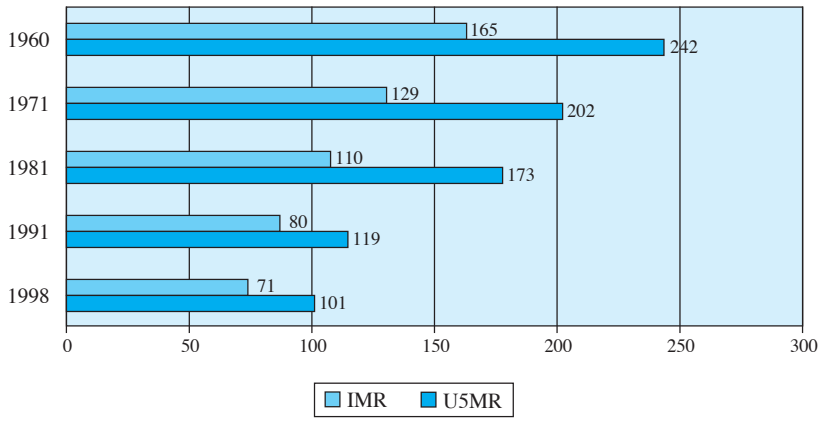
Similar to the trends of the IMR, there has been a secular decline in the U5MR from 1960 to the year 1998, as revealed in figure 7.1. The U5MR was 93 in 2002. Also, parallel to the incidence of the IMR are marked differences in the U5MR amongst individual states. While Kerala has a U5MR of 18.8 in 2002, the number is 137.6 in Madhya Pradesh, 122.5 in Uttar Pradesh, 114.9 in Rajasthan, 105.1 in Bihar and 104.4 in Orissa. These are all

Table 7.3 Trends in infant mortality rate by locality in India, 1971-1999

Year	Total	Rural	Urban
1971	129	138	82
1976	129	139	80
1981	110	119	62
1984	104	113	66
1985	97	107	59
1986	97	105	62
1987	95	104	61
1988	95	102	62
1989	91	98	58
1990	80	86	50
1991*	80	87	53
1992*	79	85	53
1993*	74	82	45
1994*	74	80	52
1995*	74	80	48
1996*	72	77	46
1997*	71	77	45
1998	71	77	45
1999	70	75	44

Note: *Excludes Jammu and Kashmir.
Source: ORGI 1999, 2000b and 2001.

Figure 7.1 Trends in IMR and U5MR in India, 1960-1998



Note: U5MR mortality for 1991 covers 1988-93, data for 2002 is from international sources.
Sources: GOI 2001a; IIPS 1995 and ORGI, various issues, *Sample Registration System Bulletin*.

composite numbers; following general trends, it would be safe to conclude that rural areas experience significantly higher rates than the aggregate numbers.

In rural areas the U5MR was 103.7, while it stood at 63.1 in urban areas. Within urban areas themselves, it was 39.4 among households with a high standard of living and 112.2 in households with a low standard of living. In rural areas, the U5MR was an astonishing 127.3 among SC (Dalit) households, 131.4 among ST (Adivasi) households, and 112.2 among the OBCs, compared to 93.1 among others. Finally, a cross-regional and cross-class comparison reveals that rural households with a low standard of living experienced a U5MR of 131.8, more than three times higher than in better off households in urban areas.

While there has been a decline in the overall U5MR, the pace of decline has slowed and the U5MR is currently hovering around 95. During 1971-81, the percentage decline was 14.4. The decline was much sharper during the eighties, with a percentage decline of 31.2. However, during the nineties, with the onset of policies of liberalisation, cuts in public sector expenditure and privatisation of health services, the rate of decline has reduced to 15.1 per cent.[10]

Sex ratio in India

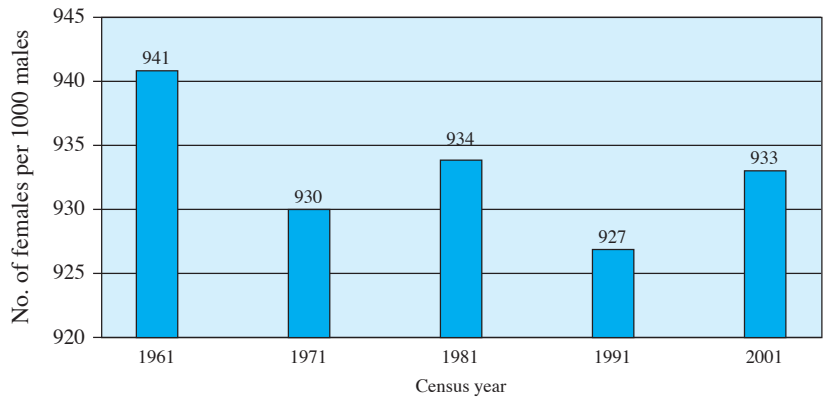
The average female to male ratio - that is the number of females per thousand males - is 990 in today's world. Western Europe has a figure of 1,064 females per thousand males and Africa has a ratio of 1,015 females. The overall female to male ratio in Asia is 953, but India, along with a number of her close neighbours, is associated with extremely negative sex ratios. Pakistan, India, Bangladesh, China and South Korea appear to form an arc of anti-female countries that cuts across religions and nationalities. Values of less than 950 females per thousand males are prevalent in these countries.

In India the sex ratio has experienced a steady decline over the years (figure 7.2). It dropped from 941 in 1961 to 930 in 1971. However, when the 1981 Census announced the figure of 934 females per thousand males, optimists believed this indicated a turnaround in the decline of the sex ratio. The 1991 figure, however, removed the possibility of any such reversal when it revealed a further decline to 927. Demographers now accept that a significant under-counting of females in 1971 census caused the deviation in the trend in 1981. They also agree that the 1991 and 2001 censuses are free from any such defection. This means that the 2001 census figures of 933 females per thousand males must be real, and therefore indicative of an improvement in the overall survival of females. Have we then turned the corner?

The female to male ratio could turn feminine simply because more men than women have migrated to developed and Middle East countries from South Asia. But the juvenile or child sex ratio (CSR) is not subject to this limitation, and it is this that appears as a source of concern. Despite the slight overall improvement in the female to male ratio, the CSR in India as a whole has declined significantly - from 945 in 1991 to 927 in 2001. It is estimated that there are 35 million missing females in India as per the 2001 census.[11]

This decline has been particularly notable in Himachal Pradesh (897), Punjab (793), Chandigarh (845), Haryana (820) and Delhi (865). In all these states, sometimes referred to as the Bermuda

Figure 7.2 Trends in female to male ratio in India, 1901-2001



Source: GOI 2001a.

triangle for missing females, the number of female children per thousand male children in the zero to six years age group declined by more than 50 between 1991 and 2001. Gujarat and Maharashtra have also unfortunately joined this group of states in the recent years.

A part of the declining CSR is due to continuing anti-female rates of infant and child mortality. But more significantly, there has also been a striking masculinisation of the sex ratio at birth in India. A figure of 105 male births for 100 female births is considered the norm. However, estimates for 1998 reveal a figure of 111 males per 100 females at birth in India.[12] Figures above this national average of the sex ratio at birth are seen in Gujarat (113.9), Haryana (123.3), Punjab (122.8), Rajasthan (114.8) and Uttar Pradesh (118). Such alarming ratios are generally indicative of sex-selective abortion of females.

A 2003 report titled *Missing*, prepared by the United Nations Population Fund (UNFPA), Ministry of Health and Family Welfare and the Census Commissioner, maps the adverse CSRs in India and attempts to capture this decline in the number of girls.[13] It reveals that 70 districts in 16 States and Union Territories have recorded a more than 50-point decline in the CSR between 1991 and 2001. Alarmingly, this decline in CSR has spread to regions and populations hitherto considered immune, namely the states of the south and west of India, and to populations of SCs and STs. Another startling aspect of its findings is that the decline is more considerable in the more developed and better-off regions, and in the more literate and affluent social groups.

Maternal health

India's maternal mortality ratio (MMR) is still extremely high (table 7.4), in comparison to countries like China and Sri Lanka. As compared to 350 among low and middle-income countries, the latest National Family Health Survey (NFHS) estimates that maternal mortality in India is 540 deaths per 100,000 live births. Indeed, the NFHS-2 reveals that the MMR has actually increased in the seven years since NFHS-1 which recorded a MMR of 424 deaths per 100,000 live births. Predictably, in both NFHS-1 and 2, the rural MMR was much higher than the urban MMR (434 and 385 in NFHS-1 and 619 and 267 in NFHS-2).

The 1998 Sample Registration Survey places MMR at 407 per 100,000 live births, apparently an underestimate given the variations in state estimates.[14] However, even at this rate more than 100,000 Indian women die of pregnancy related causes every year, which is about 18 per cent of total global maternal deaths.

The high rates of MMR in India are the result of the poor health status of women. In all age groups, causes related to pregnancy account for 12 per cent of all deaths. In other words, causes other than pregnancy and childbirth account for much the larger proportion of deaths.

The major causes of maternal death in rural India show no significant improvement over the years. Haemorrhage and sepsis top the list of direct causes, and anaemia dominates the list of indirect causes. Abortion-related deaths show a downward trend, while deaths caused by toxaemia and malposition of the child remain nearly at the same level. In short, they attest not only to the poor health status of women in general, but to the lack of adequate health facilities during pregnancy and childbirth, and in particular, to the lack of emergency obstetric care.

Reproductive health

India commenced maternal child health (MCH) and family planning services in its very first Five Year Plan; indeed India was one of the first countries in the world to initiate an official policy and programme for family planning. Along with family planning, which has always stood at the heart of the programme, the focus during the initial years was also on

Table 7.4 MMR in selected developing countries, 2000
(*per 100,000 live births*)

Countries	MMR*
Korea Rep.	20
Sri Lanka	92
Malaysia	41
China	56
Pakistan	500
Indonesia	230
India	540
Bangladesh	380
Nepal	740

Note: *Values adjusted for under-reporting and misclassification for the year 2000.
Source: UNICEF 2003b.

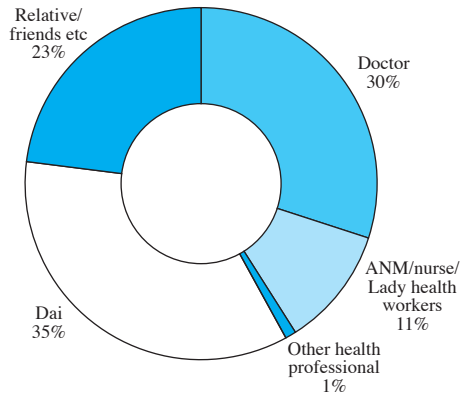
antenatal care and the training of traditional birth attendants to provide safe deliveries. Subsequently, under the Child Survival and Safe Motherhood Programme launched in 1992, the focus shifted towards encouraging institutional deliveries, along with the Universal Immunisation Programme. These programmes have now been integrated into the Reproductive and Child Health Programme launched in 1996. In addition, the National Population Policy has set the ambitious goal of reducing the MMR to less than 100 per 100,000 live births by 2010.

Despite these initiatives, the government has so far been unable to achieve its prescribed impact in reducing the MMR or indeed the IMR and CMR. The NFHS-2 data indicates that MCH performance and coverage has been extremely unsatisfactory. Less than two-third of mothers received antenatal check-ups, 67 per cent received two or more doses of tetanus toxoid, 58 per cent received iron and folic acid supplements, 34 per cent of deliveries were institutional, and only 42 per cent of deliveries were assisted by a health professional in 1998-99 (figure 7.3).

There are also significant disparities between states: Goa, Kerala, and Tamil Nadu consistently rank in the top five, while Uttar Pradesh, Bihar and Rajasthan show a consistently poor performance. Women not receiving antenatal check ups are disproportionately low from among the SCs, STs and OBCs. Among women with a low standard of living, the proportion receiving no antenatal care was 45.1 per cent, compared to 12.4 per cent among women with a high standard of living. With reference to place of deliveries, 60 per cent of deliveries among the SCs and 70 per cent among the STs took place at home, while the figure for other backward castes was 47 per cent. Sixty six per cent of women with a low standard of living delivered at home, compared to 27.6 per cent among women with a high standard of living.

Similarly, the NFHS-2 vaccination coverage under the Universal Immunisation Programme has not been realised. In urban areas 52 per cent of children had received all immunisations by 12 months of age, while in rural areas only 29.3 per cent had been provided with all immunisations. Boys (43 per cent) were more likely to have received immunisation than girls (41 per cent). Only 28 per cent of children of illiterate mothers were fully immunised, as compared to 73 per cent of children of mothers who had completed high school. Dalit children (40 per cent), Adivasi children (26 per cent), OBC children (43 per cent) were less likely to be immunised than children from other groups (47 per cent). Only 30 per cent of children from households with a low standard of living were fully immunised as compared to 65 per cent of children from households with a high standard of living. Immunisation coverage ranges from 11 per cent in Bihar to 89 per cent in Tamil Nadu. Among the major states, Bihar (11 per cent), Rajasthan (17 per cent), Uttar Pradesh (21 per cent) and Madhya Pradesh (22 per cent) had figures much below the national average of 42 per cent.[15] In urban areas 72 per cent of children were immunised by the public health services, 24 per cent by the private sector, and one per cent by non-governmental organisations (NGOs) or

Figure 7.3 Assistance at delivery, 1998-99

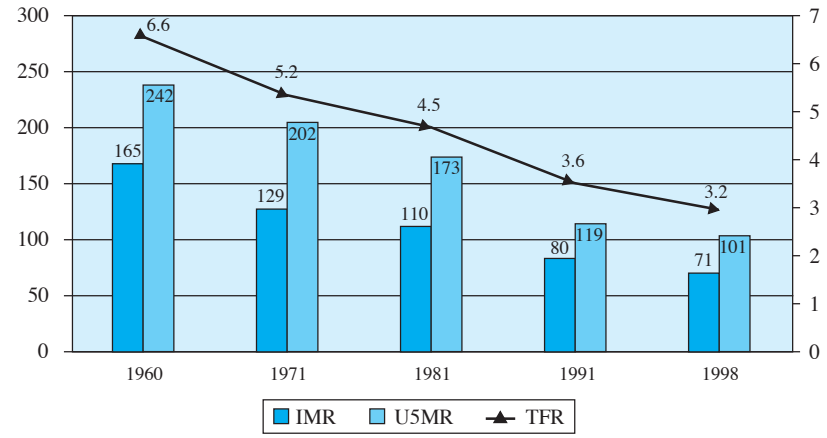


Source: IIPS 2002.

charitable institutions, while in rural areas the public health system was responsible for 85 per cent of immunisations, the private sector for nine per cent, and the NGO sector for less than one per cent.

Critics have argued that one reason for the failure of MCH programmes has been the focus on vertical programmes in general, and the family planning programmes in particular.[16] But as we see in figure 7.4, the total fertility rate (TFR) has declined from 6.6 in 1960 to 3.2 in 1998, accompanied by a parallel decrease in mortality. Here again, inter-state differentials are striking: the southern states of Maharashtra, Gujarat, and West Bengal show a rapid decline in both fertility and infant mortality, while the *bimaru* states, accounting for over 40 per cent of the country's population, are associated with the highest maternal mortality and child mortality ratio, and fertility rate. While the TFR was 1.8 in Goa, 1.51 in Kerala, 2.07 in Andhra Pradesh, 1.89 in Karnataka and 2.11 in Tamil Nadu, it stood at 4.31 in Uttar Pradesh, 4.06 in Rajasthan, 3.59 in Bihar, and 3.3 in Madhya Pradesh. In other words, states lagging behind in epidemiological transition and suffering from a weak healthcare delivery system are also the states that lag behind significantly in demographic transition. It is nevertheless significant that between 1992-93 and 1998-99, total fertility for the whole country has declined.[17]

Figure 7.4 Trends in TFR, IMR and U5MR in India, 1960-1998



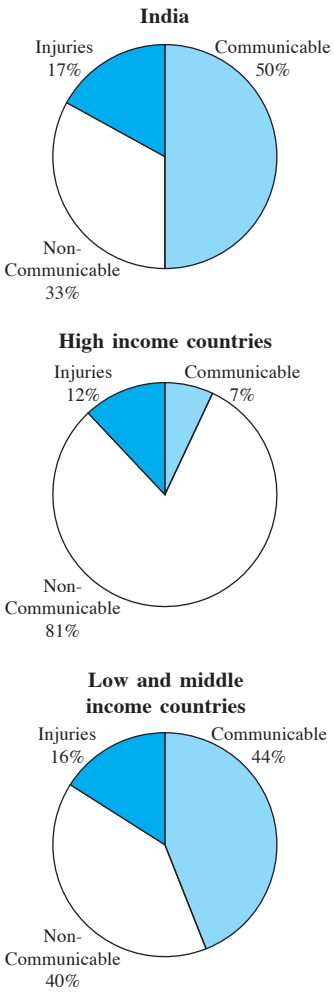
Note: U5MR for 1991 covers 1988-93.
Sources: GOI 2001a; IIPS 1995 and ORGI, various issues, *Sample Registration System Bulletin*.

Communicable diseases

Figure 7.5 reveals the relative weight of communicable and non-communicable diseases in India and in high, low, and middle-income countries. The data on burden of diseases reveals that India has yet to go a long way in her epidemiological transition, and has to control the quintessential diseases of poverty and deprivation, namely communicable diseases. These diseases altogether account for 50.3 per cent of the burden of diseases in India, compared to only seven per cent in high income countries. Another study indicates that, not surprisingly, Uttar Pradesh has the same burden of disease as Sub-Saharan Africa: communicable diseases account for 62 per cent of the burden in Uttar Pradesh, compared to 65.9 per cent for Sub-Saharan Africa.[18]

While there has been a decline in the incidence and prevalence of communicable diseases in India, these still account for the deaths of an estimated 2.5 million children below the age of five years and an equal proportion of young adults.

Figure 7.5 Burden of disease in India, high, low and middle income countries, 1998



Sources: World Bank 2001c and WHO 1999.

Nutrition

Close to a third of the population in India still lives under the poverty line and is therefore unable to meet its daily caloric requirements. Data from the National Nutrition Monitoring Bureau (NNMB) indicate that there has been an improvement in the prevalence of severe undernutrition in one to five year old children, the level declining from 11.1 per cent in 1992 to 6.9 per cent in 1995. Overall, the proportion of nutritionally normal children has increased from 7.2 per cent in 1992 to 8.5 per cent in 1995.[19] Although, this relatively modest improvement is heartening, the level of moderate undernutrition remains substantially unchanged at 43.5 per cent, while mild under-

nutrition has increased from 36.6 per cent in 1992 to 40.6 per cent in 1995.

Such information needs to be placed in the context of a dramatic decline in per capita availability of cereals commencing in 1991. Data indicate that the per capita daily availability of cereals declined from 468.5 grams in 1991 to 428.8 grams in 1999, and that of pulses declined from 41.1 grams to 38.6 grams over the same time period.[20] The NNMB notes that the average calorie consumption in the population in 1995 was below the recommended daily allowance.[21]

Under-nutrition is substantially higher in rural areas than in urban areas, but even in urban areas more than a third of children are either underweight or stunted

It is interesting to note that data from the NFHS-2 indicate higher levels of hunger than the NNMB data; they also pertain to the whole of India rather than just seven states, as is the case with the NNMB data. NFHS-2 reveals that almost half the children under three years of age (47 per cent) are underweight, and a similar proportion (46 per cent) is stunted. Nearly 18 per cent of children below three years of age are severely undernourished; down from 20 per cent in NFHS-1. The proportion of children severely stunted stands at 23 per cent.[22] Wasting, or acute under-nutrition, affects 16 per cent of children under three years of age.

Under-nutrition is substantially higher in rural areas than in urban areas, but even in urban areas more than a third of children are either underweight or stunted. Levels of under-nutrition are also substantially higher among SCs (underweight 53.5 per cent, severely underweight 21.2 per cent; stunting 51.7 per cent; wasting 16 per cent) and STs (underweight 55.9 per cent, severely underweight 26 per cent; stunting 52.8 per cent; wasting 21.8 per cent). Anaemia affects nearly three-quarters of children (74 per cent), with 46 per cent having moderate and five per cent having severe anaemia. Anaemia affects 78.3 per cent of children among the SCs, 6.6 per cent severely, and 79.8 per cent among the STs, 6.9 per cent severely. The small northeastern states of Nagaland and Manipur, and the southern state of Kerala are the only places where less than half of the children suffer from anaemia. The highest prevalence rates are found in Bihar, Rajasthan, and surprisingly, the agriculturally advanced states of Haryana and Punjab. The proportion of children weighing less than 2.5 kilograms at birth stood at 24 per cent in rural areas and 21 per cent in urban areas.

The NFHS-2 data also reveal the nutritional status of women in the country. More than a third of women in the country had a body mass index (BMI) of less than 18.5, indicative of chronic hunger or chronic energy deficiency.[23] The proportion of women who are poor, and thus more likely to be illiterate, experiencing a BMI of less than 18.5, is 42.6 per cent. Among SCs the proportion is 42.1 per cent and among STs 46.3 per cent. Women in households with a low standard of living have chronic hunger levels of 48.1 per cent, compared to 17.3 among households with a high standard of living. The rate of chronic hunger in rural areas is almost double the rate in urban areas. The prevalence of chronic energy deficiency among women is highest in Rajasthan (39.3 per cent), Orissa (48.0 per cent), West Bengal (43.7 per cent), Uttar Pradesh (35.8 per cent), Maharashtra (39.7 per cent) and Karnataka (38.8 per cent).

The prevalence of anaemia is, not surprisingly, equally widespread; the overall prevalence rate is 52 per cent with 35 per cent mildly anaemic, 15 per cent moderately anaemic and two per cent severely anaemic.[24] The prevalence rates of anaemia are considerably higher for rural women (54 per cent) than among urban women (46 per cent). The prevalence rates are 60.2 per cent among women in households with a low standard of living, and 41.9 per cent in those with a high standard of living. They are as high as 56 per cent among the Dalits, and 64.9 per cent among Adivasis.

It must be noted that although attention has been drawn to the poor health and nutritional status of women, not enough consideration has been given to the status of men. In fact the NFHS has no data on the prevalence of hunger among men. The

NNMB, however, does note that 49 per cent of adult males suffered from chronic energy deficiency in 1990.

In conclusion, the nutritional data unambiguously reveals the continuing high prevalence of hunger in the population. This high prevalence of chronic and acute hunger is undoubtedly the cause of the continuing high mortality and morbidity load in the country.

Financing of healthcare expenses

One extremely important factor responsible for the high morbidity and mortality rates in India, along with widespread hunger and poverty, is the remarkably low public investment in health. As the NHP itself acknowledges, 'public health investment over the years has been comparatively low, and as a percentage of Gross Domestic Product (GDP), has declined from 1.3 per cent in 1990 to 0.9 per cent in 1999.'[25] As annex table 1 reveals, health expenditure has declined as a proportion of total plan expenditure from 3.3 per cent in the First Plan to 0.6 per cent in the Ninth Plan.[26] Compared to health expenditures, family planning expenditures have shown a relative increase. What is also striking is the decline in the allocation of funds to control communicable diseases.

This proportion of health expenditure is below the average of low-income countries and even Sub-Saharan Africa. The average health expenditure, as a proportion of GDP for low-income countries is one per cent, while the average in countries of Sub-Saharan Africa is 1.7 per cent.[27] More significantly perhaps, India has one of the highest levels of private financing of healthcare expenses, with out-of-pocket expenditure estimated to account for 87 per cent of total expenditures. Only the countries of Cambodia, the Democratic Republic of Congo, Georgia, Myanmar, and Sierra Leone show a higher proportion of private funding.[28] This is despite the commitment to provide universal and comprehensive services, irrespective of the ability to pay, that was enshrined in the Bhore Committee Report and accepted by the government of India at the time of Independence.[29]

The poor who often have the greatest need for health services, and the least ability to pay for them, bear the highest proportion of healthcare costs. A recent World Bank study concludes that 'the hospitalised Indian spends more than half his total annual expenditure on buying healthcare; more than 40 per cent of hospitalised people borrow money or sell assets to cover expenses and 35 per cent fall below the poverty line'.[30] Out of pocket expenses alone are estimated to push 2.2 per cent of the population below the poverty line annually.

The burden of out-of-pocket expenditure is highest in those states where public health infrastructure is least developed. This applies equally to government and to private facilities, to in-patient care as well as outpatient care. The treatment costs are least in Kerala, Tamil Nadu and West Bengal, and highest in Bihar, Assam, Punjab, Rajasthan, Haryana and Uttar Pradesh. Further, in all states except Kerala, rural patients pay more for medical care and bear a higher burden of treatment.[31]

Total health expenditure by the public sector in 1998-99 was a staggering Rs.161 billion (US$ 3.8 billion), or a per capita expenditure of Rs.165 (US$ 4).[32] In India, the states typically account for about 75 per cent of total public spending on health, with the rest being borne by the Centre. The proportion of health expenditure in the major states, which was in the range of six to seven per cent during the eighties, came down to about five per cent during the nineties.

Table 7.5 provides data on real per capita spending on health among the major states. As is evident, Uttar Pradesh has the least spending followed by Madhya Pradesh and Orissa. A substantial proportion, close to 80 per cent of these state expenditures is, however, geared towards payment of salaries alone. This is, of course, not indicative of high salaries to personnel, but of the remarkably low spending on health.

The nutritional data unambiguously reveals the continuing high prevalence of hunger in the population

Table 7.5 Trends in real per capita spending on health by some selected states of India, 1985-99

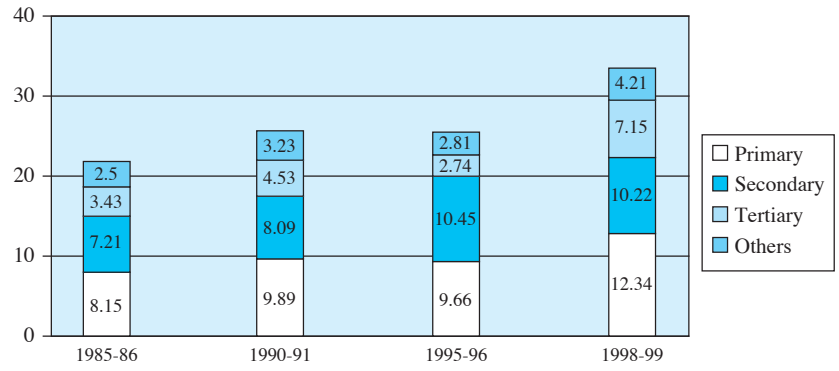
States	1985-86	1991-92	1995-96	1998-99
Andhra Pradesh	20.44	21.03	21.92	31.88
Gujarat	24.32	30.51	28.77	45.44
Haryana	26.79	26.65	24.39	33.78
Kerala	25.97	32.15	30.98	35.05
Maharashtra	27.46	30.87	30.73	33.67
Madhya Pradesh	16.19	19.17	17.89	25.49
Orissa	16.95	23.26	19.54	28.28
Rajasthan	21.85	29.07	31.02	37.70
Tamil Nadu	15.38	21.61	32.09	42.42
Uttar Pradesh	16.12	20.38	19.01	18.10
West Bengal	22.65	28.49	25.96	41.24
Average Spending	21.28	25.74	25.66	33.91

Note: The figures are in constant prices 1980-81 = 100.
Source: Misra *et al.* 2003.

What is of more concern, as the figure 7.6 indicates, is that over the nineties there has been a redistribution of shares within the primary, secondary and tertiary sectors, as compared to the period of the eighties. While spending has increased by about 50 per cent at the primary and secondary levels, the increase at the tertiary level has been more than 100 per cent. Although proportionately fewer funds were available for health and a bigger amount went towards salaries, a larger proportion was now allocated to tertiary level care. This has proved to be an important contributing factor for the dismal state of primary healthcare services in the country.

One argument presented in defence of government cuts in health expenditure is that there is a squeeze on government finances. What is not highlighted is that over the nineties the government is either less willing or unwilling to collect taxes even at levels that existed before the onset of reforms. Thus, the tax GDP ratio has declined from more than 13 per cent in 1990-91 to nine per cent in 2000-2001. At the same time, this implies that regressive indirect taxes as a proportion of revenue has increased, taxes paid for largely by the poor. But just the reduction in direct taxes represents uncollected revenues of four per cent of GDP, which is almost three times the entire expenditure on public health, medicine and family welfare by the central and state governments combined.

Figure 7.6 Trends in per-capita real expenditure by levels of care, 1985-99



Source: Misra *et al.* 2003.

Profile of diseases

With the exception of the programme for the control of tuberculosis, India has initiated disease control or eradication programmes with very little systematic data on the disease load, their incidence and their natural histories in the community. As a result, the country still does not have sound epidemiological data on diseases in the population, relying largely instead on programme statistics. The data is also not presented by meaningful social categories. Therefore, the study of the distribution of the disease load in the population by socio-economic groups, and how they have changed over time is not possible.

Communicable diseases

Although there has been a marked reduction in the death rate, the diseases of poverty and deprivation continue to take a huge toll. The proportion of deaths due to communicable diseases is remarkably high at 42 per cent of total deaths. These are also responsible for 2.5 million child deaths below the age of five years and an equal number of deaths among young adults. Communicable diseases account for the largest proportion of deaths among women in the reproductive age group. The resurgence of old diseases and the emergence of new diseases both pose a major challenge and lend a new sense of urgency to the control of communicable diseases.

Malaria, which was to have been eradicated in 1966, continues to pose a huge problem. The average caseload of about two to three million malaria cases hides the wide state differentials in disease prevalence. Overall, ten states account for 93 per cent of the total disease burden. While Madhya Pradesh, Orissa, Rajasthan, Bihar, Andhra Pradesh and Maharashtra account for over 80 per cent of total caseload, Madhya Pradesh and Orissa alone account for 50 per cent of mortality. Not only has there been an outbreak of malaria in new areas, such as in urban localities, there has also been the emergence of Plasmodium falciparum (Pf)[33] that has led to an increase in the toll of lives. This high rate of malarial mortality is a reflection of chronic hunger in the population, as well as poor health infrastructure.[34]

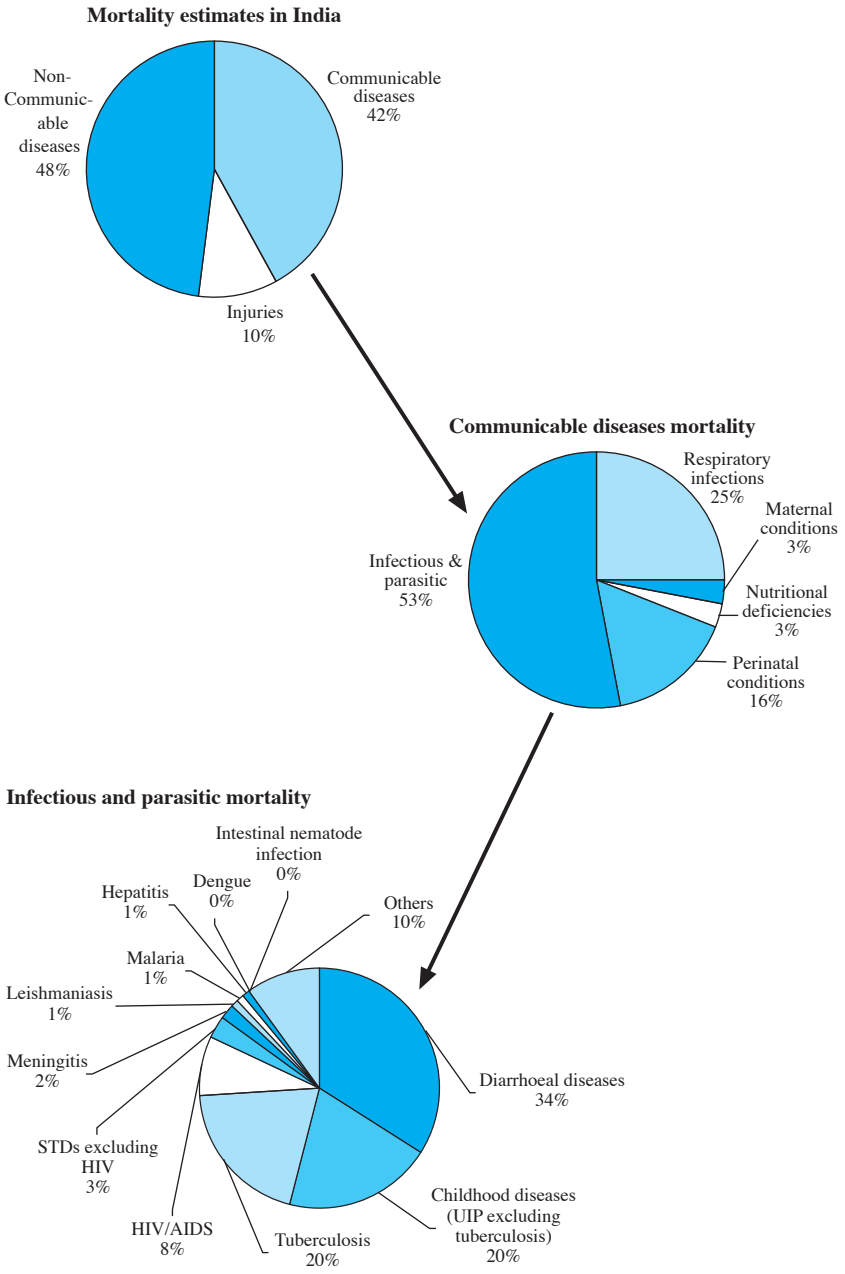
Other vector borne diseases prevalent in India include Filariasis, Kala-azar, Dengue, and Japanese Encephalitis (JE). The annual incidence of Filariasis is estimated to be around six million cases. After a marginal decline, the rate of this disease has increased from 1.01 per thousand in 1989, to 2.33 in 2000. Kala-azar is endemic in 36 districts of Bihar and ten districts of West Bengal, affecting a population of around 75 million, although 95 per cent of the deaths are reported from Bihar. The average number of cases a year is nearly 15,000, resulting in around 200 deaths annually. Although the incidence of cases declined from 1993 to 1996, it increased again in 2000.

There have been many epidemics of Dengue, resulting in an increase in the number of cases – and thus mortality – from Dengue Haemorrhagic Fever and Dengue Shock Syndrome. There was an outbreak of Dengue Haemorrhagic Fever in 1996 in nine states that led to 16,517 reported cases and 545 deaths. Although only twelve states have reported JE, it is estimated that nearly 378 million people are exposed to this disease. This vector-borne disease is prevalent in about 65 districts belonging to ten states; the annual average of these 65 districts is about 2500 cases, leading to 500 deaths, mostly among children below five years of age. Nearly 90 per cent of the cases are reported from Andhra Pradesh, Uttar Pradesh, Karnataka and West Bengal, with 50 per cent of deaths consistently reported from Andhra Pradesh and Karnataka since 1997. JE now appears to be spreading to other areas. Kerala has reported cases within the past few years. Weak healthcare systems, poor surveillance, and the inability to take prompt action are a large reason for the continuing prevalence and new focal outbreaks of all these vector borne diseases. These systemic weaknesses also lead to the inadequate supply or unavailability of drugs.

India, with 14 million cases, has the largest number of active TB cases in the world, representing about a third of the total global load. Every year there are about two million new cases added to this total, out of which about 800,000 are infectious. It is estimated that tuberculosis alone leads to about 500,000 deaths each year in India. It is also the leading cause of death among women in the reproductive age group, far higher than all the causes of maternal mortality put together. As figure 7.7 makes evident, there has been no significant change in the morbidity and mortality trend due to

India, with 14 million cases, has the largest number of active TB cases in the world

Figure 7.7 Mortality estimates due to communicable and non-communicable diseases in India, 1998



Source: Rao 2004.

tuberculosis in the country. However, with the onset of the Acquired Immuno-deficiency Syndrome (AIDS) epidemic, it is widely feared that both the incidence and mortality due to TB may increase significantly.

Leprosy has been one of India's major health problems. In 1984 it was estimated that there were nearly four million cases of leprosy in the country, with an incidence of about 15 per cent among children. While the prevalence rate of leprosy has declined from 57.3 per ten thousand population in 1981 to 5.8 per ten thousand population in 1995, the number of new cases detected each year has remained unchanged at around 0.45 million. Currently, the major states with a high prevalence of leprosy are Bihar, Orissa, Uttar Pradesh, Tamil Nadu, Madhya Pradesh and Andhra Pradesh. Of the 12 districts that have a prevalence rate of more than 20 per 10,000 people, nine are in Bihar, two in Orissa and one in Madhya Pradesh.

The spread of Human Immuno-deficiency Virus (HIV) poses a huge health risk for India, currently constituting two per cent of the total deaths. Indeed, India has one of the most serious AIDS epidemics in the world. Official figures put the number of HIV-positive persons at 4.58 million,[35] the second highest national total of people living with HIV in the world. This figure has been widely disputed, however, with some experts asserting that the actual number of persons living with HIV/AIDS in India is more than double the official figure.[36]

The official prevalence rate of HIV/AIDS in the adult population is low, less than one per cent. Because of the size of India's population however, each 0.1 percent increase in prevalence represents about half a million persons infected. All 32 states of India have reported AIDS cases, and surveys show that the virus is spreading from higher-prevalence urban areas into rural communities and to general population.[37] The six states in which it is officially acknowledged that more than one percent of the women attending the antenatal clinics are HIV positive—thus considered having generalised levels of HIV/AIDS—are Andhra Pradesh, Karnataka, Maharashtra, Manipur, Nagaland and Tamil Nadu.[38] Some districts in Goa, Gujarat and Pondicherry are also high-prevalence zones. Around 300,000 Indians were estimated to have died of AIDS in 1999 alone.[39]

Unprotected sex is the predominant mode of HIV transmission. Transmission through sharing of contaminated needles, through blood and blood products and vertical transmission of the virus from mother to child can also be listed as the modes of spread of the virus.[40]

Despite the fact that diarrhoea is a leading cause of death among children, it has apparently fallen off the map of national health policy concerns, as reflected in both the NHP and the recent Plan documents. The NFHS-2 indicated that as many as 19 per cent of all children of under three years of age had suffered from diarrhoea in the two week period preceding the survey. Of these, only 63 per cent were taken for treatment while 27 per cent received no treatment at all. This figure is significantly higher in the *bimaru* states and in the North Eastern states, especially in rural areas. It is also particularly high among the STs. Significantly, more boy children were taken for treatment of diarrhoea than girls.[41]

Non-communicable diseases

It is commonly understood that while environmental factors are largely responsible for communicable diseases, individual, life-style factors are responsible for non-communicable diseases (NCDs). However, recent evidence has raised concerns over the limitations of such a stylised understanding of NCDs. Individual life-style factors, although extremely important, are not the primary causes of epidemiological patterns of diseases and deaths. They account for less than a third of the differentials in death rates among different social groups.[42] Instead, it is living and working conditions, and even childhood deprivation, that is associated with a range of adult NCDs. This has profound implications for public intervention, since it implies that intervention targeted at individuals through behaviour modification is unlikely to yield results. Indeed, what this draws attention to is the need to target overall living conditions.

Despite these caveats, it is nevertheless the case that India has, in addition to a high load of communicable diseases, a high load of non-communicable diseases also. Further, more NCD deaths in India occur in middle age (35-69 years) than in industrialised countries where they occur at older ages. It is also well known that Indians have a higher predisposition to diabetes and coronary heart disease than other populations.

There are differences in the estimates of present and projected burden of disease loads due to NCDs among different sources, depending on varying samples, with varying levels of validity. The prevalence/incidence of various NCDs for 1998 has been estimated for India based on various published studies from different regions.[43] The relevant data are shown in table 7.6. These estimates may be relatively conservative, in comparison to others, but they nevertheless reveal that about a fifth of the population would have at least one of these selected NCDs.

It is however to be borne in mind that the data are largely based on hospital and programme sources and thus do not represent epidemiological indices. But it is nonetheless the case that rising levels of hypertension, diabetes, obesity, tobacco consumption, and blood lipids in Indian population groups have been recorded in recent years.

In addition to NCDs, the prevalence of major mental illness in the country has been estimated to be one to two per thousand, while minor mental illness occurs in five to ten per cent of the population. The levels of suicides are estimated to occur at a rate of 11 per 100,000. Poverty has been linked

Table 7.6 Estimated number of cases of selected NCDs in India, 1998

Disease	Prevalence/ Incidence	Number of cases (million)	Percentage of total population
All cancers	Prevalence	2	0.2
Heart diseases	Prevalence	65	6.6
Respiratory diseases	Prevalence	65	6.6
Diabetes mellitus	Prevalence	13	1.3
Injuries	Incidence	7	0.7

Source: Anand 2000.

to high burdens of mental disorders, with about 80 per cent of suicides occurring in the lower socio-economic strata. The indications are that women bear a high burden of these disorders. Again, alcoholism is also more widely prevalent among the poor. Accidents also contribute quite significantly to the mortality load in the country accounting for 4.3 per cent of deaths.[44] In addition to farm accidents and road injuries, burn injuries and violence against women were reported to be increasing.

Data on the disease profile of the country are thus marked by the following features: i) They are not epidemiological data; ii) Their reliability and validity are widely varying; iii) The health system does not systematically collect such data; iv) Finally, the estimates and guesstimates that exist are not presented in relation to meaningful social categories.

It is nevertheless clear that the disease and death profile indicates a huge load of diseases and deaths, both communicable and non-communicable. They also attest to the inability of the healthcare system in the country to make the impact that would have been desired. It is often said that the Indian healthcare system produces 'poor health at high cost'.

Table 7.7 Comparative health service indicators by selected states of India, 1998-99*

(%)

	Children receiving all vaccinations	Pregnant women receiving at least one antenatal check up	Institutional deliveries	Births attended by health professional
All India	42.0	65.4	33.6	42.3
U5MR <65				
Kerala	79.7	98.8	93.0	94.0
Maharashtra	78.4	90.4	52.6	59.4
Tamil Nadu	88.8	98.5	79.3	83.8
65< U5MR <100				
West Bengal	43.8	90.9	40.1	44.2
Karnataka	60.0	86.3	51.1	59.1
Punjab	72.1	74.0	37.5	62.6
Haryana	62.7	58.1	22.4	42
Gujarat	53.0	86.4	46.3	53.5
Andhra Pradesh	58.7	92.7	49.8	65.2
U5MR >100				
Orissa	43.7	79.5	22.6	33.4
Bihar	11.0	36.3	14.6	23.4
Rajasthan	17.3	47.5	21.5	35.8
Uttar Pradesh	21.2	34.6	15.5	22.4
Madhya Pradesh	22.4	61.0	20.1	29.7

Note: *Data is taken from a national survey, therefore, there might be some discrepancy between these numbers and those presented in the tables at the end of the Report which are based on international sources.

Source: IIPS 2002.

Healthcare provision

Over the years, India has built a substantial network of healthcare facilities. The public sector provides a range of health services under the umbrella of the major health programmes. Nevertheless, the private sector continues to dominate the medical care provision system and accounts for a significant proportion of national health expenditures.

Provision of healthcare through public sector

In 1980, the government appointed a working group on Population Policy that, for the first time in the country, argued that the epidemiological and demographic scenario in the country warranted disaggregating of data by states.[45] The Committee suggested differential interventions in different states in terms of health and family welfare programmes.

The central role of state provision of healthcare infrastructure is demonstrated by the following grouping of states in terms of health indices and programme performance indices. In other words, better health indicators can be seen in states where the public health infrastructure is better developed (table 7.7). A study emphasises the importance of public provisioning of health, education and food security through the public distribution system, arguing that state inertia largely explains the poor performance of Uttar Pradesh in comparison to the southern states and Kerala.[46]

The public health infrastructure in India consists of an elaborate three-tier primary healthcare delivery system for rural areas, with Sub-centres (SHCs), Primary Health Centres (PHCs) and Community Health Centres (CHCs), and District Hospitals. Sub-centres, catering to a population of up

to 5000, are the most peripheral points of contact between the healthcare system and the community. One male worker, and one female worker or auxiliary nurse-midwife (ANM) staffs these centres. PHCs, servicing a population of around 30,000, are headed by a medical officer, and are also supposed to staff a female medical officer, in addition to support and laboratory staff. The PHCs act as a referral system for six sub-centres. They are designed to have up to six beds for patients. CHCs, for a population of about 100,000, should act as referral centres for four PHCs. They are supposed to be manned by four medical specialists – a surgeon, a physician, gynaecologist and paediatrician – and supported by over 20 paramedical and other staff. CHCs are designed to have up to 30 beds, in addition to facilities like operation theatres, X-ray machines, labour rooms and pathological laboratories. All government programmes and schemes are to be implemented through this healthcare delivery system. In addition, there are district level hospitals to provide specialised care. There are also clinics that provide medical care under other systems of medicine such as Ayurveda and Unani. In addition, the government also runs research and training centres. Currently, there are 137,271 SHCs, 22,975 PHCs and 2,935 CHCs distributed throughout the country.[47]

The problems facing this system are many and complex, from poor staffing, absence of staff, absence of simple consumables, poor referral linkages and so on. The staff itself is largely preoccupied with the implementation of vertical programmes, with the family planning programme in particular. Such absences of adequate care in the primary healthcare system often force people to resort to treatment from quacks or the exploitative private sector. In addition to this, the non-availability of drugs and consumables implies that not only is the PHC system unable to bring about a reduction in suffering, it is also unable to interrupt the transmission of infectious and communicable diseases.

It does, however, provide a range of preventive and promotive services through programmes, some of which are discussed below.

National Malaria Control Programme

In view of the high morbidity and mortality caused by malaria, the government of India commenced a National Malaria Control Programme in 1953. The initial success of the programme led to its conversion into the Malaria Eradication Programme in 1958, which aimed to eradicate malaria in India by 1966. Its strategy revolved around insecticide spraying, and surveillance and the radical treatment of malaria cases. It became the largest vertical programme in the country at the time.

However, by about 1966 the programme ran into problems that were reflected in a sustained rise in the incidence of the disease. From 1974 onwards, deaths due to malaria also began to show an increase. The total number of cases reached a high of 6.47 million in 1976. The Modified Plan of Operation was launched in 1977 to contain the disease, with the three main objectives of preventing deaths, reducing morbidity, and consolidating gains; eradication was no longer on the agenda. Despite this undertaking, the year 1994 once again witnessed several focal outbreaks of malaria that resulted in a high rate of mortality. Parasite resistance to drugs and mosquito resistance to insecticides grew over the years, malaria outbreaks began to occur in new areas and, finally, Pf began to take a toll, with an increased prevalence of about 50 per cent of malaria cases today.

A three-pronged strategy is being implemented throughout the country under the National Anti-Malaria Programme. A number of areas have been identified as priority areas on the basis of a slide parasite rate of five per cent or more, the presence of chloroquin resistant Pf, and a Pf rate of above 30 per cent. In areas with a high and endemic presence of malaria, 100 per cent central assistance

is provided under the World Bank-assisted Enhanced Malaria Control Project for synthetic pyrethroids in triple resistance pockets, impregnated bed nets for personal protection, rapid diagnostic kits and Artimisinin injections. The government of India and the World Bank recently reviewed the Enhanced Malaria Control Project, which revealed that programme implementation had been handicapped by the weak capacity of the health system.[48]

It is possible that a large majority of patients suffering from malaria that make use of private practitioners are not integrated into the malaria programme. An ethnographic study in Mumbai revealed that the majority of private practitioners were unaware of malaria treatment regimes and utilised unethical and irrational medications. In fact, the study argues that such practises in the private sector may well have contributed to the resurgence of the disease.[49]

National Tuberculosis Control Programme

Unlike other disease control programmes, the National Tuberculosis Programme was based on epidemiological studies. A National Sample Survey conducted in 1955-58 revealed that 1.8 per cent of the population suffered from radiologically active tuberculosis, of which about a quarter were infectious. The study also revealed that tuberculosis affected rural and urban areas evenly, and that it was in the waning phase of its natural history. This was followed by a study in Madras, which revealed that both clinically and epidemiologically, domiciliary care was as efficacious as treatment in hospitals. This was followed by operational studies and sociological studies – which revealed that a large number of cases were actively seeking treatment.[50] However, studies also revealed that bacillus of calmette and guerin (BCG) inoculation provided little protection against TB among adults.

The tuberculosis programme, launched in 1972, was thus based on the premise that a demand-based programme, integrated with general health services, would provide the results necessary. Under the programme a strong infrastructure comprising 446 district TB centres, 330 TB clinics, 764 hospitals, and 47,600 beds was built, diagnosing nearly 1.3 million patients and treating 250,000 sputum positives every year.

The TB programme, however, suffered from the fact that in the preoccupation with vertical programmes - initially the malaria eradication programme and later the family planning programme - the general health services did not obtain the attention they deserved. A review of National Tuberculosis Programme in 1992 revealed that an inadequate budget and a chronic shortage of drugs severely hampered the programme that was therefore completing treatment in merely 40 per cent of cases.[51]

The Revised National TB Control Programme (RNTCP) was formulated with the DOTS (Directly Observed Treatment Short-course) strategy – with Short-course chemotherapy at its heart. The DOTS strategy is now implemented under the RNTCP in about 200 districts covering 350 million people. It is expected to cover the entire country by 2005. External funding of Rs.7.47 billion has been mobilised.

Although the DOTS programme has revealed impressive results, questions have been raised about the sustainability of the programme, its epidemiological efficacy under existing conditions, and the ability of the health system to absorb the programme.[52] Indeed the Tenth Plan acknowledges 'poor coverage due to gaps in primary healthcare infrastructure and manpower'.[53]

One important area that has not been emphasised adequately is the role of the private sector. An important study of patients seeking the private sector for TB care revealed that a range of irrational medicines were used and that there was no follow up. Further, the high cost of care resulted in dropouts who could not be traced due to a lack of records.[54] Yet another study showed that private practitioners were unaware of standard

treatment regimes and utilised up to 80 different regimes. In addition, it found that doctors from a variety of systems of medicine were involved in treatment with expensive and irrational drugs.[55]

National Leprosy Elimination Programme

Current estimates indicate the existence of two million cases of leprosy in India, with nearly one fifth falling in the infectious category. The government of India commenced a vertical programme known as the National Leprosy Control Programme in 1954, which was later converted into the National Leprosy Elimination Programme in 1965. The programme received a boost with the introduction of multi drug therapy. Its implementation relies on an infrastructure of 778 leprosy control units, 907 urban leprosy centres, 5744 treatment centres, and 350 mobile leprosy treatment units. The control strategy includes active case finding, multi drug therapy, and the rehabilitation of cured cases. Disease elimination stage has been reached in ten states and nearly 8.9 million persons have been cured in the last two decades. At the current level of implementation, leprosy elimination is likely in most parts of the country in a few years. The programme, however, must be sustained to ensure that the disease does not resurface. Accordingly, in areas where leprosy is less than one in 10,000, the programme is being integrated with the PHCs, with staff provided at the district level for monitoring.

The leprosy programme has suffered from the stigma associated with the disease. As a result this is generally regarded as a 'government disease', although a large number of charities and NGOs have historically been involved with the programme. A study to ascertain the possibility of private doctor involvement in the programme revealed that a substantial number of doctors did not want to treat leprosy patients, fearing they would drive other patients away. The majority of doctors also felt that it is not safe to permit cured patients to work in public places. Finally, a substantial proportion was unaware of the types, diagnosis and treatment of leprosy.[56]

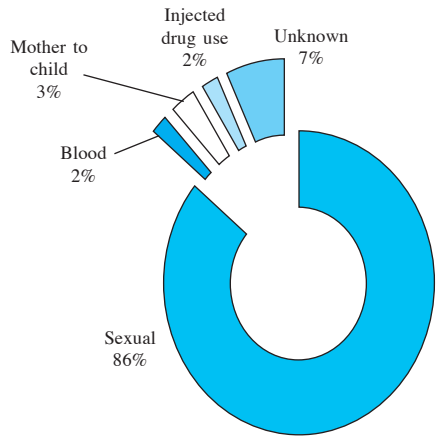
National AIDS Control Programme

HIV is the single largest infectious disease and the fourth leading cause of death in the world today. New infections are largely among the under-25 age group, including a large proportion of women. HIV infection and AIDS cases were first detected in India in 1986, in the state of Tamil Nadu. As mentioned before, the number of Indians infected with HIV is estimated at 4.58 million in 2002.[57] Thus India has the second largest number of cases in the world, second only to South Africa. This number corresponds to a prevalence rate of around 0.9 per cent of the general adult Indian population. HIV infections have been detected in all the states and union territories of India; infections are no longer confined to high-risk behaviour groups such as commercial sex workers (CSWs), intravenous drug users (IDUs) and transport workers, or only to urban areas. Epidemic proportions have been recorded in some states. Since the epidemic is more than a decade old, mortality due to AIDS is increasing: nearly 300,000 Indians were estimated to have died of AIDS in 1999 alone.[58] Again, as in many other disease control programmes, the numbers and their validity and reliability have been matters of debate.

HIV infections have been detected in all the states and union territories of India

The majority of HIV infections are acquired through unprotected sexual intercourse (86 per cent) with transmission due to sharing of HIV contaminated needles accounting for about two per cent, largely in the North Eastern states like Nagaland and Manipur of the country. Vertical transmission accounts for another three per cent, while transmission through blood and blood products accounts for another two per cent (figure 7.8). As of May 2004, 70,453 cases of full-blown AIDS have been reported to National AIDS Control Organisation (NACO), of which

Figure 7.8 Mode of transmission of HIV in India, 2004



Source: NACO 2004.

three-quarters are males. This is likely to be an underestimate of the AIDS morbidity in the country as there is widespread stigmatisation, due to lack of information and fear of the disease created in part by the programme itself. Perhaps more important is the fact that health services are not accessible, made worse by widely reported discrimination against HIV infected persons by the healthcare system.

The low-income levels of most of the infected, along with the fact that the public health system simply cannot finance such expensive therapy preclude widespread use of highly active anti-retroviral therapy. Andhra Pradesh, Maharashtra, Karnataka, Tamil Nadu, Manipur and Nagaland are currently classified as high prevalence states where infection levels have crossed the one per cent mark among antenatal women, considered a proxy for the general population.

Several social factors concurrently provide the disease a base on which it can grow. These include the extremely low status of women, the widespread poverty and consequently high prevalence of hunger and under-nutrition, the lack of access to health services etc. In the Indian context, there is little doubt that unprotected sexual behaviour on the part of men results in more women getting infected with HIV. Patriarchy intersects with social and economic factors to prevent women from taking control of their own lives. This has prompted many women's groups in India to take the stand that marriage might be the biggest risk factor as far as HIV in India is concerned. Men having sex with men (MSM) are at a greater risk for HIV transmission and that also increases the risk for their female partners; given the universality of marriage, MSM are often forced to marry in India.

The government responded soon after the first reported case in 1986. In the initial years of the epidemic, AIDS prevention efforts were confined to Maharashtra, Tamil Nadu, Manipur and some big cities. Since 1992, the World Bank has been funding a countrywide National AIDS Control Project. The first phase of this Project (1992-1999), with an International Development Assistance (IDA) credit of US $84 million, focused on strengthening blood banks, sexually transmitted disease clinics, surveillance systems and increasing awareness. The program was implemented through State AIDS Cells, functioning under the apex body, the National AIDS Control Organisation. This was run as a vertical programme. Targeted interventions among high-risk behaviour groups were implemented only in a few states; care and support activities received little attention in the first phase. With more information about the epidemic since the mid-1990s, the second phase of the Project was launched in 1999 with an IDA credit of US $191 million. It focuses on targeted interventions among high-risk behaviour groups, although it was by now evident that the disease had spread in the general population.

This is one area where there has been significant involvement of the NGO sector, both in awareness creation and in distribution of condoms and in counselling and care. However, while some NGOs are undoubtedly involved in excellent work, doubts have been raised about the role of the NGO and private sector in the programme. Unfortunately, doctors in the private sector not only routinely refuse to treat patients with HIV/AIDS, they inform

patients of their status and then refuse to treat them, referring them to the government hospitals.[59] The Tenth Plan document notes that NGOs too face serious problems in the delivery of healthcare, including shortfalls in managerial and technical capacity.[60]

The Tenth Plan goals include 80 per cent coverage of high risk groups through targeted interventions; 90 per cent coverage of schools and colleges through education programmes; reducing transmission through blood transfusions to less than one per cent; establishing at least one voluntary testing and counselling centre per district; scaling up prevention of vertical transmission; and achieving zero level increase of HIV/AIDS prevalence by 2007.[61]

Reproductive and child health

While India commenced family planning and maternal and child health services as separate programmes in the 1950s since the sixties the focus has been largely on population control.[62] After the forced sterilisation campaign of the mid-seventies and the consequent debacle in the programme, it was renamed the Family Welfare Programme, and MCH services were integrated within. The Expanded Programme of Immunisation was launched in 1979, and the Universal Immunisation Programme in 1985, integrated into the Child Survival and Safe Motherhood Programme in 1990, but 'MCH services have frequently been crowded out by Family Planning'.[63] With the government of India being a signatory to the International Conference on Population and Development (ICPD) at Cairo, the programme was said to have undergone a paradigm shift that emphasised reproductive health and rights.

The Tenth Five Year Plan document notes that the paradigm shift in the family planning programme involved the abolition of centrally set method of specific targets and district-level planning with community-level needs assessment.[64]

Box 7.2 Sonagachi Project

The Sexually Transmitted Diseases and HIV Intervention Project in Sonagachi, Kolkata, is frequently cited as one of the best examples of targeted interventions among sex workers. The project, implemented by an NGO largely run by commercial sex workers (CSWs), organised CSWs into informal groups and empowered them with negotiating skills for promoting condom use with their clients. Condom use has increased from zero per cent in 1992 to over 70 per cent in 1993-94, and these levels have been sustained thereafter. The Venereal Disease Research Laboratory positive test has also reduced from over 20 per cent in 1992 to five percent in 1998. This has ensured that the HIV prevalence rate among CSWs in Kolkata has remained at around five per cent. In stark contrast, HIV prevalence rates among the CSWs in Mumbai rose rapidly from below five per cent in the early 1990s to over 50 by 2000.

Source: Misra *et al*. 2003.

As stated in the National Population Policy of 2000, the goal is to achieve replacement level fertility by 2010. The Plan notes with concern the wide differentials between the states in health and demographic indicators and the huge gaps in public healthcare delivery. Significantly, it also notes that the pace of decline of IMR has decelerated during the nineties, and that the goals set out in the Ninth Plan are unlikely to be achieved. It further notes that MMR have remained substantially unchanged.

The Tenth Plan aims, therefore, to meet the unmet needs for contraception, to integrate vertical programmes with relevance to maternal and child health, an emphasis on quality services and to involve men in the programme. The goal is the reduction of IMR to 45 per 1,000 births by 2007 and 28 by 2012. It also aims to bring down the MMR substantially and bring about a further decline in the population growth rate.

Despite a commitment by the central government as enunciated in the National Population Policy, several state governments have, however, drafted population policies of their own with elements that are completely at variance with the national policy. These include a range of disincentives in order to facilitate the adoption of a two-child norm.[65]

While some states in the country have reached the replacement-level fertility,

others are still lagging behind. These are also the states where health service delivery is weak. Given the widespread hunger and under-nutrition in the country, the weak healthcare system, and the fact that India has seldom met any of the health goals set out for itself, it seems unlikely that the goals set out in the National Population Policy can be realised.

Provision of healthcare through private sector

Generalisations about the private sector in India could prove to be hazardous since it is comprised of a large and heterogeneous group of actors and institutions. On the one hand there exist state-of-the-art super-speciality corporate hospitals in urban localities that even the middle classes find difficult to access, and which are to form the hub of the health tourism industry that the government now plans to promote. On the other hand are the vast numbers of ill-qualified individual practitioners who provide the bulk of curative care in the country, and primary level care in particular. Between these two extremes lie a range of non-profit NGOs, trusts, and charitable and religious institutions that provide medical and healthcare. However, it must be noted that some of these have recently changed character and ought to be classified as for-profit institutions.[66] At the same time some high-tech for-profit hospitals are registered as trusts and research centres in order to avail tax concessions.

As the Tenth Plan document notes, there is no uniform nation-wide system of registering either practitioners or institutions in the private sector. Nor is there any system for obtaining and analysing information about this large sector.[67] Studies on the private sector in India are thus plagued by unavailability of data, with the sector unwilling, by and large, to share data with even academic investigators. Based on admittedly unreliable data, one study estimates that 93 per cent of hospitals and 64 per cent of hospital beds in India are in the private sector.[68] Table 7.8 indicates government data on the growth and share of private and public sector hospitals and beds in the country.

The data clearly reveal that the share of private hospitals has shown a dramatic increase between 1974 and 1996. The share of beds has also shown an increase, although not as significant as the number of institutions. Although there are exceptions, the majority of these institutions are small in size, with 85 per cent offering less than 25 beds. Most of them are managed by doctor entrepreneurs and predominantly offer maternity and general services. Tertiary, speciality, and super-speciality private institutions comprise only one to two per cent of the private sector institutions in the country.[69]

Table 7.8 Growth and share of private sector hospitals and beds, 1974-1996

Year	Hospitals			Hospital Beds		
	Public	Private	Total	Public	Private	Total
1974	2,832	644	3,176	211,335	57,550	268,885
	(81.4)	(18.6)	(100)	(78.5)	(21.5)	(100)
1979	3,735	2,031	5,766	331,233	115,372	446,605
	(64.7)	(35.3)	(100)	(74.2)	(25.8)	(100)
1984	3,925	3,256	7,181	362,966	137,662	500,628
	(54.6)	(45.4)	(100)	(72.5)	(27.5)	(100)
1988	4,334	5,497	9,831	410,772	175,117	585,889
	(44.1)	(55.9)	(100)	(70.1)	(29.9)	(100)
1996	4,808	10,289	15,097	395,664	228,155	623,819
	(31.9)	(68.1)	(100)	(63.4)	(36.6)	(100)

Note: Figures in brackets denote percentage share.
Source: GOI, various issues, *Health Information of India*; and *Directory of Hospitals in India*.

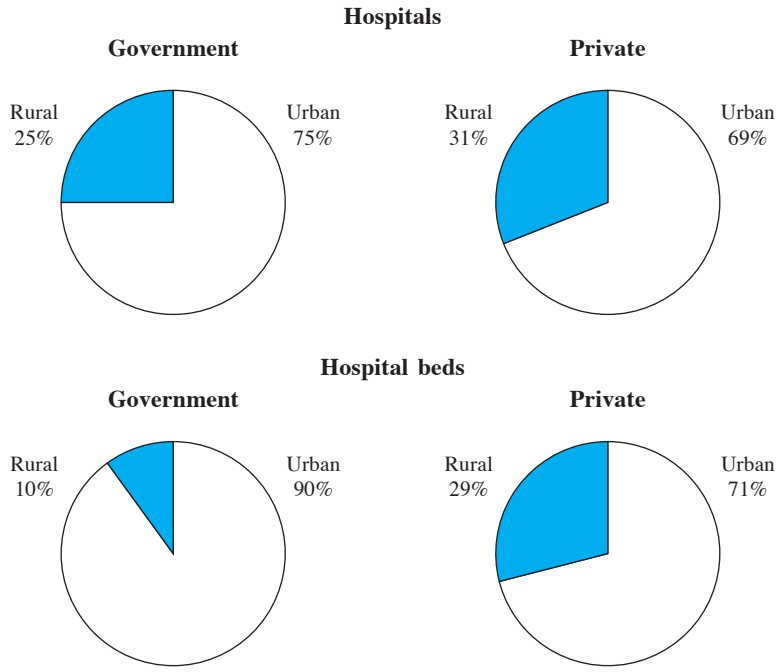
The distribution of private sector facilities and doctors between states and regions appears to be even more disproportionate than the distribution of public health facilities. As in the case of public services, rural-urban differences are acute, displaying a clear urban bias in the incidence of private healthcare facilities, which is clearly demonstrated in figure 7.9. Indeed private hospitals are less urban based than public ones at the all India level. This reflects the tendency of such enterprises to concentrate their presence in better-off states and in better-off regions.

However, what is to be remembered is that the bulk of medical care in rural areas, and a significant amount in urban areas, is provided by an estimated one million unqualified medical practitioners. Today the private sector dominates the public in both in-patient care and outpatient care. The reasons for this are manifold and include the dearth of medicines in the public services, and the significant shortfalls of human power. They also include the preoccupation of public health services with vertical programmes in general, and the family planning programme in particular. Data from the National Sample Survey's (NSS) 52nd round reveal that 44 per cent of respondents preferred the private sector because of doctor availability, 36 per cent because of dissatisfaction with the quality of care in public facilities, and seven per cent because of unavailability of medicines.

The private sector accounts for 82 per cent of all outpatient care at the all-India level and 56 per cent of all inpatient care (figure 7.10). However, immunisations and antenatal care are overwhelmingly provided by public sector facilities. There also exist significant inter-state variations. The better-off states, with a well-developed private sector, such as Maharashtra, Kerala, Haryana, and Punjab show more utilisation of private facilities. On the other hand, poorer states with a less developed private facility infrastructure continue to show the predominance of public sector utilisation. An interesting new trend on the national level shows that the middle-classes have now forsaken the public sector.[70]

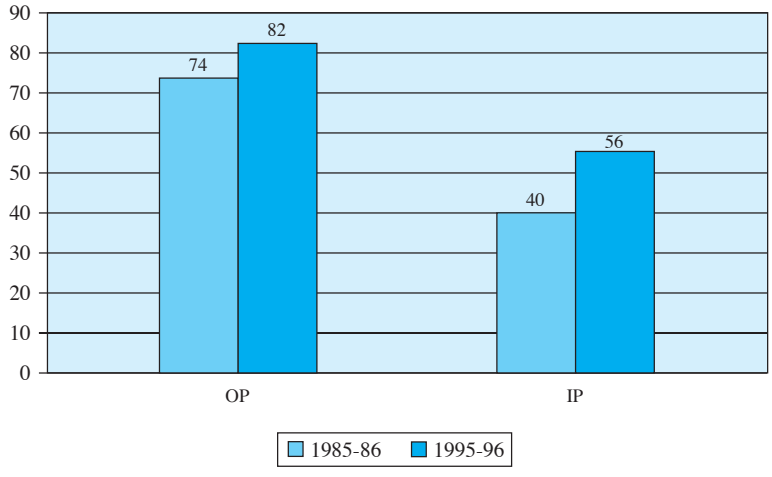
With substantial sections of the population utilising private healthcare facilities, the costs of such care assumes great importance, especially as the NHP

Figure 7.9 Rural-urban distribution of hospitals/hospital beds: public and private sectors, 1990's



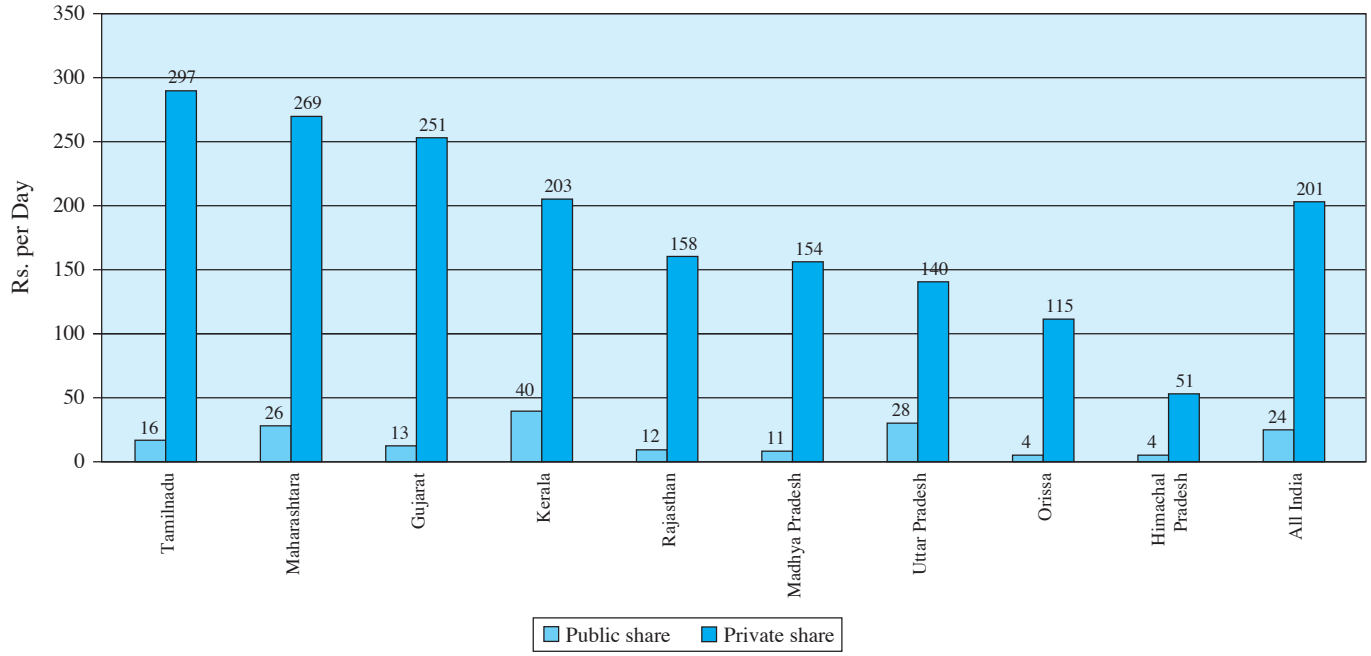
Sources: Nandraj 2000 and GOI 1998a.

Figure 7.10 Share of private sector in outpatient and inpatient care, 1985-86 and 1995-96



Source: GOI 1987 and 1998b.

Figure 7.11 Average hospital inpatient charges per day by public and private, selected Indian states



Note: US$1 = Rs. 41.26 in 1998.
Source: Mahal *et al*. 2000.

notes that households typically reduce their spending on essential needs, including nutritional ones, in order to access medical care. In fact, medical care costs have emerged as a leading cause of indebtedness in the population. The National Sample Survey 52nd round reveals that per capita out-of-pocket expenditure per year to private facilities ranges from over Rs.500 ($12.1) among the richest, to Rs.75 ($1.8) among the poorest. The difference in costs between the private and public sector varies significantly across states, as revealed in figure 7.11.

Ironically, costs are higher in the more advanced states, such as Tamil Nadu, Maharashtra, Gujarat and Kerala, than in the more backward states. This is evidence that market forces in the health sector do not necessarily supply cheaper care, and that competition in the medical care sector does not always result in lower costs.

There is a general assumption that private medical care is of a vastly superior quality than that provided in the public. However, there exists little empirical data to substantiate this claim. A study of private hospitals in Chennai has revealed that the private sector has grown without any state policy to regulate its growth and development. As a result the sector has evolved without any regard for the standards of infrastructure. Another study of the private sector in rural Maharashtra revealed that only 55 per cent private healthcare providers had registration, only 38 per cent maintained any kind of records, and that a remarkably high proportion lacked basic facilities. It also showed that close to 30 per cent private facilities were run by doctors not trained in the allopathic system of medicine, they did not possess adequate facilities and human-power, and only two per cent employed trained nurses. Around 39 per cent of the hospitals operated without a full-time doctor. Only ten per cent hospitals had an electrocardiogram monitor, 65 per cent a sterilizer, and 56 per cent an oxygen cylinder.[71] Yet another study found that caesarean sections were performed in private hospitals at a rate three times more than that in public ones.[72] A study of prescription practices in Satara district found a high proportion of

irrational prescriptions among doctors in both the public and private sectors. Although doctors with post-graduate degrees tended to use a higher proportion of rational drugs, they also tend to prescribe more drugs than necessary. Therefore, public sector prescriptions were more rational than private sector prescriptions. In fact, irrational prescriptions in the private sector were more than double that in the public sector.[73]

Perhaps the most telling comment on the private sector was during the plague epidemic in Surat in 1994. The epidemic itself is partly attributed to the decay of the public health system, including the slashing of budgets for the control of communicable diseases.[74] Once the epidemic commenced, it was observed that the majority of private practitioners fled the city while the government doctors tried, despite a lack of medicines and funds, to fight the epidemic.[75]

Therefore, issues associated with the quality of care, which plague the public sector, are not unique to it. Without taking many of the systemic factors that ail the public sector into account, efforts at reforms in the health sector are all too often facile and simplistic, and involve increasing public subsidies to the private sector. The private sector has grown as a result of such policies. However, its quality, outcomes, and cost have not been monitored or governed by any regulatory mechanism.

Management of healthcare

In India, healthcare is a responsibility listed on the Concurrent List of the Constitution, and is therefore the shared responsibility of the Central government and the States. The Centre finances some public health programmes through centrally sponsored schemes. These include, for example, the Family Welfare Programme, the Universal Programme for Immunisation, and the AIDS Control Programme, thus clearly indicating health priorities. The states bear the major responsibility in programme implementation and in the financing of the rest of the healthcare budget, which comes to about 75 per cent of the total health expenditure. In addition, the Centre bears the responsibility for running a large number of research and training institutes.

Given the vast inefficiencies of the healthcare system in both the public and private sectors, it is surprising that the management of healthcare in India has not received the attention it deserves. One reason for this imbalance is that public health is not a high priority for policy makers; a fact that is most clearly reflected by the shortage of financial commitments. Second, India lacks a cadre of trained public health personnel to address its healthcare needs. The third reason, and perhaps more relevant today than ever before, is that although the proportion of aid in the health sector is relatively insignificant, policy-making is now profoundly influenced by technocrats and bureaucrats from donor agencies. Overall, a general lack of political commitment might be attributed as the leading cause for the abject state of the health sector.

On the management level, the primary management issue, despite NHP commitments, has proved to be the vertical nature of major programmes, which is both financially and programmatically wasteful. This has disrupted both the utilisation of human-power, and the growth of general health services. A second major issue is the inappropriate development of human power: India currently produces more doctors than are required, often at the cost of the public exchequer, while other staff, such as nurses and paramedical workers, are in short supply. Table 7.9 reveals the dismal state of human power in public health services. Given the discouraging state of public health services, trying to engage new labour power for running the system under existing conditions will prove to be problematic. The solution lies not in further weakening the system through public-private partnerships, but in strengthening the public healthcare system

Table 7.9 Shortfall of auxiliary nurse midwifes (ANMs) and doctors in rural India

State	Shortfall* of ANMs	Shortfall* of doctors
Kerala	104.60	124.45
Maharashtra	100.00	100.00
Tamil Nadu	114.70	100.00
Andhra Pradesh	117.22	117.22
Orissa	100.82	121.08
Rajasthan	102.18	115.10
Uttar Pradesh	100.48	117.48
Madhya Pradesh	104.24	140.02

Note: *Vacancies plus shortages of posts against population norms.
Source: GOI 2000.

through allocating more financial and human resources.

Given that the shortage of human-power and drugs are such fundamental issues in the healthcare system, and have driven patients, especially the poor, into the arms of the private sector, there have been some localised efforts to address these shortages. An example of this is the Tamil Nadu government's efforts at rationalising and streamlining drug supply, which have come in for a great deal of praise (box 7.3).

The existing inefficiencies of the public healthcare system stem from many factors, including establishment of priorities, technical choices, human-power choices, the role of the private sector and so on. Secondly, one over-riding problem with the healthcare system is that given existing resource allocations – and it must be remembered that these allocations reflect choices and do not stem from a lack of resources *per se* –it cannot legitimately be expected that the system will perform. This is precisely used as an argument to further weaken the system through a range of mechanisms transferring public funds to an equally inefficient private system.

Above all, the issues of management have to come secondary to how health priorities are defined, what technical choices are made, and consequently what human resource and research requirements are addressed. The problems with India's healthcare system stem profoundly from these political choices: healthcare priorities have not been decided by epidemiological considerations. Nor have they taken into account the systemic nature of problems and the institutional and socio-economic context in which they must be implemented. Unless these issues are addressed, efforts such as the ones being undertaken under the current health sector reforms, however well meaning, will not address fundamental issues of equity and universality.

Health sector reforms

The data reviewed on the health scenario and the health system in India unfortunately project an unhappy picture. For example, a recent and widely quoted study reveals the dismal state of public health services, even as it indicates that people spend substantially on healthcare largely provided by unqualified persons in the private sector where services are even worse.[76] In spite of this, state spending on health declined during the nineties as India embarked upon the structural adjustment programme. This decline in public investments was matched by growing subsidies to the

Box 7.3 Tamil Nadu's centralised drugs procurement and distribution system: a model for improved efficiencies

- An essential list of drugs is drawn up by a panel of experts, subject to periodic review.
- Drugs are procured centrally through the Tamil Nadu Medical Services Corporation, following strict procedures for pre-qualification, contracting and quality checks; all drugs are strip-packed and procured from manufacturing firms with Good Manufacturing Practice certificates and a minimum turnover of Rs. 100 million.
- Samples from every consignment are tested in reputed laboratories through a computerised number-based system and drugs distributed through district warehouses.
- A pass book system gives the head of the facility flexibility to lift the drugs he requires from district stores.
- Ten per cent of untied funds are released to PHCs and secondary and tertiary hospitals for emergent needs.
- Rational prescription of drugs is promoted through extensive training programmes and monitoring of drug prescriptions.
- Most importantly, Tamil Nadu allocates over one billion rupees towards drug supplies (far higher than allocations made by other states).
- The results: expenditure on non-essential drugs has been reduced and funds released for essential and vital drugs; availability of quality drugs in over 2000 institutions in the state at reduced costs has improved dramatically; the Corporation has financed a range of diagnostic equipment for public hospitals in the state from savings generated through systems improvement.

Source: Misra *et al*. 2003.

private sector in healthcare in a variety of ways.[77] At the same time, the state also initiated wide-ranging reforms in the health sector.

Such health sector reforms have been carried out in Third World countries across the world under the aegis of international financial institutions since the early 1980s. In essence, these reforms intend to reduce the role of the state in the financing and provision of healthcare, and to confine its role to that of regulation. The efforts and policy changes underway in India could thus be seen as part of a much larger process shaping the health sector globally. However, given the desperate poverty of large sections of the population, the widespread prevalence of hunger, the huge morbidity and mortality loads, and the abysmal role of the state in health sector provision, the direction of such reforms could potentially further curtail healthcare access to the poor.

Health sector reforms in India have employed a variety of methods aimed at improving efficiency, effectiveness, and the quality of care provided by public health services. These include contracting, public-private partnerships, user fees, privatisation, and more.

Contracting has emerged as an important new mechanism for improving the efficiency of services in the public health sector. Under this system, some or all aspects of health facilities and functions can be contracted out to private parties, including clinical, para-clinical, and non-clinical functions. The rationale for contracting is that it leads to a reduction in costs, introduces greater flexibility in the use of labour, and can be utilised to provide services in areas that were previously under-serviced.

In India, contracting has been integrated into the blindness programme and the AIDS control programme, and franchising arrangements have been set up with private providers under the RNTCP.[78] Many non-clinical support services in public hospitals have also been contracted out. A future possibility suggests that NGOs can be contracted to provide primary health services in rural areas.[79]

The experience of contracting services in other countries has been mixed. In India, given the systemic and wide-ranging nature of problems facing the health sector, it is not likely to emerge as a solution to these myriad problems. It is also necessary to systematically review the experience to date, before extending it to other areas.

There is not enough documentation on the transfer of public health facilities to private providers on a contract basis. One recent case involves the transfer of ownership of a public tertiary care hospital in Mumbai as part of a state health system project funded by the World Bank.[80] The municipal corporation of Mumbai has taken a policy decision to hand over many of its peripheral hospitals to the private sector. In a controversial move, a peripheral hospital was also handed over to a private medical college that did not have the necessary clinical facilities. The Medical Council of India had not recognised the concerned medical college. Other cities such as Ahmedabad have handed over facilities to NGOs. While it is indeed the case that some NGOs have provided excellent services and have served as models of PHC, this cannot be generalised.

While the public health system needs to be critiqued and improved, questions also need to be raised about the economics and efficiency of subsidising NGOs. It has been argued that there is very little empirical data to substantiate the assertion that the NGO sector is more efficient.[81]

Yet another scheme has been the provision of a range of incentives to the private health sector through the provision of land at throw-away prices, grant of customs duty exemptions for import of sophisticated medical technology, and loans from financial institutions at low interest rates. These incentives have been provided for both private for-profit and not-for-profit institutions. A study indicated that these had been utilised primarily by urban-based institutions that

Health sector reforms in India have employed a variety of methods aimed at improving efficiency, effectiveness, and the quality of care

The Tenth Plan document notes that an appropriate institutional framework for reviewing user charges has not yet been established and that the level of cost recovery has been minimal

did not always provide free services to the poor, as per the terms of the contractual agreement.[82] Further, there are no mechanisms to monitor the project, given the government's limited institutional ability to do so. A Committee has been set up by the government of India to examine the violations by private hospitals of the terms of their agreements.

There has also been the burgeoning of high-technology diagnostic centres in urban areas, with excess capacities. Between 1984 and 1986, over 60 diagnostic centres entered the market with an investment of Rs.20 billion ($1.7 billion).[83] In such a situation, not warranted by public health considerations, there has occurred the irrational use and overuse of such technologies; it is widely known that a system of kickbacks has emerged between private practitioners, hospitals and diagnostic centres. The oversupply of doctors in the private sector has also led to unnecessary or over-medication of healthy people.[84]

Yet another reform measure has been the levying of user charges as an alternative source of health financing. Although the experience of countries in Latin America and Africa indicated that user charges had neither generated adequate resources as to justify them, nor led to an increase in efficiency and effectiveness, and indeed had proved to exclude the poor and most needy, several states in the country have attempted to implement the scheme. These moves have met with varying degrees of opposition and success in the country, but nevertheless have been implemented over the nineties in states such as Andhra Pradesh, Maharashtra, West Bengal, Madhya Pradesh, Orissa and Uttar Pradesh. Given the weak infrastructure in most public institutions and their poor outreach, user fees also tend to push more people to the private health sector.

The Tenth Plan document notes that an appropriate institutional framework for reviewing user charges has not yet been established and that the level of cost recovery has been minimal.[85] Further, it also notes that mechanisms for identifying and exempting the poor were ill-defined.

Reviewing the cluster of projects that could be termed public-private partnership in healthcare, the Tenth Plan notes that many of the efforts have not been successful. Thus contractual appointment of healthcare staff and hiring of private practitioners has not been able to fill the gaps in infrastructure, nor has it been able to fill posts in under-served areas.[86] It also notes that many of the project initiatives have not been evaluated. It suggests that institutional mechanisms to monitor and implement these projects have yet to be evolved.

Further, over the nineties, studies have documented a sharp increase in medical care costs. There have been far reaching changes in drug policies. Thus India – earlier characterised by relatively low costs of drugs and pharmaceuticals, along with a significant indigenous production of drugs – has witnessed a greater concentration of drug production, a larger role for multinationals, a higher proportion of imported drugs and unbelievably steep rises in the costs of drugs.[87] Concurrently, marked shifts have occurred in healthcare utilisation. Among people who sought outpatient services in 1995-96, more than 80 per cent did so in the private sector, a sharp increase in even the poorer states of the country.[88] In 1995-96, 55 per cent in rural and 57 per cent in urban areas were hospitalised in the private sector, compared to 40 per cent in 1986-87. NSS data indicates greater inequality in use of health facilities. The steep fall in rural hospitalisation rates, along with increasing use by the better-off, indicates that the poor are being squeezed out. Fee-for-services has undoubtedly been one of the most important mechanisms in bringing this about.

Costs of both outpatient and inpatient care increased sharply in both rural and urban areas in mid-1990s, compared to the mid-eighties. Private outpatient costs increased by 142 per cent as against 77 per cent in the public sector in the rural areas. In urban areas, private outpatient

costs increased by 150 per cent compared to 124 per cent in the public sector. The increase in costs in in-patient care is even more striking: average costs rose by 436 per cent in rural and 320 per cent in urban areas.[89]

Ironically, the better off states, such as Andhra Pradesh, Tamil Nadu, Karnataka – states with a thick spread of private facilities - reveal a larger number of poor people borrowing money to pay for inpatient care. The share of borrowing money for illness is greater in the private sector than the public. In states such as Rajasthan, Madhya Pradesh and Uttar Pradesh – given the thin spread of private care, the poor are even borrowing money to access the public health system for in-patient care.

Any effort to improve public health in the country must not only emphasise the important determinants of health but also the salient role of public spending. The reforms, however, singularly lack a health system perspective and instead comprise of an agglomeration of projects with an implicit belief that the market will cure the problems that ail the health system.

There is a common assumption that India is characterised by widespread state presence. In the case of the health sector, this is simply not the case. Along with a weak state sector, an unregulated and powerful private healthcare sector raises several issues of universal care, comprehensive care, and above all, of equity. Failing this, efforts at tinkering through projects carry the risk of consolidating the dual healthcare system that the country now possesses: one weak and under-funded for the vast majority of the population with no access to primary healthcare, and the other largely urban-based, curative, high technology healthcare for a minority of the population whose public health needs are catered to. Larger macro-economic changes that have increased regional, rural-urban and class inequalities have compounded the problem.

Table A 7.1 Trends in expenditure on health and family welfare, 1951-2002

(*rupees millions*)

Plan	Period	Amount	Total plan investment (All development heads)	Health (Centre and States)		Family welfare		Control of communicable diseases	
				outlay/ exp.	% of total plan	outlay/ exp.	% of total plan	outlay/ exp.	% of total plan
First	1951-56	Actuals	1,960	652	3.33	1	0.01	231	16.5
Second	1956-61	Actuals	4,672	1,408	3.01	50	0.11	640	28.4
Third	1961-66	Actuals	8,576.5	2,259	2.63	249	0.29	690	27.7
Annual	1966-69	Actuals	6,625.4	1,402	2.12	704	1.06	231	10.2
Fourth	1969-74	Actuals	15,778.8	3,355	2.13	2,780	1.76	1,270	11.1
Fifth	1974-79	Actuals	39,426.2	7,608	1.93	4,918	1.25	2,681	11.5
	1979-80	Actuals	12,176.5	2,231	1.83	1,185	0.97		
Sixth	1980-85	Outlay	97,500	1,821	1.87	10,100	1.04	5,240	27
Sixth	1980-85	Actuals	109,291.7	20,252	1.85	13,870	1.27		
Seventh	1985-90	Outlay	180,000	33,929	1.88	32,563	1.81	10,127	7.7
Seventh	1985-90		218,729	36,886	1.69	31,208	1.43		
	1990-91	Actuals	61,518	9,609	1.56	7,849	1.28		
	1991-92	Actuals	65,855	10,422	1.58	8,566	1.3		
Eighth	1992-97	Outlay	434,100	75,822	1.75	65,000	1.5	10,450	4.2
Ninth	1997-2002	Outlay	859,200	51,181	0.6	151,200			

Source: GOI 1997.

Chapter 8

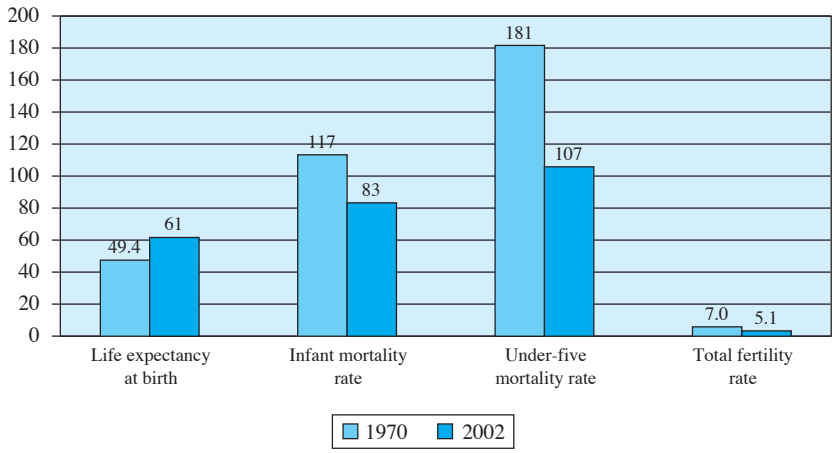
Health and Healthcare in Pakistan

Like other South Asian countries, Pakistan has made progress during the last 57 years in improving its health indicators. But the progress has been slower compared to other countries. High levels of poverty, income inequality, illiteracy, and poor health status of most Pakistanis tells the story. Pakistanis - based on gender, geographic location, income level, class and social status - face extreme disparities in access to basic infrastructure, health and education services, and even in access to justice. Within the health sector Pakistan's expenditure on health, as a percentage of gross domestic product (GDP), is lower than other developing countries.[1] The quality of care provided, especially at the primary level and in rural areas, is also quite poor. Government policy, over the entire history, has not been able to address these grievances.

Figure 8.1 reveals where Pakistan stands today in terms of some of the more frequently cited health indicators. Life expectancy, over the last 30 years has gone up by more than ten years, infant mortality and under-five mortality have come down by almost 29 and 40 per cent respectively, in addition to a reduction in fertility rate by two children per woman. But this progress has to be measured against progress in other developing countries. Even today, Pakistan stands amongst the countries that have some of the worst health indicators. Even in a region that has not done very well compared to the developed countries in North America, Europe and Australia, Pakistan does not fare too well. Mortality rates amongst children are especially high. Pakistan is a 'young' country - more than half of the Pakistani population is below the age of 19 while the elderly (age more than 55 years) constitute only six per cent of the population.[2] There are more than 30 million women in reproductive age in Pakistan and though the falling crude birth rates show that Pakistan is in the process of demographic transition to a lower population growth rate, the slow rate of decline and the youth of the population overall indicate that the demographic transition is not going to be complete in the next decade or so. The average annual population growth rate for Pakistan over the last two decades was 2.5 per cent, which is the highest amongst South Asian countries.[3]

The crude birth rate has been steadily declining in Pakistan since 1970 (figure 8.2). Starting from 47.6 births, it has decreased to 32.5 by 2002, a net drop of 31.8 per cent. After a slow rate of decline in the 1970s, the decline has been fairly rapid since. A large number of factors such as increasing incomes, increasing literacy, especially of women, opportunities for work for women, reductions in child mortality rates, increasing awareness of and use of birth control are associated with reductions in crude birth rates.

Figure 8.1 Trends in major health indicators in Pakistan, 1970-2002



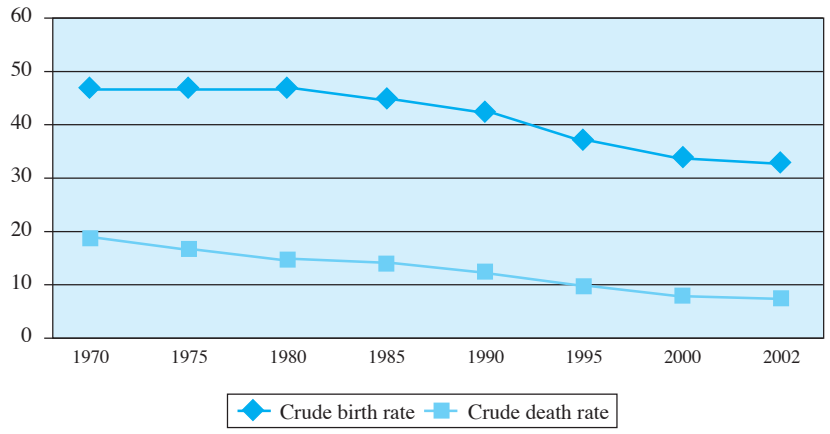
Sources: UNDP 2004; UNPD 2004b and World Bank 2004i.

The crude death rate, starting with a high figure of 19.06 in 1970, has declined by more than half to 7.7 by 2002.The rate of decline has been consistently high throughout the period 1970-2002, and it has been much higher than the decline in birth rates. While this shows the effects of some of the health measures implemented in Pakistan, it also shows why the reduction in net growth rate of population has been slow. The death rates are still decreasing fairly rapidly in Pakistan. The difference between the two crude rates has come down from 28.6 in 1970 to 24.8 in 2002. This shows the potential for improvement.

Life expectancy at birth has been steadily increasing over the last three decades. Starting with 49.4 years, in 1970, it has increased to 61 years in 2002. The net increase over the thirty-two years period has been 24 per cent. The rate of increase has not held steady and the increases over the last decade and a half have been much lower than the gains in the late seventies and early eighties.

Female life expectancy has increased from 49 years in 1970 to 64.1 years in 2000, a net increase of 15 years. Male life expectancy has increased from 49.6 years in 1970 to 61.9 years in 2000. The net increase, over the period, has been 13.4 years. Human Development Report 2004 records female life expectancy in 2002 as 61.6 and 61.9 respectively. In most countries with high overall life expectancy, females have on the average, a longer life span than males. In Pakistan this trend is just beginning to emerge.

Figure 8.2 Trends in crude birth and death rates in Pakistan, 1970-2002
(*per 1,000 population*)



Sources: World Bank 2000c and 2004i.

The current health scenario

Infant and child health

Pakistan today stands amongst the countries with the worst record in terms of infant and child health and does poorly on most of these indicators in comparison with other South Asian neighbours. Some progress has been made over the last three decades in reducing infant and child mortality, increasing immunisation coverage, and improving the nutritional status of children. However, large rural-urban, gender, education and income-based disparities remain and contribute directly to the deaths of many infants and children each year. Immunisation covers only half of the child population in Pakistan. Many of the children that do survive their early years of life face chronic malnutrition, with alarmingly high risks of being stunted, wasted or being underweight in later years.

For the time period 1995-2000, a total of 95.3 infants per 1,000 live births died in their first year of life (in 2002 infant mortality rate was 83 per 1,000 live births). Overall infant mortality has declined somewhat in the last three decades (see figure 8.3); and more importantly, the rate of decline has been steadily increasing.

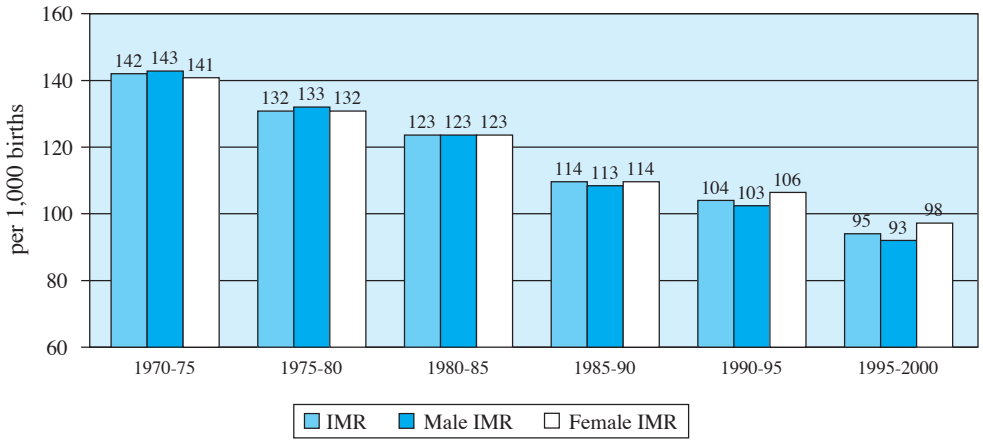
Government initiatives that have helped reduce mortality and have the

Table 8.1 Trends in life expectancy by sex in Pakistan, 1970-2000

Year	Female life expectancy	% increase	Male life expectancy	% increase
1970	49.0		49.6	
1975	52.5	7.1	52.1	5.1
1980	55.7	6.1	54.6	4.8
1985	58.0	4.3	56.9	4.1
1990	60.0	3.4	58.2	2.4
1995	61.9	3.1	59.9	2.9
2000	64.1	3.6	61.9	3.3

Source: World Bank 2004i.

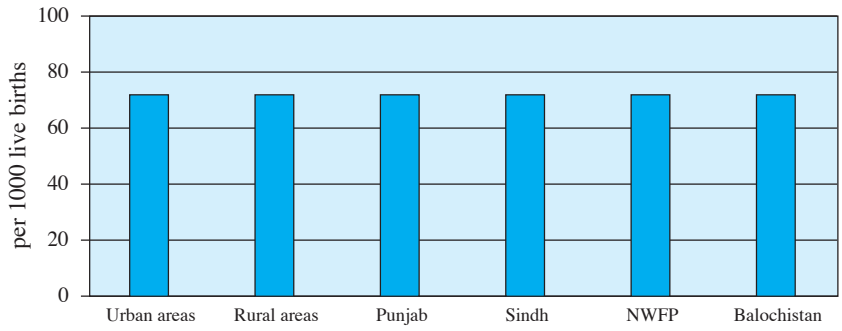
Figure 8.3 Trends in infant mortality by sex in Pakistan, 1970-2000



Source: UNPD 2004b.

potential for reducing child mortality further include some of the vertical programmes such as, the Extended Programme of Immunisation, Diarrheal Control Programme, Malaria Control Programme, National Tuberculosis Programme, Respiratory Infection Control Programme, Child Nutrition Programmes under various schemes, and some of the mother-child and family planning programmes. According to a study,[4] over 80 per cent of under-five years child mortality is concentrated in the period from birth to age one, and more than 50 per cent of the total child deaths occur in the first four weeks after birth. This points out the potential for reducing child mortality rapidly by introducing interventions with much more focus on the infants.

Figure 8.4 Infant mortality rate by locality, 1998-99



Source: GOP 1999a.

Infant mortality is also higher in rural than urban areas. There are also notable disparities between provinces, with Punjab and Sindh registering higher infant mortality rates. The infant mortality rate in urban areas was 60 per 1,000 live births, whereas in rural areas the rate was 92 per 1,000 live births.[5] The rural-urban differential reflects easier access to better health facilities and nutrition in urban areas. The gap between male and female infant mortality is lower for rural areas than urban ones and female mortality is actually lower than male mortality in rural areas, whereas the reverse is true for urban areas.

According to Pakistan Integrated Household Survey (PIHS) 1998-99,[6] Punjab and Sindh registered the same infant mortality rate of 95 per 1,000 live births, considerably higher than North West Frontier Province (NWFP) at 62 and Balochistan at 86 (figure 8.4). Among other factors, the higher infant mortality rate in Punjab and Sindh can be attributed to a greater proportion of the population of the two provinces in urban centres, hence a higher reporting of infant mortality.

Mortality is higher for infants born of women without education compared to those born to women with some education. In fact, infants born to the least educated mothers have twice as much risk

of dying within the first year after birth as compared to infants of more educated women.[7]

Infant mortality rates are also significantly higher for households without access to facilities such as piped drinking water, covered underground drainage systems and toilets inside the residential building.[8] In 1999, households fetching water from outside the home experienced the highest infant mortality of 90 deaths per 1000 live births. Households with piped water indoors had the lowest infant mortality rate of 70. Households with no drainage system within the house experienced the highest infant mortality of 89 per 1000 live births. Uncovered or open drains had infant mortality rates of 86, and houses with covered underground drains have significantly lower infant mortality rate of 54.

Neonatal mortality has accounted for 40-60 per cent of all infant mortality in Pakistan, and 60 per cent of all neonatal deaths take place within the first week of the child's life.[9] The leading causes of neonatal mortality in Pakistan include tetanus, asphyxia and low birth weight. According to World Health Organization (WHO), immunisation of mothers against tetanus toxoid, as part of prenatal care, reduces the infection rate by half.[10]

Birth asphyxia accounts for 50 per cent of all first week neonatal deaths. As the vast majority of births take place at home, assisted mostly by traditional birth attendants, 60 per cent of newborns with asphyxia reach the hospital well after 24 hours of birth, which is in most cases too late. WHO estimates suggest that one in four Pakistani infants are born with low birth-weight, causing half to three-quarters of all neonatal deaths.

The leading clinical causes of post-neonatal mortality include diarrhoea syndrome, tetanus, acute respiratory infections, low birth weight, asphyxia, congenital anomaly, sepsis, premature delivery, cyanosis, meningitis and breathing syndrome. A study, which was carried out during 1990-94 in Pakistan's least developed provinces of Balochistan and NWFP including Federally Administered Tribal Areas (FATA), revealed that the three main causes of infant mortality were diarrhoea (21.6 per cent), tetanus (11.7 per cent) and acute respiratory infections (11.6 per cent).[11] Low birth weight resulted in 9.75 per cent of infant deaths and asphyxia was responsible for 6.9 per cent of infant deaths (see table 8.2).

In the neonatal period, however, tetanus (18.3 per cent), low birth weight (15.3 per cent) and birth injury (12.0 per cent) accounted for nearly half (45.6 per cent) of all deaths, while the contributions of diarrhoea (5.1 per cent) and acute respiratory infections (6.0 per cent) were less significant (11.1 per cent). Furthermore, data from the study suggests that nearly 71.1 per cent of all neonatal deaths occurred in the early neonatal period, with low birth weight (17.7 per cent), birth injury (15.8 per cent) and neonatal tetanus (13.6 per cent), together contributing nearly half of these deaths (47.1 per cent).

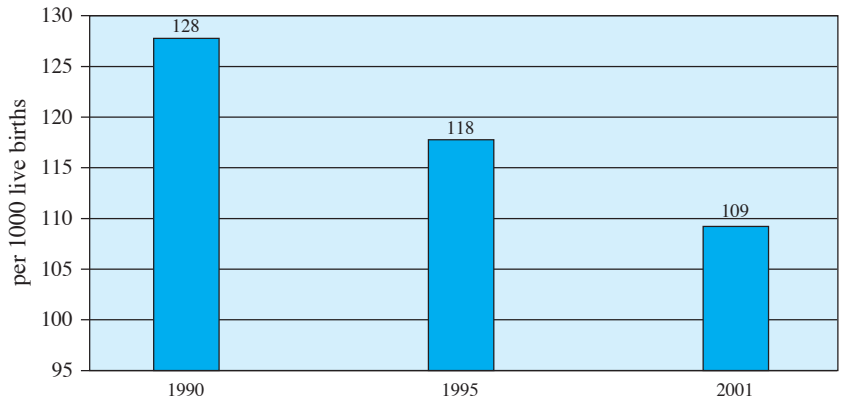
In the post-neonatal period, diarrhoea syndrome (43.3 per cent) and acute respiratory infection (18.9 per cent) accounted for well over half of all infant deaths (62.2 per cent). Tetanus (2.8 per cent), meningitis (1.6 per cent) and breathing syndrome (1.2 per cent)

Table 8.2 Clinical causes of infant mortality, Balochistan and NWFP (including FATA), 1990-94

Clinical causes	All infants		Neonatal		Post neonatal	
	Total	%	Total	%	Total	%
Diarrhoea	246	21.6	33	5.1	213	43.3
Tetanus	133	11.7	119	18.3	14	2.8
Respiratory infection	132	11.6	39	6.0	93	18.9
Low birth weight	111	9.7	99	15.3	12	2.4
Asphyxia	79	6.9	78	12	1	0.2
Congenital anomaly	33	2.9	23	3.5	10	2.0
Sepsis	25	2.2	20	3.1	5	1.0
Premature delivery	25	2.2	25	3.9	0	0.0
Cyanosis	22	1.9	21	3.2	1	0.2
Meningitis	19	1.7	11	1.7	8	1.6
Breathing syndrome	19	1.7	13	2.0	6	1.2
Others	48	4.2	16	2.5	32	6.5
Unknown	249	21.8	152	23.3	97	19.7
Total deaths	1,141	100	649	100	492	100

Source: Fikree *et al.* 2002.

Figure 8.5 Trends in child mortality in Pakistan, 1990-2001



Source: PAP 2002.

remained marginal contributors to infant mortality in the post-neonatal period.

The survey also concluded that in the districts surveyed, nearly 90 per cent of all births occurred at home with minimal contact with the formal public health system, thus reducing the chances of adequately dealing with any complication during the delivery.

Out of every 1,000 children who survive infancy in Pakistan, 109 die before the age of five.[12] Although the decade of the 1990s witnessed a decline in child mortality, the decline has been slow. The high incidence of diarrhoea, infrequent use of oral re-hydrating salts (ORS) and use of untrained medical practitioners continue to claim the lives of thousands of rural and poor children. The lack of availability and access to health facilities only exacerbate the situation.

In 1990, the child mortality rate in Pakistan was 128 per 1,000 live births. By 1995, the rate dropped to 118, registering a decline of 7.81 per cent. By 2001, the recorded child mortality rate in Pakistan was 109 per 1,000 live births. The overall decline for the ten years period 1990-2001 was 14.8 per cent (figure 8.5).

Diarrhoea is still a major reason for child mortality and morbidity in developing countries. PIHS 2001-02 showed the incidence of diarrhoea according to income levels. Although it is often assumed that the incidence of diarrhoea must be higher in lower income households, the PIHS results surprisingly indicate that no consistent relationship between household income and the incidence of childhood diarrhoea exists. Thus, Pakistani children from highest income level are equally susceptible to diarrhoea as those from the lowest income level.

PIHS 1998-99 results determined that infant and child mortality for males and females alike, are significantly lower for villages with community hospitals, dispensaries or clinics. Infant and child mortality rates are also lower when any health facility or health worker is available in the village. The availability of health facilities leads to higher incidence of pre-natal medical consultation and higher proportion of births attended by trained personnel. Critical health indicators tend to improve in areas where there is relatively easier access to health services.[13]

Maternal and reproductive health

Pakistan's maternal mortality ratio (MMR) in 2000 was 500 deaths per 100,000 live births[14] and has remained practically unchanged for the last decade. The high MMR can be attributed to the high incidence of child delivery at home without assistance from trained medical personnel to prevent simple complications, the low incidence of pre and postnatal medical consultation and chronic female malnutrition. Maternal mortality is significantly higher in rural areas than in urban ones: MMR in Karachi's urban settlements is 281, whereas 673 in rural Balochistan. Moreover, almost 80 per cent of maternal deaths are direct obstetrics deaths; an estimated one woman in every 38 dies from pregnancy related causes.[15]

Pakistan is passing through a fertility transition and its total fertility rate has declined steadily since the early 1980s. Starting from 6.28 births per woman in 1980, it has dropped to 5.1 in 2002. It is still the highest rate in South Asia. Such high fertility rates are unsafe for both

women and infants, as the risk of maternal and infant mortality rises with increased fertility.There has been a lot of speculation about what has caused this decline. Some researchers believe that the fertility transition is a direct result of increased contraceptive use. Others attribute it to the increase in poverty in the country, which has led to an increase in the proportion of the never-married women and thereby reduced the fertility rate.[16] Then there are those who believe that Pakistan's fertility rate is still high and is attributable to a preference for large families and inadequate services that fail to meet the contraceptive needs of women.[17]

Adolescent and Youth of Pakistan Survey 2001-02[18] shows that the average age at which marriage occurs has been steadily increasing in Pakistan, and the percentage of young men and women aged 20-24 who are married has declined steadily. In 1951, 52 per cent of males and 82 per cent of females in the 20-24 age group were married. In 2001-02, 27 per cent of males and 63 per cent of females in this age group were married.[19]

More births still take place at home than in a hospital/medical facility in Pakistan. In terms of the rural- urban differential, 86.5 per cent of all births in rural areas take place in the home, compared to 51.3 per cent in urban areas. Childbirth at home is also linked with income levels. In urban areas, only 29.9 per cent of births in the highest level of income take place at home, whereas 80.7 per cent of births in the lowest income level take place at home. The proportion of births attended by skilled medical professionals in Pakistan is also alarmingly low. In 1999, only 18.2 per cent of births occurred at home in the presence of medical professionals. The incidence of ante and postnatal medical consultation in Pakistan is also very low, with very large differences between rural and urban areas.[20]

The knowledge of contraceptives has increased substantially among married women aged 15-49, from 77.9 per cent in 1991 to 95.7 per cent in 2001. However, the actual use of contraception has not experienced a commensurate rise as in 2001 only 27.6 per cent of women reported current usage of contraceptives. Contraceptive use is higher in urban areas (39.7 per cent), compared to rural areas (21.7 per cent). The economic status of a woman and level of education directly affect the use of contraceptives (see table□8.4).

Nutrition: Children and women

Malnutrition has strong and significant connections with infant and child mortality as well as heath status in later life. National Nutrition Survey 2001-02[21] reports that 38 per cent of children 6-59 months were underweight, 36.8 per cent were stunted and 13.1 per cent were wasted. Though these rates have come down since the mid 1980s, they are still staggering. There was no clear gender difference in malnutrition amongst children but rural areas had higher malnutrition. Malnutrition was higher in poorer households and households with illiterate mothers, underscoring the need for education of women. At the micronutrient level there were significant iodine, iron, and zinc deficiencies amongst school age children (6-12 years).

The government has made some efforts to address the malnutrition issues through provision of nutrients (iron tablets) to Lady Health Workers (LHWs), free meals in schools, and a general subsidy in wheat; but these programmes have not been very successful in lowering malnutrition rates or micronutrient deficiencies. General subsides are too weak to address the issue, while meal programmes are too limited

Table 8.3 Trends in total fertility rate in Pakistan, 1975-2002

Year	Total fertility rate
1975-80	6.28
1980-85	6.23
1985-90	6.08
1990-95	5.83
1995-2000	5.48
2002	5.10

Sources: UNPD 2004b and UNICEF 2003b.

Table 8.4 Trends in birth control in Pakistan, 1991-2001
(*% currently married women, age 15-49*)

	Knowledge of contraception		Currently using contraception	
Region	1990-91	2000-01	1990-91	2000-01
Pakistan	77.9	95.7	11.8	27.6
Rural	…	97.3	…	21.7
Urban	…	93.9	…	39.7

Source: NIPS 2001.

in scale. Interventions through LHWs have had more success but lack of supplies to LHWs, as well as their inefficiency, have restricted success (see box 8.2).

National Nutrition Survey 2001-02[22] reports that 12.5 per cent of non-pregnant and 16.1 per cent of lactating mothers were malnourished. Rural Sindh seems to be the hardest hit. Almost a third of their sample of mothers had iodine deficiency, a tenth had Vitamin A deficiency, 25 per cent of mothers had iron deficiency, 47 per cent had zinc deficiency, and reported food intakes revealed that most of the mothers were consuming fewer calories than recommended. Only 16 per cent of the women in the sample were taking iron supplements and of these only 21 per cent were taking them regularly.

Public expenditure on health is not just low it has not even experienced any visible improvement in the last three decades

Though information about the benefits of breastfeeding, taking iron supplements, and improving the diet of both mother and infant have spread more widely in the last decade or so, poverty, lack of access to medicines, supplements and trained staff have limited the benefit of the spread of knowledge and awareness. The systemic inefficiencies and lack of adequate resources committed by the state for these preventive services have also reduced the effectiveness of these programmes. LHW and reproductive health programmes are also used as vehicles for supplying necessary supplements. But these programmes have not been sufficiently effective. The government can have a significant impact on the health and nutritional status of women and children by designing and implementing strong targeted interventions through these programmes. The government is also well aware of this potential but it has so far been unable to commit the resources for making these interventions, change its expenditure priorities to reflect the need, and address management issues in the delivery of these services through the public sector.

Expenditures on health

Public sector expenditures on health have been lower in Pakistan than in other developing countries. According to a study,[23] relative to comparable countries Pakistan spends 42 per cent lower on per capita basis and invests 1.6 per cent less of its GDP in public health spending. It is estimated that the total expenditure on health, in per capita terms in Pakistan, is US$16. Out of this government share of expenditure on health is about US$4 per capita. The report of the WHO Commission on Macroeconomics and Health[24] proposes US$34 per capita as expenditure on essential health services. Pakistan needs to double its current health expenditures in order to come close to the WHO recommended levels. As share of GDP, total health expenditure for Pakistan is about 3.9 per cent, of which government share has not exceeded 0.86 per cent of GDP.

Public expenditure on health is not just low it has not even experienced any visible improvement in the last three decades. Expressed as a percentage of GDP, since the 1970s public expenditure on health has varied around 0.7-0.8 per cent of GDP, and 3.5 per cent of total government expenditure, which is grossly inadequate for meeting the healthcare needs of the country. External resources only form about two per cent of the resources that public sector spends on the health sector and these are mostly concentrated on specific vertical programmes. WHO recommends that developing countries need to increase their expenditure on health by about one per cent of gross national product (GNP) by 2007, and by two per cent of GNP by 2015. Given the relative stagnation of expenditures on health, in percentage of GNP terms, it is unlikely that the government of Pakistan will be able to commit the kind of resources mentioned above to the health sector.

Development expenditures are a clear indicator of the expansion in the health infrastructure. Pakistan, despite the problems of under-funding and lack of coverage, is only spending less than 30 per cent of health budget on such expansion. More than 70 per cent of the

budget goes for recurring expenditure. These funds tend to be more inflexible and committed, and the single largest item under this head is for staff salaries. Estimates indicate that staff salaries consume 60 per cent of the health budget whereas the remaining 40 per cent is consumed in financing maintenance work, procurements, up-gradations, and medicines, etc.[25] Expenditure on medicines, in the budget of primary health facilities, forms only 24 per cent of the budget.[26]

Public expenditure is generally directed towards tertiary care facilities such as hospitals, commonly at the expense of primary and secondary tiers, especially in rural areas.[27] Moreover, the focus of the health sector expenditure is largely on curative services accounting for 80 per cent of the total health expenditure. Even though health is a provincial subject, federal government spending is high at about 29 per cent of total public expenditure. Health forms about six to eight per cent of total provincial expenditures. Primary healthcare is almost 50 per cent of government spending, population programmes around 11 per cent, and hospitals 29 per cent of public spending. For the provinces, 34 per cent go to primary care, 15 per cent for secondary hospitals and 43 per cent for tertiary and teaching hospitals.[28]

Private expenditure forms the bulk of the total expenditure on health (75 per cent) and it is estimated at three per cent of GDP. Particularly in urban areas the private sector makes up the shortfall in public expenditure. Private sector expenditure is generally centred on the treatment of common diseases, secondary care, and limited tertiary care. On average, households with incomes less than US$130 a month spent about 3.4 per cent of their income on health.[29] Almost all of private sector expenditure is out-of-pocket expenditure as health insurance is still a negligibly small portion of the health sector.

Public health expenditure is low, compared to other developing countries.

Table 8.5 Public spending on health (budgeted)

(*Rs million*)

Year	Development budget	Recurring budget	Total	Development expenditures as % of total health expenditure
1995-96	5,741	10,614	16,355	35.1
1996-97	6,485	11,857	18,342	35.9
1997-98	6,077	13,587	19,664	30.9
1998-99	5,492	15,316	20,808	26.4
1999-2000	5,887	16,190	22,077	26.7
2000-01	5,944	18,337	24,281	24.5
2001-02	6,688	18,717	25,405	26.3
2002-03	6,609	22,205	28,814	22.9
2003-04	8,500	24,305	32,805	25.9
2004-05	11,000	27,000	38,000	28.9

Note: Exchange rates for various years are as follows: 1995: US$1=Rs.31.64; 1996: US$1=Rs.36.08; 1997: US$1=Rs.41.11; 1998: US$1=45.05; 1999: US$1=49.50; 2000: US$1=Rs.53.65; 2001:US$1=Rs.61.93; and 2002: US$1=59.72.

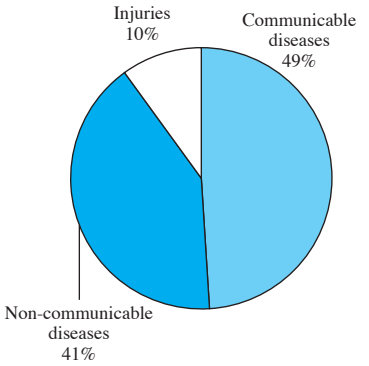
Sources: GOP, various issues, Federal/Provincial Govt. Budget Documents.

It is also the case that public sector funding has stagnated over the last few decades. The state has not been able to alter expenditure patterns to address policy objectives identified in government's own documents (see policy section). Public sector is inefficient and is providing low quality care. This is forcing many Pakistanis to opt for private health services that are more expensive and vary significantly in quality.

Burden of disease

By regional and international standards Pakistan continues to carry a heavy burden of disease. The burden of disease in Pakistan is evenly divided between communicable and non-communicable diseases. Communicable (49 per cent) as well as non-communicable (41 per cent) diseases are almost equally hazardous in the country. Diarrhoea, respiratory tract infections, and maternal and perinatal diseases are the leading ailments in Pakistan.[30] In recent years, the incidence of non-communicable diseases has also increased: one in three adults over the age of 45 suffers from high blood pressure, diabetes prevalence is about ten per cent, and 50 per cent men and 20 per cent women use tobacco in some form.[31] Karachi reports one of the highest rates

Figure 8.6 Share of communicable and non-communicable diseases in Pakistan



Source: GOP 2001b.

of breast cancer in Asia.[32] Pakistan has one million severely mentally ill, and about ten million individuals with neurotic mental illnesses. Moreover, high levels of poverty, poor nutrition, unhygienic living conditions, unsafe drinking water as well as inadequate reproductive healthcare facilities increase the incidence of morbidity and mortality in the country.

Healthy Life Years Lost, a systematic approach used to measure morbidity, reveals that respiratory tract infections, diarrhoea, tuberculosis and birth diseases are among the leading causes of morbidity in Pakistan. Pakistan also carries a heavy burden of chronic diseases that contribute significantly to increasing the morbidity in the country.[33] As revealed by the survey carried out by Johns Hopkins University in 1990,[34] applying burden of disease methods, diarrhoea (40 per cent), lower respiratory tract infection in children (36.8 per cent), tuberculosis (35.7 per cent), injuries (31.9 per cent) and hypertension (29.9 per cent) were the six major factors of loss of healthy life years in Pakistan in 1990. Prevalence of congenital malformation, chronic liver disease, ischemic heart disease and rheumatic heart diseases were also each causing a loss of more than 20 years of life per 1000 persons.

Communicable diseases

Children are more vulnerable to disease than adults. The causes of death among children are mostly due to avoidable communicable disease. Of all the deaths reported in Pakistan Demographic Survey 2001,[35] almost 39 per cent occurred among children under the age of five, and 30 per cent of them in children less than one year of age. This suggests that though these diseases are quite prevalent in society, the government healthcare provision is not doing a good job of either prevention or cure. For some of these diseases the cure available is neither expensive nor difficult to obtain/store. For diarrhoea the cure is as simple as oral hydration. But public sector interventions have still not been able to lower the incidence of death from these diseases.

More recent data, collected from a large sample of public sector health providers from across Pakistan, for 2003 show that 61.86 per cent of new cases of disease that were reported for children aged less than five years, were the diseases that were either communicable or easily preventable. Acute respiratory infections (28.3 per cent), diarrhoea (14.7 per cent), clinical malaria (8.1 per cent), and dysentery (6.3 per cent) were the cause of the major complaints. The incidence of these diseases can be significantly reduced by strong preventive programmes and by interventions in the provision of safe drinking water, safe sanitation and better nourishment. For patients over the age of five, the distribution was more dispersed and major communicable diseases accounted for 42.8 per cent of the cases, while acute respiratory infections (21.5 per cent), clinical malaria (7.7 per cent) and diarrhoea (6.4 per cent) still remained prominent. Children are more vulnerable to these diseases but the high prevalence across the population points to the poor state of infrastructure provision that is resulting in a high incidence of these diseases.

Death burden is high amongst the people aged 60 years and over, but it is important to note that the older population carries a significant burden of death in some of the same diseases that hit the children as well. This is partially because the old, too, have higher vulnerability to disease and face the same environmental factors as children.

The mortality rate of women is higher than that of men for almost all the diseases. Rural women have higher deaths due to typhoid fever, and more than five per cent of female deaths are due to diarrhoea as opposed to less than three per cent of male deaths (table 8.6). The male-female distributional differences would be consistent with the interpretation of relative neglect of female health. Some of these diseases require low cost interventions but if access is inequitable, the result is higher mortality of women.

The burden of disease and death both show that the cost that the people are bearing due to communicable diseases that can be prevented, to a significant degree, through interventions in infrastructure provision (sanitation and water), better spread of knowledge, and better nutrition are substantial. They also show that far too many deaths are attributable to diseases that can be treated with relatively inexpensive medical interventions. Evidently the healthcare system is not responding adequately.

Table 8.6 Distribution of deaths by communicable diseases, by sex and location (%)

	All areas		Urban areas		Rural areas	
Diseases	Male	Female	Male	Female	Male	Female
Typhoid Fever	5.35	7.97	3.68	6.12	6.44	9.15
Diarrhoea	2.79	5.59	2.76	5.76	2.82	5.49
Tuberculosis	3.65	5.59	3.68	5.04	3.62	5.95
Pneumonia	5.83	5.87	5.83	6.12	5.84	5.72
Jaundicce	5.1	5.17	5.52	5.04	4.83	5.26
All other diseases occurred/found in children	13.24	12.03	11.66	10.43	14.29	13.04

Source: GOP 2001b.

Non-communicable diseases

Non-communicable diseases[36] are linked by common risk factors. The major ones, for Pakistan, are cardiovascular diseases, diabetes, cancer and chronic respiratory diseases. The above mentioned non-communicable diseases account for a quarter of deaths in Pakistan, but there is no record of these diseases. Most of the data reported below comes from small sample surveys.

Recent data shows that one in four middle aged adults in Pakistan suffers from cardiovascular diseases. These are heart and blood vessel related diseases. They fall in two groups: first related to hypertension and the consequences of hypertension, and second to coronary artery diseases such as stroke and other peripheral vascular diseases. Heart attacks are more prevalent among men than women: 13.4 per cent of male deaths are from heart attacks as opposed to 8.3 per cent of female deaths. 16.6 per cent of urban male deaths are due to heart attacks, and only 5.5 per cent of rural female deaths are attributed to heart attacks. And one-third of the population over 45 suffers from hypertension in Pakistan.

National diabetes survey conducted in the mid-1990s and subsequent work show that the overall prevalence of diabetes in Pakistan is around 11 per cent. Diabetes prevalence is higher in urban areas than in rural ones, and on the whole, Sindh has the highest rates in the country. The survey also showed that almost 36 per cent of diabetics were unaware of their condition and less than three per cent of diabetics had their condition under control.

National health survey shows that 54 per cent of men and 20 per cent of women use tobacco. The prevalence is highest in men between the ages of 25-44, and for women between 45-64. Smoking is more common in rural than in urban areas and also more common among the illiterate population as compared to the literate one. There is some evidence, from small sample surveys that indicate that smoking is also prevalent among boys below 18 years of age.

One reason for the fairly rapid expansion in health infrastructure has been due to political reasons

Among the top ten causes of death four originate from respiratory problems. The more common chronic respiratory diseases are lower respiratory tract infections, chronic obstructive pulmonary disease, tuberculosis and lung cancer. For 65 plus cohort, 14 per cent of rural females, six per cent of rural males and nine per cent of urban population suffers from chronic bronchitis in Pakistan. The higher percentage for rural females in this category is due to pollution from cooking.

There is no reliable data available on the prevalence of cancer but some small studies reveal that there are about 90-100 new cases per 100,000 population. The incidence seems to be higher for men than women. Lung, oral cavity, and larynx cancers are the most common for men and breast, oral cavity, and ovarian-cancer are the most common for females. Leukemia is most common among children.

Healthcare provision

In Pakistan, both the public and private sector provide healthcare. Public sector provision has two main components: most of the curative services are organised hierarchically starting with Basic Health Units (BHUs) at the bottom and district hospitals and modern teaching hospitals at the top. The services for preventable and/or communicable diseases are predominantly, though not exclusively, provided through the vertical programmes. Private sector has expanded its role in healthcare in the last two decades. It has not only established its presence in the provision of advanced tertiary level curative services, mostly in the larger urban area, it has also made an entry into medical education. Private care providers have always predominated in the rural areas and they continue to do so even with the expansion of public services in these areas.

Public healthcare facilities

Pakistan has an elaborate health infrastructure going from the most basic health unit at the village level to district and teaching hospitals in large cities. The federal government runs some stand-alone, independent programmes for specific diseases or interventions.

Public healthcare facilities have been expanding fairly rapidly across Pakistan. With more than 5,000 BHUs, 552 Rural Health Centres (RHCs) and Maternity and Child Health Centres (MCHCs), 4,500 dispensaries and 900 hospitals, the public health network is present, in one form or the other, in most places in Pakistan. Though density varies but even the remotest places have, at least on paper, some public health representation. Population per bed has been brought to about 1,536, which is in line with other developing countries. The problem, however, is the management of these institutions.

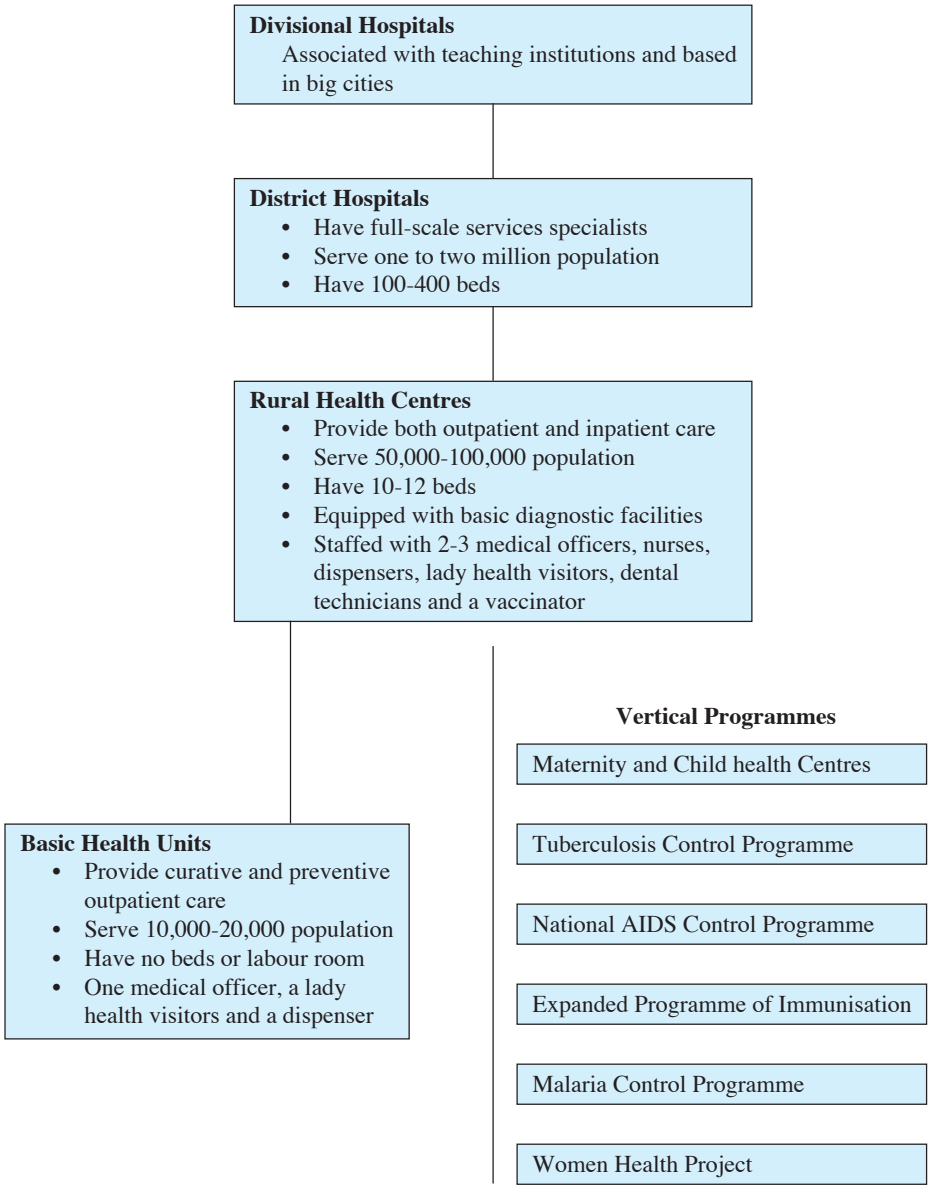
One reason for the fairly rapid expansion in health infrastructure has been due to political reasons. Votes and influence are traded on the basis of facilities for the area, including health infrastructure. It is easier to construct a BHU or RHC, than to manage it or institute proper guidelines for management. A BHU or RHC is a 'visible' proof of services rendered. Similarly, for the upper tiers of government it is easier to grant funds for a building for show rather than to promise improvements in management.

Public health infrastructure is organised in a hierarchic fashion by design (see figure 8.7). At the bottom are dispensaries that only have outpatient curative services. Manned by a medical officer and a dispenser they can refer patients to various upper levels that do not have any diagnostic facilities. BHUs, with no beds or labour rooms provide basic health facilities including maternal and child care and family planning services to about 10,000 population. They are manned by a medical officer, a lady health visitor (LHV), and a dispenser. MCHCs are specifically for providing mother and child healthcare, and midwifery services. They have one or two beds to handle routine deliveries but cannot

handle any obstetric emergencies. RHCs form the next tier. Designed to serve 50,000 to 100,000 population, to work as a referral centre for BHUs, RHCs have ten to 12 beds in-patient services, and they are equipped to handle obstetric emergencies as well. They have basic diagnostic facilities (x-ray and laboratory), two to three medical officers, nurses, dispensers, lady health visitors, dental technicians and a vaccinator. But they do not have any specialists. District headquarter hospitals have full-scale services specialists. At the apex of the pyramid stand divisional headquarter hospitals with full facilities. Divisional hospitals as well as large hospitals associated with teaching institutions are based in metropolitan cities only.

Provision of basic facilities is uneven across Pakistan. Although there have been attempts to ensure coverage across Pakistan, the pattern that emerges shows lack of priority planning in the placement of facilities. There are districts with massive areas (Awaran and Panjgur) but

Figure 8.7 Public health infrastructure in Pakistan



Source: The Centre for Reproductive Rights 2004.

Table 8.7 Trends in hospitals, dispensaries, BHU, RHC and MCHC in Pakistan, 1990-2003

Year	Hospitals	Dispensaries	Basic health units	Maternity and child health centers	Rural health centers
1990	756	3,795	4,213	1,050	459
1995	827	4,253	4,986	859	498
2000	876	4,635	5,171	856	531
2001	907	4,625	5,230	879	541
2002	906	4,590	5,308	862	550
2003	906	4,554	5,290	907	552

Sources: GOP various issues, Economic Survey.

small populations who have almost no access to more specialised hospitals. Lack of these facilities causes significant suffering in these areas. Serious patients would either have to travel long distances over poor quality roads, or do without treatment. If the state cannot justify hospitals in these areas on the population basis, innovative solutions need to be found, such as mobile services or a network of ambulances.

Some urban but smaller districts seem to have over concentration of hospitals (Lahore, Peshawar), while others seem to be under-served (Karachi, Hyderabad). On the basis of population too the variation that exists between Peshawar and Islamabad versus Karachi, seems large. Similar variations exist in the coverage of LHWs as well. There is need for more rational planning for situating health facilities.

Box 8.1 Water and sanitation

Access to safe water and sanitation has increased substantially over the last few decades in Pakistan. Currently, 90 per cent of the population has access to improved drinking water source, up from 83 per cent in 1990, while 62 per cent have access to improved sanitation facilities, compared to 36 per cent in 1990.

The numbers above mask significant variations in access to sanitation facilities and safe drinking water on the basis of location of household (rural-urban, and province) and income level. PIHS 2001-02 reports that for 22 per cent of households with a water tap in the house, 53 per cent are in urban areas and only eight per cent in rural households. Nearly half the households depend on hand pumps for their water supply, of which 56 per cent are rural households and 22 per cent are urban ones. In rural areas of Pakistan, 19 per cent of the population depends on dug wells and river/streams for their water supply as opposed to two per cent of urban households. On the provincial level, the higher urbanisation of Punjab seems to have resulted in even the rural areas of Punjab relying more on motor pumps for water pumping than any other province.

Eighty-nine per cent of urban and 26 per cent of rural households have access to flush toilets. Rural areas of Punjab are the most deprived where 68 per cent of households do not have access to any toilets. Only 14 per cent of Pakistani households have access to underground drains (45 per cent urban and one per cent rural), and 49 per cent of households (66 per cent of which are rural) have no access to any type of drainage system.

Despite the statistical increase in the coverage, contamination of water reservoirs by untreated municipal waste (sewage) and industrial pollution is widespread. As a result, the rise in water-borne diseases and infections, deadly for both adults and infants, continues, particularly during the summer months in which cholera, hepatitis, gastro-enteritis and typhoid cases occur frequently throughout the country. Researchers believe that almost the entire population of Karachi is drinking toxic water, as untreated industrial waste is being disposed of into the main source of drinking water in the city. Another study by the Pakistan Council of Research in Water Resources concluded that 75 per cent of the drinking water supplied to Islamabad (the capital of Pakistan) and Rawalpindi is unfit for human consumption due to bacterial contamination.

Access to safe drinking water and better sanitation system are directly related to infant and child mortality, spread of infectious diseases, and the burden of death. Unsafe drinking water and unhygienic sanitation is particularly dangerous for infants and children. According to the latest estimates, 250,000 children die annually in Pakistan mainly due to unclean drinking water and unhygienic sanitation. Rural population and the poorer households are particularly vulnerable in this regard. They also have limited resources to take corrective action and therefore suffer doubly.

Sources: GOP, various issues, Pakistan Council of Research in Water Resources Newsletter; World Bank 2002b and 2004i.

Availability of qualified medical staff continues to be a problem for Pakistan. Though doctor production has been quite high, and the government has expanded medical colleges significantly, and even allowed private sector medical institutions to be set up in the last decade and a half, there were still only 0.6 doctors per thousand people[37] in Pakistan as opposed to an average of two doctors per thousand people in the lower middle-income countries. The situation for dentists, nurses and other paramedical staff is even worse. Given the focus on curative and hospital based rather than preventive care it is not surprising that the number of nurses is less than half the number of doctors. WHO standards recommend a 1:3 doctor to nurse ratio. Pakistan, on the contrary has almost two doctors for every nurse.

Expanded programme of immunisation (EPI)

The expanded programme of immunisation (EPI) was started in 1978, and by 1991 it had achieved 80 per cent coverage of DPT3. But from 1992 to 1995 the EPI coverage declined to 50 per cent due to lack of funds and withdrawal of donor support. From 1996 to 2002, the EPI could not show any systematic trend. In 2002, the EPI coverage was 68 per cent of the eligible population.

Presently, Pakistan is providing immunisation services through 7,955 vaccinators from 2,649 fixed centers, 82 mobile centers, and 4,564 outreach centers. These numbers are more or less the same as in 1995. Current immunisation programme deals with seven diseases (pertussis, tetanus, diphtheria, poliomyelitis, hepatitis B, measles, and tuberculosis). With active support from the Grand Alliance of Vaccine and Immunisation (GAVI) of US$68.3 million for injection safety, hepatitis B, and improvement of the immunisation services, as well as support from other donors and government commitment of US$108 million for the period 1999 to 2004, EPI has the potential to expand and cover the target population.

Though immunisation is vital for healthy rearing of children, only 53 per cent of children, aged 12-23 months, are fully immunised in Pakistan. Despite numerous campaigns launched by the government to increase the number of immunised children, the progress has been slow and results far from satisfactory. To re-enforce the government's commitment, one of the primary objectives of the Eight Five Year Plan and the Social Action Programmes (SAPs) was to increase the coverage of full immunisation to 90 per cent by the end of 1990s.[38] Although, the immunisation rates have improved for both genders as well as in rural and urban areas, full immunisation is considerably lower in rural areas than urban areas. Among the four provinces, Balochistan continues to significantly lag behind the other provinces in terms of full immunisation coverage. Furthermore, a significant income gap exists as children from higher income quintiles have higher immunisation coverage compared to the lower income quintile children.[39]

The most significant strides to improve the coverage of immunisation were made in the 1980s under the Poly-Immunisation Programme, intended to substantially increase immunisations against six preventable diseases namely diphtheria, pertussis,[40] tetanus, polio, measles and tuberculosis. In 1982-83, the government estimated that three million children were immunised, a significant proportion of the number of newborns during that year.[41] However, in the subsequent decades, the momentum slowed and in 2000, among children aged 12-23 months, only 67 per cent are vaccinated with BCG, 61 per cent for DPT3, 61 per cent for OPV3 (Oral Polio Vaccine) and 56 per cent for measles. The slowing rate of coverage increase suggests that routine immunisation services, such as those provided by hospitals, dispensaries or basic health units, are not contributing towards increasing the immunisation coverage as intended. Instead, vertical

Table 8.8 Number of registered doctors, dentists and nurses in Pakistan, 2003-04

Registered doctors	108,062
Registered dentists	5,530
Registered nurses	46,331
Population / doctor	1,404
Population / dentist	27,414
Population / nurse	3,296

Source: GOP 2004a.

Table 8.9 Trends in immunisation coverage in Pakistan, 1980-2000
(*% of children 12-23 months*)

Year	BCG	DTP 3	POL 3	Measles
1980	6	2	2	1
1985	62	30	30	38
1990	80	54	54	50
1995	73	58	58	47
2000	67	61	61	56

Sources: WHO and UNICEF 2003.

Table 8.10 Immunisation coverage by locality in Pakistan, 2001-02
(*% of children 12-23 months*)

Region	1995-96	1998-99	2001-2002
Pakistan	45	49	53
Urban areas	50	64	70
Rural areas	44	45	46
Punjab	47	55	57
Sindh	44	38	45
NWFP	39	54	57
Balochistan	56	34	24

Source: GOP 2002c.

campaigns such as the polio campaigns (National Immunisation Days and Sub National Immunisation Days in high-risk areas) are more effective in increasing the coverage of immunisation.[42]

Although the coverage of immunisation has steadily increased in rural as well as urban areas, it has been particularly impressive in urban areas where immunisation coverage has exceeded 70 per cent of children aged 12-23 months. Immunisation coverage in rural areas is considerably lower than urban areas and has remained static since 1995 between 40-50 per cent. Among other factors, lower immunisation coverage in rural areas can be attributed to the absence of an effective rural health infrastructure, shortage of finances with the provincial health ministries and gross administrative mismanagement, not only at the provincial level but also at the community level.

Table 8.11 Immunisation coverage by income quintile, 2001-02
(*% of children 12-23 months*)

Income quintile	Urban areas	Rural areas	Both areas
1st quintile	28	18	20
2nd quintile	34	21	24
3rd quintile	40	21	26
4th quintile	44	27	33
5th quintile	60	27	42

Source: GOP 2002c.

All the provinces, except Balochistan, have witnessed a steady increase in immunisation coverage. In Balochistan, immunisation coverage has fallen from 56 per cent in 1995-96 to 24 per cent in 2001-02. According to PIHS 2001-02, 'in Balochistan, the coverage of all antigens is declining and it is particularly low for BCG and measles'.

Children from higher income quintiles have higher immunisation coverage compared to lower income quintile children. The immunisation coverage among households from the highest quintile is 42 per cent, twice the coverage in comparison to households from the lowest quintile at 20 per cent. The relationship is particularly strong in urban areas, where 60 per cent of children in highest quintile are fully immunised compared to only 28 per cent in the bottom quintile; this relationship is weaker in rural areas.[43] Higher literacy rate of women from affluent homes and their ability to afford the best quality medical care for their children contributes to the elevated immunisation coverage.

For almost all indicators we have covered so far there are clear differences in health outcomes based on gender, geographic location, and income. So, it is not only the case that our achievements in health sector are poor it is also the case that biases based on gender, location and income raise serious equity, fairness and access issues.

Factors responsible for failure in the enhancement of the immunisation coverage range from lack of consistent supply of financial resources to the inefficient management at the provincial and federal levels. Although the government has outlined the financial plan of US$1,106.8 million from 2003 to 2012 with the help of GAVI and other donor agencies, which shows its commitment for

the consistency and sustainability of this programme, the provision of resources from the centre to provinces occurs with delays and bureaucratic hurdles hindering the timely flow of services.

National AIDS control programme

Pakistan's National AIDS control programme is coordinated through the federal cell that formulates policy and technical guidelines for implementation through Provincial AIDS Control Programme. Pakistan started testing for HIV in 1986. In 2004, there were 2,748 reported HIV patients and around 250 AIDS cases. However, according to WHO there are approximately 70,000 HIV positive cases in Pakistan.

The basic objectives of the National AIDS Control programme are the prevention of HIV transmission and to reduce morbidity and mortality associated with HIV/AIDS. In 2000-01 there were 24,000 to 25,000 HIV tests carried out. Approximately 580,000 to 600,000 blood bags were screened. There were 66 training workshops conducted and 1650 personal were trained. Given that Pakistan is a high-risk and low prevalence country, the programme is likely to expand in the future.

National tuberculosis control programme (NTP)

Pakistan ranks sixth in the list of countries with the highest disease burden due to tuberculosis. Currently there are more than 250 per 100,000 patients (around three million) and approximately 50,000 people die due to this preventable disease. The government declared TB as a national emergency in 2001.

Pakistan adopted DOTS (Directly Observed Treatment, Short Course) Strategy in 1995 and launched the National TB control programme (NPT) in 1996. NTP provides technical assistance in the implementation and evaluation of this programme. NTP is operational in 79 districts. LHWs are mainly utilised to provide these door-to-door services. NTP has adjusted its target to 70 per cent case detection, 85 per cent cure rate and 100 per cent coverage of population by the year 2005.

Malaria control programme

Pakistan started its malaria control programme in 1960 as a Malaria Eradication Programme. Later, in1970 the widespread prevalence of this disease compelled health officials to change the title from eradication to control. Pakistan faces 500,000 malaria cases annually. Pakistan is also a member of the global Roll-Back Malaria (RBM) programme initiated by the World Bank, UNDP, and UNICEF in 1998. Currently, Pakistan is implementing its RBM plan for 2001-02 to 2005-06 at a cost of US$4.1 million. Pakistan has outlined 43 high-risk districts in all four provinces to implement the agenda outlined by the RBM programme.

Women health project

The Women Health Project was launched in 1999-2000 by the joint efforts of the Ministry of Health and Provincial Health Departments. The project is to deliver its services through the recruitment of 8,000 LHWs,[44] to further strengthen the ongoing family health planning and primary health care services. The basic aim of the project is to reduce maternal mortality and infant mortality, to improve the health of women, to increase the nutrition and social status of rural women and girls with special focus on providing skilled delivery care, emergency obstetric care, family planning, tetanus toxoid immunisation, micro-nutrient supplement, and treatments of common infections. The WHP is mainly designed for 20 districts and it will be fully implemented in six years. The total federal budget of the project is US$16 million.

Pakistan ranks sixth in the list of countries with the highest disease burden due to tuberculosis

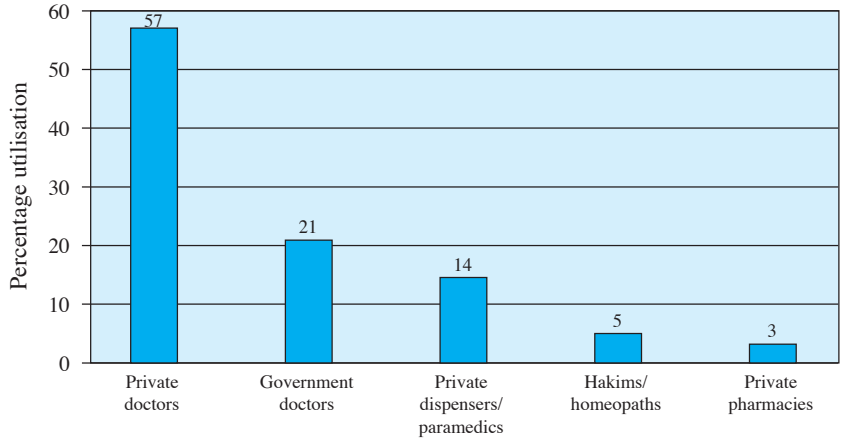
Health education programme

In order to strengthen the efforts of preventive health services, Pakistan also initiated Health Education programme in 2000-01. The key objectives of the programme are to create awareness, promote healthy lifestyles, and to introduce new health programmes and services by the government. It mainly covers information about clean water, national programme for family planning and primary healthcare, communicable and non-communicable diseases, growth monitoring, breast-feeding, LHW and their work, smoking control, AIDS, EPI, polio, and women's health.

National ARI control programme

WHO's global programme on acute respiratory infections (ARI) control design forms the basis of Pakistan's National ARI programme. The basic objectives of this programme are to reduce the severity and mortality from pneumonia in children under-five years of age, to reduce the incidence of acute lower and upper respiratory infections, and to promote the use of the anti-microbials for the treatment of ARI in children. The programme aims to achieve these goals through the standard case management and training at all levels of health workers (doctors, paramedics, and community), educating mothers on prevention and timely action for management of ARI including nutritional management with emphasis on correct breast feeding practices, mass communication through the use of media along with ARI education in medical schools, nursing schools and by improving undergraduate training. In the first six months of 2001, 2,687 doctors and paramedics were trained.

Figure 8.8 Utilisation of private health facilities in Pakistan, 1999



Source: GOP 1999b.

Private health services

The private health sector is defined to include all actors outside government, such as profit, non-profit, formal and informal entities. This broad definition includes service providers, non-governmental organizations, pharmacies and pharmaceutical companies, producers and suppliers, shopkeepers and traditional healers. The government is the major provider of hospital services in rural areas and of preventive services throughout the country. However, the demand for publicly provided healthcare services is decreasing in rural areas due to the poor state of public healthcare, and this is increasing the reliance on private sector facilities by all those who can manage to pay for the services rendered. According to a study,[45] which reveals the results of village surveys, a majority of the poor in the villages surveyed chose private providers over available public services,[46] while knowing that most of them were not qualified doctors.[47]

Only a very small proportion of the population use public sector health facilities and more than 75 per cent of the population use private health centres (figure 8.8). According to the National Health Survey 1994[48] of Pakistan, the utilisation of private health services is 58 per cent in rural areas and in urban areas it is more than 70 per cent. The distance to government hospitals and the unavailability of medicines at public health providers are the major reasons for not using these facilities. Other reasons are uncooperative staff, inability of providers

to treat complications and the unavailability of doctors at these facilities.

The general practitioners working in small clinics dominate the private healthcare services. Other private sector facilities such as dispensaries, maternity homes and laboratories also tend to be small. Formal private health facilities are mostly concentrated in urban areas. The number of traditional providers of healthcare greatly exceeds that of providers with formal medical training, especially in rural areas. Only one-fifth of all pharmacies are located in rural areas. The rural areas are mostly served by the non-pharmacy retail outlets. Private urban hospitals are predominantly based in major cities and they account for more than 75 per cent of private sector hospital beds. A number of non-govermental organisations NGOs are also playing a vital role in providing health facilities to people. However, their precise number is not known. A notable exception is the Aga Khan Health Services Programme that is successfully implementing its community-centred primary healthcare model in two districts of Northern Areas.

For a problem as common as diarrhoea, the most utilised health facilities are the private practitioners (figure 8.9). The government either fails to provide people with the required facilities or it lacks people's confidence in using the existing public facilities.

Table 8.12 Health facilities in rural areas, 2001

Type of facility	Percentage of rural households with facilities present in their village				
	Punjab	Sindh	NWFP	Balochistan	Pakistan
Government hospital	3	1	3	0	2
Government dispensary	11	16	11	19	12
Basic health unit	18	11	33	12	18
Lady health worker	80	36	44	21	62
Private hospital	5	3	1	1	4
Private dispensary	13	16	11	3	13
Private practitioner	21	22	30	6	22
Compounder/nurse	33	19	58	5	32
Hakim/homeopath	41	16	34	0	33

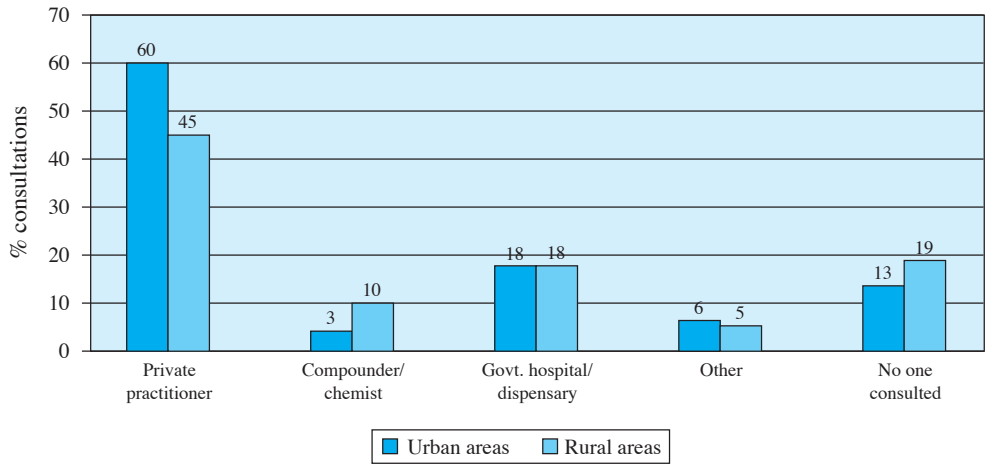
Source: GOP 2002c.

Private for profit healthcare providers, especially in rural areas, do not provide preventive and/or externality dominated services such as immunisation, reproductive health services, and knowledge about health practices.[49] This is evident from the fact that only 12 per cent deliveries are carried out in private hospitals and clinics.

Management of health systems: planning and implementation

The achievements of the public sector have been modest. Utilisation rates at primary level are low, poor people prefer

Figure 8.9 Type of practitioner consulted for diarrhoea treatment, 2001



Source: GOP 2002c.

There is no unified system for service operations and practices in the country for the healthcare sector

to go to poor quality private providers than stay with public providers; BHUs and RHCs are understaffed, do not have medicines or equipment, and have serious problems of lack of attendance. Even large hospitals face some of these issues, and public complains about the poor quality of service. Vertical programmes are not meeting targets (EPI is a good example) and apart from LHW programme, share some of the same problems as mentioned above. A lot of these problems are related to lack of proper planning and implementation systems in the health sector, misalignment of the incentives of players, and lack of trained human resource on the management side.

Planning is very centralised. It is concentrated in the planning agencies (Federal Planning Commission and Provincial Planning and Development Departments), and the planning cells in the provincial Department of Health. There have been recent efforts to begin district-level planning in a few districts but severe human resource limitations have constrained this effort. Planning processes have thus far only dealt with the public sector. Sometimes plans make reference to the private sector or NGOs, but there have been no significant coordination activities, joint services, or resource transfers among the various health sub-sectors. Even concern about regulation of private sector has only recently been recognised as an important agenda item.

The planning cells in the provincial health department have developed some staff capability over the last decade, but they are still small and only starting to have influence on planning decisions. The planning function is also fragmented. Planning cells are attached to the Secretary's office but there are also planning staff among the Director General's staff that leads to duplication and lack of intra-departmental coordination. Furthermore, many planning decisions that ought to have a technical basis are performed by people in the budget sections of the health and finance departments.

An additional complication in the planning process is the lack of knowledge and orientation of the bureaucrats in public health. A few officials in each province have public health training and interest. However, the *medical model* tends to dominate many decisions in government health services. The private sector almost everywhere will operate by the *medical model* unless given strong incentives to behave otherwise. This model is characterized by an emphasis on curative health services, little concern with the overall pattern of allocation of resources, a desire to provide state of the art care, and the measurement of outcomes in terms of changes in the health status of individual patients. By contrast, the *public health model* emphasises preventive interventions, obtaining maximum impact on the health status of communities for the resources available, the use of appropriate technology rather than state of the art, and the measurement of outcomes in terms of changes in the health status of the population at large.

There is no unified system for service operations and practices in the country for the healthcare sector. Some programmes/projects have developed their own procedures for specific needs. As part of the training for some cadres, standard operating procedures have been defined e.g., for LHWs. However, since staff is generally not trained jointly as working teams, there is no guarantee that other co-worker cadres will follow the same practices.

There are some standardised procedures for requisition, supply, transport, inventory, and dispensing, but these are not integrated with each other. Dispensing practice is often based on types and quantities available. Supplies rarely match requisitions and the situation is further aggravated by late deliveries, pilferage, and poor inventory and storage practices. Significant savings could be obtained by emphasising the use of generic drugs over branded drugs and by managing the inventory system better.

There is no systematic monitoring and evaluation of the performance of health services. The introduction of the Health Management Information System is a major improvement in terms of data availability, but it is not yet fully deployed and does not cover inpatient services. Demographic and health surveys give an indication of the overall health status and there also have been some ad hoc evaluation of programmes, usually done by international assistance organizations. But no comprehensive and systematic global information sets on public sector health provision are available. Even some of the surveys are not done regularly. The last demographic and health survey was conducted in 1991, and since then though there have been demographic surveys, a health survey has not been done.

Lack of planning is evident from the following example. The school health programme was established in 1987, at a time when government was under political pressure to create jobs for newly graduated doctors. The idea was to post doctors in schools to provide health services. However, the exact role and functions of these doctors was not thought through clearly. No job descriptions were developed and practically no funds were budgeted other than for doctors' salaries. In fact, few of the doctors have done any work in schools since the start of the programme. Most of the doctors in the school health programme are currently working in government hospitals and other government health facilities.

The quality of care in private health facilities varies from very good to extremely poor. On one hand, a few exceptionally good private hospitals in the major cities are equipped with the latest equipment and good systems, and concentrate on high-risk care while, on the other hand, the majority of private healthcare providers often work under extremely poor conditions.[50] This poor quality is reflected in the use of outdated equipment, in the severe shortage of nurses and paramedical staff and the use of untrained persons in their stead. Less than half of the doctors, nurses and paramedics working in private sector are registered in the official registers of these professions, the rest either have no formal training or have failed to register. The *State of Human Rights in 2003,* of Pakistan, states that over 40,000 quacks are operating in Karachi alone. With no effective laws in place to check the running of medical centres by unqualified practitioners, corruption and negligence of regulation, designing and implementing an effective regulatory framework for health providers is a major task facing the government.

There is no systematic monitoring and evaluation of the performance of health services

Health sector reform: policies and performance

Over the last 57 years health policy has evolved under the various national and international pressures and influences that have been felt by the government of Pakistan. Starting from the adoption of almost all of the recommendations of the pre-partition Bhore Committee Report (1943-46), through the eight five year plans, binding international commitments[51] and goals (Alma Ata 1978, International Conference on Population and Development 1994, Millennium Development Goals 2000), and various changes in the way health issues are conceptualised (basic needs approach, human development paradigm) and delivered, health policies have evolved to cater to the thinking of the day. But at the same time it is also true that some of the problems that we faced at the time of the partition are still, albeit in slightly altered form, with us.

The historical context

The colonial structure of medicine, inherited by Pakistan in 1947, had a number of prominent features. It was largely focused on curative services, as opposed to preventive care, was urban based, and was mainly geared towards certain classes of people. Some have argued that the health structure provided

One recurring issue emerged throughout the successive which five-year plan periods was that though the ambitious plan goals were set at the outset, they were seldom achieved

for by the colonial administration in India was largely meant to provide services to the colonial administration and military personnel and the classes of locals that were instrumental, in one way or the other, in ensuring the continuation of colonial rule.[52] This essentially meant that allopathic systems of health, provided for by the state, were generally catering to the urban and rural rich, and to the professional, skilled and semi-skilled classes living in urban areas. Economically vulnerable and most of the rural population had access to either a small number of private allopathic practioners or to healthcare providers of other forms such as hakims religious healers, herbalists etc.

The structure of healthcare provision inherited by the state of Pakistan in 1947 thus had some very peculiar features that were to become the major constraints for health policy provision for decades to come. In some ways we are still faced with a number of those issues even today. For instance, even today the healthcare structure has (i) a very strong curative bent (as opposed to preventive), (ii) a strong urban bias, (iii) major limitations of coverage and grave inequities in terms of access for different classes (economic) and groups (gender, social), and (iv) major concerns about quality of care provided.

The first comprehensive study of the healthcare systems dates back from before the partition. Health Survey and Development Committee, commonly known as the Bhore Committee, was set up by the Government of British India in October 1943 to take the first step towards planning for health. The report of the committee, published in March 1946, became the basic document that the subsequent independent governments of India and Pakistan adopted as their basic working document. The Bhore Committee report was quite a comprehensive document. It did bring out, in detail, concerns about inadequate coverage, inequity in provision, the focus on curative facilities and interventions instead of preventive ones, and the imbalance between the rural and urban area. It also raised the issue that the health sector was deeply connected with other issues such as poverty, nutrition and provision of infrastructure facilities (potable water), and that health sector planning should not be looked at in isolation. Bhore Committee, even at that time, had raised concerns about participation of people in health sector planning and implementation and for decentralisation to avoid excessive agglomeration of power with the federal or state level governments. Though the government of Pakistan adopted most of the recommendations of the Bhore Committee report, these were never fully operationalised or implemented.

At the time of independence, Pakistan had a total of 292 hospitals, 722 dispensaries, 91 MCHC, and a total of 13,769 hospital beds (one bed for every 2,500 persons). Though the government was aware of the problems in the sector, and national health conferences were held in 1947, 1951 and 1956, it was not able to improve the provision of healthcare facilities for the first few years after partition. It was only from the mid-1950s that more systematic policy formulation processes were adopted. The main instrument for implementing health policy, for the next forty-five years starting in 1955, were the five-year plans of the government. We saw eight of these plans implemented, while the 9th plan was shelved in the process of change in governments.

Health in five-year plans

One recurring issue emerged throughout the successive which five-year plan periods was that though the ambitious plan goals were set at the outset, they were seldom achieved. The disbursement of funds usually remained less than the allocated amounts and the targets, in terms of achieving specific health goals, were seldom met.

The First Five Year Plan (1955-60), approved in December 1957, allocated Rs.287.2 million (US$60.3 million), out

of a total plan of Rs. 7.5 million (US$1.575 million) or 3.77 per cent for health. The Second Plan (1960-65) reported that only 40 per cent of the funds allocated in the First Plan were actually utilised for the health sector. The Second Plan had much better implementation, and amongst its achievements was the creation of 200 RHCs. Third Plan (1965-70) reported that not only had health sector spent its Rs. 350 million allocation (US$73.5 million), out of Rs. 9.75 billion (US$2,048 million) or 3.59 per cent, over the Second Plan period, an additional Rs.□50 million (US$10.5 million) had been spent in the sector. But the performance could not continue to the next plan period, and of the Rs. 1.3 billion (US$273 million), out of Rs. 30 billion (US$6.3 billion) or 4.33 per cent earmarked for health, only 45 per cent of the funds could be spent over the Third Plan period.

Rupees 2.445 billion (US$514 million) or 4.99 per cent was allocated for health in the Fourth Plan (1970-75), but the monitoring of the plan could not be done over the period due to political reasons (war, separation of East Pakistan and the creation of Bangladesh). During 1970-77, though the five-year plan framework was not used by the government, the expenditure on health was substantial over the period and major expansions in the health sector, in terms of number of medical colleges, BHUs, RHUs and urban hospitals, did take place. This was also the first period in which there were moves by the government to formulate a national health policy. Though this did not materialise in the end, the health sector did acquire more importance on the national agenda during this period.

The government returned to the five-year plan framework with the Fifth Plan (1978-83). Rupees 4.58 billion (US$462 million) or 3.7 per cent were allocated for the health sector, but only 55 per cent of the envisaged allocation was actually utilised over the plan period. For the Sixth Plan (1983-88), allocations for health were Rs.13 billion (US$816 million) or 4.26 per cent, and the utilisation rose to 92 per cent over this plan. For the Seventh Plan, the target was Rs. 13.4 billion (US$563 million) or 3.83 per cent, and the utilisation was 78 per cent. For the Eighth Plan (1993-98), the allocation for health was Rs. 32 billion (US$1 billion) or 5.34 per cent, and 74 per cent of allocation was actually utilised. The Ninth Plan (1998-2003) allocation for health and nutrition combined was Rs. 48.05 billion (US$775.8 million), out of Rs. 847 billion (US$13.6 billion) or 5.67 per cent, but the plan was never actually implemented (see table 8.13 for details).

Over the five-year plan periods the general trend seems to be clear. In most plans around four per cent of the total plan was earmarked for health and, apart from two periods, the utilisation rate of the allocated amount remained relatively low. Even at the end of the Eighth Plan, only 0.7 per cent of GNP was being spent as public expenditure on the health sector. Apart from the 1970-77 period, there was also no attempt to create a national health policy that would work out the government priorities in the sector and establish a workable long-term plan for achieving them. Most five-year plans identified targets in terms of setting up BHUs or RHCs, increasing number of beds, or reducing infant mortality, and so on. But such goal to importance of other health goals that are not as easy to quantify, such as dissemination of information, especially regarding preventive measures.

Over the plan periods the government did start a number of vertical programmes for specific diseases and disorders, however these were not usually integrated with the overall structure of the healthcare. By the end of the Eighth Plan though health sector statistics were showing improvement in most indicators, such as infant and maternal mortality, morbidity, and overall life expectancy. But the progress in most cases had been slow and uneven. More importantly, some of the larger concerns regarding equity and access, balance between curative and

Table 8.13 The gap between promises and reality in five-year plans, 1955-2003

Five-years Plans	Declarations	Score card				
		Financial			Infant mortality	
		Allocation (Billion Rs.)	Allocation (as a % of total development budget)	Utilisation (% of allocated)	Infant mortality rate	Target
First Plan (1955-60)	*It is reasonable to hope that the development programme as a whole will raise standards of nutrition, housing, sanitation, and health knowledge, and that with this improvement will come better health.*	0.2872	3.8	40	110-130	…
Second Plan (1960-65)	*It is reasonable to hope that the development programme as a whole will raise standards of nutrition, housing, sanitation, and health knowledge, and that with this improvement will come better health.*	0.35	3.6	100 and additional Rs. 50 million	…	…
Third Plan (1965-70)	*The health programme of the third Five-Year Plan is conceived within the context of the long-term goal of providing adequate health protection to the entire population within the next 20 years.*	1.37	4.6	45	155	…
Fourth Plan (1970-78)	*To improve the living and working environment of the population through better sanitation, water supply, disposal of industrial wastes, control of insects and disease vectors, better housing facilities, the prevention of air and water pollution, and epidemiological services.*	2.445	5.0	No plan period	…	…
Fifth Plan (1978-83)	*There will be substantial shift from the present doctor-oriented strategy for health services to a three-tier system consisting of doctors, paramedical or auxiliary staff and community health workers…The new strategy would be the central feature of the plan for expansion of modern health cover in rural areas.*	4.58	3.7	55	105	…
Sixth Plan (1983-88)	*Consolidation of existing facilities in contrast to expansion and development of rural health infrastructure. Expansion is only envisaged in un-served areas.*	13	4.3	92	100	79
Seventh Plan (1988-93)	*…Improving the availability of health services through the establishment of a rural health center in every union council.*	13.4	3.8	78	80	60
Eighth Plan (1993-98)	*Provide basic health services at each union council.*	32	5.3	74	86	60
Ninth Plan	(Shelved).					

Note: Exchange rates for various years are as follows: 1960-71: US$1=Rs.4.76; 1973-81: US$1=Rs.9.90; 1985: US$1=Rs.15.93; 1995: US$1=Rs.31.64; 2000: US$1=Rs.53.65.

Source: GOP, various issues, Five-year development Plans 1955-1998.

preventive services, and provision in rural areas still remained.

Healthcare guarantee

The Constitution of Pakistan of 1956 promises health coverage for those who are unemployed or are temporarily in need. The 1973 Constitution (chapter 2, part II) provides the Principles of Policy that address the economic, social and cultural rights. Some of these Principles refer to health care benefits. The State is given the responsibility to protect the family, especially the mother and child (Article 35), and promote 'the educational and economic interests of backward classes or areas' (Article 37). Article 38 gives assurance of access to all basic necessities, including health, to those who, for any reason whatsoever, are unable to provide for themselves and their families.

Thus the 'right to life' is a basic and fundamental right in the 1973 Constitution. Courts have, in other countries as well as in Pakistan, tended to interpret the 'right to life' broadly by including access to services considered to be essential for preserving and ensuring the right to life. Access to health care has, in some cases, been seen in this light.

International commitments

Pakistan is not only a signatory to the 1978 Alma Ata commitments but it is also obligated to make efforts to achieve the health and other goals identified and set in the Millennium Development Goals (MDGs) 2000. MDG health related targets for Pakistan, to be achieved by 2015, are as follows: IMR to be reduced to 40, under-five mortality to be reduced to 42, proportion of fully immunised children (12-23 months) to be raised to 90 per cent, MMR to be reduced to 85, proportion of birth attended by skilled person to be 90 per cent, and contraceptive prevalence rate to be raised up to 90 per cent. In addition MDG 1 is related to eradication of extreme poverty and hunger, MDG 4 is specifically about child mortality, MDG 5 about maternal health, and MDG 6 about combating HIV/AIDS, malaria and other diseases. MDGs also relate to access to water and sanitation facilities as well. MDGs are always referred to in government documents on goals now, and they do inform the policy goal setting in various government documents but so far we have not seen a reorientation in the expenditure patterns that would allow the government to achieve these goals by 2015.

Recent healthcare reforms

Pakistan has formulated three national health policies in 1990, 1997 and 2001. But each of these policies suffers from some of the same problems that have been identified in earlier periods.

National Health Policy 1990 advocated the need for extensive primary healthcare. It promised the provision of universal primary health care within a ten-year period through the active participation of private health sector and democratisation of the health management. It also attached significance to the improvement of the BHUs, RHCs, health management system, involvement of private sector in the primary healthcare, nutrition, family planning, and the management of hospitals. The government also started an innovative Lady Health Worker Programme (LHWP) in 1993 in an effort to provide preventive and basic curative care to traditionally neglected groups: the poor, rural, women and children. This programme has been termed as a success in many circles. The programme seems to have addressed somewhat the issues of equity, urban bias and access of the marginal groups to curative care. The government of Pakistan has recently announced that the programme will be expanded further (see box 8.2).

The government of Pakistan used SAP I, 1993-97 and SAP II, 1997-2002 as the vehicles for delivering primary health, basic education, and water and sanitation services over the last decade. The SAP initiatives were intended to decentralise

Thus the 'right to life' is a basic and fundamental right in the 1973 Constitution

service delivery to local levels, making them more participatory and democratic, and involving more the local governments and local people. The programmes, supported by the international donor community, called for a complete revamping of the public health services of Pakistan through increasing targeted expenditures, especially non-salary budgets, and creating greater accountability for public sector health employees in order to make health services more efficient and effective.

Both these programmes achieved only limited success. Although the programmes led to some improvements in health indicators such as access to health infrastructure, immunisation of children, availability of Lady Health Workers etc., the net gains were marginal. The programme succeeded more in terms of generating more funds rather than in ensuring delivery of quality services and improving accountability. One reason for the outcome was the politicisation of the distribution of benefits under SAP. The implementation mechanisms of SAP provided powerful vehicles for patronage of selected few, to the detriment of community participation, and often in direct conflict with the planned goals.[53] In addition, delayed releases of development funds to the provinces, by the federal government, cumbersome administrative procedures, and weak institutional capacity seriously hampered the effectiveness of SAP. Towards the end of the 1990s, the government closed the programme and the budget allocations for public health fell below pre-SAP levels.[54]

The National Health Policy 1997 also took the agenda of primary healthcare and formulated vision 2010 'Health For all Through PHC'. It argued for better health system through the reduction of the burden of communicable diseases,

Box 8.2 Lady Health Worker Programme

Lady Health Worker Programme (LHWP) of Pakistan, with its success in creating a large organisation of female community health workers and in delivering low-cost quality primary healthcare services has been one of the good examples of community health worker programmes in the country and in the world. The Programme, started in 1994 as a vertical programme with funding from the Ministry of Health, aims at improving the access, especially of rural poor, to primary healthcare services by delivering promotive, preventive and curative services at the doorsteps of people. The programme also forms a bridge between the community and the healthcare system in order to generate greater involvement of people in healthcare provision and utilisation of healthcare facilities.

LHWs are multipurpose workers who provide basic health services to communities where they live. They receive three months basic training on preventive and basic curative healthcare. Each LHW is supposed to serve a population of 1,000 women and visit each of the households at least once a month. The services provided by LHWs include the provision of health education and health promotion, informing and motivating the clients on family planning, and educating them on how to improve their health and hygiene. LHWs treat simple diseases and refer serious cases to higher-level health facilities.

In 1994-95, 21,510 LHWs were employed to work under the supervision of lady health supervisors. By 2003-04, the total number of LHWs rose to 70,000 who are now, with 2,300 supervisors, serving almost 63 million people.

The coverage and success of the programme was evaluated by comparing the health outcomes in the communities where the lady health workers operate with the areas outside the programme. The results of an evaluation study by Oxford Policy Management revealed that in LHWP areas health status of mothers and children was better than other areas. LHWs have been quite successful in increasing awareness about health issues; improving access to healthcare; and increasing the rates of immunisation, use of contraception, use of iron tablets by pregnant women, and growth monitoring of children.

The efficiency of LHWP is hampered due to lack of adequate funds for essential drugs, contraceptives and supplies, delayed salary disbursements, and inadequate logistic support. There is a lot of scope for improving the health outcomes of mothers and children through LHWs if these problems can be removed. Since the government is planning to increase the number of LHWs to 100,000, with 4,000 supervisors, addressing the management issues becomes even more important. Despite the shortcomings of the programme, the LHWP has not only dealt with the basic health issue of women and children but has also played an important role in women's empowerment by creating job opportunities for rural women.

Sources: GOP 2004a; Mir *et al.* 2004 and Oxford Policy Management 2002.

inculcation of responsiveness in healthcare system to new and emerging diseases, equity, and developing well-organised secondary and tertiary healthcare. The policy also emphasised the need for promotive, preventive, curative, and rehabilitative health services, active community participation, higher health service utilisation, widespread availability of reproductive health through family planning, and integration of vertical programs with primary health services. The Basic Minimum Needs Programme of Health Policy 1997 addressed nutritional deficiency through the provision of basic needs (shelter, food, drinking water, etc.) of life. The policy also provided for a semi-health insurance system through national health card facility. A cheaper national health card was to be issued to each family that would cover family health for that particular year. For those who would be unable to pay for these cards would be accommodated through Zakat funds. But the Health Policy 1997 was abandoned by 2001.

Pakistan has recently formulated a new health agenda for the year 2010-2011 on the basis of the Ten Year Perspective Plan 2001 and National Health Policy 2001. National Health Policy 2001 mentions priority shift from curative to preventive and from urban to rural sector, with more focus on the health of mother and child. It aims at increasing the accessibility, affordability, and acceptability of health services by general population. The focus is on the primary and secondary tiers of health sectors in contrast to tertiary level healthcare.

Health Policy 2001 identifies ten areas as a focus of attention for the next decade. These include emphasis on reducing communicable diseases; promoting preventive care; removing rural-urban, gender and income biases; improving the quality of primary healthcare by focusing on the systematic as well as human resource issues; and regulating the private sector providers of healthcare. For each of the ten goals, modalities have been identified for implementation and achievements of these goals. It remains to be seen whether these objectives will be achieved or if these goals will also remain partially unrealised as with the previous policies and initiatives. But it is worth mentioning that a number of goals address issues that were first identified by the Bhore Committee as important concerns, and that have been contentious throughout our history, such as bias against preventive and promotive medicine, bias on the basis of class, gender and location, and poor public sector delivery mechanisms.

The Poverty Reduction Strategy Paper,[55] the latest attempt on the part of the government to formulate a strategy for dealing with poverty, also mentions the same priority areas. The key focus of the government is on reducing infant and maternal mortality, enhancing reproductive health choices, reducing preventable diseases and encouraging preventive medicine. These objectives are to be achieved through more aggressive vertical programmes, especially the LHWP. The policymakers believe that these instruments offer the most effective way of achieving the maximum impact.

Over the decade of the 1990s the government, under pressure to cut fiscal deficits and trade deficits, and under pressure of conditions agreed under the International Monetary Fund and the World Bank sponsored structural adjustment programmes, had to cut back its development expenditures significantly. From more than eight per cent of GDP in early 1990s, development expenditures went down to less than two per cent of GDP in the early 2000s. Health coverage and quality of provision was not exceptional at the start of the 1990s to begin with, and the expenditure cut worsened the situation over the decade of the 1990s. The expansion of healthcare, and the policy and priority changes that were identified repeatedly in policy documents, could not be implemented due to, among other reasons, the financial pressure. Under the structural adjustment programme, the government also

National Health Policy 2001 mentions priority shift from curative to preventive and from urban to rural sector, with more focus on the health of mother and child

introduced user fees in government hospitals, higher fees in medical colleges, and autonomy of individual institutions. Whatever the impact of these changes on the quality of provision, and there are conflicting views on this, the cost of medical care has gone up for users. This has reduced the progressivity of the healthcare expenditure.

At the same time, the government has also encouraged and allowed the private sector to enter the market for the provision of both medical education and medical training, as well as the market for large-scale hospitals. Private care has always been available through private medical practitioners, but in the last decade and a half the private sector has made significant inroads in the urban hospital-based curative care market. Concern has been expressed by civil society organisations and consumer rights advocates that the government has not, at the same time, been able to develop and implement a regulatory framework within which the private sector can work. This is one item that has recently cropped up on the agenda for healthcare reform. A significant number of NGOs and other non-profit organisations have also entered the healthcare sector.

Though the coverage of population in terms of access to healthcare facilities has increased significantly over the last 57 years, and Pakistan has been able to show some progress on most health indicators, the progress has been slow. In addition, the policies implemented have not been able to address some of the basic issues in healthcare that were identified even in the policy documents of the 1940s and 1950s. The issues of quality and quantity of coverage; issues related to equity, access and urban bias; and the issues of lack of focus on preventive medicine continue to dominate the discourse in policy documents. National Health Policy 2001 identifies most of these as areas that the country needs to focus on now.

Chapter 9

Towards Growth with Human Development

'*The human development paradigm covers all aspects of development – whether economic growth or international trade, budget deficits or fiscal policy, saving or investment or technology, basic social services or safety nets for the poor. No aspect of development model falls outside its scope, but the vantage point is the widening of people's choices and the enrichment of their lives.*'

— Mahbub ul Haq
(Reflections on Human Development)

A continuing theme that runs through all our reports is the urgency of recognising the centrality of people in all development policies and programmes. Economic growth, in order to be sustainable and equitable, has not only to improve the productivity of people through investments in their health and education, but also to empower them through improving their access to health, education, jobs and political, economic and cultural rights. These two planks of human development model – enhancement of capability and access to opportunity – are essential to lead to sustained improvement in the lives of the majority of people everywhere.

Through the lens of human development paradigm, we have analysed the huge health deprivation of the vast majority of the South Asians. The analysis shows that the region has not been able to enhance the capability and improve the opportunity of the majority of its population through provision of and access to healthcare services, as well as access to education, water and sanitation. The data presented in the Report suggests that healthcare for the masses has not been a major concern for South Asian governments. The importance of investing in health for reducing poverty and accelerating economic growth has not been sufficiently recognised in policies and allocation of funds. In 2001, the government spending on health in South Asia was only one per cent of GDP. What's more, even this meagre sum was not equitably distributed between rich and poor, rural and urban areas, between women and men, and between primary healthcare and tertiary hospitals. The failure of South Asian governments in improving the health of its citizens is reflected in several indicators. For example,

- Infant mortality rate at 66 (per 1,000 live births) is higher than the developing country average of 61. Most of these deaths are due to easily preventable communicable diseases.
- 516 women (per 100,000 live births) die as a result of pregnancy and delivery complications.
- Forty-three per cent of adult population is illiterate; fifty-eight per cent of adult women are illiterate.
- Forty-six per cent of children below five years of age are malnourished.
- About one-third of the people in South Asia are in poverty.

These are staggering statistics of deprivation for a region which is economically doing fairly well in terms of its GDP growth.

The human development model has four essential components – productivity, equity, empowerment and sustainability. All of these seem to be missing in the development model followed in South Asia. The productivity component requires investment in people and an enabling macroeconomic environment, so that people can achieve their maximum potential. In the South Asian context, the productivity of the majority of people has

The region has not been able to enhance the capability and improve the opportunity of the majority of its population through provision of and access to healthcare services, as well as access to education

Across South Asia there is huge health deprivation based on gender, location and class

not been a focus of the governments' health or education policies. This is the main reason for the huge magnitude of poverty in this region. But productivity alone cannot sustain economic development or reduce poverty. Productivity is only one component of human development; equal importance is given to equity, empowerment and sustainability.

Equity is a powerful concept from ethical as well as sustainability point of view. Human development model values human life for itself, because it believes that all human beings must be enabled to develop their capabilities to the fullest. 'Equal access to opportunities is based on the philosophical foundations of the universalism of life claims of everyone,' asserted Mahbub ul Haq. But to sustain the process of growth, the capability and opportunity gaps between male/female, rural/urban, rich/poor have to be reduced, and eventually eliminated. Across South Asia there is huge health deprivation based on gender, location and class.

Human development model also requires that people must be empowered with adequate health and education in order to earn an income as well as to exercise their political and economic rights. Health and education deprivation of the majority of population shows the failure of South Asian governments, private sector and civil society to sufficiently empower the people. The empowerment of people requires action on several fronts. There must be increased investment in empowering everyone – women and men, rural and urban dwellers, farmers and non-farmers – with health and education so that they are able to take advantage of economic and political opportunities. However, we must distinguish between the welfare approach of providing basic needs of people through some discreet schemes and the empowerment approach as propounded by human development model. Human development model insists that the capability of people through health and education must be built. People should not be placed on a permanent crutch of charitable schemes, although there may be a need for such safety nets for the very poor.

The concept of sustainability means not only environmental sustainability but, more importantly, the sustainability of growth. If all people, men as well as women, are not empowered with health and education, today's high economic growth rate may not be sustainable tomorrow, as there will not be enough healthy and productive labour force for industry, agriculture and commerce; no knowledgeable mother for bringing up healthy and educated children; and no consumers with adequate income to fuel economic growth. A healthy, productive and empowered workforce is the best investment in a competitive world economy. China is the best example of this strategy.

In this chapter, we explore some of the policy imperatives that are critical to make economic growth more equitable and sustainable through investment in the health of majority of the population. We believe that policies for economic growth with sustained poverty reduction and human development need to be based on the following four principles:

i) Economic growth policies have to be combined with social development policies in order to reduce poverty. Policies for poverty alleviation, health and education have to be integrated with the overall policies for macro-economic growth.

ii) Equity, efficiency and quality of healthcare services have to be improved.

iii) Focus must be on the health of children and women. Empowerment of women is essential to improve the health of South Asia's children.

iv) Private sector, which is the major provider of healthcare in South Asia, has to be encouraged and regulated to provide quality healthcare to the poor.

Link economic growth to human development and poverty reduction

During the last two decades, South Asian economies grew significantly, but as we have documented in *Human Development in South Asia 2002 and 2003*, this economic growth did not translate into better lives for the people. Agricultural and rural income, non-farm employment, and agricultural productivity did not keep pace with the growth of the rest of the economy. Also, the employment did not grow as fast as the growth of the economy. Productivity of the poor did not improve. Growth was, as Mahbub ul Haq would have put it, 'jobless', 'rootless', and sometimes even 'ruthless'.

Too many in South Asia survive below or around the poverty line. Poverty and ill health have a symbiotic relationship. It is not only that poor people are vulnerable to disease and death because of the poor physical environment in which they live, but they are also subject to lack of access to food, education, health services, and income-earning opportunity. These make them vulnerable to stay in poverty or fall deeper into it. If the breadwinner dies, the rest of the family faces a grave risk of poverty and disease. Improving the health of the poor can be an effective strategy to alleviate poverty. This, however, will require more than merely improving the income of the poor, although income is an important determinant of the ability of a person to access healthcare. Adequate nutrition, health and education are just as important as income to move people out of poverty.

Sectors that have or could have significant impact on health outcomes are neglected. Education, especially of women, does not get the priority it deserves. Provision of safe drinking water is far from universal and the quality of even piped water is poor in certain areas. Sanitation facilities are severely inadequate. Few have access to closed, underground drainage systems. Access to toilets is better but still far from universal, and solid waste removal and disposal systems are of poor quality even in large urban areas like Calcutta, Dhaka and Karachi.

The dominant view among the policy makers is to treat health as an output of economic growth, and not as an input. This is evident by the meagre resources that are allocated for health. It is argued that once the economy is strong, everyone will be able to purchase healthcare. That is why in South Asia it is the urban elite who can afford to have quality healthcare. This is a wrong way to look at investment for health. Health is necessary for individual wellbeing, and for growth and development of a country. The linkage between health and economic growth is strong for several reasons. Healthier workers are more productive as they do not lose time due to illness, and they are more energetic and efficient in their performance. Improvement in health also spurs the economy through the impact on demography. If the infant mortality rate is sufficiently lowered, parents will stop producing more children than they need for their old age security. The parents will have much more time and resources to adequately feed, clothe, educate and nurture the number of children they need. As a result these children will grow up to be more robust, energetic and skilled workers in the labour force. A disease-free country will also benefit from increased trade and tourism. But to benefit from these positive effects of a healthy population, macroeconomic policies need to be integrated with the sectoral policies of education and health.

Improving the health of the poor can be an effective strategy to alleviate poverty

Policy recommendations

i) Reduction of poverty should be the top priority. To enhance the productivity of the poor, increased investment in all areas that affect the lives of the poor has to happen including, but not exclusively, increased investment in rural non-farm employment and agricultural productivity, increased access to income and employment in the

informal sector, sustained investment in physical infrastructure.

ii) Increase investment in education. We have been underscoring this point in all our previous reports. Education and skill training is the most important component of human development. The region needs to improve both the quantity and quality of education at each level, from primary, secondary, to tertiary levels. This is critical for adapting to the changing needs of a globalised economy. Also, to improve productivity and wages of workers, a sustained investment in skill improvement in new technologies is essential. Education, especially of women, is shown to have significant positive impact not only on their own health and the health of their children, but on their fertility decisions as well. Educated mothers experience lower mortality and morbidity rates for their children.

The region needs to improve both the quantity and quality of education at each level, from primary, secondary, to tertiary levels

iii) Investment in access to safe water and improved sanitation facilities has significant causal connections with health outcomes, especially infectious and communicable diseases. Water-borne and water-related diseases, like diarrhoea, typhoid, malaria, cholera and hepatitis, still impose a heavy disease and death burden in South Asia. Infants, children and old people are particularly vulnerable to these diseases. Universal access to these basic infrastructure facilities will prevent the spread of these diseases and lower their incidence, and in the medium term it will also lower health expenditure, especially related to vertical programmes targeted at these diseases.

Improve equity, efficiency and quality of healthcare

The public healthcare system suffers from serious shortcomings in coverage and quality of provision. But the services provided are not of poor quality universally. Some groups are hit harder than others. The poor, rural population, the less educated, women and children are especially vulnerable in this regard. Geographical location also matters in most countries. There are regions, like Bihar in India and rural Balochistan in Pakistan, that are particularly vulnerable, while some areas, like Kerala in India, seem to have almost uniform adequate quality provision across the region. These differences or biases, based on income, location, education, gender and other distinctions, raise issues about equity of healthcare provision.

The healthcare provision by the public sector is not adequately funded. Public spending on health is low in South Asia. Overall the region spent around one per cent of GDP in 2001 on health compared to 6.3 per cent in high-income countries, and 2.5 per cent in Sub-Saharan Africa. South Asia, excluding Sri Lanka, is paying a heavy price for poor health that resulted in high levels of morbidity and mortality. While overall spending on health has been low, certain areas have been particularly neglected. These include basic health facilities particularly in rural areas, women and children's health, and control of communicable diseases. Health budgets are allocated unequally and biased in favour of tertiary level facilities in urban areas.

The meagre sums that are spent on health are not being used efficiently resulting in poor health outcomes. What matters for human development is not just the level of social spending, but its quality and effectiveness. Larger allocations alone cannot guarantee better outcomes. There are numerous examples of how social expenditures have often been unable to result in improvements in social indicators. Increased resources for social sector become meaningless in the face of wrong priorities, improper implementation, financial leakages, and ineffective provision. What is needed is a commitment to utilise the available resources efficiently, getting the most out of them.

There is also the need to remove rural-urban gaps that exist in most healthcare provision in South Asia. In all indicators, rural areas fare poorly, as do the socially marginalised groups. The infant, child and maternal mortality rates are higher in rural areas and among the poor. Access to health services in rural areas, especially for reproductive health must be improved in quantity and quality. Addressing these inequities requires major changes in health sector priorities in these countries. Giving high priority to communicable and preventable diseases would help, but to remove other inequities would require specific interventions. For example, removing rural-urban bias might require introduction of mobile health services. These interventions will need to be developed after a careful study of the best way to redress the inequality.

The quality of healthcare facilities is also a major issue that must be addressed. The limited healthcare facilities that are available are of such poor quality that even the poor people prefer to go to private facilities, which too often are of the similar quality. Doctors and staff need to be appropriately trained and retrained. The quality of care, including the behaviour of nurses and staff, must also be improved. Medicines and other supplies should be readily available. Programmes that are initiated must be regularly monitored for efficiency and quality. A huge problem in South Asia is that once a programme is initiated it is hardly ever monitored or checked to maintain a certain level of quality.

There is little ownership for healthcare management or policymaking in the government. Part of the explanation for the low responsiveness of the system to the needs of the poor and other marginalised groups comes from the way health policies are formulated and implemented in South Asia. Though for most countries, health is a state or local subject, health policy is formulated at the central or at best the state level. Participation of the larger populace in the policy debate is minimal. Since policy-making has limited inputs from the populace, these policies receive scant support from the population as well. Since people do not own the policies, they have little motivation to get involved in the implementation process and monitoring and evaluation. The problem of monitoring and evaluation is further complicated by the fact that even at this level there have been few systematic attempts to formally and substantively involve the populace in the process.

Across South Asia, primary level healthcare facilities are characterised by problems of lack of medical equipment and supplies of medicines, lack of staff, staff absenteeism, and indifferent attitude of staff members. There are no effective inventory and supply-chain management systems in place, the staff does not have well-defined and motivating career paths, and there are no effective monitoring and control mechanisms and accounting systems in place. This results in poor coverage and poor quality to the extent that utilisation rates for primary level infrastructure remain poor, and people prefer to go to private sector healthcare providers. Given that this system of primary facilities acting as the outreach for secondary and tertiary services works on a referral system, it is bound to fail if the primary level is not functioning well. If the primary level cannot provide information about preventive measures, cannot provide low-cost curative services, cannot screen cases, the secondary and tertiary services will receive more patients than they can handle and quality of care will deteriorate there.

Secondary and tertiary services have higher utilisation rates, but this is largely due to the high cost of the alternative from the private sector, and the higher population density in the cities as a result of urbanisation and internal migration. Tertiary services, mostly based in large urban areas, tend to have better equipment and more specialists, but these services are not available to the rural poor due to both the distance they have to travel and the logistical cost they have to bear.

The quality of healthcare facilities is also a major issue that must be addressed

Free and quality healthcare for the poor is urgent for reasons of both equity and sustainability

Policy recommendations

i) Health sector funding has to increase substantially: most South Asian countries have never accorded a high enough priority to health sector, with the result that most countries spend less than one per cent of their GDP on health. Even according to the World Health Organization benchmarks, South Asia needs to substantially increase its health sector spending.

ii) Policymaking process has to be decentralised and democratised to allow participation of all stakeholders. This is essential not only to make policy responsive to local needs, it is also essential to involve the community in monitoring and evaluation of public health provision. The current practice of involving experts or selected non-governmental organisations, and a few stakeholders, allows many biases and gaps to slip through. The level of democratisation and community participation is different across the states in South Asia, with exceptions such as Kerala in India and Sri Lanka, but by and large it is still too centralised.

iii) The focus must be on providing basic health facilities to the poor. Free and quality healthcare for the poor is urgent for reasons of both equity and sustainability. Vulnerable groups should be better targeted for service delivery. Women and children, the old, rural population and the poorer segments of the society have greater problems accessing quality healthcare. The same is true for people living in backward and far-flung areas. They carry heavier burdens of disease and mortality. Public health policy needs to encompass the needs of these groups.

iv) Primary healthcare facilities should focus more on preventive health measures rather than curative care. Providing extensive primary level facilities would ensure that diseases are controlled/treated at the first level at a lesser cost than would be required if the disease was ignored and dealt with at the tertiary level. Primary level facilities should be able to deal with most of the problems faced by people. The issues of doctor absenteeism, lack of storage facilities for drugs, attitudes of hospital staff, etc. all need to be improved.

v) The management of the public sector healthcare system needs to be reformed urgently. The system is fraught with inefficiencies, leakages, corruption and wastage. A number of initiatives need to be taken simultaneously:

   a) Public sector healthcare provision needs to incorporate modern management system, including inventory and supply chain management, accounting and control, and modern human resource management systems. These need to be introduced at the federal, state and local levels, and in all public sector programmes and healthcare institutions. Tighter monitoring and evaluation, resulting from the introduction of these new systems, and better incentive structures for health workers, has large potential for improving the quality of healthcare provided by the public sector.

   b) Private-public partnerships to deliver specific services, to provide third party validation, to monitor and evaluate effectiveness and to actually extend the outreach of public services have to be experimented with.

vi) There should be more focus on preventive and promotive care, and knowledge dissemination. South Asia

bears a heavy burden of disease and mortality on account of diseases that can be prevented through relatively inexpensive interventions. But these services can mostly be provided by public sector, or through private-public partnerships.

Focus on health of children and women

In South Asia, too many children die of communicable diseases and too many women become victims of pregnancy-related causes of death. These are all preventable with very little costs. The immunisation rate of children in South Asia is lower than the immunisation rate of children in almost all developing countries except Sub-Saharan Africa. All the four large countries of South Asia have to greatly improve the performance of their immunisation programmes in order to reach universal coverage. One in every ten children die in South Asia before reaching the age of five, which is about 3.6 million children a year. South Asia also has the highest percentage of underweight, stunted and wasted children, underscoring the huge problem of malnutrition of children.

Maternal mortality ratio is unconscionably high in this region. The MDG has set the goal of reducing maternal mortality ratio by three-quarters between 1990 and 2015. But this is unlikely to be achieved, given the pace of progress in providing healthcare services to pregnant women. In South Asia, HIV/AIDS is a threat to all, but women are more vulnerable than men because of their lack of power or voice in sexual matters. The number of children orphaned by the disease is increasing everyday, and the poor, uneducated and powerless women are increasingly being exposed to the virus. The awareness is low, so is the ability of governments to tackle the situation.

The ability of a woman to take care of her own health and that of her children is determined by her own knowledge, ability and, in short, her status in the society. Table 6 of the Background Tables at the end of this Report provides a profile of gender disparity in South Asia. This table is a crude reminder to South Asian policy makers about the deprivation that South Asian women face everyday just because they are born of a different sex. South Asia has 94 women per 100 men (which is a violation of biological norm). There are 43 literate women for every 100 literate men, and only 82 girls per 100 boys are enrolled in primary schools. One can go on reciting these statistics, but the main fact is that after so many conferences that South Asian governments have participated in, and the numerous declarations that they have signed, gross violations against the rights of women in South Asia continue, and even get magnified and perpetuated, particularly in health and education which are the building blocks of human development that are being denied to women in South Asia.

Many of the health problems in South Asia, particularly those related to women, arise out of the cultural norms that discriminate against women. Female infanticide and foeticide is a major problem in South Asia. Women's health and nutrition are often ignored. In many South Asian homes women are often fed last and least. Cultural norms also make it difficult to discuss certain issues openly; sex, contraceptives and fertility issues are particularly avoided. However, these attitudes will have to change and greater awareness would have to be created particularly in controlling the HIV/AIDS epidemic. Creating awareness, particularly among the youth and high-risk groups, about the disease is essential in preventing its spread.

Many cultural practices not only restrict women but also endanger their lives, such as the practice of using unskilled birth attendants for delivery. Many women are prevented from seeking medical treatment by their families. This results in higher rate of female mortality, particularly during pregnancy and delivery.

In South Asia, too many children die of communicable diseases and too many women become victims of pregnancy-related causes of death

The efficiency and access of the ongoing vertical programmes for the health of women and children must be improved

Educational deprivation of women is the biggest hurdle for their economic, social and political empowerment. The benefits of educating women for the health of her children, family and the community go far beyond one generation. *Human Development in South Asia 1998* as well as this Report, document the benefits of female education, and the high costs of not educating women. Female education is positively linked to improving their children's health and reducing their mortality. Education of women also results in better fertility decisions, and increased use of contraceptives. Educated women are aware of the benefits of health hygiene and immunisation of children. They also become aware of their rights to make decisions about the desired size of their family.

Policy recommendations

i) The efficiency and access of the ongoing vertical programmes for the health of women and children must be improved. The access could be improved by integrating these services with the regular healthcare services. The argument is not for their complete integration or assimilation into regular services, but there are positive synergies between regular and vertical programmes that need to be exploited.

ii) As education contributes positively to health of women and children, South Asian governments must ensure equal opportunities to education for all girls in order to address the issues of high fertility and thus maternal mortality, nutrition of mother and child, infant and under-five mortality and the diseases particularly the communicable diseases such as HIV/AIDS and diarrhoea. Primary education should be free and compulsory, as even a little cost of education might force poor parents not to send girls to school. In South Asia, there have been various incentive schemes, such as stipend for families to send their daughters to school, provision of free books, uniforms and one meal etc. These must continue, together with some essential skills that could enable girls to earn an income. It is also important to build health awareness in school about prevention of diseases and nutrition.

iii) As recommended in *Human Development in South Asia 2003*, it is very important to provide employment opportunities to women as income means empowerment for women and better health for the whole family. The elimination of discrimination in pay and at work is vital for providing equal opportunities to women. This can only be attained through appropriate laws and their proper implementation.

iv) Political participation of women is important for enabling women to have a voice in policies that affect their health directly and indirectly. *Human Development in South Asia 2000* recommended that women's political participation be guaranteed through a reservation of one third of seats in legislative, judiciary and executive bodies, quotas in political parties, and affirmative action in parliamentary and civil posts.

v) Maternal mortality should be reduced by providing better access to quality reproductive health services, ensuring family planning services to end unwanted pregnancies, providing quality antenatal care that enables women to recognise the danger signs of pregnancy, ensuring skilled attendance at delivery, and making basic emergency obstetric care available at all units that provide primary healthcare. The family planning and antenatal care services can be provided with the help of community-based health workers in collaboration with the nearest primary

healthcare unit. For ensuring skilled attendance at delivery, the training of traditional birth attendants can be a low-cost intervention that can at least ensure a safer delivery, provided that these birth attendants have the appropriate referral support when the cases are complicated.

vi) Health education for all women is necessary to attain better health outcomes for the whole family. Health education can best be provided through community-based health workers and the media. The countries should focus more on programmes that are based on health information and healthcare through community participation. The media has a wide reach and should initiate awareness-raising campaigns to educate women and men on health issues. NGOs should also work actively, particularly in rural areas, to increase women's awareness about their reproductive health.

Ensure quality of private sector healthcare provision

Private sector presence in the health sector has increased over the last decade and a half. Private sector has always dominated the provision of diagnostic and basic level curative services through private practice of doctors and other health professionals, but the recent entry has been in advanced level tertiary care provision and health education. Tertiary care private sector, based in large urban centers, provides state of the art care in South Asia, but at a price that makes this service accessible to only the rich and/or the well-insured. The rich and the rising middleclass of South Asia are benefitting significantly from these services.

The issue of market in healthcare is a crucial one. Should healthcare be something that is regulated, or indeed provided by the state, or should it be left to the market mechanism? In 1970 Robert Titmuss published *The Gift Relationship,* a classic account of the effect of market forces on heath, which has recently been re-released.[1] The book compared the blood donation systems of the United States (US), where the system was market-driven, and United Kingdom (UK), where it was charity-based. In the US, at that time, blood was a commodity to be bought and sold, whereas in the UK it was a gift that was given to unidentified community members. Data collected by Titmuss showed that the blood donation system in UK was much more efficient. The blood was safer, there was lesser wastage and shortage, fewer diseases were transmitted, and costs were lower. Titmuss argued that by checking the drive to commercialise things, we open the ground for altruism. Titmuss also points out that for increased altruism and creation of public goods, it is necessary that good institutions be in place. This is exactly what South Asia needs to do, to regulate the private sector and strengthen public institutions providing health. In South Asia the private sector needs to be regulated because of the following reasons:

The issue of market in healthcare is a crucial one

- Private healthcare is not necessarily of superior quality in South Asia[2]: Much of the private provision in South Asia is by unqualified practitioners, who are not monitored for the quality of services they are providing. Since there is presently no motivation to record the workings of this sector, there are limited studies on their behaviour. A few studies on the private health sector in India reveal that approximately 30 per cent of the practitioners were not practising allopathic medicine. The facilities in most private health centres were inadequate; they were ill-staffed, with only two per cent employing nurses. Thirty-nine per cent of the hospitals were operating without a doctor, 35 per cent did not have a steriliser, and 44 per cent lacked oxygen cylinders.[3] Other studies show that C-sections are performed unnecessarily by profit-seeking

Box 9.1 'For-profit' hazards in the health sector

Commercialisation in health sector can result in putting money and profit over health. In other sectors, this does not directly lead to dreadful consequences. In the health sector, however, it results in disease, misery and death. Following are a few examples of the harmful consequences of market forces in health:

- Black market for organs.
- Infant milk (marketed as a replacement of breast milk).
- Irrational prescription of drugs.
- Unnecessary C-sections.
- Unscreened 'commercial blood' (blood bought and sold by the private sector is often not screened).
- Sale of drugs that are banned in developed countries.

Private healthcare providers, large or small, need to be regulated

medical practitioners, and the irrational use of drugs and other malpractice is higher for private providers. A significant problem also arises because of the high percentage of traditional practitioners in the region. Although a few of these have alternative remedies for illnesses faced by their community members, many of them are simply quacks.

- Private providers are mostly not interested in preventive services. The majority of people who live in South Asia are ignorant about the advancement in modern health. There is little demand for preventive healthcare such as immunisation and other basic services. It would make sense for private providers for not providing such preventive services because curative services are much more profitable.

- Profit-seeking private providers are not interested in treating the poor.[4] This is evidenced by the rural-urban distribution of private practitioners in the region. In India, for instance, 71 per cent of the hospital beds in the private sector are in the urban areas. This is despite the fact that the majority of the people live in rural areas.

- A little less than half the people in the region, majority of them women, are illiterate. They lack knowledge of medical practices, and drug use. They have no way of confirming whether the treatment or medicine that has been prescribed by doctors (and more often by unqualified practitioners) is truly needed or useful. Private practitioners prescribe more irrational drugs, perform more C-sections, and carry out more general medical malpractice than public providers. Lack of information about prices is another concern, such that there is no mechanism to ensure that poor people do not pay more than is warranted by the quality and amount of treatment they are getting.

- There is limited risk pooling to ease the burden of expensive private healthcare. Insurance schemes in South Asia are extremely limited. In countries where there is successful private provision, there is also a good insurance system. In South Asia, private provision is mostly being financed by direct out-of-pocket payments. This put considerable pressure on households in case of illness, and drives and keeps millions in poverty. Several health market failures limit the possibility of good insurance programme (lack of supply, purchasing power, information about care and prices, and split markets). In addition, there are insurance market failures such as suspicion about insurance programmes, lack of awareness about insurance, high transaction costs, high dropout rates, and lack of cash.[5]

Policy recommendations

i) Private healthcare providers, large or small, need to be regulated, their actions monitored and evaluated periodically by an independent body composed of public, private and NGO representatives. The easy availability of private sector facilities and their profit-making must be balanced by equity and efficiency considerations.

ii) Large corporate private hospitals need to share their gains with the poorest of South Asia by creating a voluntary

fund, to be used according to the decisions of their own board for health of the poor.

iii) The implementation of health insurance schemes for the poor, which is part of religious obligations in many South Asian countries (for example, *Zakat* in Pakistan), need to be properly monitored in order to check their misuse.

iv) Public-private partnership has to be encouraged. This is being tried across South Asia in the last decade and a half. Governments have realised that they do not have adequate funds for health; their management systems are fraught with problems; and that they need private sector expertise in implementation and monitoring. Experiments in partnership are currently underway across the region. These include contracts for service delivery with or without third party validation, sub-contracting of certain services like development of material and information dissemination campaigns, and provision of specific services within vertical programmes.

Health, in the context of pervasive poverty and illiteracy, cannot be addressed separately from all other activities that go on in a country in economic, political and social spheres. A discrete project here and a vertical programme there may show some results for some time, but sustaining the progress requires a holistic plan over a period of time, and a plan that links social sector policies with those of economic and political development policies. Fiscal, monetary and trade policies must be positively connected to health sector goals, as should be the policies for decentralisation and political participation of women and minority groups. In the ultimate analysis it is the people who should matter in development policy, and their health should come first in the political pronouncements of leaders. The political campaigns of western democracies are fought on the issues of medical care, health insurance and drug benefits for the elderly. The question is, why can't the South Asians demand such political commitment from their leadership? We hope this Report will help in shaping some such questions.

Technical Note on Health Index

The Health Index

Health Index (HI) is a composite weighted index of three different indices, each independently showing (i) the status of health in a country (Status Index), (ii) country's commitment to health advancement (Infrastructure Index) and iii) the factors constraining a country from improving health conditions (Limitations Index). These three indices are based on 13 indicators, each indicator carrying a different weight in respect of its significance to the overall health of a country. For the selected indictors and their weights, see figure 1.

Selecting and weighting the indicators

The first step in formulating the Health Index was the selection of the indicators, categorising them and giving weights to each indicator. Thirteen indicators were selected in view of the availability of data and their relevance to health.

The second step was categorising these indictors into three dimensions, each dimension with indicators to measure the country's status of health, commitment to health and the factors that limit the advancement in health. The reasons for selecting these indictors and their weights are:

Maternal mortality ratio and under-five mortality rate are selected as proxy for women's and children's health status. Each is given 40 per cent weight in calculating the Status Index (10 per cent each in HI). Under-nourishment is selected as an indictor for showing a person's vulnerability to disease. The prevalence of underweight in the total population is given 20 per cent weight in the Status Index (five per cent in HI).

Public expenditure on health was selected as being the most critical indicator showing the commitment of governments to health. This indictor is given 30 per cent of the weight in Infrastructure Index (15 per cent in Health Index). The availability of skilled attendance at birth and the high rate of child immunisation are considered as important factors in lowering mortality rates of mothers and children. Each is given 20 per cent weight in Infrastructure Index (ten per cent each in HI). The ratio of physicians per 1,000 population indicates the availability of doctors in a country and the country's ability to cope with prevention and treatment of the diseases. This indicator carries ten per cent weight in Infrastructure Index (five per cent in HI). Access to safe water and sanitation are crucial requirements for prevention of diseases. In Infrastructure Index, each has a weight of ten per cent (five per cent each in HI).

As discussed in this Report, poverty is the most important constraint to good health. Poverty rate is given 40 per cent weight in Limitations Index (ten per cent in HI). Adult illiteracy rate is another indicator impacting negatively on health. It is given 30 per cent weight in Limitations Index (7.5 per cent in HI). Low levels of contraceptive prevalence contribute to increasing maternal mortality. Contraceptive prevalence rate carries a 15 per cent weight in Limitations Index (3.75 per cent in HI). Finally, the prevalence of smoking, being one of the main reasons for many diseases and deaths, carries 15 per cent weight in Limitations Index (3.75 per cent in HI).

The Health Index may not be the perfect index. No single number can hope to capture all the essential features of health. We have tried to be as

comprehensive as possible in the construction of the Index, with the use of 13 variables to represent health status, infrastructure and limitations. The indicators selected were the ones we thought most relevant and revealing in the context of health situation in different countries. Consideration was also given to the reliability and accuracy of data. The weights assigned were also based on a judgement of the relative importance of each of the indicators in the context of health outcomes of a country. The intention was to construct an index parallel to the Human Development Index (HDI) but focussed exclusively on health issues.

Many would differ in their opinions regarding the indicators used, weights assigned and perhaps even the construction of the Index itself. This is why each step in the construction of the Index was made transparent: the choice of indicators and the weights assigned to each indicator are clearly mentioned so that others can change or experiment with the index by assigning different weights to the indicators or by omitting or adding more variables. We have also given examples of how the index is calculated for specific countries.

Calculating the Health Index

To calculate the HI, each indicator has been standardised to the values 0 to 1 using the following formulas:

- For the indicators for which the highest value indicates the benchmark (higher the value the better it is) i.e. for contraceptive prevalence rate, public expenditure on health, children's immunisation rate, skilled attendance at birth, access to water and sanitation, and doctor per 1,000 population ratio, Indicator Index value = (Actual value – Minimum value) / (Maximum value – Minimum value)

- For the indicators for which the lowest value indicates the benchmark (lower the value the better it is) i.e. for poverty rate, maternal mortality ratio, under-five mortality ratio, undernourishment, adult illiteracy rate and prevalence of smoking, Indicator Index value = (Actual value – Maximum value) / (Minimum value – Maximum value).

Table 1 shows the maximum and minimum values for each indicator used for calculating the index value for each indicator and the data sources of the indicator.

After the standardisation of the data for each indicator, Status, Infrastructure and Limitations Indices are calculated as the weighted average of Indicator Index values. Subsequently, HI is calculated as the weighted average of these three indices (see figure 1).

While calculating the Health Index, the problem of missing data for some countries was solved by using three different averages for each indicator depending on the development level of the country according to the HDI. The averages used for each indicator and for each development level are provided in table 2.

Table 1 Maximum and minimum values used in calculating Indicator Index value

Indicator	Maximum value	Minimum value	Data source
Maternal mortality ratio (per 100,000 live births)	2000	0	UNDP 2004
Under-five mortality rate (per 1,000 live births)	284	3	UNDP 2004
Undernourished people (as a % of total population)	75	0	UNDP 2004
Public expenditure on health (as a percentage of GDP)	8.1	0.4	UNDP 2004
Skilled attendance at birth (%)	100	6	UNDP 2004
Children immunised for measles (%)	99	33	UNDP 2004
Physicians per 1,000 population %	607	1	UNDP 2004
People who have access to safe water (%)	100	24	UNDP 2004
People who have access to sanitation (%)	100	8	UNDP 2004
Adult illiteracy rate (%)	87.2	0	UNDP 2004
People living below US$ 1 a day (%)	72.8	0	UNDP 2004
Contraceptive prevalence rate (%)	84	4	WB 2004
Prevalence of smoking (%)	52	5.5	UNDP 2004

Figure 1 Summarising the Health Index

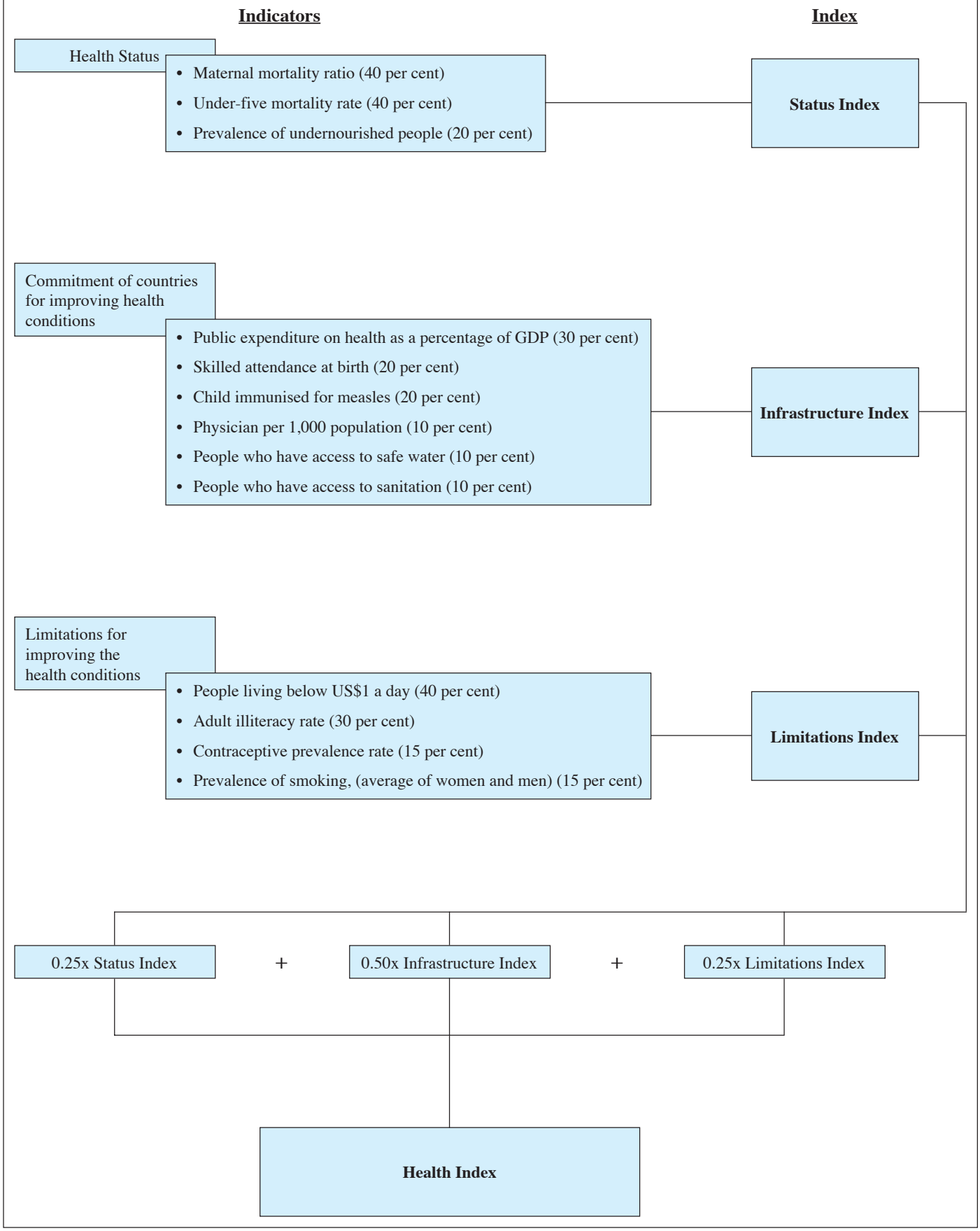


Table 2 Averages used for missing data

	High human development	Medium human development	Low human development
Maternal mortality ratio (per 100,000 live births)	24.5	196	…
Under-five mortality rate (per 1,000 live births)	9.2	…	…
Undernourished people (as a % of total population)	0.0	16.2	35.1
Public expenditure on health (as a percentage of GDP)	5.0	2.9	…
Skilled attendance at birth (%)	98.8	79.9	40.3
Children immunised for measles (%)	91.7	…	…
Physicians per 1,000 population %	…	…	10.8
People who have access to safe water (%)	97.5	81.8	58.6
People who have access to sanitation (%)	96.7	77.2	49.0
Adult illiteracy rate (%)	0.0	…	…
People living below US$ 1 a day (%)	0.0	15.4	41.6
Contraceptive prevalence rate (%)	62.4	52.1	18.6
Prevalence of smoking (%)	28.4	29.4	24.8

The missing values for people living below US$1 a day, adult illiteracy rate and the prevalence of undernourished people are assumed to be zero for countries that are in the high development category of HDI.

Calculating the Health Index: An illustrative example from the developing world

The illustration of the calculation of the Health Index uses data for Mexico.

1. Calculating the Status Index

The Status Index shows the relative status of health in a country. It is calculated in two steps i) each indicator used in this group (see figure 1) is calculated as a separate index that receives values 0 to 1 and ii) the indices of indictors are combined to create the Status Index. For Mexico, with maternal mortality ratio of 83, under-five mortality rate of 29 and undernourishment prevalence rate of five per cent, the status index is calculated as **0.9331**.

Maternal Mortality Index:
= (83-2000) / (0-2000)=0.9585
Under-five Mortality Index:
= (29-284) / (3-284)=0.9075
Undernourishment Index:
= (5-75) / (0-75)=0.9333

Status Index:
= (0.40 x Maternal Mortality Index Value) + (0.40 x Under-five Mortality Index Value) + (0.20 Undernourishment Index Value)

= (0.40 x 0.9585) + (0.40 x 0.9075) + (0.20 x 0.9333)= **0.9331**

2. Calculating the Infrastructure Index

The Infrastructure Index measures the relative achievement of a country in building an appropriate infrastructure and base to improve the health status of its citizens. Therefore, the Infrastructure Index shows the relative commitment of government for the betterment of health status. Mexico spends 2.7 per cent of its GDP on health, 86 per cent of births are attended by skilled attendants, there are 156 doctors per 1000 population, 88 per cent of its people have access to safe water and 74 per cent to sanitation, and 96 per cent of children are immunised for measles. Mexico's Infrastructure Index value is **0.6323**.

Public Spending Index:
= (2.7-0.4) / (8.1-0.4) = 0.2987
Skilled Attendance Index:
= (86-6) / (100-6) = 0.8510
Immunisation Index:
= (96-33) / (99-33) = 0.9545
Physicians Index:
= (156-1) / (607-1) = 0.2558
Access to Water Index:
= (88-24) / (100-24) = 0.8421
Access to Sanitation Index:
= (74-8) / (100-8) = 0.7174

Infrastructure Index:
= (0.30 x Public Spending Index) +
(0.20 x Skilled Attendance Index) +
(0.20 x Immunisation Index) +
(0.10 x Physicians Index) +
(0.10 x Access to Water Index) +
(0.10 x Access to Sanitation Index)

= (0.30 x 0.2987) + (0.20 x 0.8510) +
(0.20 x 0.9545) + (0.10 x 0.2558) +
(0.10 x 0.8421) + (0.10 x 0.7174) =
0.6323

3. Calculating the Limitations Index

Mexico's adult illiteracy rate is 9.5 per cent, poverty rate 9.9 per cent, contraceptive prevalence rate 67 per cent, and prevalence of smoking is 34.5 per cent. The Limitations Index is calculated to be **0.7875.**

Poverty Index:
= (9.9 - 72.8) / (0 - 72.8) = 0.8640
Illiteracy Index:
= (9.5 - 87.2) / (0 - 87.2) = 0.8911
Contraceptive Index:
= (67 - 4) / (84 - 4) = 0.7875
Smoking Index:
= (34.5 - 52) / (5.5 - 52) = 0.3763

Limitations Index:
= (0.4 x Poverty Index) +
(0.3 x Illiteracy Index) +
(0.15 x Contraceptive Index) +
(0.15 x Smoking Index)

= (0.4 x 0.8640) + (0.3 x 0.8911) +
(0.15 x 0.7875) + (0.15 x 0.3763)
= **0.7875**

4. Calculating the Health Index

After calculating these indices, the Health Index is calculated as a weighted average of these three indices. The Health Index value for Mexico is **0.7463**.

Health Index:
= (0.25 x Status Index) +
(0.50 x Infrastructure Index) +
(0.25 x Limitations Index)

= (0.25 x 0.9331) + (0.50 x 0.6323) +
(0.25 x 0.7875) = **0.7463**

Calculating the Health Index: An illustrative example from the developed world

The illustration of the calculation of the Health Index uses data for Canada.

1. Calculating the Status Index

Canada, with maternal mortality ratio of six, under-five mortality rate of seven, and undernourishment prevalence rate of zero per cent (assumption), the Status Index is calculated as **0.9931**.

Maternal Mortality Index:
= (6-2000) / (0-2000) = 0.9970
Under-five Mortality Index:
= (7-284) / (3-284) = 0.9858
Undernourishment Index:
= (0 - 75) / (0 - 75) = 1

Status Index:
= (0.40 x Maternal Mortality Index
Value) + (0.40 x Under-five Mortality
Index Value) + (0.20 x
Undernourishment Index Value)

= (0.40 x 0.9970) + (0.40 x 0.9858) +
(0.20 x 1) = **0.9931**

2. Calculating the Infrastructure Index

Canada spends 6.8 per cent of its GDP on health, 98 per cent of births are attended by skilled attendants, it has 187 doctors per 1,000 population, 100 per cent access to safe water and sanitation, and 96 per cent of children are immunised against measles. The Infrastructure Index for Canada has been calculated to be **0.8667**.

Public Spending Index:
= (6.8 - 0.4) / (8.1 - 0.4) = 0.8312
Skilled Attendance Index:
= (98 - 6) / (100 - 6) = 0.9787
Immunisation Index:
= (96 - 33) / (99 - 33) = 0.9545

Physicians Index:
= (187 - 1) / (607 - 1) = 0.3069
Access to Water Index:
= (100 - 24) / (100 - 24) = 1
Access to Sanitation Index:
= (100 - 8) / (100 - 8) = 1

Infrastructure Index:
= (0.30 x Public Spending Index) +
(0.20 x Skilled Attendance Index) +
(0.20 x Immunisation Index) +
(0.10 x Physicians Index) +
(0.10 x Access to Water Index) +
(0.10 x Access to Sanitation Index)

= (0.30 x 0.8312) + (0.20 x 0.9787) +
(0.20 x 0.9545) + (0.10 x 0.3069) +
(0.10 x 1) + (0.10 x 1) = **0.8667**

3. Calculating the Limitations Index

Canada's adult illiteracy rate and poverty rate are assumed to be zero, contraceptive prevalence rate is 75 per cent, and the prevalence of smoking is 25 per cent. The Limitations Index is calculated to be **0.9202**.

Poverty Index:
= (0 - 72.8) / (0 - 72.8) = 1
Illiteracy Index = (0 - 87.2) / (0-87.2) =1
Contraceptive Index:
= (75 - 4) / (84 - 4) = 0.8875
Smoking Index:
= (25 - 52) / (5.5 - 52) = 0.5806

Limitations Index:
= (0.4 x Poverty Index) +
(0.3 x Illiteracy Index) +
(0.15 x Contraceptive Index) +
(0.15 x Smoking Index)

= (0.4 x 1) + (0.3 x 1) + (0.15 x 0.8875)
+ (0.15 x 0.5806) = **0.9202**

4. Calculating the Health Index

After calculating the three indices, the Health Index is calculated as a weighted average of these indices. The Health Index value for Canada is calculated to be **0.9117**.

Health Index:
= (0.25 x Status Index) +
(0.50 x Infrastructure Index) + (0.25 x Limitations Index)

= (0.25 x 0.9931) + (0.50 x 0.8667) +
(0.25 x 0.9202) = **0.9117**

Notes

Chapter 1

1 Baer *et al*. 2003.
2 Fidler 2000.
3 Ibid.
4 Braveman and Gruskin 2003.
5 World Bank 1995b.
6 Alleyne and Cohen 2002.
7 Farmer 1999.
8 Ibid.
9 Marks 2003.
10 As of November 2003, India, Bangladesh, Nepal and Sri Lanka have ratified this Covenant.
11 UN 2004.
12 UNHCR 2004.
13 Mann 1994.
14 WHO 2004g.
15 Gruskin and Tarantola. 2000.
16 World Bank 2004j.
17 UNDP 2003a.
18 Fogel 1997.
19 UNPD 2004b.
20 Bloom and Sachs 1998.
21 Alleyne and Cohen 2002.
22 World Bank 1993.
23 Alleyne and Cohen 2002.
24 Sachs 2001, p. 39.
25 Braveman and Gruskin 2003.
26 Alleyne and Cohen 2002.
27 Dasgupta 1993.
28 Skold 1998.
29 Deaton 2001.
30 Skold 1998.
31 UNDP 2004.
32 Sachs 2001.
33 Chaudhry 2002.
34 Jha and Mills 2002.
35 Sachs 2001, p. 55.

Chapter 2

1 Diaz-Bonilla *et al*. 2002.
2 World Bank 2004j.
3 WHO 2003c.
4 Zaidi, Awasthi and Desliva 2004.
5 Ibid.
6 SPARC 2002.
7 World Bank 2004j.
8 UNICEF and Micronutrient Initiative 2004.
9 Gaffar *et al*. 2004.
10 Ibid.
11 World Bank 2004j.
12 Watson 2000.
13 Ibid.
14 WHO 2004j.
15 WHO 2003b.
16 Ibid.
17 Ibid.
18 Basnyat 2004.
19 Ibid.
20 Rahman 2003.
21 Basnyat 2004.
22 World Bank 2001b.
23 World Bank 2003a.
24 UNDP 2004.
25 UNICEF 1998.
26 FAO 2003b.
27 MHHDC 2003.
28 FAO 2003b.
29 ILO 2000.
30 World Bank 2003a.
31 UNDP, UNOPS and CRPRID 2003.
32 One-year-old fully immunised against measles is taken as a proxy for the overall immunisation.
33 WHO and UNICEF 2000.
34 This is based on health criteria; the guideline value of arsenic in drinking water would be less than 0.01.
35 WHO and UNICEF 2000.
36 MOHN, New ERA and ORCM 2002.
37 WHO and UNICEF 2000.
38 Ibid.
39 Data is from MHHDC 1997 and 2003, calculated by MHHDC staff.
40 MHHDC 1997.
41 UNDP 2003a.
42 These include World Development Indicators of World Bank, Human Development Report of UNDP and World Health Report of WHO.
43 UNDP 2003a.
44 Ibid.

Chapter 3

1 Strauss 1998.
2 Case 2003.
3 Cleason 1999.
4 GOS 2002.
5 Patel 2004.
6 NIPORT, MA and ORCM 2001.
7 IIPS 2002.
8 GOP 2002c.
9 NIPORT, MA and ORCM 2001.
10 Increased fluids mean breast milk and other liquids.

11 IIPS 2002.
12 Zaidi, Khan and Akram 2004.
13 Ibid.
14 NIPORT, MA and ORCM 2001.
15 MOHN, New ERA and ORCM 2002.
16 WHO 2002a.
17 Ibid.
18 IIPS 2002.
19 GOS 2002.
20 MOHN, New ERA and ORCM 2002.
21 Ibid.
22 UNICEF 2001a.
23 WHO 2001.
24 UNICEF 2001a
25 Ibid.
26 Mishra 1999.
27 GOP and UNICEF 2004.
28 UNICEF and Micronutrient Initiative 2004.
29 WHO 2000a.
30 Ibid.
31 Ibid.
32 OMNI 1996.
33 Mason 1999.
34 Ibid.
35 WHO 2000a.
36 Iqbal 1990.
37 UNICEF 1997.
38 Exclusive breastfeeding is defined as proportion of infants under the age of four months who receive only breast milk. Till 2001 the recommended time period of exclusive breastfeeding was 0-3 months, in 2002 WHO and UNICEF launched a Global Strategy on Infant and Young Child Feeding and called for governments to take renewed action. The recommended period of exclusive breastfeeding increased to six months.
39 IIPS 2002.
40 NIPORT, MA and ORCM 2001.
41 MOHN, New ERA and ORCM 2002.
42 Gordon *et al*. 2003.
43 Absolute poverty is defined as: 'a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to social services.' Gordon *et al*. 2003.
44 Gordon *et al*. 2003.
45 Ibid.

Chapter 4

1 This chapter draws on, and expands with new research and data, Chapter 7, 'Health of Girls and Women in South Asia' in MHHDC 2000.
2 This includes only seven South Asian countries; namely India, Pakistan, Bangladesh, Nepal, Sri Lanka, Bhuttan and Maldives, therefore may differ from the statistics provided by WHO, UNICEF and UNFPA 2002.
3 Dewan 1998.
4 World Bank 1993
5 Smith *et al*. 2003.
6 World Bank 1993.
7 WHO 2002b.
8 Ransom and Elder 2003 and WHO 1998.
9 John Hopkins Bloomberg School of Public Health 1999.
10 GOP and UNICEF 2004; IIPS 2002 and MOHN, New ERA and ORC 2002.
11 UNICEF and Micronutrient Initiative 2004.
12 WHO 2004l.
13 WHO 2003c.
14 WHO, UNFPA and UNICEF 2002.
15 Maternal death is defined as 'The death of a women while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, form any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.' WHO 1992a.
16 Ransom and Yinger 2002.
17 Obstetric fistula is an opening, which develops between the vagina and bladder and/or rectum mostly as a result of prolonged and obstructed labour that occurs when women are out of reach of emergency obstetric care when it is essential. Women who develop fistula do not have control over urine and bowel movements and have to bear physical, physiological and social impacts of constant wetness. They often lose their baby at birth, suffer from genital ulcerations and infections, and bear the shame of constant odor. They are usually blamed for their condition and abandoned by their husbands and communities.
18 This includes only seven South Asian countries; namely India, Pakistan, Bangladesh, Nepal, Sri Lanka, Bhuttan and Maldives, therefore may differ from the statistics provided by WHO, UNICEF and UNFPA 2002.
19 Maternal mortality ratio (MMR) is the number of maternal deaths per 100,000 live births. It indicates the risk of maternal death among pregnant women and who have recently delivered. MMR for the countries are the estimates and has wide margins therefore should be analysed accordingly. WHO, UNICEF and UNFPA 2002.
20 WHO 2004l.
21 Ransom and Yinger 2000 and WHO 2004l.
22 Antenatal care (ANC) refers to pregnancy-related healthcare provided by a doctor or a health worker in a medical facility or at home.
23 WHO 2003a.
24 Ibid.
25 MOHN, New ERA and ORCM 2002.
26 NIPORT and ORCM 2002.
27 UNICEF, WHO and UNPFA 2000.
28 GOS 2002.
29 NIPORT, MA and ORCM 2001.

30 MOHN, New ERA and ORCM 2002.
31 NIPORT and ORCM 2002.
32 Total fertility rate (TFR) is defined as the number of children a woman would have by the end of her childbearing years if she were to pass through those years bearing children.
33 Gajanajake and Caldwell 1990.
34 Gubhaju and Moriki-Durand 2003.
35 Abeykoon 2000.
36 Gubhaju and Moriki-Durand 2003.
37 Ibid.
38 Contraceptive prevalence rate here is used as the percentage of women that are aged 15-49 and currently using any method of contraceptives.
39 UNFPA 2004e.
40 Total unmet need has been estimated by multiplying number of women in reproductive age group with the share of women with unmet need.
41 MHHDC 2000.
42 Around a quarter of births in South Asian countries are unwanted- either not wanted at all or mistimed. The percentage of unwanted births are highest in Nepal (35.4 per cent), followed by Bangladesh (32.8 per cent), Pakistan (28.3 per cent), India (21.3 per cent) and Sri Lanka (16.3 per cent). GOS 2002; IIPS 2002; MOHN, New ERA and ORCM 2002; NIPS 2001 and NIPORT, MA and ORCM 2001.
43 Unsafe abortion is defined as a procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal standards or both. WHO 1992b.
44 GOS 1995.
45 IIPS 2002.
46 NIPORT, MA and ORCM 2001.
47 MOHN, New ERA and ORCM 2002.
48 GOS 2002 and NIPS 2001.
49 'The Programme of Action builds upon the World Population Plan of Action, adopted at the World Population Conference held in Bucharest in 1974, and the recommendations adopted at the International Conference on Population, held in Mexico City in 1984. It also builds on the outcomes of the World Summit for Children (1990), the UN Conference on Environment and Development (1992), and the World Conference on Human Rights (1993). In turn, the ICPD's major emphases were reaffirmed at the World Summit for Social Development and the Fourth World Conference on Women, both held in 1995'. UNFPA 2004d.

Chapter 5

1 This happens usually when the CD4 white blood cells which are responsible for raising immune responses to the diseases drop below 200 per mm^3 of blood.
2 WHO 2004h.
3 WHO 2004m.
4 Over *et al*. 2004
5 UNAIDS 2004.
6 Ibid.
7 Despite the loss of population as a share of total population of these countries do not imply a huge impact, the death toll only in these countries during the next decade will be double of the total death toll of AIDS till now.
8 UNPD 2004a.
9 World Bank 2004j.
10 Since life expectancy is a component of HDI.
11 UNDP 2003a.
12 UNAIDS 2004.
13 Palanigounder *et al*. 2002.
14 Basu *et al*. 1997.
15 UNAIDS 2004.
16 Monasch and Snoad 2003.
17 UNAIDS 2002c.
18 Rosen *et al*. 2003.
19 UNAIDS 2002c.
20 Ibid.
21 FAO 2003a.
22 As cited in UNAIDS 2002c
23 As cited in UNAIDS 2004.
24 UNAIDS 2004.
25 UNAIDS 2002c.
26 As cited in UNAIDS 2004
27 UNAIDS 2002c and 2004.
28 The accurate estimation of the HIV cases is difficult since the factors that put people at risk vary widely within the country. Therefore estimated data should be analysed accordingly.
29 The data is for 1999. Rao 2004.
30 UNAIDS 2004.
31 According to NACO 2004, there were an estimated 4.58 million were living with HIV/AIDS in India in 2002.
32 According to NACO 2004, the adult prevalence rate is 0.8 per cent.
33 NACO 2004.
34 Ibid.
35 The first case of HIV/AIDS was reported in 1986 in Karachi. The person living with HIV/AIDS was an African sailor.
36 GOP and UNAIDS 2000.
37 The News 2004.
38 UNAIDS 2002c and 2004.
39 UNAIDS 2002b and World Bank 2003e.
40 UNAIDS 2004.
41 World Bank 2004g.
42 A local level study shows that only 16 per cent of drug user have heard about HIV/AIDS and only four per cent ever used condoms in Quetta and 55 per cent of them use unclean injections. UNAIDS and WHO 2003.
43 UNAIDS, UNICEF and WHO 2004f.
44 UNAIDS, UNICEF and WHO 2004a.
45 Ibid.

46 Ibid.
47 USAID 2004.
48 UNAIDS 2004.
49 UN 2003.
50 UNAIDS, UNICEF and WHO 2004g.
51 World Bank 2004h and YOUANDAIDS 2004c.
52 UNAIDS, UNICEF and WHO 2004b.
53 World Bank 2004b.
54 Ibid.
55 UNAIDS, UNICEF and WHO 2004d.
56 Kaiser Family Foundation 2002.
57 UNAIDS 2004.
58 GOS 2002.
59 WHO 2004m.
60 UNAIDS, UNICEF and WHO 2004a, g.
61 UNAIDS, UNICEF and WHO 2004a, e, g.
62 UNDP 2004.
63 IOM and UN 2000.
64 YOUANDAIDS 2004a.
65 IOM and UN 2000.
66 YOUANDAIDS 2004a.
67 IOM and UN 2000.
68 World Bank 2004e.
69 FHI 2002.
70 Ibid.
71 FHI 2001.
72 Ibid.
73 The BSS of India, has shown higher awareness levels than the table figures provided in table 5.3. Seventy per cent of the women and 82.4 per cent of men surveyed in 2001 were aware of HIV/AIDS. However a high proportion of women (61.7 per cent) and men (44.5 per cent) reported not to be aware of the ways of avoiding HIV/AIDS (includes having an uninfected partner and condom use only). MeasureDHS 2004.
74 UNAIDS 2004.
75 UNAIDS 2000b.
76 APN+ 2004.
77 Ibid.
78 UNAIDS and WHO 2003.
79 Bharat *et al*. 2001.
80 Yusufzai 2004.
81 UNAIDS 2003.
82 WHO 2004m.
83 UNAIDS 2003.
84 The estimated number of people who inject drugs in South Asia is around 620,000-645,000. Reig and Costigan 2002.
85 FHI 2001 and UNAIDS, UNICEF and WHO 2004a-g.
86 UNAIDS, UNICEF and WHO 2004c.
87 UNAIDS, UNICEF and WHO 2004f.
88 UNAIDS 2004.
89 YOUANDAIDS 2004d.
90 UNAIDS 2004.
91 MAP 2004.
92 Ibid.
93 UNAIDS, UNICEF and WHO 2004f.
94 MAP 2004.
95 As cited in UNAIDS 2004.
96 World Bank 2004f.
97 World Bank 2003d.
98 UNAIDS 2004.
99 WHO 2004k.
100 UNGASS was held in June 2001. During the meeting the countries committed to combat against HIV/AIDS and accepted a Declaration of Commitment. The Declaration established various goals that include reducing the HIV infections among children and young people, enhancing HIV/AIDS education, healthcare and access to ARV treatment and to increase the support to orphans.
101 WHO 2004k.
102 'WHO recommends that in ARV treatment programmes in resource-limited settings HIV infected adolescents and adults should start ARV therapy when they have clinical AIDS, regardless of CD4 count. When total lymphocyte count can be assessed, in addition people with WHO stage II or III HIV disease should be offered treatment. When CD4 counts are available, all HIV infected people with less than 200 CD4 cells/mm^3 should be offered treatment.' WHO 2004h.
103 UNAIDS 2004 and WHO 2004m.
104 UNAIDS 2004.
105 Maqbool 2004.
106 See Chapter 1.
107 Human Rights Watch 2003.
108 Bharat *et al*. 2001.
109 World Bank 2004c.
110 GOP and UNAIDS 2001.
111 UN 2003.
112 World Bank 2004h.
113 World Bank 2004b.
114 World Bank 2003e.
115 World Bank 2004a.
116 World Bank 2004e.
117 World Bank 2004h.
118 World Bank 2004b, d.

Chapter 6

1 BBS (Bangladesh Bureau of Statistics) has been producing these estimates since 1980 under Sample Vital Registration Project.
2 BIDS 2001.
3 GOB 2003c.
4 National sources record MMR as 320 per 100,000 live births. GOB 2003c, and NIPORT and ORCM 2002.
5 NIPORT and ORCM 2002.
6 NIPORT, MA and ORCM 2001.
7 Akhter 1996 and NIPORT, MA and MII 1997.
8 Akhter 1996 and Begum 1997.
9 NIPORT, MA and ORCM 2001.
10 Ibid.
11 As cited in GOB 1999b.
12 Jahan and Hossain 1998.

13 Ibid.
14 Begum 1997.
15 Levinson 1998.
16 Jahan and Hossain 1998.
17 Chakravarti 1992.
18 NIPORT, MA and ORCM 2001.
19 GOB 2003d.
20 Sanitary latrine includes latrine with septic tank, water sealed ones and slab latrines
21 GOB 1999a.
22 Streatfield *et al*. 2002.
23 No national level statistics are available for this.
24 BICCDR, various issues, Demographic Surveillance System.
25 Begum 1996.
26 Akhter 1996; Ahmed *et al*. 1998; and Begum 1997.
27 Begum 1996.
28 Haider *et al*.1997.
29 Streatfield *et al*. 2002.
30 A Union is comprised of three wards.
31 Around 11,000 to 13,000 several thousand community clinics were established in 2000 under the HPSP. These clinics aim at seting up a more pro-poor healthcare delivery system and located at the village level. The main aim of them is to provide one-stop accessible essential health services to the most deprived population groups (women, children and the very poor). In each locality a community group (CG), composed of local government representatives, local service providers and local residents committed to social work and representing various professions and social classes including the landless and women, would be responsible for the operation of the clinic and delivery of health service to the residents of the community through a one stop service for reproductive and primary healthcare. The strategy was to mobilise community participation and ownership of the clinic by building the two-roomed clinic on land donated by the village and by having the community share costs of construction and operation of the clinic with government. However, the operation and functional performance of the CGs has been constrained by several factors (See Mahmud 2003). Although the CGs were supposed to be formed through broad-based local consultation in reality the selection of members of the CG was quite selective and usually biased towards better-off and professional classes, sometimes limiting acceptability within the community. CGs are frequently referred to as the 'personal family hospital' of some influential local elite. Lack of official recognition from the MoHFW has also contributed to the absence of authority and credibility of the CGs. There is also usually absence of effective leadership and proper delineation of authority and responsibility within the CG, generally rendering the CG non-functional.
32 Mannan *et al*. 2003.
33 UMIS 2001.
34 Ibid.
35 Ahmed and Shuaib 1995; Begum and Sen 1996; CIET 2001 and Khan 1988.
36 Begum 1996 and Rabbani *et al*. 1997.
37 Begum 1996.
38 NIPORT, MA and ORCM 2001.
39 Ibid.
40 Talukder *et al*. 1991.
41 NIPORT, MA and ORCM 2001.
42 Ahmed and Shuaib 1995.
43 UMIS 2001.
44 Ibid.
45 Ibid.
46 Ibid.
47 Ahmad and Shuaib 1995.
48 GOB 2003d.
49 Ibid.
50 GOB 2001a.
51 Ibid.
52 Begum and Sen 2000 and Rannan-Eliya and Somanathan 1999.
53 Base year is 1993/94.
54 GOB 2001a.
55 ESP includes Behaviour Change Communication (BCC), Reproductive Healthcare, Child Healthcare, Communicable Disease Control, and Simple (Limited) Curative Care. GOB 1997a.
56 GOB 1996a.
57 Oral saline, vaccines for childhood diseases, tetanus toxoid for pregnant women, TB and leprosy diagnosis and treatment and vitamin A capsule.
58 GOB 1973, p. 538. 15 crore is equal to 150 million.
59 Women typically do not have any choice regarding contraceptive method and require husband's permission to obtain an MR.
60 UN 1995.
61 Reduce maternal mortality rate by 75 per cent and reduce infant mortality by 65 per cent.
62 The WHO Commission on Macroeconomics of Health estimated the average cost of the set of essential interventions at US$34 per person per year. GOB 2003a.
63 Poor quality of services have been related to many factors including inadequate attention given to patients by the doctors, non-availability of medicines and supplies, long waiting time, poor maintenance of equipment, unhygienic conditions, the overemphasis on contraceptive acceptance but neglect of follow-up care, widespread absenteeism of medical personnel, inadequate training and knowledge of service providers, and so on. BRAC 1991; Khan 1988 and UBINIG 1998.
64 UBINIG 1998.

65 They fall into three broad categories: fee for service, fee for commodity and fee for access.
66 In some surgical cases unofficial fees are 10-12 times the expected amount of official fees cases. GOB 1997b.
67 GOB 1997b.
68 GOB 2003b.
69 The Daily Star 2003.
70 Mannan *et al*. 2003 and World Bank and ADB 2003.
71 Improvement in child survival can be linked to the increased coverage of immunisation under the EPI, which was launched in 1979 but intensified in 1989. This programme attained quite spectacular success very quickly with the per cent of children fully immunised reaching 62 per cent in five years from a mere two per cent in 1989. Chowdhury *et al*. 2002.
72 These values and practices are eroded by modernisation and improvements in women's status.
73 Begum 1996.
74 These include long waiting time, absenteeism among providers, unofficial fees, poor hygiene, disrespectful behaviour from public providers and so on.
75 World Bank and ADB 2003.
76 Mannan *et al*. 2003.
77 Ibid.
78 Ibid.
79 Share of all public expenditure accruing to the poor is estimated at 45 per cent, their share in the population is 50 per cent and in total income is 26 per cent, so health expenditure pattern reduces inequality and adds proportionately more to the welfare of the poor. ESP allocations to child health reduce inequality the most and is strongly pro poor, while limited curative care is most unequal. World Bank and ADB 2003, p. 70.
80 World Bank and ADB 2003.
81 Mannan *et al*. 2003.
82 During the 1980s reforms included mainly the withdrawal of agriculture and food subsidies, privatisation of the state owned enterprises, the withdrawal of quantitative import restrictions and a credit squeeze. In the early 1990s reforms were included making the currency convertible on the current account, reducing import duties, and removing virtually all controls on the movements of foreign capital.
83 Mahmud and Mahmud 2000.
84 Mahmud and Mahmud 2000 and World Bank and ADB 2003.
85 Taka 10.7 billion in 1994 to Taka 19.7 billion in 2000. World Bank and ADB 2003.
86 Mahmud and Mahmud 2000.
87 Chowdhury and Sen 1997.
88 In the mid-1990s Bangladesh had 12,500 people per doctor and 20,000 people per nurse.
89 The share of primary healthcare expenditure in total public healthcare expenditure declined from 39 per cent in 1990-91 to 33 per cent in 1993-94, while the share of secondary healthcare increased from 34 per cent to 42 per cent and that of family planning declined from 26 per cent to 24 per cent. Chowdhury and Sen 1997.
90 Chowdhury and Sen 1997.
91 World Bank and ADB 2003.

Chapter 7

1 This is an edited version of a paper prepared for this report by Dr. Mohan Rao. The views expressed are author's own.
2 GOI 2002a.
3 Ibid.
4 Acharya *et al*. 2000.
5 WHO 1978.
6 GOI 1983.
7 Bimaru stands for Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh and Orissa. Together they account for more than 40 per cent of India's population. Bimar of course means sick in Hindustani.
8 GOI 2001b.
9 IIPS 2002.
10 Misra *et al*. 2003.
11 Patel 2004.
12 Premi 2001.
13 UNFPA 2003c.
14 ORGI 2000b.
15 IIPS 2002.
16 Qadeer 1998.
17 Rao 2002.
18 Ad Hoc Committee on Health Research, WHO. As cited in Misra *et al*. 2003.
19 NNMB 1999.
20 GOI 2002a.
21 The average calorie consumption was 2,172 Kcal as against the RDA of 2,425 Kcal. NNMB 1999.
22 A comparison cannot be made with NFHS-1 on stunting since height was not measured in five states during NFHS-1.
23 The Body mass index (BMI) is defined as the weight in kilograms divided by the height in metres.
24 Mild anaemia is defined as haemoglobin levels between 10-10.9 grams/dl for pregnant and 10.11.9 grams/dl for non-pregnant women; moderate anaemia as 7-9.9gms/dl and severe anaemia as less than 7.0 gms/dl. Anaemia is one of the leading underlying causes of death in the country among women, not just among the pregnant.
25 GOI 2001b, p. 7.
26 There are discrepancies in the government documents, as is evident. World Bank 2000e.
27 World Bank 2000e.

28 WHO 2000b.
29 The Health Survey and Development Committee, also known as the Bhore Committee, was set up before Independence to indicate the nature and content of health services in India. It drew up an ambitious blue-print which could be regarded as an early model of Primary Health Care for universal and comprehensive health services. The Bhore Committee report was accepted by the independent government of India.
30 As cited in Misra *et al*. 2003.
31 Krishnan 1999.
32 Misra *et al*. 2003.
33 Plasmodium falciparum is an organism that causes to malaria.
34 Zurbrigg 2001.
35 NACO 2004. The recent estimates of UNAIDS records number of HIV+ cases in India as 5.1 million, see UNAIDS 2004.
36 Ramasundaram 2002.
37 Over *et al*. 2004.
38 NACO 2004.
39 UNAIDS 2002a.
40 NACO 2004.
41 IIPS 2002.
42 Marmot *et al*. 1991 and Davey *et al*. 2001.
43 Anand 2000.
44 Misra *et al*. 2003.
45 GOI 1980.
46 Dreze and Gazdar 1997.
47 GOI 2002a.
48 GOI 2002b.
49 Kamath 2001.
50 Banerji 1971.
51 Misra *et al*. 2003.
52 Chakraborty 2001.
53 GOI 2002b.
54 Uplekar and Rangan 1996.
55 Uplekar and Shepard 1991.
56 Uplekar and Cash 1991.
57 NACO 2004.
58 UNAIDS 2002a.
59 Bhosale 2004.
60 GOI 2002b.
61 Ibid.
62 Misra *et al*. 2003.
63 Misra *et al*. 2003, p. 72.
64 GOI 2002b.
65 Rao 2003.
66 Misra *et al*. 2003.
67 GOI 2002b.
68 Nandraj 2000.
69 GOI 2002b.
70 Baru 1998.
71 Nandraj and Duggal 1997.
72 Homan and Thankappan 1999.
73 Phadke *et al*. 1995.
74 Qadeer *et al*. 1994.
75 Shah 1997.
76 Banerjee *et al*. 2004.
77 Baru 1998.
78 Nandraj *et al*. 2001.
79 World Bank 1995a.
80 Nandraj *et al*. 2001.
81 Baru 1999.
82 Bhat 1998.
83 Nandraj *et al*. 2001.
84 Nandraj 1994.
85 GOI 2002b.
86 Ibid.
87 Sengupta 1996.
88 Sen *et al*. 2002.
89 Ibid.

Chapter 8

1 Easterly 2003.
2 In 2002, 40.6 per cent of the population were in 0-14 years age bracket in Pakistan, while the percentage for Bangladesh was 36.2, India 32.8 and 25.6 percent for Sri Lanka. World Bank 2004j.
3 World Bank 2004j.
4 Zaidi, Khan and Akram 2004.
5 GOP 2002c.
6 GOP 1999a.
7 As cited in World Bank 2002b.
8 Ibid.
9 Statistics are based on various small survey studies cited in the document. Save the Children 2001.
10 Save the Children 2001.
11 Fikree *et al*. 2002.
12 Around 70 Pakistani children under the age of five dies every hour. PAP 2002.
13 World Bank 2002b.
14 WHO, UNICEF and UNFPA 2002.
15 Tinker 1998.
16 Soomro 2000.
17 Tinker 1998.
18 Population Council 2002.
19 It is still the case that marriages happen earlier for women and they happen earlier in rural areas. For males the marriage transition begins three years after females.
20 World Bank 2002b.
21 GOP and UNICEF 2004.
22 Ibid.
23 Easterly 2003.
24 Sachs 2001.
25 GOP 1994b. p. 325.
26 Hakim 2001.
27 World Bank 2002a.
28 Hakim 2001.
29 GOP 1993.
30 Tinker 1998.
31 WHO, GOP and Heart File 2004.
32 Ibid.
33 Hyder and Morrow 2000.
34 Ibid.
35 GOP 2001b.
36 WHO, GOP and Heart File 2004.

37 World Bank 2004j, i.
38 GOP 1994b.
39 UNDP, UNOPS and CRPRID 2003.
40 Whooping cough.
41 GOP 1983.
42 GOP 2002c.
43 Ibid.
44 These LHWs are distinct from those employed by the PLHWP.
45 Cheema and Mohmnd 2004.
46 A BHU was available in all of their sample villages.
47 Poor public health facilities differentially impact the poor and marginal classes. They shift to more expensive private sector facilities but these are also of poor quality.
48 GOP 1994a.
49 Non-profit sector does provide these services but they are still small in number and coverage.
50 Though there are concerns about lack of regulatory environment for them. This is addressed later in the policy section.
51 Pakistan is signatory to various international conventions such as the Convention on the Rights of Children (CRC), Convention on the Elimination of Discrimination Against Women (CEDAW), and ILO Convention 182 to combat the worst forms of child labour.
52 See Zaidi 2000.
53 World Bank 2002c.
54 World Bank 2002b.
55 GOP 2003a.

Chapter 9

1 Emanuel 1997 and Titmuss 1997.
2 Rao 2004.
3 Ibid.
4 Weber 2002.
5 Ibid.

References

Abbasi, W. 2004. Alarming rise in HIV/AIDS Prevalence. *The Nation*, September 10, p.1.

Abeykoon, A.T.P.L. 2000. Fertility Transition in Sri Lanka: Programme and Non-programme Factors. *Asia-Pacific Population Journal* 15(1): 55-63.

Acharya, A., R.V. Baru, and G.B. Nambissan. 2000. The State and Human Development: Health and Education. In *Fifty Years of Crossing a Bridge of Dreams: India and China*, eds. G.P.Deshpande and Alka Acharya, 203-67. New Delhi: Tulika.

Actionaid. 2003. *Time to act: HIV/AIDS in Asia*. Bangalore.

ADB (Asian Development Bank). 2004. *Asian Development Outlook 2004*. Manila.

AEGIS (AIDS Education Global Information System). 2002. Thai court rules against Bristol-Myers on Aids drug. Available at http://www.aegis.com/new/re/2002/RE21001.html.

Ahmed, M., and M. Shuaib. 1995. *Health Care: Current Issues, in Experience with Economic Reforms: A review of Bangladesh's Development* 1995. Dhaka: University Press Limited.

Ahmed, S., P. A. Khanum, and A. Islam. 1998. Maternal morbidity in rural Bangladesh: where do women go for care? Bangladesh International Centre for Diarrhoeal Disease Research Working Paper No: 113. Available at http://202.136.7.26/pub/publication.jsp?classificationID=47&pubID=4354

Akhter, H.H. 1996. *A Cross-sectional Study on Maternal Morbidity in Bangladesh*. Bangladesh Institute of Research for Promotion of Essential & Reproductive Health Technologies (BIRPERHT) Publication No: 112. Dhaka.

Alleyne, G., and D. Cohen (chairs). 2002. Health, economic growth, and poverty reduction, The Report of Working Group 1 of the Commission on Macroeconomics and Health. Geneva: WHO.

Anand, K. 2000. Report on Assessment of Burden of Major Non-communicable Diseases in India. New Delhi: WHO.

APN +(Asia Pacific Network of People Living With HIV/AIDS). 2004. AIDS Discrimination in Asia. Available at http://www.gnpplus.net/regions/files/AIDS-asia.pdf

Ashford, L. 2002. Hidden Sufferings: Disabilities From Pregnancy and Childbirth in Less Developed Countries. Population Reference Bureau Policy Brief. Available at http://www.prb.org.

Baer, H., M. Singer and I. Susser. 2003. Medical Anthropology: Central Concepts and Development. In *Medical Anthropology and the World System, 2nd* ed. London: Praeger.

Banerjee A. *et al*. 2004. Health Care Delivery in Rural Rajasthan. *Economic and Political Weekly*, 39(9).

Banerji, D. 1971. Tuberculosis as a Problem of Social Planning in India. *NIHAE Bulletin*, 4(1): 9.

Baru, R.V. 1998. Private Health Care in India: Social Characteristics and Trends. New Delhi: Sage.

_____. 1999. NGOs in Health Care: Implications for Public Health. Paper presented at the *Global Social Policy Programme Seminar*, Kalliokoski, Finland.

Basnyat, D., L.C. Rajapaksa. 2004. Tobacco related harm in South Asia. *British Medical Journal* (BMJ) 328: 780. Available at http://www.bmj.com.

Basu, A.M., B.D. Gupta and K. Geetanjali. 1997. The econom ic impact of adult morbidity and mortality: some implications of the potential epidemic of AIDS in India. In David E. Bloom and Peter Godwin (ed), *The economics of HIV and AIDS*. Oxford University Press.

Begum, S. 1996. Health Dimension of Poverty. In H.Z Rahman *et al*. (eds.), *The Dynamics of Poverty in Rural Bangladesh*, 1987-95. Dhaka: UPL.

_____. 1997. Prenatal Health and its Determinants in Rural Bangladesh. Bangladesh Institute of Development Studies. (mimeo)

Begum, S. and B. Sen. 1996. *Heath Poverty Interface Study*. Geneva: WHO.

_____. 2000. Not Quite, Not Enough: Financial Allocation and the Distribution of Resources in the Health Sector, Research Report No.167. Dhaka: Bangladesh Institute of Development Studies.

Bharat, S., P. Aggleton and P. Tyrer. 2001. *India: HIV and AIDS-related Discrimination, Stigmatization and Stigmatization and Denial*. Geneva: UNAIDS.

Bhat, R. 1998. Private Health Care Sector in India: Issues Arising out of its Growth and the Role of the State in Strengthening Public-Private Interaction. Unpublished Document. Ahmedabad: I.I.M.

Bhosale, V. 2004. Women and AIDS in India: Doubly Discriminated. In *The Unheard Scream: Reproductive Health and Women's Lives in*

India, Kali for Women/Zubaan, ed. Mohan Rao, Part 12. New Delhi.

BICC (Bonn International Centre for Conversion). 2004. *Conversion Survey 2004: Global Disarmament, Demilitarization and Demobilization*. Oxford University Press.

BICDDR (Bangladesh International Centre for Diarrhoeal Disease Research). Various years. *Demographic Surveillance System (DSS)*. Dhaka.

_____. 2000. *Health and Demographic Surveillance System—Matlab. Vol. 31*. Scientific Report No. 87. Dhaka.

BIDS (Bangladesh Institute of Development Studies). 1996. Baseline Survey on Maternal and Neonatal Health Care in Selected Districts of Bangladesh. Dhaka (mimeo)

_____. 2001. *Fighting Human Poverty: Bangladesh Human Development Report 2000*. Dhaka: BIDS and Government of Bangladesh.

Bloom, D., and J. Sachs. 1998. Geography, demography, and economic growth in Africa. *Brookings Papers on Economic Activity* 2: 207–295.

Bloom, D., and D. Canning. 2000. The Health and Wealth of the Nation. *Science* 287: 1207-9.

BRAC (Bangladesh Rural Advancement Committee). 1991. *A Tale of Two Wings*: *Rural Study Series*. Dhaka: BRAC.

Braveman, P., and S. Gruskin. 2003. Poverty, equity, human rights and health. *Bulletin of the World Health Organization* 81(7): 539.

Case, A., A. Fertig, C. Paxson. 2003. From Cradle to Grave? The Lasting Impact of Childhood Health and Circumstance. Center for Health and Wellbeing, Princeton University.

Chakraborty, A.K. 2001. Tuberculosis Program in India: Current Operational Issues. In *Public Health and the Poverty of Reforms: The South Asian Predicament,* eds. Imrana Qadeer, Kasturi Sen and K.R Nay. New Delhi: Sage

Chakravarti, I. 1992. *Nutrition Profile of the Developing Countries in Asia-Pacific Region*. Bangkok. FAO/WHO Regional Office for Asia and the Pacific.

Chaudhry, K. 2002. Tobacco control in India. In *50 years of Cancer Control in India*, Agarwal S.P.A *et. al*. eds., 204-219. Available at http://www.mohfw.nic.in/pg204to219.pdf

Cheema, A., and S. K. Mohmnd. 2004. Provision Responses to Devolved Services Delivery Case: Evidences From Jaranwala Tehsil. Final Draft LUMS-McGill-CIDA Social Enterprise Development Program.

Chowdhury, A. M. *et al.* 2002. Who gets vaccinated in Bangladesh? The immunization divide. Equity Watch Paper No.1. Dhaka: Bangladesh Health Equity Watch.

Chowdhury, O. H., and B. Sen. 1997. *Role of Public Expenditure in Poverty Alleviation in Bangladesh*, Draft. Dhaka: Bangladesh Institute of Development Studies.

CIET (Central Institute of Education Technology). 2001. *Health and Population Sector Program (1998-2003)-Service Delivery Survey, Second Cycle 2000 (final report)*. Dhaka: CIET Canada and Ministry of Health and Family Welfare. Government of Bangladesh.

Claeson, M., Duard, B. and Indra, P.1999. Reducing Child Mortality in India: Keeping up the Pace. Health Nutrition and Population Discussion Paper World Bank. Available at http://www.worldbank.org/hnp/Pubs_Discussion/Claeson-ReducingChildMortality-whole.pdf.

Cleland, J., and L. Louisiana.1997. Population and Policies in Bangladesh, Pakistan. *Forum for Applied Research and Public Policy* 12 (2): 46-50.

Cross H., K. Hardee and J. Ross. 2002. Completing the Demographic Transition in Developing Countries. Policy Occasional Paper No.8. Available at http://www.policyproject.com/pubs/occasional/op-8.pdf

Dasgupta, P. 1993. *An inquiry into well-being and destitution*. New York: Oxford University Press.

Davey, S. G., D. Gunnel, Y. Ben-Shlomo. 2001. Life-Course Approaches to Socio-Economic Differentials in Cause-Specific Adult Mortality. In *Poverty Inequality and Health: An International Perspective,* eds. D.Leon and Gill Walt, 88-124. London: Oxford University Press.

Deaton, A. 2001. Health, Inequality, and Economic Development. Commission on Macroeconomics and Health, Working Paper Series, WG1: 3.

Dewan, A. 1998. Occupational and environmental health of women. Available at http://www.org/womenwatch/daw/csw/papers

Diaz-Bonilla, E., J. Babinard and M. Per Pinstrup-Andersen. 2002. Globalising Health Benefits For Developing Countries. Washington. Trade Macroeconomics division discussion paper. International Food policy Research Institute (IFPI).

DORP (Development Organization of the Rural Poor). 2003. *Health in Poverty Reduction Strategy: Bangladesh Perspective, Report 2003: Searching Micro Situation*. Dhaka.

Dreze, J., and H. Gazdar. 1997. *Uttar Pradesh: The Burden of Inertia*. World Institute for Development Economic Research.

Easterly, W. 2003. The Political Economy of Growth Without Development: A Case Study of Pakistan. In Dani Rodrik (ed.), *In Search of Prosperity: Analytical Narratives on Economic Growth*. New Jersey: Princeton University Press.

Emanuel, E. 1997. Is health care a commodity? *The Lancet 350: 1713-1714*.

FAO (Food and Agricultural Organisation of the United Nations). 2003a. Mapping the march of HIV/AIDS in rural Africa. Available at http://www.fao.org/english/newsroom/news/2003/25359-en.html.

_____. 2003b. *The State of Food Insecurity in the World 2003*. Rome: FAO.
_____. 2004. FAOSTAT. Database. Available at http://apps.fao.org/default.jsp
Farmer, P. 1999. Pathologies of Power: Rethinking Health and Human Rights. *American Journal of Public Health* 89(10): 1486-96.
FHI (Family Health International). 2001. What Drives HIV in Asia: A Summary of Sexual and Drug-Taking Behaviors. Available at http://www.fhi.org/en/hivaids/pub/survreports/hiv_asia_sexdrugs_summary.htm
_____. 2002. Behavioural Surveillance Survey in the Highway Route of Nepal: Round No. 4. Available at http://www.fhi.org/en/HIVAIDS/pub/survreports/sexworkersnepal.htm
Fidler, D. 2000. *International Law and Public Health: Materials on and Analysis of Global Health Jurisprudence*. New York: Transnational Publishers.
Fikree, F. F., S.I. Azam, and H.W. Berendes. 2002. Time to Focus Child Survival Programmes on the newborn: assessment of levels and causes infant mortality in rural Pakistan. *World Health Organization Bulletin* 80(4): 271-276.
Fogel, R.1997. New findings on secular trends in nutrition and mortality: some implications for population theory. In *Handbook of population and family economic*s Rosenzweig M.R. and Stark O., eds., 1A: 433–481. Elsevier Science Pub. Co.
Gaffar, A., K.R. Srinath and M. Singhi.2004. Burden of non-communicable diseases in South Asia. *British Medical Journal (BMJ)* 328: 807-810. Also available at http//www.bmj.com.
Gajanajake, I., and J. Caldwell. 1990. Fertility and Its Control: The Puzzle of Sri Lanka. *International Family Planning Perspectives* 16(3): 97-102.
Global Fund. 2004a. The Global Fund Annual Report 2003. Geneva. Also available at http://www.theglobalfund.org/en/
_____. 2004b. The Global Fund to Fight Against AIDS, Tuberculosis and Malaria Official Website. Available at http://www.theglobalfund.org/en/
GOB (Government of Bangladesh). 1973. *The First Five-Year Plan 1973-78*. Dhaka: Planning Commission.
_____. 1996a. Balancing Future Resources and Expenditures in the Government of Bangladesh Health and Population Sectors, Research Paper No.3. Dhaka: Ministry of Health and Family Welfare.
_____. 1996b. The Constitution of People's Republic of Bangladesh, 1972. Available at http://www.pmo.gov.bd/constitution
_____. 1997a. Health and Population Sector Strategy. Ministry of Health and Family Welfare. (mimeo).
_____. 1997b. Unofficial Fees at Health Care Facilities in Bangladesh: Price, Equity, and Institutional Issues, Research Note 10. Health Economics Unit. Dhaka: Ministry of Health and Family Welfare.
_____. 1998. *Statistical Yearbook for 1996*. Dhaka: Bangladesh Bureau of Statistics.
_____. 1999a. *Census of Slum Areas and Floating Population 1997, Volume I*. Dhaka.
_____. 1999b. *Statistical Pocketbook 1998*. Dhaka.
_____. 2000. *Statistical Pocketbook 1999*. Dhaka.
_____. 2001a. Public Expenditure Review of the Health and Population Sector Programme, Research Paper No: 19. Dhaka: Ministry of Health and Family Welfare. Dhaka.
_____. 2001b. *Report of Health and Demographic Survey 2000*. Dhaka: Ministry of Health and Family Welfare.
_____. 2002a. Population Programme and Reproductive Health including Family Planning program in Bangladesh. Paper presented to the Fifth Asian pacific Population Conference, Bangkok 11-17 December 2002. Available at http://www.unescap.org/pop/5appc/papers/Bangladesh_country_report.doc
_____. 2002b. *Statistical Pocketbook 2002*. Dhaka.
_____. 2003a. *A National Strategy for Economic Growth, Poverty Reduction and Social Development*. Dhaka: Ministry of Finance, Economic Relations Division.
_____. 2003b. *Bangladesh Economic Survey 2003*. Dhaka: Ministry of Finance.
_____. 2003c. *Report on Sample Vital Registration System 1999-2001*. Dhaka: Planning Division. Ministry of Planning.
_____. 2003d. *Report on the Household Income and Expenditure Survey 2000*. Dhaka: Planning Division.
GOI (Government of India). Various issues. *Directory of Hospitals in India*. New Delhi: Ministry of Health and Family Welfare.
_____. Various issues. *Health Information of India 1999*. New Delhi: Ministry of Health and Family Welfare.
_____. 1946. Bhore J. Report of the Health Survey and Development Committee.
_____. 1980. *Report of the Working Group on Population Policy*. New Delhi: Ministry of Health and Family Welfare
_____. 1983. *National Health Policy 1983*. New Delhi: Ministry of Health and Family Welfare.
_____. 1987. *National Sample Survey, 42nd Round*. New Delhi: National Sample Survey Organization.
_____. 1997. *Ninth Five-Year Plan 1997-2002 Volume II*. New Delhi: Planning Commission.
_____. 1998a. *Directory of Hospitals in India*. New Delhi.
_____. 1998b. *National Sample Survey, 52nd Round*. New Delhi: National Sample Survey Organisation.

_____. 2000. *Rural Health Statistics 2000*. New Delhi: Ministry of Health and Family Welfare.
_____. 2001a. *Census of India 2001: Provisional Population Totals*. New Delhi: Registrar General and Census Commissioner.
_____. 2001b. *Draft National Health Policy 2001*. New Delhi: Ministry of Health and Family Welfare
_____. 2002a. H*ealth Information of India 1999*. New Delhi: Ministry of Health and Family Welfare.
_____. 2002b. *Tenth Five Year Plan*. New Delhi: Planning Commission.
_____. 2004. Constitution of India. Available at http://indiacode.nic.in/coiweb/welcome.html
GON (Government of Nepal). 1990. Constitution of the Kingdom of Nepal, 1990. Available at http://asnic.utexas.edu/asnic/countries/nepal/nepalconstitution.html
_____. 2003. *The Tenth Plan (Poverty Reduction Strategy Paper) 2002–2007*. Kathmandu: National Planning Commission.
GOP (Government of Pakistan). Various issues. *Economic Survey*. Islamabad: Ministry of Finance.
_____. Various issues. *Federal/Provincial Govt. Budget Documents*. Islamabad: Ministry of Finance.
_____. Various issues. *Five Year Development Plans 1955/60-1993-98*. Planning Commission.
_____. Various issues. Pakistan Council of Research in Water Resources Newsletter. http://www.pcrwr.gov.pk/newletter.htm
_____. 1983. *The Sixth Five-Year Plan 1983-88*. Karachi.
_____. 1990a. *National Health Policy 1990*. Islamabad: Ministry of Health.
_____. 1990b. *Pakistan Integrated Household Survey 1989-90*. Islamabad: Federal Bureau of Statistics.
_____. 1993. *Pakistan Integrated Household Survey 1992-93*. Islamabad: Federal Bureau of Statistics.
_____. 1994a. *National Health Survey 1990-94*. Islamabad: Ministry of Health.
_____. 1994b. *The Eight Five-Year Plan1993-98*. Islamabad.
_____. 1997. *National Health Policy 1997*. Islamabad: Ministry of Health.
_____. 1999a. *Pakistan Integrated Household Survey 1998-99*. Islamabad: Federal Bureau of Statistics.
_____. 1999b. *The Study of the Role of Extent and Regulation of Private Sector in Health Care Delivery in Pakistan*. Islamabad.
_____. 2001a. *National Health Policy 2001*. Islamabad: Ministry of Health.
_____. 2001b. Pakistan Demographic Survey 2001. Available at http://www.statpak.gov.pk/depts/fbs/statistics/pds2001/pds2001.html
_____. 2001c. *Ten Year Perspective Plan 2001-11 and Three Year Development Programme 2001-04*. Islamabad: Planning Commission.
_____. 2002a. *Annual Report Of Director General Health 2000-01*. Islamabad.
_____. 2002b. Country report of Pakistan. Presented to the Fifth Asian pacific Population Conference, Bangkok 11-17 December 2002. Available at http://www.unescap.org/pop/5appc/papers/Pakistan_country_report.doc
_____. 2002c. *Pakistan Integrated Household Survey 2001-02*. Islamabad: Federal Bureau of Statistics. Also available at http://www.statpak.gov.pk
_____. 2003a. *Accelerating Economic Growth and Reducing Poverty: The Road Ahead (Poverty Reduction Strategy Paper)*. Islamabad: Ministry of Finance.
_____. 2003b. *Economic Survey 2002-03*. Islamabad: Ministry of Finance.
_____. 2004a. *Economic Survey 2003-04*. Islamabad: Ministry of Finance.
_____. 2004b. National EPI Programme. (mimeo)
_____. 2004c. The Constitution of Pakistan, 1973. Available at http://www.pakistani.org/pakistan/constitution/
GOP (Government of Pakistan) and UNAIDS (Joint United Nations Programme for HIV/AIDS) 2000. *HIV/AIDS in Pakistan: A Situation and Response Analysis*. Islamabad.
_____. 2001. *National HIV/AIDS Strategic Framework 2001-2006*.Islamabad: UNAIDS.
GOP (Government of Pakistan) and UNICEF (United Nations Children's Fund). 2004. *National Nutrition Survey of Pakistan 2001-02*. Islamabad.
GOP (Government of Pakistan) and WHO (World Health Organization). 2004. *Forging Alliance for Health With Legislators, Promoting People's Health Through Improved Access to Primary Health Care*. Islamabad: Print Style.
Gordon, D., S. Nandy, C. Pantazis, S. Pemberton and P. Townsend. 2003. *Child poverty in Developing Countries*. Southampton: Hobbs the Printers Ltd.
GOS (Government of Sri Lanka). 1995. *Sri Lanka Demographic Health Survey 1993*. Colombo.
_____. 2002. *Sri Lanka Demographic and Health Survey 2000*. Pitakotte: State Printing Corporation.
_____. 2004. Constitution of Sri Lanka, 1978. Available at http://www.priu.gov.lk/Cons/1978Constitution/
Gruskin, S., and D. Tarantola. 2000. Health and Human Rights. The François-Xavier Bagnoud Center for Health and Human Rights at Harvard University, Working Paper Series No: 10.
Gubhaju B., and Y. Moriki-Durand. 2003. Fertility Transition in Asia: Past Experiences and Future Directions. *Asia-Pacific Population Journal* 18(3): 41-68.

Guest, P. 2003. Reproductive Health including Family Planning. *Asia Pacific Population Journal* 18(2): 55-78.

Haider, S.J., M. S. Hossain, Q.A. Samad, A.K.M. Islam, and M. Ahmed. 1997. Case Specific Health Care Services Utilization and Health Care Expenditure at Individual and Household Level: Regional and Socio-Demographic Differentials, 1994 and 1995. Monograph No. 12. Dhaka: Bangladesh Bureau of Statistics.

Hakim, K. F. 2001. *Economics of Health Sector Reforms in Pakistan*. Islamabad: Ad-Rays Printers.

Haq, Mahbub ul. 1995. *Reflections on Human Development*. New York: Oxford University Press.

Homan, R.K., and K.R. Thankappan. 1999. *An Examination of Public and Private Sector Sources of In-patient Care in Trivandrm District, Kerala*. Menon Centre for Health Services. Thiruvananthapuram: Achuta.

Human Rights Commission of Pakistan. 2004. *State of Human Rights in 2003*. Lahore: *Maktaba Jadeed Press.*

Human Rights Watch. 2003. Ravaging The Vulnerable: Abuses Against Persons at High Risk of HIV Infection in Bangladesh. Vol. 15 (6): C.

Hyder, A. A., and R. H. Morrow. 2000. Applying Burden of Disease Methods in Developing Countries: A Case study from Pakistan. *American Journal of Public Health*, 90(8): 235-1240.

IIPS (International Institute of Population Sciences). 1995. *National Family Health Survey 1992-93, (NFHS-1)*. Bombay: IIPS.

_____. 2002. *National Family Health Survey (NFHS- 2) 1998-99*. Mumbai.

ILO (International Labour Organization). 2000. *Sustainable Agriculture in a Globalised Economy. Report for Tripartite meeting on moving to sustainable Agriculture development through the modernization of agriculture and employment in a globalised economy*. Geneva: ILO.

INFS (Institute of Food Science and Nutrition). 1998. *Bangladesh National Nutrition Survey 1995/96*. Dhaka: University of Dhaka.

IOM (International Organisation for Migration) and UN (United Nations). 2000. *World Migration Report 2000*. Geneva.

Iqbal, H. S., and J. Khanna. 1990. Breastfeeding, Infant Health and Child Survival in Context of Asia and Pacific. *Asia- Pacific Population Journal*, 5(1): 25-43.

Jahan, K., and M. Hossain. 1998. *Nature and Extent of Malnutrition in Bangladesh: Bangladesh National Nutrition Survey, 1995/96*. Dhaka: INFS, Dhaka University.

Jha, P., and A. Mills (chairs). 2002. Improving Health Outcomes of the Poor. The Report of Working Group 5 of the Commission on Macroeconomics and Health. Geneva: WHO.

John Hopkins Bloomberg School of Public Health. 1999. Dietary Vitamin A Supplements Improve Maternal Survival In South Asia. Available at http://www.scienceblog.com/community/older/1999/B/199901648.html

Jones, G. W. 2001. Population Issues For Pakistan: Perspectives from the Wider Islamic World. Pakistan's Population Issues in the 21st Century. PAP Conference Proceedings 24-26 October 2000, Karachi. xi-xxi.

Kaiser Family Foundation. 2002. HIV/AIDS Policy Fact Sheet: The Global Impact of HIV/AIDS on Youth. Available at http://www.kff.org/hivaids/6039-02.cfm

Kamath, V. 2001. Private Practitioners and their Role in the Resurgence of Malaria in Mumbai and Navi Mumbai, India: Serving the Affected or Aiding the Epidemic. *Social Science and Medicine*, 52(6).

Khan, M. R. 1988. *Evaluation of Primary Health Care and Family Planning Facilities in Rural Areas of Bangladesh*. (ed.) Research Monograph No.7. Dhaka: Bangladesh Institute of Development Studies.

Klasen, S., and C. Wink. 2000. A turning point in gender bias in mortality? An update on the number of missing women. *Population and Development Review* 28(2): 285-312.

Krishnan, T.N. 1999. Access to Health Care and Burden of Treatment in India. In *Disinvesting in Health: The World Bank's Prescriptions for Health,* ed. Mohan Rao, 208-232. New Delhi: Sage.

Lancaster, J. 2004. Surgeries, Side Trips for India's Tourists. *The Washington Post*, October 21, A26.

Levinson, F. J. 1998. *Bangladesh Nutrition Sector Review. Preliminary Documents.* Dhaka.

Mahal, A. *et al*. 2000. Who Benefits from Public Health Spending in India. New Delhi: National Council of Applied Economic Research.

Mahmud, S. 2003. Increasing voice and influence in the health sector in rural Bangladesh: Is there a role for community participation? Dhaka: Bangladesh Institute of Development Studies. (Mimeo).

Mahmud, S., and W. Mahmud. 2000. Policies, Programs, and Financing Since the International Conference on Population and Development: Bangladesh Case Study. In S. Forman and R. Ghosh eds. *Promoting Reproductive Health: Investing in Health for Development*. London: Lynne Reinner Publishers.

Mahmud, S, and S. Begum. 2004. Health Status in Bangladesh: An Overview. Paper prepared for *Human Development in South Asia 2004*. (mimeo).

Mann, J. 1994. Health and Human Rights. *Health and Human Rights* 1(1): 7-23.

Mannan, M., M. Sohail and K. J. Hossain. 2003. *Public Health Services Utilization Study*. Dhaka: Ministry of Health and Family Welfare, Health Economics Unit and Bangladesh Institute of Development Studies.

MAP (Monitoring the AIDS Pandemic Network). 2004. AIDS in Asia: Face the Facts. Available at http://www.mapnetwork.org/docs/MAP_AIDSinAsia2004.pdf

Maqbool, S. 2004. Five centres to provide free HIV/AIDS treatment by end 2004. *The News,* June 12.

Marks, S. 2003. Health from a human rights perspective. The François-Xavier Bagnoud Center for Health and Human Rights at Harvard University, Working Paper Series No: 14.

Marmot, M.G., *et al*. 1991. Health Inequalities among British Civil Servants: The Whitehall II Study. *Lancet* (337): 58-59.

Mason, J., M. Venkatesh and M. Nancy. 1999. Controlling Micronutrient Deficiency in Asia and Pacific. Asian development Bank. Availabe at http://www.adb.org

MeasureDHS. 2004. India National baseline BSS among General Population 2001. HIV/AIDS Indicators Database. Available at http://www.measuredhs.com/hivdata/surveys/

MHHDC (Mahbub ul Haq Human Development Centre). 1997. *Human Development in South Asia 1997*. Karachi: Oxford University Press.

_____. 1998. *Human Development in South Asia 1998: The Education Challenge*. Karachi: Oxford University Press.

_____. 1999. *Human Development in South Asia 1999: The Crisis of Governance*. Karachi: Oxford University Press.

_____. 2000. *Human Development in South Asia 2000: The Gender Question*. Karachi: Oxford University Press: Karachi.

_____. 2001. *Human Development in South Asia 2001:Globalisation and Human Development*. Karachi: Oxford University Press.

_____. 2002. *Human Development in South Asia 2002: Agriculture and Rural Development*. Karachi: Oxford University Press.

_____. 2004. *Human Development in South Asia 2003: The Employment Challenge*. Karachi: Oxford University Press.

Mir, A. M., F. F. Fikree, N. Mahmood, and M. Sultana. 2004. Quality of Women's Reproductive Health Services in Pakistan: Final Report. Population Council. (Mimeo).

Mishra, V., L. Subrata and L. Norman. 1999. Child nutrition in India. National Family Health Survey Subject Reports No. 14. International Institute for Population Studies. Mumbai.

Misra, R., R. Chatterjee and S. Rao. 2003. *India Health Report*. New Delhi: Oxford University Press.

MOHN (Ministry of Health, Nepal), New ERA, and ORCM (ORC Macro). 2002. *Nepal Demographic and Health Survey 2001*. Calverton, Maryland, USA: Family Health Division, Ministry of Health; New ERA; and ORCM.

Monasch, R., and N. Snoad. 2003. The Situation of orphans in a region affected by HIV/AIDS. Paper presented at the scientific meeting on Empirical Evidence for the Demographic and Socio-economic Impact of AIDS, hosted by the Health Economics and HIV/AIDS Research Division (HEARD), Durban, 26-28 March.

MSF (Medicens Sans Frontires). 2004. Official website. Available at http://www.accessmed-msf.org

NACO (National AIDS Control Organization, India). 2001. India National Baseline BSS among General Population 2001. Available at http://www.measuredhs.com/hivdata/surveys/survey_detail.cfm?survey_id=365

_____. 2004. Facts and Figures: India. Available at http://www.nacoonline.org/facts.htm.

Nandraj, S. 1994. Beyond the Law and the Lord: Quality of Private Health Care. *Economic and Political Weekly*, 29(27).

_____. 2000. *The Private health Sector: Concerns, Challenges and Options*. Mumbai: Cehat.

Nandraj, S., and R. Duggal. 1997. *Physical Standards in the Private Health Sector – A Case Study of Rural Maharashtra*. Mumbai: Cehat.

Nandraj, S., *et al*. 2001. *Private Health Sector in India: Review and Annotated Bibliography*. Mumbai: Cehat.

NIPORT (National Institute for Population Research and Training), MA (Mitra Associates) and MII (Macro International Inc.). 1994. *Bangladesh Demographic and Health Survey 1993-94*. Dhaka: NIPORT, MA and MII.

_____. 1997. *Bangladesh Demographic Health Survey 1996-97*. Dhaka: NIPORT, MA and MII.

NIPORT (National Institute for Population Research and Training), MA (Mitra and Associates), and ORCM (ORC Macro). 2001. *Bangladesh Demographic and Health Survey 1999-2000*. Dhaka, Bangladesh and Calverton Maryland, USA: NIPORT, MA and ORCM.

NIPORT (National Institute for Population Research and Training) and ORCM (ORC Macro). 2002. *Bangladesh Maternal and Health Services and Maternal Mortality Survey 2001: Preliminary Report*. Dhaka

NIPS (National Institute of Population Studies). 2001. *Pakistan Reproductive Health and Family Planning Survey 2000-01: Preliminary Report*. Lahore: Ministry of Population Welfare.

NNMB (National Nutrition Monitoring Bureau).1997. *Twenty Five Years of NNMB 1972-1995*. Hyderabad.

OMNI (The Opportunities for Micronutrient Interventions). 1996. Micronutrient Fact Sheet: India. Available at http://www.mostproject.org

ORCM (ORC Macro). 2004. MEASURE DHS+ STATcompiler. Available at http://www.measuredhs.com.

ORGI (Office of the Registrar General of India). Various issues. *Sample Registration System Bulletin.* New Delhi.

_____. 1999. *Compendium of India's Fertility and Mortality Indicators: Sample Registration System.* New Delhi.

_____. 2000a. *Selected Socio-Economic Statistics: India 1999*. New Delhi.

_____. 2000b. Sample Registration System. *Sample Registration System Bulletin*, 34(1).

_____. 2001. Sample Registration System. *Sample Registration System Bulletin,* 35(1).

Over, M., P. Heywood, J. Gold, I. Gupta, S. Hira, and E. Marseille. 2004. HIV/AIDS Treatment and Prevention in India: Modeling the Costs and Consequences. World Bank Human Development Network Population Series. Available at http://www.youandaids.org/unfiles/IndiaARTReport-WB.pdf

Oxford Policy Management. 2002. *External Evaluation of the National Programme for Family Planning and Primary Health Care: Final Report.* Islamabad.

Palanigounder, D., C.C. Daly, R.K. Homan, A.K. Ganesh, N. Kumarasamy, P.S. Priya, C. Castle, P. Varma, V. Mahendra and S. Solomon. 2002. Economic impact of HIV/AIDS on Patients and Households in South India: Costs and Burden on Households and Coping Strategies. Availabe at http://www.iaen.org/files.cgi/10171_IAEN-F2F-Duraisamy-Ap21.pdf

PAP (Population Association of Pakistan). 2002. *Pakistan's Population: Statistical Profile Statistical Profile of Pakistan, Population Association of Pakistan (1990-2001).* Islamabad.

Patel, P.V., A. Rahman, K.S. Jacob, and M. Hughes. 2004. Effect of maternal mental health on infant growth in low-income countries: New evidence from South Asia. *British Medical Journal*, April 3. Available at http://bmj.bmjjournals.com/cgi/content/full/328/7443/820

Patel, T. 2004. Missing Girls in India. *Economic and Political Weekly*,.39(39).

Peak, A., S. Rana, S.H. Mahajan, D. Jolley and N. Crofts. 1995. Declining risk for HIV among injecting drug users in Katmandu, Nepal: The impact of harm-reduction. *AIDS,* 9(9): 1067-70.

Phadke, A., *et al*. 1995. *A Study of Supply and Use of Pharmaceuticals in Satara District*. Pune: FRCH.

Population Council. 2002. *Adolescents and Youth in Pakistan 2001-02, A National Representative Survey*. Islamabad: UNICEF.

Premi, M.K. 2001. The Missing Girl Child. *Economic and Political Weekly*, 36(21).

Qadeer, I. 1998. Reproductive Health: A Public Health Perspective. *Economic and Political Weekly*, 33 (44).

Qadeer, I., *et al*. 1994. Contextualising Plague: A Reconstruction and an Analysis. *Economic and Political Weekly*, 29(47).

Rabbani, A.K.M., *et al*. 1997. Health Care Expenditure in Bangladesh, Monograph No.10. Dhaka: Bangladesh Bureau of Statistics.

Rahman, K., and S. Ramaboot. 2003. Regional Summary for the South East Asia Region. World Health Organization, Tobacco Free initiative, South East Asia Regional office. Available at http://w3.whosea.org/EN/Section1174/ section1462/pdfs/surv/SEARO_summary.pdf

Rahman, R.I., and A. Kamar. 1996. *Structural Adjustment Policies and Health Care Services: Glimpses from Two Villages in Bangladesh.* Dhaka: UNFPA/CIRDAP.

Ramasundaram S. 2002. Can India Avoid Being Devastated by HIV? *British Medical Journal*, 324: 182-83.

Rana, K., and L.T. Johnson. 2003. Hot Tempered 'Cold Fever': Illness and Impoverishment among Adivasis in Jharkhand. *Economic and Political Weekly*, 38(15): 1451-55.

Rannan-Eliya, R., and A. Somanathan. 1999. Bangladesh Facility Efficiency Survey. Working Paper No.16. Dhaka: Ministry of Health and Family Welfare, Health Economics Unit.

Ransom, E. I., and L.K. Elder. 2003. Nutrition of Women and Adolescent Girls: Why it matters? Available at http://www.prb.org

Ransom, E. I., and N.V. Yinger. 2002. Making Motherhood Safer: Overcoming the Obstacles on the Pathway to Care. Available at http://www.prb.org/pdf/MakMotherhdSafer_Eng.pdf

Rao, Mohan. 2002. Population Policies: From Bad to Worse. E*conomic and Political Weekly*, 37(22).

_____. 2003. Two Child Norm and Panchayats: Many Steps Back. *Economic and Political Weekly*, 37(33).

_____. 2004. India country report: Health. Paper prepared for *Human Development in South Asia 2004*. (Mimeo).

Reig G., and G. Costigan. 2002. Revisiting 'The Hidden Epidemic': A Situation Assessment of Drug Use in Asia in the Context of HIV/AIDS. Centre for Harm Reduction, The Burnet Institute for Medical Research and Public Health. Available at http://www.chr.asn.au

Robinson, W.C. 2001. Common Beginnings but Different Outcomes: The Family Planning Programmes of Pakistan and Bangladesh. In *Fertility Transition in South Asia, e*ds. Zeba Ayesha Sattar and James F. Phillips, 347-363. New York: Oxford University Press.

Rosen, S., J.R. Vincent, W. Macleod, M. Fox, D. Thea and J. Simon. 2003. The cost of HIV/AIDS to businesses in Africa. Available at http://www.international-health.org/AIDS_Economics/Papers/

Abstract%20for%20Cost%20of%20AIDS%20to%20Business%20in%20Africa.doc

Rukanuddin, R.A. 2001. Uptake of Family Planning in Pakistan: Trends and Emerging Issues. Pakistan's Population issues in the 21st Century. PAP Conference Proceedings 24-26 October 2000, Karachi. 3-24.

Sachs, J. (chair). 2001. Macroeconomics and Health: Investing in Health for Economic Development. Report of the Commission on Macroeconomics and Health. Geneva: WHO.

Save the Children. 2001. *State of the World's Newborns: Pakistan*. Islamabad

Seetharam, K.S. 2004. Implementing the ICPD Agenda: Ten Years on the Asia-Pacific Experience, A Status Report (Draft). Bangkok. (Mimeo)

Sen, G., A. Iyer and A. George. 2002. Class, Gender and Health Equity: Lessons from Liberalising India. In *Engendering International Health,* eds. Gita Sen, Asha George and Piroska Ostlin. Massachusetts: MIT Press.

Sengupta, A. 1996. Economic Reforms, Health and Pharmaceuticals. *Economic and Political Weekly*, 31(48).

Shah, G. 1997. *Public Health and Urban Development: The Plague in Surat*. New Delhi: Sage.

Skold, M. 1998. Poverty and health: who lives, who dies, who cares? *Macroeconomics, Health and Development Series*. Policy Paper No: 28. Geneva: WHO.

Smith, L.C., U. Ramakrishnan, A. Ndiaye, H. Lawrence and R. Martorell. 2003. The Importance of Women's Status for Child Nutrition in Developing Countries. International Food Policy Institute Research Report No. 131. Available at http: //www.ifpri.org

Sohail, M. 1997. Pattern of Health Finance and Expenditure at Household Level. In *Bangladesh Health Finance and Expenditure Pattern,* M.R. Khan ed., Monograph No: 14. Dhaka: Bangladesh Institute of Development Studies.

Soomro, G.Y. 2000. A Re-Examination of Fertility in Pakistan. *Pakistan Development Review*, 39(3): 247-261.

SPARC (Society for the Protection of the Rights of the Child). 2002. *The State of Pakistan's Children 2001*. Islamabad.

_____. 2003. *The State of Pakistan's Children 2002*. Islamabad

SPDC (Social Policy and Development Centre). 2003. *Social Development in Pakistan: Annual Review 2002-03: The State of Education*. Karachi: SPDC.

Strauss, J., and D. Thomas. 1998. Health, Nutrition and Economic Development. *Journal of Economic Literature*, Vol.36 (2): 766-817.

Streatfield, K., *et al*. 2002. Disease pattern in Bangladesh: Present and Future Health Needs. Dhaka: Ministry of Health. (mimeo).

Talukder, L.R., *et al*. 1991. The Near Miracle: How Immunization Services are delivered. In *Near Miracle in Bangladesh,* Huq M. ed. Dhaka: UPL.

The Centre for Reproductive Rights. 2004. Women of the World: Laws and Policies Affecting Their reproductive Rights, South Asia. Available at http://www.crlp.org/pub_bo_wowsa.html.

The Daily Star. 2003. Donors cut off health pipeline. April, 7.

The News. 2004. Pakistan to fight HIV/AIDS with 'full strength'. November 30, p.4.

Tinker, A. G. 1998. Improving Women' Health. Human Development Network, Health, Nutrition, and Population Series. Washington, D.C: World Bank.

Titmuss, R.M.1997. *The Gift Relationship: From Human Blood to Social Policy*. Expanded and updated edition, eds., Oakley A. and J. Ashton, LSE.

UBINIG (Unnayan Bikalper Nitinirdharoni Gobeshona). 1998. *The Status of Health Services at the Union and Thana Levels (in Bengali)*. Dhaka: UBINIG.

UMIS (Unified Management Information System). 2001. *Health and Population Statistical Report 1999-2000*. Dhaka: Mohakhali.

UN (United Nations). 1995. *International Conference on Population and Development: Programme of Action*. New York: United Nations.

_____. 2001. Declaration of Commitment on HIV/AIDS: Global Crisis- Global Action. Available at http://www.un.org/ga/aids/coverage/FinalDeclarationHIVAIDS.html

_____. 2003. Follow-up to the Declaration of Commitment on HIV/AIDS: Country Report of Nepal. Available at http://www.unaids.org/

_____. 2004. Official website. Available at http://www.un.org

UNAIDS (Joint United Nations Programme on HIV/AIDS). 2000a. Female Sex Worker HIV Prevention Projects: Lessons Learnt from Papua New Guinea, India and Bangladesh. Available at http://www.unaids.org/html/pub/publications/irc-pub05/jc438-femsexwork_en_pdf.pdf

_____. 2000b. Report on the Global Epidemic 2000. Available at http://www.who.int/emc-hiv/

_____. 2002a. *India Annual Report*. New Delhi.

_____. 2002b. *Pakistan Country Profile 2002*. Islamabad.

_____. 2002c. *Report on the global HIV/AIDS epidemic 2002*. Geneva.

_____. 2003. HIV-Infected Drug Users in Pakistan: Strategies for their identification, treatment, care and support. Report of a Workshop held in Islamabad, 25-26 August 2003.

_____. 2004. Global Report on the global AIDS epidemic. Available at http://www.unaids.org/bangkok2004/report.html

UNAIDS (Joint United Nations Programme on HIV/AIDS) and SAHARA. 2001. Snapshots of GIPA: the Greater Involvement of People Living with HIV/AIDS in South Asia, An Interim Report. Available at http://www.hivandevelopment.org/publications/Pdf/GIPA_1.pdf

UNAIDS (Joint United Nations Programme on HIV/AIDS) and WHO (World Health Organization). 2003. *AIDS epidemic update 2003*. Geneva.

_____. 2004. *AIDS epidemic update December 2004*. Geneva.

UNAIDS (Joint United Nations Programme on HIV/AIDS), UNICEF (United Nations Children's Fund) and WHO (World Health Organization). 2002. Sri Lanka: Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Diseases, 2002 Update. Available at http://www.who.int/GlobalAtlas/PDFFactory/HIV/index.asp

_____. 2004a. Bangladesh: Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Diseases, 2004 Update. Available at http://www.who.int/GlobalAtlas/PDFFactory/HIV/index.asp

_____. 2004b. Bhutan: Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Diseases, 2004 Update. Available at http://www.who.int/GlobalAtlas/PDFFactory/HIV/index.asp

_____. 2004c. India: Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Diseases, 2004 Update. Available at http://www.who.int/GlobalAtlas/PDFFactory/HIV/index.asp

_____. 2004d. Maldives: Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Diseases, 2004 Update. Available at http://www.who.int/GlobalAtlas/PDFFactory/HIV/index.asp

_____. 2004e. Nepal: Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Diseases, 2004 Update. Available at http://www.who.int/GlobalAtlas/PDFFactory/HIV/index.asp

_____. 2004f. Pakistan: Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Diseases, 2004 Update. Available at http://www.who.int/GlobalAtlas/PDFFactory/HIV/index.asp

_____. 2004g. Sri Lanka: Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Diseases, 2004 Update. Available at http://www.who.int/GlobalAtlas/PDFFactory/HIV/index.asp

UNAIDS (Joint United Nations Programme on HIV/AIDS), UNOPS (United Nations Office for Project Services) and CRPRID (Centre for Research on Poverty Reduction and Income Distribution) 2003. *Pakistan Human Condition Report 2003*. Islamabad: Crystal Printers.

UNDP (United Nations Development Programme). 1999. *Human Development Report 1999, Globalization with a Human Face*. New York: Oxford University Press.

_____. 2000. *Human Development Report 2000, Human Rights and Human Development*. New York: Oxford University Press.

_____. 2002a. Empowerment for Greater Involvement of People Living with HIV/AIDS in South Asia. Available at http://www.youandaids.org/unfiles/REACHPublications/gipa_report.pdf

_____. 2002b. *Human Development Report 2002, Deepening democracy in a fragmented world*. New York: Oxford University Press.

_____. 2003a. *Human Development Report 2003, Millennium Development Goals: A compact among nations to end human poverty*. New York: Oxford University Press.

_____. 2003b. *Regional Human Development Report: HIV/AIDS and Development in South Asia 2003*. New Delhi.

_____. 2004. *Human Development Report 2004, Cultural Liberty in Today's Diverse World*. New York: Oxford University Press.

UNFPA (United Nations Population Fund). 2003a. A New Push to Address Obstetric Fistula in South Asia. *Dispatches* 59:2-3.

_____. 2003b. *Maternal Mortality Update 2002: A Focus on Emergency Obstetric Care*. New York: UNFPA.

_____. 2003c. *Missing: Mapping the Adverse Child Sex Ratio in India*. New Delhi.

_____. 2004a. Family Planning: A Human Right. Available at http://www.unfpa.org/rh/planning.htm

_____. 2004b. Investing in People: National Progress in Implementing the ICPD Programme of Action 1994-2004. http://www.unfpa.org/upload/lib_pub_file/284_filename_globalsurvey.pdf

_____. 2004c. The report of South Asia Conference For the Prevention and Treatment of Obstetric Fistula, 9-11 December 2003. Dhaka.

_____. 2004d. International Conference on Population and Development. Available at http://www.unfpa.org/icpd/icpd.htm

_____. 2004e. *State of World Population 2004, The Cairo Consensus at Ten: Population, Reproductive Health and the Global Effort to End Poverty*. New York: UNFPA.

UNFPA (United Nations Population Fund) and PRB (Population Reference Bureau). 2003. Country Profiles for Population and Reproductive Health. Available at http://www.prb.org/pdf/UNFPA-Indicatrs_All.pdf

UNHCR (United Nations Office of the High Commissioner for Human Rights). 2004. International Covenant on Economic, Social and Cultural Rights. Available at http://www.unhchr.ch/html/menu3/b/a_cescr.htm

UNICEF (United Nations Children's Fund). 1995. *The State of the World's Children 1996*. New York: Oxford University Press.
_____. 1996. *The State of the World's Children 1997*. New York: Oxford University Press.
_____. 1997. *The State of the World's Children 1998*. New York: Oxford University Press.
_____. 1998. *The State of the World's Children 1999*. New York: Oxford University Press.
_____. 1999a. Progotir Pathey: Achieving the Goals for Children in Bangladesh. Dhaka.
_____. 1999b. *State of World's Children Report 2000*. New York: Oxford University Press.
_____. 2000. *State of World's Children Report 2001*. New York: Oxford University Press.
_____. 2001a. End Decade Databases: Malnutrition. Available at http://www.childinfo.org/eddb/malnutrition
_____. 2001b. Progress since the world summit for children: A statistical review. Available at http://www.unicef.org/publications/files/pub_wethechildren_stats_en.pdf
_____. 2001c. *The State of the World's Children 2002*. New York: UNICEF.
_____. 2002. *The State of World's Children 2003*. New York: UNICEF.
_____. 2003a. Accelerating the Momentum in the Fight Against HIV/AIDS in South Asia. Proceedings of the South Asia High Level Conference, 3rd-4th February 2003, Katmandu.
_____. 2003b. *State of World's Children 2004*. New York: UNICEF.
UNICEF (United Nations Children's Fund) and Micronutrient Initiative. 2004. Vitamin and Mineral Deficiency: A Global Progress Report. Available at http://www.micronutrient.org/reports/reports/Full_e.pdf
UNICEF (United Nations Children's Fund), WHO (World Health Organization) and UNPFA (United Nations Population Fund). 2000. Maternal and Neonatal Tetanus Elimination by 2005: Strategies for achieving and Maintaining Elimination. Available at http://www.unicef.org/immunization/files/MNTE_strategy_paper.pdf
UNPD (United Nation Population Division). 2004a. The Impact of HIV/AIDS. Available at http://www.un.org/esa/population/publications/AIDSimpact/AIDSWebAnnounce.htm
_____. 2004b. World Population Prospects: The 2002 Revision Population Database. Available at http://esa.un.org/unpp/
Uplekar, M.W., and Cash, R.A. 1991. *The Private G.P. and Leprosy; A Study*. Mumbai: Foundation for Research in Community Health.
Uplekar, M.W., and S. Rangan. 1996. *Tackling TB: The Search for Solutions*. Pune: Foundation for Research in Community Health.
Uplekar, M.W., and D.S. Shepard. 1991. *Treatment of Tuberculosis by Private General Practitioners in India*. Pune: Foundation for Research in Community Health
US Census Bureau. 2004. The AIDS Pandemic in the 21st Century, International Population Reports WP/02-2. Washington, D.C: United States Government Printing Office.
USAID (United States Agency for International Development). 2004. Nepal Country Profile. Available at http://www.usaid.gov/our_work/global_health/aids/Countries/ane/nepal_profile.pdf
Wagstaff, A. 2000. Socio-economic Inequalities in Child Mortality. *World Health Organization. Bulletin* (78): 1.
Watson, D. 2000. Drug Resistant Tuberculosis Threatens Millions. International committee of the Fourth international (ICFI). Available at http://www.wsws.org.
Weber, A. 2002. Insurance and market failure at the microinsurance level. In *Social Reinsurance: A New Approach to Sustainable Community Health Financing,* ed. Preker, A. and David Dror, 203-223. World Bank.
WHO (World Health Organization). 1978. Primary Health Care: Report of the International Conference on Primary Health Care. Geneva.
_____. 1992a. The International Statistical Classification of Diseases and Related Health Problems, tenth revision. Available at http://www.who.int/whosis/icd10/
_____. 1992b. The Prevention and Management of Unsafe Abortion: Report of a Technical Working Group, WHO/MSM/92.5. Geneva: WHO.
_____. 1997. Unsafe Abortion: Global and Regional Estimates of Incidence of Mortality due to Unsafe Abortion. Available at http://www.who.int/reproductive-health/publications/MSM_97_16/MSM_97_16_table_of_contents_en.html
_____. 1998. World Health Report 1998, Life in the 21st Century: A Vision for All. Available at http://www.who.int/whr/1998/en/
_____. 1999. *World Health Report 1999: Making a difference*. Geneva: WHO.
_____. 2000a. Nutrition in South East Asia. Delhi. Regional Office for South East Asia. http://www.whosea.org
_____. 2000b. *World Health Report 2000: Health Systems, Improving Performance*. Geneva: WHO.
_____. 2001. Turning the Tide of Malnutrition: Responding to the Challenges of 21st Century. WHO (World Health organization), SDE (Sustainable development and Healthy environments) and NHD (Nutrition For Health and Development). http://www.who.int
_____. 2002a. *State of World's Vaccines and Immunization*. Geneva.
_____. 2002b. World Health Report 2002: Reducing risks, promoting healthy life. http://www.who.int/whr/2002/en/
_____. 2003a. Ante-natal Care in Developing Countries: Promises, achievements and missed

opportunities. http://www.who.int/reproductive-health/docs/antenatal_care.pdf

_____. 2003b. *Tobacco and Health in the Developing World*.A background paper for the High level Round Table on Tobacco control and development Policy. European Commission, WHO, World Bank.

_____. 2003c. *World Health Report 2003: Shaping the Future*. Geneva: WHO.

_____. 2004a. Antiretroviral Therapy (ART). Available at http://www.who.int/hiv/topics/arv/en/

_____. 2004b. Country Health Profile Bhutan. Available at http://w3.whosea. org/EN/Section313/Section1517_6786.htm

_____. 2004c. Country Health Profile, India. Available at: http://w3.whosea.org/EN/Section313/Section1515_6921.htm

_____. 2004d. Country Health Profile, Maldives. Available at http://w3.whosea.org/EN/Section313/Section1521_6842.htm

_____. 2004e. Country Health Profile, Nepal. Available at http://w3.whosea.org/EN/Section313/Section1523_6870.htm

_____. 2004f. Country Health Profile, Sri Lanka. Available at: http://w3.whosea.org/EN/Section313/Section1524_6883.htm

_____. 2004g. Declaration of Alma Ata, 1978. Available at http://www.who.int/hpr/NPH/docs/declaration_almaata.pdf.

_____. 2004h. Facts about HIV/AIDS- Global. Available at http://w3.whosea.org/hivaids/fact1.htm

_____. 2004i. *Global Polio Eradication Initiative: Progress 2003*. Geneva: World Health Organization. Available at http://www.polioeradication.org

_____. 2004j. Global Tuberculosis Control: Surveillance, Planning, and Finance. Switzerland. Available at http://www.who.int.

_____. 2004k. HIV/AIDS in Asia and the Pacific Region 2003. Available at http://www.wpro.who.int/pdf/pub/403/file_HIV_AIDS_ Asia_Pacific_Region2003.pdf

_____. 2004l. Making Pregnancy Safer. Available at http://www.who.int/mediacentre/factsheets/fs276/en/print.html

_____. 2004m. *World Health Report 2004: Changing History*. Sadag: WHO.

WHO (World Health Organization) and UNICEF (United Nations Children's Fund). 2000. *Global Water And Sanitation Report 2000*. Available at http://www.who.int/docstore/water_sanitation_health/Globeassesment/GlobalTOC.htm.

_____. 2003. Review of National Immunization Coverage1980-2002, Pakistan. Available at http://www.who.int/vaccines-surveillance/WHOUNICEF_ Coverage_Review/pdf/pakistan.pdf

WHO (World Health Organization), UNICEF (United Nations Children's Fund) and UNFPA (United Nations Population Fund). 2002. Maternal Mortality in 2000: Estimates Developed by WHO, UNICEF and UNFPA. Available at http://www.who.int/reproductive-health/publications/maternal_mortality_2000/mme.pdf

WHO (World Health Organization), GOP (Government of Pakistan) and Heart file. 2004. *National Action Plan for Prevention and Control of Non-Communicable Diseases and Health Promotion in Pakistan*. Islamabad.

World Bank. 1993. *World Development Report 1993: Investing in Health*. New York: Oxford University Press

_____. 1995a. India: Policy and Finance Strategies for Strengthening Primary Health Care Services, Report No.13042-IN. Washington D.C: Population and Human Resource Division.

_____. 1995b. *World Development Report 1995: Workers in an Integrating World. N*ew York: Oxford University Press.

_____. 1998a. *Aide Memoire on Joint IDA/ Cofinanciers Appraisal of the Fifth Health and Population Program*. Dhaka: World Bank.

_____. 1998b. Pakistan Towards a Health Sector Strategy. Report No.16695-Pak. Health, Nutrition and Population Unit, South Asia Region.

_____. 1998c. *World Development Report 1998/99: Knowledge for Development*. New York: Oxford University Press.

_____. 2000a. *Mid-Term Review and Annual Program Review of the HPSP 1998-2003*. Dhaka: World Bank.

_____. 2000b. Tuberculosis in South Asia. Health, Nutrition and Population. http://lnweb.worldbank.org

_____. 2000c. World Bank Health, Nutrition and Population Statististics. Available at http://devdata.worldbank.org/hnpstats

_____. 2000d. *World Development Indicators 2000*. Washington, D.C.: World Bank.

_____. 2000e. *World Development Report 1999-2000: Entering the 21st Century*. New Delhi: Oxford University Press.

_____. 2001a. Better Health Systems for India's Poor: Analysis, findings and options. Health, Nutrition and Population Sector Unit, Report No: 22304. Available at http://lnweb18.worldbank.org/sar/sa.nsf/Attachments/intro/$File/hchIntro.pdf

_____. 2001b. Economics of Tobacco for the South Asia Region. http://tobacco/countrybriefs&data/regions/South Asia(SA)/workingfiles/SA.doc

_____. 2001c. India: Raising the Sights – Better Health Systems for India's Poor. Available at http://lnweb18.worldbank.org/sar/sa.nsf/Attachments/rprt/$File/INhlth.pdf

_____. 2001d. India's Future Health Systems: Issues and Options. World Bank

_____. 2002a. Improving Human Development Outcomes in Pakistan. A Background Note Prepared by the World Bank for the Pakistan Human Development Forum, January 24-26, Islamabad.

_____. 2002b. *Pakistan Poverty Assessment, Poverty in Pakistan: Vulnerabilities, Social Gaps, and Rural Dynamics*. The World Bank Report No. 24296-PAK. Poverty Reduction and Economic Management Sector Unit South Asia Region.

_____. 2002c. Poverty in Pakistan in the 1990s: An Interim Assessment Summary of the Reports. Presented at Pakistan Human Development Forum, January 24-26, Islamabad.

_____. 2003a. *World Development Report 2004: Making Services Work for Poor People*. New York: Oxford University Press.

_____. 2003b. Bhutan HIV/AIDS Brief. Available at http://lnweb18.worldbank.org/sar [December 2003]

_____. 2003c. HIV/AIDS Business Plan South Asia FY04-FY06. Available at http://lnweb18.worldbank.org/SAR/sa.nsf/Attachments/SAR-HIVAIDS/$File/SAR-HIVAIDS.pdf

_____. 2003d. Injection Safety at a glance. Available at http://www.worldbank.org/hnp

_____. 2003e. Issue Brief- HIV/AIDS SAR-Pakistan. Available at http://www.worldbank.org

_____. 2003f. *The World Development Report 2004: Making Services Work For Poor People*. Washington, D.C: World Bank and Oxford University Press.

_____. 2003g. *World Development Indicators 2003*. Washington D.C.

_____. 2004a. Bangladesh HIV/AIDS Brief, June 2004. Available at http://lnweb18.worldbank.org/sar/

_____. 2004b. Bhutan HIV/AIDS Brief, June 2004. Available at http://lnweb18.worldbank.org/sar/

_____. 2004c. India HIV/AIDS Brief, June 2004. Available at http://lnweb18.worldbank.org/sar/

_____. 2004d. Maldives HIV/AIDS Brief, June 2004. Available at http://lnweb18.worldbank.org/sar/

_____. 2004e. Nepal HIV/AIDS Brief, June 2004. Available at http://lnweb18.worldbank.org/sar/

_____. 2004f. Pakistan HIV/AIDS Brief, June 2004. Available at http://lnweb18.worldbank.org/sar/

_____. 2004g. South Asia HIV/AIDS Brief, June 2004. Available at http://lnweb18.worldbank.org/sar/

_____. 2004h. Sri Lanka HIV/AIDS Brief, June 2004. Available at http://lnweb18.worldbank.org/sar/

_____. 2004i. *World Development Indicators 2004*. CD-ROM. Washington, D.C.

_____. 2004j. *World Development Indicators 2004*. Washington D.C: World Bank.

World Bank and ADB (Asian Development Bank). 2003. Bangladesh: Public Expenditure Review. Dhaka: World Bank and ADB.

YOUANDAIDS. 2004a. Migration and HIV in South Asia. Available at http://www.youandaids.org/unfiles/REACHPublications/MigrationandHIV.pdf

_____. 2004b. Official website. Available at http://www.youandaids.org

_____. 2004c. Sri Lanka at a Glance. Available at http://www.youandaids.org/Asia%20Pacific%20at%20a% 20Glance/SriLanka/index.asp

_____. 2004d. Sex Workers Come Together to Fight HIV/AIDS. Available at http://www.youandaids.org/Features/PakistanAugust2004.asp

Yusufzai, A. 2004. Lack of Separate Wards: AIDS patients denied hospitalisation. *Dawn*, 22 June 2004. Tuesday, p.5.

Zaidi, A.K.M., S. Awasthi, and H.J. Desliva. 2004. Burden of Infectious Disease in South Asia. *British Medical Journal,* 328: 811-815.

Zaidi, A.K.M., T. A. Khan and D.S. Akram. 2004. Early Child Health and Survival in Pakistan. In *Maternal and Child Health in Pakistan, e*d. Zulfiqar A. Bhutta, 47-85. Karachi: Oxford University Press.

Zaidi, S. A. 2000. *The New Development Paradigm, Papers on Institutions, NGOs, Gender and Local Government*. Karachi: Oxford University Press.

Zurbrigg, S. 2001. Rethinking Public Health: Food, Hunger and Mortality Decline in South Asian History. In *Public Health and the Poverty of Reforms: The South Asian Predicament,* eds. Imrana Qadeer, Kasturi Sen and K.R Nay. New Delhi: Sage.

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Note on Statistical Sources for Health Tables

The key health data for this Report have been collected from various international and national sources. Principle international sources include the UN systems and the World Bank. In case of non-availability of data from international sources, national sources were used. For instance, the data for Table 5 have mostly been taken from country-specific demographic and health surveys, and other available national sources for the latest available year. Data for most of the indicators related to mother and child health have been compiled mainly from UNDP, World Bank and UNICEF. Data for health infrastructure and expenditure have mostly been taken from WHO.

Latest data are not available for several health indicators. In some South Asian countries, such as Pakistan, there has been no demographic and health survey since 1994. In some cases health indicators date back almost ten years. To arrive at a clearer picture of the state of health in South Asia and to recommend more effective policies, there is an urgent need for up to date and accurate data on all health indicators.

Since there is limited comparability between data obtained from international sources and those obtained from national sources, effort has been made to use international data wherever available. Even when using data from international sources, there is a divergence due to differences in the definition of the South Asia region. For example, UNDP include Iran and Afghanistan in addition to the seven SAARC countries, where as the World Bank includes only Afghanistan. WHO includes all SAARC countries in the South-East Asia region, except Pakistan, which is included in the Eastern Mediterranean region.

To allow comparability at the regional level, we have used weighted averages for the seven SAARC countries, constituting South Asia, in the various tables included in chapters, as well as in the HDI tables. Efforts have been made to ensure that the information provided in the tables is both reliable and consistent.

1. Profile of South Asia's Health

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)
Crude birth rate (per 1,000 live births) – 2002	24	36	29	33	17	35	36	26
Crude death rate (per 1,000 live births) – 2002	9	10	8	10	7	9	6	9
Life expectancy at birth (years) – 2002	64	61	61	60	73	63	67	63
Infant mortality rate (per 1,000 live births) – 2002	67	83	51	66	17	74	58	66
Maternal mortality ratio adjusted (per 100,000 live births) – 2002	540	500	380	740	92	420	110	516
Undernourishment 1999-2001								
– In millions	213.7	26.8	44.1	3.8	4.6	…	…	293T
– % undernurished	21	19	32	17	25	…	…	22
Health expenditure								
– Public expenditure on health (as % of GDP) 2001	0.9	1.0	1.5	1.5	1.8	3.6	5.6	1.0
– General public expenditure (% of total expenditure on health) 2001	17.9	24.4	44.2	29.7	48.9	90.6	83.5	21.7
– Private expenditure (% of total expenditure on health) 2001	82.1	75.6	55.8	70.3	51.1	9.4	16.5	76.6
– Per capita total expenditure on health at average rate (US$) 2001	24	16	12	12	30	9	98	21
Access to safe drinking water (% of total population) 2000	84	90	97	88	77	62	100	86
Access to improved sanitation (% of total population) 2000	28	62	48	28	94	70	56	35
Physician (per 100,000 people) 1990-2003	51	68	23	5	43	5	78	49
Births attended by skilled health personel (%) 1995-2002	43	20	12	11	97	24	70	38
Contraceptive prevalence rate (% of women aged 15-49) 1995-2002	47	28	54	39	71	31	32	46

Source: Rows 1, 2, 5, 12: UNICEF 2003b; Rows 3, 8, 9, 10, 11: UNDP 2004; Row 6: FAO 2003b; UNDP 2004; Row 7: WHO 2004m, World Bank 2004j.

2. Health of South Asia's Children

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)
Infant mortality rate (per 1,000 live births) 2002	67	83	51	66	17	74	58	66
Under-five mortality rate (per 1,000 live births) 2002	93	107	77	91	19	94	77	92
Diarrhoea								
– Prevalence (% of under-five) 1998-2001	19.2	12.0	6.1	20.4	6.7	…	…	16.9
– Oral rehydration therapy use rate (%) 1998-2001	22.2	19.0	49.6	26.6	36.1	…	…	24.9
ARI prevalence (% of under-five) 1995-2001	19.3	37[a]	18.3	22.8	…	…	…	20.8
Child immunisation 2002								
– Measles	67	57	77	71	99	78	99	68
– BCG	81	67	95	85	99	83	98	81
– DPT	70	63	85	72	98	86	98	71
– Polio	70	63	85	72	98	89	98	71
Malnutrition								
– Underweight (% of under-five) 1995-2002	47	38	48	48	29	19	30	46
– Stunting (height for age)	46	37	45	51	14	40	25	45
– Wasting (weight for height)	16	13	10	10	14	3	13	15
Micronutrient deficiencies 2000-03 (%)								
– Estimated % of children under-six with sub-clinical Vitamin A deficiency	57	35	28	33	…	32	…	50
– Estimated % of households using iodized salt	50	17	70	63	95	…	…	49
– Estimated prevalence of iron deficiency anemia in children under-five	75	56	55	65	…	81	…	70
Breastfeeding 1995-2002								
– Exclusively breastfed (< 6 months)	37	16	46	69	54	…	10	36
– Breastfeeding with complementary food (6-9 months)	44	31	78	66	…	…	85	46
– Still breastfeeding (20-23 months)	66	56	87	92	62	…	…	67
Children in absolute poverty (%)[b]	57.2	61.0	62.4	90.3	22.0	…	…	57.8

Note: a: Data refer to 1995. b: Absolute poverty is defined as: 'a condition characterised by service deprivation of basic human needs, including food safe drinking water, sanitation facilities, health, shelter, education and information services.' Gordon *et al*. 2003.

Source: Rows 1, 2: UNDP 2004; Row 3: IIPS 2002, UNDP, UNOPS and CRPRID 2003, NIPORT, MA and ORCM 2001, MOHN, New ERA and ORCM 2002, GOS 2002, UNDP 2003a; Row 4: IIPS 2002, Zaidi, Khan and Akram 2004, NIPORT, MA and ORCM 2001, MOHN, New ERA and ORCM 2002, GOS 2002; Rows 5, 6: UNICEF 2003b; Rows 7, 8: UNICEF and Micronutrient Initiative 2004; Row 9: Gordon *et al*. 2003.

3. Health risks and future challenges

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)
Diarrhoea								
– Prevalence (% of under-five)								
1998-2001	19.2	12.0	6.1	20.4	6.7	…	…	16.9
ARI prevalence (% of under-five)								
1995-2001	19.3	37[a]	18.3	22.8		…	…	20.8
Malaria cases								
(per 100,000 people) 2000	7	58	40	33	1,110	285	…	32
Total number of reported polio cases 2003	225	103	…	…	…	…	…	328T
HIV/AIDS prevalence								
– Estimated number 2003	5,100,000	74,000	61,000	13,000	3,500	…	…	5,251,500T
– Among adult population								
(% of ages 15-49) 2003	0.9	0.1	<0.1	0.5	<0.10	…	…	…
HIV/AIDS prevalence among youth								
(% of ages 15-24) 2001								
– Female	0.71	0.05	0.01	0.28	0.03	…	…	0.54
– Male	0.34	0.06	0.01	0.27	0.04	…	…	0.27
% of female adult population who have heard about HIV/AIDS 1998-2001	40.3	41.7	30.8	49.6	90.3	…	…	40.2
Number of people needing ART	710,000	10,000	510	4,000	280	14	14	724,818T
% receiving ART	3.0	1.0	1.0	1.9	8.9	35.7	0.0	2.7
Tuberculosis cases								
– Per 100,000 people 2002	344	379	447	271	73	205	46	353
– Detected under DOTS (%) 2002	31	13	32	64	79	31	92	30
– Cured under DOTS (%) 2001	85	77	84	88	80	93	97	84
Prevalence of smoking (% of adults) 2000								
– Women	3	9	24	29	2	…	…	6
– Men	29	36	54	48	26	…	…	33
Carbon dioxide emissions								
– Per capita metric tons 2000	1.1	0.8	0.2	0.1	0.6	…	…	0.9

Note: a: Data refer to 1995.

Source: Rows 1, 2: IIPS 2002, UNDP, UNOPS and CRPRID 2003, NIPORT, MA and ORCM 2001, MOHN, New ERA and ORCM 2002, GOS 2002, Zaidi, Khan and Akram 2004; Row 3: UNDP 2004; Row 4: WHO 2004i; Row 5: UNAIDS 2002c, 2004; Row 6: UNAIDS 2002c; Row 7: IIPS 2002, NIPS 2001, NIPORT, MA and ORCM 2001, MOHN, New ERA and ORCM 2002, GOS 2002; Row 8: UNAIDS, UNICEF and WHO a-g; Row 9: UNDP 2004; Rows: 10, 11: World Bank 2004j.

4. Health of South Asia's Women

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)
Female population 2002								
– in millions	508.54	73.13	70.05	12.04	9.12	1.08	0.15	674.1T
– female to male population	94	95	95	96	93	98	94	94
Female life expectancy at birth 2002	62	61.6	62.6	60.2	74.3	62.4	65.6	62
Female to male ratio of life expectancy at birth 2002	102	100	102	98	109	103	99	102
Women with height of less than 145 centimetres (%) 1998-2001[a]	13.2	…	15.9	15.3	…	…	…	13.6
Women with body mass index (BMI) of less than 18.5 (%) 1998-2001[a]	35.6	13.3	45.4	26.7	21.8	…	…	33.8
Women who are anaemic during pregnancy (%) 1985-2000[a]	52	37	53	65	39	…	…	51
Number of maternal deaths (thousands) 2000	136,000	26,000	16,000	6,000	300	310	10	184,620T
– Maternal mortality ratio adjusted (per 100,000 live births) 2000	540	500	380	740	92	420	110	516
– Life time risk of maternal death 2000	1:48	1:31	1:59	1:24	1:430	1:37	1:140	1:52
Pregnant women who:								
– Received antenatal care (%) 1995-2002	60	43	40	28	98	…	81	55
– Received tetanus toxoid vaccination (%) 1996-2000	67	58	64	33	97	…	…	65
Deliveries 1998-2001								
– At home								
• Urban	34.5	51.3	72.7	52.4	…	…	…	40.6
• Rural	74.8	86.5	94.5	90.4	…	…	…	78.0
– Attended by skilled staff 1995-2002	43	20	12	11	97	24	70	38
Total fertility rate 1995-2001								
– Urban	2.3	3.7	2.5	2.1	2[b]	2.5	…	2.5
– Rural	3.1	5.4	3.5	4.4	1.8	3.5	…	3.4
Contraceptive prevalence rate 1999-2001	48.2	27.6	53.8	39.3	70.0	…	…	46.6

Note: a: Data covers women in the age group 15-49. b: Data does not include TFR in Estates.

Source: Row 1: UNPD 2004b; Row 2: WHO 2004m; Row 3: IIPS 2002, GOP and UNICEF 2004, NIPORT, MA and ORCM 2001, MOHN, New ERA and ORCM 2002, GOS 2002; Row 4: WHO, UNICEF and UNFPA 2002; Row 5: WHO 2003c, World Bank 2003g, GOS 2002; Row 6: UNDP 2004, IIPS 2002, NIPS 2001, NIPORT, MA and ORCM 2001; Row 7: UNFPA and PRB 2003, GOS 2002; Row 8: IIPS 2002, NIPS 2001, NIPORT, MA and ORCM 2001, MOHN, New ERA and ORCM 2002, GOS 2002.

5. Expenditure flows to health in South Asia

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)
Total expenditure on health (as a % of GDP)[a]								
– 1997	5.3	3.8	2.9	5.4	3.2	3.6	6.5	4.9
– 2001	5.1	3.9	3.5	5.2	3.6	3.9	6.7	4.8
General government expenditure on health (as a % of total expenditure on health)								
– 1997	15.7	27.2	33.7	31.3	49.5	90.4	81.9	19.6
– 2001	17.9	24.4	44.2	29.7	48.9	90.6	83.5	22.1
Private expenditure on health (as a % of total expenditure on health)								
– 1997	84.3	72.8	66.3	68.7	50.5	9.6	18.1	80.4
– 2001	82.1	75.6	55.8	70.3	51.1	9.4	16.5	77.9
General government expenditure on health (as a % of total government expenditure on health)								
– 1997	3.2	3.8	5.6	9.2	6.0	10.1	10.9	3.7
– 2001	3.1	3.5	8.7	8.1	6.1	7.5	10.3	3.9
External resources for health (as a % of total expenditure on health)								
– 1997	2.3	2.7	10.0	10.6	3.2	32.1	4.2	3.3
– 2001	0.4	1.9	13.3	9.4	3.1	38.2	1.9	2.1
Population (per hospital beds)[b]								
– 1995-2001	1,451	1,450	3,063	3,489	340	622	577	1,633
Physicians (per 100,000 people)								
– 1990-2003	51	68	23	5	43	5	78	49

Notes: a: Total expenditure on health has been defined as the sum of general government expenditure on health (public expenditure on health) and private expenditure on health. b: Data for Pakistan is taken from a national source.

Source: Rows 1, 2, 3, 4, 5: WHO 2004m; Row 6: WHO 2004b-f, GOP 2004a; Row 7: UNDP 2004.

6. Socio-economic indicators of health

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)
Infant mortality 1998-2001 by								
Education of mothers								
– Illiterate	86.5	89.0	92.0	84.6	25.5	…	…	86.3
– Secondary and above	32.8	49.0	54.7	11.2	13.8	…	…	36.1
Residence								
– Urban	49.2	68.9	74.5	50.1	14.9	…	…	53.4
– Rural	79.7	80.9	80.7	79.3	17.4	…	…	78.9
Sex								
– Male	74.8	84.0	82.2	79.2	22.6	…	…	75.8
– Female	71.1	81.0	76.9	75.2	15.6	…	…	72.0
Socio-economic status								
– Poorest quintile	88.8	42.0	…	…	…	…	…	83.0
– Richest quintile	42.7	20.0	…	…	…	…	…	39.9
U5 mortality rate (per 1,000 live births) 1998-2001 by								
Education of mothers								
– Illiterate	122.8	…	130.4	120.7	31.8	…	…	109.0
– Secondary and above	37.1	…	67.4	14.9	13.8	…	…	35.5
Residence								
– Urban	65.4	…	96.7	65.9	17.3	…	…	60.9
– Rural	111.5	…	112.6	111.9	18.6	…	…	98.3
Sex								
– Male	97.9	…	108.3	104.8	24.3	…	…	87.5
– Female	105.2	…	111.7	112.4	17.3	…	…	93.4
Socio-economic status								
– Poorest quintile	141	125	140	130	…	…	…	136.8
– Richest quintile	46	74	72	68	…	…	…	51.3
Underweight (% of under-five) 1995-2002 by								
Education of mothers								
– Illiterate	55.0	28.7	55.5	53.1	…	…	…	51.4
– Secondary and above	26.6	18.0	32.1	21.9	…	…	…	25.8
Residence								
– Urban	38.4	25.7	39.8	33.0	…	…	…	36.5
– Rural	49.6	26.4	49.2	49.4	…	…	…	46.3
Sex								
– Male	45.3	26.5	45.8	46.1	…	…	…	42.7
– Female	48.9	25.8	49.6	50.5	…	…	…	45.8
Socio-economic status								
– Poorest quintile	61	54	60	57	…			59.1
– Richest quintile	26	26	29	31	…			26.0
Immunisation (% of one-year-olds fully immunised) 1998-2001 by								
Education of mothers								
– Illiterate	28.0	65.0	53.7	57.0	81.2	…	…	35.8
– Secondary and above	73.0	98.0	72.5	90.9	96.6	…	…	76.1
Residence								
– Urban	60.5	70.0	69.7	74.9	94.6	…	…	63.1
– Rural	36.6	46.0	58.5	65.0	94.4	…	…	41.1
Sex								
– Male	43.1	53	63.4	67.5	…	…	…	46.0
– Female	40.9	52.0	57.0	63.9	…	…	…	43.5
Socio-economic status[a]								
– Poorest quintile	28	20	59	61	…	…	…	29.4
– Richest quintile	81	42	86	83	…	…	…	74.7
Total fertility rate 1995-2001 by								
Education of women								
– Illiterate	3.5	5.1	4.1	4.8	2.4	…	…	3.7
– Secondary & above	2.0	3.8	2.4	2.1	1.6	…	…	2.2
Residence								
– Urban	2.3	3.7	2.5	2.1	2.1	…	…	2.4
– Rural	3.1	5.4	3.5	4.4	1.8	…	…	3.4

Notes: All variables presented in this table are based on sample survey results. a: Children immunised for measles has been taken as a proxy for full immunisation.
Source: Row 1: IIPS 2002, GOP 2002c, NIPS 2001, UNICEF and GOP 2004, NIPORT, MA and ORCM 2001, MOHN, New ERA and ORCM 2002, GOS 2002; Rows: 2, 3, 4, 5: IIPS 2002, GOP 2002c, NIPS 2001, UNICEF and GOP 2004, NIPORT, MA and ORCM 2001, MOHN, New ERA and ORCM 2002, GOS 2002, World Bank 2004j.

Human Development Indicators for South Asia

Contents

Note on Statistical Sources for Human Development Indicators

The human development data presented in these annex tables have been collected with considerable effort from various international and national sources. For the most part, standardized international sources have been used, particularly the UN system and the World Bank data bank. The UNDP and World Bank offices made their resources available to us for this Report.

Countries in the indicator tables are arranged in descending order according to population size. While most data have been taken from international sources, national sources have been used where international data have been sparse. Such data have to be used with some caution as their international comparability is still to be tested.

Several limitations remain regarding coverage, consistency, and comparability of data across time and countries. The data series presented here will be refined over time, as more accurate and comparable data become available. In particular, policy-makers are invited to note the following deficiencies in the currently available statistical series and to invest sufficient resources to remedy these shortfalls:

a) Generally the latest data are not available for several indicators. Some statistical indicators date back ten years or more. Analysis of the current economic and social situation is greatly handicapped in the absence of up-to-date data.
b) Time series are often missing for even the most basic data as population growth, adult literacy, or enrolment ratios. An effort must be made to build consistent time series for some of the important indicators.
c) In certain critical areas, reliable data are extremely scarce: for instance, for employment, income distribution, public expenditure on social services, military debt, foreign assistance for human priority areas, etc.
d) Information regarding the activities of NGOs in social sectors remains fairly sparse.

It is time for policy-makers to make a significant investment in the collection and analysis of up-to-date, reliable, and consistent indicators for social and human development. If development is to be targeted at the people, a great deal of effort must be invested in determining the true condition of these people.

It is hoped that the various gaps visible in this annex will persuade national and international agencies to invest more resources and energy in investigating human development profiles.

1. Basic Human Development Indicators

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
Total estimated population (millions) 2002[a]	1,050	150	144	25	19	2.2	0.3	1,391T	5,025T
Annual population growth rates (%) 1997-2002	1.7	2.6	2.2	2.3	0.9	2.9	3.0	1.9	1.6
Life expectancy at birth 2002	64	61	61	60	73	63	67	63	64.6
Adult literacy rate (% age 15 and above) 2002	61	42	41	44	92	47	97	57	77
Female literacy rate (% age 15 and above) 2002	46	29	31	26	90	…	97	43	65[b]
Combined 1st, 2nd and 3rd level gross enrolment ratio (%) 2001-02	55	37	54	61	65	33[c]	78	53	60
Infant mortality rate (per 1,000 live births) 2002	67	83	51	66	17	74	58	66	61
GNI per capita[d] (US$) 2002	470	420	380	230	850	600	2,170	457	1,170
GDP growth (%) 2001-02	4.6	2.8	4.4	-0.5	4.0	7.7	5.6	4.3	3.3
GDP per capita growth (%) 2001-02	3.0	0.4	2.6	-2.7	2.7	4.8	3.0	2.6	2.0
GDP per capita (PPP US $) 2002	2,670	1,940	1,700	1,370	3,570	1,969	4,798	2,480	4,054
Human Development Index (HDI) 2002[e]	0.595	0.497	0.509	0.504	0.740	0.536	0.752	0.576	0.663
Gender-related Development Index (GDI) 2002[f]	0.572	0.471	0.499	0.484	0.738	0.444[b]	0.739[g]	0.554	0.634[b]

Notes: a: Population figures for 2002 are taken from UNDP 2004b, (Medium Variant). The population growth rate has been calculated by using the formula {[(new value/old value)^1/n]-1}*100. b: Data refer to 1998. c: Data refer to 2000-01. d: Gross national product (GNP) has been replaced by Gross national income (GNI). e: The Human Development Index (HDI) has three components: life expectancy at birth; educational attainment, comprising adult literacy, with two-thirds weight, and a combined primary, secondary and tertiary enrolment ratio, with one-third weight; and income. Any significant difference in the HDI for the South Asian countries is due to change in methodology for calculating the index. Please refer to UNDP's Human Development Report 2004. f: Gender-related Development Index (GDI) adjust the HDI for gender equality in life expectancy, educational attainment and income. g: Data refer to 2000.

Source: Rows 1, 2: UNPD 2004b; Rows 3, 4, 6, 7, 11, 12, 13: UNDP 2004; Row 5: UNDP 2004, MHHDC 2004; Rows 8, 9, 10: World Bank 2004j.

2. Trends in Human Development

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
GNI per capita (US$)[a]									
– 1973	130	130	80	90	230	…	…	126	880[b]
– 2002	470	420	380	230	850	600	2,170	457	1,170
GDP per capita (PPP, US$)									
– 1960	617	820	621	584	1,389	…	…	648	790
– 2002	2,670	1,940	1,700	1,370	3,570	1,969	4,798	2,480	4,054
Human Development Index (HDI)									
– 1960	0.206	0.183	0.166	0.128	0.475	…	…	0.204	…
– 2002	0.595	0.497	0.509	0.504	0.740	0.536	0.752	0.576	0.663
Life expectancy at birth (years)									
– 1960	44	43	40	38	62	37	44	44	46
– 2002	64	61	61	60	73	63	67	63	65
Gross enrolment ratio for all levels									
– 1980[c]	40	19	30	28	58	7	…	37	46
– 2001-02	55	37	54	61	65	33[d]	78	53	60
Adult literacy rate (% age 15 and above)									
– 1970	34	21	24	13	77	…	91	32	43
– 2002	61	42	41	44	92	47	97	57	77
Infant mortality rate (per 1,000 live births)									
– 1960	144	139	151	212	90	175	158	144	137
– 2002	67	83	51	66	17	74	58	66	61
Fertility rate									
– 1960	6.0	7.0	6.7	6.0	5.4	6.0	7.0	6.1	6.0
– 2002	3.1	5.1	3.5	4.3	2.0	5.1	5.4	3.4	3.0
Underweight children (% under age 5)									
– 1975	71	47	84	63	58	…	…	69	40
– 1995-2002	47	38	48	48	29	19	30	46	27

Notes: a: Gross national product (GNP) has been replaced by Gross national income (GNI) b: Data refer to 1979. c: Indicator is calculated as a percentage of age group 6-23. d: Data refer to 2000-01.

Source: Row 1: World Bank 2004j; Rows 2, 3, 4, 6, 7: UNDP 2004; Row 5: UNDP 2003c, 2004; Rows 8, 9: UNICEF 2003b.

3. Education Profile

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
Adult literacy rate (%)									
– 1970	34	21	24	13	77	…	91[a]	32	43
– 2002	61	42	41	44	92	47	97	57	77
Male literacy rate (% age 15 and above)									
– 1970	47	40	47	22	86	…	…	47	55
– 2002	69	53	50	62	95	61[b]	97	66	82[b]
Female literacy rate (% age 15 and above)									
– 1970	19	5	9	3	68	…	…	17	32
– 2002	46	29	31	26	90	34[b]	97	43	66[b]
Primary enrolment (%) gross									
– 1970	73	40	54	26	99	…	…	68	76
– 2001-02	99	73	98	122	110	73[c]	131d	97	103
Secondary enrolment (%) gross									
– 1970	26	13	…	10	47	2	…	25	…
– 2001-02	48	37[d]	47	44	81	5[c]	49[c]	47	63
Combined enrolment for all levels (%)									
– 1980	40	19	30	28	58	7	…	37	46
– 2001-02	55	37	54	61	65	33[e]	78	53	60
Percentage of children dropping out before grade 5 (2000-01)	41	50[f]	35	22	3[f]	9	2[f]	40	24[f]
Tertiary natural and applied science enrolment (as % of total tertiary)									
– 1994-97	25	…	…	14	29	…	…	20	…
Public expenditure on education (as % of GDP)									
– 1960	2.3	1.1	0.6	0.4	3.8	…	…	2.0	2.5
– 1999-2001	4.1	1.8	2.3	3.4	1.3	5.2	3.9[g]	3.6	4.1[g]

Notes: a: Data refer to 1985. b: Data refer to 2000. c: Data refer to 1993. d: data refer to 1998. e: Data refer to 2000-01. f: Data refer to 1995-99. g: Data refer to 1998-2000.

Source: Rows 1, 8: UNDP 2004; Rows 2, 3, 7, 9: UNDP 2004, MHHDC 2004; Rows 4, 5: World Bank 2004j, MHHDC 2004; Row 6: UNDP 2003a, 2004.

4. Health Profile

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
Population with access to safe water (%)									
– 1990-96	81	60	84	44	46	58	96	78	71
– 2000	84	90	97	88	77	62	100	86	78
Population with access to sanitation (%)									
– 1990-96	16	30	35	6	52	70	66	22	29
– 2000	28	62	48	28	94	70	56	35	51
Child immunisation rate (% of children under age 1)									
– Measles 2002	67	57	77	71	99	78	99	68	73
– DPT 2002	70	63	85	72	98	86	98	71	73
Physicians (per 100,000 people)									
– 1990-2003	51	68	23	5	43	5	78	49	…
Maternal mortality ratio adjusted (per 100,000 live births)									
– 2000	540	500	380	740	92	420	110	516	440
Contraceptive prevalence rate (% of women aged 15-49)									
– 1995-2002	47	28	54	39	71	31	32	46	59
Prevalence of anaemia in pregnant women (%)									
– 1985-2000[a]	52	37	53	65	39	30[b]	…	50	57
Pregnant women receiving prenatal care (%)									
– 1995-2002	60	43	40	28	98	…	…	55	…

Notes: a: World Bank has stopped providing data for prevalence of anaemia in pregnant women (%). b: Data refer to 1985-99.
Source: Rows 1, 2, 4: UNDP 2004; Rows 3, 5, 6: UNICEF 2003c; Row 7: World Bank 2004j, IIPS 2002, MHHDC 2004; Row 8: World Bank 2004j.

5. Human Deprivation Profile

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
Population below income poverty line (%)									
– 1$ a day 1990-2002	34.7	13.4	36.0	37.7	6.6	…	…	32.3	…
– National poverty line 1990-2001[a]	28.6	32.6	49.8	42.0	25.0	…	…	31.4	…
Population without access to safe water 2000									
– number (millions)	162.7	14.3	4.1	2.8	4.3	0.7	0.0	189.0T	1,071T
– as a % of total population	16.0	10.0	3.0	12.0	23.0	38.0	0.0	14.1	22.0[b]
Population without access to sanitation 2000									
– number (millions)	732.2	54.3	71.8	16.9	1.1	0.6	0.1	877.0T	2,385T
– as a % of total population	72.0	38.0	52.0	72.0	6.0	30.0	44.0	65.4	49.0
Illiterate adults 2000[c]									
– number (millions)	288.0	47.1	49.5	8.1	1.1	0.6	0.0	394.4T	…
– as a % of total adult population	43	57	59	58	8	53	3	46	27[d]
Illiterate female adults 2000[c]									
– number (millions)	178.6	29.2	28.6	5.2	0.7	0.4	0.0	242.7T	…
– as a % of total adult female population	55	72	70	76	11	66	3	58	30
Child malnutrition (weight for age) 1995-2002									
– % of children under the age 5	47	38[e]	48	48	29	19[f]	30[f]	46	27[f]
Under-five mortality rate (per 1,000 live births)									
– 2002	93	107	77	91	19	94	77	92	89
People living with HIV/AIDS adults (% age 15-49)									
– 2003	0.9	0.1	<0.1	0.5	<0.1	…	…	…	1.2

Notes: a: Data refer to July 2002. b: Data refer to 2000. c: The number of illiterate adults differs from 2002 MHHDC calculations, as this year the indicator has been calculated as a percentage of total adult population (15 and above), while previously these have been calculated from total population. Illiteracy rates are taken from UNPD 2004b. d: Data refer to 1998. e: Data refer to 1993-2001. f: Data refer to 1995-2002.

Source: Rows 1, 3, 7: UNDP 2004; Row 2: MHHDC 2004, UNDP 2004; Rows 4, 5: UNDP 2002b, MHHDC 2004; Row 6: UNICEF 2003c; Row 8: UNAIDS 2002c, 2004, UNDP 2004.

6. Gender Disparities Profile

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
Female population 2002									
– Number (millions)	508.54	73.13	70.05	12.04	9.12	1.08	0.15	674T	2,477T
– As a % of male	94	95	95	96	93	98	94	94	97
Adult female literacy (as % of male)									
– 1970	41	35	35	12	80	…	…	40	…
– 2002	46	29	31	26	90	…	97	43	88
Female primary school gross enrolment (as % of male)									
– 1970	64	37	48	20	92	6	107	60	79
– 1997-2000[a]	83	58	101	84	97	76	100	82	91
Female 1st, 2nd and 3rd level gross enrolment ratio (as % of male) 2001-02	78	60	100	81	102	71	101	79	87
Female life expectancy (as % of male)									
– 1970	97	99	97	97	103	104	95	97	103
– 2002	102	100	102	98	109	103	99	102	105
Economic activity rate (age 15+) (female as % of male)									
– 1970	43	11	6	52	37	52	35	37	53
– 2002	50	44	76	67	56	65	80	52	67
Female professional and technical workers (as % of total)									
– 1992-2001[a]	…	26	25	…	49	…	40	27	…
Seats in parliament held by women (% of total)									
– 2004[b]	9.3	20.8	2.0	7.9[c]	4.4	9.3	6.0	9.7	…
Gender-related Development Index (GDI) 2002	0.572	0.471	0.499	0.484	0.738	0.444[d]	0.739[d]	0.554	0.634[d]
Gender Empowerment Measure (GEM) 2002	0.24[d]	0.416	0.218	…	0.276	…	0.361[d]	0.343	…

Notes: a: Data refers to most recent year available. b: As of March 2004. c: Data refer to 2003. d: Data refer to 1998.
Source: Row 1: UNPD 2004b; Rows 2, 8, 9, 10: UNDP 2004, MHHDC 2004; Rows 3, 5: UNICEF 2003c; Rows 4, 6, 7: UNDP 2004.

7. Child Survival and Development Profile

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
Population under 18 2002									
– number (millions)	414	72	65	12	5.8	1.07	0.16	569T	1,916.8T
– as a % of total population	39	48	45	49	31	49	52	41	38
Population under-five 2002									
– number (millions)	120	23	19	3.6	1.5	0.34	0.05	168T	551T
– as a % of total population	11	15	13	15	8	16	16	12	11
Infant mortality rate (per 1,000 live births)									
– 1970	127	117	145	165	65	156	157	144	109
– 2002	67	83	51	66	17	74	58	66	61
Under-five mortality rate (per 1000 live births)									
– 1970	202	181	239	250	100	267	255	235	167
– 2002	93	107	77	91	19	94	77	92	89
One-year-olds fully immunised against tuberculosis (%)									
– 1980	14	9	1	43	63	9	8	13	…
– 2002	81	67	95	85	99	83	98	81	80
One-year-olds fully immunised against measles (%)									
– 1980	1	3	2	2	0	18	30	1	…
– 2002	67	57	77	71	99	78	99	68	72
Births attended by trained health personnel (%)									
– 1995-2002	43	20	12	11	97	24	70	38	55
Low birthweight infants (%)									
– 1998-2002[a]	30	19	30	21	22	15	22	29	18[b]
Children in the labour force (% age group 10-14)									
– 2002	11	14	27	41	1	55[c]	6[c]	13	12

Notes: a: Data refer to most recent year available. b: Data refer to 1995-2000. c: Data refer to 2001.
Source: Rows 1, 2: UNICEF 2003c; Rows 3, 4, 5, 6, 7: UNDP 2004; Row 8: MHHDC 2004, UNDP 2004; Row 9: MHHDC 2004, World Bank 2004j.

8. Profile on Military Spending

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
Defence expenditure (US $ millions, 1999 prices)									
– 1985	7,207	2,088	308	22	214	…	…	9,839T	189,727T
– 2002	13,070	3,180	620	90	680	…	…	17,640T	205,041T
Defence expenditure annual % increase (1985-2002)	3.6	2.5	4.2	8.6	7.0	…	…	3.5	0.5
Defence expenditure									
– (as a % of GNP) 1985	2.5	5.1	1.3	0.7	2.6	…	…	3.0	7.2
– (as a % of GDP) 2002	2.3	4.7	1.1	1.4	3.1	…	…	2.4	2.6
Defence expenditure (as % of central government expenditure)									
– 1980	19.8	30.6	9.4	6.7	1.7	…	…	21.3	…
– 2002	14[a]	21.6	11.2	8.6	14.7	…	…	14.0	12.6
Defence expenditure per capita (US$, 1999 prices)									
– 1985	9.4	22	3.1	1.3	14	…	…	9.9	52.0
– 2002	12.4	21.2	4.3	3.7	36.0	…	…	13.0	41.0
Armed forces personnel (no. in thousands)									
– 1985	1,260	484	91	25	22	…	…	1,882T	16,027T
– 2002	1,205	587	137	51	158	5	…	2,143T	13,840T
Employment in arms production (000's) 2002	175	50	…	…	…	…	…	225T	3,000T
Aggregate number of heavy weapons 2002[b]	11,170	5,710	570	140	560	…	…	18,150T	211,000T

Notes: a: Data refer to 2001. b: Military holdings include ships, combat aircrafts, tanks and artillery that country possesses. The index is a calculation based on the aggregate number of heavy weapons.

Source: Rows 1, 2, 5, 6, 7, 8: BICC 2004; Row 3: UNDP 2004, World Bank 2004j; Row 4: World Bank 2003g, 2004j.

9. Profile of Wealth and Poverty

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
Total GDP (US$ billions) – 2002	510.2	59.1	47.6	5.5	16.6	0.6	0.6	640T	6,189T
GDP per capita (PPP US$) – 2002	2,670	1,940	1,700	1,370	3,570	1833[a]	4798[a]	2480	4,054
GNI per capita (US$)[b] – 2002	470	420	380	230	850	600	2,170	457	1,170
Income share: ratio of highest 20% to lowest 20% (1995-2000[c])	4.7	4.8	4.6	5.9	5.3	…	…	4.7	…
Population below income poverty line (%)									
– $1 a day (1993 PPP US$) 1990-2002[c]	34.7	13.4	36.0	37.7	6.6	…	…	32.3	…
– National poverty line 1990-2001[c]	28.6	32.6	49.8	42.0	25.0	…	…	31.4	…
Population below income poverty line (%) 1995-2000									
– urban	24.7	24.2	36.6	23.0	15.0	…	…	25.7	…
– rural	30.2	35.9	53.0	44.0	27.0	…	…	33.3	…
Public expenditure on education (as % of GDP)1999-2001[c]	4.1	1.8	2.3	3.4	1.3	5.2	3.9[d]	3.6	…
Public expenditure on health (as % of GDP) 2001	0.9	1.0	1.5	1.5	1.8	3.6	5.6	1.0	…
Gross capital formation (as % of GDP) 2002	23	15	23	25	21	47.3[e]	…	22	23
Gross domestic savings (as % of GDP) 2002	22	14	18	12	14	...	…	20	26
Industry value added (as % of GDP) 2002	27	23	26	22	26	37[f]	…	26	33
Tax revenue (as % of GDP) 2002	10	13	7[a]	10	15	7.8[e]	21[e]	10	…
Exports (as % of GDP) 2002	15	19	14	16	36	22	88	16	33
Total debt service (as % of exports of goods and services) 2002	14.9	17.8	7.3	8.8	9.8	4.6	4.5	14.2	17.8
Total net official development assistance received 2002									
– US$ millions	1,463	2,144	913	366	344	74	28	5,331T	55,150T
– as % of GDP	0.3	3.6	1.9	6.7	2.1	12.4	4.6	1.0	0.7
Total external debt (US$, billions) 2002	104.429	33.672	17.037	2.953	9.611	…	…	168T	2,341T

Notes: a: Data refer to 2001. b: Gross national product (GNP) has been replaced by Gross national income (GNI). c: Data refer to most recent year available. d: Data refer to 1998-2000. e: Data refer to 1998. f: Data refer to 2000.

Source: Rows 1, 4, 5, 8, 13, 14, 15: UNDP 2004; Rows 2, 7: UNDP 2004, MHHDC 2004; Rows 3, 6, 16: World Bank 2004j; Rows 9, 10, 11, 12: World Bank 2004j, MHHDC 2004.

10. Demographic Profile

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
Population (in millions)									
– 1960	442	50	51	9	10	1.0	0.1	563 T	2,070 T
– 2002	1,050	150	144	25	19	2.2	0.3	1,391T	5,025 T
Population growth rate (annual %)									
– 1960-70	2.3	2.8	2.6	2.0	2.4	1.8	2.0	2.4	2.5
– 1970-80	2.2	2.6	2.8	2.6	1.7	2.0	2.7	2.3	2.2
– 1980-90	2.1	3.6	2.1	2.6	1.6	2.2	3.2	2.3	2.1
– 1990-95	1.9	2.7	2.0	2.0	1.1	3.7	2.6	1.9	1.8
– 1995-2000	1.7	2.6	1.6	2.7	1.1	3.1	3.7	1.8	1.6
– 2000-05	1.5	2.4	2.0	2.2	0.8	3.0	3.0	1.7	1.5
Population doubling date (at current growth rate)									
– 2000[a]	2041	2026	2032	2031	2077	2024	2023	2037	…
Crude birth rate (per 1,000 live births)									
– 1970	40	43	46	42	29	42	40	41	42
– 2002	24	36	29	33	17	35	36	26	24
– % decline (1970-2002)	40	16	37	21	41	17	10	36	43
Crude death rate (per 1,000 live births)									
– 1970	17	18	21	22	8	22	17	17	20
– 2002	9	10	8	10	7	9	6	9	9
– % decline (1970-2002)	47	44	62	55	14	59	65	48	55
Total fertility rate									
– 1960	6.0	7.0	6.7	6.0	5.4	6.0	7.0	6.1	6.0
– 2002	3.1	5.1	3.5	4.3	2.0	5.1	5.4	3.4	3.0
– % decline (1960-2002)	48	27	48	28	63	15	23	45	50
Total labour force (in millions)									
– 1980	300	29	40	7	5			382T	1,678T
– 2002	470	55	72	11	8	...	...	618T	2,558T
Female labour force (in millions)									
– 2002	153	16	31	5	3	…	…	208T	1,028T
Percentage annual growth in labour force									
– 1980-2002	2.0	2.9	2.7	2.1	2.0	…	…	4.6	2.0
– 2001-10	1.8	3.2	2.2	2.4	1.7	...	...	1.7	1.6
Unemployment rate (as % of labour force)									
– 1999-2003[b]	7.3	8.2	3.6	1.9	8.4	1.9	2.0	6.9	…
Employment by economic activity (%) 1995-2002									
Agriculture									
– Female	…	73	77	…	49	…	2	73	…
– Male	…	45	53	…	38	…	16	48	…
Industry									
– Female	…	9	9	…	22	…	24	10	
– Male	…	20	11	…	23	…	16	16	
Services									
– Female	…	18	12	…	27	…	39	16	
– Male	…	36	30	…	37	…	56	33	

Notes: a: Compound growth rate used to calculate the population doubling rate is 1997-2002 provided in table 1, note a. b: Data refer to most recent year available.
Source: Rows 1, 2, 3: UNPD 2004b; Rows 4, 5, 6: UNICEF 2003c; Rows 7, 8: World Bank 2004j; Row 9: World Bank 2003g, 2004j; Row 10: ADB 2004; Row 11: UNDP 2004.

11. Profile of Food Security and Natural Resources

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)	Developing Countries
Food production net per capita – 2003 (1999-2001=100)	98.4	97.9	97.8	99.3	100.1	76.2	103.8	98.3	103.8
Food exports (% of merchandise exports) – 2002	12.0	11.0	0.0	10.0	21.0	23[a]	79b	11.5	9.0
Food imports (% of merchandise imports) – 2002	6	12	16	13	14	21.5[a]	22.8[b]	8	9
Cereal production (1,000 metric tons) – 2003	232,048	27,753	39,683	7,257	3,107	93	…	309,941T	1,230,541T
Cereal imports (1,000 metric tons) – 2002	2.8	285.4	2,824.2	30.3	1,292.5	34.4	37.5	4,507.15T	…
Cereal exports (1,000 metric tons) – 2002	9,569.9	3,076.1	0.6	6.8	8.4	3.7	…	12,665.5T	…
Forest production (1,000 cu. m) 2003									
– Roundwood	321,507	27,983	28,300	13,974	6,404	4,547	…	402,714T	2,027,500T
– Fuelwood	302,199	25,304	27,728	12,714	5,710	4,143	…	377,797T	1,603,133T
Crop production index (1989-91=100) – 2000-02	124	123	136	138	115	…	…	125	143
Land area (1,000 sq. km) – 2000	2,973	771	130	143	65	…	…	4,082T	99,149T
Land use									
– Arable land (% of land area) 2001	54	28	62	22	14	…	…	51	11
– Permanent cropped area (% land area) 2001	2.7	0.9	2.0	0.6	15.7	…	…	2.6	1.1
Irrigated land hectors (as % of cropland) – 1999-2001	32.2	81.6	49.6	36.2	33.6	…	...	39.3	22.1
Average annual deforestation (%) – 1990-2000	-0.1	1.1	-1.3	1.8	1.6	…	...	-0.04	0.3
Total renewable freshwater resources per capita cu. m 2000	1,819	1,534	8,922	8,713	2,636	…	…	2,649	8,258T
Annual freshwater withdrawals									
– as % of total renewable resources	26.2	70.0	1.2	13.8	19.6	…	…	28.9	6.0
– (billion cu. m) 1980-2000	500	155.6	14.6	29	9.8	…	…	709T	2,471T

Notes: a: Data refer to 1994. b: Data refer to 1997.
Source: Rows 1, 4, 5, 6, 7: FAO 2004; Rows 2, 3: MHHDC 2004, World Bank 2004j; Rows 8, 9, 10, 11, 12, 13, 14: World Bank 2004j.

Selected definitions

Adult prevalence rate (of HIV/AIDS): is the percentage of adults (age 15-49) who are infected with HIV.

Birth attended by skilled health staff (%) is the percentage of deliveries attended by skilled health personnel (including doctors, nurses and midwives) trained to give the necessary care, supervision and advice to women during pregnancy, labour and the postpartum period, to conduct deliveries on their own and to care for newborns.

Carbon dioxide emissions: Anthropogenic (human originated) carbon dioxide emissions stemming from the burning of fossil fuels, gas flaring and the production of cement.

Child mortality rate is the probability of dying between the ages of one and five.

Contraceptive prevalence rate (%) shows the percentage of married women ages 15-49 who are using, or whose partners are using, any form of contraception, whether modern or traditional.

Crude death rate and *crude birth rate* are the number of deaths and births, respectively, occurring during the year per 1,000 population.

DOTS detection rate is the percentage of new infectious tuberculosis cases detected under the directly observed treatment, short course case detection and treatment strategy.

Health expenditure per capita (PPP US$): The sum of public and private health expenditure, divided by the population.

Health expenditure, private: Direct household (out-of-pocket) spending, private insurance, spending by non-profit institutions serving households and direct service payments by private corporations.
Health expenditure, public: Current and capital spending from government budgets, external borrowings and grants (including donations from international agencies and non-governmental organisations) and social health insurance funds.

Health-adjusted life expectancy (HALE) indicates the number of years in full health that a newborn can expect to live based on current rates of ill-health and mortality.

Hospital beds include inpatient beds available in public, private, general and specialised hospitals and rehabilitation centres.

Infant mortality per 1,000 births: The probability of dying between birth and exactly one year of age expressed per 1000 live births.

Life expectancy at birth (years) is the number of years a newborn infant would live if prevailing patterns of age specific mortality rates at the time of birth were to stay the same throughout the child's life.
Maternal mortality rate: Number of maternal deaths related to childbearing divided by all births.

Maternal mortality ratio (per 100,000 live births): The annual number of deaths of women from pregnancy- related causes per 100,000 live births.

Neonatal mortality (per 1,000 births) covers the infants who died during the first month or first 28 days of their birth.

People living with HIV/AIDS: The estimated number of people living with HIV/AIDS at the end of the period specified.

Physicians (per 100,000 people): Graduates of a faculty or school of medicine who are working in any medical field (including teaching, research and practice) per 100,000 people.

Population with access to improved sanitation (%) shows the percentage of population with access to adequate excreta

disposal facilities, such as a connection to a sewer or septic tank system, a pour-flush latrine, a simple pit latrine or a ventilated improved pit latrine. An excreta disposal system is considered adequate if it is private or shared (but not public) and if it can effectively prevent human, animal and insect contact with excreta.

Population with access to improved water source (%) shows the share of population with reasonable access to any of the following types of water supply for drinking: household connections, public standpipes, bore holes, protected dug wells, protected springs and rainwater collection. Reasonable access is defined as the availability of at least 20 litres a person per day from a source within one kilometre of the user's dwelling.

Post-neonatal mortality (per 1,000 births) covers the infant deaths, which occur after the first month but before one year of age.

Pregnant women receiving antenatal care are the percentage of women attended at least once by skilled health personnel for reasons related to pregnancy.

Total fertility rate (per woman) is the number of children that would be born to each woman if she were to live to the end of her childbearing years and bear children at each age in accordance with prevailing age specific fertility rates.

Under-five mortality per 1,000 births: The probability of dying between birth and exactly five years of age expressed per 1,000 live births.

KEY TO INDICATORS

Indicator	Indicator tables	Original source
A, B, C		
Access to,		
safe water	4, 1h	UNDP
sanitation	4, 1h	UNDP
Armed forces personnel	8	BICC
ARI prevalence, % of under-five	2h, 3h	DHS*
ART,		
number of people needing	3h	UNAIDS, UNICEF,WHO
percentage receiving	3h	UNAIDS, UNICEF,WHO
Birth rate, crude	10, 1h	UNICEF
Births attended by trained health staff	7, 1h, 4h	UNDP
Birthweight, low	7,2h	UNDP
Breastfeeding,		□
exclusively breastfed, < 6 months	2h	UNICEF
still breastfeeding, 20-23 months	2h	UNICEF
with complementary food, 6-9 months	2h	UNICEF
Carbon dioxide emission	3h	WB
Cereal,		
exports	11	FAO
imports	11	FAO
production	11	FAO
Children in absolute poverty	2h	Gordon *et al.*
Contraceptive prevalence rate	4, 1h, 4h	UNICEF
Crop production index	11	FAO
D	□	
Death rate, crude	10, 1h	UNICEF
Debt,		
total external	9	WB
servicing	9	UNDP
Defence		
armed forces personnel, total	8	BICC
expenditure,		
annual % increase	8	BICC
as % of central govt. expenditure per capita	8	WB
as % of GDP	8	UNDP
as % of GNP	8	UNDP
total	8	BICC
Deforestation, average annual	11	WB
Deliveries, at home rural/urban	4h	DHS*
Diarrhoea prevalence, % under-five	2h, 3h	DHS*
Drop-outs before grade five	3	UNICEF
E	□	
Economic activity rate, female as % of male	6	UNDP
Education expenditure, as % of GDP	3, 9	UNDP
Employment by economic activity		
agriculture female, male	10	UNDP
industry female, male	10	UNDP
services female, male	10	UNDP
in arms production	8	BICC

Indicator	Indicator tables	Original source
Enrolment,		
combined 1st, 2nd & 3rd level, gross	1, 2, 3	UNDP
combined 1st, 2nd & 3rd level gross,		
female as % of male	6	UNICEF
primary level, gross	3	WB
primary level, gross		
female as % of male	6	UNICEF
secondary level, gross	3	WB
tertiary, natural & applied science	3	UNDP
Exports, % of GDP	9	UNDP
External resources for health	5h	WHO
F □	□	
Fertility rate,		
by education, residence, sex, socio-economic status	6h	DHS*,WB
total	2, 10	UNICEF
urban, rural	4h	UNFPA, PRB, GOS
Female professional & technical workers	6	UNDP
Food		□
as a % of merchandise exports	11	WB
as % of merchandise imports	11	WB
net production per capita	11	FAO
Forest production (1,000 cu.m.)		□
fuel wood	11	FAO
round wood	11	FAO
Freshwater withdrawals	11	WB
G		□
GDP,		
growth rate	1	WB
per capita, PPP US$	1, 2, 9	UNDP
per capita growth	1	WB
total	9	UNDP
Gender empowerment measure	6	UNDP
Gender-related Development Index	1, 6	UNDP
GNI per capita	1, 2, 9	WB
Gross capital formation	9	WB
Gross domestic investment	9	WB
Gross domestic savings	9	WB
H, I, J □		
Health expenditure,		
general public expenditure, as % of total expenditure on health	1h, 5h	WHO
per capita	1h	WHO
total	5h	WHO
private expenditure as % of total expenditure on health	1h, 5h	WHO
public, as % of GDP	9, 1h	UNDP
HIV/AIDS,		
among adult population	5, 3h	UNAIDS

Indicator	Indicator tables	Original source
among youth, female/male	3h	WB
estimated number of people living with	3h	UNAIDS
women who have heard about	3h	DHS*
Hospital beds, population per	5h	WHO, GOP
Human development index	1, 2	UNDP
Illiterate,		
adults		
percentage of total		
adult population	5	UNDP
total	5	UNDP
females,		
percentage of total		
adult population	5	UNDP
total	5	UNDP
Immunisation,		
children		
BCG	2h	UNICEF
DPT	4, 2h	UNICEF
Measles	4, 2h	UNICEF
Polio	2h	UNICEF
one-year-olds by education, residence, sex, socio- economic status	5h	DHS*,WB
Income share: ratio of top 20% to bottom 20%	9	UNDP
Industry, value added % of GDP	9	WB
Infant mortality rate,	1, 2, 7, 1h, 2h	UNDP
by education of mothers, residence, sex, socio-economic status	6h	DHS*, WB
Iodised salts, households using	2h	WHO
K, L		
Labour force,		
annual growth rate, average	10	WB□
child	7	WB
female	10	WB
total	10	WB
Land area	11	WB
Land irrigated, as % of cropland	11	WB
Land use		□
arable, % of land area	11	WB
permanent cropped area, % of land area	11	WB
Life expectancy at birth,		
total	1, 2, 1h	UNDP
female	4h	WHO
as % of male	6, 4h	UNICEF
Literacy rate,		□
adults	1, 2, 3	UNDP
female	1, 3, 6	UNDP
as % of male	6	UNICEF
male	3	UNDP
Low birthweight	7, 2h	UNDP

Indicator	Indicator tables	Original source
M, N, O		□
Malaria cases, per 100,000 people	3h	UNDP
Malnourished, children under-five	5, 2h	UNICEF
Maternal mortality		
life time risk of	4h	WHO,UNICEF, UNFPA
ratio	4, 1h	WHO,UNICEF, UNFPA
total	4h	WHO,UNICEF, UNFPA
Measles, one-year-olds fully immunised	7	UNDP
Micronutrient deficiencies among children		□
iron deficiency anaemia	2h	WHO
vitamin A	2h	WHO
Mortality rate,		
infant	1, 2, 7, 1h, 2h	UNDP
under-five	5, 7, 2h	UNDP
ODA received ,		
as percentage of GDP	9	UNDP
total	9	UNDP
Oral rehydration therapy	2h	DHS*
P, Q, R		□
Physicians, per 100,000 people	4, 1h, 5h	UNDP
Polio, number of cases reported	3h	WHO
Population,		
doubling date	10	UN
estimated		
female	6, 4h	UNPD
female to male ratio	6, 4h	UNPD
growth rate, annual	1, 10	UNPD
total	1, 10	UNPD
under-five	7	UNICEF
under 18	7	UNICEF
Poverty,		
absolute, children living in	2h	GORDON et al.
income, people living below		
$1 a day	9, 5	UNDP
national poverty line	9, 5	UNDP
rural	9	WB
urban	9	WB
Pregnant women,		□
received		
antenatal care	4, 4h	WHO
tetanus toxoid vaccination	4h	WB,GOS
with anaemia	4, 4h	DHS*, WB
Renewable freshwater resources, per capita	11	WB
S	□	
Safe water,		
access to	4, 1h	UNDP
percentage without access to	5	UNDP
Sanitation,		
access to	4, 1h	UNDP
percentage without access to	5	UNDP
Smoking, prevalence of		□
male	3h	WB
female	3h	WB
Stunting, % of children under-five	2h	UNICEF

Indicator	Indicator tables	Original source
T, U, V		□
Tax revenue, as % of GDP	9	UNDP
Tuberculosis,		
cases per 100,000 people	3h	UNDP
cured under DOTS	3h	UNDP
detected under DOTS	3h	UNDP
one-year-olds immunised against	7, 2h	UNICEF
Undernourishment		
percentage	1h	UNDP
total	1h	FAO
Unemployment rate	10	ADB
Under-five mortality rate,	5, 7, 2h	UNICEF
by education of mother, residence,		
sex, socio-economic status	6h	DHS*, WB
Underweight, children	2, 2h, 5	UNICEF
by education of mothers, residence,		
sex, socio-economic status	6h	DHS*, WB

Indicator	Indicator tables	Original source
W, X, Y, Z		□
Wasting, % of under-five	2h	UNICEF
Weapons, number of heavy	8	BICC
Women,		
BMI less than 18.5	4h	DHS*
have heard about HIV/AIDS	3h	DHS*
height less than 145 cm	4h	DHS*
pregnant		
prevalence of anaemia	4, 4h	DHS*, WB
receiving prenatal care	4	WB
professional & technical workers	6	UNDP
seats held in parliaments	6	UNDP

Notes:'h' is applied to table numbers that appear in Profile of Health in South Asia.
* GOP 2001b, 2002c; GOS 2002; IIPS 2002; MOHN, New ERA and ORCM 2002; NIPORT, MA and ORCM 2001; NIPS 2001.

Key to source abbreviations

ADB	Asian Development Bank
BICC	Bonn International Centre for Conversion
FAO	Food and Agriculture Organisation
GOP	Government of Pakistan
MHHDC	Mahbub ul Haq Human Development Centre
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNPD	United Nations Population Division
WB	World Bank
WHO	World Health Organization