

**BHUTAN MILLENNIUM DEVELOPMENT GOALS
NEEDS ASSESSMENT AND COSTING REPORT
(2006-2015)**

November 2007

PLANNING COMMISSION
ROYAL GOVERNMENT OF BHUTAN



BHUTAN MILLENNIUM DEVELOPMENT GOALS NEEDS ASSESSMENT AND COSTING REPORT (2006-2015)

Copyright © November 2007
Planning Commission
Royal Government of Bhutan

Concept & Design:
Bhutan Times Ltd.
bms@druknet.bt

Photos: Bhutan Times Ltd.

Acknowledgements:

The Planning Commission of Bhutan would like to thank all those who contributed to this report. In particular special thanks are extended to the members of the UN Scoping Mission and experts from the UNDP Regional Centre in Colombo for their guidance and technical support and the UN Country Team, Bhutan for financial and technical assistance.



Foreword

In recognition of the pressing need to reduce poverty and improve the livelihood of its people, Bhutan joined the global pledge to achieve the Millennium Development Goals by 2015. The MDGs are consonant with the country's development philosophy of Gross National Happiness and are in line with national development priorities. As a first step towards achieving the MDG targets, a comprehensive MDG Needs Assessment and Costing exercise was initiated by the Planning Commission with support from UN agencies in the country and from the region.

Bhutan is one of the first countries in Asia to undertake such an exercise and the Bhutan MDG Needs Assessment and Costing report presents a detailed assessment of what the country requires in terms of financial, human and institutional resource needs and policy reforms to meet the MDGs by 2015. The MDG Needs Assessment and Costing exercise was also conducted almost in tandem with the preparation of the Tenth Plan, thereby mainstreaming the MDGs into the Tenth Plan process.

While the country is on track to achieve most of the Millennium Development Goals, the scarcity of resources is the most significant constraint for the full realization of MDG targets.

The MDG Needs Assessment and Costing exercise comes at a critical juncture. With the imminent introduction of parliamentary democracy in Bhutan, the focus on MDGs will also help nurture and consolidate the democratization process. The implementation of the interventions identified by the exercise will empower communities to hold authorities accountable and provide a means to assess the performance of political leaders on issues that impact their quality of life.

In the spirit of the cooperation between the government and the various UN agencies that has characterized the Bhutan MDG Needs Assessment and Costing exercise; we have the pleasure in jointly presenting this important and timely report. We hope it will help refocus the attention of both development partners and the government to the critical issues of resource and policy gaps that need to be overcome to achieve the MDGs.

We commend the efforts of all the participants and stakeholders involved in the successful completion of the Bhutan MDG Needs Assessment and Costing exercise.

Tashi Delek!



(Karma Tshiteem)
Secretary
Planning Commission
Royal Government of Bhutan



(Nicholas Rosellini)
UN Resident Coordinator and
UNDP Resident Representative in Bhutan

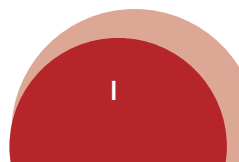


TABLE OF CONTENTS

Foreword	i
Acronyms	vi
Glossary	vi
Executive Summary	vii
Chapter 1: Introduction	1
1.1 The Context	1
1.2 Needs Assessment and Costing Methodology and Process	1
1.3 Overview of Development Progress since the 1990s	2
1.4 Human Development Progress	6
1.5 Status of Progress in Achieving the MDGs	7
1.6 A Macroeconomic Perspective to 2015	8
1.7 A Summary of Resource Needs for the Achievement of MDGs	10
1.8 Document update and monitoring	11
Chapter 2: Agriculture and Rural Development	13
2.1. Overview	13
2.2 Current Issues and Challenges	13
2.3 Major Interventions	17
2.4 Coverage Targets	19
2.5 Resource Needs Estimates	23
2.6 Policy Issues	23
Chapter 3: Education	25
3.1 Overview	25
3.2 Current Issues and Challenges	26
3.3 Major Interventions, Coverage Data and Resource Needs Estimates	27
3.4 Policy Issues	28
Chapter 4: Gender Equality and Women's Empowerment	31
4.1 Overview	31
4.2 Current Issues and Challenges	32
4.3 Major Interventions, Coverage Targets and Resource Needs Estimates	33
4.4 Policy Issues	35
Chapter 5: Health	37
5.1 Overview:	37
5.2 Current Issues and Challenges	39
5.3 Major Interventions	40
5.4 Coverage Targets	46
5.5 Resource Needs Estimates	46
5.6 Policy Issues	47
Chapter 6: Environment	49
6.1 Overview	49
6.2 Current Issues and Challenges	50
6.3 Major Interventions	50
6.4 Coverage Targets	51
6.5 Resource Needs Estimates	52
6.6 Policy Issues	52
Chapter 7: Water and Sanitation	55
7.1 Overview	55
7.2 Current Issues and Challenges	55
7.3 Main Interventions	56
7.4 Coverage Targets	57
7.5 Resource Needs Estimates	57
7.6 Policy Issues	58

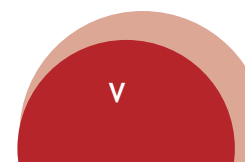
Chapter 8: Energy	61
8.1 Overview	61
8.2 Current Issues and Challenges	62
8.3 Major Interventions	62
8.4 Coverage Targets	62
8.5 Resource Needs Estimates	63
8.6 Policy Issues	64
Chapter 9: Transport	67
9.1 Overview	67
9.2 Current Issues and Challenges	67
9.3 Major Interventions	68
9.4 Coverage Targets	69
9.5 Resource Needs Estimates	70
9.6 Policy Issues	70
Chapter 10: Good Governance and Capacity Development	73
10.1 Overview	73
10.2 Royal Civil Service Commission	73
10.3 Anti-Corruption Commission	75
10.4 Office of the Attorney General	78
10.5 Cabinet Secretariat	80
10.6 Local Development Division	83
10.7 Royal Institute of Management	86
10.8 Election Commission of Bhutan	88
Chapter 11: Financing the MDGs	93
11.1 Introduction	93
11.2 Mapping Potential Sources of Finance	93
11.3 Short/Medium Term Implications of Increasing Public Expenditure	95
11.4 Fiscal Sustainability and the MDGs	96
11.5 Financing Strategy in the context of Bhutan	97
11.6 Next Steps and Issues	97
Appendix I: Participants of the MDG Needs Assessment and Costing Exercise	99
References	101

Tables

Table 1.1 Socioeconomic and Human Development Indicators, 2005.	3
Table 1.2 Bhutan MDG Status	7
Table 1.3 Total Resource Needs Estimates for Meeting the MDGs by Thematic Clusters	12
Table 2.1 Total Resource Needs Estimates for Agriculture and Rural Development Interventions	24
Table 3.1 Education Indicators	25
Table 3.2 Total Resource Needs Estimates for Education Interventions	29
Table 4.1 Enrolment by Gender, 2005	31
Table 4.2 Representation in the Civil Service by Gender	32
Table 4.3 Total Resource Needs Estimates for Gender Equality and Women's Empowerment Interventions	36
Table 5.1 Maternal and Child Health Indicators	37
Table 5.2 Health Facilities and Human Resources, 2002 and 2006	38
Table 5.3 Total Resource Needs Estimates for Health Interventions	48
Table 6.1 Total Resource Needs Estimates for Environment Interventions	53
Table 7.1 Total Resource Needs Estimates for Water and Sanitation Interventions	59
Table 8.1 Main Sources of Lighting	61
Table 8.2 Main Sources of Cooking	61
Table 8.3 Total Resource Needs Estimates for Energy Interventions	65
Table 9.1 Bhutan Road Classification	67
Table 9.2 Existing road coverage	67
Table 9.3 Bridge classification	68
Table 9.4 Targets for 2015	69
Table 9.5 Estimated Unit Cost for Paved Roads	70
Table 9.6 Sample Bridge Unit Costs	71
Table 9.7 Sample Pedestrian Suspension Bridge Unit Costs	71
Table 9.8 Resource Needs Estimates for Transport Interventions	71
Table 10.1 Total Resource Needs Estimates for Good Governance and Capacity Development Interventions	74
Table 10.2 Total Resource Needs Estimates for Royal Civil Service Commission	76
Table 10.3 Total Resource Needs Estimates for Anti-Corruption Commission	79
Table 10.4 Total Resource Needs Estimates for Office of the Attorney General	81
Table 10.5 Total Resource Needs Estimates for Cabinet Secretariat	84
Table 10.6 Total Resource Needs Estimates for the Local Development Division	87
Table 10.7 Total Resource Needs Estimates for RIM	89
Table 10.8 Total Resource Needs Estimates for Election Commission of Bhutan	91
Table 11.1 Fiscal Effort in Selected Countries (as % of GDP in 2006)	93
Table 11.2 Growth, inflation, fiscal deficit impact of MDG public expenditure: Mongolia 2006	95
Table 11.3 Deficit/GDP: Mongolia	96

Figures

Figure 1.1 Overall Resource Requirement (2006-2015)	11
Figure 9.1 Road classification and existing coverage	68



Acronyms

ACC	Anti-Corruption Commission	OAG	Office of the Attorney General
ADB	Asian Development Bank	OD	Organizational Development
AFS	Administration and Finance Services	ODA	Official Development Assistance
AHB	Annual Health Bulletin	ORC	Out Reach Clinic
AIDS	Acquired Immuno Deficiency Syndrome	PCS	Planning Commission Secretariat
ARI	Acute Respiratory Infection	PHCB	Population and Housing Census Bhutan
BCG	Bacilli Callmal Gurrina	PHED	Public Health Engineering Division
BDFC	Bhutan Development Finance Corporation	PMO	Prime Minister's Office
BHU	Basic Health Unit	PPD	Policy and Planning Division
BNHDR	Bhutan National Human Development Report	RAA	Royal Audit Authority
BPC	Bhutan Power Corporation	RCSC	Royal Civil Service Commission
CDD	Control of Diarrheal Diseases	RENEW	Respect, Educate, Nurture and Empower Women
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women	REMP	Rural Electrification Master Plan
CIC	Community Information Center	RIHS	Royal Institute of Health Sciences
CLC	Community Learning Center	RIM	Royal Institute of Management
CoRRB	Center for RNR Research in Bhutan	RNR	Renewable Natural Resources
CS	Cabinet Secretariat	Rs	Rupees
LDD	Local Development Division	RTIO	Regional Trade and Industry Offices
DOTS	Direct Observation Treatment Services	RWSS	Rural Water Supply Scheme
DYT	Dzongkhag Yargay Tshogdu	SME	Small & Medium Enterprises
ECB	Election Commission of Bhutan	STI	Sexually Transmitted Infections
EmOC	Emergency Obstetric Care	TB	Tuberculosis
EPI	Expanded Immunization Programme	TTF	Thematic Task Force
FDI	Foreign Direct Investment	UNCT	UN Country Team
FYP	Five Year Plans	UNDP	United Nations Development Programme
GNH	Gross National Happiness	UNFPA	United Nations Population Fund
GYT	Gewog Yargay Tshogchung	UNICEF	United Nations Children's Fund
HRD	Human Resource Development	VPDP	Vaccine Preventable Disease Programme
HRO	Human Resource Officer	VTI	Vocational Training Institute
ICT	Information Communication Technology	WFP	World Food Programme
IEC	Information, Education and Communication	WHO	World Health Organization
IFI	International Financial Institutes		
IMF	International Monetary Fund		
IMR	Infant Mortality Rate		
LDC	Least Developed Country		
MDGs	Millennium Development Goals		
MISD	Management Information Services Division		
MMR	Maternal Mortality Ratio		
MoA	Ministry of Agriculture		
MoE	Ministry of Education		
MoEA	Ministry of Economic Affairs		
MoHCA	Ministry of Home and Cultural Affairs		
MoIC	Ministry of Information and Communications		
MoWHS	Ministry of Works and Human Settlement		
MTEF	Medium Term Expenditure Framework		
NCWC	National Commission for Women and Children		
NEC	National Environment Commission		
NFE	Non Formal Education		
NGO	Non Governmental Organization		
NHS	National Health Survey		
NPPC	National Plant Protection Center		
NRTI	Natural Resource Training Institute		
NSB	National Statistical Bureau		
Nu.	Ngultrum		

Glossary

Chathrim	Legal Act
Chimi	Elected member of National Assembly
Drangpon	Judge
Drangpon Rabjam	Assistant judge
Dratshang	Monk body
Druk Gyalpo	The King of Bhutan
Drungtsho	Doctor (indigenous medicine)
Dzongkhag Yargay Tshogdu (DYT)	District Development Committee
Dzongkhag	Administrative district
Gedrungs	GYT clerks
Gewog	Administrative block
Gup	Elected head of a Gewogs
Gewog Yargay Tshogchung (GYT)	Block Development Committee
Lhengye	
Zhungtshog	The Cabinet
Menpas	Health worker (indigenous medicine)
Tshodrungs	DYT clerks
Tshogpas	Community representative



Executive Summary

Bhutan fully subscribes to the Millennium Development Goals and they are in tune with the country's national development priorities, including the overarching goal of Gross National Happiness. With poverty reduction as the main theme of Tenth Plan (2008-2013), the MDGs are integrated into the national development planning process.

While the country is on track to achieve most of the MDGs, the scarcity of resources is a significant constraint for the full realization of these goals. At the global level, broad estimates for achieving the MDGs have been made by institutions such as the High Level Panel on Financing for Development and the World Bank and some countries have undertaken assessments to estimate the cost of achieving the MDGs at the national level. In Bhutan, recognizing the need and benefits of a realistic assessment of the resources needed to achieve the MDGs and to mainstream these goals into the Tenth Plan process, a needs assessment and costing exercise was initiated by the Planning Commission in June 2006.

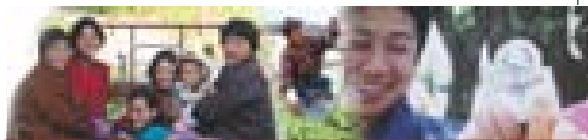
The Bhutan MDG Needs Assessment and Costing report is the result of the needs assessment and costing exercise and it presents a detailed assessment of what Bhutan requires in terms of financial, human and institutional resource needs and policy reforms to meet the MDGs by 2015. The report focuses on seven of the eight MDGs relating to the goals of reducing poverty and hunger, securing universal primary education, promoting gender equality and women's empowerment, reducing child mortality, improving maternal health, combating the spread of communicable diseases and promoting environment sustainability including improving access to safe sanitation and drinking water. The needs assessment also covered non-MDG sectors such as transport and energy infrastructure needs as well as good governance through capacity development. These interventions are expected to contribute to and support the realization of the core MDGs and are also vital for national socioeconomic development.

The spreadsheet-based model that supports this report and all the associated files, including the interventions and costing figures, are available on the Bhutan MDG website maintained by the Planning Commission at www.pc.gov.bt/mdg

Needs Assessment and Costing Process and Methodology

The process began in June 2006 with a Joint UN Scoping Mission to identify priority sectors and areas for the needs assessment and brief key stakeholders within the government as well as other national and international development partners in the country on issues related to MDG needs assessment and costing. The team drafted an action plan and identified the required institutional arrangements for the needs assessment exercise.

The needs assessment exercise adopted the United Nations Millennium Project interventions-based approach of identifying a comprehensive range of relevant interventions (goods, services and infrastructure) that serve as the basis for estimating the resource needs for achieving the MDGs. Interventions were grouped into four thematic clusters of agriculture, rural development and farm roads, macroeconomics, and infrastructure (transport, energy and ICT); education; health; and environment, good governance and capacity development, and gender. Four Thematic Task Forces (TTFs) with experts from various government agencies and from relevant UN agencies in the country were formed and a training workshop for stakeholders on MDG needs assessment and costing was conducted by the Planning Commission Secretariat (PCS) from 21st August to 1st September 2006. Technical backstopping for the needs assessment and costing exercise undertaken by the TTFs and resource persons for the training workshop were provided by the MDG Initiative team from the UNDP Asia Pacific Regional Center in Colombo and other experts from UNFPA, UNICEF and UNDP Regional Offices. These resource persons and experts visited the country several times to train



and guide the national task force members and local consultants.

The TTF members met on several occasions to assess needs, identify interventions and determine targets and delivery strategies in their respective thematic clusters. The TTF experts with their designated national consultants worked out unit costs for the desired interventions factoring in both capital and incremental costs with appropriate sequencing. Thereafter, the resources needed to implement the identified interventions were calculated; essentially using the UN Millennium project spreadsheet-based model whereby the coverage of each intervention is scaled up linearly from the 2006 coverage to meet the 2015 target.

The Bhutan MDG Needs Assessment and Costing exercise has been an inclusive process and a diverse group of government stakeholders, together with development partners and representatives from the private sector and civil society, participated in the exercise through frequent consultation workshops and meetings. The work of the TTFs were reviewed and synergized in the Consolidation Workshop held in Paro from 13th to 19th October 2006.

Major Interventions

Under agriculture and rural development, the main interventions are grouped into three clusters of raising agricultural productivity, enhancing other rural income generation opportunities and improving rural access. These interventions were identified by the TTFs and the Core Working Group as those that were most likely to have the greatest potential impact on improving the livelihoods of the poor and the food insecure in the country.

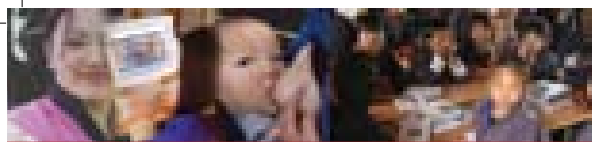
It is expected that, in keeping with the Tenth Plan Guidelines, the rural development interventions identified by the MDG Needs Assessment and Costing exercise will reduce the proportion of the population living below the national poverty line from 31.7% in 2003 to 20% by 2015. The proposed interventions to increase agricultural productivity and promote other rural income generation seek to triple rural per capita income

by 2012. Furthermore, the improving rural access will reduce the proportion of the rural population living more than an hour's walk from the nearest road to less than 20% from the current 40%.

The main interventions in the education sector are to sustain and improve the enrolment and the quality of education at the primary and secondary levels, raise the country's adult literacy rates and expand access to special education for the disabled. It is expected that the proposed interventions will help accelerate progress towards attaining the MDG goal of universal primary education and the long term national goal of realizing a knowledge-based society. The interventions in the education sector are expected to simultaneously contribute to the reduction of poverty and as well as to the progress in achieving many of the MDG health targets.

Although the country remains on track towards achieving the third MDG of promoting gender equality and women's empowerment, there are some significant challenges that need to be addressed. These include the weak transition of girls to tertiary level education and the workplace, high levels of female youth unemployment and underemployment, low levels of female participation in political and high public office, and the reality of domestic violence prevalent in many households. Hence, the main interventions in this sector are directed at helping the transition of girls to work, encouraging political participation and representation for women and ending violence against women.

In view of the fact that over 30% of Bhutan's population comprise of young people, the MDG interventions in the health sector are concentrated in the areas of child health, maternal health, and emerging and re-emerging diseases like HIV/AIDS, Malaria and TB. Under child health, various interventions have been identified in the Vaccine Preventable Disease Programme (VPDP), control of diarrhoeal diseases and acute respiratory infection, and nutrition programmes. Under health systems, interventions have been identified for infrastructure, human resources, infection control and waste management, disability and telemedicine. HIV/AIDS, Malaria and TB are covered under interventions to combat



communicable diseases.

In the environment sector, the thrust of the interventions are aimed at mainstreaming environmental concerns and their mitigation measures so that all development activities systematically take environmental issues into consideration as early as possible in the decision-making process. Interventions have been identified to strengthen the legal and policy framework and ensure timely management of emerging environmental concerns and issues. Building capacities of relevant agencies such as National Environment Commission, Environmental Units within ministries, the Disaster Management Division in the Ministry of Home and Cultural Affairs (MoHCA), Dzongkhag Environment Committees, and Dzongkhag Environmental Officers are expected to increase the country's limited environmental management capacity. Interventions also target the building of national capacity to improve poverty and environment linkages so as to ensure that outcomes that matter to the poor are not overlooked.

The major water and sanitation interventions are to provide access to safe drinking water through the construction of public stand posts and increasing access to improved toilets in the rural areas. In the urban areas, the major interventions are to construct public stand posts as well as provide piped connections to homes. Access to basic sanitation in urban areas will be through the provision of pour-flush latrines and new sewerage and waste-water treatment plants in larger urban areas.

The interventions in this sector also include improving drinking water standards through monitoring of water quality and training to build up the capacity of local stakeholders and relevant government staff. Rehabilitation and repair of old and non-functional infrastructure will continue and awareness and educational programmes will also be undertaken to highlight the importance of safe drinking water and basic sanitation.

While energy is also not a direct MDG target, providing households with energy for lighting and cooking will reduce poverty and hunger and also facilitate the achievement of the other MDGs. The

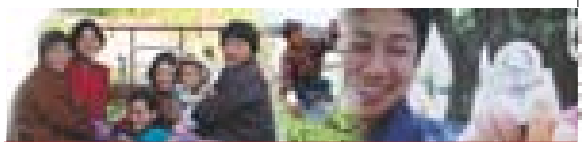
main interventions in the energy sector include expanding rural electrification through grid and off-grid electrification. The major MDG targets are to provide grid electricity to 83% of the households by 2015 and to off-grid sources like solar photovoltaic sets and micro hydroelectric plants to 12% of the households.

The key challenge in the transport sector is to expand the country's relatively new and small road network. In this regard, the major interventions include the expansion of national highways, district and feeder roads, and motorable bridges, where necessary. The construction, rehabilitation and maintenance of pedestrian suspension bridges for rural communities dependent on mule tracks have also been included. Although transportation is not identified as a MDG, it is expected that the interventions identified in the transport sector will increase access of communities to socioeconomic facilities and opportunities, reduce poverty and facilitate the achievement of the other MDGs.

In view of the impending adoption of the Constitution and introduction of parliamentary democracy in 2008, good governance and capacity development have been included in the MDG Needs Assessment and Costing exercise. The main intervention under this sector focuses on the capacity development of seven institutions that have a bearing on good governance and democracy. They include three constitutional bodies: Royal Civil Service Commission, Anti-Corruption Commission, and the Election Commission; the Office of the Attorney General; the Local Development Division under Planning Commission; the Cabinet Secretariat; and the Royal Institute of Management. The Royal Audit Authority was not included as it is already a well-established organization.

Resource Needs Estimates

The Needs Assessment and Costing exercise estimates that Bhutan will need to invest around Nu.. 113.110 billion (around USD 2.5 billion @ 1 USD = Nu.. 45.25) in 2005 prices between 2006 and 2015 if it is to implement the interventions identified by the Thematic Task Forces for achieving the Millennium Development Goals. These estimates represent on average Nu.. 17,815 (USD 394) per



capita annually or Nu. 178, 146 (USD 3,937) per capita for the next ten years from 2006 to 2015. The total costs are expected to increase from Nu. 7.596 billion in 2006 to Nu. 15.159 billion in 2015, the final year. The capital and recurrent costs of each intervention are calculated on the unit costs provided by TTF experts and/or based on existing government rates and around 60% of the total cost is estimated for recurrent expenditures.

The social sector MDG targets account for the major chunk of the investment at 46.3% of the total estimated outlay. Individually, the education interventions receive the highest share (24.4 %) followed by interventions for the health sector (21.9%). The agriculture and rural development interventions, geared towards achieving the MDG goal of reducing poverty and hunger, account for 16.6% of the total costs. Water supply and sanitation interventions comprise 6.5% of total costs and gender interventions are estimated at 1.2% of the total resource needs.

The non-core cross-cutting interventions such as transport (16.9%), energy (9.6%) and capacity building for good governance (2.5%) collectively comprise 29% of the total costs.

On the whole, the costing for the interventions are linearly scaled up by the spreadsheet-based model with the annual costs increasing from around 7.8% of total costs in 2006 to 13.4% in 2015. In this regard, it is important to note that while many development partners have made commitments to maintain ODA up to 2013, the final year of the Tenth Plan, several of them may withdraw or reduce development funding for the country thereafter. This could potentially affect aid inflows for the years leading up to 2015 with the resource gap widening immensely. This is important for the resource projections for the

MDG interventions as more than a third or 37.7% of the total projected costs will be required in the final three years of the MDG period.

Structure

The Bhutan MDG Needs Assessment and Costing report is presented in eleven chapters. The introductory chapter summarizes Bhutan's macroeconomic and human development progress since the 1990s, its progress in meeting the MDGs, and the overall resource needs for achieving the MDGs. It also outlines the general context of the MDG needs assessment and costing and the methodology and process employed for the exercise. A macroeconomic perspective till 2015 is also included.

Thereafter, the thematic interventions corresponding to the first seven MDGs are discussed in the agriculture and rural development, education, gender equality and women's empowerment, health, environment, water and sanitation chapters. The needs assessment and costing of three non-core MDG sectors (energy, transport, and good governance and capacity development) that have cross-cutting impact on the achievement of the MDGs are detailed in separate chapters. An overview of each cluster, the current issues and challenges in the sector, the major interventions along with coverage targets and corresponding resource needs estimates are outlined. Policy issues are also discussed.

The report concludes with a chapter on financing the MDGs. The chapter identifies potential sources of finance and the short and medium term implications of increasing public expenditure. It includes a look at fiscal sustainability and the MDGs, the financing strategy in the context of Bhutan and next steps and issues.



Chapter 1: Introduction

1.1 The Context

The United Nations Declaration at the Millennium Summit in 2000 set certain specific and quantifiable goals called the Millennium Development Goals (MDGs) to be achieved by 2015 through a comprehensive development agenda that broadly aims at realizing global human development. Bhutan subscribes fully to these MDGs and the Royal Government has since steadily worked towards achieving these important development goals as reflected in the MDG Progress Reports 2002 and 2005. As these MDGs are broadly in harmony with the country's national development priorities, including the overarching goal of Gross National Happiness, the goals are being effectively integrated into the national development planning process. The Tenth Plan (2008-2013) notably is MDG based and has poverty reduction as its key development theme and objective.

While the country is on track and well placed to achieve most of the MDGs, there have always been significant and real constraints relating to the scarcity of resources that threaten the full and complete realization of these goals. The Millennium Declaration too recognized development financing as a key aspect for achieving these development targets. This commitment later took more concrete shape at the UN Conference on Financing for Development at Monterrey in March 2002, which emphasized the enormous shortfalls in resources required to achieve development goals, including the MDGs. At the global level, various estimates exist. The High Level Panel on Financing for Development assessed the additional costs of achieving the MDGs by 2015 at around USD 50 billion per annum. The World Bank had a much higher figure and estimated the cost of achieving the first MDG of eradicating poverty and hunger alone at between USD 54 to 62 billion. The other MDGs were estimated by the Bank to cost between USD 35 to 66 billion.

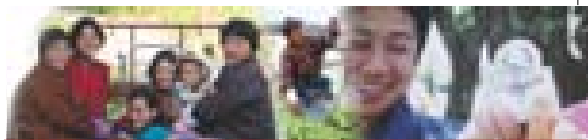
However, these costs were only broad estimates

that need to be confirmed through more detailed country specific assessments to arrive at a more reliable cost estimate and evaluation. Country specific and national level analyses are highly pertinent as they take into account local specificities that are likely to have a major impact on the estimated cost. Several notable initiatives have already been undertaken to estimate the cost of achieving the MDGs at the national level in various countries. While such exercises utilize various methodological processes with significant divergences, they have proved beneficial to arrive at a more realistic assessment of the resources required and helped refocus the attention of both development partners and governments to the critical issues of resource and policy gaps that need to be overcome to achieve the MDGs.

For the above reasons and given the keenness of the Royal Government to mainstream the MDGs into the Tenth Plan process, a needs assessment and costing exercise was initiated by the Planning Commission in June 2006 with the collaboration of the United Nations Country Team (UNCT). Technical backstopping was provided by the UNDP Asia Pacific Regional Center in Colombo, Sri Lanka and experts from UNFPA and UNICEF also visited the country several times to train and guide the national task force members and local consultants. The Bhutan MDG Needs Assessment and Costing Report is the output of this important exercise and it provides a detailed assessment of what it would take to meet the MDGs in Bhutan in terms of resource needs and policy reforms. The process essentially followed the methodological process advocated by the UN Millennium Project with certain necessary modifications to suit the local context. The methodology and approach of the MDG needs assessment and costing exercise are detailed in the following sections.

1.2 Needs Assessment and Costing Methodology and Process

The purpose of the MDG needs assessment and costing was intended to assess comprehensively the financial, human and institutional resources



needed for the attainment of the MDGs in the country. The exercise was also expected to help further align the development planning process with the MDGs and inform the national development planning process through the mainstreaming of MDG in the Tenth Plan. The report focuses on seven of the eight MDGs relating to the goals of reducing poverty and hunger, securing universal primary education, promoting gender equality and women's empowerment, reducing child mortality, improving maternal health, combating the spread of communicable diseases and promoting environment sustainability including improving access to safe sanitation and drinking water. The needs assessment also covered three non-core MDG sectors (energy, transport and good governance through capacity development) that contribute to and support the realization of the core MDGs and are vital for national socioeconomic development such as road and energy infrastructure needs.

The needs assessment methodology adopted the UN Millennium Project interventions-based approach of identifying a comprehensive range of relevant interventions (goods, services and infrastructure) that serves as the fundamental basis for estimating the resource needs for achieving the MDGs. Interventions were broadly categorized into thematic clusters of agriculture and rural development and infrastructure, education, health and cross-cutting clusters including environment, gender, and capacity development. These also constituted the core themes around which the report is structured and working groups were organized. Four Thematic Task Forces (TTF) with experts from various government and UN agencies were formed and met on several occasions to assess needs, determine interventions, targets and delivery strategies in their respective thematic clusters (see Appendix I: Participants of the MDG Needs Assessment and Costing Exercise).

The TTF experts together with designated national consultants worked out unit costs for the desired interventions factoring in both capital and incremental costs with appropriate sequencing. However, in view of data quality constraints, some unit costs are crude estimates and will require readjustments over time to

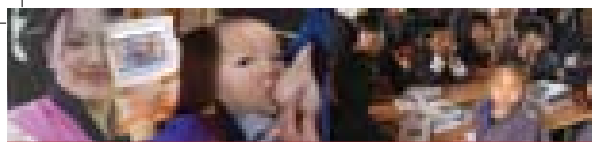
arrive at more realistic figures. As such, the MDG Needs Assessment and Costing report and the supporting document and worksheets will require constant updating and fine-tuning. For each of the interventions, specific targets were set after assessing current coverage and projecting future coverage. In terms of target setting, in keeping with the advice of the Millennium Project that "ambition is golden and prudence silver" the TTFs have been quite ambitious in setting targets. This was then used as the basis for calculating the resources required to meet the MDG after a linear scaling up of interventions and investments over the years from the baseline year of 2006 up to 2015. As advocated under the Millennium Project approach, the costing includes both recurrent and capital expenditures. This is particularly pertinent to a country like Bhutan, whose extremely high level of capital investments invariably have high associated recurrent expenditure costs that rise exponentially and absorb a large part of future development budgets.

Every effort has also been made to involve a diverse group of national stakeholders together with development partners, private sector and civil society in the MDG needs assessment process through frequent consultation workshops and meetings.

1.3 Overview of Development Progress since the 1990s

Bhutan is a landlocked and least developed country with a per capita income of about USD 1,200 (2005) and an estimated population of 634,928. The country has emerged from among the category of the poorest in the world with extremely low levels of human development to one that is today witnessing sustained and significant economic success and is categorized among the medium human development countries. The country's HDI value at 0.583 for the year 2003 (Bhutan National Human Development Report [BNHDR] 2005) is considerably above the average for LDCs and is broadly at par with the average for South Asian countries (see Table 1.1 for Bhutan's socioeconomic and human development indicators).

However, despite the vast improvements in



advancing human development conditions and the rapid pace of economic growth, roughly one third of the country's population still live below the national poverty line and much of the rural areas still remain underdeveloped.

1.3.1 Macroeconomic Performance

The country's macroeconomic performance has been assessed by the ADB, IMF and the World Bank to be good and its medium term outlook favourable. The World Bank, according to its Country Policy and Institutional Assessment, rated the country's macroeconomic performance to be one of the best in the region in 2005 with a score of 5.2 and assessed its policies and institutions to be among the top three in the region with a score of 3.8.

sector, comprising agriculture, livestock and forestry, declining from 37.8% of the GDP in 1990 to 21.8% in 2005. On the other hand, the joint contribution of the hydropower and construction sectors has increased from 21.2% to 27% for the same period (NSB, 2005). However, agriculture still remains the single largest contributor to the national economy and remains critically important as most Bhutanese derive their livelihood from it.

1.3.2 Investment and Savings

The high growth rates of the economy have been underpinned by very high rates of savings and investment. Over the last fifteen years from 1991 to 2005 investments have been growing at around 13% a year, nearly twice as fast as the real GDP growth of 6.6% over the same period.

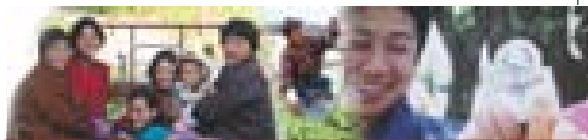
Table 1.1: Socioeconomic and Human Development Indicators, 2005

Indicators	2005
GDP per capita	USD 1,200
Population	634,982
Population Growth Rate	1.3%
Population below poverty line	31.7% (2003)
Adult Literacy	53%
Primary Gross Enrolment Rate	102%
Primary Net Enrolment Rate	79.4%
Life Expectancy at Birth	66.1
Infant Mortality Ratio (per 1000 live births)	40.1
Under Five Mortality Ratio (per 1000 live births)	61.6
Maternal Mortality Ratio (per 100,000 live births)	255
Trained Birth Attendance	51%
Population with Access to Safe Drinking Water	84%
Population with Access to Safe Sanitation	89%
National Human Development Index	0.583(2003)

Sources: PHCB 2005, General statistics, MOE 2006, AHB 2006 & BNHDR 2005

Over the last two decades, economic growth has averaged around 7% which has been highly capital intensive and fuelled primarily by the rapid expansion of the hydropower and construction sectors. The faster growth in these sectors is changing the structure of the economy with the share of the Renewable Natural Resources (RNR)

As a result, the investment to GDP ratio has been rising rapidly from around 33% of GDP in 1991 to 65% of GDP in 2005. This high investment to GDP ratio is largely due to the predominance of the investments being channeled into the hydropower infrastructure and also the difficult terrain and scattered nature of population settlements that



generate huge infrastructure development costs for the country.

The high rate of investments has been sustained by the high domestic savings and net capital inflows largely on account of ODA from the country's development partners. Domestic savings as a percentage of GDP has constituted around 30% of GDP over the last fifteen years and stood at around 36% of GDP in 2005. Private savings, mainly by the corporate sector, constitute over 90% of the total domestic savings. In 2005, the net capital inflow was around 21% of GDP. FDI, while growing steadily in the hospitality sector over the last few years, still remains nominal and comprised of a little over one percent of GDP at its peak in 2004 with an inflow of Nu. 401.5 million.

1.3.3 Development Expenditures

Over the last three plan periods, the overall development priorities and objectives of the country have been to maintain broad based growth, improve self-reliance, achieve sustainable and balanced development, enhance the quality of life - particularly in rural areas, support decentralization and promote people's participation, strengthen human resource development, develop the private sector and sustainably safeguard and conserve both cultural and natural resource endowments. Towards achieving these development objectives and priorities, the Royal Government has increasingly allocated more resources to the relevant sectors over the years. The total annual development expenditures have grown from Nu. 1,814 million

in 1990/91 to Nu. 13,770 million in 2005/2006. The capital expenditures have accounted for about 52% of the total expenditures in the last fifteen years and have grown at an average annual rate of 19%. Current expenditures, on the other hand, have grown at about 14% a year on average and consisted of around 45% of the total development expenditures over the same period. During the same period, debt servicing has generally accounted for around 3% of the budget expenditures.

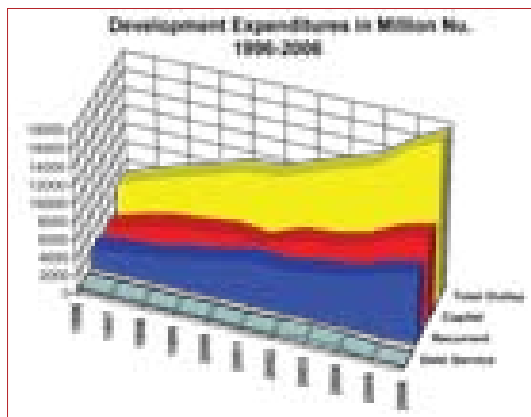
Development expenditures for the social sector on average comprised of a quarter of the total expenditures since 1990 and have been rising consistently. Over the last five years, social sector expenditures have expanded to constitute around 27% of the total expenditures and in 2005/06 accounted for 30% of the development budget. General public services accounted for another 24% of the total expenditures between 2002 and 2006 and around 12% of the development expenditures were for the agriculture sector. The roads, energy, human settlements and communications sectors received around 10%, 6%, 6% and 3% of the total development expenditures respectively.

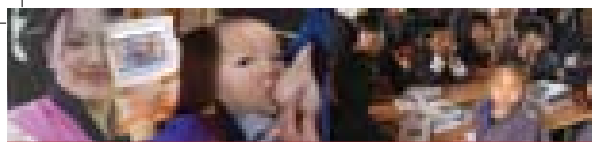
As a result of the sustained strong growth in development expenditures and the repayment of internal debts, the fiscal deficit has been growing since 2000. On average the fiscal deficit has constituted over 6.5% of GDP between 2002 and 2006 and has been financed through a mix of domestic and external borrowings.

1.3.4 Domestic Revenue

Domestic revenues between 2000 and 2005 have grown at an average of 8% a year with revenues increasing from Nu. 4,671 million in 2000/01 to Nu. 6,903 million in 2005/06. There is a notable increase in revenue growth between 2005 and 2006 of around 46% due to electricity exports following the commissioning of the Tala Hydroelectric Project in 2006. Domestic revenues comprised of approximately 19% of GDP on average between 2000 and 2005 and constituted around 23% of GDP in 2005/06.

Tax revenues initially constituted a small portion of GDP as the tax rates were low and the base





small. However, tax revenues have steadily increased from 6.4 % of GDP in 1992-1997 to around 10% over the last decade. Since 2000, tax revenues have constituted a larger portion of the total revenues and currently comprise of around 54.5% of the total revenue. Of the tax revenues collected, corporate income tax, excise duty and sales tax were the major contributors and approximately accounted for around 19%, 12% and 9% of total revenues respectively. Personal income tax introduced in 2001 has been rising marginally and on average contributed 1.8% of the total revenue. Non-tax revenues were derived mainly from dividends/transfer of profit from government investments, which alone accounted for 29% of total domestic revenues and about 63% of the total non-tax revenues.

Segregating revenue generation on the basis of sector contribution, the electricity sector has been by far the largest provider of revenue. From 2000 to 2006, electricity contributed to around 36% of the total revenue generated. The trade sector provided 29% of the total revenue, while the service sector and the manufacturing sector contributed 19% and 5% respectively.

1.3.5 External Resources

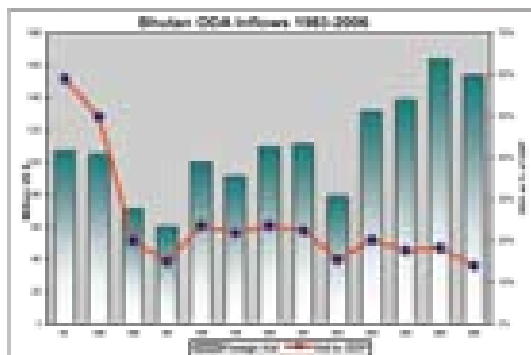
The country has relied heavily on ODA from development partners to finance virtually all of its capital development expenditures so far and has been a major factor in the development success that the country has enjoyed. Over the last four decades of development though, the country's reliance on aid has been decreasing steadily. Due to the growth of domestic revenues, the country has been increasingly able to pay for larger portions of its development expenditures

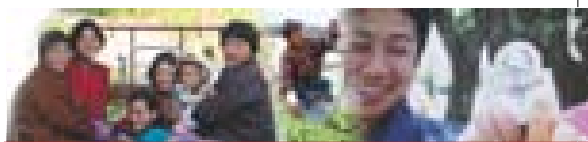
as reflected in both the declining share of ODA to GDP and the share of budget expenditure that it has self financed. In the eighties, ODA comprised around half of GDP and this has come down to around 19% of GDP over the last ten years. Additionally, while the Royal Government was only able to finance between 20 to 30% of the total outlay of earlier plans, it has financed around half of the current plan. This must also be viewed within the context of development outlays that have increased significantly over each plan period.

ODA disbursements to the country over the last decade has averaged USD 114 million annually with around 80% of this constituting grant assistance and the balance as soft loans. There has been a significant increase in ODA inflow of around 40% in the last five years between 2002 and 2006 as compared to inflows between 1997 and 2001. In 2006, ODA disbursements amounted to USD 153.5 million which comprised 14% of GDP, and around three fourths were from bilateral sources. A major portion of the ODA over the last decade has been channeled into the social sector accounting for 15.5% of the total ODA received. ODA for the social sector has shown a positive growth trend in that period climbing from around 13% in 1995 to over 22% in 2005. The RNR and the energy sectors each received around 12% of the total ODA over the same period. The roads, communication and human settlement sectors collectively were allocated around 10% of total ODA.

1.3.6 Balance of Payments Position

Bhutan has rapidly evolved from a closed economy to one that is highly dependent on trade. The country's trade to GDP ratio for 2005 was 86% of GDP in current prices which makes it one of the most open economies in the region and among the developing countries. The country has chronically suffered from a very large trade deficit and in 2004, the import bill climbed to a record Nu. 10.8 billion, constituting over a third of GDP. This deficit was mainly on account of a one time expenditure on the purchase of two aircrafts for Druk Air that year. In 2005, the trade deficit declined significantly to Nu. 5.1 billion due to lower imports and a significant expansion in exports.





The country's exports in 2005 grew by 60% over the previous year and amounted to Nu. 13.4 billion or around 36% of GDP. In 2005, the main exports were electricity and mineral based products that accounted for 26% and 19% of the total value of exports respectively. As in the past, close to 90% of the country's exports were destined for the Indian markets. Imports in 2005 valued at Nu. 18.5 billion or 50% of GDP and were largely on account of capital equipment and machinery, fuel, food and a range of consumer goods.

Despite the consistent trade deficits over the years, the country's overall balance of payments position has generally been positive with surpluses due to the significant inflows of grant and loan assistance. The surplus in 2005 was estimated at Nu. 5.2 billion. These surpluses have helped the reserves held by the country to grow to USD 478.8 million, sufficient to meet around 14 months of merchandise imports.

1.3.7 Inflation and Exchange Rate

The Bhutanese currency, the Ngultrum, has been pegged at par to the Indian Rupee since its issue and consequently its value against foreign currencies have followed the Rupee and has been relatively stable. Inflation in the country too has closely tracked price movements in India and has generally remained low throughout the last decade at below 6%. Over the last ten years, the Ngultrum has depreciated against the US Dollar by around 2.6% a year on average to its current value of Nu. 45.25 to a US Dollar (2006) from a value of Nu. 35.43 in 1996.

1.3.8 External Debt

Along with the rapid growth of investments, the country's external debt stock has also been rising to significant levels. As of December 2006, the total debt was at USD 680.7 million or 82.5% of GDP and 142.2% of the total foreign reserves. As such, the country's debt to GDP ratio is two times higher than any other South Asian country. Debt servicing though has been maintained at sustainable levels on average at around 6.5% over the last decade due to the strong and sustained growth of exports. However, in segregating debt

servicing into Rupee and convertible currency categories, the debt servicing ratio for the latter is very high. Over the last decade, the debt servicing ratio for convertible currency debt has been at over 25% given the fact that the country has a very small base of hard currency earning exports. In comparison, debt servicing ratios for Rupee over the same period were on average below 4% due to the strong growth of electricity exports.

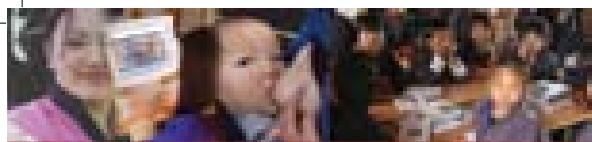
While around 63% of the total debt has been incurred due to hydropower infrastructure investments and is Rupee denominated debt, the total debt burden has also grown due to a trend of grant assistance being gradually substituted with concessionary loans. Recently, reflecting the concern of the large size of the debt stock in relation to GDP, the World Bank in its assessment of the debt sustainability categorized the country as a debt distressed country.

1.4. Human Development Progress

The rapid pace of economic growth and the sustained levels of development assistance have allowed the government to continually increase investments into the social sector and sustain free health and education services. The country today, ranks among those countries with a very high share of public expenditure. Close to a third of all development expenditure is spent on health and education. As a result of these sustained investments into the social sector, the country's HDI has risen steadily and has grown from 0.427 in 1991 to 0.583 in 2003 (BNHDR 2005) reflecting across the board improvements in virtually all socioeconomic indicators. The country has also moved up into the ranks of the medium development countries and is well on track to achieve many of the international development targets, including the MDGs, the status of which is reported below.

1.5 Status of Progress in Achieving the MDGs

The country continues to make significant and sustained progress in achieving the MDGs and is potentially on track on all of them. For instance, the country has enjoyed great success in enhancing access to improved drinking water



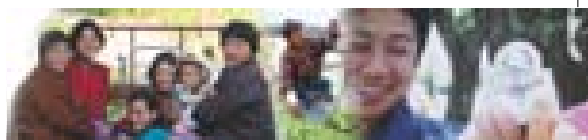
and sanitation, in protecting and managing the country's natural resources, and in ensuring improved basic health care and equitable primary education. Several targets such as halving wasting and those without access to safe drinking water and safe sanitation have already been realized and recent developments show even further improvements. The status of progress towards the MDGs is summarized in Table 1.2.

However, there remain considerable challenging concerns that could possibly impede sustained future progress towards the complete attainment

of the MDGs by 2015. Some of these critical challenges include the emerging difficulties of providing decent and productive employment for Bhutanese youths, ensuring more equitable participation of women in tertiary and technical education and the potential threat of HIV/AIDS. The removal of relative disparities between urban and rural areas and holistic rural development, including improving rural livelihoods, must therefore constitute a key component of the country's strategy in achieving the full realization of the MDGs, and in particular, towards eradicating poverty.

Table 1.2 Bhutan MDG Status

Goals, Targets and Indicators	1990	2000	2004	2015	State of Progress
Goal 1: ERADICATE EXTREME POVERTY AND HUNGER					
<i>Target 1: Halve by 2015, the proportion of people living below poverty line</i>					
Proportion of population living below national poverty line (%)	-	36.3 %	31.7 %	20 %	On track
Human Poverty Index (HPI-1):	-	33.34	33		Insufficient data
<i>Target 2: Halve by 2015, the proportion of people who suffer from hunger</i>					
Percentage of population below minimum level of dietary energy consumption (2,124 Kcal)	-	-	3.8%	1.9 %	Insufficient data
Percentage of under-weight under-five children	38 % ('89)	19 %	-	19 %	Achieved
Percentage of under-height under-five children	56 % ('89)	40 %	-	28 %	On track
Goal 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION					
<i>Target 3: Ensure by 2015 children everywhere, boys and girls alike, will be able to complete a full course of primary schooling</i>					
Gross Primary Enrolment Ratios (%)	55 %	72 %	84 %	100 %	On track
Proportion of Pupils starting grade 1 who reach grade 5 (%)	73 %	91 %	94 %	100 %	On track
Proportion of pupils starting grade 1 who reach grade 7 (%)	35 %	81 %	86 %	100 %	On track
GOAL 3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN					
<i>Target 4: Eliminate gender disparity in primary and secondary education preferably by 2005, and to all levels of education by 2015</i>					
Ratio of girls to boys in primary education (%)	69 % ('91)	82 %	95 %	100 %	On track
Ratio of girls to boys in secondary education (%)	43 % ('91)	78 %	96 %	100 %	On track
Ratio of females to males in tertiary institutes (%)	12 % ('91)	41 %	53 %	100 %	Needs Attention
GOAL 4: REDUCE CHILD MORTALITY					
<i>Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate</i>					
Under-five mortality ratio (per 1,000 live births)	123	84	-	41	On track
Infant mortality ratio (per 1,000 live births)	90	60.5	90 %	30	On track
Proportion of children covered under immunization programme	84 %	85 %	(with card)	>95 %	On track



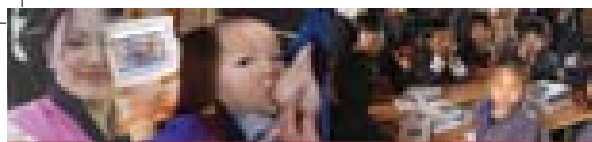
GOAL 5: IMPROVE MATERNAL HEALTH					
<i>Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio</i> Maternal mortality ratio (per 100,000 live births) Births attended by skilled health personnel	560 15 %	255 24 %	- 32 %	140 100 %	On track On track
GOAL 6: COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES					
<i>Target 7: Halt and begin to reverse the spread of HIV/AIDS</i> HIV cases detected Contraception prevalence rate	0 18.8 % (^{'94})	38 30.7 %	74 -	- 60 % (national target)	On track On track
<i>Target 8: Halt and begin to reverse the spread of Malaria and Other Major Diseases</i> Number of malaria cases and incidences (cases per 100,000) Number of tuberculosis cases and incidences (cases per 100,000)	22,126 (^{'91}) 4,232	5,935 1,140	2,760 1,002	- -	On track On track
GOAL 7: ENSURE ENVIRONMENTAL SUSTAINABILITY					
<i>Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources</i> Proportion of land area covered by forest Ratio of protected area to surface area for maintaining biological diversity CO2 (per capita) emissions Proportion of population using solid fuels (i.e. wood, charcoal, dung)	72.5 % 23 % - 5.89 tons (^{'94})	72.5 % 26 % - 75 %	72.5 % 29 % - 70 %	- - - -	On track On track On track Insufficient data
<i>Target 10: Halve by 2015, the proportion of people without sustainable access to safe drinking water and sanitation</i> Proportion of population without sustainable access to an improved water source Proportion of population without access to improved sanitation	55 % 33 %	22 % 12 %	16 % 7.4 % (of HHs)	27.5 % 17.5 %	Achieved Achieved
GOAL 8: DEVELOP A GLOBAL PARTNERSHIP FOR DEVELOPMENT					
<i>Target 14: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth</i> Youth unemployment rate	-	2.6 % (^{'98})	5.5 %	-	Insufficient data
<i>Target 18: In cooperation with the private sector make available the benefits of new technologies, especially information and communication technology</i> Fixed Telephone Lines in Service Telephone density (per 100 persons) Computers in use (per 100 persons) Internet users (per 100 persons)	4,052 0.68 - -	16,580 2.4 0.58 (^{'01}) 0.43 (^{'01})	30,420 4 1.0 -	- - - -	On track On track On track Insufficient data

Source: Bhutan MDG Report, 2005

1.6 A Macroeconomic Perspective to 2015

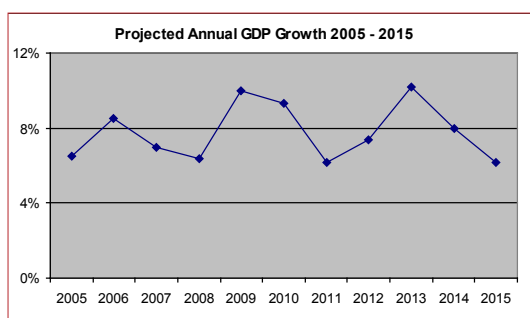
An assessment of long-term resource needs for development must necessarily be based on projections of economic growth and population.

Obviously, population assumptions influence estimates of all capital and recurring investments required to meet the MDGs. Similarly, assessing the pace and quality of macroeconomic growth is not only relevant for estimating resource needs but for arriving at an approximation of the public



and private contributions required to meet the financial costs of achieving the MDGs.

Population projections estimate that the population of Bhutan will increase from 634,982 in 2005 to 722,530 by 2015 at a population growth of 1.3%. A slightly higher population growth rate for both rural and urban households has been taken at 1.6% to account for the division of households as the population increases. The rural household size of 4.6 per household has generally been kept constant.



The GDP forecast for the period from 2005 up to 2015 is based on an underlying average growth rate of 6% per annum which is then boosted by the startup and commissioning periods of the planned hydropower projects over the MDG period. The country's GDP is projected to increase from Nu. 28,921 million in 2005 to Nu. 67,167 million in 2015 in constant 2000 prices. The major drivers for this growth as in past years will be the electricity and construction sectors that are projected to grow rapidly at over 23% and 10% respectively over the period. However, these projected rapid growth rates will depend a great deal on the implementation and completion of the planned mega power projects. On the basis of the National Statistical Bureau's (NSB) projected GDP and population growth, per capita GDP is estimated to almost double to a little over USD 2,000 by the year 2015 from USD 1,200 in 2005.

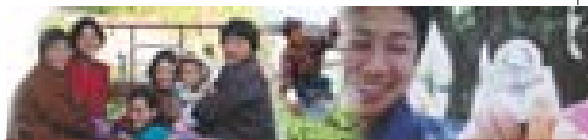
While these projected national per capita income figures are relatively high by developing and least developed country standards, real household income levels though are expected to be much lower as corporate incomes have always and will constitute a large part of the gross national income. The nature of growth is also expected to be highly

capital intensive as in the past. Additionally, the country's Gini Coefficient has been estimated at 0.416 (PAR 2004) reflecting inequitable income distribution patterns that could exacerbate even further. This is likely to affect poverty reduction outcomes if left unaddressed.

On the basis of past trends, the agriculture sector is expected to grow sluggishly at around 2.2%. However, to attain the poverty reduction target of 20% by 2015, the agriculture sector growth will need to be boosted to at least 4% as the sector is critically important for the poor. This will clearly necessitate reversing the declining trends of investments channeled into the agriculture sector and the need for growth to be made even more pro-poor than before. The NSB estimates that by 2015, the agriculture share to GDP will further decline and only comprise around 12% of GDP as compared to 27% and 22.5% for the electricity and construction sectors respectively. The other sectors such as manufacturing and trade are also likely to decline by 2 percentage points to around 5% and 7% of GDP respectively.

On the basis that three mega hydropower projects with a total energy capacity of 2,755 MW are planned for construction between 2005 and 2015, it is envisaged that the investment rates will continue growing as rapidly as in the past and probably exceed 68% of GDP between 2005-2015. This represents a very high level of investment that is only possible due to high levels of projected external development assistance and growth of revenues from electricity exports. Savings too are projected to grow more rapidly than over the last decade and are projected to be in the order of 40% of GDP. Foreign capital inflows, primarily development grants and loans, are anticipated to continue in line with past levels and comprise around 21% of GDP.

The balance of payments position as in the past is projected to be favourable, at least up to 2013, with estimated net foreign inflows balancing out the high trade deficit. Export-import patterns during the MDG period are also certain to follow past trends of high import growths on account of machinery, equipment and construction materials required for the construction of the hydropower projects and electricity and power-intensive



manufactures dominating exports. The situation of high trade deficits even with strong and sustained export growth will remain a chronic feature as long as hydropower investments continue but are not a cause of concern. The country's growing engagement in regional and international trading arrangements including securing membership of the WTO will expand market access and provide new opportunities.

With the commissioning of the Tala Hydropower Project (1020 MW) in 2006 and the Punatsangchhu Hydropower Project in 2014, revenue growth between 2005 and 2015 is projected to be strong. It is estimated that domestic revenues will double from the current levels of Nu. 6.9 billion to Nu. 15 billion comprising 21.6% of GDP in 2015. Even as domestic revenues are expected to grow substantially due to hydropower exports, this must be considered in the light of a strong trend in the growth of public expenditures, particularly on account of rising social sector investments and other recurrent expenses.

Reflecting the growth in rising capital and recurrent expenditures, the budget deficit has been climbing steadily and in 2004/05 it stood at 11.3% of GDP. While the government has projected the fiscal deficit to be maintained at around 7% between 2005 and 2015, it is very likely that it will be higher. The social sector expenditures in particular are projected to rise even more steeply in the future given the country's youthful demographic profile and that the rights to free basic education and health being enshrined in the Constitution. The advent of democracy in 2008 will further entail the creation of several new constitutional bodies, institutions and political processes requiring substantial support. Moreover, the repayments for the Tala hydropower project are also scheduled to begin immediately and will comprise a significant part of future public expenditures.

Another serious fiscal concern is the high level of external debt that the country has accumulated as a result of which the World Bank has rated the country to be "debt distressed." Over the last few years, the ratio of external debt to GDP has risen to over 80%. In 2015, the external debt stock is estimated to cross Nu. 100 billion (USD 2.2 billion) with debt servicing amounting to around

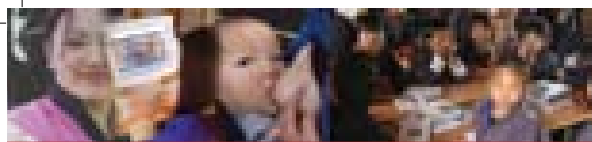
Nu. 2.6 billion a year up to 2015. Between 2005 and 2015, debt to GDP ratio is projected to be around 91% on average with the ratio increasing to over 100% in the latter years. It is also very likely that the country will have to increasingly resort to concessional loans or avail mixed credit schemes to fund its capital expenditures for development. Soft term loans are thus likely to progressively account for a larger share of the development assistance funds. While the overall debt servicing ratios are projected to be below 5%, the high level of convertible currency debt servicing remains a problem in the context of very low levels of foreign exchange exports.

In addition, the highly successful development outcomes and the increasing ability of the country to meet its own development outlays has paradoxically created a situation with some of the country's development partners beginning to consider either reduced levels of ODA or a gradual phase out of their assistance. While many development partners have made commitments to maintain ODA up to 2013, the final year of the Tenth Plan, there are indications that several of them are likely to withdraw or reduce development funding for the country thereafter. This could potentially affect aid inflows for the years leading up to 2015 with the resource gap widening immensely. This is important for the resource projections for the MDG interventions as more than a third or 37.7% of the total projected costs will be required in the final three years leading up to 2015.

These external resource issues are a major concern for the country as it will still require significant development assistance for some time to come in view of the above context of ballooning recurrent expenditures on social development, rising debt and the growing fiscal deficit that are likely to absorb much of the anticipated revenue growth. A premature withdrawal or reduction of ODA resources could thus potentially jeopardize the development gains attained so far and affect Bhutan's progress towards the MDGs.

1.7 A Summary of Resource Needs for the Achievement of MDGs

To achieve the Millennium Development Goals, Bhutan will need to invest around Nu. 113.110



billion (around USD 2.5 billion @ 1 USD = Nu. 45.25) between 2006 and 2015. These expenses represent on average Nu. 17,815 (USD 394) per capita annually or Nu. 178, 146 (USD 3,937) per capita for the entire MDG period (2006-15). Starting from 2006, the costs are expected to increase from Nu. 7.596 billion to Nu. 15.159 billion in the final year, 2015. Of the total costs, around 60% are for recurrent expenditures and the remaining 40% for capital expenses.

On the whole, the costing for the interventions are linearly scaled up by the spreadsheet-based model with the annual costs increasing from around 7.8% of total costs in 2006 to 13.4% in 2015. This can be seen from Figure 1.1 which charts out the overall resource requirements for meeting the MDGs.

The major costs are for the social sector MDG targets that collectively comprise of 46.3% of the total, with education interventions accounting for 24.4%, health interventions for 21.9% and water supply and sanitation interventions for 6.5%. The agriculture and rural development interventions that will help in achieving the first MDG goal of reducing poverty and hunger account for 16.9% of the total costs. Gender interventions comprise of 1.2% of the total.

The non-core MDG interventions such as surface transport (16.9%), energy (9.6%) and capacity building for good governance (2.5%) collectively comprise of 29% of the total costs. The total cost of each intervention cluster is summarized in Table 1.3.

emphasizes the achievement of the MDGs as key plan priorities.

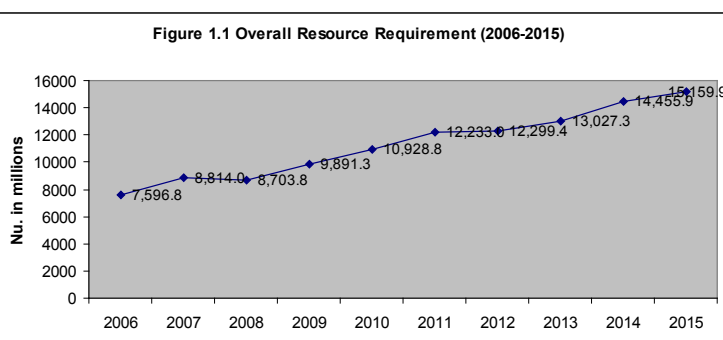
The timing of the MDG Needs Assessment and Costing Exercise coincided with the Tenth Plan preparations which enabled sharing of inputs between the two processes. An added advantage of the exercise was that the Tenth Plan preparations and the MDG Needs Assessment and Costing exercise had more or less the same working members thereby further supporting the mainstreaming of the MDGs into the plan.

The MDG Needs Assessment and Costing Report will be a living document where all the associated files including the interventions and costing figures will be maintained and updated periodically by the relevant MDG focal persons in the ministries and other government agencies on the Bhutan MDG website maintained by the Planning Commission.

The follow-up and monitoring of the implementation of the MDG needs assessment sectoral interventions will be undertaken as part of the national plan and MDG monitoring and progress reporting process. Sectors will review and report on the progress of implementing relevant MDG cluster of interventions and the resources allocated as part of their annual plan progress reporting to the Planning Commission. Periodic MDG Progress Reports produced by the Royal Government will also include a chapter on the implementation status of the MDG needs assessment sectoral interventions and the resources allocated towards the achievement of the MDGs.

1.8 Document update and monitoring

The Tenth Plan is the most crucial period for the achievement of the MDGs in Bhutan. The MDGs have been consistently considered by the Royal Government along with the national development priorities of the country. It is therefore, no surprise that the Tenth Plan has the overall theme of poverty reduction and



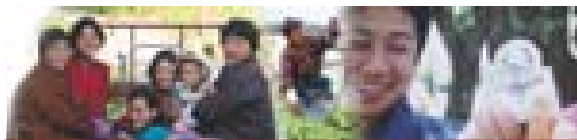


Table 1.3: Total Resource Needs Estimates for Meeting the MDGs by Thematic Clusters (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-15
Goal 1: Eradicate extreme poverty and hunger											
Agriculture and rural development	1154.753	1269.336	1394.403	1532.532	1691.117	1869.695	2070.666	2301.362	2570.444	2893.725	18748.03
Goal 2: Achieve universal primary education											
Education	1799.64	2098.735	2147.535	2321.122	2533.321	2765.083	3025.808	3317.32	3647.602	3944.161	27600.33
Goal 3: Promote gender equality and empower women											
Gender	80.22022	87.32393	104.0588	104.4174	113.3388	158.5851	132.0167	141.8095	215.0516	207.1616	1343.984
Goal 4: Reduce child mortality; Goal 5: Improve maternal health and Goal 6: Combat HIV/AIDS, malaria and other diseases											
Health	1351.89	1847.217	1683.591	2030.217	2601.51	3250.673	2768.007	2693.163	3355.521	3212.633	24794.42
Goal 7: Ensure environmental sustainability											
Environment	1.564	13.2102	170.2358	123.9358	77.2655	43.2582	15.1045	5.467	4.063	4.063	458.167
Water Supply & San.	611.4995	638.6366	666.2156	694.2443	705.9218	750.1869	779.5836	809.4598	839.8266	870.6928	7366.27
Cross-cutting sectors											
Energy	1021.574	1061.644	514.2321	1083.292	1097.835	1177.556	1179.55	1281.975	1185.164	1217.22	10820.04
Transport	1354	1495.838	1596.661	1705.028	1821.545	196.867	2081.701	2226.81	2383.02	2551.223	19162.69
Capacity	221.6689	302.0414	426.8504	296.4724	286.9768	271.0633	247.0004	249.9104	255.2288	259.0343	2816.247
Grand Total	7596.81	8813.981	8703.783	9891.261	10928.83	12232.97	12299.44	13027.28	14455.92	15159.91	11,110.2



Chapter 2: Agriculture and Rural Development

MDG 1-Eradicate extreme poverty and hunger

2.1 Overview

The Bhutan MDG Progress Reports for 2002 and 2005 both strongly emphasize the fundamental and key role that agriculture and rural development play in combating poverty and hunger in the country. As various international poverty studies and surveys also indicate, there is perhaps no other economic activity that generates the same level of beneficial impact for the poor as agriculture and rural development.

This chapter delineates the existing situation and the important role of agriculture and rural development and identifies the appropriate interventions in the sector for achieving the first MDG goal of eradicating poverty and hunger. The first section highlights the poverty context in the country and outlines the notable challenges and constraints in realizing these targets. The core sections of the chapter details and costs specific interventions under agriculture and rural development. The interventions are broadly classified under the three clusters of raising agricultural productivity, enhancing other rural income generation opportunities and improving rural access. These important interventions were principally identified by the TTFs and the Core Working Group of the MDG Needs Assessment and Costing exercise as those that were most likely to have the greatest potential impact on improving the livelihoods of the poor and the food insecure in the country.

In keeping with the Guidelines for the Preparation of the Tenth Plan, it is expected that the identified agriculture and rural development interventions will help reduce the proportion of the population living below the national poverty line from 31.7% in 2003 to 20% by 2015 through the effective reduction of rural poverty from 38% to 15% over the same period. The proposed interventions to increase agricultural productivity and promote other rural income generation opportunities seek to enhance agriculture yields of farmers significantly and raise rural per capita income

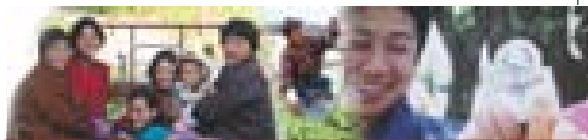
to Nu. 35,000. Furthermore, the interventions on improving rural access will be directed at achieving the target of reducing the proportion of the rural population living more than an hour's walk from the nearest road to less than 20%.

2.2 Current Issues and Challenges

Even though Bhutan does not readily conform to the image of a poverty stricken society, recent studies reveal that poverty, particularly income poverty, is a harsh reality in contemporary Bhutan. The Poverty Analysis Report (PAR) 2004 estimated that 31.7 % of the population lived under the national poverty line of Nu. 730.36 per capita per month and that the poverty incidence and depth is much more widespread and severe in rural than in urban areas. The report clearly established that poverty in the country is essentially and overwhelmingly a rural phenomenon with 96% of the poor living in rural areas.

Besides their rural residency, the poor in the country were also characterized by their restricted access to markets, credit, market information, post-harvest services and facilities, infrastructure and essential social services, high dependency ratios in families, low educational attainments, lack of productive assets such as land and livestock, low productivity and dependence on subsistence agriculture. The lack of remunerative off-farm employment and possibly the disguised levels of high underemployment in farming communities are also some of the other factors that perpetuate rural poverty.

Poverty in the country is viewed more broadly than just on the income dimension alone. As such, the eradication of rural poverty is equally contingent on addressing the general level of underdevelopment in rural areas. Rural communities in the country are not just worse off in terms of income and consumption but significant disparities exist on virtually all other socioeconomic indicators. The single most pertinent factor that has unequivocally



contributed to rural poverty and the relative underdevelopment of rural areas in the country is the poor access of rural communities to roads and their subsequent limited access to vital market and essential social services.

The Poverty Assessment and Analysis Report 2000, a government undertaking that mapped the spatial variations of facilities to compare the living conditions in the 205 Gewogss, emerged with a major finding that clearly linked household vulnerability and the resulting poverty incidences to accessibility, particularly road access. More recent studies have also revealed that household income levels are actually two to three times higher in relatively accessible areas than in inaccessible areas. Other social data similarly reveal the very high social and economic costs of inaccessibility. The expansion of roads and feeder roads to improve rural access is thus critically important as it underpins all other rural development activities in a major way. In turn, the successful and holistic development of the rural areas and the promotion of agriculture in the country will not only help the country to achieve the first MDG but contribute enormously to the realization of several of the other MDG targets.

The country's economy is essentially an agrarian one with the RNR sector comprising around a quarter of the GDP and providing livelihood for over half of the population. As mentioned earlier, the majority of the poor in the country live in rural areas with most of them being engaged in subsistence farming. Achieving the first MDG target of eradicating poverty and hunger will thus effectively hinge on the success of stimulating growth in agriculture and transforming it from subsistence levels.

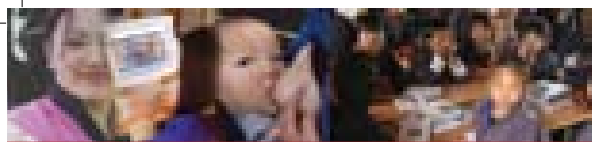
Although the majority of the population is primarily engaged in growing food grains for self sustenance, current grain production falls significantly short of national consumption needs and the country imports large quantities of rice and wheat annually, particularly to meet growing urban food grain requirements. In addition to the challenges of maintaining food security at the national level, rural households also face seasonal grain deficiency. While hunger and starvation cases are virtually unknown in the

country, food shortages occur in several districts with about a quarter of Gewogss reporting food insecurity, particularly during harvesting and planting seasons. Moreover, without the various feeding programmes, particularly in schools, it is anticipated that the grain deficits for households would probably be even higher. Food insecurity in the country is also very clearly linked to the size of land holdings with the food insecure generally being subsistence farmers in remote areas, sharecroppers with little or no land holdings and the landless. In the light of forest conservation imperatives and the perceptible trend of diminishing land holding size due to fragmentation following succession, there are serious implications for household food security in the future.

Farmers in the country also cultivate various horticulture and cash crops such as fruits, potato and other vegetables which constitute an important export commodity. The value of horticultural and cash crop exports in 2005 amounted to around Nu. 600 million and this comprised of around 5% of the total exports and quarter of the total value of exports to countries other than India. The further development of horticulture and cash crops for local and regional markets represents a critical and realistic strategy to help raise farm income levels, improve nutrition, boost household food security and ultimately alleviate rural poverty.

However, the growth of the RNR sector over the last few decades has been weak in comparison to the faster pace of growth of the other sectors of the economy. Over the last three plan periods between 1992 and 2005, the agriculture sector has averaged less than 3% growth while growth in the non-agriculture sectors has consistently averaged in the double digits. As such, the share of agriculture to GDP has been declining steadily and now comprises only 21.8% in 2005 as compared to over 37.8% in 1990 (NSB, 2005). Nevertheless, agriculture still remains critically important to the national economy and vital for rural livelihoods.

According to the MDG Progress Report 2005, the country is well on track to achieve the first MDG target of reducing poverty in half by 2015 or to income poverty levels below 20% from the existing



level of 31.7% in 2003. There is even the realistic prospect of exceeding this target quantitatively and as early as 2013. With regard to the hunger target, there is insufficient data for the baseline year for the percentage of population living below the minimum level of dietary energy consumption of 2,124 Kcal to correctly assess progress toward the target. The MDG Progress Report 2005, however, indicates that the country is well placed to achieve this and suggests the possibility of halving the numbers of those suffering from hunger to less than 1.9% within an even more ambitious timeframe of twelve years from 2003 to 2015. The report further reflects the full achievement of the indicator target of halving the percentage of under five children who suffer from wasting and being on track towards achieving the indicator target of under five children who suffer from stunting. Nutritional interventions are dealt with under the health cluster.

Even as the general progress towards overcoming poverty is well on track, there simply is no room for complacency for numerous reasons. The country's growth has been highly capital intensive and is likely to be even more so in the future with the growing predominance of the hydropower sector. As is well known and acknowledged, high growth levels are essential but not necessarily sufficient for poverty reduction.

In spite of the strong and conscientious efforts of the Royal Government to ensure pro-poor and broad based growth as manifested in the high levels of public expenditure allocated for rural development, income inequality is high in Bhutan (PAR, 2004). The gap between the rich and poor may be increasing as with growing unemployment and declining proportion of credit to agriculture and SMEs.

Furthermore, there is the urgent concern that development is not as regionally and locally balanced as it should be, and which, if not corrected quickly, could further accentuate and deepen poverty in certain vulnerable communities and regions around the country. There are many such significant challenges and constraints that could affect the final outcome on achieving the MDG targets of reducing poverty and hunger and some of the key ones are discussed in the following section.

2.2.1 Slow Growth of the Agricultural Sector and Declining Investments

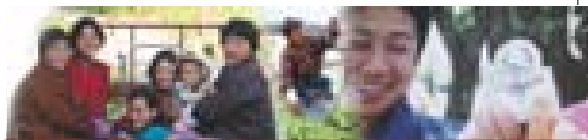
As iterated earlier, the slow growth and the relative declining proportionate levels of investment channeled into the agriculture sector since the 8th FYP have limited the fuller development of a sector that is critically important for the poor. Comparatively, the share of the total development budget allocated for the agriculture sector has declined from 15.6% and 15.7% over the 6th and 7th FYs to 12% and 10.1% over the 8th and 9th FYs.

This has also been further compounded by significant constraints relating to limited arable land, low productivity of smallholder farmers, widespread practice of share cropping, acute farm labour shortages, underemployment and the lack of off-farm employment opportunities, and poor access to markets and other socioeconomic and agricultural extension services.

2.2.2 Low Agricultural Productivity and Crop Depredation by Wildlife

Enhancing agricultural productivity of farmers in the country, particularly for small holder farmers, presents a very significant challenge that must be addressed for meaningful poverty reduction. The low productivity of the principal livelihood activity of the poor greatly limits the prospects for halving the numbers living in poverty in the country. Currently, the returns on the production of food grains are generally poor and below prevailing market wage rates. In addition to perpetuating poverty, the meagre returns for farm labour and the extremely hard manual work involved in traditional farming has notably contributed to the steady shift of agriculture labour to non-agriculture sectors and fuelled the growing rural-urban migration trend.

Agriculture production is also significantly constrained by the difficult terrain that reduces the scope for large scale farm mechanization. Additionally, the common practice of share cropping by many landless farmers in the country has impeded agricultural productivity as they have little incentive to increase yields, maximize



cropping intensity or invest in land improvements. Other constraining factors that have encumbered agricultural productivity pertain to the prevalence of poor soil quality and associated low levels of nitrogen and phosphorous content, inadequate irrigation infrastructure, poor access to and quality of seed, fertilizers and other essential supply inputs, and issues of access to credit, markets information, post-harvest services and facilities.

Additionally, according to various national studies and reports, the depredation of crops by wildlife is regarded to be the most serious threat to household food security. The RNR Census 2000 Report (MoA, 2002) indicates that around 40% of all farming households suffered crop depredation by wild animals, especially wild boars. Bhutanese farmers also spend a significant amount of time guarding crops at night exacting a significant opportunity cost through sleep deprivation and added hardship. The hardship of guarding crops at night was also among one of the many push factor reasons provided by rural migrants for migrating to urban areas. Efforts to address this issue include installation of electric fences to deter wildlife from crops and token compensation for livestock that fall prey to wild animals. However, the problem is constrained by the lack of funds, stringent environmental legislation that prohibit hunting and the cultural aversion for culling as a method of prevention.

2.2.3 Underemployment and Lack of Off-Farm Employment in the Rural Sector

Another important issue for tackling poverty in the country is the need to enhance the quality of employment rather than the number of jobs as the population base is very small and labour scarce. In addition to enhancing agricultural productivity and the returns from farm enterprises, there is also the imperative for generating other income generation opportunities in rural areas. The sluggish pace of the growth of rural enterprises and the lack of decent off-farm employment generation has been viewed as a major issue that has helped perpetuate the wide prevalence of underemployment in the rural sector and contributed to the rising rural-urban migration trends.

2.2.4 Inaccessibility

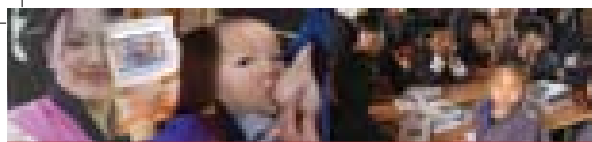
Virtually every aspect of development is predicated on the ability to gain access to goods and services. The ability of rural communities in the country to move beyond subsistence production and enjoy improved access to essential social services is severely hampered by their limited access to markets and relevant social and economic infrastructure. Moreover, poverty incidence in the country is clearly and inextricably linked with road accessibility and household incomes in relatively accessible areas (i.e. within half a day's walk from the nearest motor road) are two to three times higher than those in less accessible areas (i.e. within 1 to 3 days of walk from the nearest road). However, the scope of expanding the road networks, including farm and feeder roads, are in themselves greatly constrained by the rising investment and maintenance costs and limited financial resources to meet these needs.

2.2.5 Environmental Degradation Risks

While there is an urgent need to expand the agriculture, livestock and forestry sector and further improve rural accessibility through the development of necessary infrastructure, these activities invariably come into conflict with environmental concerns. As there are serious and grave risks of environmental degradation in a sensitive mountain eco-system, the challenge will be to harmoniously balance such competing needs and develop synergies in a workable manner that promotes both sustainable livelihoods and also safeguards the environment.

2.2.6 Rural-Urban Migration

Although around 70% of Bhutan's population live in rural areas and agriculture still employs the majority of the work force, the impact of rural-urban migration on poverty reduction and the achievement of the MDGs needs to be addressed. The 2005 Population and Housing Census estimated that 111,770 people had migrated to urban areas and, while the lack of education facilities was the most commonly stated reason for rural-urban migration, the lack of off-farm



jobs in rural areas, the drudgery of farm work and unproductive small landholdings were other major factors (MoA, 2005).

The government is engaged in trying to reduce the drudgery of farm work and enhance farm income in order to stem rural-urban migration and youth unemployment. However, labour shortages in the agricultural sector is increasing. It is likely that the current trend of rural-urban migration will accelerate and concerted efforts will be required to mitigate the problems that usually accompany such migrations.

2.2.7 Urban Poverty and Youth Unemployment

Even as poverty in urban areas is currently low and limited to 4% of the urban population, it is emerging as a growing concern. With rapid urbanization and urban populations projected to grow to around one third of the total population by 2015 due to the high levels of rural-urban migration, this poses a significant challenge and possible consequences for the emergence of urban poverty. In particular, many of the young people who migrate to urban centers are without skills, have low educational attainments and are unemployed. While strong family bonds have generally provided social safety nets that have mitigated urban poverty, this may not necessarily be the case in future. The PHCB 2005 reports a 12% level of unemployment among youth in urban areas which is almost three times as high as that of the normal urban unemployment rate. Real unemployment figures could even be significantly higher than reported and current underemployment levels are also regarded to be quite high. As such, the incidence of urban poverty in the future is likely to be closely related to youth unemployment and underemployment. Another very visible and pertinent aspect of urban poverty that is likely to exacerbate is the desperate lack of proper housing for low income groups.

2.3 Major Interventions

Although poverty reduction efforts will depend on an integrated set of interventions that include increasing the coverage of health and education facilities, the major interventions identified for

agriculture and rural development broadly fall into the three intervention clusters of increasing agricultural productivity, enhancing other rural income generation opportunities and improving rural access.

2.3.1 Increasing Agricultural Productivity

The interventions in the first cluster of agriculture and rural development are aimed at increasing agricultural productivity of smallholder farmers, as they often do not produce levels required for subsistence. The following interventions, which should be implemented in combination to effect a tripling of smallholder agricultural production yield as recommended by the UN Millennium Project, have been identified by the Thematic Task Force.

Investments in soil health

This intervention is critical for increasing yield as depleted levels of nitrogen in the soil can severely curb agricultural production. Chemical fertilizers, organic manure, and Nitrogen-fixing trees and crops have been identified as inputs for improving soil health. While crop residue return and conservation tillage are also employed by farmers to restore a healthy functioning soil, these methods have not been included due to the lack of data.

Small-scale water management

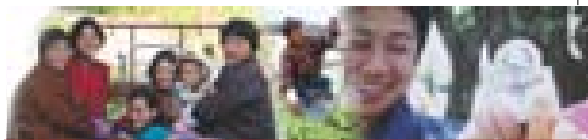
For maximizing productivity from land resources, five technologies for the irrigation needs of the country's smallholder farms have been identified under small-scale water management interventions. They are water harvesting structures, irrigation systems, micro irrigation/pipeworks, water control structures and land/water management works.

Improved seeds

Investments in improved seeds, in combination with more soil nutrients, are essential for increasing agricultural productivity of smallholder farmers. The interventions identified to help smallholders grow improved crops include crop seed, vegetable seed and fodder crop production, vegetative propagation, tree nurseries, and seed delivery.

Plant Protection

This intervention has been added to reflect the



fact that the country's farmers lose significant portion of their harvest to disease and pests. According to the RNR Census 2000, around 40% of all farming households suffered depredation of crops by wild animals, especially wild boar (MoA, 2002).

Agricultural research

Along with production and delivery, research is also an important component of supplying farmers with improved seeds. Although the UN Millennium Project recommends allocating around 2% of agricultural GDP for agricultural research, as decided by the Task Force, the annual budget of the Centre for RNR Research in Bhutan (CoRRB) of the MoA is taken as the amount for research. Currently, this amounts to around 2% of agricultural GDP.

Extension services

Increasing agricultural productivity depends on a strong extension system that is participatory and reaches out to farmers with up-to-date knowledge of soil health, small-scale water management, improved seeds, high value niche products and other ecologically sound products.

Extension services in the country are supported by Technology Parks where improved agricultural production methods, best practices, tools and information are showcased through field days and demonstration plots, among others.

2.3.2 Enhancing Other Rural Income Generation

This cluster includes interventions that allow rural households to generate income through other means than agriculture productivity. This intervention package is intended to augment the direct agricultural interventions and provide smallholder farmers and landless households with opportunities to access alternative sources of income as a safety-net. Support for off-farm income-generating activities includes the following:

Building community food storage facilities to reduce post-harvest losses;

- Providing improved livestock breeds and

veterinary services;

- Increasing access to quality financial services, especially micro-credit;
- Building pack houses and collection sheds to facilitate marketing;
- Building market spaces to reduce information asymmetry with buyers;
- Promoting farmers associations and cooperatives to improve economies of scale and bargaining power of smallholder farmers; and
- Promoting value added food processing for agricultural and livestock products.

Food for Work Programmes

This programme is a means to provide rations for the food insecure and at the same time improve access of remote and isolated households to educational, health and agricultural services through the construction of mule tracks, farm roads and power tiller tracks.

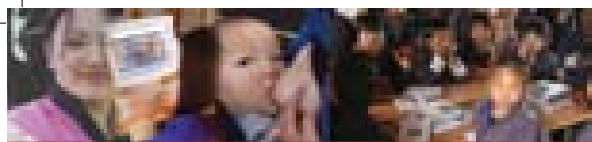
The government must continue these programmes as it acts as a safety net for food insecure households, especially the rural landless, and contributes to improving access of isolated communities to socioeconomic services.

Non-Agricultural Rural Enterprise Development

In view of the fact that agriculture is not an attractive option for the younger generation, interventions to stimulate non-agricultural rural enterprise development have been added over and above the interventions recommended UN Millennium Project. Its inclusion is expected to promote private sector development, employment generation and contribute towards poverty reduction as well as check rural-urban migration. These interventions are organized under two components, enterprise promotion services and marketing services.

Enterprise promotion services include:

- Providing trade-related services through Regional Trade and Industry Offices and Dzongkhag Trade and Enterprise Promotion Officers; and
- Conducting small and micro enterprise development training programmes for rural entrepreneurs and artisans covering skills development of rural artisans and basic



business and accounting courses.

Marketing services include:

- Promoting rural cooperative formation and establishing sales counters for local products;
- Organizing trade fairs for local products in the capital and other urban centers; and
- Supporting the participation of rural artisans in international exhibitions.

2.3.3 Improving Rural Access

Households that suffer from food insecurity and extreme poverty are largely located in remote and isolated communities. The PHCB 2005 found that about 10% of the total population live beyond six hours walking distance from a motor road.

This cluster has been added given the impact that improving rural access has on the successful implementation of all the other interventions for achieving the MDGs. The interventions in this cluster include:

- Expanding the coverage of power tiller tracks and farm roads to boost agricultural productivity and other rural income generation activities as well as increase access to social infrastructure; and
- Establishing Community Information Centers (CICs) to provide shared facilities for rural communities to use basic telecommunication and media services, access the internet, e-post and other ICT applications and services for socioeconomic activities.

The government recognizes the potential of ICT to support socioeconomic development and as an enabler for poverty alleviation. To this effect, the government is committed to promote the development of ICT infrastructure across the country. The establishment of CICs will be implemented in three phases: 88 CICs will be established during 2005-07, 50 during 2007-08 and 63 during 2008-13. It is projected that every Gewogs will have a CIC by 2013.

The Ministry of Information and Communications (MoIC) is responsible for the development of ICT infrastructure, including the coordinated

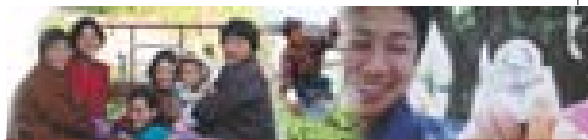
development of the national network through broadband connectivity to the remotest locations of the country. As a result, MoIC has already embarked on developing the Broadband Network Master Plan which is near completion. This is crucial for bringing the high-end services closer to the rural population and facilitates the achievement of the MDGs. The efficiency and effectiveness of the CICs, telemedicine, distance learning and internet utility in schools will rely on the availability of broadband connection. Furthermore, the broadband national network will support the effective functioning of e-governance and improve overall service delivery. However, the implementation of the Broadband Network Master Plan will depend on the availability of funding which is estimated to cost over Nu. 950 million.

2.4 Coverage Targets

The general coverage data for costing of the interventions are based on the categorization of households. Farm households are broadly categorized into smallholder farm households and rural landless households with the former being defined as those who own less than five acres of land. Although the UN Millennium Project suggests that smallholder farm households who own less than a hectare of land be targeted, smallholder farms in the Bhutanese context has been defined as those who own less than five acres of land because of the following factors:

- The law does not permit households to sell their last five acres of land
- 56% of farm households own less than five acres
- 56.1% of farm households faced an average of 2.2 months food grain shortages every year
- Landholdings in Bhutan are fragmented and large portions are unproductive
- Households with less than five acres can appeal for land

According to this definition, which includes half of all farm households, there were 43,905 smallholder farm households in 2005 and their number is projected to increase to 51,457 by 2015. The coverage target for interventions is initially set at 50% of smallholder farmer



households or 21,952 and is scaled up to 100% by 2015. The rural landless comprise a much smaller proportion at 2.6% of all farm households which was estimated to be about 2,283 in 2005. Full coverage of all rural landless households is maintained throughout.

2.4.1 Coverage Targets for Agricultural Productivity

As recommended by the model, soil health interventions are projected to cover all targeted smallholder households each year, since they are important for all smallholder farmers, and are deliverable on a per-farm basis. Although only around 30% of all households reported using chemical fertilizers, the access of smallholder households to such fertilizers has been set 100% from the base year as recommended by the UN Millennium Project. Similarly, although the actual access was 80% in 2005, full coverage to organic manure has also been set for the entire period as recommended. In view of its nutritional and soil improvement value, full coverage of nitrogen fixing trees is assumed for the entire period.

It is estimated that the access of smallholder households to water harvesting structures will increase from around 5% in 2005 to 20% in 2015 and the input ratio will improve from 10 smallholder households to a water harvesting structure to 5 per structure during the same period. The average number of households dependent on an irrigation system in 2005 was 20. This is targeted to be halved to 10 households per small irrigation system by 2015. The access of smallholder farms to small irrigation systems is accordingly projected to double from 30% to 60% from 2005 to 2015. Water control structures are mostly traditional low-tech structures for distribution and control of water channels. The coverage of water control structures is estimated to improve from 5 smallholder households to a structure in 2005 to 3 households to a structure in 2015. Access to such structures is also expected to reach total coverage by 2015 from the baseline of 80%.

There are four crop seed production units in the country resulting in the ratio of one unit to 10,975 smallholder households. Since the number of production units is expected to remain the same,

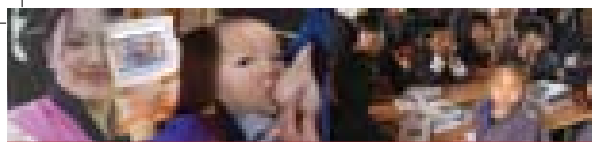
the input ratio is projected at 12,864 smallholder households to a unit in 2015. Improvements in quality, however, will be undertaken along with increasing the number of distribution outlets. There were 75 outlets in 2005 that supplied these improved seeds, representing an access rate of 37% for smallholder households. As per the projection of one outlet in each Gewogs, the access for 2015 is set at 100%.

The access of smallholder households to fodder crops is estimated to increase from 20% in 2005 to full coverage by 2015. However, the promotion of fodder crops should be tied with the increase of improved livestock breeds (as improved fodder is largely meant for their consumption) and, although the total land under fodder crops is estimated to increase from 24,000 acres in 2005 to 30,000 acres in 2015, it should be noted that only 1.7% of all farming households cultivated improved pasture in 2000.

As for the tree nurseries, the current seedling stock available for public distribution, normal plantation programmes and institutional demand for avenue plantations is 685,259 seedlings. It is projected that 20 more tree nurseries will be added by 2015. Accordingly, the ratio of households to tree nurseries for 2005 is 998 households to a unit, which improves to 804 households to a unit by 2015.

There are 55 agro-dealers and commission agents in the country that carry out distribution of seeds and other inputs. In keeping with efforts to increase access of smallholder farming households to improved seeds, it is expected that there would be such an agent facilitating seed delivery in each Gewogs by 2015. Accordingly, the input ratios are 798 and 256 smallholder farm households to one seed delivery agent/dealer for 2005 and 2015, respectively.

It is assumed that there is an extension worker from three sub-sectors (agriculture, livestock and forestry) in all the 205 Gewogs. Given that there were 43,905 smallholder households in 2005, the smallholder household to professional extension worker ratio in 2005 is estimated at 73:1. If the same input ratio is maintained for 2015, an additional of 102 extension workers would be needed by 2015. So far, 857 trainees have



graduated from NRTI, out of which, only 155, or 18%, have been females. Efforts to achieve gender parity should be emphasized.

As every Dzongkhag has a Technology Park, the input ratio is 2,195 smallholder households to one Technology Park in 2005. It is estimated that 50 more such Parks will be added by 2015 to expand extension services further to the Gewogss and the input ratio is projected at 735 smallholder households to a Technology Park.

2.4.2 Coverage Targets for Rural Income Generation

The percentage of rural smallholder households targeted is the same as for Agricultural Productivity, i.e. 50% scaling up to full coverage by 2015. The percentage of rural landless households that are targeted for interventions in 2005 is set at 70% and 100% for 2015.

There are currently 12 community stores in the country. The ratio of smallholder farm households to a community storage facility unit is 3,659:1, which is estimated to halve to 1,829:1 by 2015. This implies that 44 new community storage facilities would need to be added by 2015, bringing the total number of such facilities to 56.

There were 295,992 cattle in 2004, with around 87,046 or 30% being improved breeds. As the policy of the government is to replace the relatively unproductive local cattle, which forms the bulk of the cattle population, with improved breeds, the input ratios for livestock are measured against improved cattle breeds. The input ratio for improved cattle per rural smallholder household is 0.5 for the baseline year and this is set at 1.0 improved cattle per household in 2015.

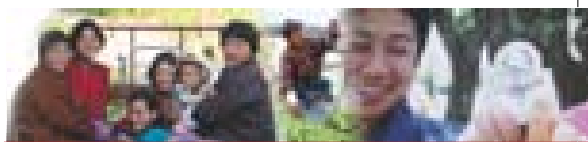
Currently there are 25 professional veterinarians in the country and 35 more vets are expected to enter practice by 2015, bringing the total to 60. The ratio of smallholder households to a veterinarian corresponds to 1,756:1 in 2005 and 1,463:1 in 2015. The male-female veterinary ratio is the same as that for extension workers, i.e. 5:1 in 2005 and 3:1 in 2015.

Currently there are 14 community level food processing enterprises spread over seven Dzongkhags (Thimphu, Dagana, Punakha, Zhemgang, Samdrup Jongkhar, Trashigang, Trashiyangtse and Mongar). At the household level, there are 80 household food processing establishments, unevenly spread over 12 Dzongkhags. Popular machinery for food processing include electrical driers, fruit pulpers, mixers/grinders, deep fat fryers, oil expellers, corn flakers, diesel engines, hullers, tractors, sprayers and other smaller tools. These machines are supplied by the Agricultural Machinery Centre and the National Post-Harvest Centre. Based on the above, the 2005 machinery coverage is estimated at 5% and the target for 2015 is set at 20%.

There are currently 41 livestock-based cooperatives engaged in milk production, processing and marketing dairy products, piggeries, backyard poultry farms, and fisheries located in 12 Dzongkhags. The machinery coverage ratio for livestock products is maintained at the same level as that of agricultural products (5% in 2005 and 20% in 2015).

There are currently six Regional Trade and Industry Offices (RTIOs) of the Ministry of Economic Affairs (MEA) which act as business incubators by providing small business centers and business development and advisory services. Accordingly, the input ratio for 2005 is 7,318 smallholder households to a RTIO in 2005 and this ratio is maintained for 2015.

The Thematic Task Force recommends that Dzongkhag Trade and Enterprise Promotion Officers (DTEPOs) be established in each Dzongkhag to promote rural enterprise development. Currently there are seven Business Promotion Officers and it is recommended that they be trained as DTEPOs and each Dzongkhag be assigned a DTEPO by 2015. Accordingly, the input ratio for 2005 and 2015 are 6,272 and 2,573 smallholder households to a DTEPO. This intervention is also gender segregated along the same lines as extension workers and veterinarians and the male-female DTEPO ratio is 5:1 and 3:1 for 2005 and 2015, respectively.



A total of 567 trainings were conducted under the Small and Micro Enterprise Development Training (SMEDT) programmes in 2005. This included training for 200 bamboo and cane artisans on a pilot basis in two Gewogss, Kheng Bjokha in Zhemgang and Langthel in Trongsa Dzongkhag. It is projected that another 600 such artisans would be trained by 2015 and the total number of persons trained under the SMEDT programme is estimated at around 4,600 in 2015.

As the success of the SMEDT programme will depend on the availability and quality of trainers, a ratio of one trainer to 10 trainees has been set for SMEDT programmes. The trainers are attached with the Entrepreneurship Promotion Centre, MEA, and are also gender disaggregated.

From the marketing aspect, it is expected that there would be at least one rural cooperative established in each Dzongkhag by 2015 as support for rural entrepreneurs. This should be followed by a trade fair which will be held every year either in Thimphu or another urban center showcasing local products and bringing together rural artisans and entrepreneurs with customers and middle men. These trade fairs should scale up to twice annually by 2015.

The participation of rural artisans and entrepreneurs in international exhibitions is recommended so as to promote rural products to a wider market. While exhibitions in the region such as the Annual SAARC Trade Fair are an option, participation in exhibitions in developed countries have been selected so as to promote the country's products to the high-end market. The frequency of participation in international exhibitions is the same as that of local trade fairs.

The Small Individual Loan Scheme is targeted at smallholder farm households and the ceiling for loans is Nu. 100,000 with an average loan size of Nu. 30,000. The percentage of smallholder households to rural credit is estimated by The Bhutan Development Finance Corporation (BDFC) to increase from 40% in 2005 to 70% by 2015.

Rural landless households have access to credit through the Group Guarantee Lending and Saving Scheme and

loans provided range from Nu. 7,500 to Nu. 50,000. The average loan size is Nu. 20,000. The access of rural landless households to credit is estimated to increase from 20% in 2005 to 30% by 2015.

It is assumed that each smallholder or landless household has only one client for rural credit and the ratio of clients (both smallholders and rural landless) to BDFC staff members is estimated to increase from 164:1 in 2005 to 250:1 in 2015.

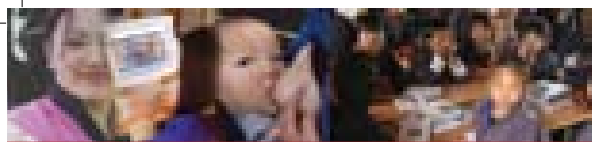
For the purpose of more efficient targeting, a Vulnerability Assessment Mapping (VAM) exercise was jointly conducted by the MoA and WFP in 2005. The exercise classified 51 Gewogss as being most vulnerable to food insecurity, with the majority being the east and south of the country. Accordingly, the percentage of rural households in need for food for work programmes has been taken as 14% of the entire rural population, corresponding to the percentage of farm households that own less than one acre of agricultural land. It is expected that there would be no household in need of food for work programmes by 2015 as a result of the interventions identified for increasing agricultural productivity and rural income generation.

There are currently 16 pack houses and collection houses in the country located in seven Dzongkhags (Thimphu, Dagana, Haa, Zhemgang, Trongsa, Pema Gatsel and Mongar). The 2005 input ratio of smallholder farm households to pack houses and collection sheds is one unit to 2,744 smallholder households and the 2015 ratio has been set at 2,500:1.

2.4.3 Coverage Targets for Improving Rural Access

It is estimated that the total length of farm roads in Bhutan will reach 1,695 km from the 2005 baseline of 444 km. The construction of farm roads is governed by the Guidelines for Farm Roads Development 2003 issued by MoA, which requires that every kilometer of farm road serve an average of ten households. This results in the coverage of 5% with 4,440 beneficiary households for 2005 and 16% with 16,950 for 2015.

Falling between traditional mule tracks and farm roads, power tiller tracks are designed to



specifically accommodate a standard power tiller currently in use in Bhutan. A total of 60 km of power tiller tracks have been constructed and, based on the Guidelines for Power Tiller Track Development 2004 issued by the MoA, which stipulates that a minimum of seven households should benefit from one kilometer of power tiller track, there were 420 beneficiary households in 2005, implying an access rate of 0.5%. By 2015, it is projected that 630 km of power tiller tracks will have been constructed, bringing the number of beneficiary households to 4,410. Access of households to power tiller tracks will also reach 5%.

The Royal Government's approach to addressing the digital divide is to establish Community Information Centers (CICs) in every Gewogs by 2013. Ten CICs have been established so far and the corresponding input ratios are 8,781 and 512 households to a CIC, for 2005 and 2015 respectively. Likewise, CIC coverage is expected to increase from 5% in 2005 to 100% by 2015.

Two mass media awareness campaigns a year have been projected. These campaigns should focus on issues related to increasing agricultural productivity and other rural income generation opportunities and activities.

2.5 Resource Needs Estimates

The total amount of resources required for the period 2006-2015 for interventions in the agriculture and rural development cluster amounts to Nu. 18,748.032 million. Of this, around three fourths are intended for recurrent expenditures and one fourth for capital expenses. From the requirement of Nu. 1,154.753 million in 2006, the annual costs rise to Nu. 1,691.117 million in 2010 and Nu. 2,893.725 million in 2015. More than half of the total cost or Nu. 9,897.043 million is required for interventions to increase agricultural productivity and around a third will be needed for enhancing other rural income generation opportunities. Table 2.1 summarizes the overall resource needs for this cluster. Details of each intervention, its coverage and costing, as calculated by the Rural Development Model, and the accompanying narration are available at the MDG website maintained by the PCS.

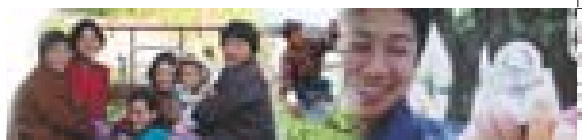
2.6 Policy Issues

In order to successfully achieve the MDG related to poverty and hunger, economic growth must have a stronger pro-poor orientation with the overall macroeconomic policy and budgetary support frameworks strengthened to allow for the successful implementation of the proposed poverty alleviation interventions, including focused and targeted poverty interventions. It is especially crucial that higher growth rates for the agriculture sector is stimulated through increased allocation of resources and investments in the plan budgets as it is a key sector for the poor. Policies on agricultural subsidies, extension, livestock, irrigation, micro-credit, environment, and legislation such as the Land Act that impact agricultural productivity of smallholder farmers need to be reviewed to ensure that they facilitate poverty reduction and equitable access.

Rural credit forms a critical element for the success of some of the interventions mentioned above and ensuring access to affordable micro-financing services such as credit, savings and insurance schemes, particularly for the poorer and vulnerable households should be enhanced. Similarly, enhancing other rural income generation opportunities will require policies that support the development of small and micro enterprises, networks of agro-dealers and other intermediaries and economic facilities.

Improving rural access will require reviewing policies and regulations related to road construction in rural areas, especially the prolonged delays in acquiring required clearances, securing beneficiary labour contribution and the maintenance of road infrastructure. The long term strategies to address urban poverty including formulating urban development plans to provide effective and efficient urban services and infrastructure to improve the living standards of the urban poor and the whole urban settlements at large should be initiated.

There is a need to effectively address the growing rural-urban migration trends that have serious implications for the emergence of urban poverty and acute farm labour shortages. In addition, possibilities should be explored to



develop appropriate compensation schemes to address the extensive loss of crops and livestock to wildlife depredation by farming communities.

Food security and rural income generation interventions need to be improved through better and specific targeting. Measures should be developed for the continuation of school feeding

programme after the phasing out of WFP support which is anticipated during the MDG timeframe.

For further fine tuning of the needs assessment, a proper compilation of data should be developed and maintained to facilitate better programming, research and adequate reference.

Table 2.1 Total Resource Needs Estimates for Agriculture & Rural Development Intervention (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Agricultural Productivity	609.375	670.508	736.278	808.380	893.082	986.846	1093.452	1215.764	1357.824	1525.534	9897.043
Capital Costs	72.327	88.287	104.146	122.945	145.420	172.548	205.667	246.640	298.143	364.148	1820.270
Recurrent Costs	537.048	582.221	632.132	685.434	747.662	814.297	887.785	969.125	1059.682	1161.386	8076.772
Other Rural Income Generation	346.879	399.550	457.934	522.855	595.336	678.316	770.131	874.614	994.754	1134.933	6775.303
Capital Costs	50.928	56.140	61.586	67.291	73.290	79.636	86.415	93.777	102.023	111.871	782.957
Recurrent Costs	295.951	343.410	396.348	455.565	522.046	598.680	683.716	780.837	892.731	1023.062	5992.346
Improving Rural Access	184.261	184.527	184.881	185.367	186.059	187.094	188.743	191.609	197.286	211.230	1901.058
Capital Costs	180.633	180.697	180.782	180.899	181.065	181.314	181.710	182.398	183.762	187.112	1820.372
Recurrent Costs	3.628	3.830	4.099	4.468	4.994	5.780	7.033	9.211	13.524	24.118	80.686
Awareness	9.064	9.064	9.064	9.064	9.064	9.064	9.064	9.064	9.064	9.064	90.640
Capital Costs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Recurrent Costs	9.064	9.064	9.064	9.064	9.064	9.064	9.064	9.064	9.064	9.064	90.640
Capacity Development	5.173	5.686	6.247	6.865	7.576	8.376	9.276	10.310	11.515	12.963	83.988
Grand Total	1154.753	1269.336	1394.403	1532.532	1691.117	1869.695	2070.666	2301.362	2570.444	2893.725	18748.032



Chapter 3: Education

MDG 2-Achieve universal primary education

3.1 Overview

As with most developing countries, providing quality education is critical for furthering the progress of human development in the country and for broadening people's life opportunities and choices to lead more dignified lives. Improving the educational attainment levels of the general population is moreover an integral part of the government's broader development strategy to improve the quality of life for the poor and thereby reduce poverty. This is also essential if the society is to ultimately evolve into a knowledge-based society as envisaged in the country's long term vision.

The country has made vast improvements in scaling up all of its primary and secondary education indicators since the inception of modern education system four decades ago. This has been most notable in the growth of enrolment at all levels of education, but particularly at the primary and secondary levels. Notwithstanding several challenging constraints, especially the difficulties associated with enhancing access to education for a widely dispersed and scattered population, Bhutan remains on track to achieve the MDG Goal of universalizing primary education as reported in the MDG Progress Report 2005.

The gross primary enrolment rates (GPER) have grown rapidly over the last fifteen years and effectively doubled from 55% in 1990 to 102% in 2005. The primary school survival rates too have improved from around 79% in 2000 to around 87% at present. With regard to gender balance in primary education in 2006 there were 97 girls for every 100 boys in primary education. As such, given a more rapid growth of enrolment rate for girls, attaining gender parity at the primary level is also likely to be achieved very soon. Net primary enrolment rate (NPER) at 79.4% indicates that around 20,000 children who should be in school are still not enrolled. While this remains a significant cause of concern, the net enrolment rate (NER) has also been

improving rapidly by over 17 percentage points in the last five years. At these rates of progress, it is highly probable that the second goal of achieving universal primary education will be attained well before 2015.

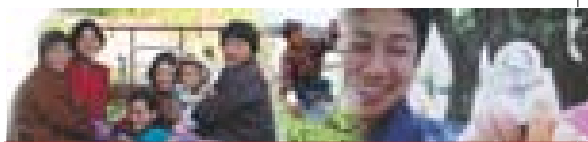
Table 3.1 Education Indicators

	1990	2000	2006
GPER	55%	72%	102%
NER	-	62% (2002)	79.4%
Primary School Survival Rate	-	78.8%	87%
Adult Literacy	32.2%*	-	53%
Teacher Student Ratio In Primary Education	1:27	1:38	1:34
NFE Learners	300 (1992)	5,372	18,550 (2006)
NFE Centers	6 (1992)	146	646 (2006)

Source: MoE, General Statistics, PHCB 2005, *Global HDR 1991

The significant accomplishment of expanding primary education has placed enormous pressures on the secondary and post secondary levels. As a result enrolment at the secondary level has grown even more rapidly and on average has increased at around 13% annually since 1995. Reflecting an equitable gender balance in recent enrolments, there is virtual gender parity at the secondary level with 98 girls for every 100 boys. As with the primary school completion indicator, there have been similar enhancements in the secondary school completion rates improving from an annual average of 65% in 2000 to 74% 2005.

In terms of basic education indicators, the dropout rate has declined marginally and averaged around 4.8% from 1995 to 2006. There has been a more significant improvement in reducing the repetition rates which have dropped from around 12.7% on average between 1995-2000 to 9.8% between 2001 and 2006.



3.2 Current Issues and Challenges

Despite the enormous difficulties in creating educational facilities for a highly dispersed population in a mountainous terrain, the country has made remarkable progress in expanding its education system. On the basis of sustained investments into the education sector that on average has taken up around 15% of the national budget to provide free basic education, the country is well on track to achieve universal primary education even earlier than 2015.

The MDG 2005 Progress Report indicates the major constraints and challenges to be the low levels of adult literacy, particularly among women and in rural areas; the quality and relevance of education; the difficulties of continuing to expand enrolment levels notably in hard to reach communities and isolated areas; and the challenge of adopting a more inclusive approach to improve educational access for those with physical disabilities and learning impediments. In recognition of these pressing constraints, the major interventions suggested are to sustain and improve the enrolment and the quality of education at the primary and secondary levels; raise the adult literacy rates; and expand access to special education for the disabled. The main outcomes of these proposed interventions will help accelerate the progress towards attaining the goal of universal primary education and the long-term national goal of realizing a knowledge-based society and simultaneously contribute to the reduction of poverty and progress in achieving other MDGs.

As evident from Table 3.1, an education indicator in which the country has had relatively less success relates to the low adult literacy levels. At 53%, the country has among the lowest adult literacy levels in the region although it is an improvement from even lower levels in 1990. Female adult literacy level at 39% is much lower compared to men with a reported literacy rate of 65%. Adult literacy levels on the basis of residence also show a marked disparity with urban adults (72%) as compared to rural adults (44%).

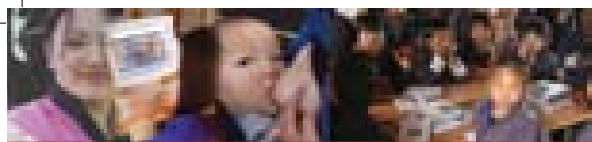
There is only one institution that addresses the needs of disabled children, the National

Institute for the Disabled (NID). The NID provides instruction in reading and writing Braille to help children skilled in Braille join regular schools for further education. In addition to the NID, there are two other schools that have the basic capacity to cater to children with special needs. However, this existing capacity is severely inadequate to help the government cater fully to the concept of inclusive education and meet the needs of all disabled children.

While the main thrust for increasing literacy has been addressed through the formal education system, non-formal education (NFE) has emerged as a critical programme to supplement these efforts. The low levels of adult literacy, however, belie the distinct success the country has had with regard to its NFE schemes since its inception in 1992. From six centers with 300 learners in 1992, the NFE programme today has 646 centers and 18,550 learners of which about 70% are women. The programme also has post literacy courses that adult learners can join after completion of the basic literacy course.

The rapid expansion of enrolment at the primary and secondary education levels has stretched the limited resources available and severely tested the capacity of the education system to provide quality education. The success at the primary level has placed enormous pressures on the secondary and post-secondary levels with an ever-increasing number of students moving up the education ladder. This has resulted in a critical shortage of secondary education seats and qualified teachers at this level. The overcrowding of class rooms, shortage of teachers and inadequate learning materials are thus hampering the learning environment and the quality of education that students receive. This has happened in spite of national efforts to enhance teacher strength and expand educational infrastructure to cope with the growing numbers of students. The continued expansion in the numbers of teachers and schools, notably at the secondary levels, while maintaining a high quality of education standards, will prove to be a major challenge.

The education system in the country is further constrained by the need to enhance the outreach and quality of primary education to children in rural and hard to reach communities. As it



is well known, this will become incrementally harder to achieve but will be necessary in order to help bring the disadvantaged and vulnerable into the mainstream of development and prevent the widening of inequality. There is also the challenge that, although basic education is essentially free, the nominal costs that families contribute tend to discourage school enrolment among the poor and more vulnerable households. The provisioning of incentives such as school feeding and boarding facilities is important to help keep children in schools but this could be constrained by the anticipated withdrawal of development grants in the form of food assistance and the Royal Government's ability to fill in the gap when development partners like the WFP gradually phase out from the school feeding programme.

The MDG Progress Report 2005 and various education policy documents highlight another major challenge for the country in meeting its commitment to ensure Education For All. This pertains to the challenging issue of adopting a more inclusive approach to providing equitable and quality education services to children with disabilities, learning impediments and other special education needs. This is in itself acutely constrained by the lack of necessary facilities and human resource capacity to address these special education needs.

Addressing the low levels of adult literacy prevailing in the country, particularly for women and rural residents, represents a significant education challenge. There is a need to consider the causes for the lack of satisfactory progress in raising adult literacy levels despite the increased access and popularity of the NFE programme.

3.3 Major Interventions, Coverage Data and Resource Needs Estimates

3.3.1 Primary Education

The Ministry of Education (MoE) has had major success in expanding access to education. This is clearly highlighted in the enhanced enrolment ratios at all levels: the Gross Primary Enrolment Ratio (GPER) is 102 % and the Net Primary Enrolment Ratio (NPER) is 79 %. At the end of

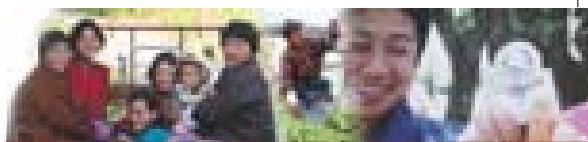
2015, it is expected that the Gross Enrolment Ratio will reach 107 % and the Net Enrolment Ratio will be enhanced to almost 100%. The primary school survival rate will also be raised from 87% to 100%.

To ensure maximum learning opportunities and better quality education the pupil-teacher ratio will be brought down from 1:40 to 1:30. Additional classrooms and facilities will be built including provision of adequate desks, chairs, blackboards and essential stationery. The new classrooms will be built at a unit cost of Nu. 430,000 and the reconstruction of an existing classroom is estimated at Nu. 43,000 per classroom. School latrines will be built at a unit cost of Nu. 60,000 to achieve 100% sanitation facility coverage and will directly contribute to the sanitation and safe drinking water MDG target. To encourage and motivate teachers, especially females, to work in the remote schools, teacher housing facility will be provided to at least 50% of the teachers. A teacher's quarter is estimated to cost Nu. 500,000. The government, in its efforts to make education accessible for poor households, will continue to provide stipend of Nu. 240 per child per month to the primary and lower secondary school boarders (informal and formal) to cover the third meal which was earlier provided by parents.

As the quality of teachers is a critical determining factor for the quality of education, resources will have to be spent on both the pre-service teacher training and for in-service training. The dynamic nature of educational process demands that teachers develop and update their knowledge and skills continually after their initial training. Adequate opportunities for in-service teachers to enhance and upgrade their academic and professional skills will be provided. Text books and school supplies will also need to be supplied to all the schools. At the same time, focus will be given on the revision and further improvement of the curriculum at the primary and secondary education levels to incorporate life skills/values education. School management and leadership will be strengthened through in-service modular courses/ training for the Heads of schools.

3.3.2 Secondary Education

The dropout rate from secondary school will be reduced to 0% by 2015. All children in the



secondary school should be able to complete the secondary education. Quality of education at the secondary level will be enhanced through provision of adequate facilities such as science, library and sports facilities. Significant number of additional classrooms will need to be built to accommodate the increasing number of students in the higher classes.

3.3.3 Adult Literacy

Adults constitute 59.95% of the total population of 634,982 (PHCB, 2005). Considering 53 % of the adult population as literate, there are 167,510 adults who are still illiterate. MoE will work towards creation of opportunities for those outside of the formal system of education to learn new skills and knowledge through a system of continuing education. The government will also pursue community-based education programmes to make the entire population literate in the national language, Dzongkha, and numerate so as to achieve 90% adult literacy by 2015.

Literacy programme will be provided to every youth and adult (15 years and above) who have missed the chance of going to the primary schools or have dropped out so that they can actively participate in the economic, social and political life of the country and contribute to national development.

The NFE Centers and Community Learning Centers (CLC) will be expanded through the establishment of additional centers. Presently there are 646 NFE Centers and 21 CLCs spread across the country. A total of 700 more NFE Centers and 20 CLCs will be built at a unit cost of Nu. 25,000 and Nu. 700,000 respectively. Instructors will be trained and appointed from class XII graduates. The ratio of instructor to students will be raised to 1: 21 from 1:30 and the teacher attrition rate will be minimized from 50% to 10 % within the MDG timeframe. The ratio of male to female instructors will be at 1:1. All these centers will be equipped with learning materials and ICT facilities.

3.3.4 Special Education

In line with its policy of inclusive education, MoE will provide education to children with disabilities through the provision of child friendly learning environment with appropriate infrastructure facilities within the formal schools. Teachers within regular classrooms will be trained to deal

with the special needs of these children and will provide additional support as required. Adequate latrines and drinking water services will be built. As far as possible the boarding facilities, clothing and meals will also be provided.

3.3.4 Resource Needs Estimates

Table 3.2 details the total resource needs for the education cluster. The education interventions are estimated to cost Nu. 27,600 million (2006-2015) which works out to Nu. 4,347 (or USD 96 @ 1 USD = Nu. 45.25) per capita per year. Around 90% of these investments are intended for recurrent expenditures and the rest for capital investments. The education interventions and activities account for the largest outlay with 24.4% of the entire estimated MDG resource needs.

3.4 Policy Issues

As elaborated in the above sections, Bhutan has almost achieved the MDG Plus status as far as the specific education goals are concerned. However, achieving the literacy target would need further efforts especially keeping in mind that majority of the adult illiterates are mostly located in the rural and the hard to reach areas.

Linked with the gender goals of the MDG, meeting the gender parity at the tertiary levels of education will be a challenge for the MoE. This is elaborated further in the next chapter on gender and women's empowerment.

Focus is needed for the improvement of the school curriculum which should be continually updated to meet the demands of a modernizing society. This would especially include the use of ICT facilities and services for enhancing provision of quality education. The improvement of the quality of teachers in the country will be crucial for the achievement of a knowledge-based society and to meet the other MDGs by 2015.

As enshrined in the draft Constitution, it is the policy of the government to provide free education to all children of school-going age up to the tenth standard. However, in view of the importance of primary education and in keeping with the obligations under the UN Convention on the Rights of the Child, the need to adopt compulsory primary education as a principle of state policy should be considered.

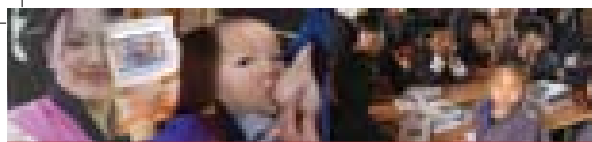


Table 3.2 Total Resource Needs Estimates for Education Interventions (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Primary Education	1,134.654	1,214.146	1,318.348	1,395.090	1,498.580	1,607.936	1,730.138	1,863.470	2,009.458	2,057.813	15,829.631	57.4
Capital	93.412	86.106	96.248	86.656	97.290	106.618	120.884	137.525	157.084	180.323	1,162.145	4.2
Recurrent	1,041.242	1,128.040	1,222.100	1,308.433	1,401.290	1,501.317	1,609.254	1,725.946	1,852.375	1,877.489	14,667.486	53.1
Secondary Education	468.526	679.961	616.262	704.676	804.820	918.525	1,048.206	1,197.406	1,372.576	1,604.888	9,415.845	34.1
Capital	179.266	205.818	71.625	80.396	90.581	102.658	117.454	136.573	163.928	225.322	1,373.623	5.0
Recurrent	289.261	474.142	544.637	624.280	714.239	815.866	930.752	1,060.833	1,208.647	1,379.565	8,042.222	29.1
Adult Literacy	170.143	174.957	179.868	184.877	189.986	195.198	200.513	205.933	211.461	217.098	1,930.032	7.0
Capital	1.540	1.540	1.540	1.540	1.540	1.540	1.540	1.540	1.540	1.540	15.400	0.1
Recurrent	168.603	173.417	178.328	183.337	188.446	193.658	198.973	204.393	209.921	215.558	1,914.632	6.9
Special Education	26.318	29.671	33.058	36.479	39.935	43.426	46.951	50.511	54.107	64.362	424.819	1.5
Capital	23.051	23.484	23.921	24.364	24.811	25.264	25.721	26.183	26.650	32.642	256.091	0.9
Recurrent	3.267	6.187	9.137	12.116	15.124	18.162	21.230	24.328	27.457	31.720	168.728	0.6
Total	1,799.640	2,098.735	2,147.535	2,321.122	2,533.321	2,765.083	3,025.808	3,317.320	3,647.602	3,944.161	27,600.328	100.0
Capital	297.268	316.948	193.334	192.956	214.222	236.080	265.599	301.820	349.202	439.828	2,807.259	10.2%
Recurrent	1,502.372	1,781.786	1,954.201	2,128.166	2,319.099	2,529.003	2,760.209	3,015.500	3,298.400	3,504.333	24,793.069	89.8%



Chapter 4: Gender Equality and Women's Empowerment

MDG 3-Promote gender equality and empower women

4.1 Overview

In general, women in Bhutanese society enjoy substantive freedom and have equal opportunities, entitlements and legal status. However, there are several areas where women are at a disadvantage and gender gaps are quite apparent. Therefore, while the country remains broadly on track towards achieving the third MDG of promoting gender equality and women's empowerment, there are some significant challenges that need to be addressed. These include the weak transition of girls to tertiary level education and the workplace, high levels of female youth unemployment and underemployment, low levels of female participation in political and high public office, and the reality of domestic violence prevalent in many households.

The country has made good progress towards ensuring gender equity in basic education. The number of boys to girls at the primary and lower secondary education levels are now virtually at par. However, gender parity at the tertiary education levels as reflected in Table 4.1 are still low and

will need considerable improvement. Attaining the target of full gender parity at tertiary level looks improbable and requires serious attention if the country is to even come close to realizing it. The lower levels of female enrolment at the higher secondary and tertiary levels and thereby weaker educational attainments and lower literacy levels also explain, to some extent, the prevailing gender gaps in representation in politics, public office and the civil service.

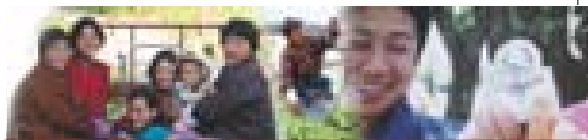
Under the supreme law of the country, Bhutanese women enjoy full equality and are protected from any form of discrimination on the basis of their gender. The country has also ratified the UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and has harmonized national laws and policies in accordance with the provisions of the Convention. The DYT and GYT *Chathrim*s also do not permit any form of discrimination between women and men in terms of the eligibility criteria for its members, and any registered Bhutanese citizen is equally eligible to vote in local elections. The Royal Civil Service Commission's Bhutan Civil Service Rules 2006 does not distinguish between

Table 4.1 Enrolment by Gender, 2005

Education Attendance Level	Male	Female	Total	Male (%)	Female (%)
Attending Now	83,851	73,376	157,227	53.3	46.7
No Grade/Others	16,257	13,311	29,568	55.0	45.0
Primary	43,069	40,394	83,463	51.6	48.4
Lower Secondary	9,646	9,055	18,701	51.6	48.4
Middle Secondary	7,298	6,017	13,315	54.8	45.2
Higher Secondary	4,472	2,962	7,434	60.2	39.8
Diploma	446	220	666	67.0	33.0
Undergraduate	1,953	1,093	3,046	64.1	35.9
Degree & above	710	324	1,034	68.7	31.3

Source: Population and Housing Census of Bhutan, 2005

Gender Equity in National Parliament, Public Office and Civil Service



female and male civil servants. Both are accorded equal criteria when considered for selections, appointment, up-gradation, trainings, promotions and transfers, based on their qualifications and merit.

While there is a highly supportive legal and policy environment to encourage women's participation in development activities and in decision-making, women are still poorly represented in the legislative, judiciary, and executive branches of government. In 2006, women represented 3% of the total number of National Assembly members (*Chimis*), a decline from 11% in 2001 and only 4% of the *Chimis* are women, down from 16% in 2001 and 8% in 2005. From 2001-2005 there were no women representatives in the National Assembly. Female representation in the Royal Advisory Council was also equally low.

In the judiciary, women account for only 2% of the Drangpons, and 6% of the Drangpon Rabjams. There is greater women representation at the lower Registrar level (40%), but the total number of registrars remains very low. At all levels, female representation in the judiciary is 6.3%. In the civil service, women accounted for only 28% of the total number of civil servants in 2006, up from 12% in 1996. While the trends reflect a positive growth in the number of women in the civil service, their representation is lowest at the top echelons of the service i.e. between Grades 1 to 3, wherein they comprise only 5%. Women are more equitably represented in the lower grades. Table 4.2 shows the proportion of female civil servants by their grades.

At the local DYT and GYT levels, female participation also remains weak. Data compiled by the National Commission for Women and Children (NCWC) from the 20 Dzongkhags reveal that out of a total of 2,117 elected representatives in the country, only 4% are women. Of the 4%, the majority can be found as *Tshogpas* and *Chimis*. Despite the election of two female *Gups* in the recent months, women's representation in this local level public office stands at a mere 1%.

4.2 Current Issues and Challenges

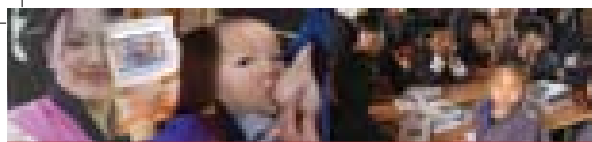
A major challenge is the need for greater effort towards attaining gender parity at the tertiary education levels by 2015. This is an area that has been highlighted in the MDG Progress Report 2005 as needing critical attention. Concerted efforts will be required to address the particular challenges of easing the transition of females from the secondary to tertiary levels and thereafter to the workplace; reducing their dropout after the completion of secondary education; and promoting greater female enrolment into technical, professional and vocational institutions.

Overcoming the situation of the major gender gaps in female participation in national parliament, public office and civil service represents a significant challenge in itself. The ground realities must conform to and truly reflect the spirit of gender equality and non-discrimination that is inherent in the law of the land and in public policy. This is, however, constrained by a general lack of awareness among government employees, the judiciary, police and the private

Table 4.2 Representation in the Civil Service by Gender

Grade	2002		2006	
	Female: Male Ratio of Civil Servants	Proportion of Female Civil Servants	Female: Male Ratio of Civil Servants	Proportion of Female Civil Servants
1-3	0.03	3%	0.05	5%
4-8	0.27	21%	0.34	25%
9-13	0.40	29%	0.47	32%
14-17	0.28	22%	0.37	27%
Total	0.33	25%	0.40	28%

Source: Draft National Plan of Action for Gender, 2006



sector on gender equality and the lack of clarity of existing policy measures aimed at preventing discrimination against women. The situation is further challenged by the lacunae in the knowledge and an in-depth understanding of the various causal factors and conditions that create these significant gender gaps.

Additionally, there are also other pertinent gender concerns in the employment sector. The majority of the female labour force (63%) work in the agriculture sector. Women in farming communities are highly vulnerable as they comprise a large portion of poor rural households and many of them are unpaid family workers or earn very low wages. Another critical challenge that requires attention is the relatively high unemployment rates for urban female youth. The PHCB 2005 estimates the unemployment rate for urban female youth (15-24) at 16.3%, five times higher than the national rate. While currently, there is no indication to suggest this as yet, the emergence of the feminization of poverty in both rural and urban areas is a possibility if the above issues are not addressed proactively and through effective gender mainstreaming in the employment sector. The main challenge will be to effectively facilitate greater access for women, particularly female youth, to economic opportunities and gainful employment.

Another major challenge that the country must address relates to the issue of domestic violence against women. Although data on the issue of domestic violence is not systematic, existing data collected by health authorities and the police and growing reports in the media, suggest a common prevalence of domestic violence, where women are usually the victims. Many more cases are known to go unreported due to fears of social stigma, emotional and financial insecurity and the lack of support mechanisms. As the issue of domestic violence has not been addressed in the past on an institutional basis, there is very little capacity and experience in the country to deal with this effectively. As such, promoting relevant remedial measures such as promoting women and child friendly police and court services, taking care of abused victims, raising awareness through community, help-lines and mass media programmes and activities are themselves

greatly hampered by the lack of professional and institutional capacity.

4.3 Major Interventions, Coverage Targets and Resource Needs Estimates

The total costs for the gender equality and women's empowerment interventions are estimated at Nu. 1,343.983 million (2006-2015) which comprises around 1.2% of the total MDG resource needs. Certain interventions, such as increasing female enrolment, which have a bearing on gender equality are covered under other clusters. A summary of the overall gender intervention costs are provided in Table 4.3.

Around 86% of these investments are intended for recurrent expenditures and the rest for capital investments. Annual gender-related investments are expected to increase from around Nu. 2,086 million in 2006 to Nu. 2,222 million in 2015. On a per capita basis, the interventions are estimated to cost around Nu. 2,117 (USD 47 @ 1USD=Nu. 45.25) for the total outlay for 2006-2015.

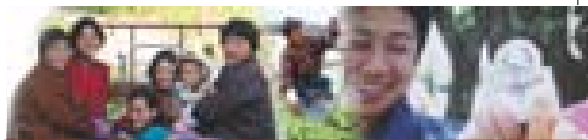
4.3.1 Helping the Transition of Girls to Work

The broad activities planned for under this intervention include the following:

- Creating more opportunities at the vocational education level to help girls who are unable to continue with school to learn skills to enable them to find employment; and
- Facilitating national graduates' orientation programme to familiarize graduates with available job opportunities.

The coverage target will be to increase female enrolment in vocational training institutes (VTI) to about 50% from current levels of 30% of the total enrolment. This is to be done through the establishment of an additional six vocational training institutes to the existing six and increase VTI instructors to 210 from 105. Other staff strength and training materials have also been scaled up accordingly.

On the basis of these coverage levels to be



attained, the interventions to facilitate the transition of girls to work are projected to cost a total of Nu. 942.642 million. From an initial cost of Nu. 66.053 million in 2006, expenditure is expected to climb to Nu. 125.738 million in the final year in 2015. About 71% of the total costs are directed at the first interventions to facilitate the transition of girls to work and a large part of which is allocated for capital expenditures on account of infrastructure development for the vocational training institutes.

4.3.2 Encouraging Political Participation and Representation of Women

Increasing the proportion of elected women by encouraging their political participation will be effectively promoted through the following activities:

- Conducting mass media campaigns;
- Providing proper support to women candidates standing for elections; and
- Providing training for elected female parliamentarians.

The coverage targets for the activities under this intervention are projected to reach 100% of the female population through mass media campaigns and provide support to all women candidates standing for elections and appropriate training for all elected women.

The interventions towards encouraging greater political participation and representation of women are projected to cost a total of Nu. 152.977 million between 2005 and 2015. The annual cost rises from Nu. 2.358 million in 2005 to Nu. 42.049 million in 2015.

4.3.3 Ending Violence against Women

With regard to ending violence against women, the following interventions were seen to be important:

- Prevention-related activities promoted primarily through Community-Based Awareness Campaigns, help lines, and mass media campaigns; and

- Protection measures provided through women and child-friendly police and court services, and short-term shelters/emergency housing for women requiring protection.

On the coverage target levels, community-based awareness campaigns are expected to reach about 30% of the adult population with the bulk of the awareness promotion to be conducted by community leaders themselves. In the context of the help line programme, 20% of the adult female population is to be covered. Short term shelters/housing for victims of domestic violence is projected to be provided for around 12 women annually.

The above interventions to end domestic violence against women are estimated to cost Nu. 88.518 million for the MDG period. The costs are anticipated to rise from Nu. 3.193 million in 2006 to Nu. 14.332 million in 2015. The estimates for ending domestic violence against women accounts for 6.6% of the total gender outlay.

4.3.4 Systemic Issues

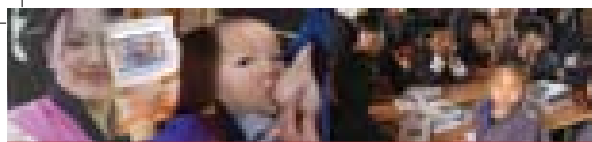
The relevant interventions to address various systemic issues are:

- Capacity development of the National Commission for Women and Children;
- Sensitization campaigns covering judges and judiciary officials including registrars, bureaucrats, and police officers; and
- Increasing the number of organizations having gender focal persons.

The interventions for addressing systemic issues are estimated to cost Nu. 37.666 million for the years starting from 2006 up to 2015. The costs are anticipated to rise from Nu. 1.323 million in 2006 to Nu. 6.210 million in 2015. Systemic issues are estimated to require around 3% of the total gender outlay.

4.3.5 Research

Research on gender has been deemed as a necessary activity by the TTF on Gender Equality and Women's Empowerment. This is expected to help close the knowledge and practice gaps in dealing with important gender interventions



and thereby help improve the delivery of gender related services. The following subject areas have been currently identified as issues that need to be researched. With time, other gender studies/research subjects will be added as and when relevant.

- Causes of women's low participation in decision-making;
- Factors influencing women's unemployment;
- Reasons for girls' lower performance from class X onwards as well as the reasons for girls' dropping out at higher level of education and their low transition to higher education, including professional, technical and vocational training;
- Enrolment and drop out of NFE learners;
- Nature of abortions practiced in and outside the country;
- Teenage pregnancy in the country;
- Extent, nature and forms of violence against women in the country;
- Nature and extent of women's involvement in the informal sector;
- Division of labor;
- Gender differences in the trend of diseases, health seeking behaviour, living arrangements, socioeconomic status, experience and impact on elderly women and men, women/girls and men/boys with mental health problems and those with disabilities;
- Factors influencing utilization of health care services, education and training, rehabilitation services for elderly women and men, women/girls and men/boys with mental health problems and those with disabilities;
- Nature, extent and consequences of substance abuse, and more particularly alcohol abuse; and
- Socio-cultural beliefs and perceptions and its impact on gender roles and relations.

While the financial estimations for carrying out

these research topics have not been included, a broad estimate is that two such studies will be carried out and that this would roughly entail an annual cost of Nu. 0.905 million.

4.4 Policy Issues

Even as each successive plan has seen increasing commitment from the government to promote participation of women in development and promote wider representation and participation of women in national decision-making, gender issues need to be addressed and mainstreamed more effectively in the formulation and implementation of the Five-Year Plans.

The Thematic Task Force on Gender Equality and Women's Empowerment identified several policy issues that need to be addressed to further promote gender equality in all spheres of economic, social and political life. The recommended policy measures are:

- Integrate gender perspectives and concerns into all policies and legislations in general and good governance in particular;
- Address the root causes for the low participation of women in governance;
- Increase women's representation at all levels of governance, especially in national parliament and local governments;
- Develop gender disaggregated data for all sectors and levels of governance;
- Review the high eligibility criteria to be elected in view of the low levels of educational attainment and literacy levels among women that could effectively exclude them from standing for elections;
- Review the entry qualification criteria for girls into the VTIs and promote affirmative action in order to attain the 50% target enrolment of girls in VTIs; and
- Increase the number of gender focal points complimented with capacity building and enhancing recognition of their roles.

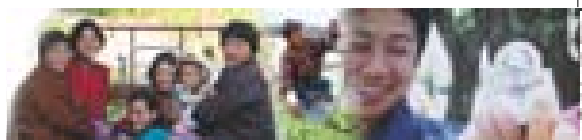


Table 4.3 Total Resource Needs Estimates for Gender Equality and Women's Empowerment Interventions (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Awareness of Sexual and Reproductive Health Issues	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Helping transition of girls to work	66.053	71.663	77.498	83.568	89.888	96.471	103.331	110.484	117.947	125.738	942.642	70.1
Encouraging Political Participation	2.358	1.358	8.910	1.358	1.358	34.132	1.358	1.358	58.740	42.049	152.977	11.4
Ending Violence Against Women	3.193	4.498	5.782	7.047	8.294	9.527	10.745	11.952	13.147	14.332	88.518	6.6
Systemic Issues	1.323	1.866	2.409	2.952	3.495	4.038	4.581	5.124	5.667	6.210	37.666	2.8
General Administrative Costs	7.293	7.939	9.460	9.492	10.304	14.417	12.002	12.892	19.550	18.833	122.180	9.1
Total	2086.220	2094.324	2112.059	2113.417	2123.339	2169.585	2144.017	2154.809	2229.052	2222.162	1343.984	100

Chapter 5: Health

MDG 4-Reduce child mortality

MDG 5-Improve maternal health

MDG 6-Combat HIV/AIDS, Malaria and other diseases

5.1 Overview:

A country's social development is measured by the level of health care, education and other services available to its people. In Bhutan, the health and education sectors have always been accorded high priority which is evident in the increasing budget allocation to these sectors over the years. The health sector received 11% of national budget in the 9th Five-Year Plan (2002-2008). The preventive, promotive and curative health services are provided free of charge to the people by the government. With over 47% of the 634,982 people comprising of young people aged 10-24 years (NSB, 2006), it is appropriate that the health sector's MDG efforts are specifically in the area of Child Health, Maternal Health and emerging and re-emerging diseases like HIV/AIDS, Malaria and Tuberculosis (TB), corresponding to the fourth, fifth and sixth MDGs.

Since the start of planned development in 1961, the health sector has made tremendous achievements especially in the expansion of basic health services with more than 90% of the country having proper access to health services today. The National Health Survey (NHS) of 2000 estimated life expectancy at 66.1 years, an improvement from 45.6 years in the National Health Survey of 1984. The infant mortality rate was reduced from 70.7 per 1000 live births in 1994 (NHS, 1994) to 40.1 in 2005 (PHCB, 2005) and under-five (U5) mortality rates have been brought down by around 36% from 96.9 per 1000 live births to 61.6 per 1000 live births over the same period. The successful programmes on immunization (Expanded Programme of Immunization [EPI]) and Control of Diarrheal Diseases (CDD) and Acute Respiratory Infections (ARI) have drastically lowered the infant and U5 mortalities and morbidities over the past decades and the country achieved universal child immunization (UCI) in 1991. The national immunization levels are based

on coverage for Bacilli Callmet Gurrina (BCG), diphtheria, tetanus, pertussis, poliomyelitis, measles and hepatitis B. The average coverage levels for these antigens for children with proper immunization cards showed that over 90% of all children were fully vaccinated.

The promotion of institutional delivery, skilled personnel attending all births and the increase in emergency obstetric care (EmOC) services have together contributed to a dramatic decline in maternal mortality. Maternal mortality rates of Bhutanese women have been significantly brought down by 33%; a decrease from 380 per 100,000 live births in 1994 to 255 per 100,000 live births in 2000. The improvement in maternal and child health indicators is given in Table 5.1.

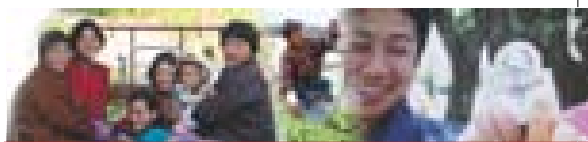
Table 5.1 Maternal and Child Health Indicators

Indicators	2000	2005
Antenatal Care Coverage	51%	70%
Trained Delivery	23.6%	51%
Institutional Delivery	19.8%	40%
Immunization coverage	90%	>90%
Total Fertility Rate	4.7	2.6
Contraceptive Prevalence Rate	30.7%	N/A
Population Growth Rate	2.5	1.3

Sources: National Health Survey 2000 & PHCB 2005.

Bhutan became the first country in the region to eliminate iodine deficiency disorder (IDD) as a public health problem. This has reduced the incidence of goitre occurrence to less than 5% as compared to 65% two decades ago. Although, the micronutrient deficiency of Vitamin A is no longer a public health problem, iron deficiency anaemia among pregnant women is still seen as a critical concern.

The malaria control programme was initiated in 1964 and, due to it being accorded high priority,



it is now fully integrated into the general health care delivery system. In the 9th FYP period, out of the total outlay for health sector, about 7% was allocated to the malaria programme. The Roll Back Malaria global initiative aims to reduce morbidity and mortality from malaria by more than 90% by the year 2010 from the baseline level of 2001.

The TB programme has also been fully integrated with the general health services in Bhutan since its inception in 1976. Treatment of patients with Direct Observation Treatment Services (DOTS) has been implemented all over the country since 1997 and TB care and treatment is available free of cost in all the health centers in Bhutan. Better recording and reporting system have also been introduced.

While the spread of the HIV/AIDS epidemic in Bhutan is limited, the increase in the annual detection of HIV cases coupled with several risk factors and a youthful population could lead to a serious epidemic. The main constraints to tackling this pressing issue include the need for sustained

effort in its prevention and the mobilization of resources for the treatment of AIDS patients.

There has been substantial expansion in the health sector's human resources and infrastructure with the ratio of doctors to population (for every 10,000 individuals) improving from 1.7 in 2002 to 2.3 in 2006. The nurse-population ratios also progressed from 6.9 to 8.3 per 10,000. There was a 50% increase in the number of hospital beds available to the general population with the completion of the construction and/or upgradation of the Jigme Dorji Wangchuck National Referral Hospital (JDWRH), the Mongar Regional Referral Hospital, Phuentsholing General Hospital and the Dagana, Trashigang, and Trongsa district hospitals. The expansion of the health facilities and human resources since 2002 is given in Table 5.2.

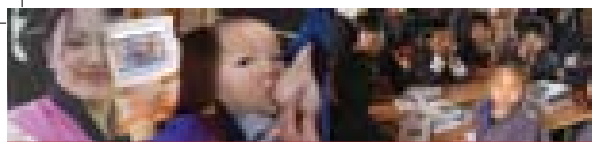
Finally, in order to sustain free supply of vaccines and essential drugs, the Bhutan Health Trust Fund was initiated in 1997 and became operational in 2003 with USD 18 million.

Table 5.2 Health Facilities and Human Resources, 2002 and 2006

Indicators	2002	2006
Health Human Resources		
Doctors	122	145
Dungtshos and Menpas	55	66
Doctors per 10,000 population	1.7	2.3
Nurses	495	529
Health Assistants	173	210
Nurses per 10,000 population	6.9	8.3
Technicians	335	438
Health Workers	176	253
Total Workers	1,356	1,641
Hospitals	29	29
Indigenous hospital	1	
Basic Health Units	166	176
Out-reach Clinics	455	485
Indigenous hospital units	19	21
Total hospital beds	1,023	1,400*
Hospital beds per 10,000 population	14	17*
Total health facilities	670	711

Source: NHS, 2000 and PHCB, 2005

*Figs for hospital beds could go up after completion of the various referral hospitals in 2007



5.2 Current Issues and Challenges

Although, the health sector has made remarkable achievements, it still faces numerous constraints and challenges. The major challenges are the shortage of human resources especially physicians; the scattered population and rugged terrain; and limited financial resources to sustain free health care services. The following section outlines the constraints and challenges prevailing in the area of child health, maternal health and communicable diseases like HIV/AIDS, Malaria and TB.

5.2.1 Child health

The emphasis of the government in recent years has been on improving the quality of health services. While the existing health interventions need strengthening, achieving the fourth MDG of reducing child mortality will require that EmOC services are accessible to every pregnant woman in need. At the same time, the government needs to promote all deliveries in health institutions, ensure skilled attendance at every birth, and develop human capacity and facilities in essential newborn care centers.

A continuing challenge that the health sector faces is expanding child health services and making it more accessible, specifically for remote rural communities. In particular, this relates to the poor nutritional and hygiene situation in rural communities for mothers and children, the lower levels of rural coverage for maternal and newborn care services, safe drinking water and sanitation, the poor community support, and low levels of educational attainments and literacy of mothers and care givers in rural areas. The high incidence of low-birth-weight infants in the country is also seen to affect the survival of infants.

Even though the country's immunization coverage is above 90%, there are still some districts where the coverage is as low as 40% which calls for more resources to procure vaccines and reach them to the un-reached children population to prevent vaccine-preventable diseases in children.

Acute respiratory infections (ARI), diarrhoea and worm infestation are some the major causes of U5

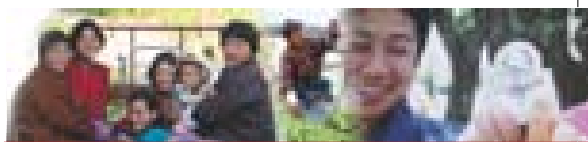
deaths and morbidity. ARIs, including pneumonia, mostly occur during the winter months due primarily to the harsh climatic conditions, crowded and poorly ventilated rooms and poor hygiene practices. The incidence of diarrhoea though reduced still remains high, especially during the summer months.

Equally significant is to ensure that monastic school children are included in the mainstream development efforts. Currently there are 362 monastic schools in Bhutan with 14,436 children enrolled (MoE, 2007). Education and living conditions often need enhancement in religious institutions, especially with regard to improvement of water and sanitation facilities as well as curriculum development. The lack of basic services and knowledge/skills to practice hygiene and healthy behavior has resulted in high prevalence of skin infections, worm infestations, diarrhoeal diseases and malnutrition. The further assessment and costing of relevant interventions designed for the needs of monastic children will require attention to support the achievement of the universal primary education MDG and to maintain the progress on the MDG water and sanitation targets.

5.2.2 Maternal health

The challenges in maternal health were highlighted in the country's MDG Progress Report of 2002 and are still valid and relevant. They include the shortage of trained health personnel, inadequate obstetric equipment and facilities, enormous difficulties of rural access to local health units due to difficult terrain conditions and the dispersed nature of settlements, the deeply rooted cultural barriers and poor awareness on reproductive health issues among the communities. In particular, the further expansion and strengthening of EmOC facilities and their effective utilization by communities will prove critical in reducing maternal mortality.

Another significant challenge that remains for reducing maternal mortality is the low institutional delivery and births attended by skilled professionals. Intensification of information, education and awareness strategies have to be put in place to overcome the cultural



beliefs that favour home deliveries.

The low female adult literacy rate of less than 30% needs to be overcome as educational attainment can improve maternal health and help to reduce maternal mortality. In addition, training health workers in life saving obstetric skills and increasing community participation will inevitably save the lives of both mother and child.

5.2.3 Communicable Diseases: HIV/AIDS, Malaria and TB

Although the HIV/AIDS epidemic in the country is small, it is no longer contained within the vulnerable groups but is now occurring in the wider sections of the society. The increase in the number of HIV cases detected every year together with several risk factors present such as liberal sexual norms, increased mobility of the population within and outside the country, high stigma, low condom use, high rates of sexually transmitted infections, youthful population and the emerging problem of substance abuse could lead to a serious epidemic. Therefore, the challenge for the health sector is the huge effort needed in its prevention and the mobilization of resources for the treatment of AIDS patients since anti-retroviral therapy is expensive.

Tuberculosis continues to pose as a major public health concern in the country with the 2004 National Health Survey reporting 1,002 TB cases out of which 598 were pulmonary TB. There are two very important reasons for this concern: firstly, most of the pulmonary cases were highly infectious cases and secondly, TB is the most opportunistic infection among HIV/AIDS cases. A challenging issue for containing and reversing the spread of TB is HIV/TB co-infection since TB is the commonest opportunistic infection in HIV and HIV has the potential to increase the TB case load, lead to under diagnosis of TB, high default rate and accelerated emergence of drug resistant TB. There is a need for expanding DOTS coverage, broadening the spectrum of DOTS providers and intensifying Information, Education and Communication (IEC). Human Resource Development and knowledge enhancement on TB at all levels is important to sustain TB control.

Preventive and curative efforts like the multi drug resistance for TB involve huge costs. Although currently the number of multi drug resistant (MDR) cases is not serious, it is important to provide quality DOTS as well as effective and timely treatment of existing MDR cases in order to contain the number of MDR cases.

Similarly, there is need to strengthen and sustain ongoing efforts at controlling and containing malaria. There has been some reversal in the trend compared to the mid 90's and the main challenge now is sustaining these achievements in future. This would mean overcoming the dangers of complacency, maintaining active surveillance and early warning systems, ensuring early detection, effective management of malaria epidemics, and sustaining the procurement of treated nets and sprays, which entail high costs.

There are also significant associated costs in developing and upgrading appropriate expertise and skills, introducing new and more effective vaccines and drugs and acquiring appropriate equipment and facilities. The availability of financial resources to meet these costs thus remains a challenge.

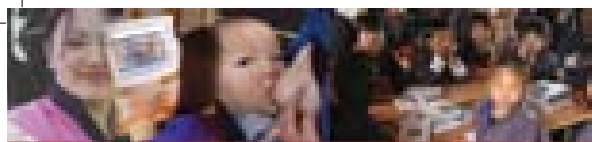
5.3 Major Interventions

The key interventions identified by the TTF for achieving the health related MDGs include those directed towards improving child health, reproductive health, and preventing and treating HIV/AIDS, Malaria and TB. Interventions have also been identified under health systems for infrastructure, human resources, telemedicine, disability, and infection control and waste management. These are discussed in the following sections.

5.3.1 Child Health

Vaccine Preventable Disease Programme (VPDP)

A consultative meeting and subsequent supportive supervision in the Dzongkhags with less than 90% coverage needs to be undertaken. An assessment should be conducted for immunization coverage for U5 children along



with workshops to review the EPI policy and strategy. Accordingly, the revised EPI policy should be disseminated among health workers along with further orientation and briefing for school health-in-charges and communities. This is perceived to create demand for immunization and better awareness in the rural areas about Vaccine Preventable Diseases (VPD) and its reporting. From the supply side, resources are to be mobilized to buy both traditional and new vaccines, and new or refresher training should be provided for all health personnel, especially at the Dzongkhag and Gewogs levels. At the same time, assessments should be made on vaccine wastage where quarterly supervision and review of vaccine wastage would be reported from all the health facilities.

Adequate facilities with trained lab technicians needs to be provided to deal with any outbreak investigations like hepatitis B lab, test kits for measles, rubella etc. Regular briefings and discussions should be held with Royal Institute of Health Sciences (RIHS) graduates, new doctors and nurses on Adverse Effects Following Immunization (AEFI) and other VPD surveillance. A review can be made on the injection safety plan, procurement of Auto-Disable syringes and related accessories. Besides the international or in-country meetings and seminars on EPI and VPD, the relevant health staff need to be properly trained on the EPI manual, immunization data quality management and research methodology.

Control of Diarrhoeal Diseases (CDD)/ Acute Respiratory Infection (ARI)

A detailed review needs to be made on the programme activities that are related to CDD/ARI which would also involve Integrated Management of Childhood Illness (IMCI) meetings in communities involving the stakeholders. ARI messages should be properly disseminated to the population at large through mass media. Updated versions of CDD/ARI awareness pamphlets and management manuals should be printed. The IMCI modules should be revised and training provided to all health workers. Resources will be required for the procurement of additional CDD/ARI related drugs, equipment and reagents for identified hospitals and personnel protective equipments.

Other crucial procurement would involve Oral Rehydration Therapy (ORT) equipment and furniture and laboratory equipment to new hospitals and BHUs.

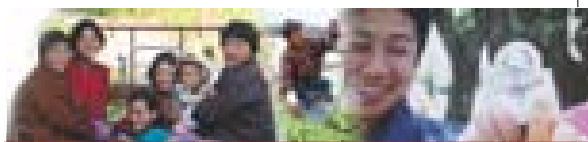
Study tours should be conducted for health workers to countries such as Myanmar, Nepal and Thailand on IMCI practices. Various kinds of trainings for both the health personnel and the community stakeholders should be conducted regularly on ARI prevention and management, U5 care, IMCI approaches and clinical case management practices, sanitation, hygiene and safe drinking water. These interventions are perceived to contribute significantly to rapid response and outbreak containment and better supportive supervision for BHUs.

Nutrition

Observation of an international breastfeeding week can further raise awareness among the general population. Proper training on lactation management should be given to the Health Assistants (HAs) and Auxiliary Nurse Midwife (ANMs) and nurses in the neonatal, pediatric and maternity wards.

Revitalizing and implementing baby friendly hospitals by certifying at least two Baby Friendly Hospital Initiatives (BFHI) per year and strengthening the '10 steps' to successful breastfeeding are some of the other interventions identified in order to meet the nutrition-related goals. In addition, printing the new Mother and Child Health (MCH) hand book and disseminating it through trained health personnel as well as strengthening and expanding the existing Nutrition Rehabilitation Unit (NRU) are identified as the other important interventions.

At the field level, procurement of microcuvette for the sentinel school monitoring, availability of the IEC material on sustaining IDDCP and mass media campaigns on IDD should be carried out effectively. Exploring the feasibility of and initiating the double fortification is a necessary intervention. Annual International Baby-Food Action Network (IBFAN) meeting and Training of Trainers (TOT) trainings on the management of malnutrition are also needed.



Bhutan will also have to develop an appropriate policy on adopting an international code for breast milk substitutes, which will ensure only right kind of breast milk substitutes enter the country from international markets.

Attention will also be given to the design of appropriate interventions to improve the hygiene and healthy behavior of monastic school children to prevent skin infections, worm infestations, diarrhoeal diseases and malnutrition.

5.3.2 Reproductive Health

In the reproductive health area, capacity development and improvement of access to better quality reproductive health services are the most crucial interventions. Monitoring of the newborn services in the Dzongkhags, revising and printing newborn care guidelines and developing counseling manuals for health workers are identified for enhancing the quality and access of reproductive health services. In order to support pregnant mothers and ensure better service delivery, women friendly environment needs to be created and midwifery and EmOC services should be strengthened. Upgrading of Basic Emergency Obstetric Care Services (bEmOC) to Comprehensive Emergency Obstetric Care Services (cEmOC) facilities are the identified interventions along with the creation of reproductive health awareness among population.

Access to quality antenatal and prenatal clinic services should be emphasized which would mean further development of reproductive health research and building capacity for programmes and district personnel. From the impact and prevention point of view, audit should be undertaken every year on maternal and neonatal deaths to improve the interventions including referral back-up.

Family planning, nonetheless, is essential for the country from all socioeconomic perspectives and several interventions have been identified to address family planning and the spread of HIV/AIDS. Contraceptives should be made available to men, women and adolescents while exploring new methods of contraception. Focus should be primarily on supplying contraceptives to the mobile and un-reached population. Sustained and targeted advocacy campaigns on family planning

issues and HIV/AIDS are also necessary.

Capacity building needs to be carried out in key areas of health services such as neonatology, obstetric care, anesthesiology and reproductive health counseling. Training for Village Health Workers (VHW) on reproductive health and safe motherhood should also be continued. New as well as refresher trainings for the village health volunteers should be intensified in all districts.

The advocacy at all levels should be intensified and promoted. The high level advocacy by the UNFPA Goodwill Ambassador, parliamentarians, health officials and local government stakeholders are seen as effective ways of raising mass awareness on and addressing critical reproductive health issues.

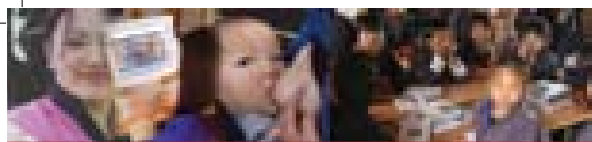
The community-based interventions should be initiated to improve the communications and understanding between the health system and communities, and enhance collaboration and support for implementing maternal and newborn strategies at the community level.

5.3.3 HIV/AIDS

The programme interventions are on the prevention, care and treatment services, policy, advocacy and research to mainstream HIV/AIDS messages in the relevant sectoral agency programmes and enhance multi-sectoral approach.

Under the prevention of HIV/AIDS, the interventions are focused on the priority population which include the youth, sex workers and clients, injecting drug users, mobile population, migrant workers abroad and prisoners. As for the service delivery for HIV/AIDS, provision of condoms, STI management, VCT, preventing mother to child transmission (PMTCT) and mass media are the identified interventions. Blood safety, post-exposure prophylaxis, safe injections and universal precautions should be undertaken for the prevention of HIV/AIDS. Advocacy and resulting creation of awareness among the population is very crucial for prevention of any sexually transmitted disease.

Under the care and treatment services, home-based care, palliative care, diagnostic testing,



treatment of opportunistic infections and OI prophylaxis, anti-retroviral therapy, and nutritional support are the key interventions.

5.3.4 Malaria

In case of malaria, interventions are aimed at putting preventive measures, making early diagnosis and providing prompt treatment. Most importantly, there is a need to strengthen the surveillance and epidemic prediction system to control the outbreak of malaria and other vector borne diseases. Further research is required on insecticide resistance, bio-environmental measures. Community systems have to be strengthened for malaria prevention and treatment with improved diagnosis and treatment services across all the health centers. Focus is required on improving the prevention and referral system in the unreached areas of the country. There is a need to continue providing long lasting insecticide treated bed nets (ITBN) and indoor residual sprays to the entire population residing in the endemic districts.

Effective treatment should be provided through anti-malaria therapeutic efficacy studies preceded by better field surveillance prediction on vector borne diseases. Disease burden of dengue and other vector borne diseases should be established with institutional capacity for immediate vector control and strengthened case management. The present Vector Borne Disease Control Programme needs to be upgraded to a research center for tropical and zonal diseases.

5.3.5 Tuberculosis

Focus of the interventions for TB is both on preventive and treatment aspects. Development and transmission of TB messages at peak listening times on radio/TV, publication of monthly articles on TB in newspapers, development and distribution of advocacy materials on TB (leaflet, pamphlets, posters, brochures, TB Cards) and pamphlets for awareness campaigns, cross border advocacy activity (high level advocacy) and providing funding to observe world TB day in all Dzongkhags are some of the key activities that are identified under TB.

Operational guidelines on DOTS should be issued to all the issued to all stakeholders in the districts followed by various workshops and advocacy programmes in order to sensitize and promote awareness among the people, especially the vulnerable groups in the hard to reach areas of the country. Adequate but appropriate training should be provided to improve case holding and introduction of introduction of fixed dry combination (FDC) and its advocacy.

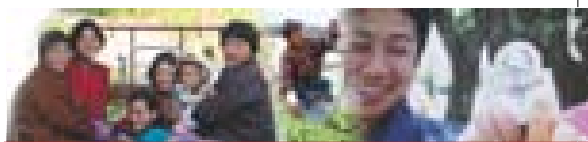
In order to make certain that the MDR policy is in place, the policy document for MDR-TB should be properly developed and printed for further dissemination. In addition, second line drugs and ancillary drugs for MDR-TB cases should be procured and the MDR-TB wards and clinics should be refurbished. Laboratory capacity has to be strengthened to carry out to carry out drug sensitivity test (DST) and quality assurance in addition to regular quality microscopy. The technical facilities at the health centers should be enhanced which would involve sputum collection facilities, quick access to supranational laboratories etc.

A crucial intervention is related to the monitoring and evaluation of the programme. Proper and regular supervision of all treatment centers in the form of annual review meetings should be undertaken. Various external quality assurances (EQAs) have to be undertaken for on-site evaluation from central to peripheral labs twice a year. Integrated meetings should be held once in two years at both the regional and district level while a national TB review meeting has to be conducted on an annual basis which can focus on the community involvement in the TB programmes.

Various trainings are being identified for relevant health workers in order to ensure proper quality service delivery for the population in general and the patients in particular.

5.3.6 Disability

Several interventions have been identified to address disability and the key interventions are elaborated below.



Printing and dissemination of WHO training manual on Community-Based Rehabilitation (CBR) in both English and Dzongkha can be an appropriate advocacy on implementation of CBR programmes in the Dzongkhags. This can be followed by an updated survey on disability and construction of rehabilitation units and vocational training units in the Dzongkhags which would further need procurement of assistive devices such as wheel chairs, crutches and walkers. A pediatric physiotherapy unit at two regional referral hospitals needs to be established with trained physiotherapy technicians and nurses on management of cerebral palsy.

Special trainings should be provided for prosthetic and orthotic technicians, audiologist and rehabilitation nurses. Training of Road Safety and Transport Authority (RSTA) officials and traffic police on the management of the injured and conducting consultative workshops on injury prevention and control are also identified as a crucial intervention. Celebration of World Disability Day must continue to create more awareness and educate the population at large.

A set of special interventions have been identified for ear and hearing care. Beginning with the printing of the Primary Ear and Hearing Care (PE&HC) guide book and training of trainers on PE&HC, audiology units need to be established and adequate hearing aids procured. Health workers should be trained on WHO non-communicable diseases (NCD) guidelines, who will then conduct national level workshops to develop strategies for NCD prevention and control and the development of an NCD database. IEC materials on prevention of ear diseases should be developed and teachers in the schools trained on basic prevention, early detection, assessment and referral. Training workshops should be intensified.

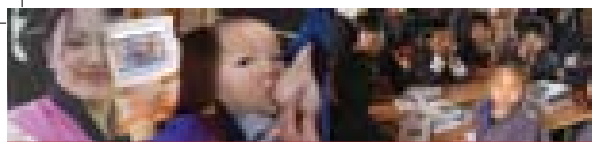
Gidakom hospital needs to enhance capacity and production of artificial limbs (prosthetic and orthotic) to meet the increasing demands of rehabilitation services. Mobile ear camps should also be held in districts regularly.

5.3.7 Human Resources

Besides the numerous trainings identified

above, the following are the other key training interventions that have identified for capacity enhancement and improvement of the quality of health services in the country:

- Early identification and management of cleft lips and palates;
- In-service training on management CBR programmes for physiotherapy technicians;
- Refresher course for HWs on infection control in district hospitals;
- Training Doctors/Lab technicians/Nurses/RHU on HIV/AIDS and other relevant staff;
- NHAC meeting every quarter;
- Training/workshop on antiretroviral therapy (ART) for staff;
- Training of Multi-Sectoral Task Force (MSTF) on HIV/AIDS and sexually-transmitted infections (STI) prevention;
- Training of 400 HWs of all categories on STI Syndromic management;
- Training of nurses from districts and 6 from JDWNRH on ART and opportunistic infections (OIs) of HIV/AIDS;
- Training of doctors from districts and 6 from the JDWNRH on ART and OIs of HIV/AIDS;
- TOT on Behavior Change Communication on STI/HIV prevention for HWs, VHVs, traditional healers, Dungtsho's and Menpa's;
- Inter Personal Communication for Health Workers;
- Training for good dispensing practices for traditional medicine (TRM) workers;
- Training of Health Workers on Community Mental Health Care (CMHC);
- Training of school teachers on adolescent mental health promotion;
- Refresher course on identification of high altitude medicinal plants and therapies;
- In-house adaptation of lactation management manual;
- Multisectoral coordination meeting on Breastfeeding Policy;
- Orientation on monastic institutes on iron supplementation;
- Training of all school health in-charges on the micronutrient supplementation in schools;
- Consultative meeting with stakeholder on Adolescent Health counseling;
- Refresher course for health workers on Telemedicine;



- TOT on water caretaker training for Dzongkhag Engineers;
- Water caretaker training (new and refresher) conducted by Dzongkhags;
- Ferro cement construction training for masons working in water and sanitation projects;
- Training of district and BHU field staff in RWSS MIS;
- National workshop on WHO guidelines for drinking water quality; and
- Training on roof rainwater harvesting and Solar Water Disinfection (SODIS).

5.3.8 Infrastructure

The proposed interventions under the infrastructure are as follows:

- Construction of 30 bedded hospital, Dagapela
- Construction of 150 bedded referral hospital, Gelephu
- Construction of 20 bedded hospital, Tsirang
- Construction of 50 bedded hospital, Samtse
- Construction of Public Health Laboratory, Thimphu
- Construction of Health Training Center at Drujegang, Dagana
- Construction of 20 Gr.1 BHU
- Construction of 50 ORCs

5.3.9 Telemedicine

In order to overcome some of the geographical difficulties and increase physical access to health facilities, telemedicine was always looked upon as an efficient and cost effective alternative means to ensure quality health care services to the Bhutanese population. The telemedicine facilities provide tele-consultations, continuing medical education, backstop patient referrals and ensure delivery of quality health care to people no matter where they may be located geographically. The Internet linkages between hospitals and the referral hospitals help to conduct consultations in different fields of specialties like Radiology, Dermatology, Medical, Orthopedics, Surgical, Pediatric, Psychiatry, Pathology, etc. Therefore, the telemedicine services will improve diagnostic services, reduce patient referrals and provide a forum for continuing medical education (CME) in

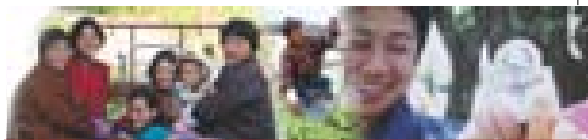
the hospitals. The ICT based interventions are as follows:

- Draw up cost effective and efficient Telemedicine Master Plan;
- Expand telemedicine sites;
- Introduce telephonic and E-mail based tele-consultations;
- Develop web-based systems for enhancing telemedicine services through online consultations;
- Establish telemedicine links with neighboring countries and international agencies to track emerging health threats;
- Enhance IT facilities in hospitals, Health Institutes and BHUs;
- Train Health Workers and professionals in use of basic ICT;
- Upgrade qualifications to Masters, PG Diplomas, and other Diplomas; and
- Provide exposure of telemedicine staff to new technological advances.

5.3.10 Infection Control and Management

The potential negative impacts of healthcare wastes could be mitigated through good practices of infection control and systematic management of infectious wastes from source to disposal. Thus, Ministry of Health established the National Infection Control and Healthcare Waste Management Programme to work towards reducing and preventing infections and standardizing the healthcare waste management in Bhutan. The national policies and guidelines on infection control and waste management need to be developed and implemented. All health workers need to be trained in infection control and waste management guidelines. There is also a need to consider developing a strategy on post-prophylaxis. The specific interventions for infection control and waster management are given below:

- Establish HAI surveillance system;
- Establish laboratory with surveillance equipments;
- Strengthen universal precaution;
- Establish occupational health programme;
- Review RIHS curriculum;



- Review and develop training curriculum at RIHS;
- Institute proper waste disposal sites in all health facilities;
- Improve hospital waste management system; and
- Estimate waste generation from different levels of health facilities.

5.4 Coverage Targets

Based on the PHCB 2005 and the population projections obtained from the National Statistical Bureau, the coverage targets are elaborated in the following sections.

Under child health, an average of 13,400 births every year are projected for the period 2005-2015 and children under five will increase to 84,418 in 2010 and 93,204 in 2015. Of this, children under one year of age are projected at 15,958 in 2010 and 17,613 by 2015 in the total projected population of 722,530.

For maternal health, women of reproductive age (15-49) is projected to increase to 168,755 in 2010 and 179,639 in 2015. Crude birth rate is assumed at 20 for all the years and the Total Fertility Rate at 2.6. Number of women requiring Ante-Natal Care (ANC) is projected at 14,254 in 2010 and 15,173 in 2015 while the number of women requiring delivery care is projected at 13,400 in 2010 and 14,451 in 2015. The number of women requiring EmOC is projected at 2036 in 2010 and 2168 in 2015.

For communicable diseases, the male population between the age 15-49 is projected at 191,671 in 2010 and 204,458 in 2015 while the female population of the same age group has been projected at 173,417 in 2010 and 184,986 in 2015. Children (both primary and secondary) aged between 6-17 years are projected to number 176,085 in 2010 and 187,832 in 2015. In malaria, the total number of cases going by the current trend is projected at 829 cases in 2010 and 374 cases in 2015. 6,000 sputum tests every year have been identified as coverage for TB, while 360 treatments every year in all the three categories are projected till 2015.

5.5 Resource Needs Estimates

The total resource needs for achieving the three health-related MDGs is estimated at about around Nu. 24,794 million. Recurrent cost, estimated at around Nu. 14,884 million over a MDG period, constitutes 60% of total costs and the total resource needs for capital expenditure stands at about Nu. 9,910 million.

The total resource needs for the child and maternal health are composed of recurrent costs only with child health amounting to Nu. 435.332 million and Nu. 683.460 million is estimated for meeting maternal health interventions.

For communicable diseases, meeting the HIV/AIDS goals would require Nu. 1,461.086 million as recurrent cost, 99% of which is for recurrent expenditure. Controlling and preventing malaria will require Nu. 661.403 million and interventions to combat TB is estimated to cost Nu. 383.670 million.

The health system, which comprises of infrastructure and human resources, accounts for the bulk of the overall costs of the health sector which is about 83% of the total cost. The costs for drugs, telemedicine and waste management are included under the health system.

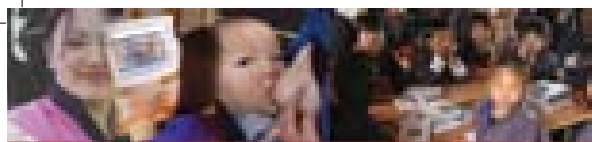
Telemedicine and infection control and waste management will require Nu. 191.727 million and Nu. 125.268 million, respectively. The cost for telemedicine and waste management constitute only about 0.6% of the total health resource needs.

A separate costing has been made on the disability amounting to Nu. 298.030 million (Nu. 223.522 million for capital and Nu. 74.507 million for recurrent costs) which is about 0.8% of the total health sector cost.

The cost breakdown by interventions is presented in Table 5.3 and detailed costing for each intervention can be found at the PCS MDG website.

5.6 Policy Issues

Meeting the health goals is crucial for the overall achievement of the MDGs since it



directly concerns three of the eight MDGs. The attainment of a standard health by the people of the country would lead to a socially, mentally and economically productive life which is important to enhance the quality of life of the people.

The performance of the health sector so far has been very commendable. The country is well on track to reduce IMR by two thirds even before the target year of 2015. The strengthening of institutional deliveries and emphasis on all births being attended by skilled personnel will significantly reduce both neonatal and infant deaths.

The national maternal health targets set for the Tenth Plan period include reducing the maternal mortality ratio to below 140 per 100,000 live births. The country's national policies and programmes to reduce maternal mortality are through increasing institutional deliveries and increasing the proportion of births attended by skilled health personnel. Essential health services

like Antenatal, Intra-partum and Post-natal care will have to be continuously provided while strengthening EmOC services. Bhutan is also a signatory to the UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) that upholds, among other, the right of women to receive appropriate health services during their pregnancy, period of confinement and access to adequate natal care. The progress on maternal mortality indicator is on track. Universal access to family planning services through making contraceptives available to every man and woman will have to be pursued to reduce pregnancy and childbirth related deaths.

Progress on all the indicators related to HIV/AIDS, Malaria and Tuberculosis are well on track. The strengthening of counseling and comprehensive care and support are essential for HIV/AIDS, while intensifying efforts in ITBN coverage and care, and enhancing and expanding DOTS coverage are considered crucial for Malaria and TB control programmes.



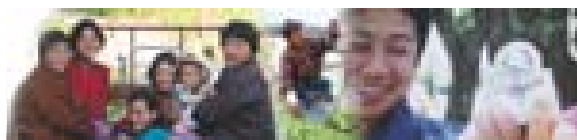


Table 5.3 Total Resource Needs Estimates for Health Interventions (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Child Health *	41.470	41.908	42.346	42.801	43.262	43.732	44.211	44.703	45.196	45.705	435.332	1.8%
Maternal *	44.638	48.614	53.002	57.839	63.165	69.024	75.461	82.527	90.319	98.871	683.460	2.8%
HIV/AIDS	67.216	83.700	100.739	118.230	135.417	153.186	171.218	189.819	211.250	230.312	1461.086	5.9%
Capital	0.296	0.564	0.843	1.116	1.226	1.348	1.481	1.627	1.787	1.950	12.239	0.0%
Recurrent	66.920	83.136	99.895	117.115	134.191	151.838	169.737	188.191	209.463	228.362	1448.847	5.8%
TB	24.074	26.481	29.129	32.042	35.246	38.771	42.648	46.912	51.604	56.764	383.670	1.5%
Capital	9.541	10.495	11.545	12.699	13.969	15.366	16.903	18.593	20.452	22.497	152.061	0.6%
Recurrent	14.532	15.986	17.584	19.343	21.277	23.405	25.745	28.319	31.151	34.267	231.609	0.9%
Malaria	41.500	45.650	50.215	55.237	60.760	66.836	73.520	80.872	88.959	97.855	661.403	2.7%
Capital	8.300	9.130	10.043	11.047	12.152	13.367	14.704	16.174	17.792	19.571	132.281	0.5%
Recurrent	33.200	36.520	40.172	44.189	48.608	53.469	58.816	64.697	71.167	78.284	529.122	2.1%
School health	3.600	3.960	4.356	4.792	5.271	5.798	6.378	7.015	7.717	8.489	57.375	0.2%
Capital	0.720	0.792	0.871	0.958	1.054	1.160	1.276	1.403	1.543	1.698	11.475	0.0%
Recurrent	2.880	3.168	3.485	3.833	4.217	4.638	5.102	5.612	6.174	6.791	45.900	0.2%
Disability	18.700	20.570	22.627	24.890	27.379	30.117	33.128	36.441	40.085	44.094	298.030	1.2%
Capital	14.025	15.428	16.970	18.667	20.534	22.587	24.846	27.331	30.064	33.070	223.522	0.9%
Recurrent	4.675	5.143	5.657	6.222	6.845	7.529	8.282	9.110	10.021	11.023	74.507	0.3%
Telemedicine	12.030	13.233	14.556	16.012	17.613	19.374	21.312	23.443	25.787	28.366	191.727	0.8%
Capital	8.421	9.263	10.189	11.208	12.329	13.562	14.918	16.410	18.051	19.856	134.209	0.5%
Recurrent	3.609	3.970	4.367	4.804	5.284	5.812	6.394	7.033	7.736	8.510	57.518	0.2%
Waste management	7.860	8.646	9.511	10.462	11.508	12.659	13.924	15.317	16.849	18.533	125.268	0.5%
Capital	5.502	6.052	6.657	7.323	8.055	8.861	9.747	10.722	11.794	12.973	87.688	0.4%
Recurrent	2.358	2.594	2.853	3.138	3.452	3.798	4.177	4.595	5.055	5.560	37.580	0.2%
Health System	1090.803	1554.456	1357.111	1667.913	2201.890	2811.177	2286.208	2166.114	2777.755	2583.645	20497.072	82.7%
Capital	174.403	597.021	376.702	656.060	1127.074	1650.273	1060.957	893.500	1441.365	1179.583	9156.938	36.9%
Recurrent	916.400	957.435	980.409	1011.853	1074.816	1160.904	1225.251	1272.614	1336.390	1404.062	11340.134	45.7%
Total Health	1351.890	1847.217	1683.591	2030.217	2601.510	3250.673	2768.007	2693.163	3355.521	3212.633	24794.422	100.0%
Capital	221.208	648.745	433.821	719.080	1196.394	1726.525	1144.832	985.760	1542.849	1291.199	9910.413	40.0%
Recurrent	1130.682	1198.471	1249.770	1311.137	1405.116	1524.148	1623.176	1707.403	1812.672	1921.434	14884.010	60.0%

* Recurrent costs only as capital costs included in the Health System capital costs

Chapter 6: Environment

MDG 7 -Ensure environmental sustainability

6.1 Overview

Barring the occurrence of major natural catastrophic events, Bhutan is set to achieve the seventh MDG of ensuring environmental sustainability. The 2005 Environmental Sustainability Index (ESI) compiled by the Yale Center for Environmental Law and Policy in conjunction with the World Economic Forum, ranked Bhutan as fourth among the Asian countries in its environmental performance. A total of 29% of its land area has been designated as protected areas, covering an area of 10,513 sq. km. In addition, 9% of the country's territory has been demarcated as biological corridors which connect the nature reserves, parks and wildlife sanctuaries to allow the free and uninhibited movement of animals and birds within a wide natural range.

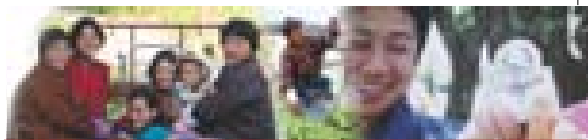
The country's agrobiodiversity is impressive as well and it has 20 crop species and 10 livestock species. There are about 350 landraces of rice, 47 of maize, 24 of wheat, and 30 of barley. In livestock, there are three native breeds and nine native sub-breeds of cattle, nine sub-breeds of yak, four native breeds of horse, three native breeds of pig, four native breeds of poultry, and seven native breeds of dog.

With regard to climate change, the country stands out as one of the very few countries with net greenhouse gas sequestration capacity. This is largely due to its vast forest cover, limited industrialization and use of clean energy. The first National Greenhouse Gas Inventory published in 2000 estimated total greenhouse gas emission at 255.16 giga-grams. The primary greenhouse gases are carbon dioxide, methane and nitrous oxide that together account for almost 98 % of the total emission, with carbon dioxide alone accounting for 89.54%. Energy, industry and agriculture sectors have been cited as the main sources of greenhouse gas emission in the country. The country's forest is estimated to be removing 3,549.52 giga-grams of carbon dioxide, making it net greenhouse gases sequester. Notwithstanding

its favorable position, sustained efforts are still being made to actively control major sources of CO₂ emissions in order to mitigate the country's impact on global climate.

In 2003, the country's annual consumption of Ozone Depleting Substances (ODS) was assessed at 0.172 placing it in the category of countries with low volume consumption of ODS. The ratification of the Vienna Convention and the Montreal Protocol in 2004 by the National Assembly, obliges Bhutan to initially halve its consumption of ODS, then reduce it by 85% and finally, entirely eliminate its consumption by 2010. Progress towards achieving these targets are being made through instituting a licensing system to ban the import of ODS-containing products and retrofitting of products containing ODS that are already in use in the country.

Given the current situation and the efforts that are being made, Bhutan will not only reach its environmental targets but will achieve MDG-Plus status in relation to the seventh MDG. However, the huge conservation success comes at a big cost. The very strict conservation laws have increased forest cover bringing forest fringes closer to the rural villages. Consequently crop and livestock depredation has increased substantially whereby farmers expend considerable time and resources guarding their crops and still lost a significant portion of their harvest. There is thus a direct linkage between the conservation of the environment and people's livelihoods. These linkages become even more pertinent for contemporary Bhutan where the poor are more likely to reside in the resource strapped rural areas with poverty highest among children, women and the elderly. As such it is important for the government to find innovative ways to compensate farmers for bearing un-proportionately a higher cost of conservation. Government policies and environmental interventions must focus on reducing the incidences of environment related or environment conditioned poverty due to lack of access to resources or loss of livelihoods.



6.2 Current Issues and Challenges

Bhutan is at the global forefront in environment conservation. However, increased pressure from development and modernization is threatening environmental sustainability.

The Thematic Task Force identified the following five challenges:

- Lack of coordination in environmental mainstreaming;
- Need for a comprehensive environmental legal and policy framework;
- Weak compliance and enforcement of environmental regulations;
- Inadequate capacities of relevant environment agencies such as the National Environment Commission (NEC), Environment Units within ministries, Dzongkhag Environment Committees, Dzongkhag Environment Officers, Disaster Management Division within the Ministry of Home and Cultural Affairs (MoHCA), and line ministries; and
- Lack of proper scientific environmental data and information.

A major constraint faced by the country is the inadequacy of environmental monitoring systems. Documenting and measuring progress toward achieving the seventh MDG of ensuring environmental sustainability will require strengthening of monitoring systems for changes in biodiversity, maintenance of forest cover, land degradation, soil fertility, hydrological services, pollution levels, climate regulations, disaster management, and keeping track of emerging environmental problems. Interventions and investments in such monitoring systems will provide policymakers with reliable data and information to make appropriate interventions at the right time. It will also allow identification of accurate indicators that reflect the linkages between poverty and the environment which can be used to design pro-poor growth strategies.

6.3 Major Interventions

Interventions aimed at mainstreaming environmental concerns and their mitigation measures will ensure that all development

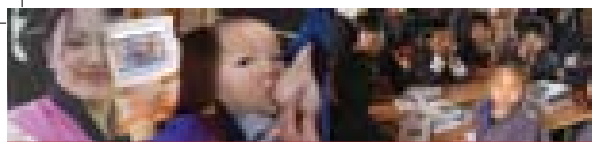
activities systematically take into consideration environmental issues as early as possible in the decision-making process. The identified interventions to strengthen the legal and policy framework will promote compliance and enforceability while plugging existing loopholes, bridging identified gaps, clearing ambiguities, and ensuring timely identification of emerging environmental concerns and issues by 2015. The interventions aimed at ensuring compliance and enforcement of environmental regulations will greatly assist in ensuring environment sustainability by 2015. Building capacities of relevant agencies such as NEC, Environment Units within Ministries, Disaster Management Division of MoHCA, Dzongkhag Environment Committees, and Dzongkhag Environment Officers are interventions that are expected to increase the country's limited environmental management capacity and help fully realize its environmental goals and objectives. The following are the further elaborations for the key identified interventions:

Mainstreaming Environmental Concerns in Decision-Making Processes:

- Creating awareness of environmental mainstreaming concepts in all ministries/agencies, Dzongkhags and Gewogss;
- Expanding the mainstreaming concept to develop a poverty-environment initiative work programme;
- Accessing tailor-made courses in environment mainstreaming in the region for NEC/PCS/line ministries;
- Conducting stakeholder consultations and preparing Sectoral Environmental Mainstreaming Guidelines; and
- Translating and printing Sectoral Environmental Mainstreaming Guidelines.

Formulating and developing the National Environment Protection Act and its Regulations:

- Technical Assistance for drafting the Act;
- Conducting stakeholder and awareness workshops;
- Drafting regulations;
- Translation of the regulations; and
- Printing.



Formulating and developing the Water Act:

- Technical Assistance for drafting the Act and its regulations;
- Conducting stakeholder workshops;
- Translation of the Act and its regulations;
- Printing of Act and regulations; and
- Promoting awareness through media.

Legal services:

- Prosecution;
- Promoting awareness through media;
- Fulfilling NEC's obligations;
- Regulation on unforeseen issues; and
- Revision of Environmental Assessment Act 2000.

Institutionalize and decentralize Environmental Assessment process:

- Recruitment and placement of 20 Dzongkhag Environment Officers;
- Review applications submitted for environment clearances;
- Compliance monitoring and implementation of Environmental Assessment Act 2000;
- Develop Environmental Quality Standards;
- Technical Assistance (both regional and national consultants) for developing Environmental Quality Standards.

Implement and enforce Environmental Assessment Act and its regulations:

- In-country training workshops;
- Procurement of equipment (computers); and
- Conduct awareness workshops.

Monitoring:

- Daily subsistence allowances and travel allowances;
- Procurement of field equipment;
- Printing of Environment Quality Standards guidelines and regulations;
- Printing of guidelines and regulations;
- Public notification and awareness on the developed guidelines and regulations; and
- Publication of notices.

Capacity Development and Disaster Management Interventions:

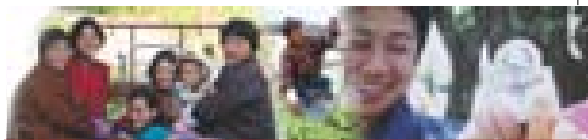
- Capacity development of the NEC;
- Capacity development of the environment units at the ministries;
- Artificial lowering of Thorthormi glacier lake;
- Installation and operation of weather forecasting system;
- Landslide management and flood prevention (pilot schemes);
- Flood protection of downstream industrial and agricultural areas;
- Glacial Lake Overflow (GLOF) Hazard Zoning (pilot scheme);
- Installation of early warning systems on the Phochu river basin;
- Community-based forest fire management programme;
- Capacity development of Dzongkhag Environment Officers; and
- Increasing participation of local people in management and governance of natural resources through community forestry, community-based forest management, protected areas, etc.

Development of Environment Information Management Systems (EMIS) and Standards:

- Develop an environmental information management system;
- Reporting on state of Bhutan's environment;
- Establishment and maintenance of GIS facility;
- Research and studies on emerging environmental issues;
- Maintenance of website and local area network;
- Water quality monitoring programme;
- Environment quality monitoring; and
- Capacity development of local authorities and communities for environmentally sustainable development.

6.4 Coverage Targets

The coverage targets project that by 2011, all ministries/departments/agencies, Dzongkhags, and Gewogss understand the need and importance



of environmental mainstreaming and by 2015, environmental mainstreaming will become institutionalized within these organizations and agencies. Precise coverage targets for new environmental problems can only be projected when they emerge. However, the National Environment Protection Act and the Water Act are two sub-interventions that are expected to be implemented throughout the country by 2010.

By 2010, compliance and enforcement of environment regulations will be strengthened and applied throughout the kingdom. By 2008, 20 Dzongkhag Environment Officers will have been recruited, trained and placed. At the same time, the capacities of the NEC, Environment Units in the relevant ministries and the Disaster Management Division in the MoHCA will be enhanced.

By 2010, the EIMS will be active and functioning and will promote efficient data storage, data maintenance, and data management. By 2009, the environment website and LAN will be operational which will increase access to national and local environmental concerns and issues. The GIS facility is expected to be established by 2009. This will promote accurate assessments and studies, which in turn will provide policy-makers with reliable information for making decisions.

6.5 Resource Needs Estimates

It is estimated that a total of Nu. 458.167 million will be required to undertake the entire environment interventions identified above. The cost breakup by interventions is shown in Table 6.1. It may appear that the investment requirement is heavily frontloaded in the initial years but this is because most of the equipment needed must be procured during the initial years to facilitate the timely implementation of the interventions to ensure that expected outcomes are achieved by 2015. Moreover, long and short-term trainings to enhance capacity development are also scheduled for the initial years so that

capacities can be developed as early as possible to maximize benefit and achieve all targets set for 2015.

6.6 Policy Issues

Given that the country is ahead of the environmental sustainability curve owing to the pristine state of its environment, the Thematic Task Force concluded that rather than trying to improve the “already exemplary” state of its environment, the country should now strive to maintain its high level of environmental quality, which is a daunting challenge in itself. The approach adopted emphasizes on preventive measures rather than on remedial action. It was felt that addressing the key challenges will advance multiple goals and targets simultaneously and will have faster, deeper, wider, more cost-effective, and more lasting impact on environmental sustainability and human well-being in the long-term than sequential interventions that address environmental challenges directly.

The natural environment is constantly changing due to both human interventions and natural phenomena like flash floods, forest fires, landslides, earthquakes, GLOFs etc. To ensure long-term environment sustainability, environment policies have to keep up with the changing environment along with the change in human and development activities that impact it. At this juncture, apart from the two Acts proposed earlier, it is difficult to predict the need for specific environmental policies because such needs will be dictated by events and activities that will occur in the future.

Policy interventions should seek to improve environment outcomes that matter to the poor by mainstreaming poverty-environment issues into key processes and their implementation - including the national plans, sectoral strategies and sub-national planning.

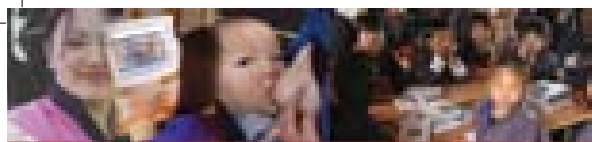


Table 6.1 Total Resource Needs Estimates for Environment Interventions (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Environmental mainstreaming	0.900	0.600	5.400	0.900	0.700	0.400	0.400	0.500	0.300	0.300	10.400	2.3
Recurrent	0.900	0.600	5.400	0.900	0.700	0.400	0.400	0.500	0.300	0.300	10.400	2.3
Capital	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Comprehensive environmental legal and policy framework	0.000	0.000	5.860	2.060	2.260	2.160	1.660	0.500	0.000	0.000	14.500	3.2
Recurrent	0.000	0.000	5.860	2.060	2.260	2.160	1.660	0.500	0.000	0.000	14.500	3.2
Capital	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Ensuring compliance and enforcement of environmental regulations	0.664	3.370	10.796	5.696	5.696	5.696	6.296	3.746	3.746	3.746	49.452	10.8
Recurrent	0.664	3.370	8.296	5.296	5.296	5.296	5.296	3.746	3.746	3.746	44.752	9.8
Capital	0.000	0.000	2.500	0.400	0.400	0.400	1.000	0.000	0.000	0.000	4.700	1.0
Capacity development	0.000	6.512	119.992	94.170	50.425	28.990	0.100	0.600	0.000	0.000	300.789	65.7
Recurrent	0.000	0.000	45.609	37.207	31.390	26.953	0.000	0.000	0.000	0.000	141.159	30.8
Capital	0.000	6.512	74.383	56.963	19.035	2.037	0.100	0.600	0.000	0.000	159.630	34.8
Environment information management systems & standards	0.000	1.967	19.872	15.062	15.787	5.612	6.312	0.057	0.017	0.017	64.703	14.1
Recurrent	0.000	0.867	13.597	11.947	11.247	4.047	4.047	0.017	0.017	0.017	45.803	10.0
Capital	0.000	1.100	6.275	3.115	4.540	1.565	2.265	0.040	0.000	0.000	18.900	4.1
Equipment	0.000	0.761	8.316	6.048	2.398	0.400	0.337	0.064	0.000	0.000	18.323	4.0
Recurrent	0.000	0.761	8.316	6.048	2.398	0.400	0.337	0.064	0.000	0.000	18.323	4.0
Capital	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Total	1.564	13.210	170.236	123.936	77.266	43.258	15.105	5.467	4.063	4.063	458.167	100
Recurrent	1.564	5.598	87.078	63.458	53.291	39.256	11.740	4.827	4.063	4.063	274.937	60
Capital	0.000	7.612	83.158	60.478	23.975	4.002	3.365	0.640	0.000	0.000	183.230	40



Chapter 7: Water and Sanitation

7.1 Overview

As a result of the high priority accorded by the Royal Government to providing access to safe drinking water and basic sanitation, the country has made substantial progress in providing these services in both rural and urban areas. The Public Health Engineering Division (PHED) in the Ministry of Health and the Department of Urban Development and Engineering Services (DUDES) of Ministry of Works and Human Settlement (MoWHS) are responsible for planning and implementation of all water and sanitation activities in the country.

It is estimated that in 1990 about 40% of the population in both urban and rural areas had access to clean drinking water. In 2005, about 85% of the rural population had access to clean drinking water. The main access was through public stand posts followed by piped water in the house. On the other hand, 19.9% of the rural population depended on unsanitary sources like un-protected spring sources/rivers/ponds for drinking water. Interventions will focus on providing access to safe drinking water to the remaining 21.9% of the rural population.

In 2005 about 98% of the urban population had access to clean drinking water. The main access was through piped water in the house (53.7%) followed by public stand posts (44.3%). 1.5% of the urban population depended on unsanitary sources like springs/rivers/ponds for drinking water. Interventions will focus on providing access to safe drinking water to the remaining 2% of the urban population.

In 2005, about 86% of the rural population had access to basic sanitation. The main access was through pit latrines (64.2%) followed by other acceptable sanitary technologies like flush toilets, Ventilated Improved Double Pit (VIDP) latrines, and long drop latrines (22.8%). 12.8% of the rural population had no toilet facility. Interventions will focus on providing access to basic sanitation to the remaining 12.8% of the rural population.

In 2005 about 96% of the urban population had access to basic sanitation. The main access was through independent flush toilets in the home (45.5%) followed by other acceptable sanitary technologies like flush toilets outside the home, VIDP latrines, and pit latrines. 3.9% of the urban population had no toilet facilities. Interventions will focus on providing toilet facilities to the remaining 3.9% of the urban population.

Compared to the 1990 baseline, in both rural and urban areas, Bhutan has already achieved the MDG goal of halving the proportion of people without sustainable access to safe drinking water and sanitation. The new goal, therefore, is to achieve universal access to both safe drinking water and sanitation by 2013 which would reflect an achievement of MDG-Plus status for the water and sanitation target under the environmental sustainability goal.

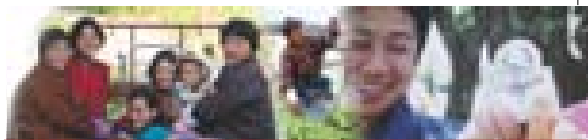
7.2 Current Issues and Challenges

The key challenges to providing sustainable access to safe drinking water and basic sanitation in the urban areas are the following:

Acute shortage of specialized manpower: There is a shortage of manpower in terms of both quality and numbers. In future, as the expansion of services continue in the Dzongkhags, it will become even more difficult to find enough people to provide operation and maintenance services.

Data problems and unplanned growth: There is a lack of accurate and adequate data on urban population and cadastral information. As a result, it becomes difficult to formulate long-term plans and projections. This is further aggravated by uncontrolled growth of satellite towns in the country which puts a strain on the existing infrastructure.

Poor linkages and lack of capacity in Dzongkhags/municipalities: Dzongkhags/municipalities also lack the capacity to implement the urban plans



and maintain the services. Dzongkhag Engineering Sectors lack staff to supervise all the required projects, and they also lack staff with the skills in some critical engineering areas such as survey and design. More importantly, they are not sufficiently involved in the infrastructure planning process.

Technical and financial sustainability: As these services are highly subsidized, it is difficult to meet the operating and maintenance costs and both the financial and technical sustainability of these facilities is a concern.

Lack of training opportunities: To compound the scarcity of skilled manpower, there are limited training opportunities. While regular training is required to provide basic skills and also to keep abreast with technological changes, sufficient funds are not available to provide the required trainings.

For the rural areas, the following are additional challenges:

Coordination with stakeholders: There are numerous stakeholders involved in providing rural infrastructure. These include the Public Health Engineering Division (PHED) of the Ministry of Health, the Dzongkhag administration, and the Gups. It has been a challenge to ensure efficient coordination amongst the numerous stakeholders involved in the programmes. In the past, this has affected dispatching of centrally procured materials to the site.

Ensuring quality levels for water and sanitation in rural areas: In the rural areas, it is difficult to monitor the quality of water and ensure that it is safe for drinking. Education and training is essential to create awareness and enable proper monitoring of water sources.

Distance from water source: Given the scattered nature of the houses in some of the rural areas, it is difficult to reach every household due huge cost.

7.3 Main Interventions

The major intervention to provide access to safe drinking water in the rural areas will be the construction of schemes (source intake,

distribution system, tap stands) in the low covered areas. Wherever appropriate, rain water harvesting will also be encouraged. The major intervention to provide access to basic sanitation in the rural areas will be to increase the percentage of people with access to appropriate improved toilets. At the same time, use of other inferior technologies will be discouraged.

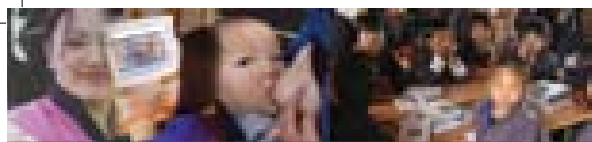
In the urban areas, the major intervention to provide access to safe drinking water will be through the construction of water treatment plants, public stand posts and piped connections to the home. For access to basic sanitation, the interventions will be through construction of proper septic tanks with soak pits and sewerage system to provide pour-flush latrines while completely doing away with other inferior technologies. In the larger urban areas, the interventions will include providing new sewerage and waste-water treatment plants.

Common interventions in both urban and rural areas will be to focus on improving drinking water standards through monitoring of water quality and training to build up the capacity of the local people and PHED/UISD staff. Rehabilitation and repair of old and non-functional infrastructure will continue, and awareness and educational programmes will also be undertaken to highlight the importance of safe drinking water and basic sanitation.

7.3.1 Rural Areas

The main interventions for providing access to safe drinking water in the rural areas are:

- Increasing access to rural communities through the ongoing RWSS programme, which include construction of schemes and extension of existing ones;
- Repairing and rehabilitating old and defective rural water supply schemes;
- Strengthening community ownership and participation and capacity to plan, operate and maintain rural water supply schemes through training programmes;
- Adopting alternative clean water source technologies like rain water harvesting pumping system that are cost effective,



- durable and simple;
- Strengthening advocacy for conservation and safe utilization of water resources;
- Protection of spring or water sources; and
- Training PHED and BHU staff on monitoring water quality.

The main interventions for providing access to basic sanitation in the rural areas are:

- Increasing access to rural communities by upgrading sanitation facilities;
- Training health workers and the local community to ensure sustainability of basic sanitation infrastructures; and
- Creating awareness on importance of basic sanitation.

7.3.2 Urban Areas

The main interventions for providing access to safe drinking water in the urban areas are:

- Where possible, ensuring household connections to all new housing infrastructure;
- Providing public stand posts where households connections are not possible;
- Rehabilitating defective public stand posts;
- Constructing water treatment plants to cover all urban centres;
- Training UISD staff and Dzongkhag staff on the issues related to safe drinking water; and
- Awareness campaigns on safe drinking water.

The main interventions for providing access to basic sanitation in the urban areas are:

- Ensuring all new house construction have pour flush toilets or latrines with proper septic tanks and soak pits;
- Doing away with VIP, improved pit and long drop toilets;
- Providing new sewerage and wastewater treatment plants in five additional urban centers (Trashigang, Gelephu, Damphu, Gyalposhing, and Samtse).;
- Operating and maintaining existing sewerage and wastewater treatment plants in Thimphu and Phuntsholing;

- Training and capacity building of UISD staff and relevant Dzongkhag staff on basic sanitation; and
- Awareness campaigns on basic sanitation.

7.4 Coverage Targets

The rural population in 2005 was 438,871, and the number of rural households was 87,804. Since there are no figures for rural household size, the national average of 4.6 persons has been used. The population growth rate is assumed to be 1.3% based on the information provided by the NSB.

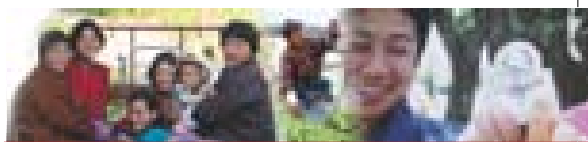
As the MDG water and sanitation targets have already been achieved, the coverage targets for both the urban and rural areas are to provide universal access to safe drinking water and basic sanitation by 2013. The coverage targets for sewerage and wastewater treatment facilities are to provide access to sewerage facilities in five new Dzongkhags towns by 2015.

The percentage of rural population who will be provided with access to safe drinking water will increase from the existing 85% to near 100% by 2013 through the construction of more schemes and rehabilitation of existing ones. The percentage of rural population who will be provided access to sanitation through improved toilets will increase from 19% to 67%.

The percentage of urban population that will be provided with access to safe drinking water through piped connections to the home is expected to increase from 53.7% to 60%, while access through public stand posts will decrease from the existing 43% to 40% by 2015. The focus on sanitation in the urban areas will be to provide improved access once universal access has been provided. It is expected that all the urban population will have access to pour flush latrines by 2015.

7.5 Resource Needs Estimates

The PHED's primary intervention will be to increase the number of public stand posts in the rural areas. 99% of the new access to safe drinking water will be provided through number of schemes, and the remaining 1% will be through



rainwater harvesting. PHED has estimated that about 10% of the piped schemes in the rural areas are defective and will need to be rehabilitated. The public stand posts rehabilitation cost is estimated at about 70% of the capital cost, and for the rainwater harvesting system the rehabilitation cost is estimated at about 50% of the capital cost.

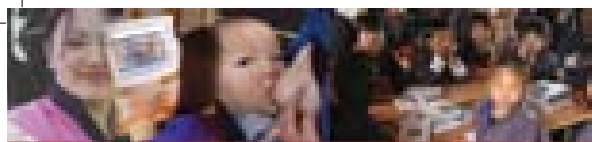
The PHED currently spends about Nu. 9.25 million on hygiene education and awareness campaigns in the rural areas annually. The same amount has been projected annually up to 2015.

The total cost for providing universal access to safe drinking water and basic sanitation in works out to Nu. 7,366.270 million. Table 7.1 summarizes the combined cost for achieving universal access to safe drinking water and basic sanitation in both the urban and rural areas.

7.6 Policy Issues

The provision of universal access to safe drinking water and basic sanitation will help to meet basic human needs. It will also contribute to the achievement of MDGs in other areas like health and education. Access to clean water and sanitation will result in reduction of water borne and sanitation related diseases such as typhoid, diarrhea, dysentery and cholera. Provision of safe drinking water will help in reducing child mortality and improve maternal health as both the child and mother. Women will not have to travel long distance to fetch water and it will reduce their water-carrying burden and enable them to carry out other more productive and useful works. The additional income earned from the extra works undertaken in saved time will help to reduce hunger and poverty. Children who help with fetching water will also have more time to spend on their studies and other useful activities.




Table 7.1 Total Resource Needs Estimates for Water and Sanitation Interventions (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Water Supply Schemes	145.328	153.941	162.726	171.685	178.349	189.965	199.465	209.154	219.034	229.109	1858.756	25.2%
Capital	40.470	41.297	42.139	42.997	41.522	44.710	45.615	46.536	47.474	48.429	441.191	6.0%
Recurrent	104.858	112.644	120.586	128.688	136.827	145.254	153.850	162.618	171.560	180.680	1417.565	19.2%
Sanitation	432.386	450.778	469.438	488.372	493.273	525.789	545.544	565.592	585.938	606.587	5163.698	70.1%
Capital	309.473	314.733	320.090	325.546	317.518	336.214	341.967	347.825	353.790	359.864	3327.019	45.2%
Recurrent	122.913	136.045	149.348	162.827	175.755	189.574	203.577	217.768	232.148	246.723	1836.679	24.9%
Waste Water Management	2.410	2.543	2.677	2.812	2.925	3.061	3.199	3.339	3.480	3.622	30.068	0.4%
Capital	2.192	2.214	2.236	2.258	2.281	2.281	2.304	2.327	2.350	2.374	22.794	0.3%
Recurrent	0.218	0.329	0.441	0.554	0.666	0.780	0.896	1.012	1.130	1.248	7.273	0.1%
Training	21.712	21.712	21.712	21.712	21.712	21.712	21.712	21.712	21.712	21.712	217.115	2.9%
Awareness	9.663	9.663	9.663	9.663	9.663	9.663	9.663	9.663	9.663	9.663	96.634	1.3%
Total	611.499	638.637	666.216	694.244	705.922	750.190	779.584	809.460	839.827	870.693	7366.270	100.0%
Capital	373.847	379.956	386.177	392.513	383.010	404.917	411.597	418.399	425.326	442.041	4017.783	54.5%
Recurrent	37.652	58.681	280.039	301.732	322.912	345.273	367.987	391.061	414.501	428.651	3348.488	45.5%



Chapter 8: Energy

MDG -Contributes to all MDGs

8.1 Overview

The 2004 Power System Master Plan (PSMP) estimates that the country has a total installed capacity potential of about 23,500 MW with a mean annual energy production capability of 99,200 GWh. Most of the electricity generated is exported to India and, while only 5% of this potential has been developed, the electricity sector's contribution to the total national budget is expected to exceed 60% when the 1020 MW Tala hydroelectric project is fully commissioned.

According to the PHCB 2005, 57% of the total population (96.4% urban and 40% rural) had access to grid electricity. In urban areas grid electricity was the main source of lighting and kerosene (51.3%) was mainly used in the rural areas. Table 8.1 summarizes the main sources of lighting in the country according to the PHCB 2005.

Table 8.2 below shows the main sources of cooking in the country according to PHCB 2005. Firewood is the main source for cooking at 37.3% of the households followed by electricity (30.6%), LPG (25.99%), kerosene (6.1%), and others (.01%).

Development of the hydropower industry has been the primary driving force for economic development and accordingly the Bhutan Vision 2020 document has set targets of adding 2000 MW by 2012, and 3000 MW by 2017. For the MDG Needs Assessment the coverage targets for 2015 are 83% of the household through grid electrification and 12% of the households through solar photovoltaic (pv) sets and micro hydroelectric plants.

While energy is not a direct MDG target, providing households with energy for lighting and cooking is viewed to reduce poverty and hunger. The interventions identified in the energy sector will also facilitate the achievement of the other MDGs.

Table 8.1 Main Sources of Lighting

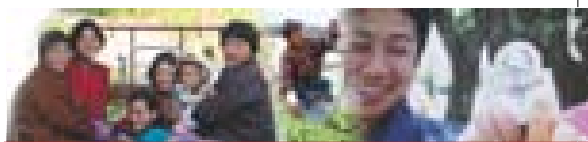
Dzongkhag, Residence	Electricity	Kerosene	Firewood	Solar	LPG	Gen	Candle	Others	All types
All Dzongkhags	72,063	46,064	3,284	3,195	122	169	382	836	126,115
Urban	36,923	996	69	131	43	22	69	58	38,311
Rural	35,140	45,068	3,215	3,064	79	147	313	778	87,804
Percent									
All Dzongkhags	57.1	36.5	2.6	2.5	0.1	0.1	0.3	0.7	100
Urban	96.4	2.6	0.2	0.3	0.1	0.1	0.2	0.2	100
Rural	40.0	51.3	3.7	3.5	0.1	0.2	0.4	0.9	100

Source: PHCB 2005

Table 8.2 Main Sources of Cooking

Dzongkhag, Residence	Electricity	Kerosene	Firewood	Solar	LPG	Others	All types
All Dzongkhags	56,615	11,342	69,013	135	47,375	529	185,009
Urban	31,510	3,657	2,914	33	29,540	110	67,746
Rural	25,105	7,685	66,099	102	17,835	419	117,245
Percent							
All Dzongkhags	31	6	37	0	26	0	100
Urban	46	5	4	0	44	0	100
Rural	21	7	56	0	15	0	100

Source: PHCB 2005



8.2 Current Issues and Challenges

The key challenges in the energy sector include:

- Mobilizing funds for rural electrification
- Increasing efficiency in the delivery of services for on-grid rural electrification
- Ensuring sustainability of off-grid schemes
- Building up capacity of different stakeholders

Developing and promoting sustainable and efficient methods for use of firewood for cooking and heating

Although the country has surplus power generation, the lack of funds and high cost of grid extension have kept a large percentage of the rural population out of the national power grid. Therefore, the main interventions include expanding the rural electrification through grid and off-grid electrification.

Although kerosene has been identified as a MDG compatible energy source for both cooking and lighting, the Department of Energy (DoE) does not consider it to be a clean energy source as it emits a lot of smoke which is not healthy or environmentally friendly. The Department is working towards providing modern sources of clean energy, mainly through grid extension and solar pv and energy efficient stoves.

While it will be relatively easy to provide clean modern sources of energy for lighting, the challenge is to provide clean modern sources of energy for cooking as firewood is the largest single source of energy for cooking food. Although, grid electricity has reached 57% of the population and electricity tariffs are highly subsidized, only a little more than half of these households use electricity for cooking. The preference for firewood in rural areas is because firewood is readily available in the nearby forests and there is no cash cost associated with collecting firewood. DoE is developing an Integrated Energy Management Master Plan for determining the most efficient, effective and practical energy sources for the country's situation.

Electricity, especially the lifeline tariff, is highly

subsidized in the country. While the cost of supply in rural areas is estimated to be between Nu. 4 - 5 per unit, the lifeline tariffs are Nu. 0.7/ unit up to 80 units a month. The lifeline tariff is not expected to increase substantially in the near future as affordability by the rural population is of great concern for the government.

8.3 Major Interventions

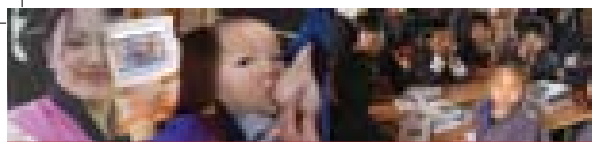
In line with the MDG requirements, the focus will be on providing energy for meeting household lighting and cooking needs. The following are the key interventions identified for meeting the energy targets:

- Grid extension for 83% of the population by 2015;
- Highly subsidized lifeline tariffs for consumption up to 80 units a month;
- Development of 4 micro hydroelectric plants identified by the Rural Electrification Master Plan (REMP) to provide electricity to about 500 households;
- Provision of highly subsidized solar pv home systems for 12% of the population by 2015;
- Rehabilitation of defective solar pv home systems;
- Training of the DoE and Bhutan Power Corporation (BPC) personnel; and
- Awareness and educational campaigns.

Among others, the interventions in the energy sector will facilitate agricultural mechanization and agro-processing, stimulate employment generation and development of rural enterprises, education of children, improve health, reduce deforestation and other forms of land degradation, help in increasing carbon sinks and mitigating climate change, boost manufacturing, and generation of youth employment.

8.4 Coverage Targets

To achieve the Vision 2020 goal of 'Electricity for All' by 2020, a Rural Electrification Master Plan (REMP) was formulated in 2005 to draw up long terms plans for electrifying the whole country. According to the REMP, grid electricity will be provided to 88% of the households and the remaining 12% will be provided with off-



grid electricity, primarily solar pv sets and micro hydroelectric plants based on techno-economic criteria. With this in mind, the major MDG targets are to provide grid electricity to 83% of the households by 2015 and to provide off-grid sources like micro hydel and solar pv sets to 12% of the households.

8.5 Resource Needs Estimates

The needs assessment is primarily based on the rural electrification programme of the Department of Energy which consists of on-grid and off-grid electrification programmes. The off-grid programme includes both micro-hydel and solar pv sets. The solar programme will need to be supplemented by other energy sources for cooking.

The sources of data for estimating resource needs are the PHCB 2005 data, the REMP, DoE statistics, and BPC data. In case of discrepancies the PHCB 2005 data has been used as the baseline.

For the purposes of estimating the on-grid capital cost calculation, the REMP figures are considered as the primary electrification and estimated to cost about Nu. 101,200 per household. The additional figures from the PHCB data are considered to be the fill-in required in the villages. The cost for fill-in electrification is much cheaper and has been estimated to be about Nu.. 44,000. For the overall rural electrification, the weighted average of the primary rural electrification and the fill-in rural electrification works out to about Nu. 74,800 per household. The urban electrification cost is estimated to be about 25% of the primary electrification cost amounting to about USD 460 per household.

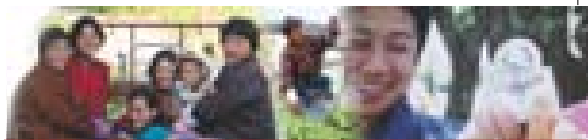
The O&M cost for grid electrification is based on the 2006 current budget for the Customer Services Division (CSD) of the BPC as the Division is primarily responsible for the O&M of all electricity distribution and supply services. The current budget of BPC was not used as the BPC serves High Voltage, Medium Voltage, and commercial customers whose costing may not be suitable for MDG assessment. Since there is no clear allocation of costs between rural and urban residential consumers and commercial consumers,

the CSD's current budget has been selected to estimate the O&M cost for the aggregated rural and urban consumers.

The power purchase component of the current budget of the CSD has also been adjusted to reflect the MDG requirements. For MDG purposes, it is assumed that each consumer is allotted the lifeline quantity of energy amounting to 80 units per month. The lifeline quantity has been calculated to meet the minimum lighting, cooking and entertainment needs in the rural areas. This lifeline quantity is multiplied by 12 to get the annual consumption and further multiplied by Nu. 0.30 which is the rate that BPC pays to purchase electricity from the generation companies. This power purchase adjustment leads to a substantial reduction in the current budget of BPC. This adjusted current budget of the CSD is divided by the total number of households to derive the per capita O&M cost. The total number of households is 79,568 which is arrived at by adding the 7,500 households that are expected to be connected in 2006. This results in an O&M cost of Nu.. 2,270 per household.

The micro hydroelectric plants capital costs are based on the four sites recommended in the REMP, namely Khelphu, Laya, Jangothang and the Lingshi. Based on REMP figures, the average cost of electrifying one household through micro hydroelectric plants works out to about Nu. 2,57,576. The O&M cost for one household works out to Nu. 6,747 per annum. The O&M cost is based on the estimated O&M cost for the Chendebji project which is taken to be 1.5 % of the total capital cost. The depreciation costs are not included in this costing.

The capital cost for the solar sets are based on the procurement rates of the Renewable Energy Division (RED). The procurement rates for the RED do not include transportation and installation. When these costs are added, the cost per solar set works out to about Nu. 28,600. The O&M cost for the solar sets are based on the replacement parts for the solar sets taken over five years, and the cost for one visit by a RED technician to each of the solar households. The O&M cost works out to about Nu. 2,591 per household per year. The cost for rehabilitating defective solar sets is



assumed to be 50% of the cost of a new set and this works out to about Nu. 14,300.

The number of defective solar sets is arrived at by taking the difference in the number of solar sets distributed since 2000 and the number of households that reported using solar sets for lighting for the PHCB 2005. This difference is about 1,286 household and this is the number of solar sets assumed to be defective.

Since the solar pv sets are targeted for the most remote regions which are expected to be economically disadvantaged, the government will probably provide solar sets free of cost. For O&M purposes a minimal amount of about Nu. 30-50 may be charged on a monthly basis. The remaining O&M cost will be subsidized by the government.

It should be noted that, while the DoE is developing an Integrated Energy Management Master-plan as yet, no results are available of the most practical and efficient energy sources for supplementing the solar pv sets.

The training and capacity building cost for the CSD has been taken in the case of BPC and the projected training cost for the DoE has been taken for estimating the training and capacity building to support the energy services. The total cost per year works out to USD 600,000. There are no individual details of the training programmes and so it is taken on a lump sum basis for the period up to 2015.

The CSD publicity and advertising budget is taken as the proxy for awareness campaigns. When this is added to the awareness creation budget of the RED of the DoE the total per year works out to about Nu. 1.46 million.

The total cost for the entire energy interventions for the period 2006-2015 is estimated at around Nu. 10,845 million. The capital cost of interventions varies from around Nu. 627 million in 2006 to Nu. 507 million in 2015 with the total for the 10 years working out to around Nu. 5,342 million. The recurrent cost increases from Nu. 394.5 million in 2006 to Nu. 710.2 million in 2015 with the total for the 10 years working out to Nu. 5,502.87 million. Table 8.3 summarizes the resource needs for the energy interventions.

8.6 Policy Issues

The RE Master Plans provide the overall plan for electrifying the country by 2020 through grid and off-grid methods. In this regard, the following interventions have been recommended by the energy sector Thematic Task Force for inclusion in the MDG Needs Assessment and Costing.

Since grid electricity is highly subsidized by the government, it is recommended that the solar pv programme also be similarly subsidized to ensure equity with grid consumers. Based on the policy being developed for the off-grid electrification programme, it is recommended that both the capital and the O&M costs be subsidized with token payments to promote a sense of ownership.

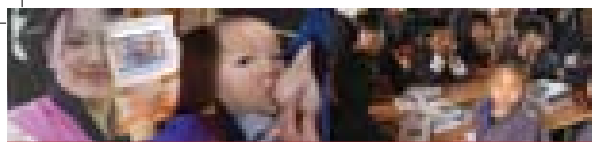


Table 8.3 Total Resource Needs Estimates for Energy Interventions (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Capital Costs	599.843	599.843	11.668	575.779	549.292	589.023	549.292	611.728	479.875	479.875	5046.217	46.6
Rural Grid	591.397	591.397	7.885	473.117	473.117	473.117	473.117	473.117	473.117	473.117	4502.500	41.6
Urban Grid	0.000	0.000	0.000	11.016	11.016	11.016	11.016	11.016	0.000	0.000	55.079	0.5
New Solar	0.000	0.000	0.000	54.619	54.619	54.619	54.619	54.619	0.000	0.000	273.096	2.5
New Micro	0.000	0.000	0.000	26.487	0.000	39.731	0.000	66.218	0.000	0.000	132.436	1.2
Household Connection	8.447	8.447	0.000	6.757	6.757	6.757	6.757	6.757	6.757	6.757	64.195	0.6
Solar Rehabilitation	0.000	0.000	3.782	3.782	3.782	3.782	3.782	0.000	0.000	0.000	18.912	0.2
O&M Costs	393.077	433.147	473.911	478.859	519.890	559.880	601.604	641.594	676.636	708.692	5487.291	50.7
Grid	384.912	424.982	465.052	465.052	500.094	535.135	570.177	605.218	640.260	672.316	5263.201	48.6
Solar	8.165	8.165	8.165	13.113	18.062	23.010	27.958	32.907	32.907	32.907	205.357	1.9
Micro	0.000	0.000	0.694	0.694	1.735	1.735	3.469	3.469	3.469	3.469	18.734	0.2
Training and Awareness	28.653	28.653	28.653	28.653	28.653	28.653	28.653	28.653	28.653	28.653	286.533	2.6
BPC Training	12.218	12.218	12.218	12.218	12.218	12.218	12.218	12.218	12.218	12.218	122.175	1.1
DoE Training	14.933	14.933	14.933	14.933	14.933	14.933	14.933	14.933	14.933	14.933	149.325	1.4
Awareness	1.503	1.503	1.503	1.503	1.503	1.503	1.503	1.503	1.503	1.503	15.033	0.1
TOTAL COST	1021.574	1061.644	514.232	1083.292	1097.835	1177.556	1179.550	1281.975	1185.164	1217.220	10820.042	100.0
Capital	628.497	628.497	40.321	604.433	577.945	617.676	577.945	640.381	508.528	508.528	5332.750	49.3
Recurrent	393.077	433.147	473.911	478.859	519.890	559.880	601.604	641.594	676.636	708.692	5487.291	50.7



Chapter 9: Transport

MDG -Contributes to all MDGs

9.1 Overview

The key challenge in the transport sector is to expand the country's relatively new and small road network. In this regard, the major interventions include the expansion of national highways, district and feeder roads and motorable bridges, where necessary. The construction, rehabilitation and maintenance of pedestrian suspension bridges for rural communities dependent on mule tracks have also been included.

Although transportation is not identified as a Millennium Development Goal, it is expected that the interventions identified in the transport sector will increase access of communities to socioeconomic facilities and opportunities, reduce poverty and facilitate the achievement of other MDGs.

9.2 Current Issues and Challenges

9.2.1 Roads

Motor roads in Bhutan are relatively young with the first road being completed in the early 1960s. The road network currently comprises of around 4,545 km and, given the rugged terrain, roads are generally built following the contour of the land to keep the number of bridges to a minimum. There are no tunnels at present. Transport on the existing road network is slow as roads are generally narrow with numerous sharp curves and steep gradients that limit the vehicle speed to 20-40 km/h. Typically, road distances are two to two and half times the straight line distance between two places.

Roads in the country are functionally classified according to the nature of the traffic service they intend to provide as given in Table 9.1. The existing road coverage is shown in Table 9.2 and mapped in Figure 9.1.

Table 9.1 Bhutan Road Classification

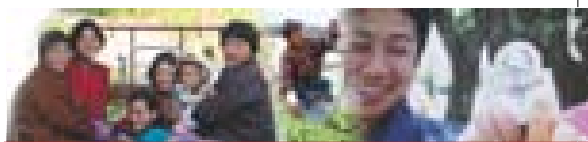
Classification	Technical Specifications
National Highway	Pavement Width - 6.0m, Shoulder Width: 1.5m x 1, Side Drain: 1.0m, Formation Width: 8.5m
Dzongkhag Roads	Pavement Width - 3.5m, Shoulder Width: 1.0m x 2, Side Drain: 0.6m, Formation Width: 6.1m
Feeder Roads	Pavement Width - 3.5m, Shoulder Width: 0.5m x 2, Side Drain: 0.6m, Formation Width: 5.10m.
Urban Roads	Excluded from MDG costing
Farm Roads and Power Tiller Tracks	Covered under Agriculture and Rural Development
Forest Roads	Excluded from MDG costing

Source: Road Survey & Design Manual June 2005, Department of Roads, MoWHS.

Table 9.2 Existing road coverage (km)

Classification	Paved	Un-paved	Present Coverage	Total Road Coverage %
National Roads	1556	-	1556	34
District Roads	381	130	511	11
Urban Roads	119	11	130	3
Feeder Roads	436	811	1247	27
Farm Roads	-	-	526	12
Forest Roads	-	-	575	13
Total	2492	972	4545	100

Source: Road Survey & Design Manual June 2005, Department of Roads, MoWHS.



9.2.2 Bridges

Bhutan's road network is linked by 235 motorable bridges, which are classified as concrete, steel, or composite bridges depending on the method and material of construction. Bridges are also sub-classified into permanent and semi-permanent/temporary bridges. The current bridge coverage is given below.

Table 9.3 Bridge classification

Classification	Present Status (Nos.)	
	Permanent	Temporary/ Semi-permanent
Concrete	81	0
Steel	20	109
Composite	24	0

Source: Road Survey & Design Manual June 2005, Department of Roads, MoWHS

9.2.3 Suspension Bridges and Mule Tracks

Rural parts of the country still largely continue to depend on mule tracks for transportation and communication. Suspension bridges for

pedestrians and animals help shorten travel time and are important for socioeconomic development of rural communities. Presently, there are 445 suspension bridges in the country.

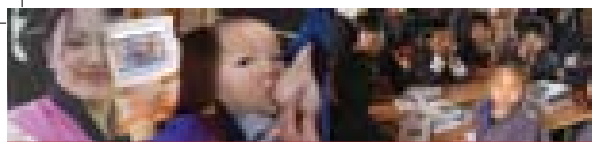
9.3 Major Interventions

Transport infrastructure is vital for increasing productivity and income of poor households through improved access to socioeconomic facilities such as education, health, markets and information. As transport infrastructure is necessary for achieving most of the MDGs, the major interventions under the transport sector include the expansion and maintenance of national highways, district and feeder roads, along with the construction of bridges where necessary. In view of the poverty focus of the MDGs, urban roads have been excluded from the assessment and costing exercise.

The construction, rehabilitation and maintenance of suspension bridges has also been included to improve the accessibility of remote and isolated communities who depend on mule tracks and largely make up the households living below the poverty line. Farm roads and power tiller tracks,

Figure 9.1 Road classification and existing coverage





which are important for the predominantly agrarian population, are discussed under the Agriculture and Rural Development chapter.

The interventions have been sequenced so that a fixed number of bridges and kilometers of road are added every year from 2006 to 2015 in keeping with the targets set by the Road Sector Master Plan. It should be noted that during the Tenth Plan, the government aims to halve the proportion of the rural population living more than an hour's walk from a motor road from 40% in 2005 to 20% by 2012.

Subsidization of passenger transport services on non-profitable routes

Subsidization of passenger transport services on non-profitable routes is seen as an important measure to help address rural access to passenger transport services. This is particularly pertinent when feeder roads become motorable and suit the requirement of farmers to be able to carry out economic transactions. However, unless some degree of transport subsidy is made, it will be difficult for the operators to provide transport services, thereby defeating the very purpose of providing access to rural communities and help improve their income generation. Given the lesser number of travelers, it will be difficult for the operators to even meet the operation cost.

Hence, a subsidy element is crucial for enabling local services within Dzongkhags, especially given the non-profitability of routes. There are also inter-Dzongkhag routes which are not profitable and therefore require some element of subsidy. The subsidy can be granted in several ways, the two notable options being; interest payment of loan secured by the operators and for procurement of buses by the government which the operator pays back on agreed monthly installments.

A provision of Nu. 7 million has been estimated for subsidization of rural transport service during the MDG period.

Road safety and accident management

While access to road transport services is necessary, there is also equal need to ensure safety

measures. Although considerable improvements have been made in the provision of safe, comfortable, affordable and adequately covered passenger transport services in the country, road accidents have resulted in loss of lives of 181 persons from 1998 to 2006 and injured over 281 people. The poor are more vulnerable to such accidents. Hence, in order to improve transport safety in general, the Ministry of Information and Communications (MoIC) has drawn on the following safety measures and costing for the period 2006-2015:

- Road safety education and awareness - Nu. 7 million
- Vehicles, safety and communication equipment - Nu. 36 million
- Vehicle fitness facility - Nu. 9.6 million
- Accident rescue equipment - Nu. 7 million

9.4 Coverage Targets

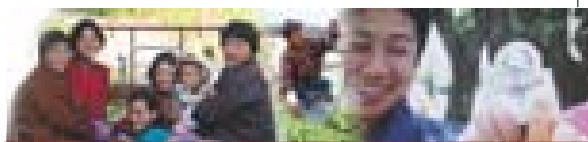
Consolidation and expansion of the road network for rural accessibility, construction of the second east-west highway, and shortening and realigning of existing roads form the core strategy for developing the road network in the country. The expansion of the road network is based on economic and social factors such as topography, scattered nature of settlements, and political and security issues. The road expansion targets for 2015 are summarized in the following table.

Table 9.4 Targets for 2015

Classification	Present Coverage (km)	2015 Target Addition (km)
National Highways	1556	225
District Roads	511	241
Feeder Roads	1247	1194

The major targets under the transport sector are to broaden 225 kilometers of existing national highways, construct 241 kilometers of district roads and 1,194 km of feeder roads. The target additions are derived from the Road Sector Master Plan and are phased over the MDG period.

The second east-west highway linking Sipsu in the west to Jomotshangkha in the east is being



constructed vide a resolution of the National Assembly to provide secure road passage and facilitate trade within and outside the country.

While it is estimated that 60 additional bridges will be constructed by 2015, the exact figures and other information will only be available after a detailed alignment study. It is estimated that 150 pedestrian suspension bridges will also be required by 2015.

The improved access is expected to reduce poverty through increased agricultural productivity, employment opportunities and employment generation. Apart from increasing mobility and accessibility, the interventions are also expected to augment economic and commercial competitiveness, safety and security, environmental conservation efforts, delivery of social services and good governance.

9.5 Resource Needs Estimates

The resources required to implement the interventions identified by the Thematic Task Force are based on the coverage targets and their unit costs. The unit cost for the various types of roads is given in Table 9.5.

Table 9.5 Estimated Unit Cost for Paved Roads (Nu. Million per km)

Classification	National Highways	District Roads	Feeder Roads
Capital cost	10.131*	8.502	5.318**
Recurrent cost (15% of Capital cost for O&M)	1.520	1.275	0.798
Total Unit Cost	11.651		6.116

Source: I&D Division, Department of Roads (DoR), MoWHS

N.B: * DoR unit cost of Ninth Plan

** Excluding Bituminous sealing

The average unit cost for permanent bridge construction interventions is taken at Nu. 65,000 per square meter and the average bridge span is assumed to be 40 m, with an area of 240 sq.m per bridge. The bridge unit costs for three existing bridges are given Table 9.6.

Construction of pedestrian suspension bridges is a joint effort of the government, donor agency and the beneficiary community. The costs of construction materials are borne by the donor agency and the government bears the costs of transportation and skilled labor, while the beneficiaries provide the unskilled labor. The average unit cost for pedestrian suspension bridges is taken at Nu. 20,500 per meter and the average span is assumed to be 80 meters. The unit costs of three existing suspension bridges are given below:

The total resource requirement for the interventions identified under the transport sector is calculated by the spreadsheet-based model on the unit costs and targets defined above. The total annual investment required is estimated to increase from around Nu. 1,354 million in 2006 to around Nu. 2,551 million by 2015; and the total investment required for the transport sector amounts to around Nu. 19,162 million. The total resource estimates for each major intervention and the total capital and recurrent cost are summarized in Table 9.8.

9.6 Policy Issues

Although the transport sector is not a direct Millennium Development Goal, its development facilitates the achievement of all the MDGs. The major interventions in this sector are targeted towards improving access of households to socioeconomic facilities and opportunities and include the expansion and maintenance of national highways, district and feeder roads, as well as motorable bridges and pedestrian suspension bridges.

The capacity of beneficiary communities to share cost in the construction and maintenance of rural roads by providing free labour and adverse environmental consequences of road building are some of the issues that need to be considered by the government in the planning of such infrastructural services.

Development of human resources, availability of construction equipment, machinery, and expertise in scientific and technical fields will also need to be addressed so as to develop and sustain the transportation network in the country.

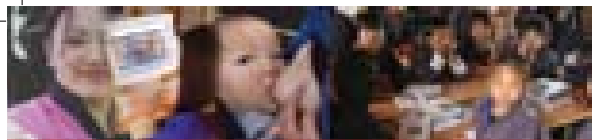


Table 9.6 Sample Bridge Unit Costs (Nu., Million)

Classification	Bridge	Estimated Span Length (m)	Capital Costs	Recurrent Costs	Total Cost	Unit Cost Per Sq. Meter
Steel (Permanent)	Wachey Zam	33.528	87.612	-	87.612	3.705
Steel (Permanent)	Geleg Zam	120.000	32.33	-	32.33	0.7914
Concrete	Punatsangchu Zam	120.000	65.00	-	65.00	0.081

Source: Bridge Division, DoR, MoWHS

Table 9.7 Sample Pedestrian Suspension Bridge Unit Costs (Nu. Million)

Classification	Bridge	Estimated Span Length (m)	Capital Costs	Recurrent Costs	Total Cost	Unit Cost Per Meter	Contribution to total cost by community
Suspension	Maksebi Zam	103.60	1.704	-	1.704	0.0164	28%
Suspension	Jarigang Zam	122.20	2.907	-	2.907	0.0238	33%
Steel Truss	Daur Zam	28.00	0.681	-	0.681	0.0240	30%

Source: Rural Infrastructure Services Division, DUCES, MoWH

Table 9.8 Total Resource Needs Estimates for Transport Interventions (Nu. Million)

Institutions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
National Highway		507.033	547.791	591.826	639.401	690.800	746.331	806.326	871.143	941.170	6341.823	33.1%
District Roads		198.585	214.487	231.662	250.213	270.249	291.889	315.263	340.508	367.774	2480.628	12.9%
Urban Roads		42.953	46.500	50.340	54.497	58.997	63.868	69.140	74.848	81.026	542.170	2.8%
Feeder Roads		283.763	289.755	295.748	301.740	307.732	313.725	319.717	325.710	331.702	2769.592	14.5%
Steel Bridges		267.372	288.762	311.863	336.812	363.757	392.857	424.286	458.229	494.887	3338.823	17.4%
Suspension Bridges		1.024	1.106	1.194	1.290	1.393	1.504	1.625	1.756	1.895	12.785	0.1%
Total	1354.000	1495.838	1596.661	1705.028	1821.545	1946.867	2081.701	2226.810	2383.020	2551.223	19162.694	100.0%
Capital	1156.00	1300.729	1388.401	1482.633	1583.952	1692.928	1810.174	1936.356	2072.192	2218.455	16641.821	86.8%
Recurrent	198	195.109	208.260	222.395	237.593	253.939	271.526	290.453	310.829	332.768	2520.873	13.2%

NB: (i) Recurrent costs assumed at 15% of capital cost

(ii) Rehabilitation and maintenance costs for suspension bridges deducted from total recurrent cost



Chapter 10: Good Governance and Capacity Development

MDG -Contributes to all MDGs

10.1 Overview

There is a deeply pressing imperative to develop the capacities of the recently established constitutional bodies and agencies that have a direct bearing on local and good governance, particularly in the context of the democratization process that is underway in the country. The success of rooting democracy in the country and the consolidation of good governance will be crucially determined by the efficiency and inherent capacity of these agencies. Promoting good governance and capacity development will also facilitate improved public service delivery, a crucial component for achieving the Millennium Development Goals.

The need to develop the capacities of the constitutional bodies becomes even more critical considering that apart from the Royal Civil Service Commission (RCSC) and the Royal Audit Authority (RAA) the other existing constitutional bodies were established only in 2006. It is also an immensely pressing situation considering that the country will be adopting a democratic system of government in 2008, by which time the constitutional bodies need to be fully functioning at optimal efficiency levels. This underscores the urgent need to develop their capacities to enable them to effectively fulfill their functions.

An overarching function of the constitutional bodies is to promote and ensure good governance, particularly during the era of democratic governance. The five constitutional bodies are the: (i) RCSC; (ii) Anti-Corruption Commission (ACC); (iii) Election Commission (ECB); (iv) Royal Audit Authority (RAA), and; (v) Pay Commission. However, all five constitutional bodies have not been reflected in this needs assessment. The Royal Audit Authority was not included since it is already a well-established organization and its capacity

has been sufficiently developed, while the Pay Commission is yet to be established.

Including the interventions for few other non-constitutional bodies, the institutions covered under the capacity development include the RCSC, Anti-Corruption Commission, Office of the Attorney General (OAG), the Local Development Division (LDD) under Planning Commission, Cabinet Secretariat (CS), Election Commission and the Royal Institute of Management (RIM).

The total estimated cost of these capacity development interventions, which also include salary costs of personnel and recurrent costs for the above agencies, amounts to Nu. 2,816 m, of which, 55% is estimated for recurrent expenditures. Table 10.1 details the estimated costs for each of the institutions identified for capacity development.

10.2 Royal Civil Service Commission

10.2.1 Overview

The Royal Civil Service Commission was established in June 1982 under a Royal Charter to promote efficiency and effectiveness of civil service, and to motivate and promote morale, loyalty and integrity among civil servants by ensuring uniformity of personnel actions in the Bhutanese civil service.

Article 25 of the draft Constitution of Bhutan, bestows upon the RCSC the status of a constitutional body. The Constitution states that the RCSC must endeavor to ensure that civil servants render professional service, guided by the highest standards of ethics and integrity to promote good governance and social justice, in implementing the policies and programmes of the government.

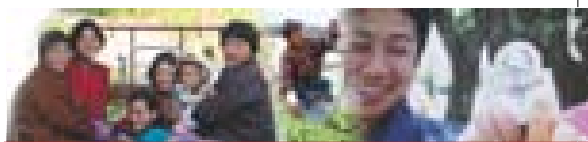
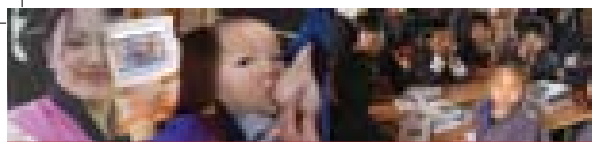


Table 10.1 Total Resource Needs Estimates for Good Governance and Capacity Development Interventions (Nu. Million)

Institutions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
OAG	2,365	2,365	33,603	7,383	7,383	7,383	6,183	4,783	4,783	4,783	81,01	2.9
LDD	141,313	170,008	138,248	152,688	160,756	159,303	140,258	151,738	159,164	153,205	1,526,679	54.2
Recurrent	107,631	111,305	115,265	116,705	118,865	120,665	121,745	122,825	122,825	122,825	1,180,660	
Capital	33,682	58,702	22,982	35,982	41,891	38,637	18,512	28,912	36,339	30,379	346,019	
RCSC	30,909	50,070	49,900	59,312	48,362	40,102	39,259	32,639	29,306	43,771	423,630	15.0
Recurrent	5,424	6,300	6,495	6,567	6,567	6,567	6,639	6,639	6,711	6,711	64,620	
Capital	25,485	43,770	43,405	52,745	41,795	33,535	32,620	26,000	22,595	37,060	359,010	
ACC	2,452	6,060	9,501	4,766	3,407	3,407	3,407	3,407	3,407	3,407	43,221	1.5
Recurrent	2,452	3,407	3,407	3,407	3,407	3,407	3,407	3,407	3,407	3,407	33,115	
Capital	-	2,653	6,094	1,359	-	-	-	-	-	-	10,106	
CS	12,280	30,555	30,440	29,340	24,990	18,790	15,815	15,265	16,490	11,790	205,755	7.3
Recurrent	1,430	11,790	11,790	11,790	11,790	11,790	11,790	11,790	11,790	11,790	107,540	
Capital	10,850	18,765	18,650	17,550	13,200	7,000	4,025	3,475	4,700	-	98,215	
RIM	16,250	16,250	16,250	16,250	16,250	16,250	16,250	16,250	16,250	16,250	162,500	5.8
Recurrent	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	18,000	
Capital	14,450	14,450	14,450	14,450	14,450	14,450	14,450	14,450	14,450	14,450	144,500	
ECB	16,100	16,100	16,100	16,100	16,100	16,100	16,100	16,100	16,100	16,100	161,000	5.7
Recurrent	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	21,000	
Capital	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	140,000	
NCWC	-	10,634	32,809	10,634	9,729	9,729	9,729	9,729	9,729	9,729	212,449	7.5
Recurrent	-	9,729	9,729	9,729	9,729	9,729	9,729	9,729	9,729	9,729	87,559	
Capital	-	9,905	123,080	0,905	-	-	-	-	-	-	124,890	
Total CD Cost	221,669	302,041	426,850	296,472	286,977	271,063	247,000	249,910	255,229	259,034	2,816,247	100
Recurrent	123,202	148,796	155,369	156,881	159,041	160,841	161,993	163,073	163,145	163,145	1,555,488	55.2
Capital	98,467	153,245	271,481	139,591	127,936	110,222	85,007	86,837	92,084	95,889	1,260,760	44.8



10.2.2 Current Issues and Challenges

The RCSC's primary function is to promote the caliber, efficiency and effectiveness of civil servants in the provision and conduct of public services. The organization is headed by a Secretary and has 50 employees. It oversees the functioning of over 18,000 civil servants spread out in all 20 Dzongkhags and therefore plays a key role in promoting efficiency and good governance in the country.

The RCSC is faced with the growing challenges and complexity of delivering services with greater efficiency, effectiveness and quality each year. The organization however has to operate within significant capacity and resource constraints. While the RCSC's human resource base is crucial for the successful achievement of all its goals, it is short of staff and its staff lacks academic qualification in many areas that are expected to grow in importance as the country confronts the rapidly changing environment of political, economic, and administrative developments.

The RCSC's greatest asset is its human resource and its proper development is a necessary precondition to the achievement of its mission. Moreover, considering that the Commission's primary functions are related to providing efficient services, the capacity development of the RCSC will enable it to better and more effectively deliver those required services.

Currently, the RCSC's management skills are relatively low, particularly in the field of change management. This is increasingly an important area of focus, in view of the momentum and scale of change, characterized by the introduction of the Position Classification System in 2006. The qualification of the existing staff is not commensurate with the positions they hold and the areas they must service.

The capacity development strategy, therefore, is not only to increase the number of its human resources but also to enhance their capability levels by providing appropriate training, exposure, and upgrading their qualification in specific fields, through both long-term as well as short-term

training. A strong, efficient, accountable and transparent Civil Service Commission will ensure effective personnel policies for all organizations, institutions and agencies of the government, which will in turn promote good governance within the civil service.

10.2.3 Major Interventions

Human Resource Development

The identified HRD interventions are:

- Increase RCSC's staff strength from 50 to 60 by 2015;
- Upgrade qualification levels by providing 39 long-term training programmes including Masters programmes over a ten-year period; and
- Upgrade skill levels by providing 152 short-term training programmes over a ten-year period.

Equipment

The following are the office equipment required for the RCSC:

- 11 Laptops;
- 14 Printers;
- 6 Copiers; and
- 4 Fax machines.

10.2.4 Resource Needs Estimates

The total estimated cost for the above interventions from 2006 to 2015 is Nu. 423.63 million. This is inclusive of the personnel costs such as salaries of Nu. 63.060 million and a 10% recurrent cost for equipment maintenance. Capital costs comprise around 85% of total costs and the average annual cost over the ten year period is Nu. 42.363 million (see Table 10.2). RCSC's share in the total capacity development outlay is 15%.

10.3 Anti-Corruption Commission

10.3.1 Overview

Concerned about the threat posed by corruption to the stability and security of the society

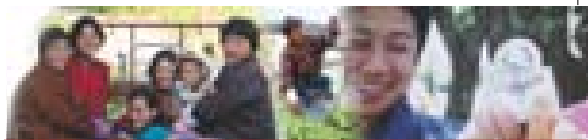
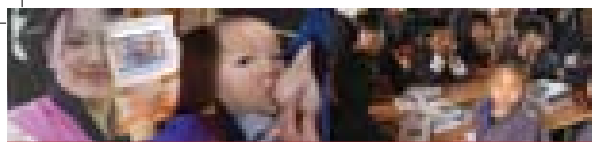


Table 10.2 Total Resource Needs Estimates for Royal Civil Service Commission (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Personnel	5.424	6.300	6.300	6.372	6.372	6.372	6.444	6.444	6.516	6.516	63.060	14.9
Capital	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Recurrent	5.424	6.300	6.300	6.372	6.372	6.372	6.444	6.444	6.516	6.516	63.060	
Training	25.485	43.770	41.455	52.745	41.795	33.535	32.620	26.000	22.595	37.060	357.060	84.3
Capital	25.485	43.770	41.455	52.745	41.795	33.535	32.620	26.000	22.595	37.060	357.060	
Recurrent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Equipment	0.000	0.000	2.145	0.195	0.195	0.195	0.195	0.195	0.195	0.195	3.510	0.8
Capital	0.000	0.000	1.950	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.950	
Recurrent	0.000	0.000	0.195	0.195	0.195	0.195	0.195	0.195	0.195	0.195	1.560	
Total Cost	30.909	50.070	49.900	59.312	48.362	40.102	39.259	32.639	29.306	43.771	423.630	100
Capital	25.485	43.770	43.405	52.745	41.795	33.535	32.620	26.000	22.595	37.060	359.010	84.7
Recurrent	5.424	6.300	6.495	6.567	6.567	6.567	6.639	6.639	6.711	6.711	64.620	15.3



and the possibilities that it could undermine the country's fledgling democracy, the Anti-Corruption Commission (ACC) was established on January 4, 2006, as an independent authority under the Constitution. The Office of the ACC is an independent organization comprising of the Commission and the Secretariat. The Commission comprises of a Chairperson and two Commissioners, a team of 17 staff members supports its Secretariat.

The mandated functions of the Anti-Corruption Commission are to:

- Prepare national strategies and programmes on anti-corruption;
- Advise and propose measures and recommendations to appropriate authorities for improving the performance of public service;
- Curb and root out corruption through timely and effective monitoring of malpractices;
- Undertake public information activities and educate to foster culture of non-tolerance of corruption;
- Receive and investigate complaints of corruption;
- Inspect disproportionate change in income and assets of any person using public resources; and
- Publish inspection and performance reports.

Fighting corruption is inextricably linked to good governance and is rapidly becoming the nation's top agenda. The principal strategy of the Commission is a coherent and comprehensive approach of a combination of prevention, education and advocacy and prosecution activities. Analysis, system ventilation, reforms, dissemination of information, seminars and workshops, etc. and efficient enforcement of laws are some of its strategic tools. Firm, fair, transparent and speedy actions against corrupt individuals regardless of their ranks and status will be the pursued hallmark of the ACC.

10.3.2 Current Issues and Challenges

Although an institution of national importance, the ACC does not have a permanent office space and also lacks sufficient and qualified staff to efficiently fulfill its mandate. While the ACC

has been in existence for less than a year, the general public has enormous expectations of it and anticipates it to deliver results overnight.

Being a recently established organization with little experience in combating corruption, the Commission is still undergoing organizational teething problems. As iterated earlier, this is compounded by lack of specialized staff to undertake specialized and unfamiliar tasks. The ACC will play a crucial role in promoting good governance particularly in the post-2008 period when the country will have adopted the new system of constitutional democracy. It is therefore, highly imperative that the capacity of the ACC be developed so that it can efficiently and effectively discharge all its functions and responsibilities.

Acknowledging that efficient human resources are instrumental to successfully fight corruption, apart from some office equipment, most of the focus of the capacity development will be on enhancing the human resource capacity of the ACC.

The Anti-Corruption Commission Secretariat requires 27 staff members to function effectively, but its current staff strength stands at 17 (not including the Chairperson and the two Commissioners). Of the 17 staff members, 9 are officers and 8 comprise of support staff. Only 1 out of the 9 officers has a master's degree. Furthermore, anti-corruption being a new area for the Bhutanese, the ACC officers do not have the relevant exposure, training or skills. Therefore, capacity levels in terms of relevant exposure and training is low and needs to be enhanced for the ACC to effectively fight corruption.

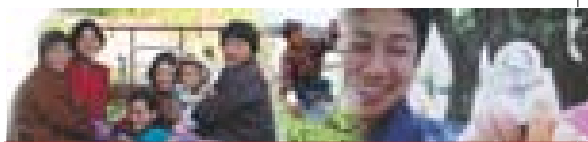
The capacity development strategy will be to upgrade the qualification levels and enhance the capabilities of staff members by providing appropriate Masters programmes and relevant specialized training courses.

10.3.3 Major Interventions

Human Resource Development

The following HRD interventions are proposed:

- Two Masters level courses in Transnational



- Crime Prevention;
- Course on Investigation of disproportionate Assets for 2 officers;
- Training on Investigation for 3 officers;
- Training on Abuse of Power for 3 officers;
- Course on anti-corruption laws for 2 officers;
- Investigation training for 3 officers;
- OECD-ADB training for 3 officers;
- Training on techniques of interrogation for 2 officers;
- Governance training for 2 officers;
- Anti-corruption training for 1 officer; and
- Integrity training for 2 officers.

Equipment

The following are the equipment procurements proposed:

- 7 Computers;
- 2 Printers;
- 1 Copier;
- 2 Digital Cameras;
- 1 Video Camera; and
- 1 LCD Projector.

10.3.4 Resource Needs Estimates

The total cost of the above interventions works out to Nu. 43.221 million with the average annual cost of Nu. 4.32 million. This includes 10% of equipment cost for recurrent expenditures and the salary of personnel which amounts to Nu. 32.170 million over the ten years. Around 77% of the total costs are for recurrent expenses (see Table 10.3 for details).

10.4 Office of the Attorney General

10.4.1 Overview

The Office of the Attorney General (OAG) was established in accordance to the Office of the Attorney General Act, 2006. The OAG is an autonomous body entrusted with the responsibility of providing the highest standard of legal services to the Royal Government. The basic functions of the OAG are to prosecute serious criminal offenses, represent or defend the government in civil litigations, render legal opinion, draft and review bills, advise on all legal matters and

perform other duties of legal nature.

The Mission of the OAG is:

- To defend the interests of the Kingdom of Bhutan according to the law;
- To protect the rights of the citizens under the Constitution and Acts;
- To seek just punishment for those guilty of unlawful behavior; and
- To provide the people of Bhutan with an independent, fair and effective prosecution service.

The OAG is headed by an Attorney General who is appointed by the Druk Gyalpo on the recommendation of the Prime Minister. The Attorney General is accountable to the Prime Minister and holds the office for a term of five years.

10.4.2 Key Issues and Challenges

The biggest constraint faced by the OAG is the dearth of lawyers within the organization. Being the premier prosecuting and defending agency of the government, it is imperative that the OAG is staffed with sufficient and competent lawyers to effectively fulfill its functions. Currently the OAG has 9 lawyers which is in stark contrast to its requirement of 25 lawyers. The OAG's five Divisions should ideally have 5 lawyers each.

Annually, about 7 lawyers graduate and report to the RCSC for placement. The judiciary and government ministries absorb the 7 lawyers easily, leaving the OAG requirements unmet. Faced with this situation, one of the few options of meeting its requirements is to recruit class XII-pass students and send them for a 5-year law course (LLB) to India where most Bhutanese lawyers undertake their LLB courses.

An identified weakness of the LLB courses delivered in India is that only Indian laws are taught and students are not exposed to international laws. Considering that Bhutan is a member of numerous international bodies and party to several bilateral/multilateral/international agreements, it is important that the OAG has sufficient lawyers who are well conversant with international laws. Therefore, apart from LLB (Bachelors in Law)

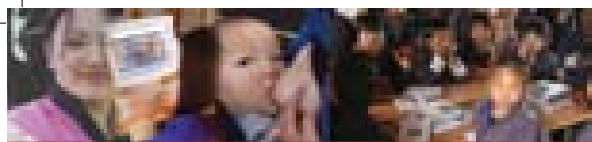
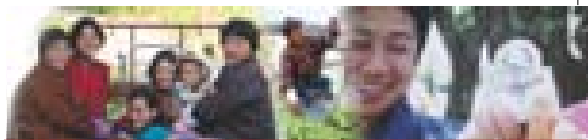


Table 10.3 Total Resource Needs Estimates for Anti-Corruption Commission (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Personnel	2.452	3.302	3.302	3.302	3.302	3.302	3.302	3.302	3.302	3.302	32.17	74.4
Capital	0	0	0	0	0	0	0	0	0	0	0	
Recurrent	2.452	3.302	3.302	3.302	3.302	3.302	3.302	3.302	3.302	3.302	32.17	
Training	0	1.603	6.094	1.359	0	0	0	0	0	0	9.056	21.0
Capital	0	1.603	6.094	1.359	0	0	0	0	0	0	9.056	
Recurrent	0	0	0	0	0	0	0	0	0	0	0	
Equipment	0	1.155	0.105	0.105	0.105	0.105	0.105	0.105	0.105	0.105	1.995	4.6
Capital Cost	0	1.05	0	0	0	0	0	0	0	0	1.05	
Capital Cost	0	0.105	0.105	0.105	0.105	0.105	0.105	0.105	0.105	0.105	0.945	
Total Cost	2.452	6.06	9.501	4.766	3.407	3.407	3.407	3.407	3.407	3.407	43.221	100
Capital	0	2.653	6.094	1.359	0	0	0	0	0	0	10.106	23.4
Recurrent	2.452	3.407	3.407	3.407	3.407	3.407	3.407	3.407	3.407	3.407	33.115	76.6



graduates, the OAG also requires LLM (Masters in law) lawyers specialized in different fields of expertise. Out of the 25 lawyers required by the OAG, 12 should have Masters Degree in law and have specialist knowledge in specific fields.

Capacity development of the OAG is focused on meeting its human resource (lawyers) requirements, which fall under the category of long-term training. Apart from long-term training, the OAG also requires short-term training to enhance the exposure and skills of existing staff members. It is envisaged that if this capacity constraint is addressed, the OAG will be better placed to achieve all of its objectives.

Since there is a shortage of lawyers graduating annually and since the few that do graduate every year are absorbed by other government institutions, it is felt that the only way of ensuring that the OAG receives its required number of lawyers is to select the top 16 class XII-pass students and send them for the five-year LLB course to India. Upon the completion of their degrees they would be employed by the OAG. This seems to be the only workable strategy to ensure that the OAG is appropriately staffed with the required number of lawyers.

The nine lawyers currently employed by the OAG can upgrade their qualification and field of expertise, including international law, by attending the one-year LLM course offered in countries such as Australia, UK, and the USA. Every year, one or two of the nine lawyers could be sent for the LLM course. Since the OAG requires 12 LLM graduates but currently has only nine lawyers in total, after five years it can employ the 16 LLB graduates from India (that it sent for studies) and select the best of the 16 to pursue LLM degrees until the OAG has 12 LLM graduates. In this manner the OAG can be optimally staffed with the necessary qualification levels by 2013.

10.4.3 Major Interventions

Human Resource Development

The following are the HRD interventions proposed:

- 16 five-year LLB courses in India;

- 8 one-year LLM courses in developed countries; and
- Study tour for 6 officials of the OAG to Attorney General offices in the region.

Equipment

The following are the equipment procurements proposed:

- 16 computers and accessories for the new lawyers;
- 4 Printers;
- 2 Copiers;
- 2 LCD projectors; and
- 2 vehicles.

10.4.4 Resource Needs Estimates

The total cost of the interventions from 2006-2015 amounts to Nu. 81.014 million, of which, 49% or Nu. 39.778 million is for personnel and Nu. 34 million or 42% is for training needs (see Table 10.4). Capital costs comprise around 53% of total cost and the average annual costs works out to Nu. 8.1 million.

10.5 Cabinet Secretariat

10.5.1 Overview

In 1999, the Lhengye Zhungtshog (The Cabinet) Chathrim provisioned the creation of the Cabinet Secretariat at Tashichhodzong and consequently a full-time Cabinet Secretary was appointed in September 1999, along with nine permanent staff. The Secretary of the Lhengye Zhungtshog is the head of the Cabinet Secretariat as stipulated in the Constitution and is appointed by the Druk Gyalpo upon recommendation of the Prime Minister. The Secretary is a politically neutral public servant. In August 2006, the Cabinet Secretary was also given an additional function of being the Government Spokesperson.

The Secretariat's existing roles and functions are:

Prime Minister's Office:

- Prepare and schedule all call-on meetings

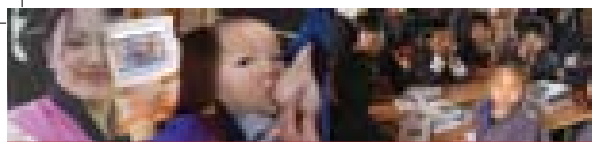
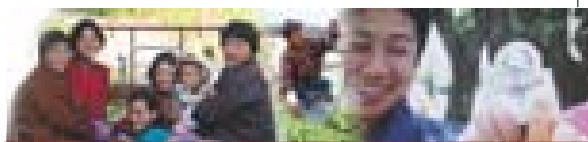


Table 10.4 Total Resource Needs Estimates for Office of the Attorney General (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Personnel	2.365	2.365	4.381	4.381	4.381	4.381	4.381	4.381	4.381	4.381	39.778	49.1
Capital	0	0	0	0	0	0	0	0	0	0	0	
Recurrent	2.365	2.365	4.381	4.381	4.381	4.381	4.381	4.381	4.381	4.381	39.778	
Training	0	0	24.8	2.6	2.6	2.6	1.4	0	0	0	34	42.0
Capital	0	0	24.8	2.6	2.6	2.6	1.4	0	0	0	34	
Recurrent	0	0	0	0	0	0	0	0	0	0	0	
Equipment	0	0	4.422	0.402	0.402	0.402	0.402	0.402	0.402	0.402	7.236	8.9
Capital	0	0	4.02	0	0	0	0	0	0	0	4.02	
Recurrent	0	0	0.402	0.402	0.402	0.402	0.402	0.402	0.402	0.402	3.216	
Total Cost	2.365	2.365	33.603	7.383	7.383	7.383	6.183	4.783	4.783	4.783	81.014	100.0
Capital	0	0	28.82	2.6	2.6	2.6	1.4	0	0	0	38.02	46.9
Recurrent	2.365	2.365	4.783	4.783	4.783	4.783	4.783	4.783	4.783	4.783	42.994	53.1



and other courtesy calls, and felicitations of the Prime Minister; and

- Preparing and furnishing of speeches (key notes), entertainment, petitions and other social or public matters related to the office of the Prime Minister.

Secretariat to the *Lhengye Zhungtshog*:

- Provide secretarial service to *Lhengye Zhungtshog* meetings;
- Provide policy and decision-making inputs to *Lhengye Zhungtshog* on matters concerning wider national importance and on legislative issues; and
- Record minutes of *Lhengye Zhungtshog*, translate and maintain reports.

Secretariat to the Council of Ministers (CCM):

- Day to day secretarial support for this executive body;
- Conduct, maintain and record minutes of the meetings of the Council of Ministers and Cabinet Committees; and
- Liaise and coordinate proposals and submissions from various ministries and other government agencies for executive approval and action.

Based on the current and anticipated mandate, the roles and responsibilities of the Cabinet Secretariat are being redefined to include the following key functions:

- Provide professional and timely inputs to the processes of policy-making to the *Lhengye Zhungtshog*;
- Review and provide required support services on issues related to the central government operations and processes, legislation and institutional aspects, socioeconomic policies, emergency and security;
- Organize, prepare or submit agenda for the meetings and record the key decision-making processes, meetings and documents of the executive government;
- Provide secretarial services to the *Lhengye Zhungtshog* and other Cabinet committee(s);
- Effectively manage transitions between

in-coming and out-going government and support its continuity;

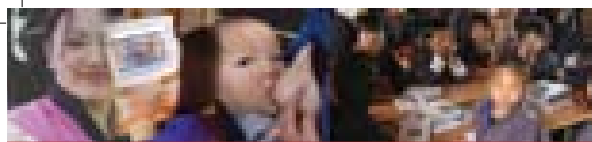
- Ensure effective coordination and facilitation between and among line ministries and other agencies;
- Disseminate policy decisions taken by the Cabinet and the government;
- Prepare and disseminate executive-related felicitations, briefs, credentials, attestation, condolence messages, etc. both from the Prime Minister and the Head of State; and
- Coordinate with the concerned ministries and other relevant agencies on issues related to disaster and emergency management matters.

10.5.2 Current Issues and Challenges

The organizational restructuring exercise of the Cabinet Secretariat has identified the need for additional 69 staff members, thereby increasing its staff strength to 81. Currently, the Cabinet Secretariat consists of 12 staff members (including the Cabinet Secretary), 5 of whom are officers and 7 support staff. Considering the functional expansion occurring within the Cabinet Secretariat, the Secretariat finds itself understaffed to effectively fulfill its mandate. Currently, officers of the Secretariat are multi-tasking in order to carry out its mounting roles and responsibilities. Of the 5 officers, only one is a post-graduate and all of them are in need of relevant and specific exposure and training.

The Secretariat has an immense role in supporting and ensuring a stable and responsive system of governance in the wake of political reforms taking place in the country. The Cabinet Secretariat is expected to play an even more important role after the constitutional democratic system of government is introduced in 2008. Given the important responsibilities the Secretariat has been entrusted with, the need of the moment is to develop its institutional capacity so that it can efficiently and effectively fulfill its mandate and promote good governance.

The capacity of the Cabinet Secretariat needs to be developed and enhanced. The staff strength of the Secretariat requires to be increased in proportion to the increase in roles and responsibilities that has led to the expanded



organizational structure of the Secretariat.

The priority areas of focus for capacity development of the Secretariat is to enhance the capacity and capability of the human resources of the Secretariat and provide it with the necessary equipment so that it is better able to professionally fulfill its functions as stipulated in its organizational restructuring exercises conducted in 2006.

The strategy to develop the capacity of the Cabinet Secretariat is to enhance the human resources capacity and capability of its officers through the provision of relevant and specific exposure and training in; (i) Public Policy Analysis; (ii) National and International Law; (iii) Media exposure training and communication skills; (iv) Executive drafting and writing skills; (v) Foreign affairs; (vi) Constitutional affairs; (vii) Emergency coordination; (viii) Masters in Public Administration; (ix) gender mainstreaming; and (x) Human rights.

10.5.3 Major Interventions

Human Resource Development

The following are the HRD interventions identified:

- 268 short-term training courses over a period of 9 years; and
- 15 long-term courses over a period of 9 years.

Equipment

The following are the Secretariats' equipment needs:

- 60 Computers with accessories;
- 11 Laptops;
- 15 Printers;
- 3 Copiers;
- 2 Digital cameras;

- 2 Video Cameras;
- 2 LCD projectors;
- 150 Books (encyclopedias, reference, etc.); and
- 50 Cabinet handbooks and manuals.

10.5.4 Resource Needs Estimates

The total estimated cost of the above interventions is estimated at Nu. 205.755 million with an annual average cost of Nu. 20.58 million. This includes a 10% equipment maintenance cost and personnel salary costs. Recurrent costs constitute 52.3% of the total costs.

10.6 Local Development Division

10.6.1 Overview

Propagated by His Majesty the King, the process of decentralization was initiated 25 years ago in 1981. Structurally, the process is complete with 20 *Dzongkhag Yargay Tshogdus* (DYTs) and 205 *Gewog Yargay Tshogchungs* (GYTs) comprising of about 4,300 elected representatives involved in local governance. The Royal Government, however, determined that the actual decision-making and administrative capacities in local governance was still far below the desired levels and required enhancement, bearing in mind the growing responsibilities delegated to local governments. Furthermore, lack of proper coordination between local and central authorities as well as the need for clear procedures have hindered effective decentralization. Doubts have also been raised as to whether socio-economic development was occurring in a balanced and equitable manner among Gewogss, Dzongkhags, and the country as a whole because of varying levels of capacities among the local government bodies.

These developments prompted the need for a separate agency in the government to address these problems and to support and guide the

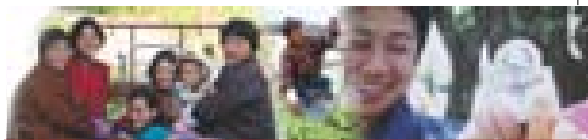
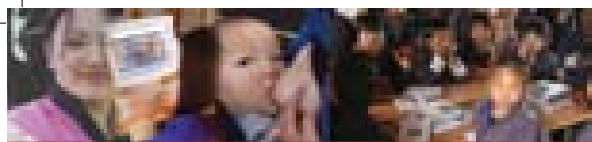


Table 10.5 Total Resource Needs Estimates for Cabinet Secretariat (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Personnel	1.32	10.716	10.716	10.716	10.716	10.716	10.716	10.716	10.716	10.716	97.764	47.5
Capital	0	0	0	0	0	0	0	0	0	0	0	
Recurrent	1.32	10.716	10.716	10.716	10.716	10.716	10.716	10.716	10.716	10.716	97.764	
Training	9.75	9.125	18.65	17.55	13.2	7	4.025	3.475	4.7	0	87.475	42.5
Capital	9.75	9.125	18.65	17.55	13.2	7	4.025	3.475	4.7	0	87.475	
Recurrent	0	0	0	0	0	0	0	0	0	0	0	
Equipment	1.21	10.714	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074	20.516	10.0
Capital	1.1	9.64	0	0	0	0	0	0	0	0	10.74	
Recurrent	0.11	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074	1.074	9.776	
Total Cost	12.28	30.555	30.44	29.34	24.99	18.79	15.815	15.265	16.49	11.79	205.755	100.0
Capital	10.85	18.765	18.65	17.55	13.2	7	4.025	3.475	4.7	0	98.215	47.7
Recurrent	1.43	11.79	11.79	11.79	11.79	11.79	11.79	11.79	11.79	11.79	107.54	52.3



administrative machinery at the local levels. In light of these considerations, the Lhengye Zhungtshog created the Department of Local Governance in the Ministry of Home and Cultural Affairs (MoHCA). The Department has been recently merged with the Planning Commission as its Local Development Division (LDD). The LDD endeavours to fulfill the policy of decentralization as envisaged by His Majesty the King, so that meaningful and effective democracy will come to prevail under good governance in the local jurisdictions. It is also responsible for enhancing, on a continuous basis, the capacity of local governments in all respects and ensuring that the government is able to respond optimally to the growing need to strengthen the efficiency and effectiveness of the local administrative machinery, which is considered as the backbone of good governance. It is the local governments that will implement most the MDG interventions that have been identified.

The mandate of the LDD is as follows:

- To support and enhance the capacity of local governments so that the wishes of the people as expressed through the DYT and GYT are fulfilled as per the provisions of their *Chathrim*s;
- To guide supervise and support the development and strengthening of the Dzongkhag and Gewogs administrations and ensure their efficiency and effectiveness in the discharge of their responsibilities; and
- To facilitate the pursuance and implementation of national policies and interests by the local governments in the overall interest of promoting peace, harmony and good governance.

The functions of the LDD are:

- Assess and recommend legal provisions and policy instruments needed to overcome impediments to effective decentralization;
- Assist in the progressive decentralization of functions and responsibilities from the center to the local governments as per national laws and policies;
- Initiate innovative ideas and approaches to furthering responsible and meaningful

decentralization. This shall include periodical assessment of the administrative, financial and technical functions being devolved into the local governments by the ministries, departments and other central authorities; and

- Assess and compile information on national issues affecting decentralization and local governance such as rural-urban migration, rural-urban disparity and balanced regional development, based on information and reports from the Dzongkhag administrations for submission to higher authorities and for appropriate interventions from the center.

10.6.2 Current Issues and Challenges

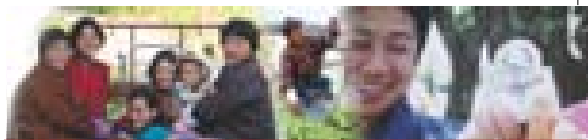
The lack of coordination between the central authorities and Dzongkhags and cumbersome procedures are a major impediment to effective decentralization and a reason for inefficiency and incompleteness of planned activities in the Dzongkhags. There is also the need for greater cooperation and coordination in the implementation of various national policies to overcome contradictions between the policies and procedures.

Sectoral decentralization needs to be increased to truly realize the goals of decentralization. Promoting greater degree of coordination and cooperation among and within Dzongkhags is another challenge that needs to be addressed.

It is also not enough to have good leaders alone. More resources need to be committed for the development of able and motivated local government administrative machinery. A special category of human resource development needs to be established with adequate resource to support decentralization and build capacities of local governments.

The 20 Dzongkhag administrations and the 205 Gewogs administrations, which are yet to develop even rudimentary administrative structures, will need to be given special focus and attention.

In view of the urgent need to develop the capacities of local governments who will play an



increasingly larger role upon democratization of the country, the interventions will concentrate on building their capacities along with that of the LDD. Capacity development will center on skills and knowledge enhancement of local leaders and institutions including the provision of necessary equipment.

The desired capacity level to be achieved by 2015 is the efficient and effective functioning of elected local leaders, local government machinery, and Dzongkhag administrations. Currently, local leaders and local governments are viewed as being incapable of effectively implementing their decentralized functions and responsibilities. Their capacity levels are found to be low in the following areas; (i) general administration and financial management; (ii) facilitation skills; (iii) communication planning; (iv) planning and prioritization; and (v) IT skills.

At the Dzongkhag-level capacities are low in; (i) coordination and cooperation between and within Dzongkhags; (ii) conducting results-based planning and strategic development planning; and (iii) facilitation skills. At the departmental-level, the shortage of staff, the qualification level of staff, and resource limitations are found to be capacity constraints in delivering effective support and guidance to elected local leaders and local government bodies.

The capacity development strategy is to institutionalize capacity development of local elected functionaries such as members of DYT and GYT and their support staff such as *gedrungs* and *tshodrungs*, through the provision of continuous in-country training programmes as opposed to ad hoc and sporadic efforts at capacity development that has been taking place.

10.6.3 Major Interventions

Human Resource Development

The identified HRD interventions are:

- 95 in-country short-term training courses for Dzongkhag and Gewogs-level officials and elected representatives over a ten-year period;

- 74 short-term training courses for officials of the LDD; and
- 5 long-term training courses for officials of the LDD.

Equipment

- 24 Computers with accessories;
- 5 Laptops;
- 8 Printers;
- 3 Copiers;
- 5 Fax machines;
- 1 Video camera; and
- 150 Books for library (Journals, encyclopedia, Law etc.)

10.6.4 Resource Needs Estimates

The total cost for the LDD interventions is estimated at Nu. 1,526.679 million or Nu. 152.7 million a year. This includes both the basic intervention cost of Nu. 355.047 million and the personnel costs such as the salaries of staff. Recurrent expenses constitute 77.3% of the total costs (see Table 10.6 for details).

10.7 Royal Institute of Management

10.7.1 Overview

The Royal Institute of Management (RIM) was established in 1986 and was upgraded as an autonomous institute under a Royal Charter in 1990. The RIM has been identified as a key player in Bhutan's democratization and decentralization process as it serves as the focal training institute for the decentralization training programmes. The institute offers courses in Post Graduate Diploma in Financial Management (PGDFM), Post Graduate Diploma in Public Administration (PGDPA), Post Graduate Diploma in National Law (PGDNL), Diploma in Financial Management (DFM), Diploma in Information Management Systems (DIMS) and Diploma course in Tax Administration.

In the last five years, on an average, about 200 trainees have undergone such courses every year. Till date, more than 2,000 personnel have availed of the Decentralization Training Programmes at the local level, including elected

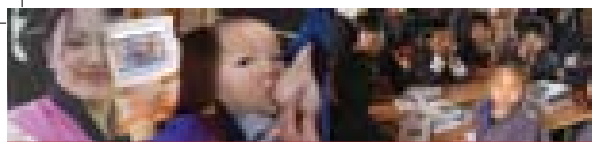
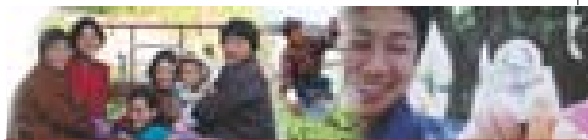


Table 10.6 Total Resource Needs Estimates for the Local Development Division (Nu. Million)

Interventions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Personnel	107.5	110.3	114.28	115.7	117.9	119.7	120.8	121.8	121.8	121.8	1171.6	76.7
Capital	0	0	0	0	0	0	0	0	0	0	0	
Recurrent	107.5	110.3	114.28	115.7	117.9	119.7	120.8	121.8	121.8	121.8	1171.6	
Training	32.23	50.28	22.982	35.98	41.89	38.64	18.51	28.91	36.34	30.38	336.15	22.0
Capital	32.23	50.28	22.982	35.98	41.89	38.64	18.51	28.91	36.34	30.38	336.15	
Recurrent	0	0	0	0	0	0	0	0	0	0	0	
Equipment	1.595	9.407	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	18.898	1.2
Capital	1.45	8.42	0	0	0	0	0	0	0	0	9.87	
Recurrent	0.145	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	9.028	
Total Cost	141.3	170	138.25	152.7	160.8	159.3	140.3	151.7	159.2	153.2	1526.7	100.0
Capital	33.68	58.7	22.982	35.98	41.89	38.64	18.51	28.91	36.34	30.38	346.02	22.7
Recurrent	107.6	111.3	115.27	116.7	118.9	120.7	121.7	122.8	122.8	122.8	1180.7	77.3



local people's representatives. This illustrates the direct role played by the RIM in promoting good governance.

10.7.2 Current Issues and Challenges

Lack of professional expertise among faculty members: While the majority (70%) of the RIM faculty has acquired masters degrees in their respective field of study, only one faculty member has acquired a Ph.D. As the apex management institution in the country, this poses a barrier when striving to expand courses to include higher-level management degree programmes including masters programmes (MPA/MBA) in the immediate future.

Inadequate infrastructure facilities: The existing infrastructure facilities were built in the 1980's to meet the capacity requirements of a limited number of pre-service training programmes planned. Since then, training programmes have increased in response to the public service capacity development process. As a result RIM must expand its infrastructure facilities if it is to effectively deliver training programmes in response to the growing and changing national needs.

The existing training programmes need to be upgraded and diversified: To meet growing pre-service and in-service training demands from the civil service, government corporations, private sector, locally elected representatives, local bodies, and other key stakeholders, existing training programmes will need to be upgraded and diversified. Further, such programmes will have to be benchmarked to ensure quality and requisite standards.

10.7.3 Major Interventions

The following are the necessary interventions for the RIM:

- Enhancing quality, relevance, and coverage of management education/training;
- Institutionalizing delivery of systematic in-service professional management training programmes to continuously upgrade the knowledge and qualification of public servants in support of good governance and

- public service capacity development;
- Strengthening research capacity of RIM to upgrade the capacity of the faculty and to reinforce the quality of training services;
- Expanding and improving infrastructure facilities to accommodate the increasing number of training programmes;
- Provide management education (degrees and diplomas) to 30% of eligible personnel in management and management support positions by 2015;
- Train at least 40% of in-service personnel through systematic in-service Management Development Programmes by 2015;
- Upgrading qualification of faculty to effectively meet the increasing and diverse demands;
- Design and conduct new masters courses such as MPA and MBA;
- Develop networking/twinning arrangement with relevant partner institutions;
- Organize and conduct seminars, workshops and conferences;
- Field study, publication and documentation;
- Construction of a three-storey building for library resources, ICT labs and conference and seminar facilities;
- Establishment of three regional management training centers; and
- Major renovation and campus development.

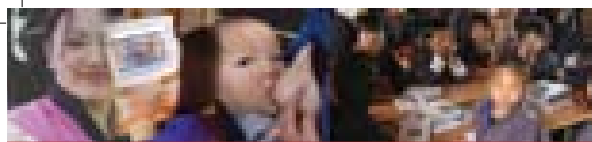
10.7.4 Resource Needs Estimates

As summarized in Table 10.7, Nu. 162.5 million will be required to carry out the capacity building of RIM most of which will be required as capital expenditure.

10.8 Election Commission of Bhutan

10.8.1 Overview

The Election Commission of Bhutan (ECB) was established on December 31, 2005 through a Royal Decree in keeping with His Majesty's vision for a democratic system of governance. The Draft Constitution of Bhutan vests the Election Commission with the superintendence, direction and control of the preparation of electoral



rolls, and conduct of all elections to parliament and local governments, and holding national referendums in a free and fair manner.

In order to ensure the successful transition to the democratic constitutional monarchy form of government, it is imperative that the Election Commission is made capable of discharging its roles and responsibilities to bring about a vibrant and functional democracy.

and in other decision making processes would bring about marked changes in the lives of the Bhutanese people.

As with any newly established entity, the Election Commission will still be short of realizing its required infrastructure and facilities at least for the next few years. Investing in the professional development of the staff in the Election Commission and to build a team with required skill sets to deliver quality services will require

Table 10.7 Total Resource Needs Estimates for RIM (Nu. Million)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	%
Capital	14.450	14.450	14.450	14.450	14.450	14.450	14.450	14.450	14.450	14.450	144.500	88.9
Recurrent	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800	1.800	18.000	11.1
Total Cost	16.250	16.250	16.250	16.250	16.250	16.250	16.250	16.250	16.250	16.250	162.500	100

Presently, the Election Commission has been mandated to ensure that elections are conducted properly for the parliamentary democracy to be established and the new parliament to be formed after the adoption of the Constitution in 2008. The ECB is also required to finalize the delimitation of constituencies for the election of the National Assembly members. It has to conduct trainings and familiarization programmes for the people in the electoral processes so that the first general elections in the country can be carried out successfully in the year 2008.

providing trainings and equipments at all levels.

The Election Commission lacks adequate facilities and infrastructure. Even on the threshold of the first elections, the Commission is short of proper office space and other facilities, which could compromise the successful conduct of electoral events. As such, the priority area will be to develop its infrastructural capacity as well as to provide facilities that are crucial for successful conduct of electoral events and processes.

10.8.2 Current Issues and Challenges

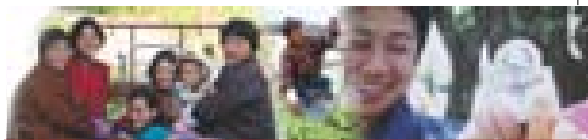
As the nation evolves and embraces democracy, the challenge is to prepare for the first ever elections to parliament and local governments in 2008. While the present focus is on holding elections to the parliament and the local governments in 2008, the long-term emphasis is on establishing and instituting a well functioning electoral system and processes and by ensuring that the elections (and referendums) are conducted in free, fair and democratic manner. Therefore, as a means of realizing the goal, the Election Commission must prepare and sustain the accessibility and avenues for guaranteeing the democratic voting rights of the Bhutanese people and assist in bringing about maximum representation and participation - either by way of contesting the elections or voting in the elections - where the expression of the will of the people in the formation of the government

10.8.2 Major Interventions

Electoral Education, Training and Registration Programme

The needs of the Election Commission are to constantly inform, educate, train and register people to guarantee maximum representation and participation in the electoral processes of the country. For successful conduct of the first elections and subsequent elections, the Election Commission will have to fully engage to educate, train and register people across the length and breadth of the country. The change brought about by educating, training and registering people to allow them to exercise their democratic rights to vote will go a long way in instituting and fostering a vibrant and functioning democracy in the country.

Administering electoral events and processes will



require trained and skilled election personnel. As such, election personnel should be provided with centralized training and support on electoral matters to play a much more active role in delivery of electoral services, and in overall administration of electoral events and processes. The Election Commission will be conducting training of electoral officers, voters and political parties on numerous electoral processes which is crucial for the success of the electoral events and processes.

Electoral Roll Preparation and Voter Registration

In order to enhance delivery of electoral services, the Election Commission will have to be ready to conduct any electoral event at any time and will have to continually develop and adopt new processes to improve delivery of electoral services to enable every Bhutanese to exercise the right to participate in the electoral process.

The lists of activities are as follows:

- Develop and implement Electoral Event and Communication Plan;
- Provide comprehensive training and centralized election support to election personnel;
- Establish measurable standards and procedures for service delivery;
- Set performance targets, evaluate and report on performance following electoral event;
- Identify new processes for and reward innovations in delivery of electoral services;
- Establish Resource Center for Electoral Training and Information;
- Introduce electoral curriculum in schools; and
- Use of Information Technology in database development, management and updating of Electoral Roll, delimitation, election officials, public election funds. This will augment the capabilities that would provide the public with the ability to view constituencies, polling places, eligible candidates, referendum items, and other voter related information.

Electoral Event Administration and Administrative Support Programme

The Election Commission will require well

instituted systems and processes to meet the needs and demands of conducting any electoral event as well as the processes and the day-to-day operational needs. This will need to be continuous process improvement mechanisms to deliver the best election services across space and time. Therefore, the Election Commission will need to develop, implement and establish consistent standards and procedures for service delivery, set performance targets, evaluate and report on performance of electoral events and constantly research best practices in electoral processes.

Human Resource Development

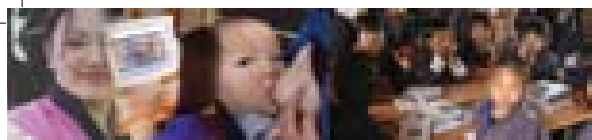
Election is an integral part of the institution of democracy and free, fair and efficient election process is a must for a functional democracy. The fulfillment of the objective of the Election Commission of conducting free and fair election rests on a pool of skilled and well-trained officers and staff. The officers and staffs of the Election Commission will have to be well-equipped with skills to conduct elections, raise awareness of the voters and have adequate knowledge in electioneering and election rules and regulation. Awareness training programmes for those responsible for conducting elections, setting up of electoral rolls and establishing voters' registration are important agenda items that will need continuous attention.

Facilities and Infrastructure Development

The Election Commission aims to institute and establish proper and well-functioning electoral system and processes. This requires defining the roles of the Election Commission to operate effective elections and electoral events, identifying facilities, infrastructure and technology required to support day-to-day operations and electoral events, and continuous development, improvement and management of electoral processes.

The following are the lists of activities that have identified:

- Undertake regular policy and legislative reviews and seek inputs;
- Identify facilities, infrastructure and human



resource needs required to support and carry out day-to-day operations and electoral events;

- Inform and educate the people about the electoral processes;
- Identify, develop or improve and manage the electoral processes;
- Institute research and development capability on electoral matters; and
- Use of Information Technology in database development, management and updating of

electoral roll, delimitation, election officials, and public election funds.

10.8.3 Resource Needs Estimates

Table 10.8 shows the resources required for the Election Commission of Bhutan for the period 2006-2015. In total, Nu. 161 million will be required of which Nu. 140 million will be required for capital expenditure and Nu. 21 million for recurrent expenditure.

Table 10.8 Total Resource Needs Estimates for the Election Commission of Bhutan (Nu. Million)

Interventions	Recurrent	Capital	Total
Electoral Education and Training	0	50	50
Human Resource Development	6	40	46
Facilities and Infrastructure Development	15	50	65
All total	21	140	161



Chapter 11: Financing the MDGs

11.1 Introduction

A financing strategy for the MDGs is essentially a strategy for mobilizing financial resources (public and private) that are adequate for achieving MDG targets in a particular country. However, it is widely acknowledged that a large proportion of expenditures required for the MDGs are the responsibility of the public sector. Hence, an MDG financing strategy is also viewed as a public expenditure strategy for scaling up expenditures in a manner that is consistent with achieving poverty reduction targets.

Carrying out MDG Needs Assessments and adopting MDG based national plans requires preparation of a financing strategy that underpins such a plan and enables its implementation. However, in this context it is essential to distinguish between the level of resources needed to implement an MDG based national development plan from an MDG financing strategy per se. Implementation of a national development plan requires financing for

sectors not intrinsically seen to be related to the achievement of poverty reduction targets (for example, defense). Thus, a national development plan typically includes expenditures above those needed to achieve specific MDG targets.

Since governments already finance activities related to MDG achievement (education, health) and these are reflected in budgetary outlays, the extent to which additional resources will need to be mobilized will depend on the size of the MDG financing gap. The financing gap is essentially the difference between total MDG investment requirements (through 2015) and available resources ($FG = TR_{mdg} - TE_{mdg}$).

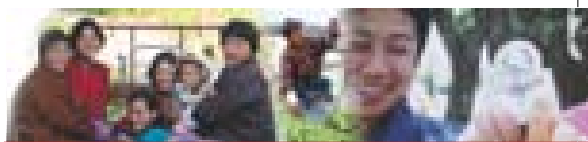
11.2 Mapping Potential Sources of Finance

A comprehensive mapping of potential sources of finance indicates that resources can be mobilized from domestic revenues (tax, non-tax); private capital (domestic + foreign); households (targeted

Table 11.1 Fiscal Effort in Selected Countries (as % of GDP in 2006)

Country	Government revenue collection	(Net ODA/GNI)*100	External Borrowing	Domestic Borrowing	Total Fiscal Space
Asia					
Sri Lanka	16.1	2.7	0.2	5.6	24.6
India	12.9	0.1	0.2	2.7	15.9
Bangladesh	15.8	2.3	2.2	1.5	21.8
Bhutan	16.8	11.9	2.8	11.5	43.0
Afghanistan	5.8	38			
Pakistan	13.7	1.5	2.0	1.6	18.8
Cambodia	11.5	11.2	2.8	-0.6	24.9
Laos	12.5	11.7	3.1	1.5	28.8
China	17.3	0.1	0.0	3.8	21.2
Thailand	17	0	-0.3	0.4	17.2
Indonesia	15.4	0	-0.7	1.8	16.5
Mongolia	36.8	17.3	4.0	-7.2	50.9
Timor L'este	20.8	31.7			
Pacific					
Fiji	26.3	2.6	0.0	7.1	35.9
PNG	35.3	7.6	-0.9	4.3	46.3
Samoa	25.1	8.5	1.4	1.7	36.7

Source: ADB, Key Indicators 2006



or universal cost-recovery); official development assistance (on-budget and off-budget including grants, concessional loans, public sector international borrowing, privatization receipts, increases in efficiency and value for money); and Remittances (for social insurance schemes).

Evidence from countries in Asia (Table 11.1) indicates that the principal source of finance for the MDGs is domestic revenues.

Data from Table 11.1 indicates a high degree of variability among countries with respect to their domestic revenue efforts. Revenue collection varies from 11.5% (Cambodia, Laos, India) to a high of 37% in Mongolia. The Pacific Island States also indicate strong revenue collection.

Enhancing the fiscal space to raise additional financing needed for the MDGs is a key aspect of the MDG financing strategy. According to the IFIs, the fiscal space available (i.e. the range of financing options available) to countries can be represented by the fiscal diamond. The diamond illustrates the scope for a government to (a) generate fiscal savings from improved allocative and technical efficiency of existing spending and (b) to raise additional fiscal resources from new revenue measures, additional aid or new borrowing. To the extent that a country already raises a significant amount in revenue, has a high initial stock of debt, or receives high aid inflows, the scope to raise additional revenue from any of these sources would be small. Conversely, lower the allocative and technical efficiency of the existing budget and larger the volume of such spending, the greater would be the scope for efficiency gains as a source of fiscal space. The scope for additional aid or borrowing could in principle be estimated with reference to donor commitments or debt sustainability analysis.

Given the importance of domestic revenues in financing public expenditure, a key policy issue that needs to be discussed in the context of an MDG financing strategy is the apportioning of scaled up public expenditure between the MDGs and for other needs. One option is to estimate revenue financing of MDGs at the same proportion as MDG share in total spending. For instance, if MDGs comprise three-fourth of total public

spending, MDG related spending will get the same proportion of the revenue for financing it.

Given the significance of domestic revenues in financing the MDGs, efforts to sustain growth and hence revenue growth will be important.

Table 11.1 indicates that ODA is an important source of financing, especially for low-income countries like Mongolia, Bhutan, Cambodia and Laos. Not surprisingly, countries emerging from conflict receive higher levels of ODA (Afghanistan, Timor L'este). On average, Asian countries are not heavy borrowers from external markets - domestic borrowing appears to be more widespread.

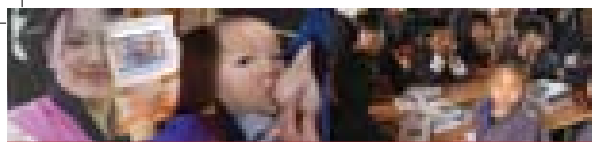
Although the role of the private sector and FDI in financing the MDGs has received insufficient attention, they can be important sources for mobilizing finance, especially in the energy and infrastructure sectors.

Similarly, households through cost recovery programmes can be an important source of finance especially for sectors such as housing and for health and education services. It is important that such programmes be designed in ways that do not impose user fees for poor households. In other words, the design of cost-recovery programmes should be based on the following two principles:

- User fees contribute to the cost of primary school education, adult literacy programmes, improving gender equality, basic healthcare, nutritional interventions, and transport infrastructure; and
- Richer households bear some of the cost for agricultural interventions (especially in food security, agro-processing and live-stock), secondary school education, energy provision and water supply and sanitation.

To calculate households' ability to pay for these interventions, households can be divided into three segments based on the latest income-expenditure survey:

- The first segment consists of households whose per capita income is below the national poverty line. These households are



- unable contribute to capital or operating costs because of inadequate incomes; and
- The second segment of households has per capita incomes that are above the poverty line but below twice the national poverty line. These households account for about one-third of the population and are expected to partially cover operating as well as capital costs.
- The remainder of the population is assumed to be able to pay for a significant share of operating and capital costs.

Different financing modalities raise a host of complex issues: Scaling up of ODA and the concern with the Dutch Disease, macroeconomic stability concerns if public expenditure is raised by seigniorage, disincentives to the private sector if raised through domestic borrowing. At the same time, different modalities of financing also have their advantages. For instance, household cost-recovery and grant financing can moderate the impact on fiscal deficits in the short to medium term.

To sum up, from an MDG finance strategy perspective, it will be important to assess (a) the country's current fiscal effort; (b) the

inflation and/or fiscal deficits rise to levels that jeopardize macroeconomic stability. Increases in public spending can adversely impact macroeconomic stability especially when investments are front-loaded (lumpy in certain periods).

Evidence from Mongolia (Table 11.2) indicates that if MDG public expenditure is scaled up to levels required for achievement of the MDGs, inflation and fiscal deficits increase significantly till 2010 before coming down to acceptable levels in 2012/2013. This is mainly because of frontloading of investment in sectors such as infrastructure (and environment).

Earlier, it was noted that sustaining high levels of economic growth will be critical for underpinning a strategy for financing the MDGs from the medium through the long term. Indeed, it is widely accepted that for too long concerns with stabilization have led to undermining the growth objective. Although macroeconomic stability is a necessary condition for growth, there is also a widespread conviction that "the design of stabilization programmes should be improved to enhance growth prospects. Both the speed and composition of fiscal adjustment during

Table 11.2 Growth, inflation, fiscal deficit impact of MDG public expenditure: Mongolia 2006

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Real GDP Growth %	7.4	8.6	10.2	10.1	9.7	9.9	9.3	8.7	8.3
Fiscal deficit/GDP	-16.5	-16.7	-14.7	-14.6	-12.5	-7.5	-3.9	-1.7	-0.74
Inflation	8.4	14.7	10.2	8.8	8.1	6.2	2.6	1.8	2.7

public expenditure scaling up requirements; (c) the degree to which public expenditure can be financed through expanding fiscal space; (d) the possibility of involving the private sector (including households) to contribute; and (e) the pros and cons of adopting different financing modalities.

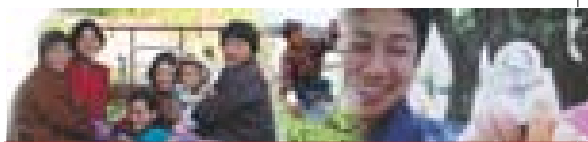
11.3 Short/Medium Term Implications of Increasing Public Expenditure

Since growth lags behind public spending , it is possible that in the short and medium term,

stabilization may impinge on growth and on the durability of stabilization itself".

In other words, the challenge for policy makers is to determine how best to manage and calibrate stabilization concerns without comprising the longer term objectives of growth with poverty reduction.

Indeed, the principal avenue by which fiscal policy can influence growth comes from adopting a longer term perspective. The range of options that are available with regard to tax and expenditure policies is necessarily restricted in the short to medium term. A longer term horizon, however, provides both a better way to consider inter



temporal trade-offs and offers increased scope to shift expenditure and tax policies in ways that might be significantly more growth promoting.

Options that policymakers can consider to manage medium term macroeconomic stability concerns without compromising the growth and poverty reduction objectives include the following:

- Lower MDG public investment by encouraging more private investment (including FDI) especially in sectors like energy and infrastructure;
- Lower MDG public investment by assessing the potential for cost recovery from households;
- Reallocate public spending towards MDG sectors from non-MDG sectors and let private sector pick up the slack;
- Encourage grant financing from donors. Table 11.3 shows that the budget deficit in Mongolia, excluding grants, widens to more than 16% initially before coming down to acceptable levels in 2012. However, if foreign grants are considered to be government income, the deficit narrows considerably from the outset. Indeed, towards the end of the period, the grant adjusted deficit has been converted to a surplus; and
- Smoothen and/or back-load investment especially in sectors such as infrastructure where investment could be heavily front-loaded. Given the high share of infrastructure investment in total MDG public investment, the macroeconomic consequences (fiscal deficit) appear to be significant. However, if investment flows are smoothed over the period, the macroeconomic consequences would be less severe.

As more countries adopt planning strategies that are based on the MDGs, there is a need for strengthening the links between these longer term planning frameworks and medium term budgetary and fiscal frameworks (MTEFs/MTFFs). Typically, the conventional approach to fiscal policy (and which is used in the design of medium term fiscal frameworks) starts with an assessment of revenue prospects, factors in any grant flows that may be anticipated and adds an assessment of the deficit that could be financed through prudent borrowing and non-inflationary monetary financing of the deficit.

There are a number of reasons why this might be an inadequate way to ensure a growth supportive fiscal policy. First, quite often medium term prospects for aid or revenue might be defined too conservatively or too optimistically. Second, issues about the quality of fiscal policy and the role of public expenditure levels, composition and efficiency which are critical for long term growth are not adequately factored into fiscal policy design.

11.4 Fiscal Sustainability and the MDGs

In the long run, it appears that indicators of macroeconomic stability are likely to be in an acceptable range (See Table 11.1 on Mongolia). This is on account of several factors including the front-loading of MDG investments (the reason for the deficit spike to begin with in the first place). Further, it is expected that productive capacity will increase in the economy leading to an increase in the revenue base and domestic sources of revenue.

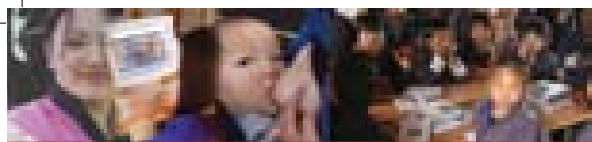
Table 11.3 Deficit/GDP: Mongolia

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Deficit/GDP ratio	-16.5	-16.7	-14.7	-14.6	-12.5	-7.5	-3.9	-1.7	-0.74
Grant adjusted deficit/GDP ratio	-10.0	-11.2	-9.8	-10.3	-8.9	-4.3	-1.0	0.89	1.64

Since in the medium term, the main reason to focus on the fiscal deficit is because of inflationary concerns, non-inflationary options for scaling up public expenditure should be examined. This will also be consistent with a longer term MDG financing strategy.

In the long run, the challenges are to do with fiscal sustainability. That is, with fiscal deficit and debt (domestic and external) sustainability.

More specifically, the challenges are to: maintain a zero current deficit, increase the revenue/GDP



ratio, maintain public investment to GDP ratio at levels necessary to secure and sustain MDGs debt sustainability indicators.

It is important to note that investment needs will need to be sustained beyond 2015. In this context, it is important to identify an exit strategy from ODA.

11.5 Financing Strategy in the context of Bhutan

As indicated by the Needs Assessment exercise, achieving the MDGs will require scaled up public investments in agriculture and rural development, social services and basic infrastructure.

Traditionally, Bhutan has relied heavily on non-tax revenue as the major source of domestic revenues. Dividends earned from public sector enterprises and royalties from the use of natural resources have been the main sources of non-tax revenue. The government has beefed up tax revenues through introduction of corporate income tax in 1982 and personal income tax in 2002. In 2005/06, domestic resources were nearly able to cover recurrent expenditures due to the commissioning of a number of hydropower projects, which generated a substantial amount of tax and non-tax revenue.

Fiscal vulnerability is, however, a challenge for the country and can significantly alter the domestic revenue picture. For instance, a delay of only a few weeks in the commissioning of Tala Hydroelectric Project or a setback on excise duty refunds in one fiscal year from the Government of India could lead to a 10% reduction in revenues.

As indicated by Table 11.1, revenue collection efforts are quite robust in Bhutan, with compliance rates exceeding 95%. Thus, the scope for expanding fiscal space would have to consider the possibility of raising allocative and technical efficiency. The capacity of the country to generate additional domestic revenues for financing the MDGs would require a deeper investigation of revenue options available to the country.

With respect to household contributions, in keeping with the principles enunciated earlier, if

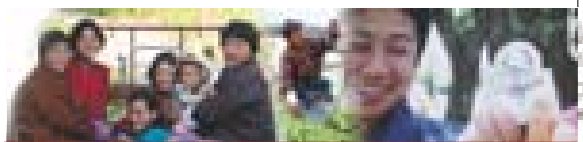
the government considers appropriate, the richer households could potentially contribute (through partial cost-recovery) to the financing of some MDG targets.

At present, the government budget is sustained to a considerable degree by foreign assistance, the largest share coming from India. However, since much of ODA is project-tied, managing these resources and improving its quality are crucial to achieving the MDGs. Further, additional aid needs to be provided in the form of budget support or through sector wide approaches. This is especially important to maintain macroeconomic stability in the short/medium term. In addition, no distinction should be made between aid funding for capital and recurrent costs since both kinds of costs will have to be met for achieving the MDGs. Finally, additional ODA would also have to be better targeted than is currently the case.

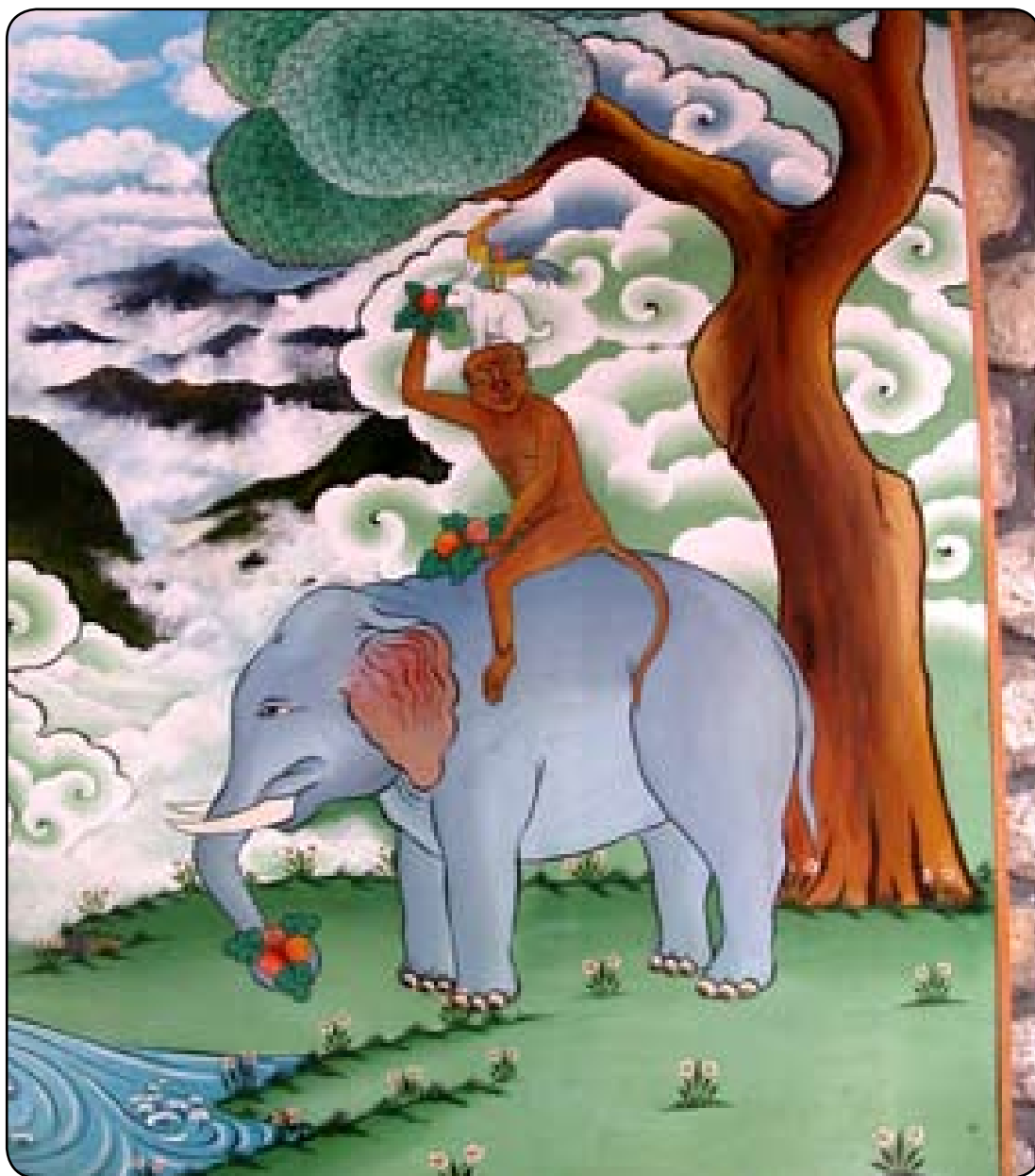
11.6 Next Steps and Issues

In order to formulate an MDG financing strategy for the country, several steps and issues need to be undertaken and considered:

- Estimate the MDG financing gap (the difference between what is currently available and MDG investment requirements). The Simple Macroeconomic Framework can be used for this purpose;
- Review the current public finance picture to determine the fiscal space available for mobilizing additional resources. This in turn will require an extensive review of revenue policy, expenditure management, deficit policy and how it is being financed, and the inter-government fiscal transfer payment system to determine (a) fiscal revenue options (b) expenditure reprioritization (c) improvements in allocative/technical efficiency;
- Review of the extent to which richer households can contribute to financing some social services, and the possibility of encouraging foreign private investment in infrastructure and energy sectors;
- Examine the possibility of establishing public-private partnerships as a way of leveraging finance for certain types of investments;



- Examine the short/medium as well as long term implications for raising public investment on growth and revenue mobilization rates and for poverty reduction targets;
- Establish links between medium term budgetary instruments such as the MTEF and longer term MDG financing needs;
- Develop a strategy for mobilizing additional official development finance; and
- Examine the advantages and disadvantages of different financing modalities.



Appendix I: Participants of the MDG Needs Assessment and Costing Exercise

Members of the Joint UN Scoping Mission on MDG NA and Costing Exercise

Team Leader:

Mr. Omar Noman
Chief, Policy and Programmes and Director of the MDG Programme
Colombo Regional Centre, UNDP

Other Advisors:

Ms. Cecilia Valdivieso
Gender Advisor/ Coordinator
Colombo Regional Centre, UNDP

Mr. Swarnim Wagle
Programme Specialist
Colombo Regional Centre, UNDP

Mr. Thangavel Palanivel
Regional Programme Coordinator & Pro-Poor Policy Advisor
Colombo Regional Centre, UNDP

Mr. Jak Jabes
Practice Team Leader & Regional Coordinator, Asia Regional Governance Programme
Bangkok Regional Centre, UNDP

Mr. Niloy Banerjee
Capacity Development Advisor/Regional Coordinator Cap 2015
Bangkok Regional Centre, UNDP

Dr. Yuba Raj Khatriwada
Executive Director
Office of the Governor
Nepal Rastra Bank
Baluwatar, Kathmandu, Nepal

Dr. Saramma T. Mathai
UNFPA Country Support Team Adviser in Nepal

Ms. Vathinee Jitjaturunt
UNICEF Sr. Programme Officer in Bhutan

Ms. Doris Seta Mugrditchian
Short-term Professional Patient Safety alliance, SEARO (WHO)

Ms. Naoe Yakiya
WFP Programme Officer in Bhutan

Ms. Tshering Pem, Assistant Resident Representative, UNDP, Bhutan (United Nation Country Team Coordinator for the MDG NA and Costing exercise)

TTF 1 (Sub-group A)

Areas: Agriculture, Rural Development and Farm Roads

Members:

PC (Lead Agency): Kunzang Norbu, Sonam Phuntsho, MoF: Pema Wangyal MoA: Dema, Bindu M. Tamang, MoWHS: Thinley Namgyal, MoLHR: Ugyen Dorji, Jamyang Tshomo, LDD: Karma Penjor, NEC: Sonam Lhaden, MEA: Yeshey Seldon, NSB: Choeda Jamtsho, Sonam Lhendup

UNCT - Tshering Pem and Aki Hakanan, UNDP; Sonam Tobgay and Chadho Tenzin, FAO

TTF 1 (Sub-group B)

Areas: Macroeconomics and Infrastructure (Road, energy and ICT)

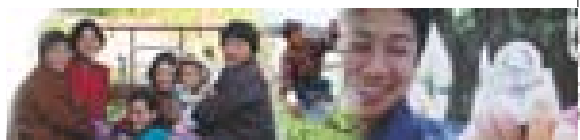
Members:

MoF (Lead Agency): Choiten Wangchuk PC: Kunzang Norbu, Sonam Phuntsho, MoWHS: Thinley Namgyal, MOIC: Dorji Wangmo, RMA: Rinzin Lhamu NSB: Choeda Jamtsho, Sonam Lhendup, Department of Energy (MEA): Karma Tshering.

UNCT - Tshering Pem and Aki Hakanan, UNDP

TTF 2 (EDUCATION)

Areas: Education



Members:

MoE (Lead Agency) Jambay Wangchuk Rinchen Samdrup; PC: Tshering Wangmo, MoF: Rinzin Dorji MoLHR: Ugyen Dorji/Jamyang Tshomo, LDD: Karma Penjor, NSB: Choeda Jamtsho, Sonam Lhendup, MoWHS: Thinley Namgyal

UNCT - Vathinee Jitjarunt, UNICEF and Naoe Yakiya, WFP

TTF 3 (Health)

Areas: Health

Members:

MoH (Lead Agency): Sonam Rinchen PC: Tsheten Dorji, MoF: Rinzin Dorji MoLHR: Ugyen Dorji, Jamyang Tshomo, LDD: Karma Penjor, NSB: Choeda Jamtsho/Sonam Lhendup, MoWHS: Thinley Namgyal.

UNCT - Yeshey Dorji, UNFPA; Vathinee Jitjarunt, UNICEF and WHO

TTF 4 (Sub-Group C)

Areas: Environment, Water and Sanitation

Members:

NEC (Lead Agency): Karma Tshering, PC: Tenzin Wangmo, MoA: Dema, Bindu M. Tamang, MoF: Choiten Wangchuk, Pema Wangyal, Jigme Dorji, Rinzin Dorji, MoWHS: Thinley Namgyal, NSB: Choeda Jamtsho, Sonam Lhendup, MTI: Yeshey Seldon

UNCT: Seeta Giri, UNDP; Chado Tenzin, FAO and UNICEF

TTF 4 (Sub-Group D)

Areas: Gender, Governance and Capacity Development

Members:

PC (Lead Agency): Kunzang Lhamu, RCSC: Karma Wangdi, MoF: Choiten Wangchuk, Pema Wangyal / Rinzin Dorji, NCWC: Pem C. Wangdi / Laurence Levaque, NSB: Choeda Jamtsho, Sonam Lhendup, LDD: Karma Penjor, UNCT: Naoe Yakiya

UNCT - Lily Wangchuk, UNDP and Naoe Yakiya, WFP

CORE WORKING GROUP

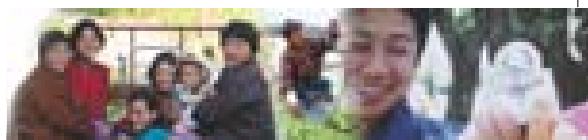
PC (Lead Agency): Kunzang Norbu and Sonam Phuntsho, MoF: Choiten Wangchuk, DADM: Lhaba Tshering, TTF Lead Persons: Jambay Wangchuk, Sonam Rinchen, Karma Tshering, NCWC: Pem C. Wangdi, Laurence Levaque, NSB: Jamyang Gelay, UNCT: Tshering Pem, UNDP

NATIONAL CONSULTANTS/FOCAL PERSON

TTF1: Sonam Tenzing, Excel Consulting
TTF2: Sonam Tobgay, Nidup Associates
TTF3: Sonam Rinchen
TTF4: Karma Yonten & Kunzang Yonten, Ongdi Consultancy
CWG: Kunzang Dechen, Jain Consultancy

References

- MoA (2002), Renewable Natural Resources Statistics 2000. Ministry of Agriculture, Royal Government of Bhutan, Thimphu.
- MoA(2005), Rural-Urban Migration in Bhutan. Policy and Planning Division, Ministry of Agriculture, Royal Government of Bhutan Thimphu.
- MoE (2006), General Statistics 2006. Ministry of Education, Royal Government of Bhutan, Thimphu.
- MoWHS (2006), Road Sector Master Plan (2007-2027), Ministry of Works and Human Settlements, Royal Government of Bhutan, Thimphu.
- NEC (1998), The Middle Path: Bhutan's National Environment Strategy, National Environment Commission, Royal Government of Bhutan, Thimphu.
- NEC (2006), Bhutan Environment Outlook 2006, National Environment Commission, Royal Government of Bhutan, Thimphu.
- NEC (2006), Tenth Five-Year Environment Sector Plan (2008-2013), National Environment Commission, Royal Government of Bhutan, Thimphu.
- NSB (2004), Poverty Analysis Report Bhutan 2004. National Statistical Bureau, Royal Government of Bhutan, Thimphu.
- NSB (2004), Bhutan Living Standards Survey 2003. National Statistical Bureau, Royal Government of Bhutan, Thimphu.
- NSB (2006), National Account Statistics Report, 2000-2005. National Statistical Bureau, Royal Government of Bhutan, Thimphu.
- NSB (2006), Statistical Yearbook of Bhutan 2005. National Statistical Bureau, Royal Government of Bhutan, Thimphu.
- NSB (2005), Statistical Yearbook of Bhutan 2004. National Statistical Bureau, Royal Government of Bhutan, Thimphu.
- NSB (2005), National Accounts Statistics 1990-2004. National Statistical Bureau, Royal Government of Bhutan, Thimphu.
- Planning Commission (2006), Guidelines for Preparation of the Tenth Plan (2007-2012). Planning Commission, Royal Government of Bhutan, Thimphu.
- RGoB (2000), Bhutan 2020: A Vision for Peace, Prosperity and Happiness, Royal Government of Bhutan, Thimphu.
- RGoB (2002), Ninth Five-Year Plan 2002-2007. Planning Commission, Royal Government of Bhutan, Thimphu.
- RGoB (2002), Millennium Development Goals Progress Report 2002: Bhutan. Department of Planning, Royal Government of Bhutan, Thimphu.
- RGoB (2005), Millennium Development Goals Progress Report 2005: Bhutan. Planning Commission, Royal Government of Bhutan, Thimphu.
- RGoB (2005), Bhutan National Human Development Report 2005. Planning Commission, Royal Government of Bhutan, Thimphu.
- RGoB (2005), Population and Housing Census of Bhutan 2005. Office of the Census Commissioner, Royal Government of Bhutan, Thimphu.
- RGoB (2005), Good Governance Plus 2005, Royal Government of Bhutan, Thimphu.
- RGoB (2006), Annual Report 2005-2006, Royal Government of Bhutan, Thimphu.
- RMA (2005), Annual Report 2003/2004. Royal Monetary Authority of Bhutan, Royal Government



of Bhutan, Thimphu.

RMA (2006), Selected Economic Indicators, March 2006. Royal Monetary Authority of Bhutan, Royal Government of Bhutan, Thimphu.

UN (2006), Common Country Assessment for Bhutan 2006. United Nations, Thimphu.

UN Millennium Project (2005), Preparing National Strategies to Achieve the Millennium Development Goals: A Handbook. UN Millennium Project, New York.

UNDP RCC (2006), Macroeconomics of Poverty Reduction: The Case Study of Bhutan, UNDP Regional Center in Colombo, Colombo

UNDP (2006), Macroeconomic Projections and a Pro-poor Development Strategy for the Tenth Plan of Bhutan, UNDP, Thimphu.

WB & UNDP (2002), Bhutan Private Sector Survey 2002. World Bank and UNDP, Thimphu.

