Millennium Development Goals

Progress Report 2002

BHUTAN

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Progress Report 2002

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Foreword

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Royal Government of Bhutan

Prime Minister

The Royal Government of Bhutan endorsed the Millennium Declaration in September 2000, at the UN Millennium Summit. This joint declaration was unique in its clarity and scope, and spelled out specific targets in various realms of human development that constitute the Millennium Development Goals. The Royal Government of Bhutan is convinced of the relevance of these goals and that their attainments will go a long way towards achieving the overarching national vision of Gross National Happiness.

This first Millennium Development Goal Report for Bhutan is intended to evaluate the progress made from the base year of 1990 towards the attainment of the Goals in 2015. While it identifies critical challenges and priority areas where our efforts need to be substantially increased, it also highlights particular areas in which first successes are perceptible. The Report further seeks to raise awareness about the goals of human and social development and build broad based support for action at all levels for their attainment.

The Royal Government of Bhutan is proud to be the first Government with complete ownership over the Millennium Development Goals Report. The Report was prepared under the guidance of a national MDG task force and a high level Advisory Committee with members from relevant government agencies. As the Report reflects, Bhutan is currently on track to achieve most of the Millennium Development Goals but their final attainments will ultimately depend on the level of sustained efforts and interventions in the core human development areas and on our ability to tackle both existing and emerging challenges.

Nonetheless, Bhutan remains deeply committed to the pursuit of the Millennium Development Goals. While we fully understand and acknowledge the difficulties that need to be overcome, we are nevertheless confident that a joint effort of the Royal Government and its development partners will result in the realization of these Goals.

Tashi Delek !

Lyonpo Kinzang Dorji

Content

THE MILLENNIUM DEVELOPMENT GOALS

At the UN Millennium Summit in September 2000, 149 Heads of State or Government and 191 nations adopted the historic Millennium Declaration. This important Declaration agreed on a broad set of important development goals and targets with corresponding indicators that came to be known as the Millennium Development Goals (MDGs).

The MDGs embody the deep aspirations and commitment of the global community for significant improvements in the quality of human life, with numerical and time bound targets to be achieved by 2015 from the baseline year of 1990. These targets include:

- *halving poverty & hunger;*
- *achieving universal primary education;*
- *removing gender disparities;*
- *reducing under-5 mortality by two thirds*
- *reducing maternal mortality by three quarters;*
- *reversing the spread of HIV/AIDS & other diseases;*
- *ensuring environmental sustainability; &*
- *halving the proportion of people without access to safe drinking water.*

Bhutan's MDG Report[1] provides an update of the country's progress in meeting the above development targets, highlights the particular challenges confronting the country in meeting the goals, outlines the supporting policy environment and identifies key areas for development assistance. The MDG Report also provides an overview of the monitoring environment relating to sectoral capacities to gather, process and evaluate relevant data to be wed in policy-making. As the eighth MDG of developing global partnerships for development is defined globally, Bhutan's report focuses only on the first seven MDGs.

Box 1.0

SELECTIVE DEVELOPMENT TARGETS UNDER THE BHUTAN VISION 2020

- *Increase manufacturing to 30% of GDP by 2012*
- *Increase contribution of tourism to 25% of GDP by 2017*
- *Increase value of horticultural exports by 300% 2012*
- *Install 3000 MW of Hydro-power by 2017*
- *Achieve a three-fold increase in real income of farmers by 2012*
- *Ensure 75% of rural population live within half a day walk from nearest road*
- *Maintain 60% forest cover for perpetuity*
- *Universalize Secondary Education by 2012*
- *Reduce Infant, Under-5 and Maternal Mortality Rates to current average of all developing countries by 2007*
- *Increase life expectancy to current average for all developed countries by 2012*
- *Reduce population growth rates to 1.3% by 2012*

Source: Bhutan 2020, Planning Commission

The National MDG reports serve as a key element in the follow-up to the Millennium Declaration and also to strengthen advocacy through renewed political commitment and effective mobilization of popular support and the media for these development goals. These very same purposes apply to the National MDG report for Bhutan, in that it represents a first stocktaking and analysis of progress toward the MDG targets, while providing a special opportunity for increasing awareness and renewing focus on important development benchmarks. These goals are in any case of great relevance and fully compatible with Bhutan's development vision and aspirations.

[1] *The Report was prepared with the contribution of all the relevant Government institutions and supported actively by the UNDP Office in Thimphu.*

Bhutan's Development Context and Overall Progress towards MDG Targets

Bhutan is a least developed country, and its economy is essentially an agrarian one with 79 percent of the people dependant on agriculture and livestock rearing for their livelihood. At 34 percent of the GDP in 2002, agriculture[2] still remains the single largest contributor to the national economy, though this has been declining steadily over the years. The fast growing modern sector, comprising manufacturing, industry, energy and services, today accounts for a major portion of the GDP, and is expected to dominate the economy in the future. The further developments of hydropower and energy-intensive industries are viewed as strategic key elements in unlocking the economic potential of the country and serve as the engines of growth. Tourism is also being increasingly regarded as an important sector as the industry provides more diversity to the economic base and generates valuable foreign exchange and employment opportunities in the country. Based on anticipated performance of these sectors, GDP is forecasted to continue growing rapidly at 7-9 percent annually, well into the next decade. Bhutan has also made significant progress in improving the levels of human development over the decade. This was largely achieved because of the RGoB's strong commitment to the principle of development as social transformation and its translation into action through sizeable social sector investments. These social investments are now projected to constitute 24 percent of all capital and recurrent expenditures in the Ninth Five Year Plan.

The significant investments in the social sector have greatly contributed to the overall progress towards attaining the MDGs. Bhutan is well on track to achieving several of the MDG Targets, some possibly even before 2015. However, as progress with regard to many of the MDG Targets is assessed in relation to the country's own past national context and since they are not in themselves the highest achievable goals but rather the minimum, the country should not be complacent. There is tremendous scope and need for further improvements in human development in absolute and qualitative terms. Additionally, achieving the MDGs by 2015 would require, at the least, sustained and preferably higher levels of internal effort and external support as social development increments become progressively more difficult to attain.

The various MDGs relating to poverty, educational attainments, maternal and child health, high-risk diseases and environmental sustainability, are in themselves high priority development themes for Bhutan. National development targets as reflected in the Ninth Plan and the Bhutan Vision 2020 often exceed or closely match MDG Targets (*Box 1.0*). Thus there is strong national political commitment and a generally positive policy environment. However, the overall situation with regard to the data and monitoring environment at both the sectoral and national levels is regarded to be weak and in need of strengthening.

KEY DEVELOPMENT INDICATORS

Indicator	Value	Year
Population	678,000	2000
Population growth rate (%)	2.5	2000
Life Expectancy at birth (yrs)	66.1	2000
GDP per capita PPP	1,534	1998
Human Development Index (value)	0.551	1998
Infant Mortality Rate (per 1000 live births)	60.5	2000
U5 Mortality Rate (per 1000 live births)	84	2000
Underweight U5 children (%)	19	2000
Stunted U5 children (%)	40	2000
Maternal Mortality Rate (per 1000 live births)	2.55	2000
Access to safe drinking water (%)	77.8	2000
Sanitation coverage (%)	88	2000
Adult Literacy Rate (%)	54	2000
Gross Primary Enrollment (%)	72	2000
Total land area under forest cover (%)	73	2000

Fig 1.0 Sources: Statistical Yearbook of Bhutan 2001, Bhutan National Human Development Report 2000 and National Health Survey 2000.

[2] *The agriculture sector includes agriculture, livestock, forestry and logging.*

LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
BHU	Basic Health Unit
BTF	Bhutan Trust Fund for Environmental Conservation
CPR	Contraceptive Prevalence Rate
EFA	Education For All
EIA	Environment Impact Assessment
GYT	Geog Yargay Tsogchung (Block Development Committee)
HDI	Human Development Index
HIES	Household Income and Expenditure Survey
HIV	Human Immunodeficiency Virus
IDD	Iodine Deficiency Disorder
IEC	Information, Education and Communication
IMR	Infant Mortality Rate
KAP	Knowledge, Attitude, Practice variation KABP with belief
MCH	Maternal and Child Health
MDT	Millennium Development Target
MMR	Maternal Mortality Rate
MRE	Most Recent Estimate
M+E	Monitoring and Evaluation
n.a.	Not available
NCD	Nature Conservation Division
NEC	National Environment Commission
NES	National Environment Strategy
NHDR	National Human Development Report
NHS	National Healthy Survey
NMCP	National Malaria Control Programme
Nu	Ngultrum, the Bhutanese currency
NWAB	National Women's Association of Bhutan
PHES	Public Health Engineering Section
PEM	Protein Malnutrition
STD	Sexually Transmitted Diseases
TB	Tuberculosis
TBA	Trained Birth Attendant
U5MR	Under-Five Mortality Rate
RGoB	Royal Government of Bhutan
RNR	Renewable Natural Resources
TFR	Total Fertility Rate
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
VHW	Village Health Worker
WFP	World Food Program
WHO	World Health Organization

GOAL 1 2 3 4 5 6 7

ERADICATE EXTREME POVERTY AND HUNGER

TARGET 1	Halve, between 1990 and 2015, the proportion of people whose income is less than $1 a day

Indicators	1990	2000	2015	Will Goal be met by 2015 ?
Percentage of Population living below lower poverty line	-	25%*		Insufficient Data
Average GDP per capita income in US$ PPP	620 (1991)	1534 (1998)		
HDI**	0.427 (1991)	0.550 (1998)		

Fig 1.1
**Estimate used from pilot HIES 2000,CSO*
***Bhutan National HDR 2000*

Status and Trends

Bhutan is among the least developed countries but does not readily present the typical or overt images of poverty and hunger common in other South Asian countries. Nevertheless, it is now increasingly accepted that poverty exists in parts of the country and that it is linked to accessibility.

Efforts to assess, analyse and monitor poverty in the country have begun only very recently and there is a significant lack of quantitative data and information. This situation does not allow for projecting a fuller, more accurate and quantitative profile of the poverty context in Bhutan.

Nevertheless, the pilot National Survey on Household Incomes and Expenditures (HIES) and the Poverty Assessment and Analysis Report 2000 indicate that despite the meteoric progress in Bhutan's socio-economic development, poverty remains a reality with household incomes "***low by all standards.***" Figures reflected in the pilot survey and poverty report show the current average per capita income per day at Nu. 40.

Based on the lower national poverty line[3], the survey reports that 25 percent of the population was poor, and utilizing the higher poverty line, it was estimated that 36 percent of the population was poor (*Box 1.1*).

Box 1.1

ASSESSING POVERTY LINES

For the first time, the pilot HIES attempted to define national poverty lines using international standard methodologies based on a sample of 4,000 households and using expenditures as a proxy for estimating income.

*Two optional poverty lines, an **upper** and a **lower** poverty line were identified using basic consumption needs, comprising essential food and non-food items. A food poverty line was first established using a basket of 32 items at current prices in the capital and reflecting a daily minimum food energy requirement of 2124 calories per person. On the basis of this, the food poverty line was estimated at Nu. 458.9 per capita per month.*

Scaling up the food poverty line with additional non-food allowances, a lower poverty line was established at Nu. 612.1 and an upper poverty line at Nu. 748.1 per capita per month. Using the lower poverty line it was estimated that 25.3 percent of the country's population were poor and by the upper poverty line benchmark, 36.3 percent were poor.

[3] *The Government has not yet formally endorsed these poverty lines and are to be used with caution.*

The HIES 2000 also identified poverty as a predominantly rural phenomenon, with poverty affecting only 1.7 percent of urban households compared to 21 percent of rural households. The average rural income was estimated at Nu. 33 a day, which is less than half the urban average of Nu. 70. The survey further describes a higher incidence of poverty in smaller sized urban and rural communities than larger ones.

As to the causes of low income, particularly in rural areas, these have been identified as due to limited cultivable land holdings, low productivity of land, poor rural access to markets and economic opportunities, and the lack of technical know-how.

Another rough way of assessing income levels is the level of per capita GDP which, however, can be misleading as large corporate incomes account for a significant portion of gross national income and does not reflect income disparities across different population groups. Nevertheless, per capita GDP can be a useful general indicator, particularly for evaluating the overall growth of income over the past decade.

Bhutan's GDP has grown at 6 percent over the decade, but these growth levels have largely been due to gains in the modern sector while 79 percent of people still remain engaged in agriculture. GDP per capita in Purchasing Power Parity (PPP) terms was US$ 620 in 1991 and US$ 1534 per capita in 1998. The projected trend is that GDP will grow at a fast pace between 7 and 9 percent in the next decade and this is expected to help reduce the incidence of poverty. To provide a more accurate picture of poverty, GDP per capita data should be analyzed in conjunction with the GINI coefficient, which is a widely used indicator for measuring economic inequality within a society. The pilot HIES 2000 estimates the current GINI coefficient at 0.34, which is a medium degree of equality in the region.

Discussions on poverty at various national forums indicate that Bhutan's understanding and broad definition of poverty is not limited to income poverty but is multi-dimensional and inclusive of issues of access to social services and market opportunities. Within this context, the HDI indicator, which takes into account human development parameters, provides yet another perspective into the dimensions and extant of impoverishment in the country, and an assessment of relative progress in comparison to other countries. Bhutan's HDI[4] in 1991 was 0.427, placing it among the countries with low human development. In 1998, the country's HDI was measured at 0.550, which puts it in the category of the medium human development ranked countries.

Progress towards the MDG target of reducing poverty can be judged to be satisfactory although due to insufficient data for the past, it is difficult to assess whether the goal is achievable or not. The proxy indicators of GDP per capita and HDI, however, would strongly suggest a positive trend in the reduction of the incidence of poverty. This positive outlook is also based on projected levels of GDP growth with increases in income growth at all levels and the fact that both the RGoB and donors have been increasingly focusing attention on poverty.

Challenges

Understanding the nature, causes and dimensions of poverty in Bhutan is a significant challenge, if the country is to adopt corrective and appropriate measures to eradicate it. While the Ninth Five Year Plan has set goals and targets to improve the living standards of all Bhutanese, mechanisms to assess and monitor such improvements are weak. Surveys and data collection to monitor and evaluate living standards, poverty and vulnerability are infrequent. As a result there is no comprehensive base-line data to measure poverty from a multi-dimensional perspective.

There is an urgent need to expand the human poverty indicators for monitoring and evaluation purposes, refine further the sets of appropriate and relevant poverty lines, and ascertain how the "poor" perceive their poverty and deprivations through participatory poverty assessments at household and individual levels.

As with most other developing countries, poverty in Bhutan remains a predominantly rural phenomenon, though it is now beginning to manifest in urban areas too. Income poverty in rural areas also varies from *gewog* to *gewog*. Tackling rural-urban and regional disparities will constitute a considerable challenge, as the past experience of many developing countries show that rapid economic growth and development does not necessarily translate into reduction of poverty levels and that in fact growth can occur with rising marginalization and deprivation of those who are already poor.

An important determinant of poverty that national discussions have pointed to, is the relative lack of accessibility to market opportunities in rural areas. This inaccessibility has been repeatedly pointed out at various forums as a significant constraint that needs to be addressed through an expansion of road and feeder road networks and other development infrastructure (See Box 1.2).

With urban areas expected to account for over 42 percent of the population by 2017, another issue of great significance is the dramatic increase in urbanization, and the possible emergence of urban poverty.

Box 1.2

POVERTY ALLEVIATION THROUGH INFRASTRUCTURE DEVELOPMENT

A major theme of the 7th RTM held in Bhutan in 2000 was poverty and its alleviation through infrastructure building in rural areas. The RGoB strongly conveyed that the incidence of poverty can be reduced through a strategic approach of rural infrastructure development to enhance the accessibility of rural populations to economic opportunities and further facilitate the delivery and utilization of social services.

This poverty alleviation strategy entails building infrastructure relating to:

- roads
- schools, hospitals & health units
- power supply & communication facilities
- agricultural stores, processing/marketing facilities
- commercial & industrial facilities

The expansion of rural road infrastructure has been particularly accorded a high priority as it is seen as being critical to unlock the economic and social potential of rural areas. Bhutan's Vision 2020 projects that by 2012, about three fourth of the country's people will live within half a day's walk from the nearest road head.

However, this strategic approach to tackle poverty through economic and social infrastructure development is seriously hampered by the low density and scattered nature of settlements and difficult terrain. The high cost of building such relevant infrastructure, and the lack of domestic funding to fully fund and support these, are significant constraints affecting the implementation of this strategic objective.

Supportive Environment

State of supportive conditions for achievement of poverty eradication goals
Strong

The RGoB has in the past prioritized and addressed a wide range of poverty concerns broadly through the expansion of social services, rural development and rural income generation activities, though no special poverty interventions have been targeted. Resource allocations to the social sectors in the past development plans notably indicate a strong pro-poor orientation. The Ninth Five Year Plan further maintains this trend with an allocation of 24 percent of the total development outlay for social sectors.

Poverty and related issues are, however, now being deliberated addressed nationally and they have been an important thematic subject at various RGoB and donor forums, including the 7th RTM in 2000 in Bhutan. The Pilot HIES and the Poverty Assessment Report undertaken in 2000 were also the first instruments to start filling in the information gaps relating to the poverty situation. Following these, a Bhutan Poverty Forum was held in 2001 where discussions on poverty issues were held amongst a wide range of stakeholders. The Ninth Five Year Plan also identifies the improvement of the quality of life and income, especially of the poor, as one of the five major goals. Addressing urban poverty is further reflected as a key goal in the human settlements sectoral objective in the Ninth Five Year Plan.

The RGoB is party to a Poverty Reduction Partnership Agreement wherein the Government has committed itself to the attainment of international development goals as enunciated in the World Summit for Social Development declaration in 1995, which amongst other targets include the commitment to triple the average rural per capita income to Nu. 3000 per month by the year 2012. The supportive environment to eradicate poverty is strong, which will dramatically enhance progress towards achievement of the MDG target of eradicating poverty.

Priorities for Development Assistance

- *Developing a policy framework*
- *Building capacities for poverty monitoring evaluation & developing database/statistics*
- *Increasing rural income generating activities & other opportunities*
- *Further enhancing outreach of social services in rural areas*
- *Developing infrastructuret, particularly feeder roads to increase accessibility of rural areas*
- *Supporting ongoing decentralization efforts & strengthening of capacities at Dzongkhag & Geog levels*
- *Continuing micro-credit & agricultural marketing support facilities*
- *Assessing & understanding the situation of urban poverty and coping strategies*

Tracking Progress in Eradicating Poverty: Monitoring and Evaluation Environment

Elements Of Monitoring	Assessment
Data gathering capacities	Weak
Quality of recent information	Weak
Statistical tracking capacities	Weak
Statistical analysis capacities	Weak
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms	Fair
Monitoring and evaluation mechanisms	Weak

Fig 1.2

TARGET 2	Halve, between 1990 and 2015, the proportion of people who suffer from hunger / malnutrition

Indicators	1990	2000	2015	Will Goal be met by 2015 ?
Percentage of population below minimum level of dietary energy consumption[5]	n.a	n.a	n.a	
Percentage of under-weight under-5 children	38% (1989)	19%	19%	Achieved
Prevalance of height/age (stunting) for under-5 children	56% (1989)	40%	28%	Potentially

Fig 1.3

Status and Trends

There is no evidence of widespread hunger in Bhutan, though some studies indicate the incidence of transient food insecurity and seasonal hunger in certain parts of the country, particularly during the planting and harvesting period between May and July.

Food Insecurity: While there is no hunger in the country, some *gewogs* characterised by their poor accessibility occasionally face partial food insecurity particularly relating to grain deficit. The reasons attributed are low cropping intensity and crop productivity, labor shortages, small sized land holdings, inadequate irrigation, damage by predators, pests and plant diseases, poor storage, and insufficient food stocks. Among these, the factor of land holding size appears to have the most impact on food security. The poor utilisation of food, including the diversion of food grain to brew alcohol also contributes to the situation of household food insecurity.

An emerging trend that has significant bearing on food security and nutritional sufficiency is that food procurement appears to be shifting from farm production to purchases from the market and that there are perceptible changes in dietary patterns. Climatic changes and natural calamities, as elsewhere, have as well a significant impact on the food supply situation. Even then, these may be considered exceptions and not indicative of a problematic or widespread situation. Given this, it is considered that

Percentage of underweight and stunted Under-5 Children

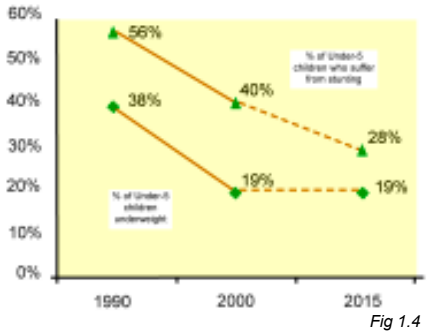

Fig 1.4

the target of **halving the numbers of those suffering from malnutrition** would be a more relevant and appropriate target for Bhutan.

Malnutrition: Levels of grade one or mild malnutrition among children have fallen from 32 percent in 1993 to 18 percent in 1997 *(Bhutan Natinal Human Development Report 2000*). Third degree or severe malnutrition was minimal though not entirely absent. The percentage of under-5 children who were underweight has been halved from 38 percent in 1989 to 19 percent in 2000 and the MD target can be considered already achieved. The progress with regard to the category of under-5 children who suffer from stunting is currently on track. However, as the increments become progressively more difficult to attain, reductions to the levels desired will require significant and sustained interventions. The target of 28 percent can be potentially attained by 2015. In both

[5] *The HIES takes 2124 calories per day per person as the minimum food energy requirement. However, there is no data available that estimates the percentage of population living below this minimum calorific intake.*

situations, there are no major gender differences in the nutritional status, and where differences exist, girls are better off.

The micronutrient deficiency situation has improved considerably over the decade. Iodine Deficiency Disorders (IDD) which were once widely prevalent in the country, reflected in the high total goiter rate at 65 percent, has reduced to a 14 percent prevalence with salt iodination close to 100 percent. With the regular monitoring and evaluation of the Iodine Deficiency Disorders Control Programme (IDDCP to ensure timely interventions, IDD prevalence should be reduced even further to minimal levels. A nationwide study of vitamin A deficiency confirms a sub-clinical vitamin A prevalence of 2.6 percent. Iron deficiency anemia, however, is regarded as a major public health problem, particularly among pregnant women.

The steady improvements in child nutrition are directly attributable to the Nutrition Programme initiated in 1985. Through the programme and subsequent nutrition interventions, several community based nutrition initiatives promoting household kitchen gardens, enhancing livestock rearing and food production were carried out successfully.

Challenges

Food insecurity and malnutrition are more prevalent in the eastern parts of the country and there is a need for increased attention to these areas. Likewise, certain sections of the population are particularly vulnerable to malnutrition, such as children and women, particularly those from lower income groups. The levels of awareness and education are poorer in those regions and among such vulnerable groups. This serves to accentuate the problem.

In terms of women's nutrition, about one fifth of women of childbearing age are malnourished with a high number of them suffering from nutritional anemia. Under the Ninth Five Year Plan, the health objective is to reduce nutritional anemia in pregnant women by half to 30 percent, which will pose a significant challenge. Additionally, available figures indicate a very high prevalence of low birth weights, the best indicator of the extent of malnutrition in women and children. Furthermore, the practice of exclusive breastfeeding becomes more and more uncommon, and breast milk substitutes are increasingly made use of. While these specific malnutrition related challenges must themselves be addressed directly, dealing with these constraints with an integrated and multi-faceted approach will in itself pose a significant challenge.

Supportive Environment

State of supportive conditions to reduce hunger/malnutrition
Strong

Achieving food security has always been an important national policy objective, particularly in the context of an essentially agrarian economy with around 79 percent of its people dependent on agriculture.

The Ninth Five Year Plan acknowledges that the overall nutritional status of the population is unsatisfactory and emphasizes the need for improvements. The sectoral policy also specifically identifies a target of reducing Protein-energy Malnutrition (PEM) in under-five children from 40 percent to 26 percent and to eliminate micronutrient deficiencies by 2007.

Nutrition gaps will be addressed further through the development of a National Nutrition Policy and integrated nutrition Informstion, Education and Communication (IEC) plan. A breast-feeding policy has recently been formulated and launched with a code for marketing of breast milk substitutes.

The successful Nutrition Programme in the communities, which includes promoting school agriculture and kitchen gardening, is to be continued and enhanced further. The new programme cycle is to be closely linked with the Child Care and Development Programme (CCDP) and the multi-sectoral effort underway to improve nutrition through increasing food production and diversity, and improving food grain storage.

Advocacy activities have been greatly strengthened with the engagement of the monk body in highlighting nutritional deficiencies. 1996 was further designated the Nutrition Action Year with various thematic activities staged across the country.

Priorities for Development Assistance

- *Enhancing grain production & livestock rearing*
- *Continuing school feeding programmes*
- *Supporting nutritional advocacy activities*
- *Reducing anemia in children & pregnant women*
- *Strengthening community participation in nutrition interventions*
- *Supporting research activities/ studies (as in ascertaining food consumption habits & dietary patterns, and towards developing dietary guidelines for nutritional interventions)*
- *Capacity building for programme support*
- *Supporting implementation of breast-feeding policies*
- *Strengthening monitoring and evaluation of malnutrition and micronutrient deficiencies*

Tracking Progress for Malnutrition: Monitoring and Evaluation Environment

Elements Of Monitoring	Assessment
Data gathering capacities	Fair
Quality of recent information	Fair
Statistical tracking capacities	Weak
Statistical analysis capacities	Fair
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms	Weak
Monitoring and evaluation mechanisms	Weak

Fig 1.5

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

Indicators	1990	2000	2015	Will Goal be met by 2015 ?
Gross Primary Enrolment rate	55%	72%	100%	Probably
Proportion of pupils starting grade 1 who reach grade 5	73% (1991)	86% (1998)	100%	Probably
Proportion of pupils starting grade 1 who reach grade 7[6]	35%	69.3%	100%	Potentially

Fig 1.6

Status and Trends

The gross primary enrollment rate has grown from 55 percent in 1991 to 72 in 2000 with enrollment growing at between 6-7 percent annually. The enrollment of girls has also shown a significant increase from 39 percent of total enrollment in 1990 to 46 percent in 2000. With increased allocations for the education sector that is now expected to constitute around 15 percent of the total government budget for the Ninth Five Year Plan, all indications and current trends point to the attainment of the MDG target by 2015. National targets indicate that attaining universal primary education may be achieved as early as 2007.

This achievement reflects the high priority that the RGoB has always attached to education, the sizeable investments made and the excellent policies in place.

The steady and increased growth of enrollments has also been largely the result of a growing awareness of the value of education and the increase in accessibility and significant expansion of schools. This including the widespread introduction of community schools across the country that has reduced walking distances to schools considerably. Besides the expansion of community schools in rural areas, several

Primary Enrollment Rates

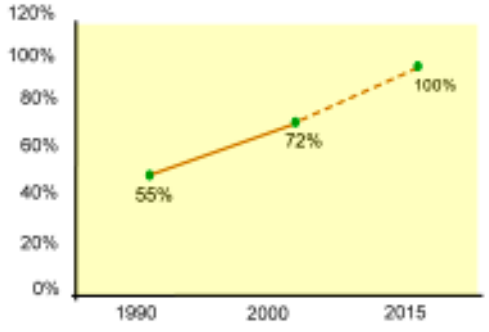

Fig 1.7

Proportion of Pupils starting grade 1 who reach grade 5

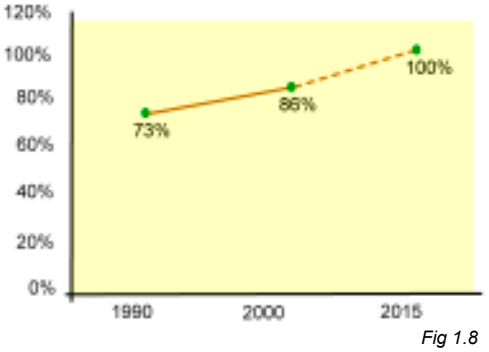

Fig 1.8

[6] *Primary education in Bhutan follows a seven-year cycle from grade 1 to 7 (i.e. Pre-Primary to Class VI) and hence is also reflected as an indicator.*

approaches have been undertaken to extend education opportunities to the children of remote, isolated and nomadic communities through establishment of boarding facilities and other innovative schemes.

There have also been significant improvements with school children completion rates for grades 1 through 5, showing a steady increase from 73 percent in 1991 to 86 percent in 1998. On the basis of this, the MDG target is likely to be achieved by 2015. However, the full primary school cycle in Bhutan is a seven-year cycle, i.e. from grade 1 to 7, and not from 1 to 5. The proportion of those starting from grade 1 and reaching grade 7 is at 69.3 percent as of 2000, as compared to half that in 1990. Even by this higher standard it seems that the target for this indicator is potentially attainable. The completion rates for girls from grade 1 to 7 have been consistently higher than those for boys since 1996-97 and in 2000 was assessed at 73.6 percent compared to 65.7 percent for boys.

Challenges

Notwithstanding the significant progress, the education system is confronted with several constraints that could affect the progress towards achieving the national and MDG targets of universal primary education.

The most significant challenge relates to increasing accessibility to schools and enhancing enrollments in areas yet unreached and among vulnerable and disadvantaged groups. This is severely constrained by the difficult terrain and the scattered nature of population settlements in rural areas, which do not allow any economies of scale.

Improving the internal efficiency of the education system further will also prove an important challenge, particularly to achieve and maintain universal primary education. Repetition rates in primary schools between 1992 and 2000 were high at an annual average of 14 percent with dropout rates averaging 3 percent. There is also scope to further improve the transition from primary to secondary schools.

Improving the quality of primary education is another important consideration that cannot be ignored while seeking to enhance quantitative progress in enrollment. Overcrowding of classrooms, shortage of qualified national teachers and inadequate learning/ teaching resources are some of the factors strongly affecting the quality of learning in primary education. Making the curriculum more relevant and interesting, including aspects of developing valuable life skills, and improving the aptitude, motivation and qualification of teachers are necessary for upgrading the quality of education in primary schools and at higher levels. With increasing demands on the school system, particularly at the primary level, the capacity of educational institutes to deliver quality education will be severely tested.

The envisaged expansion, maintaining free education coverage, and improving education quality are all expected to collectively put enormous pressures on available financial and human resources, with particular implications for the long term sustainability of recurrent expenditure costs.

Supportive Environment

State of supportive conditions for achievement of universal primary education goals
Strong

Aware of the value of education as integral to the success of development and to unlock the potential of its people, the RGoB has always attached a high priority and deep commitment to expanding equitable access to schools, improving quality and strengthening the efficient use of educational resources in pursuit of the goal of education for all. The national vision as articulated in the Bhutan Vision 2020 document further emphasises Bhutan's education goals, not only as ends in themselves but also to serve as important strategic objectives in achieving its larger social goals.

The National Education Policy (NEP) specifically emphasizes the provision of free education in public schools. Additionally, within the context of the NEP, increasing access to primary education has always been a priority area.

A major strategy in increasing access to primary education has been through the establishment of community schools, which has strong grass roots support as these are mostly built on the specific initiatives of the communities and maintained by them. The government provides the building materials and recurrent costs of teacher salaries and text/stationery expenditures. In the Ninth Five Year Plan, 134 new community schools are to be built which should further contribute towards the goal of achieving universal primary education.

Implementation of the education policy is strongly backed by considerable investments in the education sector. While the Eighth Five Year Plan allocated an average of 12 percent of the total budget allocation for Education, in the Ninth Five Year Plan budgetary allocation for the sector has been increased to about 15 percent.

Priorities for Development Assistance

- *Improving access to primary education through the expansion of schools, particularly the network of community schools*
- *Capacity building at various levels to accommodate increased enrollments*
- *Supporting school meals and boarding facilities*
- *Upgrading quality of primary education through improvements in curriculum, learning environment, teacher qualifications and didactic methods*
- *Focusing on the special education needs of disabled & disadvantaged groups*

Tracking Progress in Primary Education: Monitoring and Evaluation Environment

Elements Of Monitoring	Assessment
Data gathering capacities	Fair
Quality of recent information	Fair
Statistical tracking capacities	Weak
Statistical analysis capacities	Fair
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms	Fair
Monitoring and evaluation mechanisms	Fair

Fig 1.9

GOAL 1 2 3 4 5 6 7

Promote gender equality and empower women

TARGET 4	Eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education no later than 2015.

Indicators	1990	2000	2015	Will Goal be met by 2015 ?
Girls in primary schools *(for every 100 boys)*	69 (1991)	82	100	Probably
Girls in secondary schools (*for every 100 boys*)	43 (1991)	78	100	Potentially
Girls in tertiary schools (*for every 100 boys*)	12 (1991)	41	100	Unlikely

Fig 1.10

Status and Trends

Bhutan is regarded as a relatively "gender-balanced" country in the region. Most of the national studies on gender broadly support this and the view that at the least no overt gender discrimination exists. The situation of Bhutanese women in a social context is also regarded as being favourable. They are also accorded a dominant role under the legal system, especially in family and inheritance law. While women are involved and engaged in all spheres of economic, social, and political life, certain disparities do exist, such as the under-representation of women in public office and in the civil service.

The under-representation of women in the important process of national decision-making is attributed to lower education qualifications and literacy levels, which were essentially due to considerably lower enrollment rates for females in the past. However, in recent years there has been an increase in the number of women in the legislature and the civil service with 14 of the 99 elected people's representatives in the National Assembly being women and constituting 19 percent in the civil service.

In the past, the lower enrollment rate of girls at all levels and the corresponding low levels of female literacy and education, while forming some of the gaps identified, also constitute the critical causal conditions for the gender disparities that exist in Bhutanese society. Education is therefore seen as the critical key to enhance Bhutanese women's capabilities and participation in the socio-economic and political life of the country.

The enrollment figures for girls in primary schools in 2000 stood at over 82 girls for every 100 boys. This is a considerable improvement from the figure of 69 girls for every 100 boys in 1991. At the same time, there is now a much higher growth rate for girls' enrollment.

Enrollment Ratio for Girls at Primary, Secondary and Tertiary levels

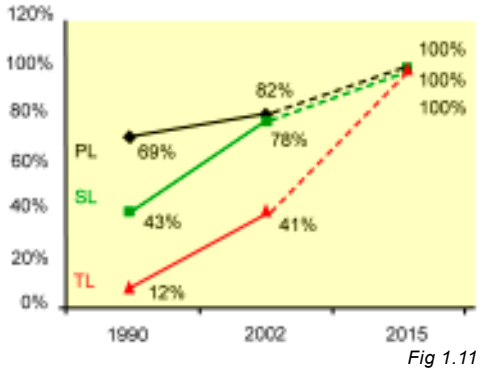

Fig 1.11

The current drop-out and repetition rates at all primary levels are also less for girls than those for boys which was not the case in past years. More over, the primary education survival rates for girls from grade 1 to 7 between 1995 and 1999 are consistently higher than those for boys. From these trends, it is expected that the target of eliminating gender disparity in primary education will be achieved by 2015.

Enrollment for girls at the secondary and tertiary levels are both comparatively lower than at the primary level, particularly in tertiary institutes where girls constitute less than half the number of boys. At the secondary level, excluding enrollments in the non-formal education programme, there are 78 girls for every 100 boys and this is projected to increase to 89 by 2007. Gender parity targets for secondary level education are thus potentially achievable by 2015, though not for 2005. However, it appears unlikely that the MDG target for gender parity at tertiary education levels will be achieved by 2015, though significant and substantial improvements are expected.

Challenge

Enrollment figures for girls at primary levels are close to par with boys and their performances at these levels are better than those of boys, however, the challenge lies in taking affirmative action towards making the school more friendly for girls and enhancing relevant facilities, such as proper and separate toilets to further improve their retention in the school system at all levels. The transition of girls from primary to secondary and to tertiary levels could be improved, though this is equally valid for boys.

There are similar access constraints that apply as in the case of attaining universal primary education. However, it is more pronounced for girls, given parental concerns for the wellbeing and safety of daughters, which necessitates either building more community schools closer to homes or providing hostel facilities. Given limited resources, the challenge lies in finding a good balance between expanding community schools and increasing boarding facilities in a sustainable manner.

Tackling gender disparities at the secondary and tertiary levels will also prove to be important challenges towards achieving a more balanced gender representation in public office and in the civil services. The natural progression of enrollments through to higher levels may not necessarily adjust itself with time or the process may take much longer than necessary. This necessitates a deeper understanding of why girl enrollments at the higher secondary and tertiary levels are lower despite better performances and near par enrollments at primary levels, and how the situation may be remedied. There is also a need to consider adopting aspects of gender equity and affirmative action in pertinent policy frameworks.

Women's participation in development and in all spheres of life is greatly hampered by their low levels of literacy, which has been estimated to be much lower than the national average. Furthermore, literacy rates for rural women are considerably lower than for urban women. Improving the low levels of female literacy, particularly in rural areas, would be critical in determining the future levels and quality of participation and engagement of women in development. This is particularly relevant in the Bhutanese context where development activities and political processes are now increasingly devolving to the people at the *gewog* levels.

Supportive Environment

State of supportive conditions to eliminate gender disparity in education
Strong

Under Bhutanese law, women enjoy equal rights and have equal status. As such, there is equal access to educational opportunities at all levels based strictly on performance and merit, and primary education is promoted equally for all children of both sexes. Additionally, parents in Bhutanese society show no particular gender preference and children of both sexes are brought up and treated equally.

Full and equal access to education is guaranteed under the rights of the girl child under the Convention on the Right of the Child (CRC) to which Bhutan is a signatory. Bhutan also ratified Convention on the Elimination of all Forms of Discrimination against Women (CEDAW) in 1981, which addresses this same issue of gender equity in education.

However, the RGoB has not felt a need for any interventions or activities directed specifically to encourage higher enrollment rates for females at secondary and tertiary levels. The Education Policy in this regard maintains strict gender neutrality and it is assumed that the progressive enrollment rates for girls at the primary schools will gradually correct the gender imbalance at the higher education levels.

The Non-Formal Education (NFE) scheme to increase adult literacy rates has helped improve female literacy. About 70 percent of approximately 16,000 participants who have been enrolled in the programme from 1992 to 2000, were women. There are now 146 NFE centres and the programme furthermore includes 22 post literacy centres.

Priorities for Development Assistance

- *Creating conducive environments for girl-friendly education, such as boarding facilities, school feeding & separate toilets*
- *Promoting girls' development and learning capacities*
- *Conducting gender segregated studies on repetitions, dropouts and transitions to higher secondary and tertiary institutes*
- *Strengthening advocacy for girls' higher education including in technical & vocational institutes*
- *Supporting Non-Formal Education & other programmes to improve female literacy rates*
- *Strengthening and enhancing the National Women's Association of Bhutan*
- *Harmonising laws and policies, and enacting appropriate legislations in line with CEDAW provisions that determine women's rights and welfare*

Tracking Progress in Gender Equity: Monitoring and Evaluation Environment

Elements Of Monitoring	Assessment
Data gathering capacities	Strong
Quality of recent information	Strong
Statistical tracking capacities	Strong
Statistical analysis capacities	Strong
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms	Fair
Monitoring and evaluation mechanisms	Fair

Fig 1.12

Reduce Child Mortality

TARGET 5	Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

Indicators	1990	2000	2015	Will Goal be met by 2015 ?
Under-five mortality rate (per 1000 live births)	123[7]	84	41	Potentially
Infant mortality rate (per 1000 live births)	90	60.5	30	Potentially
Proportion of one-year-old children covered under immunization programme	84%	85%	95%	Potentially

Fig 1.13
Source: National Annual Health Bulletins:1990 & 2000

Status and Trends

Child mortality, both for under-five and infants, has decreased steadily over the past decade. Under-five and infant mortality rates have both declined by about 32 percent from 1990 to 2000. Attaining the MDG targets to reduce infant and under-five mortality by 2015 appears to be potentially achievable, but will still depend greatly on the levels of interventions maintained, including extending coverage to groups which are difficult to reach.

Acute Respiratory Infections (ARI, including pneumonia) were consistently the leading direct cause of child morbidity and mortality for under-five children. The other major causes for under five child mortality and poor health were diarrhoeal diseases and helminthic infestation, besides inadequate care practices relating to breast feeding, appropriate complimentary feeding, hygiene and sanitation, and care in illness. Incidences of ARI, diarrhoea, dysentery and worm infestation have however reduced progressively over the years. While the direct causes of infant mortality are unclear and need more in depth analysis and systematic studies, it is perceived that closing the knowledge, attitude and behaviour gaps in safe hygienic practices at birth, better nutritional

Under-five Mortality Rates

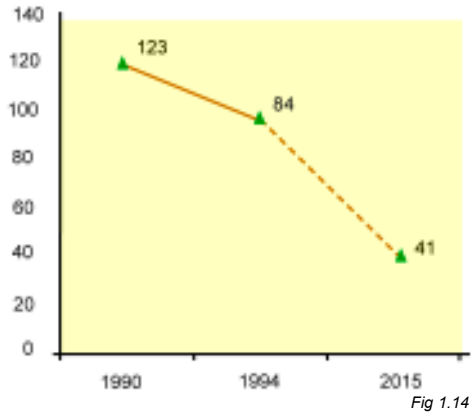

Fig 1.14

Infant Mortality Rates

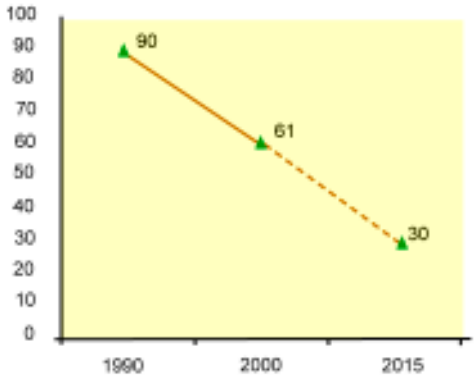

Fig 1.15

[7] *Linear extrapolation for 1990*

practices and improved sanitation and hygiene conditions, would help further reduce infant mortality.

The significant progress in reducing infant mortality and under-five mortality were largely possible through the expansion of primary health care coverage, control of communicable diseases, particularly measles and tuberculosis, improved nutrition and hygiene, enhanced oral rehydration therapy usage, and the highly successful immunization programme (*See Box 1.3*).

As early as 1991, Bhutan had achieved universal child immunization (UCI) with 84 percent coverage of all infants vaccinated with the six antigens of BCG (Bacillus Calmette-Guerin), diphtheria, tetanus, pertussis, poliomyelitis, and measles. Hepatitis B immunization was introduced later in 1996, in line with the global immunization policy. The notable public health milestone of UCI was achieved in spite of the great difficulties of the accessibility to children in very remote communities, through the Expanded Programme on Immunization (EPI) provided by the effective network of health units and outreach clinics. Under the EPI programme, Hib burden assessment was carried out and in view of the finding that 44 percent of all meningitis occurs among under-five children, the Hib vaccine is to be approved for introduction until 2005. A nationwide review of the EPI coverage and cold chain system will also be undertaken to access the achievements, constraints and future needs.

No cases of polio have been reported for more than a decade, with the country enjoying a zero-polio status since 1986. From this it appears that the national goal

Box 1.3

EXPANDED PROGRAMME OF IMMUNIZATION

The Expanded Programme of Immunization, or EPI, was launched in Bhutan on 15 November 1979, coinciding with the International Year of the Child with the objective of reducing vaccine preventable childhood diseases.

Recognizing the relevance of immunization in reducing child mortality, the RGoB has since attached great priority to achieving and maintaining high levels of immunization coverage. EPI services were fully integrated into the general health services and delivered through the extensive health network of existing hospitals, health units and outreach clinics. Bhutan was notably among the first of the countries in the region to achieve universal primary immunization, which it declared in 1991. This is regarded as a considerable achievement particularly in view of the country's difficult terrain and that the majority of people live in rural areas with significant problems of accessibility. Nationwide immunization coverage has since been retained at very high levels in excess of 85 percent, with a recent EPI coverage evaluation survey revealing evaluated coverage at over 90 percent (Annual Health Bulletin, 2001).

The focus of the RGoB now remains on sustaining UCI and this is being carried out under the Immunization Plus programme which in addition to this, seeks to reach those not already covered and work towards polio and neo-natal tetanus eradication in addition to strengthening surveillance and introducing new vaccines and new combinations

of eradicating polio by 2005 can be achieved. However, the risk of the virus resurfacing in the country cannot be ruled out entirely as the wild-polio virus is still widely prevalent in the region. Polio immunization and sub-immunization therefore continues to be administered, particularly in the border areas, to cover those missed out, and to bolster the immunities of those already immunized. Additionally, no deaths from neonatal tetanus have been reported since the mid 1990s and it is expected to be eradicated by 2005.

While there is a lack of confirmatory investigations on reported measles cases, recent figures indicate a rise in the incidence of measles. In the 1980s, measles cases dropped significantly, but during the 1990s, there were periodic measles outbreaks with 460 cases in 2000, as compared to 84 in 1999. While measles is still endemic to the country, the mortality arising from measles decreased significantly and no measles deaths have been reported since the mid 1990s.

Challenges

The main challenge in attaining further reductions in child mortality would be to expand primary health care coverage and nutrition, immunization and other relevant health care services to the unreached, marginalized and groups who live in very remote regions. The rugged and inaccessible terrain poses a severe constraint in terms of both the costs and logistics involved in the delivery of health services.

The further reduction of child mortality will depend considerably on how successfully the issues of LBW and other causes of perinatal mortality are addressed through appropriate interventions. Reductions in child mortality rates are also dependant on qualitative improvements in sanitation and hygiene, clean water supply, education and awareness, maternity and primary health care, which require continued and sustained efforts and interventions across several sectors. Tackling the challenge of developing effective inter-sectoral linkages and integrated approaches is likely to have a significant influence on the progress of improving child health in the country.

Impact studies also indicate very low levels of awareness and insufficient knowledge about the spread of diarrhoeal and respiratory infections, the major causes of child mortality. While this has long been identified as a constraint, there is considerable scope for improvement in the levels of information and education among communities on prevention and basic treatment of these illnesses.

Box 1.4

LOW BIRTH WEIGHT PREVALENCE IN BHUTAN

The birth weight of an infant is widely regarded as the single most important determinant of its chances of survival and healthy growth and development. Low birth weights (LBWs) defined as births less than 2.5 kg, significantly affect under-five and infant mortality and morbidity.

In Bhutan, LBW has been estimated at 24 percent of recorded births in 1998 though the actual prevalence is believed to be even higher, as this estimate is based on a small sample of institutional births. The causes of LBW in Bhutan can be linked primarily to maternal malnourishment, hard physical work during pregnancy, inadequate pre-natal care, anaemia, teenage or early pregnancies, and close birth spacing.

Supportive Environment

State of supportive conditions for reducing child mortality
Strong

The Convention of the Rights of the Child (CRC) which Bhutan ratified in 1990, provides the international legal framework for children's rights, including access to adequate health services, clean drinking water, protection from malnutrition, and generally the highest standards of life attainable. These rights of the child are guaranteed by the RGoB and a Child's Rights Task Force exists to oversee, advance and protect the rights and welfare of children in the country.

Besides primary health care, the RGoB has in place several programmes and projects in place which are specifically directed at improving child health such as the EPI, Maternal & Child Health, Nutrition, ARI and diarrhoeal disease programmes. These essential child health care services, including supply of medicines and vaccines, are provided free of cost. Services are to be further intensified and coverage levels expanded under the Ninth Five Year Plan.

The implementation of child health programmes are carried out by the Public Health Division which has adopted the Integrated Management of Childhood Illness (IMCI) strategy to manage child illnesses. Other positive initiatives that have been undertaken to promote better childcare practices are the development of a national policy on breast-feeding, the designation of baby-friendly hospitals, and the expansion of existing Maternal and Child Health (MCH) facilities including "Well Child" clinics.

Priorities for Development Assistance

- *Increasing access to and improving the quality of child care services*
- *Improving institutional & management capacities at national & local levels*
- *Supporting ARI and Diarrhoea management programmes*
- *Supporting the Health Trust Fund for the purchase of vaccines and drugs*
- *Enhancing awareness and education in communities*

Tracking Progress in Reducing Child Mortality: Monitoring and Evaluation Environment

Elements Of Monitoring	Assessment
Data gathering capacities	Fair
Quality of recent information	Fair
Statistical tracking capacities	Weak
Statistical analysis capacities	Weak
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms	Fair
Monitoring and evaluation mechanisms	Fair

Fig 1.16

Improve maternal health

TARGET 5	Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio

Indicator	1990	2000	2015	Will Goal be met by 2015 ?
Maternal mortality ratio per 100,000 live births	560	255	140	Probably

Fig 1.17

Status and Trends

The maternal mortality rate (MMR) for 2000 was estimated at 255 per 100,000 live births, a dramatic reduction by over half from the high figure of 560 per 100,000 in 1990[8]. Extrapolating this trend and based on the continuation of appropriate interventions, the MDG target of reducing maternal mortality ratio by three-quarters is likely to be achieved by 2015.

The qualitative improvements in and the increased accessibility to reproductive health services, and related information and awareness thereof, have been identified as the reasons for the steep reductions in the MMR. More specifically, the declines in maternal mortality rates were related to the advocacy and implementation of safe motherhood and pregnancy/ delivery practices, ante and post natal clinical examinations, immunization against tetanus, and the widespread distribution of iron and folic acid tablets to reduce anemia in pregnant women. The distribution of "*safe-home delivery kits*" was also tried on a pilot basis and replicated nationally from 1998 onwards to help facilitate safe deliveries.

Not withstanding the progress, MMR levels can be reduced even further. Maternal mortality and pregnancy/labour complications have been linked to mother's anemia and nutritional deficiencies, hemorrhage, puerperal sepsis, malaria, obstructed labor complications, retained placenta, toxemia, unsafe maybe on abortions, malaria and associated hypertensive diseases. Several of these conditional causes of maternal mortality are thought to be easily preventable. Socially, maternal mortality has also been linked to teenage pregnancies and early motherhood which increase the likelihood of high risk pregnancies and deliveries.

The percentage of deliveries attended by skilled health personnel has increased from 15 percent in 1994 to 24 percent in 2000, which still remains a very low proportion of births attended.

Maternal Mortality Ratio

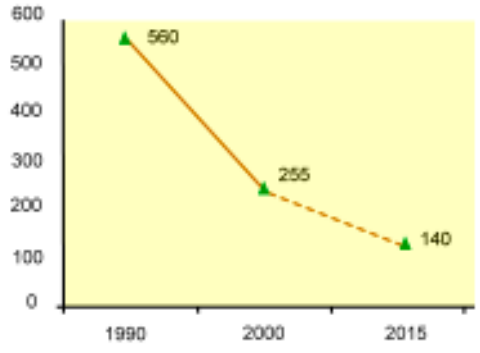

Fig 1.18

[8] *The interpretation of MMR for Bhutan needs to be approached with caution, in view of the small number of maternal deaths reported and in view that there are no adequate registration systems of deaths/causes of death, particularly outside institute births.*

Challenges

While maternal mortality rates can be reduced substantially through the presence of skilled health personnel during deliveries, there is a severe constraint due to the dire shortage of health-trained manpower resources and the lack of adequate equipment and facilities in the country. The situation is further compounded by lack of accessibility to health units particularly in the more remote areas.

An important challenge in reducing maternal mortality will depend to a great extent on the RGoB's ability to expand and further strengthen Emergency Obstetric Care (EmOC) facilities and services and their effective utilization by communities. While such initiatives started in 2000 with a significant increase in the number of basic and comprehensive EmOC facilities. There is a need to further strengthen and expand these services, particularly in the context of the widely dispersed and scattered population settlements and difficult terrain.

Some of the other challenges that the country faces in improving maternal health care and reducing MMRs are related to cultural and awareness barriers that inhibit widespread contraceptive usage, early motherhood, increasing teenage pregnancies, unsafe illegal abortions, and the lack of information among Bhutanese women on reproductive health and safe motherhood.

Supportive Environment

State of supportive conditions for achievement of maternal health goals
Strong

There is high level and strong political commitment to further reduce the MMR and improve maternal and reproductive health services. Her Majesty Ashi Sangay Choden Wangchuck, in her role as Goodwill ambassador of the United Nations Population Fund (UNFPA), has played a high profile advocacy role in highlighting important reproductive health issues of safe motherhood practices, adolescent health and teenage pregnancies, and family planning.

The Bhutan Vision 2020 document emphasizes the need to reduce maternal mortality and bring it at par with the average of all developing countries by 2007. The Ninth Five Year Plan document also highlights the fact that MMRs are still unacceptably high despite significant achievements, and identifies related issues such as safe pregnancy and motherhood, teenage pregnancies and family planning, as key areas deserving renewed focus.

At the programme level, under a National Plan of Action formulated in 1997, several activities support the goal of improving maternal health and reducing MMR. Among the most important of these is the Maternal and Child Health (MCH) programme with the specific objective to contribute to the reduction of MMR. The Safe Motherhood and Reproductive Health programme also seeks to reduce MMRs through activities focused on making health services and facilities more "woman friendly", increasing access to antenatal and postnatal care, and increasing births attended by skilled attendants.

Priorities for Development Assistance

- *Improving access to and quality of Reproductive Health Services, particularly antenatal & postnatal care*
- *Strengthening capacity building, particularly for health service providers in rural areas*
- *Increasing presence of skilled health personnel during deliveries*
- *Promoting community participation,education & awareness on safe motherhood & reproductive health issues*
- *Enhancing decentralised, multi-sectoral & integrated approaches*
- *Strengthening EmOC services*
- *Improving advocacy & monitoring*

Tracking Progress in Reducing Maternal Mortality: Monitoring and Evaluation Environment

Elements Of Monitoring	Assessment
Data gathering capacities	Fair
Quality of recent information	Weak
Statistical tracking capacities	Fair
Statistical analysis capacities	Weak
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms	Fair
Monitoring and evaluation mechanisms	Weak

Fig 1.19

ཕ་བཟང་ཚང་ཆུང་ན་དགའ་སྐྱིད་ཕུན་སུམ་ཚོགས།

SMALL FAMILY, HAPPY FAMILY

GOAL 1 2 3 4 5 6 7

COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES

TARGET 7	Have halted by 2015, and begun to reverse, the spread of HIV/AIDS

Indicator	1990	2002	2015	Will Goal be met by 2015 ?
HIV cases detected	0	38	-	Insufficient Data

Fig 1.20

Status and Trends

The first two HIV cases in Bhutan were reported in 1993. By 2002, 38 individuals had been identified as HIV positive, with thirteen cases detected in 2002 alone. The prevalence was highest for the age groups between 20 and 34, all of them urban cases. In all but one case, the identified HIV patients had apparently contracted the infection through sex, though none were reportedly transmitted through homosexual activity. From among these cases, seven have died so far.

In view of the rising trend of HIV infection, even as the total numbers of HIV cases remain small, this has attracted wide public attention. It is seen as a potentially major public health concern, particularly in the context of the relatively common incidence of Sexually Transmitted Diseases (STDs), the emergence of sex workers in border towns and the high prevalence of the HIV/AIDS in neighboring countries.

The Health Division already had in place a National STD/AIDs programme in 1988, well before the first reported incidences of the disease. In 1990, a three-year Medium Term Plan was formulated that evolved into the Strategic Medium Term Plan II of 1995 to continue addressing the prevention of sexual transmission of HIV.

The programme activities so far have essentially focused on preventive and advocacy measures such as informing, counselling and educating vulnerable groups, including youths and sex workers; promoting widespread condom usage and safe sex; training health care workers and monitoring the situation through sentinel surveillance. It is planned that in addition to making condoms widely available, voluntary counselling and testing units and HIV surveillance systems are to be established by the end of the Ninth Five Year Plan in all districts, though this is likely to be constrained by the availability of trained counsellors.

Challenges

As the prevalence of HIV/AIDS in the country is still relatively low, the challenges of dealing with it relate more to monitoring and surveillance, preventive and Information Education and Communication (IEC) aspects and developing coping strategies in the eventuality of a rise in the spread of the disease.

The potential danger of the disease spreading in the country is a real threat as the country is adjacent to areas in the region that have high HIV/AIDS prevalence. The high mobility of people and open cross border movements therefore pose significant and real risks. Additionally, the risks of the spread of HIV infection are heightened by the common prevalence of sexually transmitted diseases and low condom usage. Further, there is a disconcerting increase of sex workers in border towns. Developing bilateral cooperative strategies and coordination to monitor and contain the spread of HIV/AIDS will therefore prove a significant challenge.

As the experience of many countries indicates, youth are a particularly vulnerable group with high HIV/AIDS prevalence. With over 51 percent of the country's population being under 20, the issue has a potential significance. The country is faced with the important and challenging task to sensitize, inform and educate the youth in the country about the dangers of HIV/AIDS, and on related issues of safe sex, condom usage, and dangers of drug abuse. In conjunction with the wide dissemination of information and education, an even more important challenge is to ensure that these activities effectively translate into appropriate behavioral change among and utilized by the targeted vulnerable groups. This could comprise the development of youth friendly facilities to promote effective utilization of available sexual health services, particularly condom usage by youths.

Supportive Environment

State of supportive conditions for halting and reversing the spread of HIV/AIDS
Strong

Bhutan as a member of South Asian Association for Regional Cooperation (SAARC), along with the other South Asian countries, issued a strong declaration at the 11th SAARC Summit, acknowledging the debilitating and widespread impact of HIV/AIDS and other transmittable diseases and the imperative to evolve a regional strategy to combat these diseases.

Nationally, the programme enjoys high political support and commitment. Her Majesty the Queen, Ashi Sangay Choden Wangchuck, in her role as the UNFPA Goodwill Ambassador has been campaigning strongly about the control of STDs and HIV/AIDS across all districts. The National Assembly also discussed the issue of HIV/AIDS in 2001 and subsequently passed a resolution to further step up preventive measures and information and awareness to prevent and minimize the impact of the disease. Such high-level advocacy initiatives have had a strong impact. Efforts have been made to include HIV/AIDS awareness into the curricula of schools and teacher training institutes.

The various strategies and activities to combat the disease are implemented through the National STDs/AIDS Control Programme under the Department of Health. A National AIDS Committee was established in 1994 and is backstopped by a National AIDS Technical Committee. At the district levels, Multi-Sectoral Task Force Committees and Working Committees have been established in all districts to take preventive measures and create awareness, while being prepared to deal with any outbreak of the disease.

While Bhutan does not presently have an independent Policy Directive for HIV/AIDS prevention, the RGoB broadly adheres to the WHO recommendations articulated in its Global AIDS Strategy document. A Protocol for HIV sentinel surveillance exists, but it is acknowledged to require improvements in order to serve effectively as a tool to contain the spread of HIV.

Priorities for Development Assistance

- *Supporting AIDS programme management*
- *Intensifying prevention activities & measures, particularly at local levels through awareness raising*
- *Strengthening effective monitoring & sentinel surveillance systems*
- *Capacity building at national & local levels*
- *Strengthening counselling and care facilities*
- *Integrating HIV/AIDS aspects into national health systems*

Tracking Progress for HIV/AIDS: Monitoring and Evaluation Environment

Elements Of Monitoring	Assessment
Data gathering capacities	Fair
Quality of recent information	Fair
Statistical tracking capacities	Weak
Statistical analysis capacities	Weak
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms	Fair
Monitoring and evaluation mechanisms	Fair

Fig 1.21

TARGET 8	Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

Indicators	1990	2000	2015	Will Goal be met by 2015 ?
Number of reported malaria cases	9,497	5,935	-	Probably
Number of reported tuberculosis cases	4,232	1,140	-	Probably

Fig 1.22

Status and Trends

Malaria

Malaria has long been a major public health problem for Bhutan, and is endemic to five districts in the sub-tropical regions of southern Bhutan and some of the riverine valleys. Together, the two southern districts of Sarpang and Samdrup Jongkhar account for around 75 percent of all reported malaria cases in Bhutan.

Malaria incidence in the country during the 1990s showed a broad downward trend, though it is sporadic and uneven, indicating periods of small malarial outbreaks and/or resurgences. Reported positive clinical malaria over the decade grew from 22,126 positive cases in 1991 to a high of 38,901 in 1994, but then declined steeply to 6,995 in 1998. In 1999 and 2000, malarial cases were at 12,591 and 5,935 respectively (*Annual Health Bulletin, 2001*). Malaria-related mortality/morbidity also broadly follows the caseload trend of overall decline, including the slight resurgence in 1999. While there were 62 malaria caused deaths in 1993, there were only 15 malaria related deaths in 2000. The positive development of a marked reduction in malaria cases between 1995 and 2000 (except for an upsurge in 1999) has largely been attributed to the change in insecticides from DDT to synthetic pyrethroids.

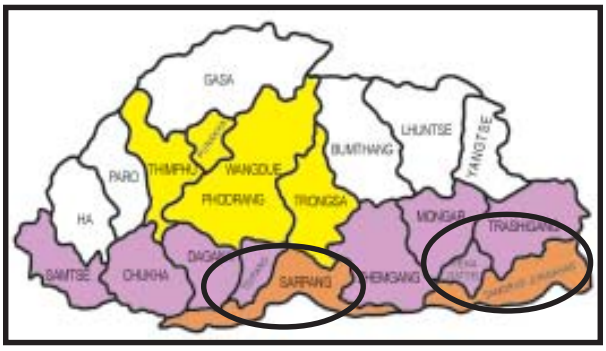

Fig 1.23 Map of Bhutan showing malaria endemic areas

Malaria Cases

Fig 1.24 (Source: Annual Health Bulletin 2001)

Of the two varieties of malaria prevalent in the country, *P.vivax* and *P.falciparum*, there has been a steady overall increase of the latter cases in the last few years from 31.5 percent in 1995 to 53 percent in 2001. The fatality of this most severe form of malaria is well documented in many countries. Additionally, this has serious implications for the future control of malaria, as the *P.falicparum* parasite is well known to be resistant to anti-malarial drugs such as Chloroquine and SP.

The MDG target of arresting the spread of malaria appears to be achievable. Reversing it, however, may be more difficult in light of the significant fluctuations and resurgences that have occurred, not only in the 1990s, but also consistently through the last three decades. The disease therefore continues to remain a major public health concern with more than half of the county's total population exposed to the risk of infection. The health authorities in the country are also highly doubtful that the disease can ever be eradicated totally, and hence the appropriate change in strategy to containment and control rather than eradication.

Tuberculosis

The number of reported tuberculosis (TB) cases in the country declined significantly and consistently from 4,323 cases in 1990 to 1,140 in 2000. The most noticeable shift appears to have occurred between 1993 and 1994 after which detected cases dropped from over 4,000 to less than 2000 thereafter. TB related mortality rates for the decade, however, were erratic and fluctuated between 23 and 62 deaths a year with no discernible trend either way.

On average, 58 percent of TB patients are in the age group between 15 and 44 years. Most of the TB cases in the country are of the pulmonary kind, making up around 75 percent of all cases. A perceptible trend is the decline in pulmonary TB while cases of extra-pulmonary TB have actually seen a slight increase from 1995 to 2000.

In line with the revised global TB control strategy, DOTS (*Directly Observed Treatment Short-Course*) was adopted throughout the country in 1997. This has had a noticeable impact on cure rates, which now stand at over 85 percent, a highly positive trend. Improving access to DOTS and enhancing its utilization is now a significant priority for the RGoB. The Cohort Reporting System was introduced in 2000, which is expected to improve reporting quality and enhance information and data reliability.

The considerable reduction of cases for TB strongly indicates that part of the MDG target of halting the incidence of the disease has been achieved and the process of reversing the trend has already started and is likely be achieved by 2015.

Challenges

Tackling malaria in Bhutan is constrained to an extent as malarial areas are for the most part in the southern border areas. Conducting prevention and control related activities such as the spraying of breeding grounds, require concerted joint coordination and efforts. The free movement of people along the border compounds the difficulties and helps to spread the disease. Sporadic cases are also regularly detected in the non-malarial regions of the mountainous North and central zones, caused through the increasing mobility and migration of people.

Some of the other constraints and challenges faced in battling malaria relate to an increasing tolerance and resistance to insecticides and drugs by mosquitoes; shortage of skilled technicians and researchers; lack of resources and adequately equipped health infrastructures; weak inter-sectoral collaboration and programme management at local levels; and the inaccessibility of large tracts of malaria endemic areas due to dense forests.

Progress towards the MDG target of halting and reversing the trend of malarial incidence in the country will also be largely affected by the availability of financial resources related to the procurement of insecticides and treatment drugs, which form a major expenditure for the programme.

Supportive Environment

State of supportive conditions for halting and reversing the spread of malaria and other major diseases
Strong

The National Malaria Eradication Programme (later renamed as the National Malaria Control Programme, or NMCP) was launched in 1964 and has since spearheaded the various activities to fight the spread of malaria in Bhutan, including conducting research on drug sensitivity and entomological aspects. The programme has gone through various stages of evolution from a vertical strategy to a partial integration to a full fledged integration into the general health care delivery system. Control strategies likewise have changed from Indoor Residual Spraying (IRS) with DDT to IRS with synthetic pyrethroids, and then to the present day Insecticide Treated Bed Net and bioenvironmental control approaches. The programme envisages the need to further strengthen the facilities, related human resources and other capacities at the various malaria health centres.

At the district level in malaria endemic areas, the health authorities have begun forming Rapid Response Teams to deal with any potential outbreaks of malaria.

Many of the above programme activities and costs for procurement of insecticides and treatment drugs have been supported actively by a bilateral donor. While Bhutan has broadly followed the strategic intervention guidelines of the global Roll Back Malaria (RBM) strategy, it is not comprehensively engaged in the RBM initiative and process as Bhutan in not included among the RBM areas in the region.

Priorities for Development Assistance

- *Procuring insecticides & treatment drugs*
- *Strengthening of programme management and capacity development for implementation & research*
- *Enhancing Insecticide Treated Bed Net coverage*
- *Supporting intensification of malaria awareness campaigns and greater community participation*
- *Continuing drugs sensitivity and insecticide susceptibility research*
- *Enhancing access to DOTS (Directly Observed Treatment Short-Course)*

Tracking Progress for Malaria: Monitoring and Evaluation Environment

Elements Of Monitoring	Assessment
Data gathering capacities	Fair
Quality of recent information	Fair
Statistical tracking capacities	Weak
Statistical analysis capacities	Weak
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms	Fair
Monitoring and evaluation mechanisms	Fair

Fig 1.25

Ensure environmental sustainability

TARGET 9	Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

Indicators	1990	2002	2015	Will Goal be met by 2015 ?
Proportion of land area covered by forest	73%	73%	-	Probably
Proportion of land protected through soil, moisture, water and forest conservation to protect biological diversity	23%	26%*	-	Probably

Fig 1.26
**The protected area system was revised in 1993 to represent all eco-system types in the country.*

Status and Trends

Bhutan has a rich natural endowment with an extremely abundant forest cover of 73 percent and with 26 percent of its territory established as protected areas to conserve its rich biodiversity. Additional areas constituting 9 of the total land area have also been designated as biological corridors that connect the protected areas.

Environmental conservation has always enjoyed a high priority in the RGoB's vision of holistic development and the cause continues to be an important and integral consideration in the development agenda. The holistic concept and principles of sustainable development closely match the Bhutanese development philosophy and are integrated into the national policies and programmes. The sensitivity towards and prioritisation of environmental conservation is also reflected in the numerous legislations adopted and in the institutional strengthening and capacity building activities during the 1990s.

The National Environment Commission (NEC), formed in 1990, formulated a National Environment Strategy for the country in 1998, known as the Middle Path. This build-up of the institutional and policy framework was accompanied by the passage of critical environmental legislation. The most notable of these relate to the adoption of the Environmental Assessment Act 2000, the Forest and Nature Conservation Act 1995, the Mines and Minerals Act 1995, and the National Plant Quarantine Act 1993.

The RGoB is also in the process of formulating an important piece of legislation, the National Environment Protection Act (NEPA), which is likely to be enacted and enforced within the Ninth Five Year Plan period. At the international level, Bhutan is a signatory to the Convention on Biological Diversity and the UN Framework Convention for Climate Change.

Challenges

While Bhutan's environmental track record has been enviable, there are certain challenges emerging that could seriously compromise the future state of the environment.

Among the key challenges confronting the goal of ensuring environmental sustainability is the rapid population growth that Bhutan is experiencing. While the growth level has come down from 3.1 percent, the present growth rate of 2.5 percent still poses a serious threat to the country's environmental resources.

With increasing pressures on grazing land, agriculture, and forest resources, the protection of forest landsand conservation of biological diversity are expected to become ever more difficult. Bhutan's fuel wood consumption per capita is particularly high. Overgrazing by domestic livestock has further been identified as a serious environmental threat with great potential to impact forest regeneration and effect changes in natural vegetation. Recently, air and water pollution near industrialised and urban areas have been of concern.

The modernization and economic development of the country invariably require the establishment of extensive road infrastructure. This is an important priority for the RGoB and regarded as vital for alleviating rural poverty. Given the high vulnerability and fragility of mountain eco-systems and the lack of advanced construction techniques and expertise, the building of an extensive network of mountain highways and feeder roads in an environment-friendly manner will prove to be a major challenge. This would similarly apply to urban and development associated infrastructure building.

Incorporating Environmental Impact Assessment (EIA) and relevant environmental friendly practices in development and industrial projects results in increased associated investment and maintenance costs. The sacrifices of foregoing immediate economic gains to further protect natural resources, and the costs for maintaining and managing environmental conservation, collectively create an enormous burden on scarce resources. Viewed within the context of declining international donor assistance for core environmental management activities, the financial implications form a key challenge and debilitating constraint, which could have severe implications for the future state of the environment.

There are also several capacity related constraints pertaining to the management, monitoring and evaluation of the state of the environment such as the:

- *lack of a nationwide inventory of eco-systems;*
- *paucity of environmental data & research*
- *information;*
- *absence of a set of appropriate environmental indicators; and*
- *shortage of qualified & trained environmental practitioners.*

Supportive Environment

State of supportive conditions for achievement of environmental sustainability goals
Strong

There is full and strong national support for ensuring environment sustainability in the country. This is best exemplified by the mandate of the National Assembly and the pledged commitment of the Royal Government to maintain at least 60 percent of the country under forest cover in perpetuity. The development vision of the country as articulated in the Bhutan Vision 2020 document further places a very high accord to the principles of environmental conservation and sustainable development.

The various policy, institutional, legislative and regulatory developments already outlined in the status and situational context, serve as the important supportive framework for achieving the MDG target. Additionally, the NEC introduced mandatory EIAs for all large-scale projects and is in the process of applying this requirement for all physical infrastructure projects, to be monitored by the EIA unit in the Commission. EIAs are therefore being effectively integrated into the development planning and the environmental management process. Watershed management has also been identified as an important tool through which environmental conservation can be furthered. The Wang Watershed Management Project is already under implementation and there are plans to undertake similar projects for the four other major watersheds. Processes to develop a national watershed management strategy are also underway.

Box 1.5

Bhutan Trust Fund for Environmental Conservation

The Bhutan Trust Fund for Environmental Conservation (BTF), the world's first environmental trust fund, was launched in 1991 with the intent to help the country sustain its environmental conservation activities. The trust fund, with an endowment of US$ 35 million, contributed by a consortium of donors and the RGoB, finances from its income various projects and activities in:

- *environmental & conservation education*
- *integrated conservation and development*
- *biodiversity inventory & information systems*
- *planning & management of protected areas*
- *strengthening national environmental institutions*

The BTF has laid the foundation for an effective long-term and sustainable conservation programme in Bhutan, and also serves as a global model that is being replicated elsewhere.

The RGoB developed some innovative funding mechanisms such as the Bhutan Trust Fund for Environmental Conservation (BTF) (*See Box 1.5*) and the unique multi-partnership of countries under the Sustainable Development Agreement, which have greatly enhanced the financial and long-term sustainability of environmental conservation activities.

Priorities for Development Assistance

- *Strengthening capacities in information systems and research; institutional development & popular participation; policies & legislation; training & education; and monitoring and evaluation & enforcement at all levels*
- *Strengthening institutional capacities to undertake EIAs.*
- *Improving environment databases and mitigation options for all sectors towards implementing effective and appropriate responses to climate change*
- *Formulating & implementing the National Environment Action Plan to implement recommendations of the National Environment Strategy*
- *Preparing and implementing watershed management plans*
- *Developing a nationwide inventory of eco-systems*
- *Supporting the BTF*
- *Participating at international conferences and implementing activities and enforcing the provisions of these conventions*

Tracking Goals for Conserving Environmental Resources: Monitoring and Evaluation Environment

Elements Of Monitoring	Assessment
Data gathering capacities	Weak
Quality of recent information	Weak
Statistical tracking capacities	Weak
Statistical analysis capacities	Fair
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms	Weak
Monitoring and evaluation mechanisms	Fair

Fig 1.27

TARGET 10	Halve, by 2015, the proportion of people without sustainable access to safe drinking water

Indicator	1990	2000	2015	Will Goal be met by 2015 ?
Percentage of population without access to safe drinking water source[9]	55%	22%	27%	Achieved

Fig 1.28

Status and Trends

78 percent of Bhutan's population had access to safe drinking water in 2000 as compared to 45 percent in 1990. In the urban areas, access to safe drinking water as of 2000 is at 97.5 percent, while in the rural areas it is estimated to be around 75 percent. However, while coverage in rural areas has increased significantly, many people still have to walk long distances to fetch water from streams and springs, thus limiting water use.

The Rural Water Supply and Sanitation (RWSS) Programme was initiated in 1974 to improve the health of the rural population by reducing the incidence of water-borne and related diseases. Under the programme, 2,300 water supply schemes, mostly of the gravity fed type, have been constructed to provide safe drinking water to about three fourths of the rural population. The notable improvements in the health standards of people in rural areas can be attributed, to a certain extent, to this programme, which has greatly reduced water and sanitation related diseases.

The RGoB's target is that by the end of the Ninth Five Year Plan in 2007, 100 percent of the population will enjoy access to safe drinking water. This will require the annual construction of 130 new schemes, in addition to rehabilitating and maintaining numerous old schemes.

The six major towns in the country have been provided with proper and modern water supply schemes, and the issues are more related to qualitative and quantitative supplies of water than access. In order to enhance conservation and the awareness of the cost and value of water supplies, nominal charges were levied to urban water consumers after the completion of the urban water supply schemes (*See Box 1.6*).

Percentage of People without Access to Save Drinking Water

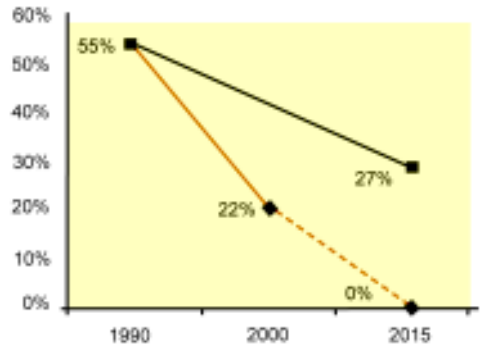

Fig 1.29

Box 1.6

Charges for Water Supply in Urban Areas

With the completion of water supply in the major urban areas in the country, nominal water charges were levied to consumers in some of the selected urban areas from 2000. The imposition of these charges were introduced more to raise awareness of the cost and value of the services and to curtail wastage, rather than for revenue generation. Consequently, the reliability of water supply showed marked improvements and there was also a significant reduction in wastage:

- Per capita consumption decreased from 210-310 litres to 103-178 litres a day
- Water wastage has been reduced from 50-75 percent to 24-30 percent

[9] *Safe drinking water in the Bhutanese context is defined as water from piped or protected spring sources.*

As the overall percentage of people without access to safe drinking water decreased from 55 percent in 1990 to 22 percent in 2000, the MDG target has already been achieved.

Challenges

Increasing and maintaining access to safe drinking water is a more pressing issue in rural than in urban areas. A critical challenge in maintaining and further enhancing safe and improved water coverage to rural populations will depend greatly on the maintenance and rehabilitation of older water supply schemes. It is estimated that around 800, or roughly one third of existing schemes, must be repaired to avoid contamination and total dilapidation of the structures. Meeting the goal of attaining complete safe water coverage will not only require the annual construction of many more new schemes, but the rehabilitation of at least 150 older schemes every year until the end of the Ninth Five Year Plan.

There is a need to identify and use alternative technologies for areas where water sources are scarce, and to develop simple treatment facilities that can be operated and maintained by communities without clean water sources. Given the significant costs and community inputs required for maintaining and repairing rural water supply schemes, the durability, lifespan and simplicity of the appropriate technology would be a prime concern in considering such alternatives.

Enhancing community participation in building, monitoring and maintaining rural water supply schemes is integral to the success of the RWSS programme. However, this is constrained by the lack of capacity and a feeble sense of ownership of the schemes that is further compounded by communal disputes over water rights. The burdens of cost sharing for communities through labour contributions are also increasingly felt as development activities increase, and are exacerbated by the steady migration of young people from villages to towns.

While the Royal Government continues its commitment to build water and sanitation infrastructure in rural institutions such as schools, basic health units and religious institutions, their coverage level remains lower than the national average. Attaining universal coverage for institutional water supply will thus prove a significant challenge.

Supportive Environment

State of supportive conditions for achievement of safe drinking water goals
Strong

A royal decree was issued in 1992 that stressed the great importance of access to and use of safe drinking water and sanitation facilities as an integral component of sustainable development. This has greatly spurred on the initiatives to improve the water supply and sanitation situation in the country.

While no administrative policies or legislative framework on water supply and related rights exists as yet, the Bhutan Water Vision, Water Act and Water Policy are being formulated to create an enabling

environment for the integrated and efficient management of water resources. Processes to develop a national watershed management strategy are also underway.

In 1997, the first pilot National Baseline Water Survey was conducted to estimate national water quality standards. Reflecting the growing concerns of water pollution near urban and industrial centres and mines that were found in the survey, water monitoring programmes are to be undertaken on a periodic basis.

Institutionally, the Public Health Engineering section of the Department of Health now implements the activities relating to rural water supply. At the community level, water management committees have been formed and water caretakers trained to oversee the operation and maintenance of the water schemes. This, however, has not proved to be very successful, judging by the many schemes that are poorly maintained and in dilapidated condition, with water quality monitoring aspects largely ignored.

The ultimate objective would involve the full transfer of the implementation and management of the RWSS schemes to the communities themselves, with relevant technical backstopping and resources. However, this is currently seen as impractical given the lack of appropriate capacities in communities and the absence of a legal and policy framework.

Priorities for Development Assistance

- *Increasing clean & improved water supply coverage in rural areas through the RWSS programme*
- *Rehabilitating existing water supply schemes*
- *Strengthening community participation & capacity building to plan, manage & maintain rural water supply infrastructure*
- *Developing & implementing alternative clean water source technologies*
- *Planning & implementing urban water supply for remaining urban & satellite towns*
- *Establishing & monitoring water quality standards through surveys and programmes*
- *Formulating & subsequently implementing the mandate of the Water Act/Policy.*

Tracking Progress in Improving Clean Water Access: Monitoring and Evaluation Environment

Elements Of Monitoring	Assessment
Data gathering capacities	Fair
Quality of recent information	Fair
Statistical tracking capacities	Weak
Statistical analysis capacities	Weak
Capacity to incorporate statistical analysis into policy, planning and resource allocation mechanisms	Fair
Monitoring and evaluation mechanisms	Fair

Fig 1.30

LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
BHU	Basic Health Unit
BTF	Bhutan Trust Fund for Environmental Conservation
CPR	Contraceptive Prevalence Rate
EFA	Education For All
EIA	Environment Impact Assessment
GYT	Geog Yargay Tsogchung (Block Development Committee)
HDI	Human Development Index
HIES	Household Income and Expenditure Survey
HIV	Human Immunodeficiency Virus
IDD	Iodine Deficiency Disorder
IEC	Information, Education and Communication
IMR	Infant Mortality Rate
KAP	Knowledge, Attitude, Practice variation KABP with belief
MCH	Maternal and Child Health
MDT	Millennium Development Target
MMR	Maternal Mortality Rate
MRE	Most Recent Estimate
M+E	Monitoring and Evaluation
n.a.	Not available
NCD	Nature Conservation Division
NEC	National Environment Commission
NES	National Environment Strategy
NHDR	National Human Development Report
NHS	National Healthy Survey
NMCP	National Malaria Control Programme
Nu	Ngultrum, the Bhutanese currency
NWAB	National Women's Association of Bhutan
PHES	Public Health Engineering Section
PEM	Protein Malnutrition
STD	Sexually Transmitted Diseases
TB	Tuberculosis
TBA	Trained Birth Attendant
U5MR	Under-Five Mortality Rate
RGoB	Royal Government of Bhutan
RNR	Renewable Natural Resources
TFR	Total Fertility Rate
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
VHW	Village Health Worker
WFP	World Food Program
WHO	World Health Organization