TENTH FIVE YEAR PLAN

2008-2013

VOLUME 2: PROGRAMME PROFILE

GROSS NATIONAL HAPPINESS COMMISSION
ROYAL GOVERNMENT OF BHUTAN

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His Majesty Jigme Khesar Namgyel Wangchuck

PREFACE

The Tenth Plan is being launched at a momentous and auspicious time coinciding as it does with the introduction of parliamentary democracy in the country, the centenary year celebrations of the Monarchy and the accession to the throne of our Fifth Druk Gyalpo, His Majesty Jigme Khesar Namgyel Wangchuck. The period thus represents a defining moment in the history of Bhutan and an opportune time to consolidate development gains of the past and forge new responses and approaches towards achieving long term development objectives, including our overarching goal of Gross National Happiness (GNH).

The Tenth Plan reflects and concerns itself with the changing realities of the post 2008 period, in particular the fundamental changes in the system of governance and national institutions with the establishment of a Democratic Constitutional Monarchy form of government. For democracy to have genuine meaning in our circumstances, it must be accompanied by economic growth and prosperity and effectively translated into jobs, adequate resources for a decent living and freedom from poverty. Political democracy and economic empowerment are mutually reinforcing principles and the Royal Government will actively seek to maximize performance in both dimensions. Naturally economic development must be broad-based, equitable and supported by full social justice and equality for the eventual emergence of a truly egalitarian and equitable Bhutanese society.

It is to this end that Poverty Reduction has been articulated as the main objective and theme of the Tenth Plan to be realized through the strategies of vitalizing economic and industrial development, implementing national spatial planning, synergizing integrated rural-urban development, expanding strategic infrastructure, investing in human capital and enhancing enabling environment. These strategies also simultaneously constitute the Tenth Plan's strategic framework for achieving GNH.

The highly favourable prospects for robust socio-economic development for a vibrant democracy, living in harmonious balance with tradition and nature and the continuation of the tradition of good governance for the Tenth Plan have been built on the firm foundations secured over the Ninth Plan and past successive plans. The development successes that the country has enjoyed have largely come about as a result of the efforts of all Bhutanese who have actively participated in the development process. Our development partners too have been key players and without their unstinting support and cooperation, these achievements would not have been possible.

But perhaps more than and above anything else, the golden era of peace and prosperity that the country has enjoyed over the past several plan periods is attributable to the unparalleled and visionary leadership of our inspirational and beloved monarch, His Majesty King Jigme Singye Wangchuck. Words here are completely and grossly inadequate to express the profound gratitude of a nation for His Majesty's selfless and tireless efforts in nation-building and securing the future and well-being of the Bhutanese people. In every sense of the expression, His Majesty has been for all Bhutanese a wish-fulfilling gem, the auspicious jewel from which good fortune, perennial prosperity and lasting happiness flows. We look forward to an even brighter and more prosperous era under our present monarch, His Majesty King Jigme Khesar Namgyel Wangchuck.

The preparation of the Tenth Plan Document has been a collective and fruitful endeavor and is the painstaking result of extensive consultations between the GNH Commission and the local governments and communities, the Ministries, Departments and various agencies of the Royal Government. As such, we would like to extend our heartfelt gratitude to everyone for the wholehearted support extended in the formulation of the Tenth Plan.

Tashi Delek !



(Lyonchhen Jigmi Y. Thinley)
Prime Minister of Bhutan
and
Chairman of the GNH Commission

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ACRONYMS

AIDS	Acquired Immuno Deficiency Syndrome
ANC	Ante Natal Care
AMS	Agriculture Marketing Services
ATP	Apprenticeship Training Programme
BAFRA	Bhutan Agriculture and Food Regulatory Authority
BDI	Bhutan Development Index
BHMC	Bhutan Health and Medical Council
BHTF	Bhutan Health Trust Fund
BHU	Basic Health Unit
BIMST-EC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BLSS	Bhutan Living Standards Survey
BPCL	Bhutan Power Corporation Limited
BPFFS	Budget Policy and Fiscal Framework Statement
BVQF	Bhutan Vocational Qualifications Framework
CDM	Clean Development Mechanism
CNR	College of Natural Resources
CTEM	Cleaner Technology for Environmental Management
DEC	District Environment Committees
DGPC	Druk Green Power Corporation
DHI	Druk Holdings and Investment
DOE	Department of Energy
DPR	Detail Project Report
DRA	Drug Regulatory Authority
EA	Environmental Assessment
ECCE	Early Childhood Care and Education
ECOP	Environmental Codes of Best Practices

EFRC	Environment Friendly Road Construction
FMU	Forestry Management Unit
FMD	Food and Mouth Disease
FR	Feeder Roads
GLOF	Glacial Lake Outburst Flood
GNH	Gross National Happiness
HDI	Human Development Index
HH	Households
HIV	Human Immunodeficiency Virus
HRD	Human Resource Development
ICT	Information and Communications Technology
IDD	Iodine Deficiency Disorder
IEC	Information Education and Communication
IMR	Infant Mortality Rate
IMS	Information Management System
IPP	Independent Power Producer
IP	Intellectual Property
IWRM	Integrated Water Resource Management
JV	Joint Venture
Kcal	Kilo Calorie
LFPR	Labor Force Participation Rate
LSE	Lower Secondary Education
MAPs	Medicinal and Aromatic Plants
MCH	Maternal and Child Health
MDGs	Millennium Development Goals
MMR	Maternal Mortality Ratio
MoA	Ministry of Agriculture
MoE	Ministry of Education

MoF	Ministry of Finance
MoH	Ministry of Health
MSME	Micro Small and Medium Enterprises
MSTF	Multi-Sectoral Task Force
MYRB	Multi Year Rolling Budget
NAP	National Action Plan
NCWC	National Commission for Women and Children
NEC	National Environment Commission
NFE	Non-Formal Education
NID	National Institute for the Disabled
NITM	National Institute of Traditional Medicine
NLFS	National Labor Force Survey
NSDS	National Sustainable Development Strategy
NWFP	Non Wood Forest Products
NSP	National Spatial Plan
Nu	Ngultrum
NUS	National Urbanization Strategy
O&M	Operation and Maintenance
ORC	Outreach Clinic
PCS	Position Classfication System
PHC	Primary Health Care
PHCB	Population and Housing Census Bhutan
PoA	Programme of Action
POL	Petroleum Oil and Lubricant
PPA	Power Purchasing Agreement
RBM	Results Based Management
RE	Rural Electrification
RGoB	Royal Government of Bhutan

RIHS	Royal Institute of Health Services
RMA	Royal Monetary Authority of Bhutan
RNR	Renewable Natural Resource
RWSS	Rural Water Supply and Sanitation
SAARC	South Asian Association for Regional Cooperation
SDGs	SAARC Development Goals
SFD	Social Forestry Division
SME	Small and Medium Enterprise
U-5MR	Under-five Mortality Rate
VET	Vocational Education and Training
VSDP	Village Skills Development Programme
VTI	Vocational Training Institute

SUMMARY OF PROGRAMME PROFILES BY THEMES

Volume II of the Tenth Five Year Plan document contains details of the various development programmes to be implemented over the plan period. These programmes are organized and presented in the following summary table on the basis of the various strategic framework and priorities presented in the main policy document towards achieving the Tenth Plan core objective of poverty reduction. For instance, various programmes pertaining to the construction and improvement of national highways, construction and improvement of roads connection hydropower projects, power transmission lines, ICT and postal development and the development of air and surface transport have been thematically clubbed under the Strategic Infrastructure theme. Additionally, the various programmes that are at the core of expanding the economic and productive base have been clubbed under the Innovation, Creativity and Enterprise theme as these qualities are widely regarded to be the primary and dynamic drivers for wealth creation through which Bhutanese industries can effectively achieve productivity gains across all industrial and economic activity to increase outputs, results and outcomes.

(Ngultrum in millions)

Programme Code/No.	Strategic Programmes	Indicative Capital Outlay
Innovation, Creativity and Enterprise (ICE)		**1,569.265**
MEA/01	Promotion of Domestic and Foreign Trade	84.500
MEA/02	Development and Management of POL Services	18.000
MEA/03	Development of Micro, Small & Medium Enterprises	126.970
MEA/04	Development & Management of Industrial Estates	200.000
MEA/05	Strengthening Institutional Framework for Industrial Development	30.030
MEA/06	Sustainable Environmental Management and Institutionalization of the Cleaner Technology	11.500
MEA/07	Development & Strengthening of Intellectual Property & Copyrights	24.500
MEA/10	Hydropower Development	576.700
MEA/11	Institutional Strengthening of the Energy Sector	81.155
MEA/13	Strengthening of National Hydrological & Meteorological Services	187.490
MEA/14	Electricity Regulation	30.000
MEA/15	Private Sector Participation	48.000
MEA/16	Major Hydropower Projects (Outside the Plan)	-
TCB/01	Sustainable Development of Tourism	150.420
Strategic Infrastructure (SI)		**17,506.831**
MWHS/01	Construction and Improvement of National Highways	5,766.880
MWHS/02	Construction and Improvement of Roads Connecting Hydropower Projects	3,786.933
MWHS/03	Road Asset Management and Maintenance Program	4,154.048

MWHS/05	Quality Assurance and Standardization	109.000
MEA/08	Power Transmission	50.000
MIC/01	ICT and Postal Development	2,330.000
MIC/02	Development of Air Transport	984.570
MIC/03	Development of Surface Transport	325.400
Integrated Rural - Urban Development and Poverty Alleviation (IRUDPA)		**20,301.069**
MoA/01	Commodity/Cereal Development	60.000
MoA/02	Post Harvest Management	99.500
MoA/03	Integrated Pest Management	30.000
MoA/04	Irrigation & Water Management	70.500
MoA/05	Seed and Plant Development	20.000
MoA/06	Horticulture/Cash Crop Development	118.850
MoA/07	Organic/Natural Agriculture	24.500
MoA/08	National Medicinal and Aromatic Plants	40.450
MoA/09	Integrated Soil Fertility & Sustainable Land Management	266.000
MoA/10	Rural Access	516.090
MoA/11	Farm Mechanization	60.696
MoA/12	Extension Coordination and Information Management	12.000
MoA/13	Feed & Fodder Development	23.076
MoA/14	Livestock Health & Laboratory Services	145.492
MoA/15	Livestock Breeding and Input Supply	146.670
MoA/16	Livestock Production	442.640
MoA/17	Targeted Highland livelihood Support	34.760
MoA/20	Forest Resources Development	89.850
MoA/21	Watershed Management and Plantation	123.000
MoA/22	Forest Protection	243.040
MoA/24	Forestry & Environmental Education	170.550
MoA/25	RNR Research Programme	214.850
MoA/26	Rural Development Training Programme	14.520
MoA/27	Agriculture Marketing Programme	114.870
MoA/28	Bio-security and Quality Assurance Programme	117.185
MoA/29	National Biodiversity Conservation Programme	89.220
MEA/09	Rural Electrification	3,727.000
MEA/12	Development of Renewable Energy	285.760
GNHC/02	Targeted Poverty Intervention	1,000.000
	Annual Grants Programme	12,000.000
National Spatial Policy (NSP)		**6,239.093**
MHCA/01	Preservation and Promotion of Cultural Heritage	1,746.500
MWHS/04	Urban Development and Services	3,410.057
MoA/18	Participatory Forest Management	83.200
MoA/19	Non-Wood Forest Resource Development	65.000

MoA/23	Nature Conservation	190.000
MEA/17	Capacity Enhancement in Geoscientific Investigations and Mineral Development	76.715
MEA/18	Assessment and Monitoring of Climate Change Induced and Geological Hazards	164.860
DL/05	Preparation of Master Plan for Management of Dratshang and its Property	7.600
NLC/01	Strengthening of National Land Commission	385.861
NEC/01	Conservation of Environment	109.300
Enabling Environment (EE)		**4,816.630**
MHCA/02	Strengthening of Immigration Services	57.000
MHCA/03	Civil Registration Services	100.455
MHCA/04	Disaster Risk Management	33.180
MHCA/05	Legal Support to Local Administration and Supervision of Cooperatives and NGOs	10.500
MHCA/06	Secretariat Services	1,053.000
MEA/19	Secretariat Services	40.000
MoF/01	Institutional Strengthening of Ministry of Finance	699.921
MIC/04	Information and Media Development	112.000
MIC/05	Secretariat Services	24.500
BICMA/01	Strengthening of Bhutan InfoComm and Media Authority	10.500
MFA/01	Institutional Strengthening of Ministry of Foreign Affairs	447.510
MoE/09	Secretariat Services	71.500
MLHR/08	Secretariat Services	8.000
MWHS/06	Strenghening of Construction Development Services	38.000
ACC/01	Strengthening Legal & Institutional Framework for Controlling Corruption	125.370
EC/01	Strengthening Electoral Process in the Country	79.910
Judiciary/01	Infrastructure Development	724.512
RAA/01	Infrastructure Development and Institutional Strengthening	53.555
RCSC/01	Strengthen Administrative, Legal and Management Systems	159.000
DL/09	Secretariat Services	58.907
BBS/01	Improvement of Reach and Quality of BBS Radio and TV Services	406.779
BNCA/01	Institutional and Infrastructural Development	21.403
GNHC/01	Strengthening Planning, Monitoring and Evaluation System	50.000
NCWC/01	Strengthening the Advancement of Women and Children	64.206
NSB/01	Strengthening of National Statistical System	45.290
	Other Services	321.632
Strategic for Knowledge, Innovation and Life-Long Learning Skills (SKILLS)		**18,645.536**
MoE/01	Primary Education Services	3,003.440
MoE/02	Secondary Education Services	5,279.370

MoE/03	Early Childhood Care & Development Services	3.450
MoE/04	Special Education Services	66.580
MoE/05	Adult Literacy & Continuing Education Services	48.550
MoE/06	Scholarship Services	657.780
MoE/07	Bhutan Board of Examination	30.760
MoE/08	Youth & Sports Services	327.700
MLHR/01	Human Resources Development	164.614
MLHR/02	Employment Promotion	238.285
MLHR/03	Improvement of Working Conditions and Labour Relations at Work Places	86.150
MLHR/04	Enhancing the Competitiveness of Skilled Workers	37.587
MLHR/05	Institutional Strengthening of Vocational Training Institutes	604.830
MLHR/06	Institutional Strengthening of Zorig Chusum Institutes	113.110
MLHR/07	Establishment of New Vocational Training Institutes and Institutes of Zorig Chusum	193.491
DL/02	Expansion and infrastructure in Tango Buddhist College	250.005
DL/03	Construction of Nangzur Anim Shedra (Nunnery)	150.000
DL/07	Construction of a New Zhirim Lobdra at Kuenphen Yoeselling at Gyelposhing, Mongar	23.041
DL/08	Development of Management Information System	5.000
RCSC/02	Human Resource Development Programme	4,056.757
RIM/01	Enhancing the Quality, Relevance and Coverage of Management Education	143.300
RIM/02	Campus Development	131.750
RUB/01	Expansion of Tertiary Education	1,726.640
RUB/02	Quality Assurance and Teaching-Learning	473.470
RUB/03	Research, Scholarly activities and Consultancy services	68.250
RUB/04	Promotion of Wholesome Education Services	158.740
BOC/01	National Sports Infrastructure Development	100.000
TCB/02	Hotel and Tourism Management Training Institute	422.286
CBS/01	Centre for Bhutan Studies	50.000
DDC/01	Dzongkha Development Commission	30.600
Health		**4,533.336**
MoH/01	Health Management and Development	31.200
MoH/02	Health Promotion and Disease Prevention and Control	653.112
MoH/03	Diagnostic and Curative Services	3,637.840
MoH/04	Sustainability, Regulatory and Monitoring	72.184
DL/01	Improvement of Health & Sanitation Services	139.000
	TOTAL	**73,611.759**

MINISTRY OF AGRICULTURE

MoA/01: COMMODITY/CEREAL DEVELOPMENT PROGRAMME

A.Overview

1	Sector	:	Agriculture
2	Linkage to National Development Objectives & Strategies	:	Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.
3	Expected Results/Targets	:	Proportion of rural households in poverty reduced from 30.9% to 20% through enhanced food security, increased rural income and employment generation while ensuring effective environmental conservation. Increase national rice self sufficiency level to 65% and national food self-sufficiency to 70% and raise mean annual rural household cash income from Nu. 10,700 to above Nu. 35,000
4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger. SDG Goal 1: Eradication of hunger poverty; SDG Goal 2: Halve proportion of people in poverty by 2010; SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor and SDG Goal 4: Ensure a robust pro-poor growth process
5	Donor Agency	:	
6	Target Group	:	Farming Communities
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Costs	:	Nu. 60.000 m
11	External Financing Required	:	Nu. 60.000 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Department of Agriculture, Dzongkhags and Gewogs
14	Documents Available	:	National Food Security Report, 2004; National Food Security Strategy Paper, Sector Tenth Plan

B. Situational Analysis

Agriculture in Bhutan revolves essentially around growing food grains for self-sustenance with about 69 percent of the total population dependent on it for their livelihood. The major commodity crops grown in the country are paddy, maize, wheat, buckwheat, barley and millet. In 2004, there were about 127,125 acres of land under cereal crop cultivation with total production of 156,304 MT. Over the years the demand for rice has been increasing since it is the most preferred cereal. The annual average import of rice over the last three years has been about 46,629 MT (imported through FCB and private traders) and valued at Nu. 384,157,000. The imported rice is consumed mainly by the growing urban population. Oilseed and grain legumes production has been a constant part of the country's farming system. Mustard is one of the major sources of vegetable oil for consumption and cash income. Grain legumes are grown in almost all parts of the country. However, production remained stagnant in terms of acreage and yield, due to low emphasis received in the past. Available sources indicate that there is potential for production of 3,110 MT of oilseed and 7,710 MT of grain legumes.

There is thus a shortage of food production in the country. Farmers in Bhutan suffer from a persistent cycle of low productivity in agriculture mainly because of poor soil fertility, low levels of input supplies and substantial crop losses due to pests and lack of proper post-harvest management. This is mainly due to low level of investments in cereal production in the past. About half of all rural households experience food shortages for more than two months and many Geogs experience vulnerability to food insecurity. Therefore, substantial improvements need to be made in the delivery of improved seeds, inputs and technology, in order to achieve food security and the target of minimum 70 percent self-sufficiency in food grain production.

Inadequate institutional coordination among the technical Departments, AMS, extension services in the field and with few ministries such as the MoEA have proved to be inadequate and created bottlenecks. There is also a need to enhance investment in areas of seed improvement, inputs and technology for commodity crops. Post-harvest management of commodity crops should be addressed collaboratively with the Post-harvest management programme.

C. Strategy

The arable agriculture commodity development programme will be pursued through the overall RNR Sector's Triple Gem Approach of enhancing production, improving access and targeted marketing. In addition, the Ministry of Agriculture will focus on executing targeted interventions in certain areas through the timely delivery of technical support, supply of improved seed varieties, improvement of crop management technology and practices, and other inputs necessary for enhancing production. Linking agricultural production to the market and increased commercial opportunities will be given a high priority. Investments will be made to commercialize the cultivation of cereals particularly rice in selected potential areas to increase rice production for import substitution. The arable agriculture programme will be guided by a set of specific milestones aimed at enhancing food availability, accessibility to food and stability of food. Stability aspect of food security will be enhanced through coordination with other programmes such as land and water management.

The project plans shall be harmonized with the national arable agriculture commodity programme to ensure optimal use of resource and avoid duplication of efforts. For more effective co-ordination, each programme shall be headed by a Commodity Co-ordinator, who will liaise with relevant projects, research programme and other agencies within and outside the MOA. Focus shall be given through targeted intervention in potential commodity crops at national level. Where necessary institutional coordination must be reviewed and upgraded. Timely delivery of improved seeds, inputs and technology shall be accorded priority. Improved post-harvest management shall be adopted.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Proportion of rural households living in poverty reduced from 30.9% to 20% Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000	Increased National food self sufficiency increased to 70% (food availability) Food storage and distribution houses set up in four regions	Improved crop management (Rice production increased from 54,325 MT per year to 62,474 MT per year) Improved pest management practices adopted Infrastructure strengthened Post-production & marketing enhanced Improved Soil fertility and input supply	Promoting minor cereals and oil seeds Rice Commercialization Maize Storage & Value addition Timely supply of inputs Linking production to market/s Land and water management

E. Management Arrangements

Institutional Arrangements

The Department of Agriculture shall be responsible for the overall execution, coordination and technical support of the programme and the Dzongkhag and Gewog administrations shall carry out the implementation. The Department shall prepare a comprehensive plan for commodity and cereal crop development in coordination with all the stakeholders – researchers, extension officers, input suppliers, producers, retailers, millers and exporters. This comprehensive plan shall be used as a guide for increased production of cereals and shall also entail the coordination mechanism and relevant processes among the different stakeholders.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Rice Development	30.000
2	Maize Development	10.000
3	Oil seeds and Grain Legumes Development programme	10.000
4	Other cereals (wheat, buckwheat, millet etc.)	10.000
	Total	**60.000**

MoA/02: POST HARVEST MANAGEMENT PROGRAMME

A. Overview

1	Sector	:	Agriculture
2	Linkage to National Development Objectives & Strategies	:	Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.
3	Expected Results	:	Post harvest loss of crops reduced from 20% to 10%
4	Relevant MDG & SDG	:	MDG Goal 1:Eradicate extreme poverty and hunger SDG Goal 1: Eradication of hunger poverty; SDG Goal 2: Halve proportion of people in poverty by 2010; SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor and SDG Goal 4: Ensure a robust pro-poor growth process
5	Donor Agency	:	
6	Target Group	:	Farming Communities and traders
7	Scope	:	National
8	Status-Ongoing or new		New
9	Timeframe	:	Five Years (2008-2013)
10	Indicative Capital Cost	:	Nu. 99.500 m
11	External Financing required	:	Nu. 99.500 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Department of Agriculture, Dzongkhags and Gewogs
14	Documents available	:	Sector Tenth Plan

B. Situational Analysis

The Post Harvest Management Programme was initiated in 1997 with the establishment of the National Post Harvest Center under the Department of Agriculture. The main objective of the programme is to enhance market value and reduce post-harvest loss of all agricultural crops. The estimated post-harvest loss of agricultural and horticultural crop ranges between 20-30% of the total production. During the Ninth Plan, two integrated food-processing plants were established in Dagapela and Goling and one is presently underway in Pemagatsel. About thirty dryers were established in different parts of the country for drying fruits, vegetables, and mushrooms. The adoption of post-harvest technology has increased through the conduct of various demonstrations and promotional events. For instance, the use of improved packaging materials such as fiberboard and plastic crates has had a major impact. In 2006, a consignment of apples (preserved in cold storage) was exported to Bangladesh for the first time. Continued support would be required during the Tenth Plan especially in the area of creating awareness on post-harvest management and technology.

Notwithstanding the achievements, Post Harvest Management Unit (PHU) of the Ministry must strengthen coordination and collaboration with the BCCI, Agro-Industries and cottage food industries. Post-harvest management of crops requires development in terms of infrastructure and technology

C. Strategy

The main strategies for the Post-Harvest Management programme in the Tenth Plan will include improving post harvest handling through introduction of appropriate technology, infrastructure development and demonstration and trainings. The programme will also continue to support small-scale food processing enterprises to crops to enhance rural income, food security and create rural employment. During the Tenth Plan, major investments will have to be made in the development of agriculture based infrastructures. Cold stores, modern packing houses, food processing enterprises, modern crop handling and transport system are imperative to reduce loss, increase value and revolutionize the way crops are handled, marketed and consumed.

The programme shall strengthen linkages within the Ministry and agencies outside the Ministry particularly BCCI, Agro-Industries and cottage food industries. Assistance through introduction of appropriate post-harvest value addition technologies, especially for the cottage food industries shall be given due importance.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living in poverty reduced from 30.9% to 20% through enhanced food security	Reduce post harvest losses of agricultural and horticultural crops by 10% from the estimated 20% Enhance the market value of agricultural crops by 5 – 10%	Post harvest handling & Food processing technologies improved Improved post harvest infrastructures for agriculture crops particularly HH level (1-2 mt) maize store established Rural food industries established	Development of post-harvest handling technologies & value addition Infrastructure Development Development of Rural Food Industry

E. Management Arrangements

Institutional Arrangements

The Department of Agriculture shall be responsible for the overall execution and coordination of the programme. The National Post-Harvest Center under the Department shall provide technical support in collaboration with the Research centers, Agriculture Marketing Services Division, Agriculture Machinery Centre and Extension services for implementation by the Dzongkhags and Gewogs.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Development of Post-harvest Handling Technologies & Value Addition	34.30
2	Development of agri-based Rural Enterprises	15.20
3	Infrastructure Development	50.00
	Total	**99.50**

MoA/03: INTEGRATED PEST MANAGEMENT PROGRAMME

A. Overview

1	Sector	:	Agriculture
2	Linkage to National Development Objectives& Strategies	:	Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.
3	Expected Results	:	Reduced pre-harvest crop losses to pest(including wildlife) and diseases from 20-30% to 10-15%, and minimize crop losses to storage pest from 25-20% to 15%
4	Relevant MDG & SDG	:	MDG Goal 1:Eradicate extreme poverty and hunger SDG Goal 1: Eradication of hunger poverty; SDG Goal 2: Halve proportion of people in poverty by 2010; SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor and SDG Goal 4: Ensure a robust pro-poor growth process
5	Donor Agency	:	
6	Target Group	:	Farmers with special focus on vulnerable Gewogs
7	Scope	:	National
8	Status – Ongoing or new	:	Ongoing/New
9	Timeframe	:	Five Years (2008-2013)
10	Indicative Capital Cost	:	Nu. 30.000 m
11	External financing required	:	Nu. 30.000 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Plant protection service center, extensions, Dzongkhags and Gewogs
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The Plant Protection Programme was initiated with the start of the Agriculture Development Programme in the early 1960s. Due to the diverse ecological condition, Bhutan is highly prone to a diverse spectrum of pests and plant diseases that cause heavy crop losses. However, the magnitude of crop losses to pests in Bhutan has not been accurately assessed though sources from various estimates indicate that the overall pre-harvest loss to pests is about 20 to 30 percent and post-harvest loss to storage pests is about 10 to 20 percent.

In the past development plans, research were undertaken on plant pest and diseases such as citrus fruit fly, rice blast disease, potato late blight disease, apple scab, chilly blight disease, diamond back moth on cabbage and cauliflower, etc. Extensive surveys were carried out on wild boar problems in relation to crop damage, social costs of guarding crops at night, and use of traps and citrus greening diseases. A database on pests and diseases is also maintained at the National Plant Protection Center and the information is made available through journals, newsletters, etc.

C. Strategy

The focus of the Plant Protection Programme over the Tenth Plan will be to reduce pre-harvest and post-harvest losses to pests by about 50 percent or achieve a storage pest loss of 5 to 10% and pre-harvest loss of 10 to 15%. This target will be achieved through research and development, adoption of appropriate pest management technologies, development of institutional framework and good agricultural management practices, strengthening information/database and enhancing awareness and building capacity of the extension workers and farmers. Special focus will also be on mitigating crop depredation by wildlife, including providing compensation for such damage, given that it is a major cause of food insecurity in most farming communities.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living in poverty reduced from 30.9% to 20%	Reduced pre-harvest crop losses to pest (including wildlife) and diseases from 20-30% to 10-15%, Minimize crop losses to storage pest from 25-20% to 15%	At least 20% of farmers adopt integrated pest management (pre and post harvest pest management practices) and good agricultural practices	Development of Integrated Pest Management and good agricultural practices for major crops Improved diagnostic and other service facilities Awareness Campaign and Training

E. Management Arrangements

Institutional Arrangements

The Department of Agriculture shall be responsible for the overall execution and coordination of the programme. The National Plant Protection Center of the Department of Agriculture shall take the lead role in the implementation of the programme in coordination with the Dzongkhags and Gewogs.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Integrated Pest Management, Awareness Campaign, and Farmers Training	10.000
2	Infrastructure Development	20.000
	Total	**30.000**

MoA/04: IRRIGATION & WATER MANAGEMENT PROGRAMME

A. Overview

1	*Sector*	*:*	*Agriculture*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.*
3	*Expected Results*	*:*	*Portion of wetland with dry season irrigation increased from 40% to 70%.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1:Eradicate extreme poverty and hunger* *SDG Goal 1: Eradication of hunger poverty;* *SDG Goal 2: Halve proportion of people in poverty by 2010; and* *SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Farmers in rural areas*
7	*Scope*	*:*	*Nationwide*
8	*Status – Ongoing or new*		*Ongoing/New*
9	*Timeframe*	*:*	*Five Years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 70.500 m*
11	*External Financing required*	*:*	*Nu. 70.500 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*Department of Agriculture, Dzongkhags and Gewogs*
14	*Documents Available*		*Sector Tenth Plan*

B. Situational Analysis

Irrigation development in Bhutan so far has, more or less been confined to paddy irrigation. Paddy is grown in almost all Dzongkhags and at least 62,000 acres are irrigated paddy land, contributing to 34.5 percent of the cereal production in the country (Agriculture Statistics, 2005). While the total area under paddy cultivation has reduced considerably due to the loss of cultivable land from urban expansion, industrial growth and infrastructure development, productivity in terms of the yield per unit area has however increased. In 2005, paddy production was 67, 606 MT.

Development assistance in the past focused mainly on the construction of new irrigation channels and the rehabilitation and renovation of existing channels to augment the seasonal shortage of water supply. During the Ninth Plan, about 133.21 km of new irrigation channels were constructed and 458.56 km of old channels renovated.

In the Tenth Plan, 60 km of irrigation channels will be constructed in the 6 eastern regions. Various area development projects will continue to support construction of new irrigation schemes and improve existing ones. Support on irrigation development is thinly spread across country irrespective of the potential areas for development. Management of existing irrigation systems by the farmers are generally weak leading to low water use efficiency. Implementation of irrigation projects and the National Irrigation Policy (NIP) modules have become weak following the transfer of irrigation

engineers to MoWHS. Knowledge of extension agents on NIP modules is weak. Research on irrigation and water management is very limited. Except in the form of some demonstration plots for orchards using drip irrigation there is no RGOB support vis-à-vis irrigation, for crops other than paddy. The focus of Irrigation development on crops other than paddy must be enhanced and the functioning of Water User's Association made more efficient. There is also the need to enhance the national database and information on the irrigation system.

C. Strategy

Strategies for the Irrigation & Water Management Programme in the Tenth Plan will include the exploring of water sources and adoption of appropriate technologies to improve access to water and efficiency in the use of water resources including the options of water harvesting/lift pump and drip irrigation. More resources will be invested in areas where there is potential for increased production of paddy through wetland expansion and improved irrigation water supply. The potential for groundwater development in the southern belt will also be explored.

The Water User Associations throughout the country will be strengthened through trainings and workshops in order to ensure sustainable management of water resources. Trainings will be provided to extension agents in the implementation of NIP modules. Extending irrigation to crops other than paddy will be one of the focuses in the Tenth Plan. Information management of irrigation schemes will be improved by updating the national irrigation inventory/database and ensuring a mechanism of periodical updating. This will assist in planning of irrigation development in the future. Protection and re-vegetation of catchment areas with suitable species will be explored to rejuvenate water source wherever possible in potential and feasible areas and where watershed programme do not cover such irrigation source protection.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living in poverty reduced from 30.9% to 20%	Portion of wetland with dry season irrigation increased from 40% to 70%	Taklai Irrigation channels renovated Alternative water sources/ technologies explored Studies/policy review conducted & database developed Water User Associations formed and their capacity strengthened Extension agents trained on NIP modules	Renovation of Irrigation Channels in emergency Renovation of Taklai Irrigation Channel Water Harvesting & Irrigation of Cash Crop Drip & Sprinkler Irrigation Trials Feasibility Study of large scale irrigation and Ground Water Policy Review & Database Development Establishing and Strengthening of Water User Associations

E. Management Arrangements

Institutional Arrangements

The Department of Agriculture shall be responsible for the overall execution and coordination of the programme. The Dzongkhags and Gewogs shall implement the construction, renovation, and rehabilitation of irrigation channels.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Renovation of Irrigation Channels in emergency including renovation of Taklai irrigation channel	35.000
2	Water Harvesting & Irrigation of Cash Crop	12.500
3	Policy Review and Irrigation Database Development	1.000
4	Strengthening Water User Associations	3.000
5	Drip & Sprinkler Irrigation Trail	4.000
6	Feasibility Study for large scale irrigation	15.000
	Total	**70.500**

MoA/05: SEED AND PLANT DEVELOPMENT PROGRAMME

A. Overview

1	*Sector*	*:*	*Agriculture*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.*
3	*Expected Results*	*:*	*Quality and quantity of seeds and planting materials supply increased from 2 % to 50% of requirement.* *Availability and access increased from 100 MT to 600 MT of food crops and fruit seedlings from 200,000 to 500,000*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger and* *MDG Goal 7: Ensure environmental sustainability* *SDG Goal 1: Eradication of hunger poverty;* *SDG Goal 2: Halve proportion of people living in poverty by 2010; and* *SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor and*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Farming communities*
7	*Scope*	*:*	*National*
8	*Status – Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008-2013)*

10	Indicative Capital Cost	:	Nu. 20.000 m
11	External Financing Required	:	Nu. 20.000 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Department of Agriculture
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The production and distribution of improved variety of seeds is a critical determinant of agricultural production and in increasing agricultural productivity. It determines crop yields and the performance and efficacy of all other essential agricultural inputs to the farming system. Moreover, seed development and propagation assumes a particular importance towards ensuring the long term sustainability of national food security. The Royal Government recognizing the importance of seed development in agricultural transformation attached a high priority on seed system development after the mid 1970s.

A nationally coordinated seed production programme began in 1984 with the establishment of National Seed and Plant Programme. In 1995, the Druk Seed Corporation (DSC) was created to make the enterprise of seed production and propagation on a economically self sustaining basis. The DSC however still depends on government subsidies as it is not able to fully meet the cost of production and distribution due to high transportation costs and low level of demand from rural communities. Further, the corporation is unable to meet the needs of smallholder farmers as the seed production is limited to a few varieties and the quality of the seed produced is inconsistent. Over the years, large-scale seed production farms, technical laboratories, processing plants and certification systems have been established. However, there has been limited success according to the seed sector development review conducted in 2006.

In view of the above situation and considering the important roles that public, private, formal and informal sectors can play in seed production and distribution, a national seed and plant programme is being proposed to facilitate seed and plant production, distribution and marketing.

C. Strategy

The programme will be promoted through the establishment of a new unit under the Department of Agriculture, which will take the lead role in creating an enabling environment, facilitating the development of seed and plant material and decentralizing the production and supply system through the formation of producer groups/associations. Private sector investment and involvement in seed and plant production shall be pursued. Seed health and quality shall be improved through proper training of the seed growers and putting in place seed inspection and certification system. The Seed and Plant Development Programme will not only ensure the timely supply of adequate quantity of quality seeds to farmers but will also strive to achieve variatal diversity to suit various agro-climatic zones.

The seed distribution system shall be improved by strengthening the seed retailers/distributors at all levels (Dzongkhag and Geog) through training and incentives.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living in poverty reduced from 30.9% to 20%	Quality and quantity of seeds and planting materials supply increased from 2 % to 50% of requirement Availability and access increased from 100 MT to 600 MT of food crops and, fruit seedlings from 200,000 to 500,000	Comprehensive seed sector development strategy developed Capacity of private and farmers' groups enhanced and information developed and made available	Establishment of Seed and Plant Unit Development and Implementation of Strategy to enhance production distribution and marketing Promoting seeds growers' association Development/review of clear cut specific crop promotion guidelines

E. Management Arrangements

Institutional Arrangements

The Department of Agriculture shall be responsible for the overall execution, coordination and implementation of the programme in collaboration with the DSC and private and farmers' groups.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Establishment of Seed and Plant Unit	7.000
2	Development and Implementation of Seed Sector Development Strategy	1.000
3	Enhancing Production, Distribution and Marketing	8.000
4	Promoting private seed units and seed growers' associations	2.000
5	Seed vouchers (free seeds) during crop failures/disasters	2.000
	Total	**20.000**

MoA/06: HORTICULTURE/CASH CROP DEVELOPMENT PROGRAMME

A. Overview

1	*Sector*	*:*	*Agriculture*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.*
3	*Expected Results*	*:*	*Value of horticulture export increased from Nu.476 million per year to Nu. 900 million per year and Proportion of farmers engaged in horticulture export cropping increased from 10% to 25%.*

4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger. SDG Goal 1: Eradication of hunger poverty; SDG Goal 2: Halve proportion of people living in poverty by 2010; and SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor
5	Donor Agency	:	
6	Target Group	:	Cash crop growers
7	Scope	:	National
8	Status – Ongoing or new	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 118.850 m
11	External Financing Required	:	Nu. 118.850 m
12	Executing Agency	:	Ministry of Agriculture (MoA)
13	Implementing Agencies	:	Department of Agriculture, Dzongkhags, Gewogs
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Horticulture and cash crop development provides real and significant opportunities for many small-holding farmers to enhance income levels and thereby break out of subsistence farming and escape rural poverty. Indications are that many of the households in Bhutan engaged in horticulture and cash crop cultivation are generally better off and enjoy higher incomes than those who are not. As such, enabling more households to participate in horticulture and cash crop cultivation represents a viable and appropriate strategy to help raise rural incomes and reduce poverty.

The main crops included under the horticulture commodity development programme are citrus, potato, fruits and nuts, vegetable, and mushroom. All of these crops play a vital role in enhancing and ensuring household level income generation as well as strengthening food security and nutrition.

Fruit tree crops such as apple, oranges and arecanut are important export items for the country and accounted for 93.27 percent of the 44,755 MT total fruit crops production in 2004. The total area under fruit tree crops is around 13,000 hectares.

Potato is commercially grown in most parts of the country. The national average yield of potato is 4,593 kg/acre while the highest yield reported was 6,732 kg/acre. The major vegetable crops cultivated are chili, radish, turnip, potatoes, ginger, beans, broccoli, green leaves, cabbage, etc. The total harvested area under vegetables in 2004 was 24,605 acres with production of 78,043 MT.

Although a diverse range of crops are grown, production remains limited as most crops are produced on a subsistence basis. Inadequate land resources for horticulture/cash crop development are a factor constraining commercial horticulture production and cash crop development. Additionally, the horticulture sub-sector is still faced with inadequate professionals/specialists for important and major cash crops. Concurrently, an inadequate resource for planned activities is another critical issue. The lack of adequate infrastructure such as post harvest facility, cool chains, storage, grading, etc. also needs to be urgently addressed. The existing credit and repayment system for horticulture/cash crop development also does not address needs of farmers and exporters and needs to be modified and made more relevant. There is also the need to strengthen institutional linkages with external agencies in third countries.

C. Strategy

The Triple Gem Approach of enhancing production, improving access, and targeted marketing shall be the overall guiding strategy for the horticulture commodity development programme. The greater market orientation of horticultural and cash crop farming, professional management of farm enterprises and integration of farm enterprises into the market constitute some of the important strategies for cash crop development.

A variety of market mechanisms will be promoted such as the establishment or strengthening of local and commodity specifica agricultural market boards, cooperatives and self help groups to facilitate farmers access markets and secure better prices for their agricultural commodities. The promotion of contract farming be permitted and encouraged to help protect small holder farmers overcome existing market constraints, minimize transaction costs and enhance market access.

The existing citrus farms that have been affected by citrus greening and other diseases will be rehabilitated. As facilitated by the Land Act 2007, horticulture development through lease arrangements shall be carried out. The conversion of private registered land for horticulture/ cash crop cultivation shall be promoted through appropriate incentives. For commercialization, the programme shall strengthen the existing linkages and explore new market and institutional linkages particularly with AMS and Post Harvest Programme. To promote specialized focus human resources requirement shall be incorporated in the HRMD plan. To improve the credit system, the programme shall reschedule repayment scheme in consultation with relevant financial institutions for fruit crops.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living in poverty reduced from 30.9% to 20%	Proportion of farmers engaged in horticulture export cropping increased from 10% to 25% Value of horticulture export increased from Nu.476 million per year to Nu. 900 million per year	Potato production increased from 47,399 MT to 75,000 MT Citrus production increased from 23,000 MT to 30,000 MT Acreage under vegetable production increased from 18,592 to 30,000 acres Mushroom Production increased from 35 MT to 70 MT	Potato Development Citrus Development Fruits & Nuts Development Vegetable Development Mushroom Development

E. Management Arrangements

Institutional arrangments

The Department of Agriculture shall be responsible for the overall execution and coordination of the programme. The Dzongkhag and Gewog administrations will carry out the actual implementation of the programme. The Department shall collaborate closely with Research Centers, Agriculture Marketing Service Division, National Post Harvest Programme and other relevant stakeholders for provision of technical inputs in the implementation of the programme.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Potato Development	15.400
2	Citrus Development	40.000
3	Fruits and Nuts Development	20.000
4	Vegetable Development	10.000
5	Mushroom Development	33.450
	Total	**118.850**

MoA/07: ORGANIC/NATURAL AGRICULTURE

A. Overview

1	*Sector*	*:*	*Agriculture*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.*
3	*Expected Results*	*:*	*Proportion of rural households adopting organic farming principles increased from 1.5% to 10% and area under certified organic agriculture increased from 150 to 300 acres*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger* *SDG Goal 1: Eradication of hunger poverty;* *SDG Goal 2: Halve proportion of people living in poverty by 2010; and* *SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*All farmers in potential areas*
7	*Scope*	*:*	*National*
8	*Status – Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 24.500 m*
11	*External Financing Required*	*:*	*Nu. 24.500 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture (MoA)*
13	*Implementing Agencies*	*:*	*Department of Agriculture, Dzongkhags, Gewogs*
14	*Documents Available*	*:*	*National Framework for Organic Farming in Bhutan*

B. Situational Analysis

Organic food is increasingly gaining popularity and more widespread in mainstream agriculture around the world with a growing global market. It therefore presents a significant growth market opportunity for agriculture. Organic crop cultivation further holds out the further promise of improving production yields and raising productivity while also helping promote better land use management and potentially mitigating biodiversity loss.

Organic farming is known to help improve soil conditions and land use management for small farms. It can also provide for a broader income base through diversification of crops. Besides, processing and marketing of organic agricultural products could also create new off-farm rural employment opportunities, especially when export markets can be accessed effectively.

Organic farming in Bhutan is still in its infancy but there is a growing interest in developing this potential in Bhutan from both the Royal Government and farming communities. Generally though, there is within the country a lack of clearer understanding of what is defined as and encompasses "organic" and on the various processes that goes into certifying a product as organic. Many wrongly assume that just the absence of agro-chemicals in the cultivation of an agricultural product automatically qualifies it an agricultural product as organic which for most export purposes is not sufficient in of it itself.

As there are no policies and systems that directly support the development of organic industry in the country to date, the DoA has developed a National Framework for Organic Farming in Bhutan to provide some guidelines and support for the growth of an organic industry. A National Organic Programme was also established under the Horticulture Division in 2006 and has been promoting organic agriculture in Bhutan. There is a dire need though to explore the prospects for marketing, market identification, research and development of market at national, regional and international levels.

Besides the lack of policy on the organic industry, there is also an acute lack of personnel with technical knowledge and skills and proper information on organic farming. Under the programme, given the incipient stage of its development, shortage of staff is an issue. There is also the need for a holistic and integrated approach to organic farming development in Bhutan. The focus on community production in any potential area needs to be supported by strong research and development and extension systems. The dissemination of awareness on advantages of organic farming in terms of both livelihood support and income generation through a farming system's approach based on good agriculture practices (GAP) must also be pursued. Protection, support and assistance to areas declared as organic, eg. in Gasa must be provided through appropriate incentives and support for organic agriculture.

National standards must be developed and a system of regulation adopted to regulate the import and export of organic products. Marketing aspects with a national logo and forms of branding should be developed for marketing of organic products in Bhutan and in export markets. Capacity in these areas is poor and must be strengthened to create an enabling environment. The use of chemical fertilizers and subsidy must also be reviewed so as to re-appropriate subsidies to other areas of agriculture development.

C. Strategy

Organic/natural farming will be promoted on a pilot basis given the enormous advantage that the country enjoys in terms of its pristine environment and the global and regional recognition of this fact coupled with the naturally limited use of agro-chemicals in agriculture. Further, organic/natural farming will also be expanded to sustainable cultivation of the medicinal and aromatic plants or MAPs. The following three pronged strategic approach will be adopted to cover potential development areas:

- Promote organic/natural farming in rural areas where access to agrochemicals is limited or non-existent;

- Incorporate organic farming principles in existing farming practices to enhance sustainable land use for environmental protection and resource management; and
- Expand organic production approaches.

The strategy will also be to develop a community or a group of producers with common interests who are fully supported with well planned/designed that takes into consideration the full value chain. Efforts will also be required to establish producer companies in pilot sites and effectively engage NGOs and the private sector to implement a few at least on a public–private partnership basis.

The programme in collaboration with AMS will focus on market information and market development on organic products. The review of regional and international standards, consultation with relevant stakeholders and the framing of appropriate regulations will also be required to be done. The provision of subsidies on chemical fertilzers must also be reviewed and alternative incentives such as compost sheds, fencing materials and irrigation considered for provision. The programme shall provide focused support to pro-organic development in declared organic areas.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living in poverty reduced from 30.9% to 20%	Area under certified organic agriculture increased from 150 to 300 acres Proportion of rural households adopting organic farming principles increased from 1.5% to 10%	Policy related to organic development in place with enabling environment and national logo for Organic Bhutan Research centres and departments' organic developed and technologies as production options generated Potential production areas and markets identified and supported Proportion of rural households trained and adopting organic farming principles increased from 1.5% to 10% A well structured organic industry from consumer, production, technology back up, input supplies and services to processing, trading and exports is in place	Develop organic farming policy, strategy and implementation plan Develop organic standards and appropriate regulation (Participatory Guarantee System) accreditation and certification system with a national logo) Establish National Organic Programme (NOP) Baseline survey for identified potential areas and initiate organic production Develop incentive led packages for organic farmers in rural areas Establish appropriate infrastructure for production, processing and packaging of organic produce at the farm level Market development for organic produce and facilitation Finance/ credit/grants/subsidies HRD- capacity development

E. Management Arrangements

Institutional arrangments

- A National Organic Programme (NOP) will be created within the Ministry of Agriculture with adequate staff and sufficient resources and representation from relevant sectors to take on the planning, development and advocacy functions required to advance the organic sector nationally. This office will have adequate access to all departments and agencies to address crosscutting issues based on farming systems.
- The scope of activities for the NOP will include providing advice on research and development, adjusting/proposing government policies, developing and implementing and regulations, developing strategies to improve extension and advisory services to accommodate and support organic farming and improve consumer awareness about organic produce and products by interacting with the private sector and traders and markets and coordinate capacity building required for organic sector development.
- The NOP will be guided and assist in programme planning with a team of Technical Working Group (TWG) consisting of focal persons from relevant agencies and departments.
- An empowered Committee (EC) consisting of heads of selected agencies will provide overall development of the organic sector and major programme directions.

Indicative Cost

#	Description of projects/Activities	Indicative Cost (Nu. in million)
1	Development of national strategies and policies	1.000
2	Institution set up	9.000
3	Production and industry support	2.000
4	Research and Development	2.000
5	Market development and marketing chain	1.000
6	Education, awareness & information	8.000
7	Finance/ credits/grants/ subsidies	1.500
	Total	**24.500**

MoA/08: NATIONAL MEDICINAL AND AROMATIC PLANTS PROGRAMME

A. Overview

1	*Sector*	*:*	*Agriculture*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.*
3	*Expected Results*	*:*	*MAP cultivation expanded to around 15 Dzongkhags; Number of species under cultivation increased to 10. Number of farmers engaged in MAP cultivation doubled from 100 to 200.*

4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger SDG Goal 1: Eradication of hunger poverty, SDG Goal 2: Halve proportion of people living in poverty by 2010 SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor
5	Donor Agency	:	
6	Target Group	:	Farming Communities and traders
7	Scope	:	National
8	Status-Ongoing or new		New
9	Timeframe	:	Five Years (2008-2013)
10	Indicative Capital Cost	:	Nu. 40.450 m
11	External Financing required	:	Nu. 40.450 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Department of Agriculture, Dzongkhags and Gewogs
14	Documents available	:	Sector Tenth Plan

B. Situational Analysis

The country's vast topography harbors around 7000 different species of plants of which 600 species have been identified with medicinal properties. Of these identified species, almost 300 are in traditional use. With the introduction of a small traditional medicine dispensary in Dechencholing in 1968, Sowa-Rigpa made its formal advent into the national health system. The objective was to provide alternative health treatment and cures for people alongside modern medicine while also preserving, promoting and propagating the unique cultural & social traditions associated with Sowa Rigpa.

The MoA initiated the cultivation of medicinal herbs and plants in collaboration with the Institute for Traditional Medicine Services (ITMS) in the late 1990s. The focus in the Tenth Plan will be to build a strong database system, improve the quality of medicinal materials, enhance production in terms of both species and acreage, expand marketing links and develop sustainable management practices.

The popularity and widespread use of traditional medicines and the strong foothold with the establishment of indigenous medical units in nearly all dzongkhags, have given rise to a pressing demand for medicinal plant resources. This has raised concerns about the long term sustainability and conservation of medicinal plant resources and as such the conservation of medicinal plants with emphasis on sustainable collection regimes and formulation of management strategies has been accorded significant priority.

The cultivation of medicinal plants initiated in the late 1990s has emerged as a successful and viable alternative farming venture for farmers. This has also helped ease the pressure on collection from the wild. To facilitate local communities' access to medicinal and aromatic plants, there is a need to delineate clearly the rights of access to collect MAPs including the issuance of permits while at the same time ensuring the sustainability of these resources. The absence of realistic pricing guidelines for MAPs taking into account production costs has often resulted in unrealistic farm gate prices. One of the causes for unrealistic farm gate price and the incidences of mismatch between market and product is the clear lack of integrated product-market value chain.

In keeping with the objectives and the theme of the Tenth Plan, the programme will focus on rural poverty alleviation through increased rural income generation. The domestication and cultivation of medicinal plants will recieve strong priority in conjunction with the objectives of improved and increased crop diversification. The programme will also help develop organizational methodologies & systems for sustainable utilization of medicinal plants resources.

C. Strategy

The main strategies in the Tenth Plan will include improving cultivation packages for priority species, including post harvest handling and value adding through semi processing and new product development. The programme will, in collaboration with AMS identify markets for the cultivated and collected materials and help to provide maximum benefits to the farmers. The programme shall ensure to address the issue of access and permits through the new Forest Policy, revised FN & C Act and Rules, and developing implementing guidelines. Upon review of regional and international price structure on relevant MAPs and assessing the local costs of production, the programme shall develop a pricing guideline. Cultivation of MAPs with high returns to the farmers shall be promoted through lease arrangements on GRF land and by introducing them in the private lands.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Proportion of rural households living in poverty line reduced from 30.9% to 20% Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000	Number of farmers engaged in MAP cultivation increased from 100 to 200	Sustainable cultivation of MAPs expanded to at least 15 Dzongkhags No. of MAP species under cultivation increased to 10 200 farmers trained in improved and Sustainable collection of MAP Improved MAP processing units established	Development of sustainable collection & cultivation packages for the priority species Value addition, product development and marketing Quality standardization and certification,

E. Institutional Arrangement

Institutional arrangments

The Department of Agriculture shall be responsible for the overall execution and coordination of the programme. The National Medicinal Aromatic plants Programme under the Department shall provide technical support in collaboration with the Research centers, Agriculture Marketing Services Division and Extension services for implementation by the Dzongkhags and Gewogs.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Germplasm management	1.100
2	Production Management and cultivation	2.000
3	Product development of MAP	18.500
4	Infrastructure development	18.850
	Total	**40.450**

MoA/09: INTEGRATED SOIL FERTILITY & SUSTAINABLE LAND MANAGEMENT PROGRAMME

A. Overview

1	*Sector*	*:*	*Agriculture*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.*
3	*Expected Results*	*:*	*At least 30-40% of farmers practice sustainable land management;* *Land evaluation and land capability information available for making informed decisions;*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger MDG Goal 7: Ensure Environmental Sustainability* *SDG Goal 1: Eradication of hunger poverty,* *SDG Goal 2: Halve proportion of people living in poverty by 2010* *SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor;* *SDG Goal 17: Acceptable level of forest cover;* *SDGGoal 18: Acceptable level of water and soil quality; and SDG Goal 21: Wetland conservation*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Farming Communities*
7	*Scope*	*:*	*Nationwide*
8	*Status- Ongoing or new*	*:*	*Ongoing/New*
9	*Timeframe*	*:*	*Five Years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 266.000 m*
11	*External financing Required*		*Nu. 266.000 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*National Soil Service Center, Dzongkhags and Gewogs*
14	*Documents Available*	*:*	*Sustainable Land Management Project, 2005; Sector Tenth Plan*

B. Situational Analysis

69 percent of Bhutan's population lives in rural areas, the vast majority of whom subsist on an integrated livelihood system of crop agriculture, livestock rearing, and use of different varieties of forest products. An average rural household owns 3.48 acres of land, which is often spread over different agro-ecological zones and altitudes.

The rural landscape is highly susceptible to landslides, soil run-off and seasonal floods owing to its characteristic steep terrain, fragile geological conditions and heavy rains. In certain pockets, intensive land use has caused soil erosion, landslides and forest degradation resulting in depletion of soil fertility and overall land degradation. These changing landuse scenarios and its management practices are eroding mountainous ecosystems services. Loss of top soils, vegetation covers, frequent floods and land slides are some of the examples of resource erosions. An example of such a situation is observed in Radhi Gewog, where with an area of only 29 square km, around 10 percent of the land has been lost or rendered unproductive due to land degradation and landslides. There is a general understanding that anthropogenic factors such as overgrazing, deforestation, poor farming practices, poor soil and irrigation water management and indiscriminate development of infrastructure such as roads have contributed to the land degradation problem.

The ecosystem services are now being disturbed mainly through events of land degradation that includes loss of top soils, landslides and flash floods. These events are triggered largely by removal of vegetative cover through deforestation and over grazing, poor management of agricultural land and water resources, and construction of infrastructures to meet the needs of growing population. This is a serious concern for Bhutan when the arable land is less than 8% of the total land, where more than 70% of the arable land is under dry land farming system, and urbanization is taking place at a rapid pace. On an average, a household cultivates less than two hectares of land. Any loss of soil or land from these sites would reduce crop yield in addition to adding massive sediment loads into rivers which are the sources of the country's clean hydro energy.

Several initiatives have been taken to combat land degradation such as, review of the 1979 Land Act, land management campaigns carried out in various parts of the country since 2005 and commencement of the Sustainable Land Management Projects.

C. Strategy

The Ministry of Agriculture is preparing a National Action Plan (NAP) in consultation with a wide range of stakeholders to identity the root causes of land degradation and its likely mitigation measures. It is expected that the most of the existing programmes such as land management, community forest management, rangeland management and water management would feature in this action plan though the key elements will be sustainable land management including soil conservation and management of land.

The focus of the Integrated Soil Fertility & Sustainable Land Management Programme in the Tenth Plan will be on mainstreaming sustainable land management into government policies and plans. Strengthening database management & information, dissemination of information for extension workers, farmers, planners and policy makers shall be the key strategies adopted. Piloting and replication of effective application of sustainable land management practices and capacity building of the local communities will be pursued. The principles of sustainable land management and

integrated water resource management (IWRM) will also be increasingly used to guide natural resource management activities to increase food production and maintain healthy eco-system services in the plan period.

Efforts will be made to identify and map critical/vulnerable areas through production of soil fertility maps. This will help promote best practices for soil fertility management through developing and disseminating information on soil classification and land capability and promotion of integrated soil fertility management. The land use data of 1999 will also be updated for effective planning and management purposes.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Proportion of rural households living in poverty line reduced from 30.9% to 20% Proportion of rural households living below the poverty line reduced from 30.9% to 20% through enhanced food security	Increase arable land productivity through integrated soil fertility management Policy decisions guided by soil and land information studies	Sustainable land management practices adopted & capacity of stakeholders enhanced Land evaluation and land capability information available for Dzongkhags National Land Management Strategy developed and implemented	Soil, Plant, & Water Sample Analysis Land Evaluation and Land capability information made available Soil Quality Assessment & Integrated Fertility Management Sustainable Land Management Capacity strengthened Preparation of National Action Programme for Land degradation

E. Management Arrangements

Institutional arrangement

The Ministry of Agriculture shall be the overall execution and coordination agency for the Programme. The National Soil Service Center under the Department of Agriculture shall be main agency for the implementation of the Programme in collaboration with the Dzongkhags and Gewogs.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Soil, Plant, fertilizer and Water Sample Analysis	5.000
3	Sustainable Land Management Project	245.000
4	Mainstreaming of sustainable land management	16.000
	Total	**266.000**

MoA/10: RURAL ACCESS PROGRAMME

A. Overview

1	Sector	:	Agriculture
2	Linkage to National Development Objectives & Strategies	:	Synergizing Integrated Rural-Urban Development for poverty reduction and improved rural livelihoods through enhanced rural access to markets and socio-economic services.
3	Expected Results	:	Proportion of rural population living more than 1 hour's walk from motorable road head reduced from 40% to 20%
4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger SDG Goal 1: Eradication of hunger poverty ; SDG Goal 2: Halve proportion of people living in poverty by 2010; SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor; SDG Goal 4: Ensure a robust pro-poor growth process; and SDG Goal 5: Strengthen connectivity of poorer regions and of poor as social groups
5	Donor Agency	:	
6	Target Group	:	Remote Gewogs and Villages
7	Scope	:	National
8	Status – Ongoing or new	:	Ongoing/new
9	Timeframe	:	Five Years (2008-2013)
10	Indicative Capital Cost	:	Nu. 516.090 m
11	External Financing required	:	Nu. 516.090 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Department of Agriculture, Dzongkhags and Gewogs
14	Collaborating Agencies	:	Ministry of Works and Human Settlement
15	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Rural access is widely acknowledged in Bhutan by policy makers and rural communities as a highly essential and critical intervention for poverty alleviation and broad based development. Without adequate rural access, many development initiatives in of themselves provide marginal returns.

Improving rural access through farm roads and power tiller tracks however constitutes an enormous challenge given the rugged terrain and scattered settlements of the rural population. The construction of farm roads and power tiller tracks was given high priority during the Ninth Plan as it was seen as an important strategy to raise living standards through enhancing rural accessibility.

During the Ninth Plan, approximately 800 km of farm road and 173 km of power tiller tracks have been constructed. As a result, the proportion of rural households located within a distance of an hour's walk has decreased from 58 percent in 2000 to 40 percent in 2005. According to the Vulnerability Assessment and Mapping study carried out by the Ministry of Agriculture and World Food Programme in 2005, 37% of the Gewogs falling under the most vulnerable category

emphasized that improvement of road accessibility would reduce food insecurity in their Gewogs. Keeping in line with the Tenth Plan goal of poverty reduction, the sector's objective is to reduce the proportion of population living beyond one hour's walk from a motorable road-head to 20%.

The construction of 63 km of farm roads in the 6 eastern Dzongkhags will be funded under the Agriculture Marketing Enterprise Promotion programme (AMEPP) during the Tenth Plan. The programme shall, taking environmental concerns among other factors into consideration, improve the quality & design of roads constructed. Clear and relevant policy in farm roads development must be adopted and pursued. There is a need to better handle the clearance procedures in terms of certification/clearance by different/relevant agencies.

C. Strategy

The key strategy of the sector in the Tenth Plan shall be the construction of farm roads and power tiller tracks in the rural areas, which will be guided by the Rural Access Master Plan. This plan will be based on the Dzongkhag Rural Access Planning (DRAP) reports. DRAP is finalized in 12 Dzongkhags and the reports on the remaining 8 Dzongkhags will be completed by August 2008.

In order to expedite the process, the Department of Agriculture shall out-source some of the survey, design and supervision of the constructions. This is also to lessen the work burden on the already-overstretched Dzongkhag Engineering Sector. The ultimate expectation is the improvement in quality of roads designed and constructed by outsourcing some of the survey, designs and supervisions of constructions while backstopping to ascertain acceptable standards, environmental friendly techniques for road construction. The Central Machinery Unit located in Bumthang will provide technical backstopping through the provision of earth moving machineries at subsidized rate.

The most important approach is to have a very clear and relevant policy for farm roads development. Such a policy would help ensure that all Gewogs and Dzongkhags follow a clear, transparent and consistent screening and prioritization process. The policy must also have clear directives on construction of bridge and maintenance of roads constructed. Maintenance of roads will be given due priority to ensure their long term sustainability. Specific standards/specifications of different roads and maintenance policy with clear roles and responsibilities of different agencies/communities shall be specified in collaboration with the Department of Roads taking into consideration the realistic capacity of the community.

The implementing agencies will be adequately backstopped to ascertain that the roads are constructed to acceptable standards and environmental friendly techniques are applied. To support construction of farm roads, CMU will maintain a pool of machinery equipment so that infrastructure work beyond the capacity of outsourced agencies can be taken up without delay. Timely clearance for rural access activities shall be ensured by streamlining the procedure in consultation with relevant certification/clearance agencies.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living below the poverty line reduced from 30.9% to 20% through enhanced food security	Proportion of rural population living more than 1 hour's walk from a motorable road head reduced from 40% to 20%	Farm road and PTT Maintenance Policy in place FR and PTT survey, design and supervision outsourced 750 Kms of FR constructed using CMU machineries (Baseline 250 Kms)	Development of Farm Roads and PTT maintenance policy Outsourcing of Farm Road Survey, Design & Supervision Works Purchase of Non-destructive Testing Equipment & Procurement of Aerial Photos/ Maps Strengthening of CMU, Bumthang

E. Management Arrangements

Institutional arrangements

The overall coordination and execution of the Programme shall be carried out by the Department of Agriculture. Although construction of the farm road and power tiller tracks are carried out by the Dzongkhags and Gewogs, the Department in collaboration with Central Machinery Unit (CMU), Bumthang will continue to provide technical support, design, supervision and quality control.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Purchase of Non-destructive Testing Equipment, Procurement of Aerial Photos/ Maps	1.100
2	Outsourcing Farm Road Survey, Design & Supervision Works	9.200
3	Farm Road & Power Tiller Track Maintenance Policy	1.000
4	Machinery support for farm roads construction	61.900
5	Construction of Farm Roads (Spillover)	442.890
	Total	**516.090**

MoA/11: FARM MECHANIZATION PROGRAMME

A. Overview

1	*Sector*	*:*	*Agriculture*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through farm mechanization*
3	*Expected Results*	*:*	*Out-reach farm machinery services extended to gewog level.*

4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger; SDG Goal 1: Eradication of hunger poverty SDG Goal 2: Halve proportion of people living in poverty by 2010 SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor SDG Goal 4: Ensure a robust pro-poor growth process
5	Donor Agency	:	
6	Target Group	:	Farming Communities
7	Scope	:	National
8	Status- Ongoing or new	:	Ongoing
9	Timeframe	:	Five Years (2008-2013)
10	Indicative Capital Cost	:	Nu. 60.696 m
11	External financing required	:	Nu. 60.696 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Department of Agriculture, Agriculture Machinery Center, Dzongkhags and Gewogs
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The Agriculture Machinery Center (AMC) was established in Paro in 1983 with the objective to promote farm mechanization in Bhutan. Three more regional centers were established later at Khangma, Bhur and Bajo to extend agricultural machinery service coverage to remote farming communities. Since its establishment in 1983, the AMC has successfully established more than 6,000 small agro-based enterprises in the country such as rice mills, flour mills, oil mills and power tillers. Such labor saving machinery and equipment have served to ease the life of the farming community. The demand for labor saving technological devices is quite high and various promotional events and activities advocating this are being carried out. Even as no formal assessments have been carried out to support this, it is known that farm mechanization has helped address the shortage of farm labor to a large extent and reduced the drudgery and backbreaking nature of farm work.

Farm Mechanization probably is inevitable and will continue to play a pivotal role during the Tenth Plan and in the long term given the emphasis on expanding the commercial orientation of agriculture. With the limitation on employment in the civil service, the provision of agriculture services though will increasingly become difficult. The focus of the Farm Mechanization programme will therefore be directed at supporting entrepreneurs who will provide such services to individual farmers. On the other hand, the AMC will also extend the outreach of farm machinery, equipment and tools to more remote areas, provide timely and quality back up support for installation, repair and maintenance and continue to conduct research on innovative and appropriate farming technologies. The approach will also be to strengthen the private sector in the manufacture and development of farm machines.

C. Strategy

In the Tenth Plan, the AMC will continue to pursue the promotion of labor saving technologies as in the past basically in a holistic manner, i.e. carry out all the supporting activities such as making available the quality and appropriate technologies, providing back-up support services, training and carrying the research and development. Currently the Japanese Assistance for farm mechanization as KR-II Grant and Technical Assistance Project are substantial and will continue to play an important role throughout the Tenth Plan period and beyond. However, efforts are simultaneously being made to make farm mechanization activities self sustaining in the long term by developing indigenous technologies. In view of high demand for certain subsidized farm machinery, the programme will study and review the provisions of subsidy on farm machineries.

With the intention to reach out to the more vulnerable and remote rural areas in providing timely and quality back-up farm mechanization support services, the Farm Mechanization programme will establish Gewog Machinery Centers in five Gewogs and eighteen private agricultural rural workshops.

An important strategic aspect will be to strengthen the involvement of Farmers' groups, associations and cooperatives and private enterprises dealing in farm machinery and related services. Efforts will be made to build the capacity of such groups to enable them to provide reliable services to farmers when required and develop appropriate storage structures. While the AMC will continue to support the individual farmers, the emphasis will be to support the groups, communities and individuals who in turn will provide services to the farmers in their localities. Training the Gewog extension and farmers' groups on machine installation, repair and maintenance shall be pursued.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living below the poverty line reduced from 30.9% to 20%	Farm labor shortage addressed to a large extent	Sustainability of farm machineries enhanced Safe and quality services ensured Capacity of end users enhanced Outreach of farm machinery services extended to Gewog level	Strengthening R&D Inspection and Quality Control Capacity Building Enhancement of Outreach Services Infrastructure Development

E. Management Arrangements

Institutional arrangements

The Department of Agriculture shall be responsible for the overall execution and coordination of the programme. The AMC through its regional centers will play a key role in enhancing outreach services and building capacity of all end-users.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Enhancement and sustainability of farm machinery	23.360
2	Inspection and Quality Control	4.061
3	Improving efficiency and effectiveness of farm technology	3.828
4	Enhancement of Outreach/support Services	28.750
5	Supply and distribution of revolving farm machinery	0.697
	Total	**60.696**

MoA/12: EXTENSION COORDINATION AND INFORMATION MANAGEMENT PROGRAMME

A. Overview

1	*Sector*	*:*	*Agriculture*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods from enhanced agricultural extension services*
3	*Expected Results*	*:*	*Commodity production focused based on suitability and economic potential of areas through mapping of potential production sites, data generation and publications; and sixteen technologies on different management and production aspects generated & applied in field.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger.* *SDG Goal 1: Eradication of hunger poverty* *SDG Goal 2: Halve proportion of people living in poverty by 2010* *SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor* *SDG Goal 4: Ensure a robust pro-poor growth process*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Farming communities*
7	*Scope*	*:*	*National*
8	*Status – Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*2008-2013*
10	*Indicative Capital Cost*	*:*	*Nu. 12.000 m*
11	*External Financing Required*	*:*	*Nu. 12.000 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*Department of Agriculture*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

Commodity extension has a definite goal with focus approach in collaboration with and participation of all the relevant stakeholders targeted towards achieving production increase within a given period of time having linked to access and markets. In the Tenth Plan, attempt will be to refine extension services addressing location specific potentials and constraints to enhance households and national food security and income.

C. Strategy

The programme strategies for the Tenth Plan will be to harmonize, rationalize and link research and extension services with relevant agencies, and facilitate commodity development approach through effective field demonstration and capacity building process.

The agricultural extension policy has been reviewed and re-formulated with an objective to re-vitalize the extension services for enhancing the delivery of services. Based on past experiences and lessons learnt, the following strategic activities will be pursued:

- Review agriculture diploma curriculum of CNR in consultation with the technical departments of the MoA;
- Develop proper supervision and monitoring system for Departments and Dzongkhags;
- Ensure availability of proper extension materials;
- Equip all geog RNR centers adequately with equipment and materials required for providing required extension services;
- Adopt and institute a reward and penalty system based on performance of the field staff to improve performance and service delivery;
- Develop and endorse clear guidelines for deployment, placement and transfer of extension staff;
- Develop clear and agreed terms of reference for extension staff;
- Establish extension division in technical departments to improve the coordination of extension activities including supply of inputs;
- Institute a system of a regular supervisory contact between extension staff and their supervisors; and
- Link research activities to extension services and vice-versa.

D.Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living below the poverty line reduced from 30.9% to 20%	Commodity production based on suitable production areas through mapping of potential sites, data generation and publications 16 technologies on different management and production aspects generated and applied in the field	Farmers adopt scientific farming practices Functional farmers group established with clear mandates and responsibilities	Collection of data and publications Capacity building and awareness Development of extension materials Supply of extension tools and equipment

E. Management Arrangements

Institutional arrangments

The Department of Agriculture shall be responsible for the overall execution, coordination and implementation of the programme in collaboration with other agencies, Dzongkhags and Gewogs.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Information generation and management	2.000
2	Farmers training and extension materials	6.000
3	Technology Transfer and Community Development	4.000
	Total	**12.000**

MoA/13: FEED & FODDER DEVELOPMENT PROGRAMME

A. Overview

1	*Sector*	*:*	*Livestock*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced livestock development*
3	*Expected Results*	*:*	*Land brought under improved pasture development increased by 20%, from 3864.5 acres 2006/07 level to 4636.92 acres by 2013*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger and MDG Goal 7: Ensure environmental sustainability. SDG Goal 1: Eradication of hunger poverty SDG Goal 2: Halve proportion of people living in poverty by 2010 SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor SDG Goal 4: Ensure a robust pro-poor growth process*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Farmers rearing livestock*
7	*Scope*	*:*	*Nationwide*
8	*Status – Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 23.076 m*
11	*External financing required*	*:*	*Nu. 23.076 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*Department of Livestock, Dzongkhags and Gewogs*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

Livestock plays a vital role in the agricultural and rural economy of Bhutan, particularly in the context of the livelihoods of rural farming communities. Not only do they produce food directly for self consumption and sale, livestock also provide key inputs to crop agriculture. Many farms in Bhutan are also too small to justify owning or using a tractor and often the alternatives are animal power or human labor. Moreover, livestock for most small holder farmers provide a ready source of income to help purchase the necessary inputs for crop production such as seeds and fertilizers. As such livestock rearing for farmers in Bhutan contributes to multiple livelihood sources and offers viable pathways out of poverty. Additionally, it is an indispensable asset of rural farming communities and a core aspect of their human capital as it notably impacts on their health and nutritional well being.

As of 2005 the total livestock population was 664,452 of which 338,847 or 51% comprise cattle population (Department of Livestock Bulletin, 2007). More than three fourths of all households in Bhutan also own cattle. Given this context, an important programme since the 1980s has always been the feed and fodder development programme. Significant efforts have been made in the areas of fodder germplasm production, improvement of nutrition and feed mills, development of rangelands, etc. However, the skewed distribution of pasture land must be effectively addressed in the light of the enabling provisions under the Land Act 2007. There is also the urgent need to increase improved pasture coverage to address shortage of feed and fodder, particularly during the winter. The poor quality of feed also remains a critical issue.

To date, fodder germplasm (seeds & seedlings) are distributed with full subsidy to farmers. The introduction of improved pastureland is yet to make an impact in terms of coverage and only 1.7 percent of households have improved pasturelands.

C. Strategy

Research on better and improved varieties of feed and fodder, improved technological packages, alternative sources and integration of fodder production with horticultural development will be carried out in the Tenth Plan under the Feed and Fodder Development programme. In addition, based on findings from pilot studies, the Department shall promote leasing of Government reserved land for improved pasture development and initiate appropriate measures to improve rangeland management in high altitude regions. Improved pasture production will also be actively encouraged in private land to enhance production. Access to fodder germplasm for farmers will also be improved by upscaling establishment of fodder germplasm banks and building capacity of farmers in fodder germplasm production. There is the need to conduct research on new improved fodder species and scale up existing fodder germplasm banks. The National Tsamdro and Grazing Management Policy and strategies will be finalized and implemented.

The revitalization of animal nutrition and feed mills shall also be taken up in the Tenth Plan. Micro feed mills will be established in potential areas and farmer's groups will operate and manage them. In order to improve the feed quality, the programme shall review the existing centralized system of tendering and make necessary improvements. The livestock information and database management will also be strengthened.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living below the poverty line reduced from 30.9% to 20%	Land brought under improved pasture development increased by 20% from 3864.5 acres to 4636.92 acres by 2013 Farmers adopt improved technologies to enhance feed and fodder development	National grazing resource management policy and strategies implemented New fodder species adopted by 20%, from 3208 farmers (2006/07) to 3849.6 farmers by 2013	Rangeland management and development Leasing of government land for improved pasture development Pasture Development in private & government lease land Fodder germ-plasm production, distribution and quality control Infrastructure development Animal Nutrition and Feed Mill

E. Management Arrangements

Institutional arrangements

The Department of Livestock shall be responsible for the overall coordination and execution of the programme. The National Feed and Fodder Development Programme under the Department shall provide technical inputs for implementation at the Dzongkhag and Gewog levels. The programme will be implemented in close coordination with the research and extension services in the promotion of feed & fodder development.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Pasture and Fodder Development	2.850
2	Animal Nutrition and Feed Mill	2.328
3	Rangeland Development	1.258
4	Infrastructure Development	13.250
5	Agri machineries, general tools, office equipment and professional services	3.390
	Total	**23.076**

MoA/14: LIVESTOCK HEALTH & LABORATORY SERVICES PROGRAMME

A. Overview

1	Sector	:	Livestock
2	Linkage to National Development Objectives & Strategies	:	Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods from enhanced livestock development
3	Expected Results	:	Reduction in loss of livestock from diseases by (1.2%) from 17913.6 numbers of death in 2005 to 13779.4 numbers of death by 2013. Number of farmers adopting stall feeding increased by 10%
4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger; SDG Goal 1: Eradication of hunger poverty SDG Goal 2: Halve proportion of people living in poverty by 2010 SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor SDG Goal 4: Ensure a robust pro-poor growth process
5	Donor Agency	:	
6	Target Group	:	Livestock rearing households
7	Scope	:	National
8	Status – Ongoing or new	:	New
9	Timeframe	:	Five Years (2008-2013)
10	Indicative Capital Cost	:	Nu. 145.490 m
11	External Financing Required	:	Nu. 145.490 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Department of Livestock, Dzongkhags and Gewogs
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Livestock health services play a vital role in livestock development. With the increase in exotic crossbreeds, the livestock population is becoming more susceptible and vulnerable to diseases. This is further compounded by the increasing threats of trans-boundary diseases such as avian flu, rinderpest, etc.

Currently there are four regional veterinary laboratories at Gedu, Gelephu, Bumthang and Khaling. Each of the regional laboratories caters to the nearby Dzongkhags and central farms. During the Ninth Plan, a total of 66,962 samples were tested and clinical services were provided to peri-urban farmers. Case studies and research were also carried out on the warble problems in Laya and Paro, tuberculosis and mastitis survey in Thimphu and sero-surveillance for bird flu in the country. Due to the systematic monitoring and purposive sero-survey exercise, the country was conferred the status of "free from Rinderpest" in 2005 a significant achievement of the disease prevention and control programme.

There is still immense need to strengthen animal health services. Diseases such as Zoonotic, Foot and Mouth, Gid and Rabies, Avian Influenza, etc. will continue to be a major threat to livestock health and development. Basic standard materials & equipments to carry out livestock extension

health and laboratory activities continue to be inadequate in the gewog centres. There is also a need to strengthen both clinical and epidemiological animal health services and infrastructure.

C. Strategy

During the Tenth Plan, the programme shall strengthen the existing infrastructure facilities, services, management and HRD to enhance efficiency, effectiveness and timely delivery of animal health services to rural communities, particularly in remote areas. The creation of Disease Free Zones (DZFs) regarding livestock diseases like FMD, rabies, etc are to be initiated. In order to improve and increase the animal health coverage and accessibility in remote areas, community animal health workers will be trained and necessary equipment, knowledge and skills provided. Additionally, other outreach programmes such as the mobile veterinary clinic and establishment of veterinary outpost clinic are to be carried out.

The basic materials & equipments required for extension health and laboratory activities at the Gewog Centers will be supplied under the programme and such supplies will be effectively monitored and inventoried. A more effective coordination mechanism between the National Center for Animal Health (NCAH), Regional Veterinary Laboratories (RVL), Dzongkhag Field Units and the Gewog Extension Services, and Bhutan Agriculture and Food Regulatory Authority (BAFRA) in terms of disease surveillance and regulatory measures shall be established. The responsibility of the various national focal points for disease prevention, vaccine production and distribution and clinical services need to be clearly spelt out and will be undertaken.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living below the poverty line reduced from 30.9% to 20%	Reduction in loss of livestock from diseases by 1.2% from 17913.6 deaths in 2005 to 13779.4 numbers of death from disease in 2013	Reduced incidence of diseases outbreak by 20% Modality on Disease Free Zones creation put in place Nos. of animal health workers trained	Disease prevention & control Veterinary Epidemiological services strengthened Vaccine Production, Procurement & Distribution Clinical and Laboratory Services Regional Veterinary Laboratory Services National Animal Hospital out-reach programme Training of Community Animal Health Workers Infrastructure development Provision of livestock health services to the rural areas

E. Management Arrangements

Institutional arrangements

The Department of Livestock shall be the overall execution and coordination agency for the Programme. The National Center for Animal Health under the Department as an apex body for livestock health, shall provide technical inputs through the network of Regional Veterinary

Laboratories, Dzongkhag field units, national focal points for disease prevention and control, vaccine production and distribution, national referral veterinary laboratory, clinical services, clinical research and extension coordination.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu in million)
1	National Centre for Animal Health (Serbethang)	43.480
2	Regional Livestock Development Centre (Tsimasham) – provide livestock health, breeding, feed and fodder and other allied services	11.500
3	Regional Livestock Development Centre (Wangdue) – provide livestock health, breeding, feed and fodder and other allied services	21.032
4	Regional Livestock Development Centre (Zhemgang) – provide livestock health, breeding, feed and fodder and other allied services)	11.500
5	Regional Livestock Development Centre (Khangma) – provide livestock health, breeding, feed and fodder and other allied services	11.500
6	National Animal Hospital, Langjophakha, T/phu-Provision of clinical veterinary Services	44.580
7	Livestock Central store, P/ling- renovation and fencing	1.900
	Total	**145.490**

MoA/15: LIVESTOCK BREEDING AND INPUT SUPPLY PROGRAMME

A. Overview

1	*Sector*	*:*	*Livestock*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods from enhanced livestock development*
3	*Expected Results*	*:*	*Livestock productivity enhanced from 1.9 kg milk/day/ animal (baseline 2007) to 2.185kg milk/day/animal by 2013. 85% of livestock input demand met through in-house capacity.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger;* *SDG Goal 1: Eradication of hunger poverty* *SDG Goal 2: Halve proportion of people living in poverty by 2010* *SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor* *SDG Goal 4: Ensure a robust pro-poor growth process*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Farmers rearing livestock*
7	*Scope*	*:*	*National*
8	*Status – Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 146.670 m*

11	External Financing Required	:	Nu. 146.670 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Department of Livestock, Dzongkhags and Gewogs
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The crossbreeding programme for cattle as well as other species began in 1985. The breeding programme was supported through the establishment of farms across the regions. Currently, there are two exotic cattle farms, two Mithun farms, one Nublang farm, three pig breeding centers, three poultry farms, one sheep farm, one horse farm and two fish culture farms located in different parts of the country. The improved breed bulls from these farms are the main sources of input supply for cattle breeding in the villages. This is further supported through artificial insemination services. Although the percentage of improved livestock breeds as a share of total remains quite low at present, there is good potential and increased demand for improved breeds in the peri-urban areas and for crossbreed of Siri and Mithun in the rural areas.

Under the current scenario, most of the infrastructure of government farms requires either major renovation or re-designing. Further, the quality of feed needs improvement as the existing centralized system of tendering has not been very effective in improving the quality of feed to enhance livestock production. Additionally, the viability of existing breeding farms is compromised due to existing management and operations system which are geared more towards meeting social objectives rather than fulfilling economic priorities. The national livestock identification and recording system must be reviewed and modernized to facilitate useful information database. The inventorying of information could also be designed to achieve uniformity and scope for periodical updates to incorporate pertinent changes in livestock population and relevant dynamics.

C. Strategy

In view of the constraints highlighted above and to ensure adequate input supply for improving livestock production in rural areas, the strengthening of farm infrastructure and diversification of farm activities will be given priority in the Tenth Plan. Farm infrastructure development shall focus on introducing appropriate designs while revamping the existing ones and constructing additional facilities.

Business and management systems will be introduced in the farms to enhance their economic viability and preparae them for privatization in the long term. The existing livestock breeding policy and strategy will be reviewed and standard codes of practice will be developed to enhance productivity. The adoption and dissemination of standard codes of practice in private farms to enhance productivity shall be initiated and shall include the dairy farm record keeping, livestock inventory and other modern methods of dairy farming. The production of breeding stock through contract farmers will be promoted and the design and implementation of IMS undertaken.

More livestock input generating farms also need to be established at strategic locations for easy generation and distribution to client districts and farms. For example, a fish seed production centre will be established at Sonamthang in Samdrupjongkhar to cater to the increased meat demand of the Dzongkhag and six eastern dzongkhags. Currently all fingerlings are supplied from Gelephu and this supply is often hampered by militant insurgencyand law and order situation in Assam.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living below the poverty line reduced from 30.9% to 20%	Livestock productivity enhanced from 1.9kg milk/day/ animal (baseline 2007) to 2.185kg milk/day/ animal by 2013 Livestock cross breed population increased by 25%	Improved breed supply increased by 25% National cattle identification and recording system developed Farmer's managed input production unit supported Nublang farm strengthened Native Breed Conservation programme developed	Systematic cross- breeding programme in place Supply of high performing and adaptive breed Improved database management system Supporting establishment of farmer managed livestock Input production unit Enhancing productivity of government farms

E. Management Arrangements

Institutional arrangements

The Department of Livestock shall be responsible for the overall execution and coordination of the programme, particularly for carrying out policy reviews and development of database and management system. The implementation of the programme will be carried out in collaboration with the Dzongkhags and Gewogs.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Livestock Breeding	20.790
2	IMS and M & E	5.450
3	Livestock Input Supply	120.430
	Total	**146.670**

MoA/16: LIVESTOCK PRODUCTION PROGRAMME

A. Overview

1	Sector	:	Livestock
2	Linkage to National Development Objectives & Strategies	:	Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods from enhanced livestock development
3	Expected Results	:	Value of livestock production increased from Nu. 550 million to Nu. 600 million per year Increased dairy production from 7179 MT (baseline 2007) to 7897 MT by 2013 Increased meat (poultry, pork, beef and fish) production from 2001.7MT (baseline 2007) to 2202 MT by 2013.
4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger; SDG Goal 1: Eradication of hunger poverty SDG Goal 2: Halve proportion of people living in poverty by 2010 SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor SDG Goal 4: Ensure a robust pro-poor growth process
5	Donor Agency	:	
6	Target Group	:	Prospective individuals and community based groups
7	Scope	:	National
8	Status- Ongoing or new	:	Ongoing
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 442.640 m
11	External Financing Required	:	Nu. 442.640 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Department of Livestock, Dzongkhags, Gewogs
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Livestock products in Bhutan include mainly dairy products, meat, wool and eggs. In 2005, 19,927 MT of milk, 1,649 MT of pork, 547 MT of beef, 151 MT of chicken and 5.39 million eggs were produced (Dept of Livestock, 2007). Livestock production has contributed significantly to food security and the notable improvements in the nutritional status of the rural population. However, due to land scarcity and the lack of adequate labour and capital investments, livestock production has not grown as rapidly as it could. A large share of the national consumption of livestock products is still imported. According to the Bhutan Agriculture and Food Regulatory Authority (BAFRA), import of livestock products amounted to 6,253 MT of beef, 3,469MT of pork, 781,341 cartons of eggs and 2,134,730 liters of milk between 2000 and 2005.

There is thus considerable potential for expanding livestock production beyond subsistence levels in view of the sizeabole demand within the domestic market, particularly in peri-urban areas and certain districts. In view of this potential for enhancing both income generation capacity and the nutritional and dietary status of the population, the programme will continue to focus on creating an enabling environment to boost livestock production.

However, there are significant constraints in furthering livestock development which needs to be addressed. Inadequate access to land resources for pasture development inhibits growth in livestock production which is further exacerbated by the weak marketing network and mechanisms that are still underdeveloped and inefficient. Information management of livestock production within the country is also weak and needs to be strengthened.

C. Strategy

The key strategy for the programme will be to adopt an integrated approach for livestock production with clear linkages between production, processing and marketing initiatives. Therefore all other related interventions like feed and fodder, livestock breeding, livestock health, etc., will be geared towards increasing livestock production and productivity. A master plan for developing each commodity will be formulated for effective and efficient implementation. Private-public partnerships will also be promoted actively as a major platform to increase production and productivity, processing, value addition and marketing of livestock products.

There is a need to promote improved technologies through subsidies. Under the programme, activities will be conducted to study and introduce product and market chains for farmers to take up planned livestock production activities. The potential of livestock production in peri-urban areas with comparative market advantage shall be further developed. The diversification of farm activities, particularly in southern Bhutan such as fishery, piggery and poultry will be encouraged and assistance provide in facilitating the formation of farmer's groups, associations or cooperatives. Trainings are also to be conducted on product processing, diversification and marketing.

The establishment of appropriate processing units for livestock products shall also be supported and farmers trained to adopt standard codes of practice on livestock production record management. The imposition of restrictions in meat production and marketing on auspicious periods has proved a constraint to the further development of the livestock sector and the removal of such restrictions will be reviewed.

The stall feeding of cattle will be promoted in order to reduce grazing pressure on natural forest/ rangeland, alongside pursuing more efficient use of improved pasture resources. However, this will depend on the availability of government land on lease for improved pasture development. The programme shall coordinate with Feed and Fodder Development Programme on pasture development and provide support in terms of supplying machinery, equipment and technology.

Backyard farms and processing plants will be established and farmers trained on improved backyard management practices. Providing access to market for livestock products and the formation of farmers groups will be employed as major strategies to boost livestock production in rural areas. Proper information management and data generation of livestock production shall be maintained within the IMS system of the Department of Livestock and will help generate necessary policy interventions to encourage domestic sales and exports.

The lessons and experiences from the the Samthang fishery community development project in Wangduephodrang will be analysed and the beneficial poverty alleviating aspects appropriately replicated in other other poor communities. A generic pro-poor livestock development framework will be formulated accordingly and implemented to address poverty alleviation. This will target the poorest of the poor and concentrate on improving livelihoods of marginal communities in remote areas.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living below poverty reduced from 30.9% to 20%	Value of livestock production increased from Nu. 550 million to Nu. 600 million per year	Increased dairy production from 7179 MT (baseline 2007) to 7897 MT by 2013 Increased meat (poultry, pork, beef and fish) production from 2001.7 MT (baseline 2007) to 2202 MT by 2013 9 Dairy groups formed and trained	Strengthening Livestock Development Initiatives through livestock production, processing and marketing Establishment of farmers groups and associations Development of public-private partnership initiatives Training on production and processing Replication of Pro poor activities for livestock enterprises development based on Samthang experiences

E. Management Arrangements

Institutional arrangements

The overall coordination and execution shall be carried out by the Department of Livestock. The various livestock divisions and agencies under the Department shall provide all supportive services required by the Dzongkhags and Gewogs in the implementation of the programme and towards this, focal person from each service providing agencies will be identified with clear roles and responsibilities.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Dairy Production –Milk Processing	120.950
2	Piggery Processing Centre	115.000
3	Poultry Processing Centre	51.000
4	Fishery (Community Farms)	86.000
5	Goat farm (Community Farms)	8.600
6	Sheep (Community Farms)	7.200
7	Equine (Community Farms)	1.700
8	Infrastructure (DVH + RNR EC + NLBP)	52.150
	Total	**442.640**

MoA/17: TARGETED HIGHLAND LIVELIHOOD SUPPORT PROGRAMME

A. Overview

1	Sector	:	Livestock
2	Linkage to National Development Objectives & Strategies	:	Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced livestock development.
3	Expected Results	:	Increased dairy (yak) production by 20%.
4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger. SDG Goal 1: Eradication of hunger poverty SDG Goal 2: Halve proportion of people living in poverty by 2010 SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor SDG Goal 4: Ensure a robust pro-poor growth process
5	Donor Agency	:	
6	Target Group	:	Rangeland communities in high altitude areas
7	Scope	:	National
8	Status- Ongoing or new	:	Ongoing on trial basis
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 34.760 m
11	External Financing Required	:	Nu. 34.760 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Department of Livestock, Dzongkhags, Gewogs, Communities & Private sectors
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Given the remoteness and distant isolation of many highland communities in the northern regions of the country and the particular access difficulties in providing basic socio-economic services and facilities, these communities have had limited benefit from mainstream development. This has necessitated a varied development approach in launching a targeted highland livelihood support programme that promotes sustainable rural livelihood prospects for yak herders in high altitude areas.

Rangeland communities in the highland areas of Bhutan still continue to rely on traditional methods and technology for dairy processing and treating sick livestock. These communities also depend on highly inefficient and laborious dairy processing methods and expend considerable effort and time in gathering energy resources such as fuelwood for heating and cooking. This severely limits the efficient and more rational use of time for more productive pursuits.

Moreover, yak herding is also increasingly becoming less attractive among the younger generation of these communities due to the drudgery and extremely hard work entailed. It is highly likely that unless appropriate measures are undertaken to make yak farming more appealing through the introduction of appropriate technology to ease the labour burden, many young people will eventually migrate from these communities and take up alternative livelihood opportunities eslewhere.

There is also another important consideration. Yak herders have been and are responsible for maintaining and sustainably utilizing the rich resources that are available in these high altitude areas. It will be important to continue promoting resource utilization for these communities while also ensuring that this is done in a sustainable fashion to help preserve the natural resource base.

C. Strategy

The key strategy is to have a targeted and tailored programme to address the priority needs of yak herders who have special needs and considerations. Emphasis will be given to increasing the feed and fodder resource base by promoting winter and summer fodder to produce hay for winter feeding. Hygienic dairy processing will be promoted through distribution of improved dairy processing equipment like cream separator, butter churner and packaging and transportation materials. Farmer's training on improved pasture production, dairy processing and on group formation will be given priority.

Moreover, to promote the sustainable use of alternative energy source in these highland communities, solar lighting and cooking and biogas production using portable digester will be introduced or piloted, whichever is appropriate. To enhance meat production and encourage that this is done in a humane and hygienic manner, a micro meat processing unit will be established. Community Animal Health Workers will also be trained and equipped as a way of increasing the coverage and reach of veterinary services to all these communities. Veterinary clinic outposts will also be established at strategic locations that benefit the majority of households in the area.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living in poverty reduced from 30.9% to 20%	Increased dairy (yak) production by 20%	Increased availability of winter fodder Improved dairy and meat processing technology promoted Increased coverage of animal health services Sustainable alternative energy efficient technologies introduced	Feed and fodder training and demonstration Promote improved fodder variety Construction of Meat processing Units Supply of dairy processing equipment Training of Community Animal health Workers Promote sustainable alternative energy sources for heating, cooking and lighting

E. Management Arrangements

Institutional arrangements

The activities will be executed by the Department of Livestock in collaboration with the concerned Dzongkhag Adminstration, Yak herder communities and relevant outside stakeholders. The promotion of sustainable alternative energy resources will be done in close collaboration with the Department of Energy. The result and lessons learnt from these activities will be shared among stakeholders for further dissemination and consideration for replication in other similar rangeland areas.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Fodder production	13.560
2	Training of Community Animal Health Workers and equipping with necessary basic equipment	2.500
3	Dairy processing equipment	5.000
4	Establishment of meat processing units	1.200
5	Supply of portable solar lamps, solar cookers, biogas digester	10.000
6	Establishment of veterinary clinic outpost	2.500
	Total	**34.760**

MoA/18: PARTICIPATORY FORESTRY PROGRAMME

A. Overview

1	*Sector*	*:*	*Forestry*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction and improved rural livelihoods while promoting environmental conservation*
3	*Expected Results*	*:*	*Proportion of forest area managed as community and private forest increased from less than 1 % of GRF to 4%. Proportion of households involved in community and private forestry increased from 4% to 7%.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger MDG Goal 7: Ensure environmental sustainability SDG Goal 1: Eradication of hunger poverty SDG Goal 2: Halve proportion of people living in poverty by 2010 SDG Goal 17: Acceptable level of forest cover. SDG Goal 18: Acceptable level of water and soil quality. SDG Goal 19: Acceptable level of air quality SDG Goal 20: Conservation of bio-diversity*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Prospective farmers and community forest management groups*
7	*Scope*	*:*	*National*
8	*Status- Ongoing or new*	*:*	*On-going*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 83.200 m*
11	*External Financing required*	*:*	*Nu. 83.200 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*Social Forestry Division (Department of Forests), Dzongkhags and Gewogs*
14	*Documents Available*	*:*	*Framework for Implementation of Decentralized Forestry Activities, 1993; Sector Tenth Plan*

B. Situational Analysis

Participatory forest management was introduced formally in 1979 through a Royal Decree. The importance and the need for people's participation in protection and management of forests was further emphasized through the decentralization policy. Forestry activities with direct relevance for the sustenance of the rural community and those that demanded intensive community participation for effective implementation were decentralized since 1993. Decentralized forest activities include development and management of community and private forests, protection of forests from fire and restricting encroachment into sokshing and tsamdrog, allocation of dry firewood and sanctioning of rural timber. Forestry extension units have been created in the Dzongkhags with trained foresters to assist in the implementation of the decentralized forestry activities and enhancing forestry extension.

With the creation of an enabling policy environment, community forestry has picked up pace recently. The Dzongkhags though still face staff shortages as each extension agent is responsible for two to three gewogs. The difficulty in authenticating land boundaries due to the shortage of surveyors in the dzongkhags has also proved to be a major obstacle for private forestry development. Some of the major community and private foresty activities undertaken over the Ninth Plan were:

- 72 community forests established and handed over to local communities covering 9,000 ha of Forest area engaging 3,940 rural households. 121 private forests established;
- Five CFs has started generating income from sale of forest produce;
- A draft Community Forestry development strategy is prepared. 17 case studies on community forestry aspects published and four volumes of CF manuals published; and
- In-country community forestry study tour guidelines for CFMGs published.

An assessment of the forestry programme over the Ninth Plan shows that there is tremendous potential for developing community and private forestry to further enhance the livelihood opportunities for rural communities. The demand from the rural communities for community and private forestry has been increasing. This programme thus provides for an extended scope to augment farm incomes, promote rural enterprise development and reduce rural underemployment and unemployment. Moreover, the promotion of community and private foresty contributes to increasing local and national forest cover.

C. Strategy

Community forestry development will be given a special focus with the objective of empowering rural communities to sustainably manage local forest resources to enhance income generation, reduce poverty and stimulate employment generation. Up-scaling community forestry, development of community forestry-based enterprises and good governance of forest resources will be strengthened. Some of the specific strategies to promote participatory forestry in the Tenth Plan are as follows.

A clear legal and policy framework will be developed through the revision of the Forest Policy, the FNC Act 1995 and Rules and Regulations to address the legal rights and ownership of community forests for the Community Forest Management Groups. To enable rural communities to fully meet their timber and wood requirements from community forests, the resource area allocation will be increased from the current ceiling of 2.5 ha per household to a minimum of 5 ha per household and

this change will be addressed in the FNC Rules. With the operationalization and strengthening of community forestry across the country, rural timber subsidies will need to be reduced and ultimately phased out in 10-15 years. Pertinent policy measures will also include supporting private forestry assistance to registered land owners.

To enhance income generation, poverty alleviation and employment from community forests, establishment of forest resource based enterprises and regional CF associations will be supported with proper feasibility studies. A business economist will be hired through SNV or some other donors to support CF and NWFP business feasibility planning and product development.

To enhance the capacity and capability of the Department, Dzongkhags and rural communities in the implementation of community forestry, private forestry and forestry extension programmes, human resource capacity will be strengthened through a series of long-term, short-term and in-service training programmes. In particular, community forest management groups (CFMGs) shall be provided a series of in-country training programmes on record keeping, book keeping, and planning aspects to ensure smooth implementation of CF plans, enhance equity and good resource governance.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Forest areas in the vicinity of the communities sustainably managed by local people contributing to enhancement of rural livelihoods and to maintaining the forest cover	Proportion of forest area managed as community and private forest increased from less than 1 % of GRF to 4% Proportion of households involved in community and private forestry increased from 4% to 7%	400 community forests established and managed by local communities (Baseline: 72 community forests) About 1000 private forests developed (Baseline:121 private forests)	Strengthening Community Forestry development Strengthening Private Forestry Strengthening Forestry Extension Services Strengthen human resource capacity at different levels through a series of ex-country and in-country training programmes

E. Management Arrangements

Institutional arrangements

The Department of Forests shall be the overall executing and coordination agency for the Participatory Forestry Programme. The Social Forestry Division shall provide technical backstopping required by the Dzongkhags, Gewogs and the field forestry offices for enhancing management of participatory forestry programme. In order to effectively implement participatory forestry programme, the Department of Forests shall place adequate number of qualified forestry personnel in dzongkhags and gewogs.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Strengthening Community Forestry	62.000
2	Strengthening Private Forestry	5.000
3	Strengthening Forestry Extension Services	16.200
	Total	**83.200**

MoA/19: NON-WOOD FOREST RESOURCE DEVELOPMENT PROGRAMME

A. Overview

1	*Sector*	*:*	*Forestry*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction and improved rural livelihoods through promoting NWFP while ensuring environmental conservation*
3	*Expected Results*	*:*	*Sustainable community management of NWFPs Species increased from 4 to 20;* *At least 100 NWFP management groups formed with significant contribution to income generation in rural communities.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger* *MDG Goal 7: Ensure environmental sustainability* *SDG Goal 1: Eradication of hunger poverty* *SDG Goal 2: Halve proportion of people living in poverty by 2010* *SDG Goal 17: Acceptable level of forest cover.* *SDG Goal 18: Acceptable level of water and soil quality.* *SDG Goal 20: Conservation of bio-diversity*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Community forest/NWFP management groups/Traders/ Businesses*
7	*Scope*	*:*	*National*
8	*Status- Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 65.000 m*
11	*External Financing required*	*:*	*Nu. 65.000 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*Social Forestry Division (Department of Forests), Dzongkhags and Gewogs*
14	*Documents Available*	*:*	*Framework for Implementation of Decentralized Forestry Activities, 1993; Sector Tenth Plan*

B. Situational Analysis

Non-timber forest products play a significant role in the economic and cultural lives of virtually all rural households in the country. Bhutan's NWFP resource base is rich and includes a diverse range of products from medicines to dyes, oil seeds and nuts, incense, forest vegetables, fruits and nuts, bamboo and cane, spices, resins and high value mushrooms. This rich non-wood forest resource base comprises 600 medicinal plants, 97 varieties of mushrooms, 97 different fruits and nuts, 34 bamboos, 14 canes, 25 oil/resin species, 20 spices, 38 fibres, 70 ornamental plants, 181 fodder species, 36 dyes, 12 food crops (yams) and 77 forest vegetables. These are NWFPs that have been identified and described by the Department of Forests and harvested by people in rural areas, traded and exported and do not include others that remain unknown.

NWFPs are used by rural communities for self-consumption with the surplus produce sold in local markets. Numerous case studies and RNR statistical data collected reflect the considerable potential of NWFPs for income generation for rural communities. For instance, RNR statistics reveal that about close to half of all households in the country use bamboo resources for a variety of purposes, 21% of households are engaged in harvesting mushrooms from the wild and 38.6% of households gather fern-tops during summer months. Data from the EODP project reveal that farmers from Mongar, Lhuentse, Trashigang, and Trashiyangtse earned an income worth Nu. 51,247,045 over a period of 10 years (1994-2004) from the sale of lemon grass oil (EODP, 2006). In Bjoka, Zhemgang Dzongkhag a study revealed that 66% of the monetary income was derived from bamboo & cane products. The Laya communities are semi nomadic pastoralists with income from a variety of activities, including 12% of income from yak husbandry, 8% from agriculture and 14% from incense making. However half of their income derives from the collection and sale of Cordyceps sinensis (Namgay, et al, 2007). Also case studies have shown the economic importance of NWFPs. On average Chirata (Swertia chirayita) contributed to 42% of the household cash income of Shingkhar Lauri farmers in 1996-97 (Pradhan et al, 1998) and star anise (Illicium griffithii) provide sizeable cash income for farmers in Yabrang in Trashigang Dzongkhag and Aja Nye in Mongar Dzongkhag (Mukhia et al., 2006).

Despite the tremendous potential and opportunity for NWFPs for poverty alleviation and enhancing income generation in rural areas, NWFP development had not received adequate attention in the national forest resource policy in the past. As such, the NWFP sector is still very much in its infancy with its commercial potential barely realized. This has also resulted in poor priority for NWFPs and inadequate planning and poor resource allocation for its development. Policies will now need to comprehensively cover all relevant aspects such as local participation in NWFP development, investment promotion, technology development, engaging private enterprise and informal sectors, patenting of products/processes etc. Also, the NWFP sector is constrained by the limited technical capacity in the Department of Forests to further expand the sustainable utilization and management of NWFP resources.

Under the DoF leadership, a multi-stakeholder NWFP working group comprising of members from ITMS, RNR Research, Ministry of Economic Affairs, and private sector have been formed to provide technical and advisory support to the Department. This body will provide technical advisory support to the Department of Forests and also form the institutional platform to share experiences and information on various use and management of NWFPs. Some of the other major activities undertaken in expanding NWFP resources during the Ninth Plan were:

- Seven Community Forests specifically for NWFPs established;
- Draft report on commodity chain analysis for wild mushrooms developed;

- National NWFP survey for 11 dzongkhags compiled and 20 NWFP species prioritized for management;
- Draft National NWFP strategy prepared;
- A multi-stakeholder NWFP Working Group formed with the Department of Forests taking the lead and facilitating role; and
- Draft NWFP collection and harvesting framework developed.

C. Strategy

Under the NWFP development programme over the Tenth Plan, NWFP management will be given special focus with the objective of income generation, poverty alleviation and empowerment of rural communities in forest resource management. With some of the decentralized forestry programmes such as protection of tsamdro and sokshing becoming redundant with their nationalization under the Land Act 2007, additional programmes needs to be decentralized to the dzongkhags. Since NWFPs have strong linkages to rural livelihoods and offer tremendous scope for poverty alleviation, this programme will be decentralized to the dzongkhags.

A clear legal and policy framework will be developed through the revision of the Forest Policy, the FNC Act and the Rules to address legal rights and ownership of community groups to collect, harvest, trade and export NWFPs within the community forestry framework. A 5-10 km radial distance from the villages and settlements shall be designated for collection and management of NWFPs for local community management groups, including areas falling within FMUs and protected areas with the exception of core zones. As indicated earlier, NWFP management will also be an additional decentralized forestry programme to be fully implemented by the dzongkhag forestry sector in the Tenth Plan and beyond.

Relevant surveys of prioritized NWFP species will be undertaken and technical guidelines for sustainable harvesting and management framework developed and tested for application and use in the field. The survey methodology and harvesting and management guidelines for at least twenty NWFP species of commercial value will also be implemented in the Tenth Plan.

An essential and high priority activity for the Tenth Plan will be to expand the commercial harvesting of NWFPs. This is expected to further boost livelihoods and income generation in rural communities, particularly for the poor and landless, thereby reducing rural poverty. The harvesting of NWFPs is to be expanded to export level production catering to rapidly growing overseas markets. To facilitate this objective, the establishment of various NWFP resource based enterprises will be facilitated and supported with adequate feasibility studies.

To enhance the capacity and capability of the Department of Forests, Dzongkhags and the Communities in the management and implementation of NWFP programme, institutional capacity of the sector will be strengthened through long-term, short-term and in-service training programmes. The implementation of in-service training programmes will be done in collaboration with relevant institutions such as College of Natural Resources and the Ugyen Wangchuck Forestry and Environmental Institute.

Trainings will be provided for the various community management groups in the areas of book keeping, planning and decision-making in collaboration with the Rural Development Training Centre (RDTC). These groups will also recieve training in harvesting techniques of NWFPs. This will

also effectively empower the rural poor by promoting self-organization and enterprise development through the appropriate development and capacity building of cooperatives, community level enterprises and other necessary support mechanisms.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living in poverty reduced from 30.9% to 20%	Value of Non Wood Forest Products (NWFP) including MAP increased from Nu. 60 Million to Nu. 100 Million per annum	Sustainable community management of NWFPs species increased from 4 to 20 At least 100 NWFP management groups formed with significant contribution to rural income generation NWFP resource assessment guidelines developed Management & harvesting guidelines developed for 6 NWFPs Feasibility studies for NWFP enterprise development conducted	Strengthening NWFP management through development of NWFP strategy, resource assessment guidelines and harvesting manuals Development of legal framework for the use, sale & export of NWFPs Institutional strengthening for leading and coordination of NWFP management Building information network for sale and export of NWFPs and establishment of enterprises Capacity building for DOF personnel and communities

E. Management Arrangements

Institutional arrangements

The Social Forestry Division, Department of Forests shall be the overall executing and coordination agency for the NWFP Programme. SFD shall also provide technical backstopping to the DoF field offices and dzongkhag administrations and coordinate with other agencies in the government and the private sector for NWFP management and trade.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Strengthening Management of NWFP resources	40.000
2	Strengthening Legal Framework for NWFP management	5.000
3	Strengthening coordination and collaboration with NWFP management stakeholders and institutions	5.000
4	Strengthening NWFP product development, enterprises, marketing and trade.	15.000
	Total	**65.000**

MoA/20: FOREST RESOURCES DEVELOPMENT PROGRAMME

A. Overview

1	*Sector*	:	*Forestry*
2	*Linkage to National Development Objectives & Strategies*	:	*Synergizing Integrated Rural-Urban Development and National Spatial Planning for poverty reduction and improved rural livelihoods through promoting sustainable utilization of forest resources while promoting environmental conservation*
3	*Expected Results*	:	*Income from sale of timber earnings increased from Nu. 540 million to Nu. 600 million per annum* *Area under sustainable forest management increased from 5% to 10%.* *Affordable housing materials provided to rural households through creation of enabling forestry policies and timber prices.*
4	*Relevant MDG & SDG*	:	*MDG Goal 1: Eradicate extreme poverty and hunger* *MDG Goal 7: Ensure environmental sustainability* *SDG Goal 1: Eradication of hunger poverty* *SDG Goal 2: Halve proportion of people living in poverty by 2010* *SDG Goal 17: Acceptable level of forest cover.* *SDG Goal 20: Conservation of bio-diversity*
5	*Donor Agency*	:	
6	*Target Group*	:	*Forest Management Units (FMU), working circles and Outside FMU*
7	*Scope*	:	*National*
8	*Status – Ongoing or new*	:	*On-going*
9	*Timeframe*	:	*Five Years (2008-2013)*
10	*Indicative Capital Cost*	:	*Nu. 89.850 m*
11	*External Financing Required*	:	*Nu. 89.850 m*
12	*Executing Agency*	:	*Ministry of Agriculture*
13	*Implementing Agencies*	:	*Forest Resource Development Division, Department of Forests*
14	*Collaborating Agencies*	:	*NRDCL*
15	*Documents Available*	:	*Forest Resource Potential Assessment, 2004; Sector Tenth Plan*

B. Situational Analysis

Forest resources are important for economic and ecological sustainability. A critical dimension of Bhutan's Vision 2020 and GNH development policy is to protect and conserve the country's fragile mountain environment and its unique flora and fauna for future generations. Bhutan's Constitution, adopted in 2008, also strongly enshrines the responsibility of all Bhutanese citizens to preserve the environment to ensure the long term sustainable use of natural resources and clearly stipulates a national obligation to maintaina minimum forest cover of 60% for posterity.

This requires that natural resources are utilized in a sustainable way and any trade-offs between economic gains and conservation are effectively managed to avoid any deterioration of environmental resources. The forest resource development programme has been initiated to develop sustainable

forestry management plans and systems. This is to ensure that forest resources are utilized and extracted in a sustainable manner.

Some of the major initiatives undertaken over the Ninth Plan were:

- 19 FMUs are in operation and 6 units are in the planning stage;
- The total area covered under the FMUs is estimated at 127,362 hectares;
- Management guidelines for management of areas outside FMUs developed; and
- A national forest management code of Bhutan published to guide resource management.

C. Strategy

- Additional FMUs and working schemes will be opened up across the country to meet the domestic wood demands;
- Timber import will be encouraged and facilitated for mega projects, large constructions and industries to ease pressure on state forest resources;
- In order to bring about sustainable management of forest areas outside of FMU, CFs, protected areas system, which is currently not under any management, particularly to meet the rural demand for timber and fuel wood, these forest areas will be brought under some form of scientific management. However, this is an interim measure as many of these areas over time will be brought under community forestry; and
- A nationwide Forest inventory will be conducted to develop a forest resource information base and facilitate decision making in forest based industry investments.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Sustainable management of production forest with science based interventions to meet the long term needs of the people for all types of forest resources Mean rural household cash income increased from Nu. 10,700 to above Nu. 35,000 Proportion of rural households living in poverty reduced from 30.9% to 20%	Income from sale of timber earnings increased from Nu. 540 million to Nu. 600 million per annum Area under sustainable forest management increased from 5% to 10% Affordable housing materials provided to rural households through creation enabling forestry policies and timber prices	6 new FMU management plans implemented (baseline:19 FMUs) 20 Management plans for forests outside FMUs prepared and implemented (baseline: 0) Timber demands for domestic needs are met (baseline: 214,000 cubic meters) One National Forest inventory conducted (baseline: 0) Feasibility study for wood-based industries conducted	Strengthening sustainable management of FMU system for wood production Strengthening management of Forests Outside FMU system Forest Demarcation Development of Wood Based Industries Facilitating Timber import National Forest Inventory

E. Management Arrangements

Institutional arrangements

The overall execution and coordination of the programme shall be carried out by the Department of Forestry. The Forest Resource Development Division will play a key role in providing technical guidelines and other support for implementation of the programme in close collaboration with the Territorial Divisions, National Parks Services and the Natural Resource Development Corporation Limited.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Sustainable Management of FMU	40.000
2	Management of Forest Outside FMU	12.000
3	National Forest Inventory	35.170
4	Forests Demarcation	2.000
5	Wood Based Industries	0.680
	Total	**89.850**

MoA/21: WATERSHED MANAGEMENT AND PLANTATION PROGRAMME

A. Overview

1	*Sector*	*:*	*Forestry*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development and National Spatial Planning for poverty reduction and improved rural livelihoods through promoting sustainable utilization of water and forest resources while promoting environmental conservation*
3	*Expected Results*	*:*	*Master-plan for atleast 2 river basins developed and implemented;* *Degraded and barren forestlands mapped; 10,000 acres of plantation established, 12 nurseries created.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger* *MDG Goal 7: Ensure environmental sustainability* *SDG Goal 1: Eradication of hunger poverty* *SDG Goal 2: Halve proportion of people living in poverty by 2010* *SDG Goal 17: Acceptable level of forest cover* *SDG Goal 20: Conservation of bio-diversity* *SDG Goal 21: Wetland conservation*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Government agencies, communities, wood-based industries, power corporations*
7	*Scope*	*:*	*National*
8	*Status- Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 123.000 m*

11	*External Financing required*	*:*	*Nu. 123.000 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*Department of Forests, Dzongkhags and Gewogs*
14	*Documents Available*	*:*	*Framework for Implementation of Decentralized Forestry Activities, 1993; Sector Tenth Plan*

B. Situational Analysis

Watersheds systems are life supporting and there is a deep interrelationship between it and human activities. As such maintaining and protecting watersheds remain highly essential for a robust economy, conserving environment resources and ensuring a good quality of life. Given that Bhutan's two most important sectors in the national economy – electricity and agriculture – are highly reliant on the state and condition of the country's watersheds, watershed management and planning assumes enormous significance.

The goal of watershed management is to plan and work toward an environmentally and economically healthy watershed benefitting all end users. Effective watershed management involves harmonizing the use of soil and water resources between upstream and downstream areas within a watershed toward the objectives of natural resource conservation, maintaining quality of water, increased agricultural productivity and a better standard of living for people.

Despite its obvious importance, watershed management development activities over the past plans were only implemented in conjunction with other activities such as plantation, soil conservation and land management. Watershed management at the broader landscape level was not given much importance. In the 9th FYP, a Watershed Management Section was created under the Social Forestry Division but due to limited technical, financial and human resources, it remained a section without much activity. However, towards the end of the 9th plan, the SFD took the lead in developing a watershed management framework for the Wangchu River Basin. Some field level land management and soil conservation activities were also taken up at the dzongkhag and field divisions. The Wang Watershed Management project based in Paro had a more sustainable natural resource utilization approach without much specific focus on watershed per se. Some small scale research-based watershed management was also taken up in Lingmuteychu (Wangdue-Punakha) and Radi (Trashigang).

Plantation forestry is an on-going activity. Over the 9th plan, only a little above 5,000 acres of plantation was created. While some of the plantations created in the 1960s are in good health, reached harvesting stage and are being utilized, most other plantations are in poor state due to limited maintenance and tending. Financial constraints have notably been a major obstacle to proper plantation development. As the natural timber stock is fast depleting, it will be increasingly difficult in the future to meet domestic timber and woods demands from the natural forest. Therefore, plantation forestry becomes an increasingly important strategy to address the growing demands for timber and adequate financial support and resources must be provided for the proper development of plantation forestry.

Some of the significant activities for watershed and forestry plantation undertaken over the 9th plan include the following:

- Watershed section within the Social Forestry Division was created; One critical catchment was notified for protection;

- Draft Wangchu River Basin management framework developed;
- A series of land management and soil conservation activities were taken up;
- Norms and Standards for Plantation and Nurseries revised; and
- More than 5000 acres of plantations have been created.

C. Strategy

A holistic and integrated approach to watershed management through different levels of watershed management planning and implementation will be the main strategy for watershed management. With the Department of Forests taking the lead, institutional mechanisms will be developed to mainstream watershed management in the national planning process. To strengthen plantation forestry, a nation wide survey of all the degraded and barren forest lands will be conducted to develop appropriate plantation programmes. The feasibility of outsourcing forest plantations through contract systems will also be studied. Degraded forestlands will be leased out to wood-based industries for growing forest crops to meet their raw materials, commercial timber plantations, carbon sequestration etc.

D. Results Matrix

Impact	Outcome	Output	Projects/Activities
Protection and sustainable management of watersheds and catchments for ecosystem services and human well being	Master plan for atleast 2 major watershed implemented 10,000 acres of barren land brought under the plantation scheme(base line: 53,126 acres)	River basin level management framework developed and implemented for 2 major river basins (Baseline: 1 draft RBM framework for Wangchu prepared) 3 critical catchment areas notified for protection (Baseline: 1 notified) Watershed management committees established and functioning at national and dzongkhag levels (baseline:0) Degraded and barren forest lands mapped for plantation (baseline: 0) 12 nurseries created	Strengthen institutional mechanism across agencies to direct watershed management at different levels River basin level management planning Sub-catchment level management planning Participatory Micro watershed management Mapping of degraded and barren forest lands Strengthen plantation forestry Strengthen nurseries management Strengthen human resource capacity to manage watershed and plantation programmes

E. Management Arrangements:

Institutional arrangements

The Department of Forests will be the lead agency for watershed management and plantation programme. The Social Forestry Division will provide technical backstopping to the territorial divisions, parks and Dzongkhags in watershed management and plantation and liaise with stakeholders for effective implementation of the programme. Different levels of watershed management committees will be formed to steer watershed management.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Strengthening institutional mechanism for effective watershed management	5.000
2	River basin level watershed management planning	18.000
3	Sub-catchment level watershed management planning and implementation	40.000
4	Mapping of degraded and barren forestlands	5.000
5	Afforestation and Re-forestation	40.000
6	Strengthening nurseries management	15.000
	Total	**123.000**

MoA/22: FOREST PROTECTION PROGRAMME

A. Overview

1	*Sector*	*:*	*Forestry*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development and National Spatial Planning for poverty reduction and improved rural livelihoods through promoting sustainable utilization of forest resources while promoting environmental conservation*
3	*Expected Results*	*:*	*Protection of forests from fires, pest and diseases, and effective land use monitoring.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger* *MDG Goal 7: Ensure environmental sustainability* *SDG Goal 1: Eradication of hunger poverty* *SDG Goal 2: Halve proportion of people living in poverty by 2010* *SDG Goal 17: Acceptable level of forest cover.* *SDG Goal 20: Conservation of bio-diversity*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Nationwide*
7	*Scope*	*:*	*National*
8	*Status – Ongoing or new*	*:*	*On-going*
9	*Timeframe*	*:*	*Five Years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 243.040 m*
11	*External Financing Required*	*:*	*Nu. 243.040 m*

12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Forest Protection Division, Department of Forests
14	Collaborating Agencies	:	NRDCL, Dzongkhags, Wood-based industries
15	Documents Available	:	Forest Resource Potential Assessment, 2004; Sector Tenth Plan

B. Situational Analysis

Forest resources are important for economic and ecological sustainability. A critical dimension of Bhutan's Vision 2020 and GNH development policy is to protect and conserve the country's fragile mountain environment and its unique flora and fauna for future generations. Bhutan's Constitution, adopted in 2008, also strongly enshrines the responsibility of all Bhutanese citizens to preserve the environment to ensure the long term sustainable use of natural resources and clearly stipulates a national obligation to maintaina minimum forest cover of 60% for posterity.

The foresty protection programme is geared towards protection of forests from pest and diseases, forest fires, land encroachment and to effectively manage, regulate and facilitate delivery of forestry services. The service delivery of the Department of Forests has been a matter of some public debate and is often questioned. The quality of services has not been upto expectations and the situation is further compounded by a host of problems. These include the rapid change in land use due to the rising expansion of human settlements and road networks that exacerbates the situation. This necessitates the need to maintain an even greater vigilance over resources that are lying adjacent to road heads and human settlements and often easily extractable without too much detection.

Forest fires destroy large areas of forests every year damaging valuable timber and degrading other wood and non-wood resources and biodiversity. As a result of forest fires and subsequent loss of forest cover, land slides and soil erosion occurs frequently. With limited human and financial resources, the DoF is not able to effectively combat forest fires. In the last sixteen years, there have been 988 forest fire incidents and 397,970 acres of forests damaged by forest fire. There have also been a few pest and disease problems such as the dying of Yika in eastern Bhutan, pine die-back in Thimphu-Paro and certain pine looper complications in parts of the country.

The utilization of forest resources is clearly based on the principle of sustainability guided by proper management plans to ensure that the impact on natural forest resources are negligible. However, without proper checks and safeguard measures to effectively monitor these developments there is a natural tendency for communities and private operators to overexploit such resources or even engage in illegal harvesting of forests. Monitoring land use change and forest protection as such is a very important function of this programme and will become even more important with increased development activities in the years ahead.

Some of the major activities undertaken during the Ninth Plan include:

- Revision of the Forest and Nature Conservation Rules 2003, 2006; and
- The FNC Rules 2006 is further revised (draft form) to enhance service delivery. The protection section is revamped to increase its efficiency and effectiveness to curb and control illegal activities on forest and forest resources

Lessons from the 9th plan indicate that a certain amount of reshuffling of programmes are required to be done in line with service delivery and effectiveness of programme functioning. In this

connection, management of forest fires which are more of protection function than extension is now brought under the central programme with the forest protection programme and implementation to be led by territorial divisions and parks.

C. Strategy

- Public service delivery enhanced through decentralization of authority and responsibility from the center to field divisions and dzongkhags with adequate infrastructure facilities made available;
- A strengthened protection unit will be created within DoF to monitor forest pest and disease, and illegal activities;
- To strengthen the protection and management of forest fires, a vigorous forest fire fighting volunteer programme will be established to complement the existing mechanism; and
- A systematic land use monitoring approach will be developed through regular tracking of changes in land use.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Forest cover maintained at 60%	Protection of forests from fires, pest and diseases strengthened	Surveillance system developed for 20 important forest pests, diseases and forest fire Service delivery enhanced	Strengthening Forest Protection from pest and disease and anti-poaching Strengthening forest fire management Strengthening land use monitoring Strengthening service delivery

E. Management Arrangements

Institutional arrangements

The Department of Forests shall be the overall lead agency for the management of the Forest Protection Programme. The Forest Protection Division will provide technical backstopping to the field agencies for implementation.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Strengthen Forest Protection through proper infrastructure development	153.990
2	Strengthen service delivery through improvement in field facilities and creation of enabling regulatory environment	45.050

3	Strengthen Land Use monitoring	2.000
4	Forest Ligitation	00.000
5	Forest Fire Management	26.100
6	GIS and Information management system	15.900
	Total	**243.040**

MoA/23: NATURE CONSERVATION PROGRAMME

A. Overview

1	*Sector*	*:*	*Forestry*
2	*Linkage to National Development Objectives & Strategies*	*:*	*National Spatial Planning to reduce poverty and improve quality of life through promoting sustainable livelihoods while ensuring environmental conservation*
3	*Expected Results*	*:*	*Three Parks and one botanical garden established; Toorsa strict nature reserve operationalized; Present list of protected species conserved and numbers of new species identified for conservation.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 7: Ensure environmental sustainability. SDG Goal 17: Acceptable level of forest cover. SDG Goal 20: Conservation of bio-diversity.*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Protected areas*
7	*Scope*	*:*	*National*
8	*Status- Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 190.000 m*
11	*External Financing Required*	*:*	*Nu. 190.000 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*Nature Conservation Division, Department of Forest*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

Nature conservation is clearly an integral aspect of the sustainable development policy strongly advocated by the Royal Government to maintain a healthy balance between meeting the development needs of the people without undermining or damaging the natural environment.

The key characteristics of the nature conservation programme include maintaining a strategic focus on conserving biodiversity in the protected areas, biological corridors and other conservation areas; supporting positive amd mutually beneficial human-nature interactions; promoting environmental education among the public at large; encouraging partnership in conservation programme to address a wider range of issues; and optimizing the use of limited resources.

The management of parks and protected areas in harmony with competing demands such as infrastructure development, human activity and resulting pressure on environment remains a

major challenge. There is a need for support and guidance from the NEC and other agencies at the national level particularly on benefit sharing of environment conservation.

Currently, there are nine protected areas as parks or wildlife sanctuaries that together constitute 26 percent of the country's total land area. These protected areas are further linked by biological corridors covering some 3,804 km square of forest area to enhance the mobility and movement of wildlife.

Some of the major activities undertaken over the Ninth Plan are:

- Sakten Wildlife Sanctuary and Royal Botanical Park at Lampelri operationalized;
- Biodiversity Act of Bhutan enacted;
- The Convention on International Trade of Endangered Species of Wild Fauna and Flora ratified;
- The Forest and Nature Conservation Rules enacted;
- Collection of Cordyceps sinensis legalized;
- Book on Mammals of Bhutan published;
- Studies on human wildlife conflict, livestock depredation by wild dogs, research on endangered species of fauna and flora in the protected areas initiated; and
- Community based eco-tourism established as Nabji Korphu Ecotourism Trail in the Jigme Singye Wangchuck National Park.

C. Strategy

The strategic focus of the Nature Conservation Programme during the Tenth Plan will be on the sustainable utilization of protected area resources for the benefit of resident communities through sustainable tourism, community management and utlization of local forest resources inlcuding NWFPs. However, designated core zones of protected areas will be strictly protected for biodiversity conservation purposes.

Some of the specific strategies of the programme in the Tenth Plan are as follows:

- Ecotourism will be strongly pursued in protected areas in collaboration with the Tourism Council of Bhutan and tour agencies with the objective of generating sustainable income for park residents from tourism and biodiversity conservation;
- An eco-tourism strategy will be developed;
- Sustainable use of forest resources in the protected areas will be carried out to benefit local residents through ICDP programme;
- Sustainable solution to human-wildlife conflict will be developed and implemented; and
- Three protected areas and biological corridors operationalized.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Environment and ecosystem maintained in pristine condition Livelihoods of communities living in and around protected areas enhanced and not compromised	Atleast 10% of residents in the protected area benefit from eco-tourism and ICDP Present list of protected species conserved and new species identified for conservation	Management of existing parks and botanical gardens strengthened (Baseline: 6 parks operational, 1 botanical park) 3 new protected areas and 1 botanical park in the sub-tropical ecological zone established 4 biological corridors brought under scientific management (baseline: 0) Local communities engaged in Community-based management of forest resources Eco-tourism activities to be initiated in the parks and wildlife sanctuaries	Management of Protected Areas Management of Biological Corridors Management Plan and ICDP Management of Botanical Parks Species Conservation, Research & Monitoring Biodiversity Inventory & Data Management Community forestry and NWFP management in the multiple and buffer zones of all protected areas Tourism programme to be implemented in collaboration with Tourism Council of Bhutan Capacity building to be developed to park staffs and tour guides

E. Management Arrangements

Institutional arrangements

The Department of Forestry shall be responsible for the overall execution and coordination of the programme. Technical support shall be provided by the Nature Conservation Division for implementation of the programme in the protected areas and biological corridors. The park managements shall also closely work with Social Forestry Division and the Dzongkhags and Gewogs to enhance people's participation in planning and implementation of the Integrated Conservation Development Programme pertaining to sustainable management of park resources for income generation and poverty alleviation. The DoF in collaboration with the Tourism Council of Bhutan will be implementing the Eco-tourism activities in protected areas.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Management and Planning of Protected Areas	80.000
2	Management of Biological Corridors	15.000
3	Management of Botanical Parks	50.000
4	Species Conservation, Research & Monitoring and data management	10.000
5	Eco-tourism and ICDP	35.000
	Total	**190.000**

MoA/24: FORESTRY & ENVIRONMENTAL EDUCATION PROGRAMME

A. Overview

1	*Sector*	*:*	*Renewable Natural Resources*
2	*Linkage to National Development Objectives & Strategies*	*:*	*National Spatial Planning to ensure environmental conservation*
3	*Expected Results*	*:*	*Enhanced human resource capacity in the conservation and sustainable management of forest and environmental resources*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 7: Ensure environmental sustainability. SDG Goal 17: Acceptable level of forest cover. SDG Goal 20: Conservation of bio-diversity*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Forestry students*
7	*Scope*	*:*	*National*
8	*Status – Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 170.550 m*
11	*External Financing Required*	*:*	*Nu. 170.550 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*Department of Forest*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

Enhancing the knowledge and technical skills base related to forestry and environment conservation is critical towards building national capacity to effectively implement and manage sustainable development. The concept of forestry education was instituted in Bhutan with the inception of development activities in 1961 to train forestry personnel at the forest guard and forester levels. This is no longer sufficient with the changing times and the manner in which forest and natural resources are now managed, there is a clear need to enhance and upgrade the professionalism and levels of skills and knowledge of environmental frontline and other personnel.

This has led to the conceptualization and eventual establishment of the Ugyen Wangchuck Forest and Environment Institute at Lami Gompa, Bumthang in 2008. Training and education at forest guard and ranger levels will be carried out in the initial years followed by a Bachelors of Science degree in forestry in the future.

C. Strategy

The infrastructure development for the new Institute was completed in 2008. Initially, the programme will focus on conducting diploma level training for forest rangers and certificate level courses for forest guards. As the institute develops, tertiary level training and degree programmes will also be introduced.

Some of the specific strategies of the programme in the Tenth Plan are as follows:

- Development of additional infrastructure for academic, housing, library, sports, etc.;
- Development of teaching curriculum and corresponding syllabus and reading materials;
- Development of learning resources such as library, ICT, laboratories, and field stations;
- Networking and collaborating with other reputable international universities;
- Development of Bhutan Museum of Natural History; and
- Development of degree level programme.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Enhanced human resource capacity in the conservation and sustainable management of forest and environmental resources	Skilled and qualified forest guards and rangers available Scientific knowledge on natural resource of Bhutan generated	Ugyen Wangchuck Forestry and Environment Institute established and functional Publication and dissemination of information on natural resources of the country enhanced	Diploma Training, Degree Programme, In-service /Upgradation Research/ Scholarly Activities Infrastructure Development/Resources Curriculum & Syllabus Development Staff & Student Exchange Programme Library Development Bhutan Museum of Natural History

E. Management Arrangement

Institutional arrangements

The infrastructure development component of the programme shall be executed by the Department of Forestry. For the establishment of the institution, relevant government agencies like the Royal University of Bhutan, Ministry of Education, Ministry of Agriculture and other international agencies shall be closely involved. The Institute and the DoF will liaise with RUB for curriculum development and validation particularly for Diploma and Bachelors level Education Programme. In the beginning of the Tenth Plan, the UWIE programme shall continue at CNR until the infrastructure is ready at Lamegonpa. The Institute will also liaise and collaborate with a number of teaching institutions and universities in the region and internationally to build up the capacity and caliber of the institute.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Diploma Training	14.850
2	Inservice/Upgradation	25.000
3	Research/Scholarly Activities	10.200
4	Curriculum & Syllabus Development	10.000
5	Institutional Collaboration/ Networking	9.000
6	Library development	5.500
7	Sports and Culture Programme	5.000
8	Infrastructure development	91.000
	Total	**170.550**

MoA/25: RNR RESEARCH PROGRAMME

A. Overview

1	*Sector*	*:*	*Renewal Natural Resources*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security, improved rural livelihoods and environmental conservation through RNR research*
3	*Expected Results*	*:*	*10 varieties of food crops, 34 varieties of horticulture crops, 8 species of fodder developed and promoted for higher yield;*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger* *MDG Goal 7: Ensure environmental sustainability.* *SDG Goal 1: Eradication of hunger poverty* *SDG Goal 2: Halve proportion of people living in poverty by 2010* *SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor*
5	*Donor Agencies*	*:*	
6	*Target Group*	*:*	*Farming communities*
7	*Scope*	*:*	*National*
8	*Status- Ongoing or new*	*:*	*Ongoing/New*
9	*Timeframe:*	*:*	*Give years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 214.850 m*
11	*External Financing Required*	*:*	*Nu. 214.850 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*Council for RNR Research of Bhutan (CoRRB)*
14	*Document Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

Research is an integral and important activity of RNR sector development and will continue to play a key role in improving livelihoods of the Bhutanese population and reducing rural poverty. The RNR research is geared towards need based, impact oriented and participatory delivery of research services. Apart from generating technological packages and knowledge on RNR sector development, research also strives to develop improved genetic materials for crops, plants and livestock; introduce new management practices that will raise output or conserve resources; create better understanding on socioeconomic factors that enhance productivity and facilitate poverty reduction. In addition the CoRRB also supports school agriculture programmes to educate and inculcate importance of farming among youths.

Some of the major activities undertaken over the Ninth Plan are:

- Developed and promoted high yielding food crops varieties including 5 varieties of rice, 2 varieties of maize 3 varieties of grain legumes. In rice productivity increased by 5,000 to 10,000 tons/year; and in maize 12-14000 tonnes per year;
- Developed and promoted high yielding horticultural crop varieties (apple 3 varieties, citrus 3 varieties, vegetable 11 varieties, other fruits and nuts 12 varieties, potato 1 variety, persimmon 1variety and cardamom 3 varieties;
- Developed and promoted new fodder species (sub-tropical 3 spp., temperate 5 spp.);
- Developed sustainable management techniques for non-wood forest products (Bamboo, Cane, Daphne, Chirata, Pipla);
- Legalization of the collection of Cordyceps sinensis;
- Generation of 16 technologies on different management and production aspects; and
- School Agriculture programme implemented in 121 schools involving students in vegetable and fruit production, dairy, poultry, piggery and fishery.

There exists a lack of coordination on RNR research between CORRB and non RNR agencies (eg. CNR, ITMS, etc) and also between the agencies within MoA (DoA, DoF, NSSC, NPPC, DoL, BAFRA, etc) resulting in a duplication of efforts, wastage of resources, lack of credibility, etc. Current research priority setting is not based on standard tools and mechanisms and the research priority is not necessarily in line with national priorities.

During the Tenth Plan, the CoRRB will continue to carry out research studies in the five main broad areas of field crop, forestry, livestock, horticulture and RNR systems. In the areas of field crop and horticulture, the focus of the research will be on development of improved varieties, better crop management practices, postproduction processing and marketing. In forestry, the priority will be to conduct research on sustainable utilization of non-wood forest products and intensification of community forestry programme. Livestock research will focus on optimizing feed and fodder resource production (from wetland, dryland orchard and pastoral systems) and breed improvement to increase livestock production. RNR systems research will carry out research on cross cutting issues such as watershed, organic farming, soil and water management, plant protection and socio-economic aspects.

C. Strategy

The main strategies adopted by CoRRB in the Tenth Plan will include the following:

- Pursue adaptive and applied research, and conduct strategic research where appropriate;
- Ensure that the research is based on farmer's needs and opportunities and is participatory in nature and impact oriented;
- Research organization shall be structured to align research outputs with priorities of departmental programmes and needs of farming communities/clients;
- Reach out to poor, marginal, remote communities through research out-reach;
- Validate and showcase research results through on-farm trials, demonstration and technology parks in collaboration with extension; and
- Foster strong linkage and partnership with national, regional and international research institutions/Universities for exchanging technologies and expertise.

Moreover, there is also the need to establish a Technical Committee to promote collaboration between Research and other agencies. Innovative ways and means to promote ownership of research by agencies shall be adopted. The CoRRB shall develop the priority setting mechanisms/tools in terms of research.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean rural household cash income increased from Nu. 10,700 to a Nu. 32,000 Proportion of rural households living in poverty reduced from 30.9% to 20%	10 varieties of food crops, 34 varieties of horticulture crops, 8 species of fodder developed and promoted for higher yield Sustainable Management practices developed	Improved cash crop varieties developed from 62 to 96 Improved varieties of feed and fodder increased from 12 to 20 Improved forest harvesting and cultivation methods and management practices increased from 7 to 22 Management practices for organic farming developed for 5 commodities 10 new improved varieties of cereal crops released (baseline: 10 varieties) Community Based Natural Resources Management (CBNRM) rights developed for 4 major natural resources	Horticulture Research Livestock Research Forestry Research RNR Systems Research Field Crop Research

E. Management Arrangements

Institutional arrangement

The Council for RNR Research of Bhutan (CoRRB) shall be responsible for the overall execution and coordination of the programme. The CoRRB shall also collaborate closely with the technical departments of forestry, agriculture, livestock and other relevant non-departmental agencies of the MoA. The actual research will be carried out by the Research Centers located at Yusipang, Bajo, Jakar and Wengkhar.

Indicative Cost

#	Description of Project/Activities	Indicative Cost (Nu. in million)
1	Field Crop Research (RC Bajo)	36.100
2	Forestry Research (RC Yusipang)	31.950
3	Livestock Research (RC Jakar)	35.300
4	Horticulture Research (RC Wengkhar)	57.000
5	School Agriculture	20.000
6	Research and Extension Services Coordination	18.300
7	Information and Communication Services	16.200
	Total	**214.850**

MoA/26: RURAL DEVELOPMENT TRAINING PROGRAMME

A. Overview

1	*Sector*	*:*	*Agriculture*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.*
3	*Expected Results*	*:*	*Number of RNR farm enterprises increased from 12 to 20 through vocational training.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal1:Eradicate extreme poverty and hunger SDG Goal 1: Eradication of hunger poverty SDG Goal 2: Halve proportion of people in poverty by 2010 SDG Goal 3 Ensure adequate nutrition & dietary improvement for the poor*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Farmers and School dropouts*
7	*Scope*	*:*	*National*
8	*Status – Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 14.520 m*
11	*External Financing Required*	*:*	*Nu.14.520 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture (MoA)*
13	*Implementing Agencies*	*:*	*Rural Development Training Center*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

The rapid school enrolment of children and youths has brought about a situation where an increasing number of young people, including school leavers, are without gainful employment. Agriculture and the broader RNR sector are still employment intensive and remains the largest employment sector that could provide gainful employment for Bhutanese youth and job seekers. It is therefore only logical to encourage young schools leavers to take up employment in the agriculture and RNR sector, which is often plagued by the shortage of labour and could use the workforce. For this to happen, it is important to make both agriculture and off farm jobs attractive by enhancing their commercial prospects.

It was with this objective in mind that the Rural Development Training Center (RDTC) was established in Zhemgang to help build up a critical mass of educated farmers interested in taking up commercial scale farming that is sustainable and rewarding. Initially, the RDT was geared towards inviting youths to undertake agricultural skills trainings that allowed them to be gainfully employed and contribute to nation building. Despite considerable efforts made to offer attractive training opportunities related to farming and work in the RNR sector this has not been attractive enough. The RDTC therefore, currently has focused more on upgrading skill levels and knowledge of existing farmers with the intent that gradually the youth will enroll for the relevant training.

C. Strategy

RDTC will focus on the empowerment of farmers through the provision of information, knowledge and skills, giving special attention to providing equal opportunities for women farmers. Empowerment of farming communities will be pursued through conducting skills based training in specific crop and animal production technologies, farm management and record keeping trainings for successful planning and management, sharing information on recent farming trends and future perspectives and, establishing farmers network for easy sharing of lessons learned and experiences.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean rural household cash income increased from Nu. 10,700 to a Nu. 32,000 Proportion of rural households living in poverty reduced from 30.9% to 20%	Number of RNR farm enterprises increased from 12 to 20 through vocational training at RDTC	300 farmers trained and 60% of them apply farm business skills No. of farmers groups formed through the facilitation and functioning	Training needs assessment including skills requirement Farm Business and Farm Management Training Community and Associations leaders Training. Youth agriculture awareness programme Assessment of training impact and post training support and backstopping needs

E. Management Arrangements

Institutional arrangements

RDTC will function as a non departmental organization reporting to the Secretariat through the HRMD. The RDTC management will be guided by the management board represented by the heads of the organization under the Ministry of Agriculture and other relevant organizations. The head of the RDTC will be responsible to the Secretary, Ministry of Agriculture.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Need based and impact oriented vocational training	9.520
2	Infrastructure Development	5.000
	Total	**14.520**

MoA/27: AGRICULTURE MARKETING PROGRAMME

A. Overview

1	*Sector*	*:*	*Agriculture*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.*
3	*Expected Results*	*:*	*Markets for agricultural goods identified and established within and outside the country.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1:Eradicate extreme poverty and hunger* *SDG Goal 1: Eradication of hunger poverty* *SDG Goal 2: Halve proportion of people in poverty by 2010* *SDG Goal 3 Ensure adequate nutrition & dietary improvement for the poor*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Potential farmers*
7	*Scope*	*:*	*National*
8	*Status – Ongoing or new*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 114.870 m*
11	*External Financing Required*	*:*	*Nu.114.870 m*
12	*Executing Agency*	*:*	*Ministry of Agriculture*
13	*Implementing Agencies*	*:*	*Agriculture Marketing Services, Dzongkhags and Gewogs*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

The sale of agriculture, livestock and forestry products continues to be a major source of income to farmers in Bhutan even as such sales have largely been restricted to the domestic market. The emergence of cash crop exports to neighbouring countries has been a recent development and arisen as a result of improved transport linkages and facilities, better market access conditions and increased demand from food processing industries. The good returns from the cultivation and sale of cash crops, particularly horticultural products, has encouraged many landowners located near roadheads to convert paddy fields into orchards.

There are several constraints that hinder the further expansion of agricultural trade. Firstly, there is a paucity of information on commodity prices and a deep knowledge gap on demand and supply conditions and market outlets. This affects the ability of farmers to plan effectively and make informed decisions. Cumbersome legal requirements and the general lack of an enabling legal environment have also hindered the formation of farmers' groups or associations which could help facilitate agricultural trade both within and outside the country. Institutionally, the lack of adequate human resources continues to hinder the effective implementation of the programme in the field. There is moreover extremely weak coordination between the AMS and the technical Departments of MoA including the extension services and this coordination needs to be improved. Beyond the Ministry, there is a need to strengthen collaboration with the MoEA and the Ministry of Information and Communications. The linkages with external and domestic markets for niche products such as high-value-low-volume and organic products must also be strengthened.

C. Strategy

During the Tenth Plan, the major focus of the Agricultural Marketing Programme will be on developing a marketing framework and strengthening market infrastructure, building up strong market database and information management systems and disseminating proper inventory methods and upgrading the existing information management systems. Market information systems and marketing framework will necessarily include elements that will enable marketing of agricultural produce both within and outside the country. For instance, in the case of pharmaceutical products, identification of new markets will be initiated beside maintaining and strengthening collaboration with ITMS.

Conducting relevant research on niche markets and niche products will also be given priority. Niche markets will need to be identified for high value and organic products, the demand for which is gradually increasing in the global market. The programme will support the revision of the Cooperative's Act to provide enabling legal provisions on farmers' group formation, associations and cooperatives. The formation of associations or cooperatives will be promoted and infrastructure such as collection depots, storage facilities, etc. will be developed to facilitate onward transportation to the markets.

The programme shall also seek to strengthen coordination between marketing and technical Departments within MoA. It will support the amendment of extension policy delineating the marketing responsibility of extension services. The programme shall maintain and reinforce linkages between agriculture marketing, the MoEA and Ministry of Information and Communications. The programme shall also address the human resource requirements for marketing.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural cash income increased from Nu.10,700 to 35,000 Proportion of rural households living below poverty reduced from 30.9% to 20%	Increased agricultural trade both within and outside the country	Market Research and studies conducted In collaboration with ITMS markets for pharmaceutical products explored Agriculture trade policy developed Marketing infrastructure facilities developed Marketing information system improved	Market Research Agribusiness and Trade Promotion Marketing Extension & Farmers' Group Formation Collaboration with FCB for FCB to be pro-active in carrying out physical marketing of RNR produce Market Infrastructure Development of Market Information

E. Management Arrangements:

Institutional arrangements

The Agriculture Marketing Services Division (AMSD) under the Ministry of Agriculture shall be responsible for the overall execution and coordination of the programme. Close coordination shall be maintained with relevant agencies such as the Ministry of Economic Affairs and Ministry of Information and Communications. The implementation of the programme will be carried out in coordination with the research and extension services in the Dzongkhags and Gewogs.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Market Research and Development	15.000
2	Market Information Development	10.000
3	Trade Promotion and Marketing Trails	28.000
4	Marketing Extension & Farmers' Group Formation	24.370
5	Marketing Infrastructure Development	37.500
	Total	**114.870**

MoA/28: BIO-SECURITY AND QUALITY ASSURANCE PROGRAMME

A. Overview

1	Sector	:	Agriculture
2	Linkage to National Development Objectives & Strategies	:	Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through enhanced agricultural productivity, access and marketing.
3	Expected Results	:	At least 3 plant and animal quarantine stations fully equipped and functioning (from 0-3). 100% food handlers trained and licensed by 2013 from 0 in 2007. No. of HACCP certified companies increased by 100% (from 2 on 2007 to 4 in 2013. Quality of all commercial inputs regulated as per standards
4	Relevant MDG & SDG	:	MDG Goal1:Eradicate extreme poverty and hunger SDG Goal 1: Eradication of hunger poverty SDG Goal 2: Halve proportion of people in poverty by 2010 SDG Goal 3 Ensure adequate nutrition & dietary improvement for the poor
5	Donor Agency	:	
6	Target Group	:	Farming communities and traders
7	Scope	:	National
8	Status- Ongoing or new	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 117.185 m
11	External Financing Required	:	Nu. 117.185 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	Bhutan Agriculture and Food Regulatory Authority
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The Quality Control and Regulatory Services (QCRS) was instituted in 2000 as the relevant authority to ensure food quality control and regulation. It was renamed as Bhutan Agriculture and Food Regulation Authority in 2003. During the Ninth Plan, BAFRA offices were established in all 20 Dzongkhags, 5 entry points and the city service center in Thimphu. However, the sector is still constrained by the dire shortage of qualified manpower and the lack of infrastructural facilities.

The Bio-Security and Quality Assurance programme will be implemented by BAFRA with the main objectives of preventing the entry, establishment and spread of pests and diseases that present risk to the heath and life of plants, animals and humans; ensuring that the available food in the market is safe for human consumption; promoting and facilitating trading in plants, animals and their products by providing pre-export and import quarantine measures; implementing a national bio-safety framework to regulate and facilitate safe transfer, handling and use of genetically modified organisms and their products; and minimizing the adverse effects on the ecology and ensuring sustainable use of biodiversity resources.

C. Strategy

The key strategies for the Tenth Plan include development of basic infrastructural facilities, human resource development, strengthening legislations and standards for inspection and certification. The priority for the Tenth Plan will include the strengthening of plant and livestock quarantine measures, input quality assurance, inspection and certification, developing laboratory services, food safety and quality assurance and development of basic infrastructure in the Dzongkhags.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural cash income increased from Nu.10,700 to 35,000 Proportion of rural households living below poverty reduced from 30.9% to 20%	At least 3 plant and animal quarantine stations fully equipped and functional (from 0-3) 100% food handlers trained and licensed in food safety by 2013 from 0 in 2007 Quality regulation and standards for agricultural, agrochemical, and livestock produce developed	Acts, rules, regulations and standards instituted and enforced Basic infrastructure including laboratory services developed and operationalized No. of HACCP certified companies increased by 100% (from 2 in 2007 to 4 in 2013) At least 50% of the population aware of plant and animal quarantine system, seed rules and regulations, the pesticides act, the food act and the livestock act of Bhutan (increase from 0-50% in 2013 from No. Awareness in 2007)	Strengthening Plant & Livestock Quarantine Measures Development of Laboratory Services Infrastructure Input Quality Assurance, Inspection and Certification Food Safety and Quality Assurance Office construction in 5 Dzongkhags

E. Management Arrangements

Institutional arrangements

The Bhutan Agriculture and Food Regulatory Authority of the Ministry of Agriculture shall be the overall execution, coordination and implementing agency of the programme. BAFRA shall also closely collaborate with other technical departments particularly in enforcement of the Acts such as Livestock Act, Nature Conservation Act, Pesticide Act, etc.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Strengthening Plant & Livestock Quarantine Measures	38.185
2	Input Quality Assurance, Inspection & Certification	16.000
3	Development of Laboratory Services	39.000
4	Food Safety and Quality Assurance	14.000
5	Infrastructure Development	10.000
	Total	**117.185**

MoA/29: NATIONAL BIODIVERSITY CONSERVATION PROGRAMME

A. Overview

1	Sector	:	Biodiversity
2	Linkage to National Development Objectives & Strategies	:	Synergizing Integrated Rural-Urban Development for poverty reduction, food security and improved rural livelihoods through biodiversity conservation
3	Expected Results	:	75% of crop and 50% of animal genetic resources characterized and documented; Representative of 5000 species of vascular plants collected and conserved;
4	Relevant MDG & SDG	:	MDG Goal1: Eradicate extreme poverty and hunger MDG Goal 7: Ensure Environmental Sustainability SDG Goal 1: Eradication of hunger poverty SDG Goal 2: Halve proportion of people in poverty by 2010 SDG Goal 3: Ensure adequate nutrition & dietary improvement for the poor SDG Goal 20: Conservation of Biodiversity
5	Donor Agency	:	
6	Target Group	:	National
7	Scope	:	National
8	Status – Ongoing or new	:	Ongoing/new
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 89.220 m
11	External Financing Required	:	Nu. 89.220 m
12	Executing Agency	:	Ministry of Agriculture
13	Implementing Agencies	:	National Biodiversity Center
14	Documents Available	:	Biodiversity Action Plan 2002; Biodiversity Act of Bhutan 2003; Sector Tenth Plan

B. Situational Analysis

The National Biodiversity Center was established in 1998 as a non-departmental agency under the Ministry of Agriculture. The main objectives of the center is to ensure effective conservation and sustainable utilization of genetic resources for sustainable livelihood and food security, and to ensure adequate national capacity to participate in global efforts to conserve and use biodiversity resources for food, agriculture development, industrial development and environmental conservation.

Prior to and during the 9th Plan, the center focused on establishing infrastructure, building human resource capacity, and strengthening national and international cooperation. Some of the major activities undertaken during the 9th FYP were to develop the national herbarium and flora; conserve agro-biodiversity; conserve animal genetic resources; develop the Royal Botanical Garden and develop an integrated biodiversity information system. Additionally, the Biodiversity Action Plan was revised in 2002 and the Biodiversity Act of Bhutan enacted in 2003.

C. Strategy

The key strategies that will be adopted for biodiversity conservation during the Tenth Plan are as follows:

- Strengthening gene bank, botanical garden and herbarium for ex situ and in situ;
- Collection to facilitate conservation and sustainable utilization;
- Strengthening inventory, survey, documentation and information management system;
- Enhancing capacity of technical staff and farmers through on-farm management training;
- Integration of conservation, research and development with effective utilization of genetic resources;
- Strengthening collaboration with relevant international institutions; and
- Commercialization/sustainable utilization of biological resources through bio-prospecting.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Mean annual rural cash income increased from Nu.10,700 to 35,000 Proportion of rural households living below poverty reduced from 30.9% to 20%	75% of crop and 50% of animal genetic resources characterized and documented Representative of 5000 species of vascular plants collected and conserved	1 Field gene bank established 75% of crop and animal genetic diversity collected and preserved in the seed gene bank 60% of the plants species from cool to warm temperate ecological zones collected National integrated biodiversity information established Pilot project on bio-prospecting initiated	Conservation and sustainable utilization of plant and animal genetic resources Establishment of National Herbarium and Floristic Botanical Garden Development of National Biodiversity Information Development Infrastructure Implement bio-prospecting

E. Management Arrangements

Institutional arrangements

The overall execution, coordination and implementation shall be carried out by the National Biodiversity Center under the Ministry of Agriculture. The center shall also coordinate with Research Centers, Nature Conservation Division and the Dzongkhags and Gewogs for implementation of the programme.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Ex situ conservation and sustainable utilization of plant genetic resources for food and agriculture	20.970
2	In situ conservation, development and sustainable utilization of plant genetic resources	14.200
3	Animal genetic resources conservation and sustainable utilization	19.150
4	National Herbarium and Floristic programme	8.500
5	Serbithang Botanical Garden	11.800
6	National Biodiversity Information Development and Management	4.600
7	Bio-prospecting	10.000
	Total	**89.220**

MINISTRY OF EDUCATION

MoE/01: PRIMARY EDUCATION SERVICES

A. Overview

1	Sector	:	Education
2	Linkage to National Development Objectives & Strategies	:	Vision 2020: Achieve universal primary education Investing in Human Capital through education for poverty reduction and economic growth
3	Expected Results	:	Improved access and quality of primary education
4	Relevant MDG & SDG	:	MDG Goal 2: Achieve Universal Primary Education MDG Goal 3: Promote gender equality and empower Women. SDG Goal 13: Access to primary/communal school for all children, boys and girls SDG Goal 14: Completion of primary education cycle SDG Goal 15: Universal functional literacy SDG Goal 16: Quality education at primary, secondary and vocational levels
5	Donor Agency	:	
6	Target Group	:	School-going age children in the country
7	Scope	:	Dzongkhags and Gewogs
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 3003.440 m
11	External Financing Required	:	Nu. 3003.440 m
12	Executing Agency	:	Ministry of Education
13	Implementing Agencies	:	CAPSD, SPBD, Department of School Education, EMSSD, Programmes Division, Dzongkhag and Gewog Administrations
14	Documents Available	:	Education Sector Strategy 2003; Sector Tenth Plan

B. Situational Analysis

Primary education is universally agreed to be a prime driver of sustainable economic and social development. It further helps accelerate progress towards the achievement of development goals of other sectors in addition to the fact that a well educated population is a huge asset and a desirable end in of itself. Morevoer, investments in primary education pay off handsomely in the long term and have a notable impact in helping reduce poverty and inequity. Recognizing this, the Royal Government has continually invested in expanding primary education over all the five year plans and is well on track towards achieving all of its Education related goals and targets under the Millennium Development Goals.

The country follows a seven-year primary education cycle including one year of pre-primary education. Over the years, the Royal Government has made concerted efforts to expand the coverage of primary education. In the Ninth Plan, 111 community primary and primary schools were established increasing the total primary enrolment from 93,974 in 2003 to 106,100 in 2008. Over the same period, the gross primary enrolment ratio increased from 81 % to 112%, while the net primary enrolment ratio increased from 62% to 88%. Currently, there are 355 primary and community primary schools in the country.

Progress made within the primary education programme over the last decade to meet the MDGs and the Education for All goals has placed enormous pressure on limited resources of teachers, facilities and finance and severely tested the capacity of the system to deliver Bhutan's commitment to provide quality education for all. A major challenge therefore lies in maintaining a level of resources to support both expansion and qualitative development of primary education programme.

C. Strategy

The objective of the Primary Education Services programme during the Tenth Plan will be to expand access to primary education and improve the quality of learning amongst children. This objective will be strategically pursued through the physical expansion and development of school infrastructure, reforms and improvements to the school curriculum and promoting teacher-centered education.

In order to increase access to school and ensure provision of primary education services within one hour walking distance from the communities, it is proposed to build 64 new CPS/PS during the Tenth Plan. Of this, 51 will be community primary schools in rural and remote parts of the country, and 13 will be primary schools in urban and semi-urban areas. In view of the increasing burden felt by the community, all CPS will be financed entirely by the government during the Tenth Plan. The existing community primary schools and primary level schools will also be renovated and expanded based on their physical condition.

Where it is not feasible to build community primary/primary schools, extended classrooms (ECRs) will be established to ensure that education is made accessible to even the smallest catchment areas in the remotest and most scattered settlements. In the Tenth Plan, 99 ECRs are proposed be established across the country. To ensure sustainability, all ECRs, as far as possible, will be housed in outreach clinics, NFE centres, community learning centres, village houses, etc. Each ECR will be affiliated to the nearest CPS/PS for support with regard to teachers and resources.

To provide supportive and positive learning environment for the children, the concept of child-friendly school initiated in the Ninth Plan will be institutionalized in all schools during the Tenth Plan. All other programmes will be geared towards developing a child-friendly environment in each of the schools.

To address the concern about the quality of primary education, major curriculum reforms in various subjects for PP-VI will be carried out in the Tenth Plan. Since it is difficult to equip all schools with adequate teaching learning resources, rural primary schools in the country will be organized into geographical clusters and one central school in each cluster developed as resource center. The resource centers will be provided with copiers and computers as well as supplied with additional resource materials and reference books.

To ensure that qualified teachers are available in rural and remote schools, proper work space and suitable housing will be provided. Further, teachers posted in these schools will be provided with incentives such as difficulty allowance and scarcity allowance including accelerated career advancement and special consideration for academic upgrading.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Improve access and quality of education	Enrolment in primary education increased and Performance of students improved	Schools provide positive and supportive learning environment	Child-friendly schools and inclusive education
		Inclusive education programme piloted and replicated in all schools	
		Functional ECRs and CPS/PS in place	Infrastructure development
		Awareness among parents enhanced on the importance of enrolling children in school at the right age	Support programme for enhancement of enrolment in primary education
		Students in rural and remote areas receive mid-day meals and other incentives to enroll and stay in school	
		Primary school curriculum reviewed and reformed	Curriculum reform and implementation
		Rural posting for teachers made more attractive	Teacher development programme
		Teachers competently teach their students	
		Functional RCS in place	Teaching-learning support strengthened
		Multi-grade teaching strengthened	
		Reform measures in place for improving quality of education	

E. Management Arrangements

Institutional Arrangements

The Dzongkhags will be responsible for executing all construction works. School Planning and Building Division (SPBD) under the Department of School Education will support Dzongkhags in terms of providing designs and master plan of schools, and monitoring of construction works to ensure standards and quality. CAPSD under Department of School Education will be responsible for coordinating and implementing the curriculum reform and improvement activities, and inclusive education. Human Resource Division under the Secretariat will be responsible for planning and managing human resources in the Ministry.

Indicative Costs

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Infrastructure Development	2277.340
2	Curriculum reform and implementation	320.950
3	Inclusive Education & Child friendly school services	13.850
4	Teacher-Development Programme	309.000
5	Teaching Learning Support	80.300
6	Support programme for enhancement of enrolment in primary education	2.000
	Total	**3,003.440**

MoE/02: SECONDARY EDUCATION SERVICES

A. Overview

1	*Sector*	*:*	*Education*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vision 2020: Achieve full enrolment in basic education. Investing in Human Capital through education for poverty reduction and economic growth*
3	*Expected Results*	*:*	*Improved access and quality of secondary education*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 2: Achieve Universal Primary Education* *MDG Goal 3: Promote gender equality and empower Women.* *SDG Goal 13: Access to primary/communal school for all children, boys and girls* *SDG Goal 14: Completion of primary education cycle* *SDG Goal 15: Universal functional literacy* *SDG Goal 16: Quality education at primary, secondary and vocational levels*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*School-going age children in the country*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*Ongoing/New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 5,279.370 m*
11	*External Financing Required*	*:*	*Nu. 5279.370 m*
12	*Executing Agency*	*:*	*Ministry of Education*
13	*Implementing Agencies*	*:*	*Department of School Education, CASPD, SPBD, Programme Division, EMSD, Dzongkhag Administrations*
14	*Documents Available*	*:*	*Education Sector Strategy 2003; Sector Tenth Plan*

B. Situational Analysis

The secondary level education in Bhutan follows a six-year cycle comprising of two years of lower secondary, two years of middle secondary and two years of higher secondary school.

With the basic education level being raised from grade VIII to X, a majority of the students now proceed on to grade X and beyond. Enrolment in classes VII to X increased from 28,833 in 2003 to 40,855 in 2008. To accommodate this expansion, three lower secondary and eleven middle secondary schools have been established, forty one community and primary schools have been upgraded to lower secondary schools and twenty lower secondary schools to middle secondary schools over the same period. Currently, there are 136 lower and middle secondary schools with the gross enrolment ratio and net enrolment ratio at basic education at 96% and 85% respectively.

Due to the increased enrolment at the primary, lower and middle secondary education levels, and the Royal Government's decision to raise the basic education to grade X, there has been a dramatic increase in the number of students continuing their education beyond grade X. A total of three higher secondary schools have been established and 9 middle secondary schools have been upgraded to secondary schools increasing the enrolment in classes XI-XII from 5804 in 2003 to 10,157 in 2008. There are currently 32 higher secondary schools including 8 private higher secondary schools in the country. Establishment of private schools is being encouraged to develop a more sustainable education system as well as to diversify choices for education to the public. Today, there are twenty four private schools in the country.

With the quality of education being a thrust area during the Ninth Plan, major curriculum reforms and learning support programme were initiated, especially in the three tool subjects, viz. Dzongkha, English and Mathematics. Library books and science equipment have been supplied to secondary schools to enhance teaching-learning resources. Computer education has been introduced in 33 middle and higher secondary schools and will be expanded to other secondary schools. In collaboration with MoIC, about 100 primary teachers have been trained in basic computer education.

The success at the primary level is now placing enormous pressures on the secondary and post-secondary levels leading to a critical shortage of secondary education places as well as the lack of an adequate number of qualified, competent Bhutanese teachers at this level of education.

C. Strategy

The objective of the secondary education development programme in the Tenth Plan is to enhance net enrolment in basic education level to near 90% and maintain the proportion of students continuing to class XI in government schools at approximately 40%. Secondary education programme shall also be made more relevant by realigning curriculum to meet the emerging needs of the Bhutanese economy.

In order to improve and expand access to secondary education, 16 new secondary schools will be built in the Tenth Plan. Of this, one will be lower secondary school, 11 middle secondary schools and 4 higher secondary schools. 18 CPS/PS will be upgraded to lower secondary schools and 8 CPS/PS to middle secondary schools. 22 lower secondary schools will be upgraded to middle secondary schools and 1 to higher secondary schools, and 12 middle secondary schools to higher secondary schools. The existing secondary schools will also be developed and expanded based on their physical condition and future admission pressures. The possibility of extending bus services to transport children to nearby schools especially in the urban centres having good road networks will also be explored during the Tenth Plan.

Curriculum reforms being undertaken in various subjects for secondary education during the Ninth Plan will be consolidated and institutionalized in the Tenth Plan. In addition, values and life skills education will be consolidated and integrated in all other subjects. The science curriculum for

Classes VII-XII will also be reviewed and reformed during the plan period. To further strengthen teaching and learning resources in the schools, the programme will support the provision of library books, science equipment, computers and peripherals. The use of CDs and e-learning materials shall be piloted for a range of subjects during the plan period. Further, provision is being kept for the training of general teachers in the use of IT through cluster based and school based workshops and seminars resourced by IT lead teachers.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Improve access and quality of education	Enrolment in basic education increased	Functional secondary schools in place	Infrastructure development
		SPBD staff competently support Dzongkhags in school building and monitor construction works for quality assurance	
		Staff of CAPSD competently review and reform school curricula	Curriculum reform and implementation
	Performance of students improved	Secondary school curricula reviewed and reformed	
		Teachers become IT literate	Teacher development programme
	Private operators establish private schools and international schools	All HSS and MSS are staffed with a computer technician and network administrator each	Teaching-learning support strengthened
		Schools adequately equipped with computers and accessories	
		Relevant IT based learning materials in various subjects produced and distributed to schools	
		Safe and reliable bus service in place in selected schools	Support programme for enhancement of enrolment in basic education
		Policy guidelines for establishment of international schools in place	
		Private School Unit facilitates and supports private school development	
		Competency upgraded in the EMSSD and other Divisions under the Directorate	
		A functional and reliable decentralized monitoring and professional support mechanism in place	

E. Management Arrangements

Institutional Arrangements

The Dzongkhags will implement all construction works. The School Planning and Building Division (SPBD) under the Department of School Education will support Dzongkhags in terms of providing designs and master plan of schools, and monitor the construction work to ensure standards and quality.

CAPSD under the Department of School Education shall be responsible for curriculum reform and improvement and providing support for enhancing teaching-learning resources. IT Section under Programmes Division and CAPSD will jointly coordinate and implement IT related programmes and activities. The Private Schools Unit under Programmes Division shall be responsible for facilitating and guiding the establishment of private schools and international schools in the country and monitoring of quality standards.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Infrastructure Development	4724.810
2	Curriculum reform and implementation	261.700
3	Teaching-learning support	159.740
4	Support Programme for enhancement of enrolment in Secondary schools	133.120
	Total	**5,279.370**

MoE/03: EARLY CHILDHOOD CARE AND DEVELOPMENT SERVICES

A. Overview

1	*Sector*	*:*	*Education*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Education Sector Strategy: All children aged 0-5 years will be supported to enhance their intellectual, emotional and physical development that enables them to grow in their familiar and natural environment*
3	*Expected Results*	*:*	*Enhance intellectual, emotional and physical development of all children aged 0-5 years in their familiar and natural environment. Expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 2: Achieve Universal Primary Education* *MDG Goal 3: Promote gender equality and empower Women.* *SDG Goal 13: Access to primary/communal school for all children, boys and girls* *SDG Goal 14: Completion of primary education cycle* *SDG Goal 15: Universal functional literacy* *SDG Goal 16: Quality education at primary, secondary and vocational levels*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Children between 0-5 age group*

7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 3.450 m*
11	*External Financing Required*	*:*	*Nu. 3.450 m*
12	*Executing Agency*	*:*	*Ministry of Education (MoE)*
13	*Implementing Agencies*	*:*	*Early Childhood Care and Development (ECCD) Unit under Department of School Education, MoE, Dzongkhags and day care centres*
14	*Documents Available*	*:*	*Education Sector Strategy 2003; Sector Tenth Plan*

B. Situational Analysis

The Government's long term education vision is to ensure all children in the 0-5 age group are supported to enhance their intellectual, emotional and physical development through a programme that enables them to grow in their familiar and natural environment.

Constrained by the lack of resources and expertise on ECCD, the Royal Government followed two simple but practical approaches to ECCD. The first was through family-based approaches, which aimed to enhance and promote sound parenting and care practices for young children in the home environment, especially in rural areas. The second was through the use of day care centers, which primarily focused on early learning, and activity centers for young children in urban areas using private providers.

An ECCD unit was established within the Department of School Education and draft ECCD policy guidelines prepared to guide the development of the ECCD programme. In order to promote early childhood care and learning, relevant ECCD material have been produced and disseminated through both radio and television. Parenting guides on ECCD have also been developed in Dzongkha and are being implemented as part of the Post Literacy Course curricula for NFE learners.

As part of the initiative to provide good child practices and early learning in urban areas, ten day care centers have been established. Since the day care centers are new, constant support in terms of professional development of teachers and learning materials are being provided by the ECCD Unit.

C. Strategy

The immediate objective of this programme within the Tenth Plan period is to continue to establish expertise within the Ministry of Education by identifying good ECCD practices both within the country and in the international scene, and training a core group of people in ECCD.

To build up national expertise on ECCD, the programme over the Tenth Plan will provide trainings in the area of child psychology and development for a core group of people who will be placed in various regions or school clusters to work with good Day Care Centers besides developing ECCD practices in the regular schools. As in the Ninth Plan, good ECCD practices will be produced, advocated and disseminated over TV and radio. This will be complemented by the development of ECCD materials to be used in the non-formal education programme and training of the selected NFE instructors in ECCD practices. A review of the ECCD programme is also envisaged to suggest measures for further development and expansion of the ECCD programme.

The Royal Government will continue to promote good child practices and early learning in urban areas by encouraging the establishment of day care centers using private providers. The draft policy guidelines shall be finalized and policy mechanisms put in place to guide and support the establishment of day care centers. In addition, selected caregivers from day care centers will also be sent trained on ECCD practices.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Intellectual, emotional and physical development of all children aged 0-5 years enhanced in their familiar and natural environment	More parents engage in ECCD practices Private operators more day care centres in urban areas	Competency of teachers, NFE instructors, DEOs and Principals enhanced to provide ECCE	Development of expertise on and promotion of ECCD
		Parents knowledge on sound ECCE increased through media	
		Relevant ECCE materials developed and supplied to NFE and Day Care Centres	Material development on ECCD
		Enabling policy in place for establishment of day care centres	Policy development
		ECCD Unit provided with furniture and equipment	Support to the ECCD Unit

E. Management Arrangements

Institutional Arrangements

The programme shall be coordinated and implemented by the ECCD unit under the Department of School Education, MoE.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Development of expertise on and promotion of ECCD	2.300
	Material development on ECCD	0.500
	Policy development	0.400
	Support to the ECCD Unit	0.250
	Total	**3.450**

MoE/04: SPECIAL EDUCATION SERVICES

A. Overview

1	*Sector*	*:*	*Education*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Education Sector Strategy: All children with disabilities and special needs provided with access and benefit from education;* *Sector Tenth Plan: Establish a programme of inclusive education to enable all children to participate in and benefit from the education process.*
3	*Expected Results*	*:*	*Children with disabilities and those with special needs enabled to access education in regular schools*
4	*Relevant MDG & SDG*	*:*	
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Children with disabilities and special needs*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 66.580 m*
11	*External Financing Required*	*:*	*Nu. 66.580 m*
12	*Executing Agency*	*:*	*Ministry of Education (MoE)*
13	*Implementing Agencies*	*:*	*Special Education Unit, Department of School Education, MoE, Dzongkhags and Schools*
14	*Documents Available*	*:*	*Education Sector Strategy 2003; Sector Tenth Plan*

B. Situational Analysis

The long-term objective of the Special Education Services Programme is to provide access for all children with disabilities and special needs, including those with physical, mental and other types of impairment, to general education in regular schools. The Royal Government will thus seek to maintain an inclusive approach to improve educational access to and meet the special needs of those with physical disabilities and learning impediments.

In the Ninth Plan, a Special Education Unit was established within the Department of School Education and a draft Special Education Policy and Guidelines was formulated. The existing National Institute for the Disabled at Khaling was partially rebuilt and expanded to accommodate additional students with impaired vision. In Thimphu, a new resource center to help children with special needs (mental and physical impairments) was established at Changangkha Lower Secondary School (LSS). To cater to the education of hearing impaired children, sign language in Bhutanese was developed and a deaf education center established at the Drugyal LSS in Paro.

C. Strategy

The objective of this programme during the Tenth Plan is to provide enhanced special education services to the children with a wide range of disabilities including learning difficulties by providing support facilities in selected schools across the country.

The Tenth Plan will support the development of additional physical facilities in the National Institute of Disabled, Khaling and the Deaf Education Center in Drukgyal to cope with the increasing enrolment pressure for the special education services. Further, five more special education centers will be established on the Changangkha model to allow children with special needs to access general education in regular schools. To develop national capacity and expertise, the plan will support training on special needs education. Teaching-learning materials will also be provided to strengthen the special education services in the existing and new centers.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Children with disabilities and those with special needs enabled to access education in regular schools	Children with disabilities including those with learning difficulties enroll in regular schools	Functional centres for special education in place	Expansion of special education services
		Competency of teachers strengthened to provide special education	Teaching-learning support for special education services
		Special education centres supplied with relevant teaching-learning materials	

E. Management Arrangements

Institutional Arrangements

The programme shall be coordinated and implemented by the Special Education Unit of Department of School Education, MoE.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Expansion of Special Education Services	63.910
2	Teaching-learning support for Special Education Services	2.670
	Total	**66.580**

MoE/05: ADULT LITERACY & CONTINUING EDUCATION SERVICES

A. Overview

1	Sector	:	Education
2	Linkage to National Development Objectives & Strategies	:	Vision 2020: Achieve full adult literacy rate for all by 2017 Sector Tenth Plan: Achieve adult literacy of 70% by 2013 Investing in Human Capital for poverty reduction and broad based growth through improved literacy Education Sector Strategy: Create a learning society through a system of continuing and life long education opportunities
3	Expected Results	:	Adults and out-of-school youths enroll in non-formal education and complete the basic literacy course; Interested learners enroll in Continuing Education Programme and upgrade their academic qualifications;
4	Relevant MDG & SDG	:	SDG Goal 15: Universal functional literacy
5	Donor Agency	:	
6	Target Group	:	Adult population particularly in the rural areas
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 48.550 m
11	External Financing Required	:	Nu. 48.550 m
12	Executing Agency	:	Ministry of Education (MoE)
13	Implementing Agencies	:	Non-Formal Education Division, (Department of Adult and Higher Education), MoE, Dzongkhag and Gewog Administrations
14	Documents Available	:	Education Sector Strategy 2003; Sector Tenth Plan

B. Situational Analysis

Literacy is deeply linked to all aspects of life and livelihood and is unquestionably a powerful instrument for empowerment and upliftment. It remains an essential condition for sustainable socio-economic development and a critical tool to eradicate poverty, enhance employment opportunities, advance gender equality, improve family health, conserve the environment and promote democratic participation.

In particular, there is a close and deep interrelationship between illiteracy and poverty at the global, national, and local levels with countries and communities with the lowest levels of literacy doing poorly. Poverty breeds illiteracy and vice versa in a vicious cycle that is often hard to break. Hence tackling poverty as a prime objective and theme of the Tenth Plan will also depend on how effectively the high rates of adult illiteracy are tackled in Bhutan, particularly in rural areas.

The Population and Housing Census of Bhutan 2005 report the national literacy rate at 60% and adult literacy rates at 53%. While national baseline data on literacy is still lacking and will need to be developed, the PHCB 2005 census data nevertheless indicates a low level of literacy by both international and regional standards. It is thus a key area for improvement to scale up Bhutan's

progress towards achieiving its human development goals and attaining the MDGs. The low levels of prevailing literacy could also hinder achievement of the country's development aspiration to emerge as a knowledge-based society in the long term and prospects for realizing GNH.

The Royal Government's approach to address the challenge of illiteracy has been based on expanding access to basic school education and non-formal adult education. The rapid gains in primary and secondary education enrollment and improvements in educational attainment provide reason for optimism that in time Bhutan will be able to quickly scale up its literacy levels. Additionally, Bhutan has also enjoyed particular success with its Non Formal Education Programme, aspects of which are highlighted below.

The non-formal education (NFE) programme has gained widespread popularity as it is an effective programme for providing basic literacy and functional skills amongst the adult population, particularly in rural areas. The programme has expanded from 365 centres with 428 instructors in 2003 to 747 centres with 736 instructors in 2008. Over the same period, the number of learners increased from 12,838 to 13,829. Within the Ninth Plan, twenty new community learning centres were also established and supplied with basic furniture and equipment including computers and teaching aids.

To ensure the quality of the literacy programme, the capacity of NFE instructors has been upgraded through relevant trainings. Awareness campaigns and workshops were also conducted for local leaders and village representatives who also act as local NFE committee members. Furthermore, reading materials for the basic literacy and post literacy programmes were developed and supplied to the NFE centres.

In order to institute a system of continuous learning and to provide school leavers with an opportunity to upgrade their academic qualifications, the continuing education programme was initiated in one of the private high schools in Thimphu. The programme is now also offered in Chukha and Paro. A total of 577 learners are currently enrolled in this programme.

C. Strategy

Given the SDG goal of achieving universal functional literacy and the national objective of achieving 70% literacy by 2013, the NFE programme has a major role to play in increasing the literacy rate to these levels. Therefore, an in-depth study of the NFE programme will be conducted and the result of the study will be used to guide further development and expansion of the programme in the Tenth Plan.

Owing to the shortage of NFE materials, there is a need to develop curriculum materials for both basic and post literacy. The Tenth Plan will continue to support the development and printing of new literacy materials and training manuals for vocational skills including reprinting of Basic literacy course (BLC) and post literacy course (PLC) materials.

Based on the recommendations of the review of the NFE programme envisaged during the plan period, the NFE Division will devise and implement innovative ways to promote non-formal education. Apart from conducting awareness campaigns over radio and TV, it will increasingly organize inter-Dzongkhag and inter-Gewog competitions to raise the literacy level, etc.

Community learning centers (CLCs) will be established and strengthened in schools and NFE centers through the provision of basic equipment including computers and teaching aids. Availability of such facilities will also provide post-literacy opportunities for continuous/lifelong learning and acquiring functional literacy.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Create a learning society through a system of continuing and life long education opportunities	Adults and out-of-school youths enrol in non-formal education and complete the basic literacy course	A comprehensive NFE-policy in place	Non-formal education programme
		Tested, relevant and easy to use NFE curriculum in place	
		Trained NFE -instructors competently deliver NFE courses	
		Functional centres in place	
		Reliable data on literacy in Bhutan available	
Attain adult literacy rates of 70%	Interested learners enroll in continuing education programme and upgrade their qualifications	Awareness on literacy enhanced	
		A comprehensive long term strategy for CE in place	Continuing education programme
		Access to continuing education increased	
		CE-staff and CE-tutors confidently organize CE programme	

E. Management Arrangements

Institutional Arrangements

The programme shall be coordinated and implemented by the Non-Formal Education Division of the Department of Adult and Higher Education.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Non-Formal Education Programme	44.600
2	Continuing Education Programme (of the Nu. 3.95 m, Nu 1.50 m is for tertiary education)	3.950
	Total	**48.550**

MoE/06: SCHOLARSHIP SERVICES

A. Overview

1	Sector	:	Education
2	Linkage to National Development Objectives & Strategies	:	Investing in Human Capital through expanding access to higher education and promoting excellence in education Sector Tenth Plan: Ensure steady supply of sound and qualified manpower to support and sustain socio-economic development of the country
3	Expected Results	:	Graduates meet the human resource requirements of the country in the areas of critical shortages
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	Undergraduate Students
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 657.780 m
11	External Financing Required	:	Nu. 657.780 m
12	Executing Agency	:	Ministry of Education (MoE)
13	Implementing Agencies	:	Scholarship Division, Department of Adult and Higher Education, MoE
14	Documents Available	:	Sector Tenth Plan,

B. Situational Analysis

High quality tertiary education obviously confers enormous benefits to any society by expediting the use and adaptation of innovative and modern technologies in a modernizing economy and in growing the national stock of human capital. Even as the number of college graduates have been increasing significantly each year in Bhutan, at present they comprise less than a percentage point of the country's entire population and a mere 1.4% of the total labour force. An increased number of higher qualified and university educated professionals in the workforce will be needed if the country is to build its human capital to realistically achieve its strategic objective of vitalizing industry and sustained growth.

The undergraduate scholarship programme provides avenues and opportunities for potential post-secondary students to pursue their bachelors' degree in various fields of science, engineering, law, medicine, education, information technology including arts and humanity areas as prioritized by the Royal Government. It plays a significant role in terms of addressing the future manpower requirements across all sectors of the economy.

Under this programme, scholarships are awarded annually based on academic merit to eligible Class 12-passed students who fulfill the set of selection criteria as per the announcement in various disciplines. A majority of the scholars are placed in key institutes and universities in India and the region for purposes of academic cross-fertilization and diversity. The continued assistance from GoI has enabled the Government to implement the scholarship very effectively and successfully.

Out of the 540 undergraduate slots planned during the Ninth Plan, 615 slots have been implemented in the various fields of engineering, medicine, science, agriculture and humanity areas. The actual implementation of undergraduate scholarships exceeded what was originally planned due to an extension of the 9th FYP.

C. Strategy

The undergraduate scholarship programme (UGP) is being implemented by the Scholarship Division under the Department of Adult and Higher Education. In the Tenth Plan, the main objective of this programme is to address the shortage of human resources in the areas of critical needs through effective management of undergraduate scholarships in the region and abroad.

Based on a review and reprioritization exercise of the human resource needs in the various ministries/agencies and stakeholders, 600 scholars will be placed for various scholarships during the plan period. However, the main focus of the scholarships offered would be in the professional fields where the shortage of qualified manpower is critical.

The Scholarship Division, under MOE shall continue to establish and expand linkages with key institutions/universities in the region to improve the placement of scholars as well as monitor the quality and standards offered in these institutions. Other than securing placements and finding relevant courses, benefits of such linkages will include the possibility of cost-sharing and exchange.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Ensure steady supply of sound and qualified manpower to build human capital for vitalizing industry and sustaining socio-economic development of the country	Graduates meet the human resource requirements of the country in the areas of critical shortages	Students are placed in reputed and recognized institutions	Scholarship Programme
		Capacity of Scholarship Division strengthened	

E. Management Arrangements

Institutional Arrangements

The Scholarship Division under the Department of Adult and Higher Education, MOE will be responsible for the implementation of this programme. The Division will also be responsible for the placement of scholars in the universities/institutions within the region and abroad.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Scholarship Services - 475 scholarships to be provided in India - 125 scholarships to be provided in others	657.780
	Total	**657.780**

MoE/07: BHUTAN BOARD OF EXAMINATIONS

A. Overview

1	Sector	:	Education
2	Linkage to National Development Objectives & Strategies	:	Improve the quality and relevance of education Enhance standards of excellence in education for upgrading the quality of human capital
3	Expected Results	:	Students avail maximum opportunities to perform well in the examinations that reflect the true picture of their performance; Educational standard in the country measures overtime using National Education Assessment (NEA)
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	Students
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 30.750 m
11	External Financing Required	:	Nu. 30.750 m
12	Executing Agency	:	Ministry of Education (MoE)
13	Implementing Agencies	:	Bhutan Board of Examinations, MoE, Dzongkhags and schools
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

An important component of any education system is the testing and assessment mechanism which not only helps to maintain uniformity of educational standards across the system but also assesses the quality and relevance of the curriculum.

During the Ninth Plan, National Education Assessment (NEA) in Class VI and Class X for English, Dzongkha and Mathematics was completed and a bench mark of standards at these levels established. The examinations and certification of Class X students have been fully nationalized from 2001 by taking over the examinations from the Indian Council for Secondary Education. From 2006, the class XII examination was also nationalized and conducted by the Bhutan Board of Examinations.

C. Strategy

In the Tenth Plan, NEA for Class VI in English, Mathematics and Dzongkha and for Class X English and Mathematics will be repeated to monitor and gauge students' competencies in these subjects. In future, the NEA will be conducted at regular intervals (usually 3 to 5 years) to gauge the standard of education and provide useful feedback towards improving the quality of education.

The BBE maintains considerable amount of confidential examination data. The existing office space is extremely inadequate in terms of space required for carrying out activities such as result processing, question paper development, moderation, evaluation and maintaining confidentiality and high security. Therefore, a secretariat building is proposed for housing the BBE.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Improve the quality and relevance of education	Students avail maximum opportunities to perform well in the examinations that reflect performance Educational standard in the country measures overtime using National Education Assessment (NEA)	NEA for Cl VI and X in English, Math and Dzongkha in place	Examination Services
		BBE-staff competently organizes the annual examination and supports schools in assessment	
		Provide conducive work environment for BBE staff	

E. Management Arrangements

Institutional Arrangements

The Bhutan Board of Examination under Ministry of Education will be responsible for the implementation of National Education Assessment.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Bhutan Board of Examinations	30.750
	Total	**30.750**

MoE/08: YOUTH AND SPORTS SERVICES

A. Overview

1	*Sector*	*:*	*Education*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Wholesome development of children and youth*
3	*Expected Results*	*:*	*Bhutanese youth provided with wholesome education and nurtured to become useful and productive citizens*
4	*Relevant MDG & SDG*	*:*	
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Youths of Bhutan*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 327.700 m*
11	*External Financing Required*	*:*	*Nu. 327.700 m*
12	*Executing Agency*	*:*	*Ministry of Education (MoE)*
13	*Implementing Agencies*	*:*	*Department of Youth, Culture and Sports, MoE*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

Sports, games and recreational initiatives that incorporate the best values of sports can be powerful, practical and cost effective tools to achieve holistic child and youth development. It can help foster healthy development of children and youth and inculcate positive values and life skills besides strengthen their education and improving student health and well being.

In an effort to combat emerging youth issues and support parents and schools in tackling them, the School-Based Parenting Education and Awareness Programme (SPEA) was introduced in 91 schools across the country. Materials on parenting, substance abuse, adolescent reproductive health were also developed and 182 focal teachers for SPEA trained through orientation programmes. During the Ninth Plan, the Career Education and Counseling Programme was also institutionalized in all secondary schools. To support the counseling programme, 433 school counselors were trained in counseling and placed in secondary schools. Furthermore, materials for career education were developed and supplied to schools.

In view of the emerging mismatch between the job market and expectations of school leavers, and to familiarize youth with career prospects in various vocational skills, school based vocational education programme has been introduced in some secondary schools in the form of vocational clubs. 24 vocational instructors were placed in secondary schools and vocational education materials were supplied to 39 vocational clubs.

The scouting programme has been strengthened as an integral part of the wholesome development of youth and expanded to all 20 Dzongkhags. For effective management of the programme, 93 scout masters were trained and relevant materials developed and supplied to schools to support the programme. To promote values and cultural education in schools, choeshed and cultural programmes were also enhanced.

Given the importance of sports in the wholesome development of a child, the School Sports Programme was institutionalized and intra-Dzongkhag and regional sports meets decentralized. Further, sports administrative guidelines were developed and basic equipment supplied to all schools. However, the absence of trained physical education teachers still remains a constraint for the school sports programme.

A Youth Center was established in Thimphu that provides youth information and dissemination services, counseling, computer training, and educational and recreational facilities for youth, including hostel facilities. In order to create awareness on health and social issues such as HIV/AIDs, drug abuse, unemployment, legal issues, several workshops and training programmes were conducted in Thimphu for out of school youth.

The comprehensive school health programme conducted in collaboration with the Ministry of Health, was continued throughout the Ninth Plan to further promote child and adolescent health. Teachers were trained in important areas such as life skills education in adolescent reproductive health, adolescent mental health, HIV/AIDs, STIs, hygiene and sanitation and first aid. In order to ensure that the learning environment is healthy and safe in schools, the Plan also supported the provisioning of water and sanitation facilities.

C. Strategy

The objective of this programme during the Tenth Plan will be to promote wholesome development of children and youth by consolidating the personal development and value education programmes, including helping students develop multi-skills for different job markets. To this end, youth guidance and career counseling shall be further improved and expanded.

In the Tenth Plan, career education programme will be strengthened by appointing career education focal persons with basic level counseling in all secondary schools. A system of referral in counseling services will also be piloted. This will be complemented by enhanced professional interaction amongst career focal teachers through cluster level workshops led by senior and master teachers. To support the counseling programme, counselors with school level counselor training will be placed in all secondary schools.

The School Based Parenting Education and Awareness programme shall be expanded and clear policy guidelines developed to guide its implementation. The capacities within school clusters and Dzongkhags will be strengthened through training of trainers and orientation of teachers and parents on school based parenting education. To increase awareness on SPEA programme, relevant audio/video and print materials will be developed and disseminated through the media and other means.

To provide the students with orientation to technical and vocational education, vocational clubs will be expanded in middle and higher secondary schools. However, this will be based on the results of the review of the programme that will be undertaken during the plan period.

The comprehensive school health programme will be strengthened by providing additional staffing and relevant trainings. To guide and support the development of the programme, a policy and strategy document for school health will be developed. Hygiene and sanitation facilities in schools will be further improved by providing sanitary toilets and safe drinking water supply. To increase their awareness amongst students on emerging health concerns, workshops and various activities will be implemented. Further, a mechanism will be instituted for early detection of health problems in schools.

The scouting and cultural education will be further promoted and expanded to facilitate wholesome development of the Bhutanese youth. To this end, the scout membership will be increased to 55,000 by the end of the Tenth Plan and value based training including youth cultural exchange will be organized to broaden the thinking of youth and provide exposure to the people and cultures of other countries. While the scouting programme has grown rapidly over the years, its quality has been affected due to the lack of a training center in the country. Therefore, a Scouts Training Center is in Paro.

To encourage maximum participation of youth in sports, the plan will continue to support different sporting activities at the Dzongkhag and national levels. A comprehensive national policy for school sports will be developed to promote sports in a strategic and coherent manner within the overall objective of wholesome education. To support the programme, full-time sports coaches/ coordinators will be appointed on contract in schools and trained through Training of Trainers on an annual basis. The Games and Sports Division will also be strengthened with additional staff and relevant trainings.

The youth services will be expanded in the Tenth Plan by establishing 15 Youth Centres in districts with sizeable youth population. The Youth Center in Thimphu will continue to provide information services such as Internet and library facilities as well as youth information workshops/seminars to engage Bhutanese youths particularly out-of-school youths in meaningful and productive

educational, social and cultural. The Education Media Unit, which is currently placed within the Department of Youth and Sports MOE, will also be strengthened to produce and disseminate educational programmes.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Wholesome development of children and youth	Students participating in CEC programmes plan career better Shortage of trained counselors in schools reduced Students participating in counseling programmes improve behavior Parents participating in SPEA programme guide children better Students consider non-white collar jobs an option	Staff of CECD competently organize career and personal counseling programmes in Bhutan	Career Education and Counseling programme
		Increased awareness and knowledge among students on various career options	
		A functional counseling institute in place	
		Increased awareness and knowledge among students on the dangers of unhealthy behavior	
		Increased awareness among participating parents on the importance of school based parenting, education and awareness programmes	
		SBVE-unit competently assists schools in setting up vocational clubs	
		Students participating in vocational clubs learn and practise vocational skills	
	Healthy young people in a safe and supportive learning environment	Staff of School Health Division (SHD) competently execute school health programmes	Comprehensive school health programme
		A comprehensive policy and strategy document on school health in place	
		School health coordinators competently implement school health programmes	
		Functional hygiene and sanitation facilities in place in schools	
		Provide skills based health education on emerging health concerns of young people	
		Improved early detection of health problems mechanism in place	

	Scouting programme expanded and strengthened	Scouts are well-informed on scouting and life skills programmes	Scouts Programme
		Trained scouts masters competently implement scouts programme	
		Schools have access to adequate scouting equipment and materials to run scout programmes	
		A functional scouts training centre in place	
		A comprehensive reform measures in place to improve the quality of scouting programme	
		Scout membership registration made easier, and reliable data on scouts available	
		More students participate in cultural education and choeshey programme	
	Healthy and energetic young people	Functional sports facilities in place in 15 more YCs in places having sizeable youth population	Games and sports programme
		A master plan developed for the establishment of a national physical education and sports institute	
		Trained teachers/coaches competently organize games and sports in schools	
		A comprehensive national policy for school sports in place	
		Maximum number of students participate in games and sports	
		Staff of GSD competently organize games and sports in Bhutan	
	Viewers of media programmes change behaviour according to message of the programmes	Media section strengthened to produce innovative programmes that meet the needs of a variety of clients within the ministry	Education media services
		Improved access to educational and information for students, teachers and public	
		Increased appreciation, knowledge and skills among class X and XII school leavers in video handling, music and theatre production	
	More youths engage in meaningful and productive, social, sports and cultural programmes	Functional Youth Centres in place	Youth Centre Services
		Youth policy in place	
		Youth centre provide a platform for youth related activities	

E. Management Arrangements

Institutional Arrangements

The programme will be managed and executed by the different Divisions and units under the Department of Youth, Culture and Sports, MoE in coordination with the Dzongkhags, schools and national sports federations.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Career Education and Counseling	113.700
2	Scouts Programme	68.450
3	Sports and Games	57.020
4	Youth Centre Services	27.930
5	Media Services	12.000
6	Comprehensive school health services	48.600
	Total	**327.700**

MINISTRY OF ECONOMIC AFFAIRS

MEA/01: PROMOTION OF DOMESTIC AND FOREIGN TRADE

A. Overview

1	Sector	:	Trade
2	Linkage to National Development Objectives & Strategies	:	Vitalizing Industry and Synergizing Integrated Rural-Urban Development for economic growth, poverty reduction, employment generation and private sector development.
3	Expected Results	:	Increased opportunities for employment and income generation in the private and rural sectors
4	Relevant MDG & SDG	:	MDG Goal 1 Targets 1 and 2: Eradicate Extreme Poverty and Hunger MDG Goal 8: Target 12: Develop further an open, rule-based predictable, non- discriminatory trading and financial system All SDG Livelihood Goals but mainly linked to Goal 1: to Eradicate Hunger Poverty and Goal 2: to Halve poverty by 2010
5	Donor Agency	:	
6	Target Group	:	Prospective entrepreneurs and traders
7	Scope	:	National
8	Status-Ongoing/New	:	New
9	Timeframe	:	Five Years (2008-2013)
10	Indicative Capital Cost	:	Nu. 84.500 m
11	External Financing Required	:	Nu. 84.500 m
12	Executing Agency	:	Ministry of Economic Affairs
13	Implementing Agencies	:	Department of Trade
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Bhutan's trade volume has increased significantly over recent years though it remains largely concentrated in the SAARC region with about 80 percent of its total trade with India. Bhutan is also a highly open trade economy with the total volume of exports and imports at Nu. 37.78 billion, approximately the value of over 90% of GDP in 2006. While at present the share of trade with the rest of the world remains small, it is envisaged that this will invariably expand as its markets diversify. It is therefore imperative that the Bhutanese economy mature and develop effectively to become competitive and successful in a highy competitive global trading regime.

The Royal Government has actively pursued the promotion of more liberalized trade arrangements at bilateral, regional and international levels while progressively reducing import tariffs and removing export taxes to lower trade barriers and restraints. This has also been accompanied by significant domestic reforms to further facilitate domestic and foreign trade.

Bhutan is currently a member of SAFTA and BIMST-EC while the accession to the WTO is at an advanced stage. Bilaterally, it has had a formal agreement on free trade and commerce with India since 1972 which is renewed periodically. Bhutan also has a Preferential Trading Arrangement (PTA) with Bangladesh and is seeking to sign additional PTAs with other countries in the region including Thailand.

While Bhutan acknowledges that certain rules, processes and aspects of the WTO are imbalanced and to the disadvantage of developing countries, it also recognizes the opportunities and benefits that come with participation in the multilateral trading system. Membership in the WTO would enable Bhutan to enjoy much better access to markets of member countries as there is a need to diversify markets beyond the traditional ones. Further, joining the WTO would not only streamline national trade policies but also lead to greater transparency in governance and an environment more conducive to vitalizing industry and synergizing integrated rural-urban development to help meet its Tenth Plan objective of poverty reduction.

The growth of the trading sector is also apparent from the increase in the issuance of trade licenses. As of 31st December 2007, a total of 11,442 trade licenses were issued. All regional offices have been computerized with the designing and development of the Licensing Database System and Micro-trade has been de-licensed. Guidelines and rules & procedures for imports from third countries have also been prepared. Efforts are also underway to develop a legal framework, streamline trading activities and licensing processes, enhance brand building of national products, and improve access to trade and business information and services.

C. Strategy

To achieve greater economic efficiency and healthy competition in the trading sector, the Department of Trade will continue to direct efforts to create an enabling environment through necessary legislation and regulations, such as development and implementation of the Consumer Protection Act and Competition Policy. Existing rules and procedures, tax incentives, financial schemes (credit guarantee scheme, export insurance scheme), etc will also be reviewed. Enhancing the capacity of the private sector, branding national products, improving access to information, awareness creation and facilitating trade through the establishment of dry ports and industrial estates will be given priority in the Tenth Plan. Bhutan's effective integration into the regional and international trading systems through bilateral and regional arrangements and access to WTO on the right terms will be continued.

As there are no designated event hosting sites in the country to conduct events such as trade fairs and exhibitions, the construction of a Trade Promotion/Exhibition Center was considered initially. The proposed construction of such a center has now been merged with the construction of a MICE center (meeting, incentives, conference and exhibition) that is to be developed under a proposed Tenth Plan programme under the Ministry of Works and Human Settlements.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Share of Trade to GDP increased to 8% Enhance exports by 50% from levels in 2007 Enhance contribution of trade to national revenue to 25% Increase employment in sector to 6% of total work force	An enabling environment for growth of private sector throught trade and commercie created More Bhutanese are engaged in trading and commerce activities Reduced transaction costs for trade and commerce	Consumer Protection Act and Competition Policy developed and implemented Distribution channels streamlined and regulations and import from third countries reviewed Dry port established in Phuntsholing Postive Brand Image for Bhutanese products effectively created	Development of consumer protection Act and Competition Policy Streamlining distribution channels and Reviewing trade regulations and import from third countries Promotion and integration into the regional and multilateral trading systems Establishment of dry port at Phuntsholing Export promotion and marketing by improving quality, developing brand image for national products, and creating awareness and education

E. Management Arrangements

Institutional Arrangements

The Department of Trade will be responsible for execution of the programme in close collaboration with other relevant sectors and the Bhutan Chamber of Commerce & Industry (BCCI). The actual implementation of the programme will be done by the respective divisions.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Promotion of domestic trade**	**14.500**
1.1	Development of Consumer Protection Act	10.000
1.2	Development of Competition Policy	1.000
1.3	Streamlining of Distribution Channels	1.000
1.4	Market Modernization	1.000
1.5	Trade Regulation & Monitoring	1.000
1.6	Review Regulation of Import from Third Countries	0.500
2	**Promotion and integration of trade into Regional and global market**	**6.000**
2.1	Trade negotiation at regional level such as SAFTA, BIMSTEC	0.500
2.2	Negotiation of bilateral trade agreements	0.500
2.3	WTO Accession	5.000

3	**Trade facilitation**	**0.000**
3.1	Establishment of dry ports	0.000
4	**Export promotion and development**	**64.000**
4.1	Exporter promotion and marketing	4.000
4.2	National branding programme	40.000
4.3	Quality development programme	20.000
	Total	**84.500**

MEA/02: DEVELOPMENT & MANAGEMENT POL SERVICES PROGRAMME

A. Overview

1	*Sector*	*:*	*Trade*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vitalizing Industry through balanced regional development*
3	*Expected Results*	*:*	*Regionally balanced and timely supply of quality POL products in the country*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1:Eradicate Extreme Poverty and Hunger SDG Goal 2: Halve poverty by 2010. SDG Goal 4: Ensure a Robust Pro-poor Growth Process SDG Goal 5: Strengthen connectivity of poorer regions and of poor as social groups SDG Goal 6: Reduce social and institutional vulnerabilities of the poor, women and children*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Potential local dealers*
7	*Scope*	*:*	*National*
8	*Status-Ongoing/New*	*:*	*New/ongoing*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu.18.000 m*
11	*External Financing Required*	*:*	*Nu.18.000 m*
12	*Executing Agency*	*:*	*Ministry of Economic Affairs*
13	*Implementing Agencies*	*:*	*Department of Trade & Local dealers*
14	*Documents Available*	*:*	*Marketing Principle Guidelines, Control Order, Explosive Norms, and Sector Tenth Plan*

B. Situational Analysis

The development of Petroleum Oil and Lubricant (POL) infrastructure with emphasis on quality control is essential to improve the present state of POL management and operational services. Except in urban centers and few bigger dzongkhags, existing fuel stations still utilize outdated barrel feed pump mechanisms. As a result, there is a valid concern on the poor quality of fuel and its adverse impact on air pollution.

The construction of a POL laboratory under GoI funding was undertaken in the Ninth Plan to enhance the capacity of POL management and its services. Manning the laboratory with technical personnel and equipping it will now be taken up during the Tenth Plan.

C. Strategy

All dzongkhags with road connections will construct standard fuel stations. The barrel feed pump mechanisms will be phased out completely and modern fuel stations will be constructed in potential urban centers and satellite towns. The Department of Trade will ensure that at least 11 percent of pump and other facilities are installed in remote areas. The department will further place high priority on strengthening the POL laboratory to improve quality of POL services in the country.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Timely and uninterrupted supply of POL products	Equal distribution and timely supply of quality POL products Fuel quality improved	Well functioning laboratory in place Adequate fuel storage tanks and tankers Standards developed for fuel stations across the country	Procurement of equipment for POL Laboratory Procurement of additional fuel storage tanks and replacement of existing tankers Standardization and certification of fuel stations

E. Management Arrangements

Institutional Arrangements

The Department of Trade will be the coordinating agency. The respective Dzongkhags, local municipal authorities, Regional Trade & Industry Offices and private dealers will carry out the implementation. The principal oil companies shall provide overall technical assistance in close coordination with the Department of Trade.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Strengthening POL Laboratory**	**3.000**
1.1	Procurement of equipments	3.000
2	**Operation & management of POL Depots**	**14.000**
2.1	Procurement of additional fuel storage tank and replacement of existing tankers	14.000
3	**Standardization and certification of fuel stations**	**1.000**
	Total	**18.000**

MEA/03: DEVELOPMENT OF MICRO, SMALL & MEDIUM ENTERPRISES PROGRAMME

A. Overview

1	*Sector*	*:*	*Manufacturing and Industries*
2	*Linkage to National Development objectives and strategies*	*:*	*Vitalizing Industry and Synergizing Integrated Rural-Urban Development for economic growth, poverty reduction, employment generation, private sector development and rural economic development.*
3	*Expected Results*	*:*	*Enhanced income of MSMEs resulting in broad based and pro-poor growth, employment generation and poverty reduction in the rural and sub-urban areas.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal I: Eradicate Extreme Poverty and Hunger* *MDG Goal 8 Target 16: Develop and Complement Strategies for Decent and Productive Work for Youth* *SDG Goal 1: Eradicate hunger poverty & Goal 2: Halve proportion of population living in poverty by 2010* *SDG Goal 4: Ensure a robust pro-poor growth process* *SDG Goal 5: Strengthen connectivity of poorer regions and of poor as social groups* *SDG Goal 6: Reduce social and institutional vulnerabilities of the poor, women and children* *SDG Goal 8: Ensure effective participation of poor and women in anti-poverty policies and*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Micro, small & medium entrepreneurs; unemployed youth and women*
7	*Scope*	*:*	*National*
8	*Status-ongoing/New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
9	*Indicative Capital Cost*	*:*	*Nu. 126.970 m*
11	*External funding required*	*:*	*Nu. 126.970 m*
12	*Executing Agency*	*:*	*Ministry of Economic Affairs*
13	*Implementing Agency*	*:*	*Departments of Industry*
14	*Documents Available*	*:*	*Industrial Estate Project Reports, Agriculture Marketing Studies, Rural Lending Scheme Project Reports; Sector Tenth Plan*

B. Situational Analysis

Private Sector development has been an important priority since the 6th Five Year Plan (1987-1992) with the Vision 2020 envisaging the private sector as an engine of economic and employment growth. Moreover, under the strategic framework of the Tenth Plan, vitializing industry represents the core strategy for poverty reduction. The implementation of this core strategy will be heavily reliant on how the private sector performs and delivers, particularly within the context of galvanizing Micro, Small and Medium Enterprises (MSMEs) for industrial expansion and employment generation.

The private sector in Bhutan is small and relatively underdeveloped with over 98% of the sector consisting of micro, small, and medium-sized enterprises (MSME). These include various rural and urban enterprises, cottage industries and nascent cooperatives engaged in market activities. The MSMEs face considerable constraints that inhibit their further growth and expansion and these are the:

- lack of entrepreneurial lack of entrepreneurial talent, basic skills, modern technology, research and development, and capital;
- limited access to financing;
- absence of clear-cut government policies for the MSME sector;
- poor physical infrastructure and high transportation costs; and
- inadequate knowledge/information on market opportunities and requirements.

In order to promote and facilitate MSMEs and address the above constraints, the Ministry of Economic Affairs has carried out numerious activities. The Industrial Investment Act and Enterprise Registration Act have been drafted, and business licensing procedures simplified. Basic trainings on entrepreneurship development were provided through the Entrepreneurship Promotion Unit and financial schemes such as EDP Loan scheme, Credit Guarantee Scheme and Rural Enterprise Grants Scheme were facilitated through the financial institutions.

During the 9th Plan, the MoEA also initiated the Rural Enterprise Development and E-Business Projects. These projects supported and promoted cottage based industries such as bee keeping, bamboo crafts, textiles and vegetable dying, through trainings and developing market linkages for these products. The two projects also helped strengthen business promotional services in the regional trade and industry offices and develop appropriate material for business information dissemination.

C. Strategy

During the Tenth Plan, the Department of Industry will continue to promote SMEs through promoting innovation, creation and development of various niche products with comparative advantage in the regional and global markets. The department will also further strengthen the institutional framework and regulatory environment, enhance capacity building, provide essential business development services and promote access to financial institutions through various schemes to create an enabling environment facilitating the growth of MSMEs.

Enterprise development in rural communities will be further encouraged and given emphasis in the Tenth Plan through the regional trade and industry offices and the dzongkhags. Support will be specifically extended to the handmade paper and essential oil cottage industry with the specific intent of promoting value addition for exports. Creating a separate Department for the specific promotion and development of cottage and small industries will be considered.

D. Results Framework

Impact	Outcome	Output	Project/Activities.
Livelihood and economic opportunities improved through MSMES	Income level of SMEs increased Diversified cottage based industries	An enabling environment for development of SMEs in place Handmade paper quality improved Value added to essential oil export Rural enterprises set up	Developing an institutional framework for MSME programme formulation and implementation Developing an enabling legal and regulatory framework Enhancement of business development services Revision of investment opportunity study Support to handmade paper industry Support to essential oil industry Creation of new Department of Cottage and Small Industries Skills development Rural enterprise development

E. Management Arrangements

Institutional Arrangements

The Department of Industry will take the lead role in implementing the programs. The Department will coordinate closely with Regional Trade and Industries Offices, Department of Trade, Ministry of Agriculture, Dzongkhags and other relevant agencies.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Developing an institutional framework for MSME programme formulation and implementation	50.000
2	Developing an enabling legal and regulatory framework	
3	Enhancement of business development services	
4	Feasibility and resource study	21.000
5	Revision of investment opportunity study	4.000
6	Support to handmade paper development programme	5.000
7	Support to essential oil development programme	20.000
8	Creation of new Department of cottage & small industries	12.670
9	Skills development programme	5.000
10	Rural enterprise development programme	9.300
	Total	**126.970**

MEA/04: DEVELOPMENT & MANAGEMENT OF INDUSTRIAL ESTATES

A. Overview

1	Sector	:	Manufacturing & Industries
2	Linkage to National Development Objectives & Strategies	:	Vitalizing Industry, Synergizing Integrated Rural-Urban Development and Expanding Strategic Infrastructure for economic growth, poverty reduction, employment generation, private sector development and rural economic development
3	Expected Results	:	Increased opportunities for employment and income generation and environment-friendly industrial development
4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger MDG Goal 8 Target 16: Develop and Complement Strategies for Decent and Productive Work for Youth SDG Goal 1 & 2: Eradication of hunger poverty & halve proportion of people in poverty by 2010
5	Donor Agency	:	
6	Target Group	:	Prospective small, medium and large-scale industrial entrepreneurs and unemployed youth.
7	Scope	:	National
8	Status-Ongoing/New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 200.000 m
11	External Financing Required	:	Nu. 200.000 m
12	Executing Agency	:	Ministry of Economic Affairs
13	Implementing Agencies	:	Departments of Industry, Regional Trade & Industry Offices and Dzongkhags
14	Documents Available	:	Industrial Estate Project Reports; Sector 10th Plan

B. Situational Analysis

The development of industrial estates is aimed at clustering industries in a particular region or locality to promote private sector development and enhance socio-economic activity in a particular region. The development of industrial estates creates a favorable environment for private sector development through the provision of land, civil and electrical infrastructure and waste management system thereby reducing the initial cost of land development.

The creation of cost-effective infrastructure viable for industrial development is also expected to encourage the establishment of SMEs and increase the potential for industrial development in the Dzongkhags and Gewogs. Currently, there are three industrial estates: (i) Phuentsholing Industrial Estate with 27 manufacturing industries spread over an area of 61 acres; (ii) Samdrup Jongkhar Industrial Estate with four wood-based industries covering an area of 3.2 acres; and (iii) Bjemina Industrial Estate with four industries spread over an area of 34.4 acres that was set up mainly to promote development of SMEs.

The Royal Government approved the development of five new industrial estates at Pasakha, Jigmiling, Shangkazuli, Bondeyma and Tingtibi during the 9th Plan. In view of its inherent potential, the development of the Pasakha Industrial Estate in Chukha Dzongkhag was prioritized. The acquisition of land and development of infrastructure like roads, power & water supply and estate

management offices for the estate has been carried out and are near completion. The development of the Pasakha industrial estate with a total area of 267 acres with thirty eight industrial plots will be completed midway throught the Tenth Plan. However, besides simply identifying the sites and collecting basic data, the establishment of the other four industrial estates could not be implemented due to rescource constraints.

With the decision of the Royal Government to establish the Dhamdum Industrial Estate in Samtse Dzongkhag, the feasibility studies for Dhamdum and Jigmiling were carried out with assistance from South Asia Enterprise Development Facility (SEDF)/IFC. The study recommended the development of industrial estate at Dhamdum over Jigmiling primarily due to the favorable location of the former site. The report highlighted the need to carry out major river protection measures along the Dhamdum River. The Royal Government has also approved the development of Motanga Industrial Estate in Samdrup Jongkhar Dzongkhag and the land acquisition is in progress.

C. Strategy

The Department of Industry with the objective to promote balanced regional development and enhance growth of the rural economy, intends to develop and establish Industrial Estates at Dhandhum in Samtse Dzongkhag, Motanga in Samdrup Jongkhar Dzongkhag and Jigmiling in Sarpang Dzongkhag. The development and management of industrial estates, unlike in the past, will be pursued through public-private partnership (PPP) models.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Increased opportunities for employment, income generation and environment friendly industrial development	Number of small, medium and large industries set up in the industrial estates t	Functional Industrial estates in place Operationalized management and development of industrial estates corporation	Development of Dhamdum Industrial Estate Development of Motanga Industrial Estate Development of Jigmiling Industrial Estate Development of Pasakha Industrial Estate (9th plan spillover) Corporatization of Management and development of Industrial Estates

E. Management Arrangements

Institutional Arrangements

The Department of Industry will take the lead role in overall execution of the programme.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Development of Dhamdum Industrial Estates	200.000
2	Development of Motanga Industrial Estate	
3	Development of Jigmiling Industrial Estate	
4	Corporatization of Management & Development of Industrial Estates	
5	Development of Pasakha Industrial Estate (9th plan spillover)	
	Total	**200.000**

MEA/05: STRENGTHENING INSTITUTIONAL FRAMEWORK FOR INDUSTRIAL DEVELOPMENT

A.Overview

1	*Sector*	*:*	*Manufacturing & Industries*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vitalizing Industry for poverty reduction, income and employment generation.*
3	*Expected Results*	*:*	*Enable industrial growth, increased opportunities for employment and income generation in the rural and sub-urban areas*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger* *SDG Goal 1 & 2: Eradication of hunger poverty and halving proportion of people in poverty by 2010* *SDG Goal 18 & 19: Acceptable level of water and soil and air quality*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Prospective small, medium and large-scale industrial entrepreneurs and unemployed youth*
7	*Scope*	*:*	*National*
8	*Status-Ongoing/New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 30.030 m*
11	*External Financing Required*	*:*	*Nu. 30.030 m*
12	*Executing Agency*	*:*	*Ministry of Economic Affairs*
13	*Implementing Agencies*	*:*	*Departments of Industry*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

The development of the manufacturing and industries sector in Bhutan has happened at a gradual pace despite considerable investments that have been made over the years. The establishments of service centers to a certain extent have helped promote small-scale industries like fabrication units, automobile workshops, small food and agro-based industries across the region. During the 9th Plan one industrial estate was established in Pasakha and three service centers across the region.

However, the manufacturing and industries sector has not grown as rapidly as expected. The manufacturing sector in particular has grown at little over 5.8% a year over the Ninth Plan as compared to the 9.6% growth for the national economy. As such the manufacturing sector share of GDP has declined from 8.3% of GDP in 2001 to about 6.4% of GDP in 2007.

This relatively slower growth and performance of the manufacturing and industries sector as compared to the other sectors in the economy can be attributed to the lack of a clear industrial policy, which to a certain extent has contributed to the mismatch of labour supply and demand in the market exacerbating the situation of youth unemployment. The weak employment generation capactity of the national economy is also linked to the slower growth of the manufacturing sector, which in other countries has always been a key employment sector.

Additionally, the strategic policy of vitalizing industry will be pursued while keeping environmental considerations such as maintaining acceptable quality levels of water, soil and air in the forefront. As envisioned in the Vision 2020, the longer term industrial policy will actively promote cleaner and non-polluting industries. In the light of these overrding concerns, there is the urgent need for a clear industrial policy and institutional framework to be framed to create an enabling environment for vitalizing industries without compromising environmental standards.

C. Strategy

A key strategy to vitalize industry over the Tenth Plan will be to formulate and implement a clear and comprehensive industrial policy and establish the necessary legislative framework. The strengthening of the capacity of the Department of Industries will also be a priority.

D. Results Frame Work

Impact	Outcome	Output	Projects/Activities
Increased opportunities for gainful employment and income generation in rural and urban areas	Increased investment in industries and enterprises by potential entrepreneurs	Industrial policy in place to guide the sustainable development of industries Investment and Industries Act enacted Established one window clearance Products certified satisfactorily Developed industrial information system	Formulation of industrial policy and legislation Establishment of one window clearance system Strengthening of company registry Product certification Development of industrial information system

E. Management Arrangements

Institutional Arrangements

The Department of Industry will take the lead role in implementing the programme.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in milion)
1	Formulation of industrial policy and legislation	14.330
2	Establishment of one window clearance	0.700
3	Strengthening of company registry	7.500
4	Development of Industrial information system	3.500
5	Product certification	4.000
	Total	**30.030**

MEA/06: SUSTAINABLE ENVIRONMENTAL MANAGEMENT AND INSTITUTIONALIZATION OF CLEANER TECHNOLOGY

A. Overview

1	*Sector*	*:*	*Manufacturing & Industries*
2	*Linkage to National Development Objectives & Strategies*	*:*	*National Spatial Planning for environment conservation and sustainable development*
3	*Expected Results*	*:*	*Sustainable development of industries and mines through institutionalization of cleaner technology and capacity building.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 7: Ensure environmental sustainability* *SDG Environment Goals 17-22 pertaining to:* *SDG Goal 17: Acceptable level of forest cover* *SDG Goal 18: Acceptable level of water quality* *SDG Goal 19: Acceptable level of air quality* *SDG Goal 20: Conservation of bio-diversity* *SDG Goal 21: Wetland conservation* *SDG Goal 22: Ban on dumping of hazardous waste, including radio-active waste.*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Industries & Mines*
7	*Scope*	*:*	*National*
8	*Status-Ongoing/New*	*:*	*Ongoing*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 11.500 m*
11	*External Financing Required*	*:*	*Nu. 11.500 m*
12	*Executing Agency*	*:*	*Ministry of Economic Affairs*
13	*Implementing Agencies*	*:*	*Policy and Planning Division, Department of Industry, Department of Geology & Mines, Regional Trade & Industries Offices, Dzongkhags & Private Sectors*
14	*Documents Available*	*:*	*Environment Assessment Act 2000, Regulations for the Environment Clearance of Projects & Strategic Environment Assessment 2002, Mines & Minerals Management Act 1995, Mines & Minerals Management Regulations 2002, Programme Document, Component & Work Plans; Sector Tenth Plan*

B. Situational Analysis

The Environment Unit (EU) under the Ministry of Economic Affairs was established with the main objective of promoting the sustainable development of industries and mines. Environmental clearances for various industries and mines were being issued by the Department of Industry till it was transferred to the EU in September 2005. In 2005, the Unit developed the Environmental Management Information System (EMIS) database under the Environment Urban Sector Programme Support (EUSPS) project, which includes information on the industries in the country. The Regional Trade and Industry Offices (RTIOs) are responsible for data inputs on the environmental clearances issued. The responsible personnel have been trained on management of the EMIS.

As of 2006, the unit issued a total of 115 new environmental clearances and renewed 157. With a view to simplify and standardize environmental clearances for small enterprises, the Environmental Codes of Best Practices (ECOPS) for the listed sectors is being developed. These include various enterprises such as automobile workshops, bakeries, sawmills, furniture manufacture, audio video production, printing, photo studio and handmade paper ventures. This has enabled faster clearances of proposals falling in these categories.

In addition, two environmental focal persons have been identified in the RTIOs for issuing environmental clearances, monitoring and conducting inspections. However, the EU is responsible for the overall monitoring and compliance under the Environment Assessment Act 2000 (EA Act 2000) and institutionalization of the Cleaner Technology for Environmental Management (CTEM). The Unit also organizes workshops/training on the use of CTEM for the private sector.

C. Strategy

In the Tenth Plan, the sustainable development of industries and mines will be strengthened through institutionalizing CTEM. Regular compliance monitoring will be conducted by the EU to check compliance of air and water quality with the EA Act 2000 and other relevant environmental acts, regulations and national standards. CTEM will be promoted and regular awareness workshops on new techniques and technologies will be carried out for industries and mines, private sector enterprises and relevant government agencies.

The ECOPs for the 17 listed sectors will be developed and disseminated to the relevant agencies and workshops will be conducted to develop a standard format for industrial activities. The Unit will also play a key role in mainstreaming environment issues into the plans, policies and activities of the MEA.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Reduce adverse impact on the environment from industries and mines to help fulfill environmental conservation and sustainable development goals	CTEM adopted by industries and mines	CTEM institutionalized & awareness created Strategic and Standard Rules and Regulations on CTEM developed Legal and regulatory framework for compliance monitoring improved	Institutionalization of Cleaner Technology and Environment Management Sectoral studies for industries and mines development of manual for industrial inspection and monitoring Drafting of Mineral development Policy and creation of awareness material for cleaner production Procurement of environmental monitoring equipment

E. Management Arrangements

Institutional Arrangements

The PPD shall be responsible for the overall execution and co-ordination of the programme with support from the RTIOs and other relevant agencies. The Bhutan Chamber of Commerce and Industry (BCCI) and various local groups including NGOs and civil society organizations could provide institutional and organizational development support to the private sector in institutionalization of the CTEM.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Sectoral studies of industries and mines and development of manual on environmental inspection and monitoring	5.000
2	CTEM study visit for private sector and MoEA	3.700
3	Industrial environment inspection capacity building for inspectors in the Regional Trade and Industry Offices	1.500
4	Mineral Development Policy	0.800
5	Procurement of monitoring equipments	0.500
	Total	**11.500**

MEA/07: DEVELOPMENT & STRENGTHENING OF INTELLECTUAL PROPERTY & COPYRIGHTS

A. Overview

1	Sector	:	Manufacturing & Industries
2	Linkage to National Development Objectives & Strategies	:	Vitalizing Industry for poverty reduction and employment generation through promotion of cultural industries
3	Expected Results	:	A fully functioning and efficient system for the administration of intellectual property and copyrights established
4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger MDG Goal 8: Target 12: Develop further an open, rules based, predictable, non-discriminatory trading and financial system And Target 16: Develop and complement strategies for decent and productive work for youth SDG Goal 1 & 2: Eradication of hunger poverty & Half proportion of people in poverty by 2012
5	Donor Agency	:	
6	Target Group	:	Intellectual property rights holders including creative artists, entrepreneurs, educational institutions and general public.
7	Scope	:	National
8	Status-Ongoing/New	:	Ongoing/New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 24.500 m
11	External Financing Required	:	Nu. 24.500 m
12	Executing Agency	:	Ministry of Economic Affairs
13	Implementing Agencies	:	Intellectual Property Division
14	Documents Available	:	Industrial Property Bill, IPD Progress Report; Sector Tenth Plan

B. Situational Analysis

The first draft of the amendment to the Industrial Property Act and the Copyright Act were completed during the Ninth Plan period. The Registry of Trademarks has been re-activated and trademark applications are being processed. The drawing up of rules and procedures for the Patent Registry and the Industrial Designs Registry is in progress and the short-term attachment training of four staff in the areas of trademarks, patents, industrial designs and voluntary registration of copyright has been completed. Further, automation of the functions of the Intellectual Property Division has been initiated and a trial installation of the Intellectual Property Automation System (IPAS) has been carried out. Awareness creation and outreach activities have also been conducted.

C. Strategy

In the Tenth Plan, the Division will continue to revise and upgrade the IPAS in line with international standards. Legislation on various topics of Intellectual Property (IP) will be developed in order to have in place a comprehensive legal system for the protection of IP rights. New facilities for registration of patents and industrial designs and accessing patent information through a patent information system will be set up and the institutional and professional capacity of the division will be strengthened. In addition, awareness building on IP related subjects will be intensified and efforts will be made to build public confidence in the system and encourage its use.

Activities will be closely coordinated with the concerned agencies on eliminating IP rights violation. Active interaction will be maintained with the private sector, particularly SMEs, in integrating intellectual property concerns in their business plans. Becoming a party to important multilateral treaties on IP will also be processed in the Tenth Plan.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Intellectual property titles, copyrights and related rights are effectively protected	Public have confidence in IP system Awareness among the people on the IP and related rights	A fully functioning and efficient system for the administration of intellectual property and copyrights A comprehensive legislation in place	Institutional Strengthening of Copyrights & related Right Units Setting up of facilities for registration of intellectual property titles Awareness and management of intellectual property capital

E. Management Arrangements

Institutional Arrangements

The Intellectual Property Division will work closely with National Biodiversity Center, Institute of Traditional Medicines and Science, EPC, BCCI and Right holders, Department of Trade and World Intellectual Property Organization (WIPO) for implementing IPD's targets.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Strengthening Copyrights & related Rights Units	4.625
2	Setting up of facilities for registration of intellectual property titles	15.875
3	Awareness and management of intellectual property capital	4.000
	Total	**24.500**

MEA/08: POWER TRANSMISSION PROGRAMME

A. Overview

1	Sector	:	Energy & Power
2	Linkage to National Development Objectives & Strategies	:	Expanding Strategic Infrastructure through providing clean energy services and enhancing energy security to boost economic growth, reduce poverty and improve living standards
3	Expected Results	:	Enhanced energy reliability/security
4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger SDG Goal 1 & 2 : Eradication of hunger poverty and Half proportion of population in poverty by 2013
5	Donor Agency	:	
6	Target Group	:	All electricity consumers/Communities/Industrial sectors
7	Scope	:	Nation wide
8	Status-Ongoing/New	:	New/Ongoing
7	Timeframe	:	Five years (2008-2013)
8	Indicative Capital Cost	:	Nu. 50.000 m
9	External Financing Required	:	Nu. 50.000 m
10	Executing Agency	:	Department of Energy, MoEA
11	Implementing Agencies	:	Bhutan Power Corporation Limited/Power Grid Corporation of India
12	Documents available	:	RE Master Plan, Power System Master Plan, Integrated Energy Management Master Plan, Sector Tenth Plan

B. Situational Analysis

At present, most of the existing power plants are in the western region of the country with only Kurichhu HEP in the east. As such, there is no inter-regional grid. With the upcoming of the Dungsam Cement Project and the Matunga industrial estate, power supply from Kurichhu will not be adequate for the region, especially during the lean season. Similarly, the power supply situation in the central (Gelephu) and the South western region (Samtse) is neither adequate nor reliable with the projected load demand of upcoming industrial activities.

The power supply situation in Samtse Dzongkhag will not be sufficient given the projected load demand of the upcoming industrial estate at Dhamdhum in Samtse. The district already draws a substantial amount of power at Gomtu for the Penden Cement factory with the 66 KV line from Phuentsholing already overloaded. With the planned industrial estate at Dhamdhum, the supply situation in future will be grim without a system up-gradation. The construction of double circuit transmission line from Birpara to Samtse will help solve this power scarcity in Samtse. Gelephu with the upcoming Jigmeling industrial estate, which is currently fed from Kurichu, will also face shortages as power generation Kurichu HEP will not even be sufficient to meet demand in the east.

Therefore, a full electricity grid interconnection between the eastern and the western region will be necessary to provide with reliable and adequate power supply to vitalize industrial development and enhance energy security. Constructing a 220 kV Double Circuit (DC) transmission line from Birpara to Samtse (Dhamdhum Industrial Estate) via Gomtu will also be need to be carried out on a priority basis.

Given the high priority for accelerated hydropower development to enhance revenue earnings and meet growing domestic demand for electricity, power transmission infrastructure (both lines and substations) are required for evacuation of power from the generating stations to various load centres in Bhutan and the Indo-Bhutan delivery export points. To better plan and facilitate the development of such strategic power transmission infrastructure, it is absolutely imperative that a comprehensive National Transmission Grid Master Plan be developed. The master plan would further help anticipate and address a host of accompanying issues such as right of way, environmental considerations and effective integration with delivery points and the Indian grid.

At present, large transmission lines are normally built on a "project-tied" or ad hoc basis whenever a new large hydropower generation project comes up. Developing a rationalized and well interconnected transmission corridor is thus becoming increasingly more difficult due to the uncertain timing of the inception and commissioning of future HEPs. The Power System Master Plan of 2003-22 only highlights the inventory of hydropower generation projects and its likely associated transmission lines up to the expected delivery points in India. Moreover, these have been just assumed without full consultations with Indian counterparts. Therefore, it is necessary that the National Transmission Grid Master Plan of Bhutan should also take into consideration the effective integration of Bhutans national grid system with the Indian grid, especially the North-Eastern and Eastern grids. This will help optimize the costs of electricity infrastructure development and maximize mutual benefits.

C. Strategy

The following strategic objectives of the Power Transmission Programme are to:

- Provide Grid electricity by extending transmission lines and increase the reliability of electricity by inter-regional grid network connections; and
- Ensure adequate grid electricity supply for socio-economic/industrial development activities.

The following constitute the various activities to fulfill the power transmission strategic objectives:

- Construction of 220 kV Transmission line from Tsirang to Jigmeling along with inter-connecting transformer 220/132 kV substation at Jigmeling catering to the central region;
- Construction of 132 kV tie line from Jigmeling to Gelephu (This completes interconnection to eastern grid) catering to the eastern/central region;
- Extend about 16 Km of 220 kV Double Circuit (DC) transmission line from Birpara to Gomtu as well as extend about 18 km of 220 kV D/C transmission line from Gomtu to Samtse (Dhamdhum Industrial Estate) catering to the western region;
- The construction of substations at Samtse, Gomtu and Jigmeling can be provisioned for separately either in the Industrial estate budget allocation or in BPC's budget; and
- Preparation of Bhutan's National Transmission Grid Development Master Plan and its integration with Indian Grid.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Enhance national supply security, reliability & stability Reduce import of power from India Facilitate industrial development Comprehensive National Transmission Grid Master Plan developed	Interconnection between Eastern and Western grids provided Adequate supply to the industrial estates in Jigmeling (Sarpang)	220 kV transmission line from Tsirang to Jigmeling and 132 kV double circuit line between Jigmeling and Gelephu along with 220/132 kV ICT at Jigmeling and 220/66/33kV substation at Tsirang	Construction of 220 kV transmission line from Tsirang to Jigmeling 220/132 kV substation at Jigmeling and 132 kV tie line from Jigmeling to Gelephu
	Adequate supply to Samtse and Gomtu from Tala Enhanced Security and reliability of supply to Samtse industrial estate National Transmission Grid Master Plan in place	34 km of 220 kV D/C transmission line from Birpara- Gomtu - Samtse Comprehensive National Transmission Grid Master Plan developed	Construction of 220 kV transmission line from Birpara – Gomtu - Samtse (34 km double circuit) Development of comprehensive National Transmission Grid Master Plan for Bhutan

E. Management Arrangements

Institutional Arrangements

Bhutan Power Corporation Limited (BPCL), the state-owned power transmission, distribution and supply utility company shall directly implement the projects with central coordination by the DoE. Construction works are tendered out to the civil and electrical contractors from the private sector with BPC carrying out the supervision, quality control and accounting. Consultants will be recruited to assist BPCL in engineering design and supervision.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	220 kV transmission line from Tsirang to Jigmeling; 220/132 kV substation at Jigmeling and 132 kV tie line from Jigmeling to Gelephu	BPC funding
2	220 KV D/C transmission line from Birpara – Gomtu - Samtse (34 km double circuit)	0.000
3	Preparation of Bhutan's National Transmission Grid Development Master Plan and integration with Indian Grid	50.000
	Total	**50.000**

MEA/09: RURAL ELECTRIFICATION PROGRAMME

A. Overview

1	Sector	:	Energy & Power
2	Linkage to National Development Objectives & Strategies	:	Vitalizing Industry and Synergizing Integrated Rural Urban Development by providing clean energy services and enhancing national energy security
3	Expected Results	:	Expanded coverage of rural electrification through grid supply and provision of grid electricity access for new and left-out/fill-in households.
4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate extreme poverty and hunger SDG Goal 1 & 2: Eradication of hunger poverty & Halve proportion of population in poverty by 2010 MDG Goal 7: TARGET 9: Integrate the principles of sustainable development into country policies and and reverse the loss of environmental resources SDG Goal 4: Ensure a robust pro-poor growth process SDG Goal 5: Strengthen connectivity of poorer regions and of poor as social groups SDG Goal 6: Reduce social and institutional vulnerabilities of the poor, women and children SDG Goal 17 Acceptable level of forest cover SDG Goal 18 Acceptable level of water and soil quality
5	Donor Agency	:	
6	Target Group	:	All Bhutanese households/ Rural Communities
7	Scope	:	Nation wide
8	Status-Ongoing/New	:	New/Ongoing
9	Timeframe	:	Five years (2008-2013)
10	Indicative Capital Cost	:	Nu. 3,727.000 m
11	External Financing Required	:	Nu. 3,727.000 m
12	Executing Agency	:	Department of Energy, MoEA
13	Implementing Agencies	:	Bhutan Power Corporation Limited and Communities
14	Documents Available	:	RE Mater Plan; Power System Master Plan; Integrated Energy Management Master Plan; Sector Tenth Plan

B. Situational Analysis

Access to energy is a basic human need underlying all economic and social activities and constitutes an indisplensable element for sustainable development. Poor and underdeveloped communities are often trapped in a vicious circle of poverty and underdevelopment due to energy poverty. Moreover, development and underdevelopment itself are often adjudged on the basis of energy consumption which constitutes a key development indicator for many countries around the world.

More specifically, most rural families in Bhutan spend a considerable amount of time in energy gathering activities such as collecting fuel wood for heating and cooking. Fuelwood consumption per capita in Bhutan is extremely high and could have an adverse impact on the RGoB's being able to maintain its steadfast commitment to maintaining high levels of forest cover. Better and enhanced access to energy services for rural communities can thus greatly help reduce workloads

and indoor air pollution, generate income and employment for poor households through an expansion of rural industries, and facilitate environmental sustainability through better natural resource management. As such, the accelerated expansion of rural electrification constitutes a strategic aspect of sustainable rural development and poverty alleviation, including promoting environmental conservation effectively.

The Rural Electrification (RE) Programme is an important development activity aimed at providing electricity access to rural population for the above purposes of stimulating socio-economic activities in rural areas and reducing poverty while providing affordable energy supply to help conserve the environment. The rural electrification Master Plan provides the road map for the implementation of rural electrification programme. The rural electrification status as of 2007 set against the Tenth Plan target is provided in the table below:

	Households provided with Electricity in % (2007)	Target for 10FYP
Rural	54%	>96%*
Urban	97%	100%
National	70%	>98%
* excluding off-grid RE target HHs		

The RE programme has a physical target to provide electricity to about 34,238 new households and 6,019 fill-in-left-out households in various Dzongkhags. The provisioning of electricity to this large number of households will raise the coverage of electritic to universal levels or near 100% in rural areas and about 100% at the national level by the end of Tenth Plan. The various activities include the extension of distribution lines and substations and providing meters to households.

C. Strategy

The overall rural electrification strategy is to achieve near 100% or universal coverage by the end of the Tenth through an equitable, phased radial grid expansion based on the techno-economic feasibility/Dzongkhag priority criteria. The Vision 2020 envisages that electricity for all will be achieved by the year 2020 but this target has now been brought forward and is to be achieved by the year 2013, the end of the Tenth Plan.

To achieve this ambitious target, grid electricity is to be distributed to meet the demand of various types of consumers through extensive rural electrification schemes. The works will include extension of grid supply from existing/to be built transmission substations for new rural households and left-out/fill-in households in areas already having access to electricity.

A detailed feasibility study for rural electrification of more than 25,000 HHs in the Tenth Five Year Plan has been conducted. There is the need to conduct a detailed feasibility study for the remaining rural households to be provided electricity over the Tenth Plan that were initially slated for the period 2013-2018. A project Preparatory technical assistance for the accelerated rural electrification will be undertaken. In order to optimize cost and reduce transportation difficulties, the Tenth Plan RE will further need to be effectively integrated with road development plans. The existing cross-sectorial policies, laws, rules, regulations and strategies shall also be harmonized to minimize and avoid conflicts, and to create an enabling environment to achieve the near 100% electrification target.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Provisioning of electricity access for new and left-out households thereby effectively achieving electricity for all Reduction in Rural poverty through socio-economic development in rural areas, including effective environmental conservation	Rural households provided with electricity Generate income from enterprise development Reduce energy gathering work burden on rural HHs Help maintain high level of forest cover and sustainable use of natural resources	New Approaches to accelerating RE through grid extension Rural Electrification through grid extension in targeted Dzongkhags/ Geogs/ Villages Rural electrification through grid extension of fill in/left out households Up-gradation of power distribution network	Detailed Project Prepatory and Feasibility reports made for accelerated RE Rural Electrification through grid connection of 34,238 HHs 6,019 Rural Electrification of fill-in households/ left out households in already electrified areas and up-gradation of electrical infrastructure and services

E. Management Arrangements

Institutional Arrangement

The RE Master Plan Prepared in 2004-05 will be the primary reference document for the selection of villages for electrification based on socio-economic and techno-economic feasibility and analysis subject to the zoning criteria for providing facilities. Relevant feasibility studies will be conducted and appropriate project documents will be prepared for possible funding by the donors/lending agencies. Once the funding is secured, the BPCL shall start implementation with the necessary procurement and construction activities through contracts. The overall execution of the programme shall be done by the Department of Energy.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Professional services for detailed Project Prepatory works for accelerated RE (for additional 8,959 households)	28.000
2	Rural Electrification through grid connection of 34,238 HH	3,699.000
3	Rural Electrification of fill-in households/left-out households in already electrified areas and up-gradation of electrical infrastructure and services (6,019 HH)	BPC Financing
	Total	**3,727.000**

MEA/10: ACCELERATED HYDROPOWER DEVELOPMENT PROGRAMME

A. Overview

1	*Sector*	*:*	*Energy & Power Sector*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vitalizing Industry and Expanding Strategic Infrastrucure by providing clean energy services and enhancing national energy revenues and security for poverty reduction and rural development*
3	*Expected Results*	*:*	*Increased revenue generation through hydropower exports and enhanced energy security. Additional power generation capacity to meet increasing domestic demand of power. Increased opportunities for employment and sustainable economic development.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger.* *MDG Goal 7: TARGET 9: Integrate principles of sustainable development into country policies and & reverse loss of environmental resources* *SDG Goal 1 & 2: Eradication of hunger poverty & Halve proportion of population in poverty by 2010* *SDG Goal 4: Ensure a robust pro-poor growth process* *SDG Goal 5: Strengthen connectivity of poorer regions and of poor as social groups* *SDG Goal 17 Acceptable level of forest cover* *SDG Goal 18 Acceptable level of water and soil quality*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Domestic Electricity Consumers and Export market*
7	*Scope*	*:*	*National*
8	*Status-Ongoing/New*	*:*	*New/Ongoing*
9	*Timeframe*	*:*	*Five years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 576.700 m*
11	*External Financing Required*	*:*	*Nu. 576.700 m*
12	*Executing Agency*	*:*	*Ministry of Economic Affairs*
13	*Implementing Agencies*	*:*	*Department of Energy, Planning & Coordination Division, GoI Agencies and private sector/IPP*
14	*Documentation Available*	*:*	*Updated Bhutan Power System Master Plan-2004, Water Resources Management Plan, RE Master Plan, Draft Industrial Policy, Draft Hydropower Development Policy, Draft Renewable Energy Framework document, Draft Integrated Energy Management Master Plan, Sector Tenth Plan*

B. Situational Analysis

The total hydropower potential of Bhutan is estimated at 30,000 MW but the country has only harnessed about 1,488 MW or roughly 5% of the total hydropower potential. While the master plan has identified more than 75 project sites, feasibility and detailed project reports have been carried out only for few projects (currently for Dagachu, Punatsangchu-I, and Sankosh). DPRs are essential for making investment decisions, attracting FDI, and ranking projects for priority implementation and also establishing detailed linkages with the NSP-2008 through infrastructure

requirements. Therefore, it is essential that studies and reports be initiated at the earliest for the speedy implementation of the projects as the DPRs themselves take about a year or more to complete.

The project studies (DPR, feasibility study) of some of the potential sites (including storage schemes) as well as for those projects in operation had been done through technical and grant finance from the donor agencies in the past. No project studies have ever been carried out from the funds/revenue generated from sale of electricity. It is however, now opportune to mobilize additional resources besides donor grants or soft loans for conducting the detailed studies as well as potentially finance hydropower projects from hydropower revenue generation and foreign direct investment to achieve the accelerated development of 10,000 MW by 2020.

C. Strategy

For taking investment decisions in developing a mega hydropower project, a detailed Feasibility study or the DPR is an absolute pre-requisite as hydropower projects are capital intensive with long gestation periods and have complex engineering risks involved.

To achieve the accelerated hydropower development objective, at least the DPR, feasibility and pre-feasibility study reports of the potential hydropower sites have to be carried out and made available to the prospective project developers/promoters. It is intended to have these studies carried out for some of the priority hydropower project sites through RGoB finance/IPP/Donors. For RGoB financed project studies, the work shall be carried out by consultants (locally with JV with outside consulting firms, regional/international consulting firms) recruited through an open competitive bidding process.

DPR's for the IPP projects could be carried out by the investors as part of their mandate if an early indication is given. However, potential investors from India have indicated that it is desirable to have the DPRs ready during the IPP tendering stage so that they will be in position to offer the most realistic and accurate bid price.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Accelerated development of hydropower projects Integrated infrastructure planning and development based on the hydro sites	Set of DPRs ready in the next 2-3 years Increased level of interest from potential investors Enhance DoE confidence in promoting projects	Identification of potential priority hydropower projects Project reports for making investment decision Technology transfer	Preparation of Detailed Project Reports (DPRs), Feasibility Study, Pre-feasibility study of priority hydropower projects Preparation of Pre-construction study report Survey & Investigation of about 53 hydropower project sites to update the various design and technical parameters

E. Management Arrangements

Institutional Arrangements

The DPR studies of hydropower projects committed by the GoI shall be executed and coordinated by the Department of Energy and implemented through the GoI agencies (WAPCOS, NHPC, etc.). For the pre-feasibility study projects funded through internal resources, it will be implemented by the Department of Energy through recruitment of competent consulting firms/agencies. The project reports will be finalized based on consultative process involving all concerned agencies including the Public hearing/consultation at each development site.

For those projects to be funded under the NORAD phase III project, the pre-feasibility studies of four projects including DPR of one site will be implemented in line with the agreement signed between the two governments and the project documents. As per the project document prepared jointly by Norwegian agency and the Department of Energy, the pre-feasibility study of one project will be carried out fully by the Norwegian expertise with Bhutanese involvement. For the next three projects, project studies will be done with increased involvement of the Bhutanese. The reconnaissance studies of about 53 sites will be carried out as part of the ongoing activity of the Department of Energy with support from Norwegian agencies/ expertise.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	DPR Completion of Mangdechhu HEP (720 MW)	24.200
2	DPR Completion of Punatsangchhu II HEP (1000 MW)	28.500
3	DPR of Chamkharchhu-I (Digala) HEP (670 MW)	90.000
4	DPR of Kholongchhu (Gomkora) HEP (486 MW)	80.000
5	DPR of Kuri/Gongri HEP (1800 MW)	120.000
6	DPR of Amochhu Reservoir HEP (620 MW)	90.00
7	Update of Sankosh DPR and EIA including preparation of pre-construction survey report (4000 MW)	20.000
8	Update of Wangchhu DPR and EIA including preparation of preconstruction survey report (900 MW)	20.000
9	Update of Bunakha DPR and EIA including preparation of pre-construction survey report (180 MW)	20.000
10	Reconnaissance survey and investigations of 15 priority hydropower sites under PSMP	45.500
11	Pre-feasibility studies of the Rothpashong (400 MW) and Khomachhu (326MW) HEPs including environmental studies	38.500
	Total	**576.700**

MEA/11: INSTITUTIONAL STRENGTHENING OF THE ENERGY SECTOR

Overview

1	*Sector*	*:*	*Energy & Power*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vitalizing Industry and Expansion of Stratetgic Infrastructure by providing clean energy services and enhancing national energy revenue and security for poverty reduction and rural development*
3	*Expected Results*	*:*	*Improved institutional capacity with enhanced efficiency to better meet national energy needs towards accelerated development, fulfill public service needs and provide sound technical advice on power/energy issues to RGoB*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger.* *MDG Goal 7: TARGET 9: Integrate principles of sustainable development into country policies and & reverse loss of environmental resources* *SDG Goal 1 & 2: Eradication of hunger poverty & Halve proportion of population in poverty by 2010* *SDG Goal 4: Ensure a robust pro-poor growth process.* *SDG Goal 5: Strengthen connectivity of poorer regions and of poor as social groups* *SDG Goal 17: Acceptable level of forest cover*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Energy & Power Sector*
7	*Scope*	*:*	*Nation wide*
8	*Status-Ongoing/New*	*:*	*Ongoing/New*
9	*Timeframe*	*:*	*Five years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 81.155 m*
11	*External Financing Required*	*:*	*Nu. 81.155 m*
12	*Executing Agency*	*:*	*Ministry of Economic Affairs*
13	*Implementing Agencies*	*:*	*Department of Energy, PPD, Dzongkhags/Power Corporations, Department of Forests, Communities.*
14	*Documents available*	*:*	*Integrated Energy management Master Plan, Draft Renewable Energy Policy for Micro Hydro and Solar PV, GG+, Power System Master Plan, Water Resources Master Plan, Rural Electrification Master Plan, other Bi-lateral Agreements and Annual Consultation documents with Donors, Sector Tenth Plan*

B. Situational Analysis

A significant change in the institutional structure of the energy sector is highly necessary if the targets of 10,000 MW installed capacity by 2020 is to be achieved. Without a major institutional strengthening of the Department of Energy, the target of accelerated hydropower may have to be scaled down considerably. This must be considered within the context that after the Chukha Hydro Power plant was built in 1986, it took another two decades to complete another large Project such as Tala in 2006 on a business as usual mode of operation. Capacity addition of 10,000 MW by 2020 from now will require annual capacity addition of about 700 MW each year.

The pace of hydro power development has not increased as rapidly due to various other competing priorities and its limited institutional capacity. For acceleration of hydropower sector policies, regulations have to be framed and resources have to be mobilized for which a proper institution with the right authority and power has to be in place. While donors' technical assistance and support may be forthcoming, an adequately equipped institution with adequate resources and capacity has to be in place to coordinate and cooperate to implement and coordinte all these activities.

Moreover, the Department of Energy (DoE) has prepared the Integrated Energy Management Master Plan and the Integrated Rural Electrification Master Plan in the 9th FYP. The study has provided the energy balance and demand/supply scenario of the country based on which other renewable energy sources like wind, solar and bio-gas are to be explored. Implementation of this Integrated Energy Management Master Plan itself would require a substantial enhanced capacity of the sector. Therefore, given the above issues, it is clearly evident there is a strong and urgent need to enhance the institutional capacity of the energy/power sector.

C. Strategy

The immediate requirement of manpower and institutional skills can be met through the recruitment of consulting firms with relevant expertise in the hydropower sector. In addition, local skills and expertise (both from existing Government, Corporate and Private sectors) have to be sourced and mobilised to start building the institution for accelerated hydropower development. Officials on deputation can be called back to fill up the priority needs in planning, design and resources mobilizing and facilitation including coordination for speedy implementation of the comprehensive strategy.

To fulfil the objectives of accelerated hydro power development, the current institution of the Department of Energy has to be upgraded to a Ministry as recommended in the 1999 GG document. In addition, there is an urgent need to station a dedicated energy official and creat a power trade office in New Delhi for market research, hydropower promotion, facilitating power-trade and liasoning with GoI agencies and potential IPPs. This is extremely significant in view of the importance of the Indian energy market and to help further facilitate energy cooperation with SAARC/BIMST-EC countries.

Additionally, project finance and power sales agreements models need to be prepared for accelerated hydropower development. The preparation of rules, regulations, guidelines, procedures, standards, codes of practices for multi-sector regulation is another sub area of activities planned under the programme.

Establishing a hydropower laboratory in Bhutan is deemed highly necessary. This laboratory will conduct material testing and carry outproject modeling and efficiency testing of hydraulic machines, among others. This will greatly reduce time and money spent on sending materials for testing abroad. In-house technical expertise will also need to be built to operate the laboratory through appropriate technology transfer. This investment will be recovered in few years given the relevance and importance of the lab. This may also be used for diploma holders and engineers of Bhutan's Polytechnic and Engineering Colleges to train them and hands-on-experience. Having a laboratory within Bhutan will greatly increase efficiency and contribute to hydropower capacity expansion in the country.

In line with the Good Governance policy guidelines to enhance ICT-information and communication technology, the Department also aims to enhance the MIS-Management Information System and

GIS-Geographic Information System. Planners will benefit from the quality and quantity of data from the MIS and GIS. The Department has already a basic GIS system in place but this need to be further enhanced along with the GIS and MIS personnel. Information and knowledge management needs to be established and for this, the Department of Energy needs to strengthen both its personnel and hardware infrastructure.

Some studies need to be conducted in re-structuring of the various power sector institutions including institutional capacity building of the Druk Green Power Corporation (DGPC). The DGPC was established in 2008 to assume the role of additional project developer besides maintaining and operating the existing state owned hydropower plants. Similarly, there is need to build the institutional capacity of the System Operator (SO) to effectively coordinate the economic load dispatch from generating stations and maintain a balance of supply and demand in Power system for reliability of Grid operations including maintenance scheduling of power infrastructures. The SO needs to constantly keep in contact and communicate with Indian counterparts for stable and reliable operation of the national power system.

There is also the need for some other specific studies in the energy sector including further reform and institutional re-organization and re-structuring. The project activities and their scope therefore need to be planned and defined properly before implementation.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
A vibrant Energy Sector with strong institutional capacity and capabilities Efficiency in the electricity sector improved Transparency & accountability ensured Integrated Multi-sectoral Utility Regulation in place	Strong institutional development internal capacity strengthened for the energy sector strengthened information/ data base strengthened ties with International Energy Agencies Druk Green Power Corporation (DGPC) Ltd formed System Operator (SO) designated	a. Project finance and power sales agreements models b. Identification and establishment of institutional linkages with international bodies in the energy sector and start of collaborative activities c. Comprehensive MIS and GIS system in place for knowledge management and use of data for evaluation, planning and forecasting of programmes/ projects d. Hydropower laboratory established e. Multi-sector regulatory body in place f. Effective and functioning ICT in place	Institutional strengthening of the Department of Energy, Bhutan Electricity Authority, DGPC and Bhutan Power Corporation Limited through establishment of institutional linkages with international bodies in the energy sector Preparation of project finance and power sales agreements models Establishment of hydropower laboratory for material testing, project modeling, & efficiency testing of hydraulic machines Multi-sector regulations / restructuring Management Information Systems & Geographical Information System Information Communication Technology Development

E. Management Arrangements

Institutional Arrangements

The Department of Energy of the Ministry of Economic Affairs shall be the overall execution and coordination agency for the programme. The Divisions and other Power/Energy Corporations will be the implementing agencies with technical assistance from development partners/institutions. The Dzongkhag Head Quarters/ Gewog Offices can be contacted for regional support and public participation.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Project finance and power sales agreements	11.340
2	Establishment of institutional linkages with international bodies in the energy sector	14.000
3	Management Information Systems, Geographical Information System and ICT	22.315
4	Establishment of Hydropower Laboratory for material testing, project modeling & efficiency testing of hydraulic machines	0.000
5	Multi-sector regulations/Restructuring	33.500
	Total	**81.155**

MEA/12: DEVELOPMENT OF RENEWABLE ENERGY

A. Overview

1	*Sector*	*:*	*Energy & Power*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vision 2020 to provide electricity for all and provide environmentally clean, safe, reliable, equitable and affordable access to energy to contribute to economic growth, self-reliance and improved quality of life and income-earning opportunities for the poor.*
3	*Expected Results*	*:*	*3,582 off-grid houses electrified, 1000 SPV rehabilitated, 2 micro hydels installed, 112 houses electrified through micro hydels, 1 wind turbine installed for electricity generation, 1 biogas demonstration plant built*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger* *MDG Goal 7: To Ensure Environment Sustainability, in particular Target 9 sub- indicators pertaining to energy per capita use and CO2 emissions* *SDG Goal 1 & 2: Eradication of hunger poverty and half proportion of population in poverty by 2010*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Off-grid consumers/remote communities*
7	*Scope*	*:*	*Nation wide*
8	*Status-Ongoing/New*	*:*	*Ongoing/New*
9	*Timeframe*	*:*	*Five years (2008-2013)*

10	*Indicative Capital Cost*	:	*Nu. 285.760 m*
11	*External Financing Required*	:	*Nu. 285.760 m*
12	*Executing Agency*	:	*Ministry of Economic Affairs*
13	*Implementing Agencies*	:	*Department of Energy, Dzongkhags, Private Sector (RESCOMS)*
14	*Documents available*	:	*RE-Master Plan, Power System Master Plan, Draft Integrated Energy Management Master Plan, Draft Renewable Policy Framework for Micro Hydro and Solar PV 2006; Sector Tenth Plan*

B. Situational Analysis

Access to energy is a basic human need and is deeply fundamental to improving the quality of life. It is moreover, at the national level, an essential input and key ingredient for sustainable development. Development and underdevelopment in of themselves are often adjudged on the basis of energy consumption which constitutes a key development progress indicator for many nations. Moreover, many poor and underdeveloped communities are often trapped in a vicious circle of poverty and underdevelopment due to energy poverty. Most rural families in Bhutan also spend a considerable amount of time in energy gathering activities such as collecting fuel wood for heating and cooking.

Therefore better and enhanced access to energy services can thus greatly help reduce workloads of poor households and mitigate indoor air pollution, generate income and employment and facilitate environmental sustainability. As such, the energy sector has always been a high priority sector in Bhutan and is deemed to be particularly relevant for poverty reduction and rural development. The development and provisioning of renewable energy will also strengthen Bhutan's environmental conservation efforts and initiatives while strengthening its energy security.

The Tenth Plan target to provide electricity to 100% of all households by 2013 and the Rural Electrification Master Plan 2005 provide indications that 88% of the population will need to be connected to the national electricity grid and 12% by distributed renewable energy systems like solar and micro-hydels. In addition, 6,019 consumer households will have to provided electricity under the fill-in RE. Since most of the off-grid target households belong to low income groups and the poorer sections, providing energy services at affordable rates and in a sustainable manner will be difficult. Addressing this challenge will require innovative approaches to improve on existing institutional mechanisms. Considering the cost of RE technologies, associated financial risks and the limited paying capacity of rural consumers, financial assistance from the Royal Government in the form of subsidies will probably be inevitable to underwrite the capital and operational and maintenance costs if rural energy services are to be sustained.

The lack of a national policy for development and utilization of renewable energy resources, inadequate institutional set up, ineffective implementation framework, lack of standardized technology, lack of access to funds, limited private sector involvement and inadequate training and capacity building at various levels are some of the constraints and barriers hindering the supply of rural energy services. The Tenth Plan energy programmes have been designed and developed taking these particular constraints into account towards meeting the target of electricity for all by 2013. This also includes experimental programmes to explore the latent potential of various other alternative energy sources to diversify the energy mix which would contribute to national energy security.

Based on technical recommendations, the electrification of Laya is now being included under the on-grid programme. The investment required for construction of micro-hydels at Soe Jangothang and Linhzhi is extremely high and estimated at Nu 23.48 Million and Nu 35.28 million respectively. In terms of the electricity connection cost per household, this works out to Nu 782,520 for Soe Jangothang and Nu 434,440 for Lingzhi. This may be compared to the average rural electrification cost of Nu 130,000 per household in other parts of the country. Through several DYT meetings, the communities from Soe Jangothang and Lingzhi have repeatedly presented their request for the micro hydels and therefore the development of these two plants may need to be taken up despite the high connection costs. Additionally, the construction of micro-hydels for the Khelphu village under Trashigang Dzongkhag has been withdrawn and will now be taken up under Solar PV programme as means of electrification for techno-economic reasons.

C. Strategy

As a first step, a comprehensive policy on the development, promotion and utilization of renewable energy resources will need to be formulated. This RE Policy will serve as the policy direction on how the energy needs of the off-grid areas are to be served. This will include developing appropriate strategies to harness different renewable energy sources, ascertaining appropriate financing mechanisms, identifying necessary institutional strengthening needs at strategic levels and the establishment of a testing laboratory for the standardization of renewable energy technology products and services. The alternate sources of energy to be explored include solar, wind, micro-hydels, hydrogen fuel cells, biomass, and biogas/waste energy. On the demand side of energy management, efforts will be made to improve energy efficiency utilization through the introduction of improved stoves and solar water heaters and driers.

The lack of reliable resources is one of the most difficult impediments for the sustainable development and promotion of renewable energy technologies. Therefore, the issue of equity, subsidy, ownership, marketing, implementation and promotional aspects will be addressed during the formulation of the comprehensive RE policy.

The RE programme will be implemented through a participative and consultative approach with local communities exercising their choice in line with the decentralization policy and relevant DYT/GYT provisions which empower the DYTs to direct and approve rural electrification schemes and GYTs to administer, monitor and review the maintenance of community properties such as micro-hydels and other power plants and implement institutional capacity building activities. Fabrication units/repair workshop and testing laboratory will also be established to promote renewable energy technologies for local production and standardizing systems/specifications. The M&E activities and outreach programme will also be carried out.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Reduced poverty and quality of life of the rural and villagers improved through off-grid electrification Fulfillment of the Vision 2020 of Electricity of All Minimized adverse environmental impact through promotion of efficient and renewable forms of energy Improved health, sanitation, education, and income generating opportunities Increased energy security through promotion of indigenous energy sources and conservation measures Safe and reliable supply of electricity Enhanced institutional and human capacity of private sector, villagers and communities	100% off-grid electrification Wider use of energy efficient technology Reduced dependence on firewood Better planning, coordination, implementation, monitoring of renewable energy resources Introduced new technologies Reduced dependence on fossil fuels	Electrification of 3,582 new solar hhs Two new micro hydels set up Electrification of 112 hh through micro hydel hydels set up Promotion of energy efficient devices Introduction of new technologies Improved testing and coordination facilities Establishment of RE technology repairing unit/ workshops Active participation of private sector and communities RE policy formulated	Development of solar energy resources Solar home system Detail survey of 3,582 new and 4000 existing systems Re-hab and maintenance of Solar PV system Micro-Hydel development Soe Jangothang micro hydel Lingshi Micro Hydel Experimental program Biogas plant/waste energy Improve stoves Wind power plant Hydrogen fuel cells Outreach programme on renewable energy, energy efficiency and conservation initiatives Solar heater and driers Institutional strengthening Training of private sector, villagers and communities Establishment of fabrication units/repairing workshops for RETS Renewable energy policy formulation

E. Management Arrangements

Institutional Arrangements

The Department of Energy under the Ministry of Economic Affairs shall be the executing agency and the Renewable Energy Division within the DoE shall be implementing and coordinating agency for the programmes detailed. Dzongkhags, village technicians and communities will be extensively involved for the physical implementation of the activities as per the guidelines to be provided by the Department of Energy. The monitoring and evaluation oversight shall be provided by the Renewable Energy Division.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Development of Solar Energy Resources	139.000
1.1	Solar home systems (3582 hhs)	131.680
1.2	Detailed survey of (3582 new hhs and 4000 existing systems)	3.000
1.3	Rehabilitation of 1000 existing systems	4.320
2	Development of Micro hydels (112 consumers)	58.760
2.1	Soe Jangothang Micro Hydel (30 consumers)	23.480
2.2	Lingshi Micro Hydel (82 consumers)	35.280
3	Experimental Program	53.000
3.1	Biogas plant/waste energy	5.000
3.2	Improved stoves	8.000
3.3	Wind power plant	20.000
3.4	Hydrogen fuel cells	2.000
3.5	Promotion of renewable energy, energy efficiency and conservation	10.000
3.6	Solar heaters and driers	8.000
4	Institutional strengthening and capacity building	35.000
4.1	Training of private sector, villagers and communities	15.000
4.2	Fabrication units/works for renewable energy technology/private workshop	10.000
4.3	Formulation of comprehensive renewable energy policy	10.000
	Total	**285.760**

* RED activities are to be taken up under a fully decentralized model by the local Governments/ communities.

MEA/13: STRENGTHENING OF NATIONAL HYDROLOGICAL AND METEOROLOGICAL SERVICES

A. Overview

1	*Sector*	*:*	*Energy*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vitalizing Industry for poverty reduction through hydro-meteorological information and services for sustainable water resources development and management*
3	*Expected Results*	*:*	*Good coverage of hydro-meteorological monitoring network station and related infrastructure;* *Capacity to support and manage network to provide better hydrological and meteorological services and products enhanced;* *Access to long time series data*
4	*Relevant MDG & SDG*	*:*	*MDG Target 10: Halve the proportion of population without access to safe drinking water* *SDG Goal 4: Ensure a robust pro-poor growth process. SDG Goal 18: Acceptable level of water and soil quality*
5	*Donor Agency*	*:*	

6	*Target Group*	*:*	*Department of Energy, other national line agencies, relevant regional(SARRC, BIMSTEC, ICIMOD) and international organizations (WMO, UNESCO)*
7	*Scope*	*:*	*Nation-wide*
8	*Status-Ongoing/New*	*:*	*New/ongoing*
9	*Timeframe*	*:*	*Five years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 187.490 m*
11	*External Financing Required*	*:*	*Nu. 187.490 m*
12	*Executing Agency*	*:*	*Department of Energy, MoEA*
13	*Implementing Agencies*	*:*	*Hydro-met Services Division, DoE*
14	*Documents available*	*:*	*Bhutan Power Master Plan (Project BHU/87/025) – Final Hydro meteorological Network Report, Vol 1 to 8, Dec 1991; Water Resources Management Plan and Update of the Power System Master Plan – Baseline Study Report; Water Resources Management Plan – Final Report, Vol A to D3, Dec 2003; Sector Tenth Plan*

B. Situational Analysis

Reliable and accurate information on the condition and trend of country's water resources – surface and sub-surface quantity and quality– is highly pertinent in planning for socio-economic development and the conservation of nautral environment. This information and knowledge not only provides a scientific basis for the planning and development of strategic infrastructure like hydropower projects, broads and ridges and irrigation channels, but can also be useful to help protect life and property through reliable flood forecasting and warning services. Morever, in Bhutan's context, it further facilitates the inventorying of various available natural resources.

The hydro-meteorological network covering the entire country was designed and established as a part of the Bhutan Power System Master Plan project in 1991. The network provided a variety of hydro-meteorological information and services for various water-use sectors, particularly for hydropower, drinking water supply, agriculture and industry. The network was further strengthened and upgraded over the Ninth Plan and Table 1 summarises the existing hydrology and meteorological network infrastructure.

Table 1: Summary table of existing station network and infrastructures

#	Infrastructures	Unit	No. as of June 2006
A	**Hydrological network**		
I	Principal Station	Numbers	13
ii	Secondary Station	Numbers	11
iii	Flood Warning Station	Numbers	15
iv	Sediment Sampling Station	Numbers	5
B	**Meteorological Network**		
I	Class A Station	Numbers	20
ii	Class C Station	Numbers	61
iii	Special Station	Numbers	4
iv	Snow Gauge	Numbers	4

The flood warning network stations are established on the large north–south rivers that are common to India and Bhutan. Flood warning activity is undertaken by the RGoB in collaboration between the Central Water Commission (CWC) of India. The flood warning stations provide water level data of the main rivers flowing to India for flood forecasting purpose to stations of the CWC in Cooch Bihar, Jalpaiguri, Nalbari and Berbeta. These stations are monitored 24 hrs during the monsoon season and data transmitted using wireless sets on hourly basis to stations in India.

Hydro-meteorological Information System and Database Management play a key role in data collection, processing, analysis of water resource use. The existing database archives comprise more than fifteen years of hydro-meteorological data that are mainly used for planning and designing of hydropower projects, but that are also a valuable source of information for various other sectors given its wide application and relevance. However, hydro-meteorology services in Bhutan still remain at an incipient stage of development and its growth has been extremely slow. This is mainly attributed to the lack of proper organizational setup as well as the limited technical expertise of the staff, the lack of technical professionals like hydrologists, meteorologists and climatologists and inadequate network facilities and equipment due to the lack of resources.

As reflected earlier, hydro-meteorological information is a highly essential input required by all economic sectors. This is further compounded by the fact that with time the needs of hydro-meteorological information also change. A hydrometric programme designed purely for current needs may be inadequate in the long term, so the programme needs to dynamic and accordingly strengtheninged according to information requirement. Over the Tenth Five Year Plan, the approach will be to focus on the institutional strengthening of hydro-met services to support and provide quality data, products and services to meet the needs of the general public, emergency services and other specialized users of flood warning services and facilitate the planning and design of hydropower projects.

C. Strategy

The following broad strategies are to be adopted to strengthen the hydrological and meteorological services through:

- Maintaining and upgrading the monitoring network stations and developing existing observing systems, telecom and data processing facilities, and keeping traditional functions for basic data collection, processing and analysis;
- Install early warning system along Punakha-Wangdue valley;
- Ensuring well managed hydro-meteorological and flood warning services network and database;
- Developing and facilitating easy access to database, resources and experts;
- Adopting scientific and rigorous methodology and inputing adequate resources for timely information and services for flood forecasting and warning;
- Promoting human resources development and management and effective utilization of resources and use of ICT;
- Introducing new standardized user-friendly technology and equipment;

- Providing opportunities for staff to participate in international trainings, seminars, workshops in the field of hydrometeorology;
- Promoting and strengthening cooperation and collaboration with national, regional and international organizations; and
- Promoting research and development.

During the Ninth Plan, The DoE implemented the Institutional Strengthening of the Energy Sector – Phase II that has immensely improved the institutional capacity of the Department in various areas including human resources development. To continue technical support, the DoE has proposed the Phase – III to be implemented from 2008-2013. This project support covers the strengthening of Bhutan Electricity Regulations, human resources development, strengthening of hydro meteorological services and support for the accelerated hydropower development programme. The budget for strengthening of hydro meteorological services is booked under this programme.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Institutional capacity for hydrological and meteorological services and disaster management related to flood forecasting and warning strengthened cooperation with relevant national and international organizations enhanced	Improved hydro-meteorological network stations with good coverage across the country	New hydro-meteorological network stations, sediment sampling stations, seismic and wind monitoring stations established Site office cum store constructed	Strengthening and Expansion of Monitoring Network
	Risk of Glacial Lake Outburst Flood reduced along major rivers	Early warning system installed in Punakha-Wangdue valley	Install early warning system along Punakha-Wangdue valley
	Access to reliable hydrological and meteorological information needed for various purpose	Integrated central database management system with GIS for hydro-meteorological information developed Web site designed and launched Data book published	Database Integration, Information and Statistics
	National capacity for flood forecasting and warning enhanced	Regional Field Offices and Flood Forecasting and warning Centre established Early warning System established Capacity of staff to manage network and implement flood forecasting and warning framework strengthened	Institutional capacity building for hydromet services
	Cooperation with national, regional and international agencies strengthened	Cooperation Agreement signed Research work carried out and paper published	Institutional Cooperation & Research and Development

E. Management Arrangements

Institutional Arrangements

The programme at national level will be coordinated and implemented by the Division of Hydrology and Metereology under the Department of Energy.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Strengthening and Expansion of Monitoring network of hydro-meteorological services**	**109.990**
	Establishment of hydrological/flood warning stations including infrastructure	
	Establishment of meteorological stations	
	Establishment of sediment sampling stations	
	Establishment of seismic monitoring stations	
	Network infrastructure	
2	**Database Integration, Information & Statistics**	**15.000**
2.1	Establish integrated central database service with GIS	10.000
2.2	Design and launching of website	1.000
2.3	Publication of pamphlets/brochures	3.000
2.4	Dissemination of information	1.000
3	**Institutional Strengthening**	**56.500**
3.1	Establishment of regional hydromet services in the East	5.000
3.2	Establishment of flood forecasting centre and warning system	10.000
3.3	Installation of early warning system along Punakha-Wangdue valley	41.500
4	**Institutional Cooperation and Research and Development**	**6.000**
4.1	Promote cooperation with national, regional and international organization	1.000
4.2	Research and development	5.000
	Total	**187.490**

MEA/14: ELECTRICITY REGULATION

A. Overview

1	*Sector*	*:*	*Energy*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vitalizing Industry and Expansion of Stratetgic Infrastructure by providing clean energy services and enhancing national energy revenue and security for poverty reduction and rural development*
3	*Expected Results*	*:*	*Electrical safety standards, rules, regulations for regulating electricity operations and monitoring of performance indicators and improved efficiency of electricity industry including Tariff fixation and revision.*
4	*Relevant MDG & SDG*	*:*	

5	*Donor Agency*	:	
6	*Target Group*	:	*Licensees (GENCOS, BPC, Power Authority)/Electricity Consumers in Bhutan.*
7	*Scope*	:	*Nation wide*
8	*Status-Ongoing/New*	:	*New/Ongoing*
9	*Timeframe*	:	*Five years (2008-2013)*
10	*Indicative Capital Cost*	:	*Nu. 30.000 m*
11	*External Financing Required*	:	*Nu. 30.000 m*
12	*Executing Agency*	:	*Planning & Coordination Division/Bhutan Electricity Authority, Department of Energy, MoEA*
13	*Implementing Agencies*	:	*Bhutan Electricity Authority*
14	*Collaborating Agencies*	:	*RGoB Agencies*
15	*Documents available*	:	*Electricity Act 2001; Tariff Determination Regulation; License Conditions for Generator and Distributor; Accounting and Reporting Regulation; Sector Tenth Plan*

B. Situational Analysis

The Electricity Act was passed by the National Assembly during the 79th session on 26th July 2001. The main purpose of this Act was to provide for the establishment of Bhutan Electricity Authority, engagement of the private sector in electricity supply and layout the relevant regulations.

The Bhutan Electricity Authority (BEA) has been established as part of the restructuring of the Department of Power in 2002. Since then, the BEA has worked on building its institutional capacity through technical assistance by development partners. The BEA started effectively functioning as an autonomous entity from July 2006 and since then it has already set up various regulations namely tariff determination regulation, distribution and generation license conditions as mandated by the Electricity Act 2001.

With the implementation of the rules and regulations, the BEA will also start evaluating and inspecting the technical works implemented by licensees and reporting on the compliance of such works with regulations and standards. This would ensure efficiency among the generators and the distributor. It will also review and determine tariff rates to ensure fair balance of the interests of the public, customers and participants in the electricity sector. The BEA will also seek to ensure that the public is aware of its existence through outreach . The maintaining and ensuring of safety of the workers is also being addressed and the safety code and regulations have been drafted.

C. Strategy

The main strategy for BEA is as follows:

- Process applications for the issuance of licenses for generation, transmission, system operation, export, import, distribution and sale of electricity in accordance to the license conditions;
- Monitor the performance of Licensees in compliance with provision of Electricity Act 2001 and the regulations;

- Determine or approve tariffs proposed by the Licensees and review existing tariffs; and
- Monitor and manage the private sector bidding process as mandated by the Electricity Act-2001.

During the Ninth Plan, the DoE implemented Phase II of the Institutional Strengthening of the Energy Sector which has has immensely improved the institutional capacity of the department in various areas including human resources development. To continue this technical support from development partners, the DoE has proposed for the third Phase to be implemented from 2008-2013 which addresses the strengthening of Bhutan Electricity Regulations, human resources development, strengthening of hydro meteorological services and support for the accelerated hydropower development programme. The budget for strengthening of Bhutan Electricity Regulations has been included under this programme

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Safe and Reliable electricity supply provided Affordability addressed Efficient and credible dispute resolution mechanism in place	Monitoring the compliance of rules, regulations, standards and codes of practice	Rules, regulations, standards and codes in place	Implementation of the rules and regulations to start up the function of the regulator / Creation of awareness to the public

E. Management Arrangements

Institutional Arrangements

The regulatory function related to electricity will be dealt by Bhutan Electricity Authority. The BEA has formed a board compromising five commissioners as member and the BEA secretariat performs all the functions mandated in the Electricity Act and puts issues to its designated commissioners for their approval.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1.	Establishment of ISO, amendment of Electricity Act 2001, and other professional services	15.000
2.	Implementation of the rules and regulations to start up the function of the regulator & creation of awareness to the public	15.000
	Total	**30.000**

MEA/15: PRIVATE SECTOR PARTICIPATION

A. Overview

1	Sector	:	Energy & Power Sector
2	Linkage to National Development Objectives & Strategies	:	Vitalizing Industry by Engaging Private Sector participation in hydropower development in providing clean energy services, enhancing national revenue and energy security for poverty reduction and rural development
3	Expected Results	:	Private sector participation in hydropower sector, increased revenue generation through power export, enhanced energy security, additional generation capacity to meet increased demand of power for domestic consumers/ industries and increase opportunities for employment
4	Relevant MDG & SDG	:	MDG Goal 1:Eradicate extreme poverty and hunger SDG Goal 1 & 2: Eradicate hunger poverty and halve proportion of people in poverty by 2010
5	Donor Agency	:	
6	Target Group	:	Domestic Electricity Consumers and Export market
7	Scope	:	Nation wide
8	Status-Ongoing/New	:	New/Ongoing
9	Timeframe	:	Five years (2008-2013)
10	Indicative Capital Cost	:	Nu. 48.000 m
11	External Financing Required	:	Nu. 48.000 m
12	Executing Agency	:	Department of Energy (DoE), MoEA
13	Implementing Agencies	:	Planning & Coordination Division, DoE and private Sectors/ Independent Power Producers
14	Documents available		Draft Hydropower Policy, FDI Policy, Sector Tenth Plan

B. Situational Analysis

The development of hydropower projects at present is highly donor dependent and there is no systematic investment plan for its accelerated development on a purely commercial basis. All the major hydropower projects developed so far had been through development partner assistance through grant and soft financing. For accelerated development, there is the need for the involvement of private sector or joint venture partners in hydropower development since the donor assistance and capacity will be limited and constrained. It is therefore an opportune moment to increase the involvement of private sector participation for accelerated development of hydropower in the various stages of implementation from planning, design, construction, operation and maintenance of various capacities (mini/micro to maga /commercial projects) of hydro power plants.

Additionally, no project studies have also been conducted till date that is financed out of fund/ revenue generated from sale of electricity. It is highly appropriate now to mobilize additional resources (private sector participation in hydropower development/IPP, internal revenue savings as well as FDI) for achieving the accelerated hydropower development.

C. Strategy

To help provide alternative models other than the traditional model of hydropower development and expedite the development of hydropower in an accelerated and sustainable manner, there is a need for clear policy framework for hydropower development and proper guidelines for the engagement and participation of independent power producer (IPP), private sector and foreign direct investment. To help formulate and implement this policy and develop the modalities and guidelines for Private Sector/IPP/FDI guidelines, the institutional restructuring and strengthening of the DoE as the focal point and apex body will be necessary. In this regard the DoE will will have to undergo institutional restructuring, conduct innovative financial and project structuring options and other institutional capacity building in line with preparation for participation of both private and public in hydropower development during the Tenth Plan.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Accelerated development of hydropower through increased involvement of IPPs, Private Sector and FDI in hydropower development Sound Policy and Regulatory Framework in Hydropower Development	Policy and Regulatory Framework for Private Sector Participation in Hydropower Development/ electricity Sector in place	Private sector participation policy development in the hydropower development/electricity sector Recruitment on contract basis of the legal advisor, technical expert and economic expert	Policy Formulation in Hydropower Development for involvement of private sector Participation/ IPP /FDI

E. Management Arrangements

Institutional Arrangements

The formulation of the policy document for hydropower development and development of guidelines for IPP and FDI shall be carried out by the Department of Energy by recruiting competent consulting firms. The policy documents and guidelines shall be presented, discussed and deliberated with the relevant stakeholders in a workshop before finalization. As this work is a spillover activity from the Ninth Plan since 2007, only a limited budget is indicated.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Policy Formulation in Hydropower Development for involvement of private sector Participation/IPP/FDI as Piggy back TA	48.000
2	Preparation of IPP tender documents and other IPP facilitation services, including launching of pilot IPP project as Piggy back TA	
	Total	**48.000**

MEA/16: MAJOR HYDROPOWER PROJECTS

A. Overview

1	Sector	:	Energy & Power Sector
2	Linkage to National Development Objectives & Strategies	:	Vitalizing Industry and Expansion of Stratetgic Infrastructure by providing clean energy services and enhancing national energy revenue and security for poverty reduction and rural development
3	Expected Results	:	Addition of about 10,000 MW installed capacity by 2020, Increased revenue generation through hydropower exports, enhance energy security and promote sustainable socio-economic development
4	Relevant MDG & SDG	:	MDG Goal 1:Eradicate extreme poverty and hunger SDG Goal 1 & 2: Eradicate hunger poverty and halve proportion of people in poverty by 2010
5	Donor Agency	:	
6	Target Group	:	Domestic consumers and export market.
7	Scope	:	National
8	Status-Ongoing/New	:	New
9	Tentative Timeframe	:	Five years (2008-2013)
10	Indicative Capital Cost	:	Nu. 0.000 m
11	External Financing Required	:	Nu. 0.000 m [Outside Plan Budget]
12	Executing Agency	:	Ministry of Economic Affairs
13	Implementing Agencies	:	Ministry of Economic Affairs, Project Authority, Corporate Entities, JV/IPP
14	Documents available	:	Updated Power System Master Plan-2004, Draft Hydropower Development Policy, Umbrella Agreement, Bi-lateral Project Agreements, Tenth Plan, DPRs/FSR of some Projects,

B. Situational Analysis

To achieve the target hydropower capacity of 10,000 MW by the year 2020, it would require about eight large projects to be taken up with an investment over Nu.426.00 billion over the next twelve years. These projects have been kept outside the plan works as these huge resource requirements will have to be mobilized externally through models such as bilateral financing and joint ventures. Some of the projects are already in the pipeline of being constructed through bilateral financing.

The preparation of the Detailed Project Report (DPR) of Punatsangchhu I hydropower project has been completed and the project is to be financed by the GoI through a grant funding upto 40% of project cost with the balance 60% to be financed through loan. Subsequent to signing of the bi-lateral agreement regarding its implementation in July 2007, the Punatsangchhu-I Hydroelectric Project Authority (PHPA) was instituted in October 2007 for implementing the construction and O&M of the project. The Project Management formed in November 2007 has already initiated the development of support infrastructure works and the project optimization and bid preparation is currently underway. The project is scheduled for commissioning in 2015.

The 114 MW Dagachhu Hydroelectric Project Authority (DHPA) was constituted in August 2007 and is being promoted as a CDM project to acquire additional revenue through sale of CERs. This project promoted by the Department of Energy (DoE) has been handed over to DGPC for implementation including for necessaryresource mobilization and ownership of the project.

Currently the construction of approach roads, bridges and construction power lines is underway. The preparation of tender documents is also being prepared. The construction of main EPC contracts is expected to start by beginning of 2009 and scheduled for commissioning by 2011/2012. The total estimated cost of the project is about Nu. 8.00 billion.

While the preparation of DPR for 1000 MW Punatsangchhu-II project is currently being carried out and is expected to be ready by the end of 2008, the draft DPR of 720 MW Mangdechhu project was available in May 2008. Both the projects are expected to be implemented by 2009/2010 by GoI through the 40:60 grant and loan financing model. As per the draft DPR of Mangdechhu, the estimated cost for the project is Nu. 37.12 billion.

C. Strategy

The implementation of Punatsangchhu-I Hydroelectric Project, Punatsangchhu II and Mangdechhu projects shall be taken up on a model similar to that of the Tala Hydroelectric Project but with a funding pattern of 40% equity and 60% debt. The Dagachhu hydroelectric CDM project will be financed through 40% equity and 60% debt raised from various other sources. The equity part of the project is being financed by RGoB, NPPF, ADB (hard term ADF), DGPC and power off-taker (Tata Power Trading). The debt is being explored from ADB (OCR), Austrian OeKB, NPPF and SBI. The project will be implemented by Dagachhu Hydroelectric Power Corporation (DHPC) under the DGPC/DHI.

The following list of priority projects shall be taken up during the Tenth Plan.

#	Project Name	Financing
1	Punatsangchhu-I (1200 MW)	GoI Bilateral
2	Dagachhu (114 MW)	RGoB and other sources
3	Mangdechhu (720 MW)	GoI Bilateral
4	Punatsangchu-II (1000 MW)	GoI Bilateral
5	Sankosh (4000 MW)	GoI Bilateral
6	Kuri/Gongri (1800 MW)	GoI Bilateral
7	Chamkharchhu-I (670 MW)	Joint Venture
8	Kholongchhu (486 MW)	Joint Venture

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Hydropower to emerge as the core sector of Bhutanese economy The sustainable and environment-friendly development of hydropower resources would facilitate enhanced contribution to GDP growth and national revenues including hard currency from sale of carbon credits through CDM projects. It would specifically contribute to the following targets: Hydropower share of GDP at over 15% Hydropower contributing 36% of national revenue Electricity for all Grid Electricity to all district HQs 1602 MW Hydropower installed capacity	Preparation of Detailed Project Report (DPR) Secure project finances Conclude power purchase agreement (PPA) and ERPA	Conclude financing agreement and terms with GoI DPRs to be completed in time Start negotiation with India for PPAs and successfully complete PPAs for some of the projects Start construction of power projects through IPP	Initiate the start up of and construction of the various hydro-power projects listed below

E. Management Arrangements

Institutional Arrangements

As the Department of Energy (DoE) is responsible for macro level planning, policies, and the coordinating functions of the energy sector, the DoE will be responsible for overall execution and coordination including imparting policy guidance for project implementation. However, the hydropower project construction will be undertaken by respective project authorities and corporate entities.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)	Remarks
1	**Bitateral/RGoB**	**1,31,077.000**	
1.1	Construction of 1200 Punatsangchhu-I HEP (Part)	27,261.000	Outside plan
1.2	Construction of 720 MW Mangdechhu HEP (Part)	25,984.000	Outside plan
1.3	Construction of 1000 MW Punatsangchu-II HEP (Part)	20,000.000	Outside plan
1.4	Construction of 4000 MW Sankosh HEP (Part)	40,000.000	Outside plan
1.5	Construction of 1800 MW Kuri/Gongri HEP (Part)	11,880.000	Outside plan
1.6	Construction of 620 MW Ammochhu Reservoir HEP (part)	5952.000	

2	**Joint Venture**	**61,305.000**	
2.1	Construction of 114 MW Dagachhu HEP (Complete)	8,000.000	Outside plan
2.2	Construction of 486 MW Kholongchhu HEP (part)	10,109.000	Outside plan
2.3	Construction of 180 MW Bunakha Reservoir HEP (part)	5,508.000	Outside plan
2.4	Construction of 670 MW Chamkharchhu-I HEP (Part)	15,008.000	Outside plan
2.5	Construction of 900 MW Wangchu Resevoir HEP (part)	22,680.000	Outside plan
	Total:	**1,92,382.000**	

MEA/17: CAPACITY ENHANCEMENT IN GEO-SCIENTIFIC INVESTIGATIONS AND MINERAL DEVELOPMENT

A. Overview

1	*Sector*	*:*	*Geology and Mines*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vitalizing Industry and private sector development for economic growth, improved quality of life and poverty reduction*
3	*Expected Results*	*:*	*Adequate laboratory and field equipment available for geo-scientific investigations.* *Country has proved metallic & non-metallic mineral resources ready for industrial & economic development.* *Productive and correlated information for national planning and decision making.* *Revenue and employment generation from mining industry* *Better technology in mineral resource development* *Sustainable economic development and better quality of life through improved planning and information sharing*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger* *Goal 7: Ensure environmental sustainability (through stringent application of geo-scientific know-how)* *SDG Goal 2: Halve proportion of people in poverty by 2010* *SDG Goal 4: Ensure a robust pro-poor growth* *SDG Goal 18:Acceptable level of water and soil quality* *SDG Goal 19: Acceptable level of air quality* *SDG Goal 22: Ban on dumping of hazardous waste*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Private sector and relevant stakeholders*
7	*Scope*	*:*	*National*
8	*Status-Ongoing/New*	*:*	*New*
9	*Timeframe*	*:*	*Five years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 76.715 m*
11	*External Financing Required*	*:*	*Nu. 76.715 m*
12	*Executing Agency*	*:*	*Department of Geology and Mines (DGM)*
13	*Implementing Agencies*	*:*	*Department of Geology and Mines*
14	*Documents Available*	*:*	*Past Five Year Plan document, Atlas of Minerals of Bhutan, Geological mapping Reports of DGM and GSI in 1:50000*

B. Situational Analysis

The primary and major roles and responsibility of the DGM are geological mapping and mineral exploration. From the 7th Five Year plan onward, the roles and responsibilities of the department was diversified into other geoscientific investigations like geo-hazard assessment, engineering geological and geotechnical investigations, glaciology studies, seismology and geophysical investigations. Further the responsibility of control on minerals, mining industry and enforcement of mining legislation was also entrusted to the department.

With the acute lack of resources, the primary responsibility of mineral investigation and mapping has been overshadowed by other responsibilities of glaciological, geo-hazard and engineering geological investigations. Apart from the field activities carried out by the Geological Survey of India (Bhutan unit) from 1961 to 2002 the department has not been able to discover and prove additional mineral deposits other than few non-metallic deposits.

Substantial archive data and reports are available with the DGM. These valuable resources needs to be re-visited, analysed and compiled using modern tools and techniques, including ICT, to obtain productive and correlated information for national planning and decision making. Some of these reports and data date back to 1961 when the Geological Survey of India (Bhutan Unit) started geological investigations in Bhutan. With the availability of new technology and field instruments, geo-scientific investigations can be revolutionalised to provide cost and time effective and accurate information. Therefore, research on the use of new technology is necessary and will be carried out.

The mining industry is governed and regulated under Mines and Minerals Management Act 1995 with the Department of Geology and Mine (DGM) responsible for implementing the act and its provisions. The key functions of the department include maintaining control on minerals exploitation, the enforcement of mining legislation and regulations and monitoring the mining industry. Bhutan has been extracting on an increasing scale of production industrial minerals like limestone, dolomite, gypsum, quartzite, talc and iron ore; construction material like marble, slate, shale and stone aggregates and fuel minerals such as coal. At present there are 67 operating mines and 50 mineral collection permits among 197 mining leases and permits issued to 134 companies and individuals. Among these the gypsum, coal and dolomite mining licenses were auctioned in the year 2003, 2004 and 2005 respectively.

C. Strategy

The department plans to explore and prove mineral resources endowment, especially the metallic minerals with significant economic value through the use of the latest technology. The potential construction material quarry sites in Dzongkhags that are in dearth of construction aggregates shall be identified. The geological database for completed deposit assessment shall be generated and inventory maintained using software tools. The geology, geomorphology, hydrogeology, structure and lithology of the country shall be mapped systematically and a systematic digital database will be developed.

Additionally, the DGM will also carry out slope stability, foundation and site suitability studies on request from relevant agencies of the Royal Government, carry out geo-hazard assessment for the country especially the new/proposed urban centres and landslide mapping and generate hazard zonation and risk maps.

The Research and Development Unit of the Department will start functioning with desk research initially. The capacity development and institutional strengthening aspects will be initiated with the establishment of the centre for research and development and GIS laboratory and publication unit. The unit will also begin to utilize remote sensing technology and the geographic information system tools during mapping, mineral exploration, change detection of landslides, monitoring glaciers and glacial lakes, environment monitoring of mines, etc. Field and laboratory measurements and assays will provide data for further research.

The key strategies of the mining sector include the formulation and enactment of environment and people friendly law, rules and regulations and the stringent enforcement of mine safety and environmental management rules and regulations under Mines and Minerals Management Act 1995. Other strategic activities will include developing a code of best practice for mining activities, evaluating mines, mineral deposits and mine feasibility studies, and conducting mining project appraisals. This will help enhance the mining industry's contribution in raising people's living standards through providing employment and business opportunities and in general stimulate economic and industrial growth in a sustainable manner.

In order to achieve the above mandate, the strengthening of the institutional capacity will be done. It shall include procurement and installation of full-fledged laboratory and field equipment and legislative framework and people friendly policy.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
The Department will have full-fledged institutional capacity to provide quality services in mineral and other geoscientific investigations and data generation	Equipment, and software are installed to support mapping, mineral exploration and mine monitoring	All equipment, software and field vehicles required for geological investigations are available	Install equipment and software to support mineral exploration and mapping that include heavy mineral laboratory, AAS, XRF, ICP, petrological microscope, Scanning Electro Microprobe, field vehicles, equipment for surveying, mapping, drilling, communication etc
	Department professionals and laboratory with adequate office space	Building to house officials and laboratories are available	Construct building at DGM compound in Samtse to accommodate office space of officials and laboratory
	Research and analysis centre established along with remote sensing and GIS laboratory	Research and analysis centre established	Carry out activity involving equipment, logistics and professional services
		Remote sensing and GIS laboratory set up	Procure hardware, software, field equipment and data
		Publication facility established	Set up the publication cell with adequate facility
	Mining and mineral data are available in published form	Mining and mineral data are fed into information management system	Establish Mineral Titles registry to keep records of mining data
	Mineral law and guidelines friendly to mineral conservation, ecology & environment, human health and economic development is in place	Guidelines and legislation for mining available	Review Mines and Minerals Management Act 1995, develop relevant rules and regulations, policy and guidelines for sustainable mineral resource exploitation
	Human resource capacity enhanced through in-country and overseas training	Employees imparted adequate knowledge through trainings	Train professionals in specialized jobs through in-country and overseas training

E. Management Arrangements

Institutional Arrangements

The different divisions and sections under the department shall be responsible for implementation of this programme under guidance from the Director. As there is currently limited manpower available for geo-scientific investigations, the DGM will recruit all the geologists graduating from various universities to enhance manpower capability. The department will divert attention from engineering geological investigations towards geological mapping and mineral exploration.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Research and Development in geoscientific and mining**	**3.900**
1.1	Establishment of research and analysis center	1.900
1.2	Establishment of remote sensing & GIS laboratory	1.250
1.3	Research activities in geoscientific and mining field	0.750
2	**Geological mapping & mineral exploration**	**53.955**
2.1	Geological investigation of heavy metals in Buxa/shumar formation	4.187
2.2	Investigation & proving of cement grade limestone	2.860
2.3	Investigation and proving of FeSi grade quartzite	1.816
2.4	Geological investigation of base metals	3.817
2.5	Geological investigation for locating and proving construction materials deposits and prospective quarry sites	0.619
2.6	Detailed toposheet mapping in 1:50,000 scale in the unmapped areas	1.500
2.7	Geological expedition to unexplored parts of the country	1.596
2.8	Procurement and installation of equipment for the laboratory	21.750
2.9	Construction of office building in Samtse	15.810
3	**Engineering Geological & Geotechnical investigation**	**4.150**
3.1	Geotechnical and slope stability/hazard studies in selected urban centers	3.450
3.2	Hazard& geotechnical studies of selected highways	0.700
4	**Promotion of environment friendly mining industry**	**14.710**
4.1	Promotion of environment friendly mining industry	0.600
4.2	Establishment of registry of mineral titles	0.450
4.3	Review of existing law and formulation of mineral prospecting regulations and policy	1.360
4.4	Inspection of all mines	2.250
4.5	Decentralization of mines inspection and monitoring to regional and local level	10.050
	Total	**76.715**

MEA/18: ASSESSMENT AND MONITORING OF CLIMATE CHANGE INDUCED AND GEOLOGICAL HAZARDS

A. Overview

1	*Sector*	*:*	*Geology & Mines*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Effective National Spatial Planning to reduce risk from climate change and geological hazards*
3	*Expected Results*	*:*	*Inhabitants of river valleys having glacier fed rivers start living risk free lives; Earthquake and tectonic movement monitoring will be regular practice with development of GPS equipped seismic network in the country; All national infrastructure development take place on safe and stable ground in the future*

4	Relevant MDG & SDG	:	MDG 7: Targets 9 pertaining to
5	Donor Agency	:	
6	Target Group	:	All Bhutanese people living on mountains and valleys
7	Scope	:	National
8	Status-Ongoing/New	:	New (GLOF related ongoing)
9	Tentative Timeframe	:	5 yrs (2008-2013)
10	Indicative Capital Cost	:	Nu. 164.860 m
11	External Financing Required	:	Nu. 164.860 m
12	Executing Agency	:	Department of Geology & Mines, Ministry of Economic Affairs
13	Implementing Agencies	:	Glaciology Section, GSB, Department of Geology & Mines
14	Documents Available	:	Earlier mitigation work reports, Various reports on glaciers and glacial lakes implemented in collaboration with forgein scientist from Japan and Austria, comprehensive technical mitigation plan for Thorthormi.

B. Situational Analysis

Mitigating and managing climate change induced hazards and slope stability including landslide, seismological and GLOF hazards are some of the key responsibilities of the Department of Geology and Mines.

Bhutan is highly vulnerable to disastrous hazards arising from glacial lake outburst floods (GLOF). GLOFs primarily occur when melting glaciers create and fill up lakes that subsequently burst due to unstable moraine banks resulting in catastrophic flooding. Bhutan's entire northern areas abound with glaciers and glacial lakes of which several pose potentially high risk of GLOF. Since the last inventory of glaciers and glacial lakes in the country in 2001, many new glacial lakes have been formed. Moreover, Bhutan's glaciers are also retreating at alarming and record levels - between 20-30 meters a year - due to climate change and glaciologists warn of the heightened risks of GLOFs, particularly from faster retreating glaciers.

There have been five GLOFs in Bhutan with the last one in October 1994, when the Luggye lake burst and caused immense damage downstream in the Pho-chhu valley. There is now the impending danger of a GLOF from a neighboring lake, the Thorthormi, the impact of which would be even more devastating to human life and vital socio-economic infrastructure. A worse-case scenario could also potentially unfold if adjoining glacial lakes were to merge and create a gigantic GLOF as is quite possible with the Thorthormi and Raphstreng glacial lakes that are only separated by a 75 meter moraine dam. Only one glacial lake (Rapstreng Tso) has been mitigated by artificially lowering the lake water level. Considering the imminent risk of GLOF from the glacial lakes in Lunana, experts have recommended the following:

- Artificial lowering of Lake water level in the growing Thorthormi lakes (mitigation work);
- Installation of technical early warning system (TEWS) for GLOF; and
- Hazard zonnation along Puna Tsang Chu.

Currently various activities are being implemented under two projects and include:

- Hazard zonnation for Glacial Lake Outburst Flood (GLOF) along Puna Tsang from Khuruthang to Kalikhola initiated in October 2006; and
- Hazard zonation in Chamkhar valley for GLOF and assessment of Early Warning System in Punakha-Wangdi valley. The detailed project proposal for the mitigation of Thorthormi lakes in Lunana will be undertaken under this project.

The role and responsibilities of the DGM after the Seventh FYP had been expanded to include other geoscientific activities like geohazard assessment, geological engineering and geotechnical investigations, glaciology study, seismology and geophysical exploration.

The department has made several attempts to install a network of seismic stations in the country with institutional cooperation with the University of Colorado and University of Texas at El Paso in the United States. However, only temporary stations have been deployed in the past and over a period of six months in 2002, 642 regional/local events have been recorded. The department in the Tenth Five year plan intends to set up a permanent network of stations which would help in identifying regions from where a major earthquake is likely to originate. With adequate geological data, an earthquake risk map can be developed, which can also be used for town planning and disaster management.

C. Strategy

The project to reduce water levels in Thorthormi lakes to safe levels will be essentially a labour intensive task. The plan is to drain out the water from the lakes manually by widening and deepening the existing channel at the natural outlet. The mitigation work will be carried out over four years with one working season of four months a year. The DGM intends to use local labour from Lunana and other gewogs under Gasa Dzongkhag to generate employment for the local communities in the area and avoid social problems that could arise from using expatriate labour. This activity will be implemented in close coordination with the Ministry of Home and Cultural Affairs who will be a key stakeholder in the project. To ease resource constraints, a component of the WFP Bhutan under the food for work scheme is incorporated in the project plan but is contingent on the availability of resources from the WFP and when the project begins.

The primary goal of the Seismology and Geophysics Section is to install a network of permanent seismic stations and purchase required software to have a full fledged seismology unit in the department. This unit will then be capable of locating the origin/epicenter of all major and minor tremors within the region and create a database, which can be used by disaster management groups. In addition, the department also shall conduct geophysical surveys in the country to obtain a map of different geologic materials such as seismic velocity, dielectric constant, electrical resistivity, etc. This map will be used as an input while generating earthquake risk maps. The department is also planning to conduct geophysical –seismic and magnetic —surveys in southeastern Bhutan to explore prospects of oil and gas reservoirs.

Based on the requirement given by the other user agencies such as DOR, the DGM proposes to carry out engineering geological investigations in targeted areas.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Human safety and security improved with reduced risk from climate change induced and geological hazards	Risk of Glacial Lake Outburst Flood reduced along major rivers	Glaciers and glacial lakes in Northern part of country regularly monitored	Carry out time series monitoring of glaciers and glacial lakes using latest technologies
		Lake water level in Thorthormi Lakes Reduced to a safety level	Carry out artificial lowering of water level at Thorthormi lake
		Status of glaciers and glacial lakes at the headwaters of glacier-fed rivers assessed	Undertake expedition to headwaters of glacier-fed rivers to study the status of glaciers and glacial lakes
	Earthquake hazard are monitored and assessed using seismic and magnetic data	Seismic network installed	Procure and install seismic network in Bhutan
		Tectonic deformation study carried out using GPS technology	Carry out Tectonic deformation study using GPS technology
		Availability of petroleum assessed using reflection and magnetic survey	Investigate for petroleum using reflection seismic and magnetic survey
	All national infrastructure development take place on safe and stable ground in the future	Hazard maps and geotechnical investigations reports utilized in infrastructure development sites	Carry out site suitability, slope stability, hazard assessment and propose mitigation measures in selected urban centres
		Vehicular traffic move smoothly along the national roads	Carry out geotechnical studies and propose remedial measures along selected highways and roads
			Establishment of Glaciology and GLOF Division

E. Management Arrangements

Institutional Arrangements

The Department of Geology & Mines under the Ministry of Economic Affairs will be the implementing agency for the programme.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Seismology & Geophysical Studies:**	**45.550**
1.1	Installation of seismic network	32.350
1.2	Oil prospecting and investigation using reflection seismic and magnetic survey	11.650
1.3	Tectonic deformation study using GPS technology	0.000
1.4	Geophysical study in selected areas	1.550
2	**Glaciology & Mitigation of Glacial Lake Outburst Flood (GLOF):**	**119.31**
2.1	Time series monitoring of glaciers and glacial lakes using latest technologies	1.450
2.2	Carry out artificial lowering of water level at Thorthormi lake.	117.420
2.3	Undertake expedition to headwaters of glacier-fed rivers to study the status of glaciers and glacial lakes	0.440
2.5	Establishment of Glaciology & GLOF Division	0.000
	Total	**164.860**

MINISTRY OF FINANCE

MoF/01: INSTITUTIONAL STRENGTHENING OF MINISTRY OF FINANCE

A. Overview

1	Sector	:	Finance
2	Linkage to National Development Objectives & Strategies	:	Good Governance Enabling Environment for socio-economic development through good governance
3	Expected Results	:	Multi-year rolling budget (MYRB) implemented, Government Asset Inventorization completed, budget and accounting system enhanced and tax administration system strengthened.
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	All Government Budgetary Bodies, all tax payers and tax administrators
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 699.921 m
11	External Financing Required	:	Nu. 699.921 m
12	Executing Agency	:	Ministry of Finance
13	Implementing Agencies	:	Secretariat and all Departments under the MoF
14	Documents Available	:	Budget Manual, Project Reports on Multi-Year Rolling Budget (MYRB), Sector Tenth Plan

B. Situational Analysis

The erstwhile Department of Budget and Accounts was bifurcated into two Departments namely the Department of National Budget (DNB) and Department of Public Accounts (DPA) in December 2005 through an Executive order issued by the Prime Minister in accordance with the Good Governance Plus, 2005 (GG+ 2005) document to enhance transparency and to promote better accountability.

The Department of National Budget has the responsibility to prepare multi-year rolling budgets (MYRB) as specified in the Budget Manual. The MYRB makes budget projections for more than one financial year and under the national MYRB system projections are made for two years in addition to the budget year. Presently, work on the development of MYRB has already started on a pilot basis in both the Ministry of Health and the Ministry of Education.

The Royal Government has accumulated substantial properties over the years. The Department of National Properties has developed the National Properties Inventory database system to prevent pilferage, loss of assets or false claims on government properties and all records are currently being updated. The budgetary bodies that prepare and submit budgets and monthly expenditure accounts use the Budget and Accounting System (BAS). At the moment, the BAS is independently installed in each and every budgetary body and the Departments of National Budget and Public Accounts are currently not in a position to monitor BAS activities on-line. Whenever problems arise, these are either attended over the phone or IT persons are deputed to solve the problems in the field. Once the BAS is brought on-line, problems can be easily identified, immediately attended

to and corrected. Furthermore, effective monitoring will be possible and timely information can be obtained for better decision-making. While BAS meets all the Financial Rules & Regulations, 2001 (FRR, 2001) requirements in terms of producing budgetary reports and monthly expenditure accounts, expenditure processing or obtaining expenditure approval, are currently accomplished outside the system. Therefore, there is a need to enhance the BAS in such a way that all transactions are captured using the system. It has to ensure that no transactions occur outside the system. Moreover, as the asset register is maintained manually there is also a need to develop a separate inventory module.

The Department of Public Accounts is a newly created organization and requires institutional strengthening. A sound financial management system needs to be developed along with proper accounting standards, treasury management, and a proper financial reporting system.

The Department of Revenue and Customs (DRC) is primarily responsible for mobilizing internal revenue to cover the increasing recurrent expenditure of the Royal Government. During the Ninth Plan, domestic revenue has been sufficient to meet the cost of recurrent expenditures of the RGoB. With the commissioning of Tala and increasing economic activities in the country, it is expected that internal revenue will not only finance recurrent expenditure, but also finance part of the capital expenditure during the Tenth Plan.

The Secretariat of the Ministry of Finance has to be strengthened. It comprises the Administration and Finance Division (AFD), the Policy and Planning Division (PPD), Human Resource Division (HRD), and the Internal Audit Unit (IAU) and the Rules Section. Recently, the Government has also approved Public Enterprise as a new Division within the Ministry. The primary function of this division is to supervise and monitor state-owned enterprises.

C. Strategy

With regard to the MYRB, the plan is to replicate this system in other budgetary agencies by the financial year 2007-08. The commencement of the Tenth Plan i.e. corresponding to FY 2008-09, should see the MYRB fully implemented. However, it is envisaged that there would be teething problems, and for MYRB to function smoothly, continuous training has to be provided to budget officers in the entire Tenth Plan period. A consultant to guide and ensure consistency as well as a proper understanding of the MYRB will be required to be fielded.

As far as the National Properties Inventory is concerned, inventorization of government properties and regular maintenance of palaces, state guest-houses and government buildings will be conducted. Surrendered government property will also be auctioned in a timely manner for revenue generation.

The DNP's aim to bring BAS on-line implemented in phases. It should start from Thimphu and gradually extend to the Dzongkhags and then to Gewogs. A lack of in-house technical capability both within the Department of National Budget and the Department of Public Accounts necessitates the services of an IT consultant. In addition, computers, servers and related equipment would be required for the networks to be established. A Mini/Mainframe will replace the present servers. This is because the Ministry of Finance will initially be working with Bhutan Telecom using its Virtual Private Network (VPN) for computer networking. Once fiber-optic cables are laid by the Ministry of Information and Communications (MoIC), BAS will migrate to fiber-optics from VPN. Again, a consultant will be required to make BAS more versatile, user-friendly and to develop a separate Inventory Module.

The Department of Public Accounts should seek cooperation with regional and international accounting agencies for professional development. A consultant to develop strong accounting standards and reporting systems for sound financial management is also needed.

Tax policy reforms need to be initiated to broaden the revenue base and ensure a fair and equitable tax system. Ongoing computerization of activities must be sustained and enhanced to improve the efficiency and effectiveness for better taxpayer services. Taxpayer awareness programmes will also continue to be given importance to improve taxpayer compliance.

In order to strengthen the MoF Secretariat, the Public Enterprise Division will require a consultant to effectively supervise and monitor state-owned enterprises. This is necessary as Government has large investments in numerous public sector undertakings. In addition, experts are also required within the Secretariat to guide the overall financial management of the Government.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Transparent resource allocation and management	Better resource predictability	Implemented MYRB	Implementation of Multi-Year Rolling Budget (MYRB)
Central inventory system and well maintained Government buildings and timely conduct of Auctions	Improved recording, upkeep and reporting of Government Assets	Government Assets recorded	Inventorization and Maintenance of Government Properties
Monitoring enhanced through on-line system	More user friendly and versatile system	On-line, Additional Module (Asset Register)	Enhancement of BAS
Adequate domestic resources to meet recurrent expenditure	Increased revenue	Revenue strengthened and tax reforms awareness created	Strengthening of Revenue and Tax Administration
Enhance transparency	Establish sound accounting, financial management and reporting system	Set accounting standard	Institutional Strengthening of Department of Public Accounts
Enhanced, effective and efficient revenue system	Equitable, fair and transparent tax system Better taxpayer services	Enhanced and integrated IT system	Streamlining of the procedures Revision of policies and rules Taxpayer education
Develop dynamic public enterprise contributing to the national economic growth	Public enterprise monitoring and supervision enhanced	Streamlined public enterprise monitoring system	Strengthen public enterprise division

E. Management Arrangements

Institutional Arrangements

The Policy and Planning Division (PPD) of the Ministry of Finance will be the overall coordination agency for the Programme. The Department of National Budget will be the central agency for the development and implementation of the MYRB. The cooperation and involvement of the budgetary bodies will be crucial for the successful development and implementation of MYRB.

The Department of National Properties will maintain the inventory system, distributing it to Dzongkhags and providing updates on a regular basis.

For BAS-related activities, the Department of National Budget and the Department of Public Accounts will jointly carry out efforts towards its development, supervision and implementation. The involvement of user-agencies will be critical to the development of inventory systems and further enhancement of BAS.

The Department of Public Accounts will be the central agency for executing programmes for the development of accounting standards, financial management and reporting reforms. The department will liaise with other relevant government agencies.

The Department of Revenue and Customs will be the central agency for strengthening revenue administration.

The MoF Secretariat will be the presiding agency in the proper development of the Public Enterprise Division. The Secretariat will also provide necessary direction and guidance to all its departments and divisions.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	National Budget Services	54.343
2	National Properties Services	108.186
3	Revenue and Customs Services	112.264
4	Public Accounts Services	51.000
5	Secretariat Services	372.857
6	Lottery services	1.271
	Total	**699.921**

MINISTRY OF HEALTH

MoH/01: HEALTH MANAGEMENT AND DEVELOPMENT PROGRAMME

A. Overview

1	Sector	:	Health
2	Linkage to National Development Objectives & Strategies	:	Investing in Human Capital through improved health
3	Expected Results	:	Improved health management and development services
4	Relevant MDG & SDG	:	MDG Goal 4: Reduce child mortality MDG Goal 5: Improve Maternal Health MDG Goal 6: Combat HIV/AIDS, Malaria and other diseases. SDG Goal 9: Maternal health SDG Goal 10: Child health SDG Goal 11: Affordable health-care SDG Goal 12: Improved hygiene and Public health
5	Donor Agency	:	
6	Target Group	:	Nation-wide
7	Scope	:	National
8	Status-Ongoing/New	:	Ongoing
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 31.200 m
11	External Financing Required	:	Nu. 31.200 m
12	Executing Agency	:	Ministry of Health
13	Implementing Agencies	:	Secretariat, Ministry of Health
14	Documents Available	:	Health Annual Report 2006; Sector Tenth Plan

B. Situational Analysis

The Ministry of Health and Education was bifurcated into the two separate Ministries namely the Ministry of Health and the Ministry of Education in mid 2003. This institutional restructuring has enabled the Ministry of Health to improve its specific focus on health development and services.

Of the total civil service strength of 17,178 civil servants 2,214 (13%) are employed in the Ministry of Health. 61 of them hold a Masters' degree which constitutes 9% of the overall Masters' degree holders in the civil service while 177 hold a Bachelor's degree which constitutes 7% of the bachelor's degree holders in the civil service. In the last five years the staff intake into health has almost doubled though the intake of fresh graduates has not grown significantly. The number of doctors joining the civil service annually has increased from 5 or 6 to about 10. The RIHS has doubled its capacity in the number of nurses, technicians and paramedical workers that it trains and supplies to the health system. However, even then the Health Ministry today still faces an acute shortage of manpower in all staff categories but especially so for doctors and nurses. There are currently 162 doctors in the country and about 90 are serving in the Dzongkhags while 61 are serving in the National Referral Hospital. About 129 are national doctors while the remaining are expatriates mainly specialists. Almost half of the national doctors are specialists.

In order to enhance the quality of health services, the Quality Assurance and Standardisation Division has been established under the Ministry. The Quality Control Committee has been replaced by Quality Assurance group with broader terms of reference in accordance with the

GG+ recommendation. However, there is an urgent need to develop clear guidelines on the flow of information and linkage among the QA system and the functional units in the Ministry and standardize all supplies.

For more reliable information on any area of health in the country, the Health Management Information System (HMIS) was revised resulting in the introduction of a new system in April 2003. It is steadily improving and will gradually integrate the few remaining parallel reporting systems and enable linkage with other systems. The use of HMIS as a management tool would, however, need to be further institutionalized.

With the advent of IT, modern IT driven medical technologies have been made possible and the Ministry has introduced telemedicine which has tremendous scope for expansion and improvement. Further, IT has also enabled more efficient health service delivery and management and which needs to be improved further.

C. Strategy

The Health sector strategies for the Programme emphasizes ensuring the quality of health services, development of human and institutional capacity, decentralization, sustainability and uniformity of health services;

Specifically, attention will be given to setting standards for both human resource and medical and diagnostic services for each level of health facility. Quality assurance systems are to be instituted at all levels of diagnostic services and facilities and cost-benefit analysis undertaken before introducing new services and technologies;

The Human Resource Development Master Plan would be revised based on assessment of system needs and design. Managerial capacity would be strengthened through appropriate trainings and appropriate career ladder system developed in line with Position Classification System (PCS). Focus would be on developing an incentive mechanism for the pool of civil service in Ministry of Health with the focus on medical personnel;

During the 10FYP accelerated Human Resource Development will be pursued to build the critical pool of clinical personnel required to close the existing HR gaps through increased scholarships for MBBS and other medical fields. At the same time, appropriate deployment of human resources would be pursued to meet the required skill mix and addressing the shortages through short-term recruitment from neighboring countries;

Support Continued Medical Education to ensure that the health workers are kept up-dated with the new developments that helps the health workers to adapt to and be breast of the changes/evolutions taking place in the medical field so that the services provided are in keeping with the International best practices;

Establish a system to attach the general doctors with the specialist before sending them for specialization courses;

Ensure that at any point of time, a minimum of three doctors along with the required set of nurses and para-medical personnel are deployed in every district hospital;

During the 10FYP period, at least few Dzongkhags will be provided with officials with masters in Public Health as Dzongkhag Health Officer to eventually have all the Dzongkhag Health Sector

headed by officials with masters degree in Public Health. Under close coordination and collaboration with other key agencies like the RIHS and RUB, efforts will made to increase nurses and other health support officials through increased intake at the RIHS as well as through the introduction of another Health Training Centre in the country[1]. The RIHS shall be upgraded to a college of Nursing and Public Health offering degree courses. Further, a medical college shall be established in the country with JDWNRH as the institutional base under Public Private Partnership or any other feasible modalities/scheme with admissions open to both foreign and national students;

Post-graduate training of specialists and super specialists would help reducing the referral cases abroad. In the 10 FYP, renewed efforts will be made to increase the capacity to treat in-house more of the cases that are currently referred outside;

Improvement and expansion of IT infrastructure and facilities both at the center and the periphery would receive a priority focus in the Tenth Plan. Focus would also be on re-designing and maintenance of health information system; and

In view of sustainability and uniformity of health services, the full capitalization and operationalization of BHTF would be vigorously pursued, appropriate cost sharing mechanisms and outsourcing options for selective medical and diagnostic services would be explored.

D. Results Framework

Outcome	Output	Projects/Activities
Quality health care services	QA instituted and capacity enhanced Evidence based decision enhanced Use of ICT strengthened HR capacity enhanced	Quality assurance and standardization Evidence based health planning and cost-effective interventions in the country Health information unit services improvement & system development, improvement and integration of data flow, compilation, analysis, utilization ICT facilities/services expansion Long and short term trainings – Specialisation and Super specialization courses as well as diploma and certificate level trainings Relevant workshops/seminars and conference participation

E. Management Arrangements

Institutional Arrangements

All Divisions /Units/Sections under the Secretariat of the Ministry of Health will be the implementing agency for this programme.

1 Subject to availability of resources outside plan budget

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Health Information Unit	10.200
2	Information Communication Technology	10.500
3	Quality Assurance and Standardization Division	6.500
4	Policy and Planning Support Services	4.000
	Total	**31.200**

MoH/02: HEALTH PROMOTION AND DISEASE PREVENTION AND CONTROL PROGRAMME

A. Overview

1	*Sector*	*:*	*Health*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Investing in Human Capital through improved health*
3	*Expected Results*	*:*	*Reduction in the incidence of communicable diseases.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 4: Reduce child mortality; MDG Goal 5: Improve Maternal Health MDG Goal 6: Combat HIV/AIDS, Malaria and other diseases. MDG Goal 7: Target 10: Halve the proportion of people without sustainable access to safe drinking water and basic sanitation SDG Goal 9: Maternal health SDG Goal 10: Child health SDG Goal 11: Affordable health-care SDG Goal 12: Improved hygiene and Public health SDG Goal 18: Accetable level of water and soil quality*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Nation-wide*
7	*Scope*	*:*	*National*
8	*Status-Ongoing/New*	*:*	*Ongoing/New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 653.112 m*
11	*External Financing Required*	*:*	*Nu. 653.112 m*
12	*Executing Agency*	*:*	*Ministry of Health*
13	*Implementing Agencies*	*:*	*Department of Public Health*
14	*Documents Available*	*:*	*Annual Health Report 2006, Sector Tenth Plan*

B. Situational Analysis

Acute Respiratory Infection (ARI) and Diarrhoeal Diseases (DD) are still the major causes of morbidity in the country despite the vast improvements in the situation of safe drinking water suppy and sanitation facilities across the country. Tuberculosis also remains quite rampant even as the case loads have come down significantly from past years. The number of HIV/AIDS cases is

increasing every year. A total of 144 cases have been detected as of April 2008 posing a significant public health concern.

Despite the tremendous progress made in improving the health of mothers and children, the Maternal Mortality (MMR), Infant Mortality (IMR) and Under Five Mortality (U5MR) rates still remain high compared to international standards. An important challenge in reducing maternal and neonatal mortality will depend a great deal on how successfully the country is able to increase institutional deliveries (i.e., deliveries attended by trained birth attendants) through the expansion and further strengthening of Emergency Obstetric Care (EmOC) facilities.

There is also the need to further strengthen strategies and activities that focus on safe motherhood and adolescent reproductive health, prevention and management of complications related to reproductive health and cervical cancer. Developing strategies to reach the un-reached will also be critical. The inadequacy of human resources and vital information systems remain major issues that hinder the delivery of health services. It may be possible to mitigate these issues to some extent by strengthening the RIHS capacity and intensifying the data gathering and collation and use of information in a systematic manner.

While there has been signficant progress made in containing several communicable diseases, much remains to be done. Diseases like malaria has been contained to a large extent but a number of focal out breaks causing morbidity and mortality over the recent years has caused concerns. Similarly, vector borne diseases like dengue, Japanese Encephalitis (JE), kala azar and leishmaniasis remain a significant public health concern and therefore prevention and control activities need to be intensified.

Moreover, lifestyle related diseases amongst the Bhutanese population are now increasingly rapidly, a growing disease burden that is difficult and costly to treat. Preventive measures must be initiated to educate the general public on these aspects and build capacity to deal with such diseases through the expansion of the tertiary care level facilities. At the same time, primary healthcare services would have to be sustained, improved and its coverage further expanded. There are no precise studies conducted to find the prevalence of NCDs in the country. However, it has been noted that NCDs are on an increase. There is also a need to develop an overall strategy for NCD prevention to focus on risk surveillance and analysis rather than making disease specific interventions.

C. Strategy

Of the eight MDGs to be achieved till 2015, three directly fall within the immediate concern of the health sector. A large percentage of all MDG targets are also health related targets and have a huge bearing on the achievement of other non-health MDGs. Further, there are other priority health goals that extend beyond the provisions of the MDGs. As Bhutan is well on track for many of the MDGs and possibly overachieve them before 2015, the Royal Government has identified certain MDG PlusTargets for the health sector. The following strategies will be adopted to help secure progress towards these MDG and MDG Plus health targets:

- Improving health of children through reduction of ARI and diarrhoeal incidences, promoting and enhancing breast feeding, child care practices and nutritional services sustaining Universal Child Immuinization, scaling up institutional deliveries, expansion of perinatal services to the other regional hospitals and strengthening public health surveillance system;

- Improving the health of women, especially mothers through expansion and improvement of various health services like intensifying safe motherhood initiatives, promoting nutrition for mothers and newborn, expansion and improvement of postnatal and perinatal services, promoting reproductive health, expansion of Basic and Comprehensive Emergency Obstetric Care etc;
- Developing and enhancing institutional capacity to prevent and control communicable and non-communicable diseases including life style related diseases and promoting healthy life style amongst the general citizens, expansion and intensification of HIV/AIDs control activities through preventive approach;
- Improving and strengthening rapid response system through implementing International Health Regulations (IHR) and building support facilities like laboratory services and mobilisation of multi-stakeholder support including cross border collaboration;
- Pooling of resources and following an integrated approach to all advocacy and awareness related to Health;
- Expansion and sustaining rural water supply and sanitation programmes and community health programmes, support planning and implementation of urban water supply and ensure that water supply is fit for human consumption through regular monitoring of drinking water quality; and
- Introduction and strengthening of Zoonotic disease control and Workers Health programme.

D. Results Framework

Outcome	Output	Projects/Activities
Morbidity and mortality due to communicable diseases reduced	Acute Respiratory Infections and Diarrhoea incidence reduced Effective control and response mechanism to health pandemic/ disaster put in place TB & Leprosy case detection and management strengthened	ARI and CDD control through focused intervention on diseases such as pneumonia, diarrhea, avian influenza etc International Health and Rapid response : Leprosy control through strengthened surveillance and sustained elimination Enhance capacity for prevention and early detection control of Tuberculosis
	Halt and reverse the spread of HIV and STIs Increased coverage of vector-borne diseases prevention and treatment Enhanced immunization coverage and awareness on Communicable Diseases	National HIV/AIDS and STIs control through advocacy and awareness Expansion and strengthening of Vector-borne disease control capacity Sustain and carry out effective Vaccination to control and prevent vaccine Preventable Diseases Information and Communication services for advocacy and awareness on general health issues and prevention of illness Health Research and Epidemiology

Morbidity and mortality due to non-communicable diseases reduced	Reproductive Health services enhanced Nutritional status improved Reduced incidence of disability Mental health services strengthened Village Health Workers services strengthened School health advocacy strengthened Incidence of Zoonotic Diseases reduced Workers' Health services strengthened Quality of laboratory services strengthened Awareness on NCD enhanced.	Reproductive Health: advocacy and awareness, increase institutional delivery etc Food Safety & Nutrition enhanced through regulation and fortification Disability Prevention, Rehabilitation, Lifestyle-related Disease Control Mental Health Expansion of Village Health Worker's programme for community outreach Awareness and advocacy on health issues through Comprehensive School Health Zoonotic Diseases Control Workers' Health Construction of Public Health Laboratory and forensic lab. Information&Communicationservices Capacity dev. For Health Research and Epidemiology
Universal RWSS coverage and safe sanitation	Water and sanitation programme sustained over 90% Alternative technologies for difficult and unreached areas introduced successfully.	Public Health Engineering Services strengthening for technical backstopping

E. Management Arrangements

Institutional Arrangements

The Ministry of Health will be the executing agency for this programme and the Department of Public Health is the implementing agency. The individual unit that looks after respective communicable disease projects will take the lead role in containing the disease. Central technical support will be extended to Dzongkhags and Gewogs for the collective effort to fight against such diseases.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	ARI, CDD Programme	14.250
2	Comprehensive School Health Programme	1.750
3	DPR and LSRD Programme	34.800
4	Environmental Health Programme	3.047
5	Food and Nutrition Programme	30.769
6	Information & Communication Bureau	2.500

7	National Leprosy Control Programme	7.763
8	Mental Health Programme	16.500
9	National HIV/AIDS and STI Control Programme	87.530
10	Public Health Laboratory	80.900
11	Religion and Health Programme	2.400
12	Research & Epidemiology Unit	3.754
13	Reproductive Health Programme	148.330
14	International Health & Rapid Response Unit	8.090
15	Public Health Engineering Division	47.717
16	Tuberculosis Control Programme	53.441
17	Vector borne Diseases Control Programme, Gelephu	42.071
18	Village Health Workers Programme	12.020
19	Vaccine Preventable Disease Control Programme	44.980
20	Zoonotic Disease Control Programme	1.500
21	Workers Health Programme	9.000
	Total	**653.112**

MoH/03: DIAGNOSTIC AND CURATIVE SERVICES PROGRAMME

A. Overview

1	*Sector*	*:*	*Health*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Investing in Human Capital through improved health*
3	*Expected Results*	*:*	*Diagnostic and curative services improved for better health outcomes*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 4: Reduce child mortality;* *MDG Goal 5: Improve Maternal Health* *MDG Goal 6: Combat HIV/AIDS, Malaria and other diseases.* *SDG Goal 9: Maternal health* *SDG Goal 10: Child health* *SDG Goal 11: Affordable health-care* *SDG Goal 12: Improved hygiene and Public health*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Nation-wide*
7	*Scope*	*:*	*National*
8	*Status-Ongoing/New*	*:*	*Ongoing/New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 3,637.840 m*
11	*External Financing Required*	*:*	*Nu. 3,637.840 m*
12	*Executing Agency*	*:*	*Ministry of Health (MoH)*
13	*Implementing Agencies*	*:*	*Department of Medical Services, MoH*
14	*Documents Available*	*:*	*Annual Health Report, Sector Tenth Plan*

B. Situational Analysis

Remarkable achievements have been made In terms of expanding health service coverage. Physical access to primary health services is already fairly high and been sustained at over 90%. With some 29 hospitals, 176 BHUs and 485 ORCs across the country, access to primary, secondary as well tertiary care has improved considerably. With the completion of the construction and or upgradation of the Jigme Dorji Wangchuck National Referral Hospital, the Mongar Regional Referral Hospital, Phuentsholing General Hospital and the Dagana, Trashigang, and Trongsa district hospitals, have further added on to the existing health infrastructure and improved access to quality health care services. However, there are still distant and un-reached communities that do not have access to basic health facilities and reaching the unreached ofen proves most demanding in terms of resources and efforts required given the well known last mile effect.

Diagnostic services form the main component of the curative health services. Increased diagnostic capacity has become even more important with the threat of recent epidemics like SARS and avian flu. Hence, the construction of bio-safety level -3 (BSL-3) level public health laboratory in Thimphu has been proposed. The health authorities have been able to install CT and MRI equipment at the National Referral Hospital and such provisions may need to be considered for other Regional Referral hospitals. Improved diagnostic services for cancer and other chronic diseases would also be essential with various Dzongkhag hospitals requiring X-ray and ultrasound facilities too. While a good network of health care facilities exists, most of them are ill-equipped to deal with major crisis situations in an organized and rapid manner. The existing emergency medical strategy would need to be expanded to include other aspects of emergencies like SARS, avian influenza, etc.

Presently there are 30 Drungtsos and 42 Menpas working at the centre as well as the Dzongkhags. The required traditional drugs are manufactured within the country and distributed through a distribution system similar to the distribution of allopathic drugs and vaccines. However, there is a need to increase production of traditional medicine in line with the increase in their demand.

Owing to the limited number of specialists in Bhutan an efficient referral system is required. The highly rugged terrain and harsh climate hinders the physical referral option. Hence, telemedicine has been considered a viable alternative to enhance access to high quality diagnosis and care. This will need to be strengthened further.

C. Strategy

The broad strategic priorities for the Tenth Plan would be to consolidate health infrastructure, improve quality and reach of diagnostic and curative services and integrate traditional medicine system into the mainstream health care delivery system. The following specific strategies or strategic activities would be pursued in fulfilling these health priorities:

- Consolidation of health services and improving health care capabilities and facilities across the country through the use of modern technologies including IT, and provisioning of equipments and supplies to improve efficiency and effectiveness of services;
- Liaising and coordinating with other sectors/partners to ensure that resources provisioned for constructions of ORCs are pooled to construct multi-purpose structures for efficient use and sustainability of the structures;
- Improvement of primary, secondary and tertiary health care services through enhanced institutional and human resource capacity and use of modern technology such as telemedicine to overcome geographical and other barriers to health care;

- Expansion and improvement of various health infrastructures including construction of Regional Referral Hospital in Gelephu, construction and renovation of district hospitals, Public Health Laboratory, detoxification unit etc;
- Desiginating and establishment of regional referral hospitals/district hospitals as centres of excellence (specilisation) in certain services like children hospital, tropical diseases, cancer etc;
- Establishment of Regional Bio-medical Engineering Centres to ensure timely back up service and providing adequate trained manpower for timely maintenance services;
- Standardisation of facilities and services including supplies in all health centres to allow better planning, intervention and provide quality services at all times;
- Improving institutional capacity to diagnose, manage and treat various diseases and reduce the ex-country referral cost;
- Introducing new technology in diagnostic and curative services and para-medical services on a pilot basis and expansion of ambulance services throughout Bhutan;
- Establishment of Bhutan Institute of Medical Scence (BIMS) using JDWNRH as a base under PPP or any other feasible models. This will be done through a parliamentary act to ensure that the institute is provided with a legal basis to function independently for efficiency and effectiveness; In short of an act, the JDWNRH shall be granted autnomonus status;
- Outsource select diagnostic services and support private sector participation in providing private tertiary health care services in line with clearly defined standards and guidelines framed by the Health Ministry;
- Promote niche market for traditional medicine services and develop it as a centre of excellence to promote medical tourism;
- Corporatisation of the Pharmaceutical and Research Unit(PRU) to provide necessary flexibility for greater cost effectiveness and expansion;
- Enhancing patient care service and accountability by the health personnel in treating patients; and
- Inorder to address the shortage of trained nurses and other medical technicians in the country, options for establishment of another Health Training Institute will be kept open to allow prospective PPP/FDI investors to invest in the project or for funding through additional resource mobilization.

D. Results Framework

Outcome	Output	Projects/Activities
Diagnostic and curative services improved	Health facilities with timely and adequate medical supplies Quality and reach of health infrastructure improved	Supply of Drugs, Vaccine & Equipment Building the capacity for HERM Health Infra. Improvement, consolidation and select expansion of health services and facilities
	Atleast two functional ambulances provided to all hospitals and paramedic introduced Reduced hospital acquired infections Hospital based services improved and clinical care strengthened Referral hospital management and services strengthened Reduced cases of ex-country referral Telemedicine services strengthened and expanded Indigenous hospital services strengthened	Para medics and Ambulance services Control of Infection & improving Hospital Waste Management Expansion and improvement of Primary Eye Care services Increasing access and improving quality of Oral Health services Enhancing capacity to deal with Diabetic health issues Improvement and expansion of Perinatal Medicine Services Enhancing the quality and access to Nursing services Development and enhancing the Emergency Medical services capacity Expansion of Clinical Laboratory and Blood bank services Improving and expansion of Radiology services Expansion of Telematics services to increase access and improve quality of services Improvement of various services at the JDWNRH Constructing and enhancing the facilities of the Regional Referral Hospitals National Traditional Medicine Hospital service strengthening

E. Management Arrangements

Institutional Arrangements

The programme will be managed and executed by the Department of Medical Services under the Ministry of Health. Particular health divisions and hospitals would provide the technical and institutional support for implementing the activities.

Indicative Costs

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Clinical Laboratory and Blood Bank Services	11.81
2	Central Regional Referral Hospital, Gelephu	17.017
3	Diabetic Care Services	13.70
4	Drugs, Vaccines and Equipment Division	1137.375
5	Essential Medicine and Technology Division	35.0453
5	Emergency Medical Services	22.50
6	Primary Eye Services	3.50
7	Health Telematics	25.50
8	Bio-Medical Engineering Unit	19.803
9	Health Infrastructure Development & Projects	1918.73
10	Patient Safety, Infection Control and Health Care Waste Management	20.50
11	National Traditional Medicine Hospital	2.695
12	Jigme Dorji Wangchuck National Referral Hospital	60.606
13	Mongar Regional Referral Hospital	72.3797
14	Western Regional Referral Hospital, Paro	100.00
15	Nursing Services	8.50
16	Oral Services	10.00
17	Perinatal Medicine Services	12.50
18	Pharmaceutical and Research Unit of Traditional Medicine*	57.94
19	Radiology Services	3.98
20	District Health Services Programme	5.00
21	Ambulance Services	78.75
22	Medical College	
	Total	**3,637.840**

* The PRU is to be corporatised and projected subsidy of Nu 170m is to be met from general government subsidy maintained under the Ministry of Finance.

Major Infrastructure Projects:

Major Infrastructure	Indicative Cost (Nu. in million)
Gelephu Referral hospital construction (150 beds)	594.400
Samtse hospital construction (40 beds)	133.330
Tsirang hospital construction (20 beds)	55.940
Wangdue hospital construction (20 beds)	69.590
Haa hospital construction (20 beds)	38.890
Sibsoo hospital construction (20 beds	73.780
Bumthang hospital re-construction	43.450
Health training center, (location to be identified later)	14.810
Community Based Rehabilitation Resource center, Gidagom	14.810

Therapy unit, ITMS	40.000
Medical supply depot at Phuentsholing	52.810
Forensic unit	
Publi Health Laboratory	180.000
Detoxification Unit	121.180
Reproductive health unit	10.100
Traditional Medicine Unit	5.441
JDWNRH Networking	34.000
Construction of Staff Quarters for existing Health Centres	200.000
Health Traing Institute	
Dewathang Hospital	140.000
9FYP Spill Over Works for Dagana Dzongkhag	20.000
Spillover Work for JDWNRH and MRRH	31.899
Additional Work for completion of JDWNRH	44.300
Total	**1,918.73**

MoH/04: SUSTAINABILITY, REGULATORY AND MONITORING PROGRAMME

A. Overview

1	*Sector*	*:*	*Health*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Investing in Human Capital through improved health*
3	*Expected Results*	*:*	*All health supplies and services regulated and services sustained*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 4: Reduce child mortality* *MDG Goal 5: Improve Maternal Health* *MDG Goal 6: Combat HIV/AIDS, Malaria and other diseases.* *SDG Goal 9: Maternal health* *SDG Goal 10: Child health* *SDG Goal 11: Affordable health-care* *SDG Goal 12: Improved hygiene and Public health*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*National*
7	*Scope*	*:*	*National*
8	*Status-Ongoing/New*	*:*	*Ongoing/New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 72.184 m*
11	*External Financing Required*	*:*	*Nu. 72.184 m*
12	*Executing Agency*	*:*	
13	*Implementing Agencies*	*:*	*BHTF, DRA, BMHC,*
14	*Documents Available*	*:*	*Bhutan Medicine Act 2003, Bhutan Medical and Health Act 2002*

B. Situational Analysis

The cost of vaccines and drugs currently accounts for a significant amount of all expenditures in the health sector. To establish the provisioning of health services on a sustainable footing for the future, the Royal Government established the Bhutan Health Trust Fund to finance the purchase of essential drugs and vaccines. The primary objective of the Fund is to ensure sustainable and timely availability of resources for the highest priority health care service components. By ensuring the sustainable financing of essential drugs and vaccines through the BHTF, the RGoB can re-direct the national health budget to other key elements of public health care or in developing human resources and strengthening infrastructure.

The Trust fund has grown to USD 21.719 million with contributions from development partners, individuals, other foundations and general public. The Fund however is yet to meet its target of 24 million to become fully operational and sustain its operation. So far the Trust fund has supported some of important health initiatives like the nation wide measles rubella vaccination and Hep-B vaccination.

In order to regulate and monitor the quality of health services and drugs in the country, the Bhutan Medical and Health Council and the Drug Regulatory Authority have been instituted. So far these agencies have been instituted under the Ministry of Health but it is only rational to separate these agencies to emerge as fully autonomous entities. Further, there is a need to revise the composition of the members to avoid possible conflict of interest between the regulatory role and the implementing role that some of the members of BMHC plays. These agencies currently lack the necessary manpower to effectively fulfill their mandates.

C. Strategy

Sustained efforts will be put in to mobilize the additional resources required to meet the target of USD 24 million to fully operationalise the Health Trust Fund through organization of fund mobilization campaigns as well as inviting development partners and well wishers to contribute to the fund. The health trust fund will be utilized to finance purchase of essential drugs and vaccines. Other strategies for the programme over the Tenth Plan incude:

- Delinking the Drug Regulatory Authority from the Ministry of Health and institutional strengthening and capacity building of the former will be done to allow it to function effectively;
- Outsourcing of non-medical services to foster public-private partnership and improve efficiency of health professions and explore possibility of cost sharing mechanism on selective health services;
- The Authority will work towards the enforcement of relevant provisions of the Bhutan Medicine Act 2003 and register all products and test at least about 25% these products on an annual basis;
- The Authority will also establish institutional linkages with ex-country regulatory authorities and also establish a National External Quality Assurance Scheme;
- The Bhutan Medical and Health Council shall also be de-linked from the Ministry and operate as an independent council. It will review membership of the council as provisioned by the act and recommend necessary changes to enable the council to become fully

independent. Necessary standards and guidelines as provisioned by the act shall be developed and undertake orientation and sensitization workshops/meetings. The Council will also work and ensure that all medical practioner in the country are registered and certified by the council; and

- Further, the Council shall enforce the provisions of the Bhutan Medical and Health Council Act 2002 to ensure quality and accountability.

D. Results Framework

Outcome	Output	Projects/Activities
Sustained supply of essential drugs and vaccines at all times Greater standards of medical services and higher and safe drugs and vaccines ensured	Health Trust Fund fully operationalised BMHC and DRA de-linked from the Ministry and functions as an independent agency Role and composition of the BMHC revised and all medical and Health professions registered Provisions of the Medicine Act of kingdom of Bhutan 2003 enforced	Bhutan Health Trust Fund capital fund mobilisatioon to meet the target Strengthening BMHC and effective enforcement of The Medicine Act of Kingdom of Bhutan 2003 De-linking of Drug Regulatory Authority and increased regulation of medical supplies and services

E. Management Arrangements

Institutional Arrangements

The Bhutan Health Trust Fund, Bhutan Medical and Health Council and the Drug Regulatory Authority will be responsible for delivery of this programme. However, the Ministry of Health will be responsible for facilitating the attainment of autonomy and independence for BMHC and DRA.

Indicative Costs

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Bhutan Health Trust Fund	2.100
2	Bhutan Medical and Health Council	8.300
3	Drug Regulatory Authority	61.784
	Total	**72.184**

MINISTRY OF HOME AND CULTURAL AFFAIRS

MHCA/01: PRESERVATION AND PROMOTION OF CULTURAL HERITAGE

A. Overview

1	Sector	:	Culture
2	Linkage to National Development Objectives & Strategies	:	Preservation and promotion of cultural heritage as a core pillar of GNH for the holistic well being and happiness of all Bhutanese
3	Expected Results	:	The quality of life in Bhutan enriched and enhanced through the preservation and promotion of nation's rich cultural heritage and traditional values
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	General Bhutanese population and international visitors
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 1,746.500 m
11	External Financing Required	:	Nu. 1,746.500 m
12	Executing Agency	:	Department of Culture (Ministry of Home & Cultural Affairs)
13	Implementing Agencies	:	Department of Culture, Folk Heritage Museum, Culture Center, National Museum, Trongsa Tadzong Museum, Royal Academy of Performing Arts, National Library, other units and heritage centers, Dzongkhag and Gewog Administrations
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Bhutan's cultural heritage has always been accorded a high priority on the development agenda and the relevance of culture to development outcomes cannot be understated. It is deemed vital for the country's survival and socio-economic progress given that it provides a strong basis for building national identity and unity. In addition, culture is a perennial source of sound human values that strengthens social bonds and harmony and provides an effective antidote to cushion Bhutanese society from some of the negative impact of globalisation.

Moreover, Bhutan's cultural resources represent a major opportunity for employment creation and poverty reduction through the promotion of cultural industries. The promotion of a wide range of cultural industries can not only generate substantial social and economic returns but also help keep the country's rich cultural heritage alive and vibrant.

Additionally, Bhutanese culture has a vital role to play in helping protect and conserve the country's rich natural environment. The natural environment enjoys a highly sacred standing in the local belief systems which accords a deep sanctity for all forms of life. This cultural ethos has been and remains a potent force for maintaining environmental sustainability, the further erosion of which could negatively impact on the environment through a weakening of social commitment to environmental sustainability.

It is clearly evident that meaningful sustainable development in Bhutan cannot be concieved of outside a context that does not actively integrate culture and heritage issues. With the majority of

Bhutanese still strongly guided by socio-cultural traditions that have evolved over centuries, the promotion of cultural heritage within modern development policies confers distinctive advantages and benefits. However, the adaptation of ancient traditions to the particular challenges and needs of current times is fraught with pitfalls and addressing this poses major challenges. A careful but liberal and sustainable balance has to be maintained between the existing cultural traditions and emerging changes and alterations in culture without allowing globalisation forces to upset the balance.

One acute challenge pertaining to this relates to the lack of skilled professionals in the field of conservation of Bhutan's cultural heritage. There is also the need for renovation and conservation for many temple and Dzongs which are constrained by the lack of resources. Additionally, the absence of adequate legal framework for the protection of cultural heritage is another of key challenge that must be addressed in the culture sector.

C. Strategy

The Department of Culture under the Ministry of Home and Culture Affairs continuously strives to preserve and promote Bhutan's rich and unique cultural heritage. The long-term objective for the Department of Culture is to integrate holistically the preservation, promotion and development of the cultural heritage of Bhutan into all areas related to sustainable development.

Towards fulfilling the above objective, the first strategic objective will be to preserve, develop, promote and sustain the national cultural and literary heritage. This shall be carried out through inventorying and documentation of cultural heritage, introduction of proper and relevant legislation, establishment of a cultural center and institutes, promotion of cultural tourism, mapping, and classification of Bhutan's tangible and intangible heritage, building expertise for architectural conservation, establishment of new museums and reinforcement of existing museums, documentation, conservation, promotion and development of traditional and contemporary performing arts, improvement of libraries, and archives.

The second strategy will focus on the production of audio-visual, television, radio and films that will promote interest and make people aware of cultural issues and activities. The national television and radio will be utilised to air and promote these shows. The third strategy will be to establish proper networks, national, regional and international through the application of information and communication technologies.

The fourth strategy shall be to establish institutional linkages, promote and support cultural exchange, workshops and meetings between Bhutan and different countries and regions.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Enrichment and Enhancement of the quality of lives of all Bhutanese through the preservation and promotion of nation's rich cultural heritage and traditional values	Bhutan's cultural and spiritual institutions strengthened and promoted	Cultural Development	An international Buddhist University established. Funds raised for nuns College for nuns constructed BIMSTEC Regional Cultural Observatory established Culture Exchange Programmes organized
	Documentation preservation and Protection of Movable cultural properties (Kusung Thugtens) of Dzongs, Lhakhangs and private owners	Movable Cultural Heritage Conservation and Promotion	All movable cultural properties of Bhutan well inventoried and documented
			Precious cultural properties restored and protected
			Policy guidelines, documents and Acts for preservation and protection formulated
	Immovable cultural properties documented, preserved and developed	Immovable Cultural Heritage Conservation and Development	Preparation and implementation of conservation plans for cultural and natural heritage sites and national cultural properties in Bhutan completed
			Documentation and classification of cultural and natural heritage sites completed
			Heritage Act for protection of heritage sites in Bhutan prepared
			Information on the tangible and intangible aspects of Bhutan's cultural heritage sites and national cultural properties prepared
			Professionals trained in the field of conservation of heritage sites
			Awareness on conservation and promotion of architectural heritage in Bhutan created to general public and students
			Curriculum on the conservation and management of architectural sites established in local technical institutes
			Technical guideline manual for conservation of architectural heritage sites developed
			A Royal Theatre and National Galleries at the Cultural Heritage Site in Thimphu constructed
			Major heritage sites developed for local pilgrims and international visitors
	Intangible cultural heritage of Bhutan preserved and promoted	Intangible Cultural Heritage Conservation and Promotion	Infrastructure of Royal Academy of Performing Arts improved
			Documentation/research on Performing arts and festivals
			Training on performing arts conducted
			Adequate audio visual equipment provided
	Appreciation for Bhutan's cultural and literary heritage created among the Bhutanese and international audiences	Museums and Library Development	Management Information System (MIS) in place to document all acquisition and user service information
			Adequate infrastructure developed Branch (field) units established in selected Dzongkhags
			Human Resource developed Research & publications carried out
			Promotional activities conducted

E. Management Arrangements

Institutional Arrangements

The Department of Culture shall be the overall coordinating agency for planning, implementing and monitoring of projects and activities of culture sector. The individual agencies will be responsible for implementing their specific projects/activities. These agencies include Folk Heritage Museum, Culture Center, National Museum, Trongsa Tadzong Museum, Royal Academy of Performing Arts, National Library, other units and heritage centers, Dzongkhag and Gewog Administrations and Dratshang/Rabdeys.

The Department of Culture will also collaborate with agencies like the Department of Tourism, Royal Bhutan Police, RCSC, Department of Information Technology, Department of Revenue and Customs, Institute of Zorig Chusum, Department of Information Technology, Ministry of Education, Royal University of Bhutan and other relevant stakeholders for conservation, promotion, and protection of cultural properties and values.

Indicative Cost

Description of Projects	Description of Activities	Indicative Cost (Nu. in million)
1.Reverification and Classification of National treasures	a.Photograph and maintain 90% of the movable cultural properties in seven dzongkhags	1.000
2.Restoration and Conservation	a.Restoration and Conservation of 10 wall paintings	2.500
	b.Restoration and Conservation of 30 thangkhas	
	c.30 clay images restored and conserved	
3.Training and Awareness	a.Train 8 in conservation of cultural properties, from those rabdeys that were not trained by the Honolulu Academy of arts	2.000
	b.Conduct 10 awareness campaigns in 20 dzongkhags on the importance of safeguarding and conserving cultural properties.	
4. Research Documentation and Publication	a. Computerization of all records on cultural properties	2.000
	b.Distribution of digital records to dzongkhags of their respective cultural properties	
	c.Research and publication on important cultural properties	
5. Regulation and Safety	a.Design of showcase for 'Nangtens'	2.000
	b. Development of guidebooks for most sacred neys	
		9.500
1.Inventory of all aspects of cultural heritage sites	a.Compilation of inventory for all cheritage sites in 20 dzongkhags	5.500
	b.Documentation of 5 major dzongs and 5 major vernacular sites which are in danger of disappearing or changing	
2.Conservation/ Renovation and Development of Dzongs	a.Wangduephodrang Dzong	200.000
	b.Paro Dzong (Rinpung)	100.000
	c. Lhuentse Dzong (including construction of drashag)	120.000
	d. Daga Trashiyangtse Dzong, Dagana (including construction of Drashag)	125.000
	e. Gasa Trashithongmi (ongoing/spillover)	56.000

	f. Conservation of Dorji Lingpa Temples	25.000
	g. Phajoding Lhakhang	65.000
	a. Pema Gatshel Dzong	250.000
3.Construction of Dzongs	B.Sarpang Shompangkha Dzong	200.000
	c.Chukha (ongoing/spillover)	100.000
	d.Tsirang (ongoing/spillover)	20.000
	e.Zhabkor, Kurje Lhakhang	35.000
	f. Mithrupai Lhakhang (Thimphu)	45.000
4.Conservation and establishment of Archaoelogical heritage sites	a.Drapham, Drugyel, Bangtsho and Zhongkhar Dzongs	83.500
5. Establishment of Cultural Center	a.Construction of National Conservation Laboratory with offices for DCAH and DCP at the Cultural Centre site in Thimphu	44.000
	b.Establishment of Royal Theatre and National Gallaries at the Cultural Centre site in Thimphu	55.550
	c. Construction and establishment of offices for the cultural sector with GNH Happiness centre unit at the Cultural Centre site	55.800
6.Establishment of Two World heritage sites in Bhutan	a. Documentation and Preparation	8.000
7.Conservation of vernacular architecture and heritage villages	a.Conservation of vernacular architecture and heritage villages	30.000
8.Research Documentation and Publication	a.Documentation on Bhutan's cultural heritage sites and national cultural properties are published	1.700
	b.Documentation and publication ofTangible and intangible aspects of traditional architecture	
	c.Compile list of traditional skilled workers in the field of traditional architecture	
9.Promotional and awareness of conservation needs at heritage sites	a.3 Training workshops on conservation of heritage sites and 5 professionals trained internationally	1.200
	b.Workshops, awareness campaigns, publication and organise competition among students and publics	
	c.Introduce curriculum on conservation and management of architectural sites in Royal Bhutan Institute of Technology and Zorig Chusum Institute	
	d.Publication and distribution of technical guideline manual for conservation of architectural heritage	
10.Regulatory, Policy Instrument and techinical backstopping	a.Developed Heritage Act for protection of heritage sites in Bhutan	2.300
		1,517.2
1.Information communication system development	Establishment of IT infrasturcture in all the museums i. To document all acquisition and user service information ii. To further strengthen the Information techonology Services in all the museums iii. To develop security system in all the museums and libraries	20.850

2.Infrastructure Development	a.Establishment of Textile academy	27.100
	b.Office blocks and other infrastructure for: i. Folk Heritage Museum ii. National Museum (Paro) iii. Ta-Dzong Museum Trongsa Iv.National Library	100.000
3. Research and Publication	a.Research and publication in the field of social, religion, folk lifes, literacy and all aspects of tangible and intangible cultural heritage	10.000
4. Esablishment of field units	a.Establish Field units in selected places for every museums and library	11.850
5. Promotion and Awareness	a. i. To hold awareness campaigns, competitions and distribute information brochures (to be done by the respective museums and libraries) ii. Conduct special exhibitions on different themes by the respectve museums and library Iii. Conduct exchange programmes annually in the respective museums. Promotion and Awareness	7.500
6. Acquisition of books & Artefacts	a.Acquisition of books &Artefacts	17.500
		194.800
1.Infrastructure Development	a.Construction of Amphitheatere	10.000
	b.Construction of Principals Residence	
2.Preservation and Promotion of Performing Arts	a.Development of performing programmes	3.500
	b.Development of Audio visual programmes	
	c.Training on Driglam	
	d.Exchange programmes	
	e. Promotional activities	
3.Research and Documentation and Legislation Development	a.Research and Documentation of 20 Zhungdras, 50 Boedras and 10 festivals	3.000
	b.Development appropriate Acts and Policy Documents	
4.Procurement of Equipments	a.Procurement of Equipments	7.000
		23.500
1.Establishment of International Buddhist University	a.Development of basic concept and designs	0.000
2.Establishment of a fund for the nuns of Bhutan and a college for the nuns	a.Fund raising campaigns	0.000
3.Establishment of the BIMSTEC Regional Cultural Observatory	a.Provision of Office space and basic facilities for experts	1.500
4.Promotion of International Cultural Exchange Programme		0.000
		1.500
	TOTAL	**1,746.500**

MHCA/02: STRENGTHENING OF IMMIGRATION SERVICES

A. Overview

1	Sector	:	Immigration
2	Linkage to National Development Objectives & Strategies	:	To safeguard national security through strengthening immigration security and services
3	Expected Results	:	Strengthened Security of the Country
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	General Bhutanese Population, Non-Bhutanese
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 57.000 m
11	External Financing Required	:	Nu. 57.000 m
12	Executing Agency	:	Department of Immigration (Ministry of Home and Cultural Affairs)
13	Implementing Agencies	:	Immigration Service Division, Inspection Division and Naturalization Division (Department of Immigration)
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The Department of Immigration was established in 2004 and has a responsibility to safeguard national security. The Department monitors and regulates the flow of foreigners into the kingdom and has three Divisions and six regional immigration offices. The three divisions are the Immigration Service Division is responsible for the issue of various permits such as route permit, restricted area permits, MC card, work permit, dependents cards, traders' cards etc. The Inspection Division is responsible for inspection, monitoring and deportation of illegal immigrants. The Naturalization Division is responsible for monitoring annual registration of Tibetan refugees, and Green Card holders. It is also responsible in processing the naturalization of foreigners as Bhutanese Citizens.

Some of the key achievements in the Ninth Plan were the establishment of the Department of Immigration, relocation and establishment of check posts and out posts in strategic locations, development and launch of the Immigration Information System, empowerment of regional immigration offices through administrative and financial decentralization.

Despite the tangible progress made some of the challenges foreseen in the Tenth Plan are the shortage of well trained manpower, absence of an immigration act, and the absence of adequate and proper infrastructure such as detention centers.

C. Strategy

The main objectives of the Department of Immigration are to strengthen the security of the country, professionalize immigration services, strengthen immigration inspection management, and improve and simplify immigration procedures. In the Tenth Plan the Department of Immigration intends

to meet the above objectives through infrastructure development and capacity building at all levels. The department will also develop information sharing linkages between the head quarters, regional offices, check posts and outposts using ICT.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Security of Bhutan Strengthened	Capacity and Efficiency of the Department of Immigration strengthened at all levels to	i. Immigration Services Professionalized ii. Infrastructure Developed iii. Immigration procedures simplified iv. Immigration inspection management strengthened	Strengthening of Immigration Inspection System ii. Development and Renovation of Infrastructure at HQ and Regional Offices iii. Strengthening of Information Communication System

E. Management Arrangements

Institutional Arrangements

The Department of Immigration and the Regional Immigration Offices will be responsible for the implementation of the plans.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Strengthening of Immigration Inspection System	8.500
2	Infrastructure Renovation for Existing HQ	16.500
3	Infrastructure development for Regional Offices	25.000
4	Strengthening of Information Communication System	4.000
5	Promotion, Awareness and Regulatory and Policy Instrument	3.000
	Total	**57.000**

MHCA/03: DEPARTMENT OF CIVIL REGISTRATION AND CENSUS

A. Overview

1	*Sector*	*:*	*Civil registration and Census*
2	*Linkage to National Development Objectives & Strategies*	*:*	*To safeguard national security through strengthening immigration security*
3	*Expected Results*	*:*	*Effective and Efficient implementation of Nationality Laws, Citizenship Act, by laws and National Assemble Resolutions*
4	*Relevant MDG & SDG*	*:*	
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*General Bhutanese Population, Non-Bhutanese*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*New*

9	Tentative Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 100.455 m
11	External Financing Required	:	Nu. 100.455 m
12	Executing Agency	:	Ministry of Home and Cultural Affairs
13	Implementing Agencies	:	Department of Civil Registration and Census
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The Department of Civil Registration and Census was established after the bifurcation of the Department of Registration in 2004. The department is responsible for the implementation of Nationality Laws, Citizenship Acts, by-laws and National Assembly resolutions, build and manage population data.

Some of the key achievements during the Ninth Plan were the completion of the Citizenship Authentication Exercise in all 20 Dzongkhags, computerization of 400 family registers and 1.2 million pages of individual information, development of the Bhutan Civil Registration System (BCRS), issuance machine readable Citizenship Identity Card, Creation of the Naturalization Committee, and the carrying out of the Population and Housing Census of Bhutan in 2005.

The challenging constraints faced by the department are the lack of adequate qualified staff, lack of adequate office space. The main objectives for the Tenth Plan are as follows:

- To implement the Nationality Laws, Citizenship Acts, by-laws and National Assembly resolutions;
- To streamline procedures for better delivery of services;
- To issue nationality documents and Special Residence Permit (SRP);
- To control and manage national population data;
- To put relevant legal instruments in place;
- To develop infrastructure; and
- To build comprehensive population data.

C. Strategy

The strategic objectives of the Tenth Plan for the Department will be met through the enhancement of the BCRS, sustained issuance of Citizenship Identity Cards, development of a dataase and system for issue of SRPs, development of infrastructure, human resources and ICT, enactment of the Civil Registration Act, Citizenship Authentication Exercises, bringing about the uniformity of procedures.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Security of Bhutan Strengthened	National Laws, Citizenship Acts, by-laws, and, National Assembly Resolutions effectively and efficiently implemnted	i.Procedures for better delivery of services streamlined ii. Capacity of staff built iii.Adequate infrastructure developed iv.Means of Communication and information sharing improved	i.Installation of Information System ii.Issuance of Citizenship ID Cards iii.Improvement of Existing BCRS iv.Development of System of Issuance of SRPs v.Development of Infrastructure and Human Resources vi.Research and Publication vii.Development and implementation of Policy and Regulatory Frameworks viii.Authentication of Citizenship and Census related cases

E. Management Arrangements

Institutional Arrangements

The Department of Civil Registration and Census will be the responsible for the implementation of the plans.

Indicative Cost

#.	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Information System Installation	18.000
2	Issuance of Citizenship Identity Card	34.255
3	Improvement of existing Bhutan Civil Registration System	12.000
4	Development of System and Issuance of Special Residence Permit	2.700
5	Infrastructure Development	28.50
6	Research and Publication	1.500
7	Regulatory and Policy framework	2.000
8	Project 9: Authentication of the Citizenship and Census related aspects	1.500
	Total	**100.455**

MHCA/04: DISASTER RISK MANAGEMENT

A.Overview

1	*Sector*	*:*	*Disaster Management*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Environment sustainability*
3	*Expected Results*	*:*	*An effective and efficient disaster risk management mechanism established to move towards a disaster-resilient nation*

4	Relevant MDG & SDG	:	MDG Goal 1: Eradicate poverty MDG Goal 7: Ensure Environment Sustainability
5	Donor Agency	:	
6	Target Group	:	Vulnerable regions, dzongkhags and gewogs and communities
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 33.180 m
11	External Financing Required	:	Nu. 33.180 m
12	Executing Agency	:	Ministry of Home and Cultural Affairs
13	Implementing Agencies	:	Department of Disaster Management, Ministry of Home and Cultural Affairs
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Bhutan lies in one of the most seismically active zones of the world. Besides, the rugged mountain terrain, fragile geologic conditions and extreme climates make it inherently vulnerable to natural disasters such as flash floods land-slides and forest fires. Additionally, the presence of a vast number of glaciers and glacialand snow fed lakes in the north of the country also make Bhutan highly vulnerable to the occurrence of Glacial Lake Outburst Floods (GLOF). This is particularly pertinent as the majority of Bhutan's population and infrastructure development is concentrated in valleys that would be highly vulnerable to GLOFs that could cause great human and economic devastation.

Since the participation of Bhutan in the World Conference on Disaster Reduction (WCDR) held in Kobe, Japan in January 2005 and the adoption of the Hyogo Framework for Action, the Royal Government has been consciously working towards devising an appropriate national disaster risk management framework to secure and safeguard the lives and livelihood of the people and its national development assets.

The Department of Disaster Management, Ministry of Home and Cultural Affairs is the focal agency for disaster management at the national level. It is entrusted to coordinate all disaster management activities in coordination with relevant sectors.

The National Disaster Risk Management Framework was approved by the Lhengye Zhungtshog in 2006 and has been distributed throughout the country. Following that a number of consultative workshops were conducted and guidelines for disaster management planning have been prepared and distributed such as the Draft National Disaster Management Bill, National Disaster Management Planning Guidelines, Dzongkhag Disaster Management Planning Guidelines, School Disaster Management Planning Guidelines and the Comprehensive Disaster Management Manual.

C. Strategy

Key strategies of the Disaster Risk Management Programme are:

- Create an enabling environment for disaster risk reduction through a multi-sectoral approach;
- Build capacity of sectors and the dzongkhags right down to the community levels for disaster risk management;
- Enhance disaster preparedness at all levels;
- Strengthen response and early warning systems;
- Raise awareness on disaster risk management at all levels; and
- Mainstream disaster risk reduction concerns in all development activities and in all walks of socio-economic life.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Effective and coordinated disaster management preparedness, response and ability to conduct relief activities to ensure a disaster resilient nation	Create an enabling legislative framework for disaster risk management	Disaster Management Bill, guidelines for planning, risk assessment, compensation and relief etc	Project 1: Regulation and Policy Strategies
	Capacity building of disaster management responders/ professionals at all levels	Capacity of national focal institutions and their staff developed	Project 2 :Disaster information System
		Training of disaster management committee members, officers, cadres and agencies entrusted with disaster mitigation, preparedness and response related activities initiated at the dzongkhag level	
		Capacity of local communities in disaster prevention, preparedness and response built	
		Partnership with national, regional and international institutions for capacity building support in place	
	Improved access to information and data on disasters	Disaster information System and data base in place	Project 3: Regulation and Policy Strategies
	Inculcate a culture of disaster preparedness and risk reduction at all levels of society	Raise public awareness on disaster risk preparedness and recovery at all levels	Project 4: Earthquake Risk Reduction & Recovery Preparedness Project
		Increase awareness and preparedness levels of all disaster management authorities/ committees and build community resilience	

		Raise awareness in schools and implement through the formulation of School Disaster Management Plan (SDMP) and the conduct of mock drills	
		Facilitate sharing and exchange of national and regional information, lessons and best practices	
	Establish an effective disaster communication network to provide speedy information and decision making during a disaster	Initiate establishment of Emergency Operation Centres and disaster/ emergency communications in the Dzongkhags	Project 5: Emergency/ Disaster Communication
	Sustainable Financial Mechanism in place	His Majesty's Relief Fund	Project 6: Sustainable Financial Mechanism for Disaster Management
		National Disaster Mitigation and Preparedness Budget (NDMPB) established	
		Major Disasters (Emergency Fund) founded	
	Effective multi hazard disaster preparedness and response plans developed	Multi-Hazard Atlas developed	Project 7: Multi Hazard Atlas and Plans
		Dzongkhag and community disaster management plans developed	

E. Management Arrangements

Institutional Arrangements

The Department of Disaster Management in the Ministry of Home and Cultural Affairs shall be responsible for coordination and management of all disaster management activities.

The Department shall coordinate and collaborate with the relevant stakeholders such as Ministry of Works and Human Settlement, Ministry of Education, Ministry of Health, Ministry of Agriculture, National Environment Commission, Dzongkhag and Gewog Administrations etc. and the Dzongkhags and the communities for planning and implementation of various initiatives on disaster management.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Disaster mitigation and preparedness trainings	13.000
2	Disaster information System	2.000
3	Regulation and Policy Strategies	2.000
4	Earthquake Risk Reduction and Recovery Preparedness	6.680
5	Emergency Disaster Communication	4.500
6	Sustainable Financial Mechanism for Disaster Management	2.000
7	Multi Hazard Atlas and Plans	3.000
	Total	**33.180**

MINISTRY OF INFORMATION AND COMMUNICATIONS

MIC/01: ICT AND POSTAL DEVELOPMENT

A. Overview

1	*Sector*	:	*Information and Communications Technology*
2	*Linkage to National Development Objectives & Strategies*	:	*Vision 2020: Emerging as a ICT proficient and Knowledge Based Society* *Vitalizing Industry and National Spatial Planning (Balanced and equitable socio-economic development) for poverty reduction*
3	*Expected Results*	:	*An efficient ICT backbone and access infrastructure for basic ICT and postal services*
4	*Relevant MDG & SDG*	:	*MDG Goal 8: In cooperation with the private sector make available the benefits of new technologies, especially information and communication technology* *SDG Goal 7: Strengthening connectivity of poorer regions and of poor as social groups*
5	*Donor Agency*	:	
6	*Target Group*	:	*National*
7	*Scope*	:	*National*
8	*Status-Ongoing or New*	:	*Ongoing/New*
9	*Timeframe*	:	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	:	*Nu. 2,330.000 m*
11	*External Financing Required*	:	*Nu. 2,330.000 m*
12	*Executing Agency*	:	*Ministry of Information and Communications*
13	*Implementing Agencies*	:	*Department of Information Technology, MoIC*
14	*Documents Available*	:	*Bhutan ICT Policy and Strategies (BIPS), ICT Technical Guidelines for the Tenth Plan, Sector Tenth Plan, National Broadband Network Master Plan for Bhutan, Private Sector Development Project Appraisal Document, Bhutan Information, Communications and Media Act 2006. Information, Communications & Transport Sectors in Bhutan: A Special Report 2007*

B. Situational Analysis

The Information and Communication Technology (ICT) sector is now beginning to play a key role in enhancing socio-economic development and there has been significant progress made in different fields of the ICT sector. All 20 Dzongkhags and 199 of the 205 Gewogs are connected to the national fixed-line telecommunications network. The number of fixed-line subscribers in the country stands at 29,000 as of June 2008. Mobile cellular service is available in all twenty Dzongkhags and major highways inter-linking them. The number of mobile subscribers is 229,000 as of June 2008. Local Area Network (LAN) has been established in all the Dzongkhags and a Wide Area Network (WAN) intranet connecting most public agencies in the capital city is being set up. Broadband services using VSAT and ADSL technologies are being offered in major towns. Community Information Centers (CICs) have been established in about 39 Gewog centers to facilitate community access to online public information and services. A National TV Center has also been constructed to cater to the physical infrastructure needs of the broadcast industry.

Many government agencies have web pages and internal office works computerized while some have initiated web based and ICT facilities to provide public services. However, coordination between

the agencies needs to be strengthened in order to provide common platform ICT application systems both within and outside the government to optimize the benefits of ICT. E-services and e-businesses are restricted by the lack of online payment systems and very limited private sector initiatives. The ICT private sector is in its infancy and the domestic ICT market is still very small. Most of the existing ICT enterprises deal with hardware supply and maintenance. ICT business and market in the development of software products and services has yet to take off Furthermore, There is also a lack of adequate ICT and knowledge-workers.

Regulatory environment to encourage the use and development of ICT has already been put in place. The Telecommunications Act was passed in 1999 and the Copyright Act in 2000. The Bhutan Information, Communications and Media Act has also been passed in 2006. The institutional capacity to regulate and support the ICT sector is also being strengthened by establishing and building up organizations with such relevant mandates.

Given the current situation of the sector, there are many opportunities and challenges in developing the sector in the fields of ICT infrastructure, content and applications, human resources and ICT enterprises. For ICT to make a significant difference in the lives of the poor and also facilitate the gradual formation of a knowledge based society as envisioned in the Bhutan Vision 2020, much more remains to be done even as specific interventions are being undertaken.

C. Strategy

The RGoB recognizes the imperative to harness ICTs for poverty reduction, sustainable development and the emergence of a knowledge based society. ICT can help achieve the poverty reduction target set for the Tenth Plan through its power to create and transfer knowledge, improve the efficiency and transparency of institutions and markets, and facilitate the participation and empowerment of the poor. Information access and the dissemination of ICT equitably is highly necessary to prevent the emergence of a digital divide that could actually exacerbate poverty and inequality as income and wealth in a modern society are strongly linked to those with and without information and ICT knowledge. Thus, ICT has been recognized as a tool to help reduce poverty in the Tenth Plan.

The Bhutan ICT Policy and Strategies (BIPS), which gives a clear direction for the various sectors to harness the potential of ICT, have been developed and are being implemented. The Tenth Plan gives high importance to mainstream ICT in its developmental. Different sectors, both at the central and district levels, have been guided to formulate ICT- driven and projects through the ICT technical guidelines.

The Department of Information Technology (DIT) will spearhead the further development of the ICT sector by improving its infrastructure with the existing network of nationwide ICT backbone network continually upgraded and expanded. The DIT will further expand nthe development of e-services. This will help improve efficiency in the flow of information between governmental agencies and speed up the service delivery to the public. Community information centers will also be established to take ICT services to the grassroots and community levels. Support for improvement of Gewog and rural mail delivery services will also be given priority.

Due importance will also be given to bring up the infant ICT private sector to explore and invest in the ICT sector to generate employment, which will benefit both the private sector and job seekers. Measures to build the capacity of ICT human resources are also accorded high priority in the Tenth Plan. The establishment of business process outsourcing units (e.g. contact/call centers), cyber/IT Park and ICT Research & Training Center will be undertaken through public-private partnerships to improve the current situation of slow growth in ICT industry and the lack of ICT knowledge and skills.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Gradual emergence of an Informed and knowledge based society, leading to improved living standards of people and sustainable socio-economic development	Access to reliable and affordable ICT infrastructure and services capable of delivering e-services to all Gewogs	National ICT network infrastructure developed	Establishment of In-country data gateway Implementation of the National Broadband Network Master Plan
	Sustainable community-level access to basic ICT & postal services	Community information centers established & capacity developed Postal services to all Gewogs/ Chiwogs	Support extension of telecommunication services to all Chiwogs Establishment of CICs in the Gewogs & capacity development Support provision of postal services in rural areas
	Vibrant growth of ICT industry with employment generation promoted	Private players in ICT industry supported and areas of ICT industry development explored ICT services standards maintained through proper regulation	Support to establishment of high value call centers Establishment of Cyber/IT Parks Establishment of a National ICT Research & Training Center Expansion of an IT hub in Kanglung
	Effective and efficient E-governance applications in use	Basic e-services put in place	Government intranet applications development Public service applications development
	Timely flow of information	Emergency communication in place	Set-up emergency communication system

E. Management Arrangements

Institutional Arrangements

The DIT, Ministry of Information and Communication will manage the Projects/Activities, while the relevant sectors will collaborate during their implementation.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	In-country data gateway establishment	235.000
2	Implementation of National Broadband Network Master Plan	950.000
3	Establishment of Community Information Centers(CICs) in the Gewogs	220.000
4	Support Establishment of Business Process Outsourcing (BPO) Units	15.000
5	Establishment of -IT Parks at Wangchhutaba	200.000
6	Establishment of ICT Research & Training Center	150.000
7	E-governance	500.000
8	Expansion of an IT Hub in Kanglung	50.000
9	Support provision of postal services in rural areas	10.000
9	Support extension of telecommunication services to all Chiwogs	00.000
10	Setting up Emergency Communication System	0.000
	Total	**2,330.000**

MIC/02: DEVELOPMENT OF AIR TRANSPORT

A. Overview

1	*Sector*	*:*	*Air Transport*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Expanding Strategic Infrastructure for balanced and equitable socio-economic development and poverty reduction*
3	*Expected Results*	*:*	*Better access to safe, reliable and efficient air transport service*
4	*Relevant MDG & SDG*	*:*	*SDG Goal 7: Strengthening connectivity of poorer regions and of poor as social groups*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*National*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*Ongoing/New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 984.570 m*
11	*External Financing Required*	*:*	*Nu. 984.570 m*
12	*Executing Agency*	*:*	*Ministry of Information and Communications*
13	*Implementing Agencies*	*:*	*Department of Civil Aviation, MoIC*
14	*Documents Available*	*:*	*Sector Tenth Plan, Civil Aviation Master Plan, Domestic Airport Master Plan*

B. Situational Analysis

Even as civil aviation activities in Bhutan were intiated recently, basic infrastructure now exists for the smooth operation of air transport. Activities during the Ninth Plan focused on improving the services at Paro international airport to meet its growing requirements and to enhance safety in air transport services. The feasibility studies to construct domestic airports in Eastern, Central and Southern part of the country was undertaken during the Ninth Plan and the Domestic Airport Master Plan for Geyltsa, Bathbalathang, Bartsham, Younphula and Phuentsholing are now in place.

The Department of Civil Aviation (DCA) at present is both the regulator and provider of aerodrome and air navigation services. There is no clear separation of regulator and service provider functions, causing ambiguities and overlaps at times. However, in line with the Civil Aviation Master Plan (CAMP) recommendations, the process to create clear structural and functional separation between the regulatory and service provider (airports and air navigation) functions has already been intiated. This process would in the near future culminate in the creation of an autonomous civil aviation authority.

Druk Air, the sole air operator in the country, operates to six destinations in four countries. Flight operation into Paro International Airport though is possible only during daytime under Visual Flight Rules (VFR) conditions which limits its operational efficiency. Low monsoon clouds continue to cause flight disruptions and during the winter months until mid-May, high velocity winds do not permit flight operations into Paro in the afternoons.

The operation of international air transport service is governed by the rights and privileges agreed in the Bilateral Air Service Agreement and Bhutan at present has such agreements with five countries – India, Nepal, Bangladesh, Thailand and Myanmmar. International air transport activity in the country is totally confined to Paro airport. The existing airport terminal infrastructure, grossly underutilized during normal operations can barely accommodate increased passengers resulting from additional flights operated during peak tourist seasons. Service delivery standards at the airport are continuously being improved. Recent measures introduced include providing more immigration counters, clubbing passenger service charges with the airfare and combining immigration and customs declaration forms.

Despite concerted efforts put in during the Ninth Plan, domestic air services have yet to be launched. Extra effort will have to be made to improve the existing infrastructure at Paro Airport as well as to construct the domestic air strips and introduce domestic helicopter service in the country.

C. Strategy

To improve the current situation of air transport sector, the Department of Civil Aviation will focus on the development and expansion of air transport infrastructure. The construction of domestic air ports in Trashigang, Bumthang and Gelephu shall be encouraged through public-private partnership model during the Tenth Plan. Minimum facilities and services at designated heliports will also be established and private sector participation in the air transport business encouraged by providing necessary and facilities to introduce helicopter services. Human resource capacity to efficiently run the service shall also be built up.

The development of Paro international airport shall assume a high priority in the Tenth Plan. Security and airport safety will be strengthened and navigation aid and communication technologies will be improved. The capability to respond to emergency situations will also be enhanced and permanent river protection works will be done for the safety of the airport from any disastrous risks. With the establishment of a variety of air transport services in the Tenth Plan, importance will also be given to accordingly develop safety measures like security surveillance system, emergency response and search & rescue capabilities.

The exploration for bilateral, regional and international cooperation for air transport services will continue to be a regular activity in the development of the sector. The regulatory, safety and security framework will be continuously amended and aligned on an ongoing basis to achieve compliance with the latest international standards and requirements.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Contribution to national economy increased	Safe, reliable and sustainable air transport services Internationally consistent aviation safety, security and standards in place Greater domestic mobility among people/ Freight Efficient and effective response to emergencies Improved and increased international access	Efficient aviation legislative and regulatory framework developed and enforced Domestic air services introduced Infrastructure and facilities at Paro International Airport expanded and enhance Air safety and emergency response capability enhanced	Review and revise existing Laws, Regulations, Standards and Procedures Establishment of Domestic Air Services Search & Rescue, and Medical Evacuation capability Development of Paro International Airport Public Service Delivery at Paro Airport Development of DCA Institutional Facilities

E. Management Arrangements

Institutional Arrangements

The Department of Civil Aviation, Ministry of Information and Communications will coordinate the implementation of the programme under the overall execution of the Ministry of Information and Communications.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Establishment of domestic air services**	**42.000**
1.1	Infrastructure development for helicopter services	12.000
1.2	Support to operationalization of helicopter services	30.000
2	**Construction of domestic air strips, terminal building, control tower, etc. in Trashigang, Bumthang and Gelephu**	**206.000**
2.1	Feasibility study and preparation of master plan(Gelephu)	6.000
2.2	Acquisition of Land and payment of compensation (Bumthang)	200.000
3	**Expansion of Paro International Airport**	**736.570**
3.1	Infrastructure expansion	285.000
3.1.1	Passenger terminal expansion	120.000
3.1.2	Expansion of runway width	100.000
3.1.3	Strengthening of existing apron and taxiways and construction of aircraft turning pad	45.000
3.1.4	Car parking expansion	20.000
3.1.5	Cross runway	0.000
3.2	Permanent river protection works	174.370
3.3	Procurement of runway safety vehicles	15.000
3.4	Improve communication and navigation aid technology	83.700
3.5	Strengthening airport security	30.000
3.6	Enhancement of emergency response capability	140.000
3.7	Improvement of public service delivery – Paro	2.500
3.8	Airport maintenance	0.000
3.9	Development of DCA Institutional Facilities	1.000
3.10	Establishment of search & rescue center	5.000
	Total	**984.570**

MIC/03: DEVELOPMENT OF SURFACE TRANSPORT

A. Overview

1	*Sector*	*:*	*Surface Transport*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Balanced and equitable socio-economic development for poverty reduction through improved transport connectivity*
3	*Expected Results*	*:*	*Improved access to efficient, safe, reliable and affordable transport services*
4	*Relevant MDG & SDG*	*:*	*SDG Goal 7: Strengthening connectivity of poorer regions and of poor as social groups*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*National*
7	*Scope*	*:*	*National*

8	*Status-Ongoing or New*	:	*New/Ongoing*
9	*Timeframe*	:	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	:	*Nu. 325.400 m*
11	*External Financing Required*	:	*Nu. 325.400 m*
12	*Executing Agency*	:	*Ministry of Information and Communications*
13	*Implementing Agencies*	:	*Road Safety and Transport Authority, Dzongkhags, Municipal Authorities, Department of Roads, Private operators*
14	*Documents Available*	:	*Draft Surface Transport Development Plan, Sector Tenth Plan*

B. Situational Analysis

Surface transport is the principal mode of passenger and freight transport in the country. Demand for transport services has been increasing gradually with the increase in road network and other development activities. To streamline and integrate the transport system, the Road Safety & Transport Authority (RSTA) was established in 1997 and mandated with responsibilities related to administration of vehicle registration, roadworthiness programme, driver licensing, emission control, and monitoring and regulating passenger transport services. Transport services are delivered and enforced through the RSTA's four regional offices, which are further supported by the base offices covering most Dzongkhags. Transport infrastructure, primarily in the form of integrated passenger terminal and bus sheds is available at the four regional offices.

Passenger transport services are available in 18 of the 20 Dzongkhags with the exception of Pemagatshel and Gasa. Accessibility and equity of passenger transport services are ensured through subsidies to private operators for operation of services on non-profitable routes. Public transport services in the capital city of Thimphu have improved with Bhutan Post increasing the number of public buses to fourteen. Taxis services are also available in all urban centers in addition to personalized transport.

Service delivery in the transport sector has seen significant improvements. On-line sharing of information concerning passenger transport services, vehicles, drivers and other related information are now available. Similarly, vehicle registration and roadworthiness system, driver licensing and emission testing facilities have also been streamlined and these are continuously being improved. Considering the rapid increase in the number of vehicles, road safety issues are being given due importance. Feasibility study to establish railway links to the border towns are have been undertaken and the Golden Jubilee Railway link to Phuntsholing is planned for execution in the Tenth Plan period.

Despite the very important role which the transport sector plays in supporting the socio-economic development of the country, the quality, quantity and accessibility of transport infrastructure and services is still far from adequate. The sector therefore, needs improvement in several areas.

Passenger transport services in remote areas are either inadequate or unreliable, mainly due to high operating cost, seasonal flow of passengers and low earnings. This is also the case for urban transport services given the dramatic increase in private vehicle ownership. Problems related to traffic congestion, high rate of road crashes and environmental pollution continues to increase. Traffic enforcement is low due to the lack of trained enforcement professionals, safety equipment and limited mobility. Road safety measures and public awareness call for greater attention, and post accident management capacity needs urgent enhancement.

While there has been a dramatic increase in the number of motor vehicles in the country, the road network has increased only marginally. For this reason, the need for introducing alternative modes of mass transport has also become urgent. Transportation costs and travel time are very high and the freight and logistics industry requires greater streamlining and development. The surface transport infrastructure is also highly inadequate. Bus terminals and sheds need to be constructed and renovated for better service coverage in several regions of the country. Disabled friendly transport facilities are not currently provided at bus terminals and public amenities along the national highways do not exist. Although the basic legal and policy framework for motor vehicle regulation is already in place, gaps exist in certain areas such as the lack of regulations pertaining to the operation of automobile workshops. The delivery of public service is yet another area requiring careful attention.

C. Strategy

The surface transport sector activities will be guided by its overall policy objective to improve access to safe, reliable, affordable, convenient, environment-friendly, responsible and high quality transport system by minimizing constraints to the mobility of people, goods and services.

In order to achieve the above broad objective, the RGoB will continue to improve and provide equitable and affordable passenger transport services in terms of coverage and frequency of services in remote areas, inter-Dzongkhag routes, and urban areas through appropriate subsidy models. City services will also be launched in other urban centers and the quality of services will be closely monitored and the private operators encouraged to introduce better and comfortable buses in their transportation fleet. Other strategic activities to be implemented include:

- Developing and expanding existing transport infrastructure through construction of new bus terminals, and up-gradation of the existing terminals and associated facilities. This will also include facilities for disabled;
- Expansion of urban transports services and deploying additional buses in major towns to minimize use of private vehicles with measures introduced to discourage use of private vehicles and trucks into core city centres;
- Exploring options for alternative mode of freight and passenger transport, including the development of eco-friendly mass urban transport such as electric trolley buses, light rail system, waterways and ropeways;
- Improving road safety and diversify the choice of transport mainly to address the current problem of traffic congestion; and
- Promoting road safety to minimize road traffic accidents through cooperation and collaboration among stakeholders, improvement of road traffic management and information network system including road signs, promotion of safer roads, education of road users including pedestrialns and development of safer vehicle by introducting computerized vehicle testing facilities.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Poverty reduction and higher living standards through improved surface transport services	Safe, clean and affordable transport system Reduce traffic congestion and environment pollution through introduction of alternative modes of transport Reduced time for delivery of public services Increased access to public transport in the remote villages	Improved access to public transport services in rural and urban areas Responsible drivers and road users Deployment of ICT and ICT-enabled services and institutional capacity developed Regulatory framework in place for better enforcement including vehicle emission standards Search and Rescue team operational, providing timely and quality services Feasibility study for alternate mode of transport carried out and pilot projects implemented Regulatory framework developed and enforced	Development and expansion of surface transport infrastructure such as bus terminals, bus sheds, public toilets, wheel chair ramps, etc Procurement of road safety and communication equipments, and promote road safety education and awareness, and Intelligent Transport System Provide subsidy to non-profitable areas and expansion and introduction of urban transport services Feasibility study for alternate modes of transport such as ropeways, railway links, trolley buses, sky train, etc Strengthening institution through development of regulatory framework, research & development, and establishment of regional base offices Service delivery

E. Management Arrangements

Institutional Arrangements

The Road Safety and Transport Authority (RSTA) under the Ministry of Information and Communications will be the overall execution and implementation of the Programme. The RSTA will also closely collaborate with relevant agencies such as Traffic Police, Ministry of Works and Human Settlements, Municipal Authorities and Dzongkhags.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Development and expansion of transport services**	**195.500**
1.1	Subsidy for non-profitable routes	5.000
1.2	Expansion and introduction of urban transport services	26.000
1.3	Construction of new bus terminal in Thimphu for inter-city public transport	34.000
1.4	Development of new bus terminals cum offices	96.000

1.5	Renovation and up-gradation of existing bus terminals	10.000
1.6	Construction of bus sheds, public toilets,	4.000
1.7	Consultancy works for infrastructure development	20.000
1.8	Construction of wheel chair ramps in the bus terminals	0.500
2	**Road safety**	**52.500**
2.1	Road safety awareness and education	10.000
2.2	Road safety & communication equipment, and search and rescue equipment	35.000
2.3	Intelligent transport system	7.500
3	**Strengthening institutional capacity**	**58.400**
3.1	Road safety and transport research, development of regulatory framework and promote ICT usage for effective service delivery	21.000
3.2	Computer based driving testing system	5.000
3.3	Establishment of Regional Office in Mongar, 4 Base Offices and miscellaneous establishment cost for RSTA in general	15.000
3.4	Framework and facility for disposal/dumping of vehicle scraps	0.000
3.5	Disaster Management Plan	17.400
4	**Alternate modes of transport**	**19.000**
4.1	Feasibility study for other modes of transport including eco-friendly transport systems such as ropeways, trolley buses, sky train and light rail system	9.000
4.2	Railway feasibility study for remaining 4 border towns	0.000
4.3	Feasibility study for ropeways	10.000
4.4	Establishment of railway link between Hasimara and Phuentsholing	0.000
	Total	**325.400**

MIC/04: INFORMATION AND MEDIA DEVELOPMENT

A. Overview

1	*Sector*	*:*	*Information and Media*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vision 2020 creation of a knowledge based society and Tenth Plan Strategy of Investing in Human Capital to enhance human capability through knowledge and information*
3	*Expected Results*	*:*	*To create a well informed and media literate society towards building a knowledge based society*
4	*Relevant MDG & SDG*	*:*	*SDG Goal 15: Universal functional literacy*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*National*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 112.000 m*

11	External Financing Required	:	Nu. 112.000 m
12	Executing Agency	:	Ministry of Information and Communication
13	Implementing Agencies	:	Department of Information and Media, Private media industry
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The Bhutanese media has developed significantly since the establishment of the Bhutan Broadcasting Service Corporation (BBSC) and Kuensel Corporation in the 1980s. In 1999, television and Internet services were also introduced in the country, and today media has begun to develop in various forms of print, broadcast and multimedia.

Official print media, today, consists of three newspapers: Kuensel, Bhutan Times and Bhutan Observer. While Kuensel is the pioneer print media and the only newspaper in the country until recently, Bhutan Times, Bhutan Observer and Bhutan Today have been established. Kuensel is a bi-weekly newspaper sold nationwide with its content both in English and Dzongkha. Bhutan Times is also a bi-weekly newspaper with its content only in English. Bhutan Observer is published weekly with its content in both English and Dzongkha. Bhutan Today is a daily.

Four stations now provide radio services. In addition to BBSC, three new private radio stations, Kuzoo FM, Radio Valley and Bhutan's Centennial Radio's, have been recently established. Television service has also seen significant development. Today there are cable television services in 19 of the 20 Dzongkhags in the country and the cable TV operators provide about 40 different channels. BBSC is the main channel that telecasts local news and national while some operators maintain their own channels. The film industry while still in its infancy, the number of Bhutanese films produced has been increasing. The industry however still faces challenges of limited domestic market and the lack of skilled people and professionals in the industry.

In view of the important role played by this sector, the Government has created the Department of Information and Media (DoIM) under the Ministry to coordinate and steer the development of media in the country.

C. Strategy

With the increasing role and impact of media in the development of society, the Ministry of Information and Communications will bolster the media sector by establishing standards and regulatory frameworks in place for media productions thorough coordination and consultation with the stakeholders. Additionally, it will also promote and create awareness on information and media for the general public and students. Foreign media content will be carefully regulated to prevent undesirable effects on Bhutanese society and social values and culture and to this end the development of local information and media content given due importance. Private media enterprises will also be encouraged and promoted, by helping them to develop their human resources to facilitate employment and income generation opportunities.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
A well-informed and media literate society created	Easy access to information and media by the public Responsible media created	Increased awareness and access to information and media Local content developed and promoted Private media industry increased and quality improved	Information and Media literacy awareness Development & promotion of local contents Promotion of public access to information & media Promotion of independent media industry

E. Management Arrangements

Institutional Arrangements

The Department of Information and Media under the Ministry of Information and Communications will be the overall execution and implementation of the programme. The department will also closely collaborate with the media industry and other relevant agencies.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Information and media literacy**	**9.000**
1.1	Nation-wide information & media literacy awareness	3.000
1.2	Information and media education in schools	3.000
1.3	Development of an appropriate media model in Bhutan	3.000
2	**Development and promotion of local content**	**17.00**
2.1	Review of national policy and strategy on local content	2.000
2.2	Development and promotion of local content	15.000
3	**Promotion of public access to information and media**	**9.000**
3.1	Support establishment of 3 pilot community FM radio stations	9.000
4	**Promotion of an independent media industry**	**60.000**
4.1	Support public and private media enterprise, including enhancing professionalism of media personal	60.000
5	**Disaster management plan**	**12.000**
6	**E-governance content**	**5.000**
	Total	**112.000**

MINISTRY OF LABOUR AND HUMAN RESOURCES

MLHR/01: HUMAN RESOURCE DEVELOPMENT PROGRAMME

A. Overview

1	Sector	:	Human Resources
2	Linkage to National Development Objectives & Strategies	:	Employment promotion and poverty reduction
3	Expected Results	:	To improve the quality of VET Increase access to VET
4	Relevant MDG & SDG	:	MDG Goal 1:Eradicate extreme poverty and hunger MDG Goal 8: Target 14: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth SDG Goal 1 and 2: Eradication of hunger poverty, halve proportion of people in poverty by 2010
5	Donor Agency	:	
6	Target Group	:	Educated youths coming out from formal education system In-service candidates of private and corporate sector
7	Scope	:	Nation-wide
8	Status-Ogoing or New	:	Ongoing/New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Costs	:	Nu. 164.614 m
11	External Financing Required	:	Nu. 164.614 m
12	Executing Agency	:	Ministry of Labour & Human Resources
13	Implementing Agencies	:	Department of Human Resources
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Currently there is a dire shortage of skilled and qualified manpower in the country. Therefore, the focus is to increase the supply of skilled and trained job seekers who could be employed both in the public and private corporations. Over the Tenth Plan period, it is estimated that there would be about 63,000 youths completing classes 10 and 12 and entering the labour market. They need to be trained and equipped with relevant skills to make them employable.

The Department of Human Resources under the Ministry of Labor and Human Resources is currently carrying out vocational skills development activities at two levels namely pre-service vocational education and training (VET) and skill up gradation training for in-service candidates from private and corporate sector agencies. There are currently 6 Vocational Training Institutes (VTIs) and 2 Zorig Chusum Institutes.

C. Strategy

The need to train both pre-service and in-service candidates on skills development will receive further priority attention in the Tenth Plan. In order to minimize increasing unemployment problems, the sector will increase access to VET and improve the quality of VET. Expanding training and establishing new institutes and exploring other alternate modes of trainings will further increase the intake capacities of the institutes. The VET system will also be improved to respond to the skills demands of the labour market. This will help in increasing the relevance of vocational training for imparting quality skills to trainees.

As the growing unemployment situation is largely to be addressed through private sector gorwth and development, the strengthening of capacities of private and corporate sectors will be enhanced to expand their businesses and provide employment opportunities. As such, an umbrella policy that streamlines all HRD activities is required to develop relevant skilled human resources that is responsive to changing labour market trends.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Attain full employment for educated youth	Youth have access to VET which are of high quality and market oriented School leavers/ Villagers have adequate opportunity for VET Needs of Human Rersource capacity Development in the private sector addressed by developing NHRD policy	Quality of VET improved Access to VET enhanced Increased access to VET in rural areas HRD for private sector supported NHRD Policy developed	Strengthening of vocational education and training Improvement of quality of VET Expansion of access to VET HRD for private and corporate sector

E. Management Arrangements

Institutional Arrangements

The Ministry of Labour and Human Resources is the executing agency and Department of Human Resources is the implementing agency of the programme relating to development of human resources for both pre-service and in-service candidates of private and corporate sectors. The pre-service training will be carried out in the different vocational and Zorig chusum institutes around the country while the capacity development of in-service people will be executed as per the private sector HRD master plan.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Quality Improvement of VET	53.874
2	Expansion of access to VET	88.835
3	HRD for private & corporate sector – both ex & in Country	20.000
4	National HRD Policy	1.905
	Total	**164.614**

MLHR/02: EMPLOYMENT PROMOTION PROGRAMME

A. Overview

1	Sector	:	Employment
2	Linkage to National Development Objectives & Strategies	:	Employment and poverty reduction
3	Expected Results	:	To streamline and strength employment services system that bridges the gap between demand and supply of labour force To establish and strengthen labour market information system
4	Relevant MDG & SDG	:	MDG Goal 1: Eradication of extreme poverty and hunger Goal 8: Target 14: In cooperation with developing countries, develop and implement strategies for decent and productive work for youtht SDG 1: Eradication of hunger poverty SDG 2: Halve proportion of people in poverty by 2010 SDG 4: Ensure a robust pro-poor growth
5	Donor Agency	:	
6	Target Group	:	High school dropout job seekers
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 238.285 m
11	External Financing Required	:	Nu. 238.285 m
12	Executing Agency	:	Ministry of Labour and Human Resources
13	Implementing Agencies	:	Department of Employment
14	Documents Available	:	Labour Force Survey, Labour Market Information Bulletin; Sector Tenth Plan

B. Situational Analysis

The employment challenge in Bhutan is essentially a youth issue with most of the unemployed comprised of young school leavers. Youths normally constitute about half of all those unemployed and their unemployment rates have been increasing from 2.6% in 1998 to 9.9% in 2007. It is estimated that from around 93,000 job seekers during the Tenth Plan, about 63,000 will be those youths dropping out from Class X and Class XII.

The Department of Employment is the sole authority to strengthen the employment promotion services and placements in the country for high school dropouts. The Department is in the process of carrying out employment promotion services and trying to ease the transition from school to work place for job seekers. Efforts to develop and implement strategies are being initiated with a focus on skills development of youth through vocational education. An online registration system for job seekers and employers has been created. To date 377 employers and 2603 job seekers have registered online. A total of 1386 job seekers have been placed in various private and corporate organizations against the total of 2624 job seekers registered with the department.

C. Strategy

Numerous strategies will be adopted to facilitate job seekers in finding employment. A series of awareness workshops for employers and students of middle and higher secondary schools across the country will be conducted to familiarize them on the newly established job portal system. Other ongoing strategies, which include signing of MoUs with the private sector establishments for more job creation, hosting job fairs and simplifying the procedural steps for job seekers to get employment through the sector, will be strengthened. Some new strategies like pre-employment engagement programme will also be carried out to keep job seekers temporarily engaged until they get employed. With the help of entrepreneurship and business advisory programme, youths will be encouraged to start up their own business by providing them with startup grants.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Attain full employment for educated youth	Job seekers have access to efficient and effective placement services	Employment counseling services strengthened	Strengthening of employment placement and counseling -Job matching and placement - Employment counseling Services
	Ample employment opportunities created for school leavers Bhutanese youth have access to employment opportunities thereby reducing unemployment	Employment promotion services strengthened Self-help support services established	
	Mismatch of skills addressed through operation of effective Labour Market Information System	Labour market system strengthened	Enhancement of Labour Market Information System

E. Management Arrangements

Institutional Arrangements

The Department of Employment is the coordinating and lead agency for implementing the programme relating to employment placement and counseling services. The web-based job portal developed by the Department will be used online for job registration and possibly job placement.

To backup the employment promotion services in terms of creating more employment opportunities, apprenticeship training will be provided to the job seekers whereby they acquire the skills and work experience in the field.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Job matching and placement services	4.400
2	Employment counseling services	2.830
3	Employment creation services	190.391
4	Labour market Information services	5.084
5	Entreprenurship training and advisory services	21.920
6	Small business resource center	9.160
7	Feasibility of business incubator	4.500
	Total	**238.285**

MLHR/03: IMPROVEMENT OF WORKING CONDITIONS AND LABOUR RELATIONS AT THE WORKPLACES

A. Overview

1	*Sector*	*:*	*Human Resources*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Employment promotion and poverty reduction*
3	*Expected Results*	*:*	*To institutionalize labour administration system* *To establish relations, inspection system, and occupational health and safety standards* *To streamline and strengthen foreign workers' employment system*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradication of extreme poverty and hunger* *MDG Goal 8: Target 14: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth* *SDG 1: Eradication of hunger poverty* *SDG 2: Halve proportion of people in poverty by 2010* *SDG 4: Ensure a robust pro-poor growth*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*All labour force*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 86.150 m*
11	*External Financing Required*	*:*	*Nu. 86.150 m*
12	*Executing Agency*	*:*	*Ministry of Labour and Human Resources*
13	*Implementing Agencies*	*:*	*Department of labour*
14	*Documents Available*	*:*	*Labour and Employment Act, Labour Administration Policy; Sector Tenth Plan*

B. Situational Analysis

A key reason for unemployment in Bhutan is the reluctance of young job seekers to take up jobs in the private sector due to the unattractive working conditions and environment. The Department of Labour aims to enhance the working conditions and labour relations at the work place. The Royal Government has approved the labour administration policy and this clearly provides the policy outlines on the broad functions of labour administration including labour protection, labour relation, employment promotion, skill development, research and information.

The other factor that refrains youth from taking jobs in the private sector is the lack of enabling regulatory environment for workers and employers. The absence of these regulations per se doesn't cause unemployment, but there is evidence to suggest that a large number of Bhutanese youth do not take up employment in the private sector due to lack of trust and confidence in private sector employers. Amongst others the lack of job security and excessive managerial discretion (hire and fire practice) has been cited as the primary reasons of discouraging them to join the private sector.

Also there is a need to secure safe and healthy environment for the workers at work sites to mitigate the occurrences of occupational hazards at the work sites. Wherever necessary, recruitment and management of the foreign workers will have to be carried out in order to maintain the adequate number of workers available for private sector development.

C. Strategy

In order to attract more workers to take up employment in the private sector, the Ministry will focus on creating conducive working conditions and working environment in the private sector through uniform enforcement of Labour and Employment Act accompanied by various other regulations including the one for occupational health and safety.

The department is enhancing the management of foreign workers recruitment in the selected occupational fields, which are not taken up by locals for a foreseeable future. A web-based labour net system has been launched with the idea to facilitate the recruitment of foreign workers by online interaction between the private employers and approving agencies. This is expected to cut down the existing long recruitment process and also help coordination between the interacting parties.

D. Results Framework

Impact	Outcome	Output	Projects/ Activities
Attain full employment for educated youth	Private & corporate sector agencies are aware and comply with Labour and Employment Act provisions Safe working environment for all workers at all work places Bhutan a member of International Labour Organization. The ILO helps Bhutan to set international labour standards. More Bhutanese workers are willing to join private sector as a result of benifits of being member to ILO. The Management of Foreign workers will be strengthened	Working environment conditions in private sector improved Management of foreign workers enhanced	Establishment of labor relationships Labor relations & Inspection Enhancement of foreign workers management Foreign workers management Labour Net

E. Management Arrangements

Institutional Arrangements

The Department of Labour is the coordinating and lead agency for implementing the programme relating to enhancing the working condition and labour relations of the workers. The web-based labour net will be used for recruiting foreign labours and the coordination between head office and other regional offices on foreign recruitment will be further enhanced through the use of this web-based system.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Labour relations and inspection	75.150
2	Foreign workers management - Labour net	11.000
	Total	**86.150**

MLHR/04: ENHANCING THE COMPETITIVENESS OF SKILLED WORKER

A. Overview

1	*Sector*	*:*	*Human Resources*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Employment promotion and poverty reduction*
3	*Expected Results*	*:*	*To promote and enhance the quality of vocational skills through the implementation of the Bhutan Vocational Qualifications Framework*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradication of extreme poverty and hunger* *MDG Goal 8: Target 14: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth* *SDG 1: Eradication of hunger poverty* *SDG 2: Halve proportion of people in poverty by 2010* *SDG 4: Ensure a robust pro-poor growth*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*School drop outs*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 37.587 m*
11	*External Financing Required*	*:*	*Nu. 37.587 m*
12	*Executing Agency*	*:*	*Ministry of Labour and Human Resources*
13	*Implementing Agencies*	*:*	*Department of Occupational Standards*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

There is a need to change the attitude of job seekers, especially towards work and jobs that are menial in nature. The usual perception is that such menial or blue collar jobs are of low profile, beneath their stature and requires only strenuous effort without much use of intelligence and skills. The Department now aims to enhance the competitiveness of the skilled workers employed in such trade to make those areas of work more attractive for gainful employment.

The Department over the Ninth Plan developed the Bhutan Vocational Qualifications Framework (BVQF) and based on this developed occupational profiles for 56 occupations, established 6 technical advisory committees for automobile services, construction, tourism and hospitality, Zorig Chusum, manufacturing and ICT sector. Internal staff capacity is being further developed to implement the BVQF. A total of 17 people were trained in assessment and twelve others were trained in test item development.

Since the quality of skill workers is as important as the quantity of it for sustainable economic development, quality of skilled workers has to be enhanced through more appropriate skill training delivery in the vocational and zorig chusum institutes, where the training standards meet the expectations of labour market demands. Therefore, importance has to be given to the quality improvement aspects of the training to assure 100% job guarantee for VET graduates.

C. Strategy

In the Tenth Plan, quality of skilled workers will be ensured through the establishment of output quality assurance system. Such systems will enhance the competitiveness of operators and technicians and open their career path. In order to enhance the quality of skilled workers, the quality of inputs at the training delivery level will be closely regulated and quality standards will be ensured through accreditation of training and establishment of a suitable national accreditation system.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Attain full employment for educated youth	Bhutan Vocational Qualifications Framework operationalised whereby the skilled workers in the country are assessed and certified through national standardized assessment and certification system Accreditation System for the VET Sector implemented and improved the quality of training delivery by the training providers	Quality of skilled workers enhanced Quality of training delivery enhanced	Strengthening of VET quality assurance system Establishment of a National Accreditation System

E. Management Arrangements

Institutional Arrangements

The Department of Occupational Standards is the coordinating and lead agency for implementing the programme relating to enhancing the competitiveness of the skilled workers. The necessary support will be rendered by the industry experts and instructors especially in the areas of standard development and assessment, which meets the expectation of job market.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Occupational standards development	13.307
2	Accreditation system - Assessment and certification system	0.300
3	Competency standard Assessment and Certification	23.980
	Total	**37.587**

MLHR/05: INSTITUTIONAL STRENGTHENING OF VOCATIONAL TRAINING INSTITUTES

A. Overview

1	*Sector*	*:*	*Human Resources*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Employment promotion and povertyreduction. Also important to the strategy of Vitalizing Industry through developing a skilled workforce*
3	*Expected Results*	*:*	*1.Improving the quality of training 2.Increasing training capacities of the institutes*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradication of extreme poverty and hunger MDG Goal 8: Target 14: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth SDG 1: Eradication of hunger poverty SDG 2: Halve proportion of people in poverty by 2010 SDG 4: Ensure a robust pro-poor growth*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*School drop outs*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 604.830 m*
11	*External Financing Required*	*:*	*Nu. 604.830 m*
12	*Executing Agency*	*:*	*Ministry of Labour and Human Resources*
13	*Implementing Agencies*	*:*	*Individual Institutes*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

Vocational training institutes invariably play an important role not only in providing employable skills to young school leavers to address the critical employment challenge. VTIs also produce valuable skilled workforce for the country. This is particularly important from the context of the Tenth Plan's strategic objective of Vitalizing Industry to develop a modern industrial economy with a highly trained and skilled workforce.

Recognizing its importance, vocational education and training sector has received due emphasis to expand and develop training spaces and improve the quality of training and vocational education, particularly over the Ninth Plan. With the growing number of school leavers coming out of the

school system especially during the Tenth Plan, impetus on the vocational education-training sector needs to be continued, as it is one way of reducing the ranks of unemployed youth. In Bhutan at present, the six vocational training institutes provide most of the in-country pre-service vocational training to school leavers.

C. Strategy

In order to overcome the formidable challenge of ensuring full employment amongst educated youth, existing training institutes have to be strengthened and upgraded to accommodate more aspiring training seekers. As such the infrastructure for vocational training therefore has to be expanded to accommodate more trainees and the curricula developed based on and clearly responsive to market demand.

Besides infrastructure expansion, additional recruitment of qualified trainers will be necessary to produce trainees who are employable and skilled. The Royal Government thus plans to strengthen the institutional capacity in terms of expanding facilities, diversifying training and making other necessary additions to ease the growing pressure on the existing infrastructure.

D. Results Framework

Impact	Outcome	Output	Projects /Activities
Attain full employment for educated youth	All VTI graduates are competent and gainfully employed upon graduation Annual intake capacity of the VTIs increased	Skills/knowledge/qualification of existing teaching staff upgraded Management of institutes enhanced R&D unit established Training cum production/income generation activities strengthened PPP activities diversified Institutes equipped with appropriate training tools and equipment Training diversified Counseling and placement service unit strengthened Additional staff recruited Adequate infrastructure facilities developed Use of existing infrastructure optimized	Improvement of training delivery in the VTIs Expansion of accessibility

E. Management Arrangements

Institutional Arrangements

The Department of Human Resources will be the executing agency and individual institutes will be the coordinating agency for implementation of their own training programmes, which are within the broad objective framework of creating quality training institutes.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Improvement of quality of VTIs training delivery**	
	Rangjung VTI	11.810
	Khuruthang VTI	138.280
	Samthang VTI	8.860
	Construction Service Center	1.800
	Thimphu Institute for Automobile Engineering	13.780
	Chumey VTI	15.810
	Sarpang VTI	17.820
	Zhorig Chusum Internship Service Centre	5.500
2	**Expansion of accessibility of VTIs**	
	Rangjung VTI	55.380
	Khuruthang VTI	140.330
	Samthang VTI	55.190
	Construction Service Center	0.000
	Thimphu Institute for Automobile Engineering	37.250
	Chumey VTI	16.470
	Sarpang VTI	86.550
	Total	**604.830**

MLHR/06: INSTITUTIONAL STRENGTHENING OF ZORIG CHUSUM INSTITUTES

A. Overview

1	*Sector*	*:*	*Human Resources*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Employment promotion and poverty reduction. Also important to the strategy of Vitalizing Industry through building up a highly skilled workforce*
3	*Expected Results*	*:*	*To enhance quality of training delivered at the IZC*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradication of extreme poverty and hunger* *MDG Goal 8: Target 14: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth* *SDG 1: Eradication of hunger poverty* *SDG 2: Halve proportion of people in poverty by 2010* *SDG 4: Ensure a robust pro-poor growth*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*School drop outs*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 113.110 m*
11	*External Financing Required*	*:*	*Nu. 113.110 m*
12	*Executing Agency*	*:*	*Ministry of labour and human resources*
13	*Implementing Agencies*	*:*	*Concerned institutes*
14	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

The two Zorig Chusum institutes have played a very important role in training school leavers, particularly those with little or low educational attainments but who are interested in acquiring traditional art and craft skills. The two IZCs offer certificate level courses in various traditional art and craft trades. The duration of the training ranges from one to six years depending upon the particular course taken by the trainees. These institutes have helped provide valuable traditional skills that are in high demand to numerous trainees, many of whom have gone to establish their own enterprises successfully. These self-employed entrepreneurs and their enterprises in time may themselves grow to generate employment for others and thereby contribute to overall private sector growth through a cascade effect.

C. Strategy

The institutes of zorig chusum will reinforce the efforts made by vocational training institutes in absorbing the growing numbers of school leavers that may likely take up employment in jobs requiring skills. As such the annual intake of the current two Zorig Chusum institutes' capacity will be increased and additional infrastructure and facilities built to ease problems of overcrowding and create a conducive learning environment. In order to keep up with standard quality training deliveries, the institutes will work in collaboration with the Department of Occupational Standards to update and improve the curriculum that fits the taste of trainees and requirement of the future employing agencies.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Attain full employment for educated youth	All IZCs graduates are competent and gainfully employed upon graduation	Skills/knowledge/qualification of existing teaching staff upgraded Management of institutesenhanced R&D unit established Training cum production/income generation activities strengthened PPP activities diversified and strengthened Institutes equipped with appropriate training tools and equipment	Improvement of training delivery in IZCs
	Annual intake capacity increased from 50 to 100 and overall capacity enhanced from 250 to 500	Training diversified Counseling and placement service unit strengthened Additional staff recruited Adequate infrastructure facilities developed	Expansion of accessibility

E. Management Arrangements

Institutional Arrangements

The Ministry of Labour and Human Resources is the executing agency and individual Zorig chusum institutes in collaboration with Department of Human Resources will be the coordinating agencies for implementing the institutional strengthening programme's project, which are within the broad objective framework of creating quality training institutes.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Improvement of quality of IZCs training delivery** National Institute of Zorig Chusum Trashiyangtse Institute of Zorig Chusum	 12.700 10.860
2	**Expansion of accessibility of VTIs** National Institute of Zorig Chusum Trashiyangtse Institute of Zorig Chusum	 23.450 66.100
	Total	**113.110**

MLHR/07: ESTABLISHMENT OF NEW VOCATIONAL TRAINING INSTITUTES AND INSTITUTES OF ZORIG CHUSUM

A. Overview

1	*Sector*	*:*	*Human Resources*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Employment promotion and poverty reduction* *Also important to the strategy of Vitalizing Industry through building up a highly skilled workforce*
3	*Expected Results*	*:*	*To increase the intake capacity for reducing unemployment problems*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradication of extreme poverty and hunger* *MDG Goal 8: Target 14: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth* *SDG 1: Eradication of hunger poverty* *SDG 2: Halve proportion of people in poverty by 2010* *SDG 4: Ensure a robust pro-poor growth*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*School drop outs*
7	*Scope*	*:*	*National*
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 193.491 m*
11	*External Financing Required*	*:*	*Nu.193.491 m*
12	*Executing Agency*	*:*	*Ministry of Labour and Human Resources*
13	*Implementing Agencies*	*:*	*Department of Human Resources, Ministry of Labour and Human Resources*
14	*Documents Available*	*:*	

B. Situational Analysis

Past experience and data from the National Labour Force Surveys reveal dim prospects for youths without skills to secure gainful employment. Unemployment levels are most acute among teenage youths between the ages of 15-19, most of whom have little or no skills required by the labor market. It is estimated that about 63,000 school leavers with secondary level education will be seeking opportunities either in vocational training or direct employment over the Tenth Plan period. The employment situation makes it even more important to expand vocational education and training in the traditional arts and craft trades. To address employment concerns, the Royal Government will seek to attain full employment for educated youth during the Tenth Plan and facilitate the transition of young people into the workplace.

C. Strategy

One VTI and an IZC will be established with an intake capacity of 250 and 100 each, respectively. In order to ensure that 60% of school leavers have access to vocational education and training, the construction of VTIs would be linked with the accelerated Hydropower.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
To attain full employment for educated youth 60% of school leavers have access to vocational education and training	All trainees acquire good skills for employment	1 new VTI constructed	Construction of new VTI
	New VTI with annual intake capacity of 250 trainees	Training diversified Counseling and placement service unit strengthened Additional staff recruited Adequate infrastructure facilities developed	
	New IZC with annual intake capacity of 200	1 new IZC constructed Training diversified Counseling and placement service unit strengthened Additional staff recruited Adequate infrastructure facilities developed	Construction of New IZC

E. Management Arrangements

Institutional Arrangements

The Ministry of Labor and Human Resources is the executing and implementing agency for construction of 1 new VTI and 1 IZC in the Tenth Plan.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Construction of 1 new VTI	105.010
2	Construction of 1 new IZC	88.481
	Total	**193.491**

MINISTRY OF WORKS AND HUMAN SETTLEMENT

MWHS/01: CONSTRUCTION & IMPROVEMENT OF NATIONAL HIGHWAYS

A. Overview

1	Sector	:	Roads
2	Linkage to National Development Objectives & Strategies	:	Vision 2020: Completion of the second transnational highway by 2017. Expansion of Strategic Infrastructure for poverty alleviation and balanced regional development. This will also greatly facilitate the core strategy of vitalizing industry.
3	Expected Results	:	Improved safety, reliability and efficiency of national highways
4	Relevant MDG & SDG	:	SDG Goal 4: Ensure a robust pro-poor growth process SDG Goal 5: Strengthen connectivity of poorer regions and of poor as social groups
5	Donor Agency	:	
6	Target Group	:	Nation-wide
7	Scope	:	Nation-wide
8	Status-Ongoing or New	:	Ongoing/New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 5,776.880 m
11	External Financing Required	:	Nu. 5,776.880 m
12	Executing Agency	:	Department of Roads (DoR), Ministry of Works and Human Settlement
13	Implementing Agencies	:	DoR & private sectors,including international construction and engineering firms
14	Documents Available	:	Road Sector Master Plan, Sector Tenth Plan, Annual Information Bulletin,2006

B. Situational Analysis

Being landlocked, Bhutan is heavily dependent on the existing network of national trunk roads as the principal mode of internal transport. One of the major and perennial constraints that the country has always faced has been the mountainous and fragile terrain, which makes the provision of road services difficult and costly. However, sustained investments have been made and must continue to be made given that the national security and socio-economic development depends on the provision of a safe, efficient and reliable road network. It is moreover particularly relevant in bringing the relatively underdeveloped areas into the mainstream of development. While the national highway network has expanded it is still limited in terms of connectivity, coverage and ability to meet the growing demands of larger and heavier transport. Currently, there are 1,634.3 km of expressway and national highways, 481.2 km of district roads, 809.2 km of feeder roads, 150.6 km of urban roads, 716.9 km of farm roads and 559.6 km of forest roads.

While this represents a significant expansion of road infrastructure, it is a matter of concern that the country still remains dependent on a single East-West National Highway running through the central-northern part of the country. The absence of another highway running through the south has invariably hindered transportation in the southern areas and inhibited a faster growth of industrial development. The need to construct the Southern East-West Highway thus remains a high priority in the Tenth Plan. This is moreover based on the resolution of the 82nd session of the National Assembly and is also an important milestone target under the Vision 2020. The development of the Southern East-West national highway is expected to further multiply and expand economic opportunities both in rural and urban areas in addition to being a vital strategic aspect of materializing plans to vitalize industry.

C. Strategy

Guided by the Road Sector Master Plan (2007-2027), national road networks will continue to be expanded and upgraded in order to improve access and connectivity. The Department of Roads will also continue to enhance and strengthen its role in designing, supervising, maintaining quality control and coordinating all road work contracts outsourced to the private sector. Engagement of regional/internationally accredited engineering ansd construction firms will also be encouraged to participate in joint ventures with national construction firms, wherever necessary, to improve the qualitative and quantitative delivery of road infrastructure projects. Furthermore, with a view to ensure the quality of construction and to achive economies of scale, importance will be given to mechanizing the construction sector while maintaining Environmentally Friendly Road Construction (EFRC) practices. The strengthening of the road sector's institutional capacity, particularly in relation to planning, designing and project management will also be a priority.

D. Results Framework

Outcome	Output	Projects/Activities
Socio -economic development enhanced	Critical section of southern east west highway constructed to a required standard Safe and reliable national highways constructed and improved	Construction of Samtse-Phuentsholing highway Up-gradation of Phuntsholing –Raidak highway Construction of Lhamoizinkha-Raidak highway Construction of Lhamoizinkha Dagana highway through Kerabari Nganglam-Panbang Highway (PPP Model) Construction of Gomphu-Panbang highway Construction of Gyalposhing-Nganglam highway Realignment of Nangar –Ura road Realignment of Damchu-Chukha road Babesa-Phuntsholing double laning S/Jongkhar-Trashigang double laning Construction of Damji-Zamechu road Construction of Zamechu-Gasa road

E. Management Arrangements

Institutional Arrangements

The Department of Roads (DoR), Ministry of Works and Human Settlement shall be the overall coordinating and executing agency for the programme while the private sector will implement and execute the work activities planned. Through the National Monitoring and Evaluation System, a standard monitoring and evaluation system, the relevant authorities will monitor and evaluate the programme regularly.

Indicative cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)	Remarks
1	**Construction & improvement of critical Sections of Southern east-west highway**		
1.1	Up-gradation of Phuntsholing–Raidak highway (88 km)		
1.2	Construction of Lhamoizinkha-Raidak highway (23 km)		

1.3	Samtse – Phuentsholing highway (61 km)	811.340	
1.4	Construction of Lhamoizinkha-Dagana highway through Kerabari (75km)	470.100	
1.5	Other stretches of the Southern-East-West Highway (Nganglam-Panbang Priority)		To be explored under PPP model
2	**Construction and improvement of North-East/South Highways**		
2.1	Construction of Gomphu-Panbang highway (56 km)	1,069.900	
2.2	Construction of Gyalposhing-Nganglam highway (64.3 km)	1,082.380	
2.3	Construction of Damji-Zamechu road (11.3 km)	73.300	
2.4	Construction of Zamechu-Gasa Road (14 km)	141.480	
2.5	Nangar- Ura realignment (35.6 km)	299.580	
2.6	Damchu –Chukha realignment (24 km)	618.800	
2.7	Double laning of Babesa-Phuntsholing highway (40 km)	1,200.000	
2.8	Double laning of S/Jongkhar – Trashigang Highway		
	Total	**5,776.880**	

MWHS/02: CONSTRUCTION AND IMPROVEMENT OF ROADS CONNECTING HYDROPOWER PROJECTS

A. Overview

1	*Sector*	*:*	*Roads*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vision 2020: Upgrade current national trunk roads to accomodate 30-70 ton trucks by 2007.* *Vitalizing Industry and Expanding Strategic Infrastructure for poverty reduction through facilitating hydropower development*
3	*Expected Results*	*:*	*Improved safety, reliability and efficiency of national highways with enhanced carrying capacity of road network thereby facilitating the rapid development of hydropower projects*
4	*Relevant MDG & SDG*	*:*	
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Nation-wide*
7	*Scope*	*:*	*Nation-wide*
8	*Status-Ongoing or New*	*:*	*Ongoing/New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 3,786.933 m*
11	*External Financing Required*	*:*	*Nu. 3,786.933 m*
12	*Executing Agency*	*:*	*Department of Roads (DoR), Ministry of Works and Human Settlement*
13	*Implementing Agencies*	*:*	*DoR, private sector and international construction and engineering firms*
14	*Documents Available*	*:*	*Road Sector Master Plan, Sector Tenth Plan, Annual Information Bulletin,2006*

B. Situational Analysis

While the national highway network has expanded it is still limited in terms of connectivity, coverage and ability to meet the growing demands of larger and heavier transport. Transportation on the existing national highways is inefficient, lengthy and susceptible to blocks due to natural calamities. Owing to the difficult topography and resource constraints, roads are generally built following land contours with a minimum number of bridges as possible and without tunnels. Hence, the roads, in general, are narrow with sharp curves, steep gradients and highly prone to accidents. Furthermore, most of the existing highways and bridges were constructed at a time when the flow of traffic was very low and load factors small.

The use of the road networks to transport heavy plant machinery, equipment and construction materials has increased exponentially due to the construction of hydropower projects. The situation will be even more acute with the accelerated hydropower development programme. In the Tenth Plan, the Royal Government plans to develop hydropower projects such as Punatshangchu I (1095 MW), Punatshangchu II (992 MW), Mangdechu (670 MW), Chamkharchu I (670 MW) and Amochu (500MW). In order to facilitate transportation of various heavy machinery, equipment and materials efficiently to these hydropower projects, new roads wherever will be constructed, existing roads resurfaced, realigned and widened, and bridges built to accommodate 30-70 ton trucks.

C. Strategy

The DoR will continue its role of design, supervision, quality control and coordination with the actual construction works contracted out to the private sector. The engagement of regional/ internationally accredited engineering and construction firms will also be encouraged to participate in joint ventures with national construction firms, wherever necessary, to improve the qualitative and quantitative delivery of road infrastructure projects. Additionally, with a view to ensure the quality of construction and to achive economies of scale, importance will be given to mechanizing construction activities while maintaining Environmentally Friendly Road Construction (EFRC) practices. Strengthening of the sector's institutional capacity, particularly in relation to planning, designing and project management will also be priority.

D. Results Framework

Outcome	Output	Projects/Activities
Increased and rapid GDP growth due to increased export of hydropower	Hydropower roads constructed and upgraded to a set standard	Construction of Manmung-Digala road Construction of Halaley-Dorokha road Up-gradation of Gelephu-Wangdue highway Up-gradation of Gelephu-Trongsa highway Up-gradation of Tingtibi-Praling road Up-gradation of Sunkosh-Chineythang road

E. Management Arrangements

Institutional Arrangements

The Department of Roads (DoR), Ministry of Works and Human Settlement shall be the overall coordinating and executing agency for the programme while the private sector will implement and

execute the work activities under the programme. The programme will be effectively monitored through the National Monitoring and Evaluation Framework and Planning Monitoring systems.

Indicative Cost

#	Description of Projects/ Activities	Indicative Cost (Nu. in million)	Remarks
1	Construction of Manmung-Digala road (12 km)	218.400	Chamkharchu-I hydropower project (670 MW)
2	Up-gradation of Tingtibi-Praling road (38km)	72.000	Chamkharchu-I hydropower project (670 MW)
3	Construction of Halaley-Dorokha road (26 km)	199.343	Amochu Hydropower project (500 MW)
4	Up-gradation of Gelephu-Trongsa highway (174 km)	2,117.300	Mangechu hydropower project (670 MW)
5	Up-gradation of Gelephu-Wagdue highway (155 km)	1,077.600	Punatshangchu I (1095 MW) and Punatshangchu II (992 MW) to be constructed in 2008 and 2011, respectively
6	Up-gradation of Sunkosh-Chineythang road (62km)	102.290	Dagachu hydropower project
	Total	**3,786.933**	

MWHS/03: MAINTENANCE AND MANAGEMENT OF ROAD ASSETS

Overview

1	*Sector*	*:*	*Roads*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Provision safe, reliable and efficient road network.*
3	*Expected Results*	*:*	*Improved safety, reliability and efficiency of national highways with enhanced carrying capacity.*
4	*Relevant MDG & SDG*	*:*	
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Nationwide*
7	*Scope*	*:*	*Nationwide*
8	*Status-Ongoing or New*	*:*	*Ongoing / new*
9	*Timeframe*	*:*	*Five years (2008-2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 4,154.048 m*
11	*External Financing Required*	*:*	*Nu. 4,154.048 m*
12	*Executing Agency*	*:*	*DoR, RGOB*
13	*Implementing Agencies*	*:*	*DoR and local private sector firms*
14	*Documents Available*	*:*	*Road Sector Master Plan, Sector Tenth Plan, Annual Information Bulletin,2006*

B. Situational Analysis

Being landlocked, Bhutan remains heavily dependent on the existing network of national trunk roads as the principal mode of internal transport. One of the major and perennial constraints that the country has always faced has been the mountainous and fragile terrain, which makes the provision of road services and their maintenance extremely difficult and costly. The national highway network has expanded considerably and will continue to do so under the Tenth Plan. Currently, there are 1,634.3 km of expressway and national highways, 481.2 km of district roads, 809.2 km of feeder roads, 150.6 km of urban roads, 716.9 km of farm roads and 559.6 km of forest roads. As the RGOB accords a high priority to the provision of safe, reliable and efficient road network the maintenance and management of the existing road and bridge infrastructure is an equally important and challenging task for the RGOB.

C. Strategy

The DoR will continue its role of design, supervision, quality control and coordination with the actual construction works contracted out to the private sector. The engagement of regional/ internationally accredited engineering and construction firms will also be encouraged to participate in joint ventures with national construction firms, wherever necessary, to improve the qualitative and quantitative delivery of road infrastructure projects. Additionally, with a view to ensure the quality of construction and to achive economies of scale, importance will be given to mechanizing construction activities while maintaining Environmentally Friendly Road Construction (EFRC) practices. Strengthening of the sector's institutional capacity, particularly in relation to planning, designing and project management will also be priority.

D. Results Framework

Impact	Output	Projects/Activities
Safer, more reliable and more efficient road network	Country's national road network well maintained and managed	Road resurfacing (periodic maintenance) – 1000 km Monsoon damage restoration Bridge protection and river training works Installation of road safety measures Roadside slope stabilization Field accommodation and road side amenities Roads geometrics improvements Culverts, cribwalls and drainage works Patch repairs and fog sealing works Snow Clearance works Survey, investigation, design and research works Advanced survey and research tools and plants Road maintenance Bridge maintenance and replacement Construction of Nichula bridge over Sunkosh

E. Management Arrangements

Institutional Arrangements

The Department of Roads (DoR), Ministry of Works and Human Settlement shall be the overall coordinating and executing agency for the programme. The minor activities like routine

maintenance of roads, minor improvement works etc. will be implemented by DoR departmentally through force accounts while the capital intensive activities will be implanted through engagement of local contractors depending upon the complexity of the activity. The relevant authoritiess will monitor and evaluate the programme regularly through the National Monitoring and Evaluation framework and Planning and Monitoring systems,

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Road resurfacing (1000km)	1,389.000
2	Monsoon restoration	200.000
3	Bridge protection & river training works	20.000
4	Installation of road safety measures	50.000
5	Road side slope stabilization/bioengineering	10.000
6	Field accommodation and road side amenities	75.000
7	Roads geometrics improvements	50.000
8	Culverts, cribwalls and drainage works	15.000
9	Patch repairs and fog sealing works	10.000
10	Snow Clearance works	5.000
11	Survey, investigation, design and research works	5.000
12	Advanced survey and research tools and plants	10.000
13	Road maintenance	783.630
14	Bridge construction, maintenance and replacement	78.000
15	Construction of Nichula bridge over Sunkosh	
16	Feeder Road (Spillover)	1,453.418
	Total	**4,154.048**

MWHS/04: URBAN DEVELOPMENT AND SERVICES

A. Overview

1	*Sector*	*:*	*Urban Development*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vision 2020: Formulation of growth centers; Through National Spatial Planning complete the urban development plans for major towns for balanced development at regional/local levels.*
3	*Expected Results*	*:*	*The quality of life of the urban population improved through the sustainable development of urban infrastructure facilities and services in existing and new urban centers/township*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 1: Eradicate extreme poverty and hunger;* *MDG Goal 7: Target 10: Halve the proportion of population without safe drinking water and sanitation* *Target 11: Reduce significantly the proportion of population without safe tenure.* *SDG Goal 2: Halve proportion of population in poverty by 2012*
5	*Donor Agency*	*:*	

6	Target Group	:	Urban population
7	Scope	:	Nation-wide
8	Status-Ongoing or New	:	Ongoing/New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 3,410.057 m
11	External Financing Required	:	Nu. 3,410.057 m
12	Executing Agency	:	Department of Urban Development and Engineering Services, Ministry of Works and Human Settlement
13	Implementing Agencies	:	Department of Urban Development and Engineering Services, Thimphu and Phuentsholing City Corporations, Dzongkhag Administrations/ municipalities
14	Documents Available	:	National Urbanization Strategy,2008, Sector Tenth Plan; Draft Thimphu City Development Strategy

B. Situational Analysis

The process of urbanization is more than four decades old and unlike the urban development history in most countries where the establishment and growth of towns and cities were driven by economic potential, towns in Bhutan initially grew from the establishment of administrative centres. Today, the urban population comprises 31% of the total population, and by 2020 it is projected that more than 50% of the population will be living in urban areas. With this rapidly growing urban population, the urban centres particularly Thimphu and Phuntsholing have already started experiencing adverse effects of urbnaization such as water shortages, housing scarcity, sanitation and waste disposal problems and the deterioration of air quality and the proliferation of squatter settlements in sensitive environment areas.

Currently, there are urban plans for 31 towns, of which implementation of plans for around 17 towns are underway. With regard to regulations for urban governance, the Municipal Act, Building Rules, Urban Area and Property Regulations, Water and Sanitation Rules, Development Control Regulation for Thimphu are already in place. Piped and safe portable water supplies are also available in twenty towns and piped sewerage and treatment facilities in two towns. Solid waste management and disposal system have been developed in thirteen towns. As such there is a very high urban population with over 99% coverage for both safe sanitation and drinking water. Water service charges based on actual consumption has moreover been introduced in ten towns, while urban residents of other towns are charged a nominal flat rate.

C. Strategy

- Devise and implement urban plans for regional growth centres and major towns in accordance with the National Urbanization Strategy and National Spatial Planning Policy;
- Enhance urban management capacity through institutional strengthening in the areas of urban planning, data collection, GIS, infrastructure desings and engineering services;

- Continue promoting the decentralization of urban services management through granting of autonomomy to municipalities based on inherent capacities to take up such functions with a view to enhancing efficiency and effectiveness of urban management;
- Encourage the urban public to participate more actively in the development and management of cities or towns, including enhancing the aesthetics of the urban environment; and
- Promote and encourage private investors or Public Private Partnerships wherever commercially viable to implement the urban development activities given that private investors and promoters are often better equipped to operate in markets and anticipate and respond effectively to changing needs.

D. Results Framework

Outcome	Output	Projects/Activities
High quality of urban life through sustainable development of urban amenities and facilities and reliable provisioning of urban services	High quality infrastructure and services provided Livable and planned urban towns and infrastructure developed	Development of urban infrastructure/ services in Thimphu municipality Development of urban infrastructure/ services in Phuentsholing municipality Formulation of urban plans and development of urban infrastructures

E. Management Arrangements

Institutional Arrangements

The Department of Urban and Engineering Services (DUDES), Ministry of Works and Human Settlement will coordinate and manage the programme while the respective municipalities and Dzongkhag administrations will implement the programme. Through Planning and Monitoring System, a standard monitoring and evaluation system, the relevant stakeholders will monitor and evaluate the programme regularly. The DUDES will provide technical backstopping to the dzongkhag and municipalities, wherever required.

Indicative Costs

#	Discription of Projects/Activities	Indicative Cost (Nu. in million)	Remarks
1	**Thimphu Municipality**		
1.1	Core area development	295.000	
1.2	Extended area development	1140.300	
1.3	Improvement of service delivery	115.000	
1.4	Establishment of driving training facility	5.000	
2	**Phuentsholing Municipality**		
2.1	Core area development	484.108	
2.2	Extended area development	116.000	
2.3	Improvement of service delivery	60.000	
2.4	Amochu Land Reclaimation & Flood Mitigation	-	Public Private Partnership (PPP)
3	**Urban Development & Engineering Services**		
3.1	Urban planning & development	200.000	
3.2	Pemagatshel and Nganglam Towns Devlopment	220.000	
3.3	Urban Planning and Survey Equpiment	80.000	
3.4	Urban infrastructure development	252.970	
3.5	Rural Infrastructure development	151.600	
3.6	Government secretariat complex	197.454	
3.7	Construction of MICE hall	-	Public Private Partnership
3.8	Construction of National Council Building	25.000	5 million Spillover
3.9	Construction of sitting gallery	9.200	Spillover
3.10	Development of coronation park	3.500	Spillover
3.11	Resurfacing of car parking (C/thang)	8.500	Spillover
3.12	Renovation of Tennis Federation Building	3.000	Spillover
3.13	Laying of DMT tiles (Changlimithang Stadium)	1.500	Spillover
3.14	Development of Haa Town	41.925	Spillover
	Total	**3,410.057**	

MWHS/05: QUALITY ASSURANCE AND STANDARDIZATION

A. Overview

1	*Sector*	:	*Construction*
2	*Linkage to National Development Objectives & Strategies*	:	*Vision 2020: Preparation of a Construction Code Enhancement of quality assurance in expanding strategic infrastructure development*
3	*Expected Results*	:	*Enhanced quality in the construction sector*
4	*Relevant MDG & SDG*	:	
5	*Donor Agency*	:	
6	*Target Group*	:	*Construction industry (public and private sector)*
7	*Scope*	:	*Nation-wide*
8	*Status-Ongoing or New*	:	*New*
9	*Timeframe*	:	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	:	*Nu. 109.000 m*
11	*External Financing Required*	:	*Nu. 109.000 m*
12	*Executing Agency*	:	*Ministry of Works and Human Settlement*
13	*Implementing Agencies*	:	*Standards and Quality Control Authority, Ministry of Works and Human Settlement*
14	*Documents Available*	:	*Sector Tenth Plan*

B. Situational Analysis

The quality of construction and mataining high construction standards is crucial for the effective utilization of public expenditure. Currently, the poor quality of construction is weak enforcement, poor quality materials, workmanship and technical supervision. Moreover, there is a lack of appropriate engineering standards and construction norms, although the relevant authorities are required to ensure adherence to prescribed engineering and construction standards.

Recognizing the need, the Standards and Quality Control Authority (SQCA) was instituted primarily to develop engineering codes of practices and ensure the quality in the construction industry. During the Ninth Plan, the SQCA has reviewed and revised two important documents, viz, the Bhutan Schedule of Rates and Specifications for Building and Road Works; constructed and equpiied a material testing laboratory to test general construction materials, such as stone, sand, bricks; and conducted awareness and sensitization on the quality control/assurance and material testing.

C. Strategy

Quality assurance and efficiency in the construction industry will be further improved in the Tenth Plan through building institutional capacity on standards, quality control and material testing, amongst others, establishment of regional laboratories and employment of additional technicians and quality based skills. Monitoring of the quality of construction will be continued through certification of quality assurance system, within the construction agencies, construction materials and products. Studies will be conducted to assess the vulnerability of infrastrutures to seismic risks. Furthermore, sensitization and advocacy programme on quality construction, quality materials, products and services will be conducted. Emphasis will also be attached to maintain those aspects of construction which best reflect the best of Bhutanese values, aesthetics and traditional architecture.

D. Results Framework

Outcome	Output	Projects/Activities
High quality physical infrastructure that give value to investment	Availability of quality construction materials and equipments Research and studies in place to improve and ensure quality in construction industry Seismic risks to buildings studied and risk to building mitigated Awareness on construction quality and standardization created	Facilitation of quality supplies and materials Research and technology development Mitigation of seismic risk to buildings Awareness, monitoring and standardization

E. Management Arrangements

Institutional Arrangements

The programme will be managed and implemented by the SQCA, Ministry of Works and Human Settlement in collaboration with relevant agencies of the public and private sectors. The National Monitoring and Evaluation and the Planning and Monitoring Systems will monitor and evaluate the programme regularly.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Supply of quality construction materials	55.000
2	Research and Development	5.000
3	Mitigation of seismic risks to buildings	28.000
4	Awareness and monitoring	8.000
6	Standardization	13.000
	Total	**109.000**

MWHS/06: STRENGTHENING OF CONSTRUCTION DEVELOPMENT SERVICES

A. Overview

1	Sector	:	Construction
2	Linkage to National Development Objectives & Strategies	:	Vision 2020: Preparation of a Construction Code Enhancement of quality assurance in expanding strategic infrastructure development. Will also be instrumental to facilitate private sector development.
3	Expected Results	:	Enhanced quality in the construction sector and private sector participation in the sector developed.
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	Construction industry (public and private sectors)
7	Scope	:	Nation-wide
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 38.000 m
11	External Financing Required	:	Nu. 38.000 m
12	Executing Agency	:	Ministry of Works and Human Settlement
13	Implementing Agencies	:	Construction Development Board, Ministry of Works and Human Settlement
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The Construction Development Board (CDB) was established in 1987 as an independent and representative interagency of the Royal Government to act as both overseer and promoter of the construction industry. Its primary mandate includes developing and promoting technical and managerial skills in the private sector; administration of institutional capacity and performance of contractors and developing policy guidelines. Its role, in general, is to build an efficient and quality based construction industry within the country.

The CDB, since its inception, has made a significant contribution to the construction industry. A computerized registration system for contractors has been instituted (improved system of managing and administering the contractors) and interim mechanism for dispute resolution has been developed. Furthermore, it has also developed a CDB strategy document and standard bidding document and revised the CDB manual. However, CDB is faced with acute shortage of competent manpower. Addressing this issue will go a long way in reversing the crtical construction industry issues such as lack of professionalism among contractors, fronting, consortium, collusion and other issues.

C. Strategy

The CDB in collaboration with the relevant stakeholders will build an efficient and quality based construction industry through the following strategies:

- Devise strategic plans to develop a strong private construction sector;
- Appraise regularly the performance of contractors to promote professionalism in the construction industry. Encourage contractors to adopt the best construction practices and mechanization in the construction industry while maintaining sustainable and environment friendly construction practices;
- Develop institutional capacity in the construction industry through provision of relevant in-country and ex-country trainings; and
- Educate and sensitize contractors as well as engineers through relevant trainings on procurement, standard bidding, and evaluation system processes.

D. Results Framework

Outcome	Output	Projects/Activities
Efficient and quality based construction industry	Efficient and reliable construction development services	Improvement and expansion of construction development services
	Useful Bhuatnese context research on construction industry carried out	Research and technology development
	Awareness on best practices and norms created in the construction industry	Create Awareness on the best practices

E. Management Arrangements

Institutional Arrangements

The programme shall be managed and implemented by the CDB, Ministry of Works and Human Settlement in close collaboration with the relevant Government and private agencies. The programme under CDB will be monitored regularly and evaluated through Planning and Monitoring System.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Improvement and expansion of construction development services	20.000
2	Research and technology development	10.000
3	Awareness	8.000
	Total	**38.000**

ANTI-CORRUPTION COMMISSION

ACC/01: STRENGTHENING LEGAL & INSTITUTIONAL FRAMEWORK FOR CONTROLLING CORRUPTION

A. Overview

1	Sector	:	Governance
2	Linkage to National Development Objectives & Strategies	:	Creating an Enabling Environment of Good Governance to help reduce poverty
3	Expected Results	:	Strengthen ACC systems and procedures
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	
7	Scope	:	
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008- 2013)
10	Indicative Capital Cost	:	Nu. 125.370 m
11	External Financing Required	:	Nu. 125.370 m
12	Executing Agency	:	Anti-Corruption Commission (ACC)
13	Implementing Agencies	:	Anti-Corruption Commission (ACC)
14	Documents Available	:	Anti-Corruption Act 2006; Sector Tenth Plan

B. Situational Analysis

Corruption is as ancient as it is universal and is caused mainly by human and organizational weaknesses. It gravely undermines democratic institutions and the rule of law, retards sustainable economic development, exacerbates poverty, distorts fair business practices and even creates government instability. It is also known to be a key reason explaining the extreme poverty and underdevelopment prevalent in many countries as it exacts a huge burden on taxpayers and society at large with enormous overt and hidden costs.

The Anti-Corruption Commission (ACC) in Bhutan was established on the 31st of December 2005 by Royal Decree to support and promote good governance, particularly in the post Constitutional era. The Corruption Perception Survey 2007 conducted by the ACC revealed the prevalence of corruption in all sectors and at all levels, largely caused by weaknesses in organizational management and leadership. The common forms of corruption range from simple false claims on TA/DA bills, misuse of public resources (money, manpower, properties and facilities), abuse of public authority to collusion and fronting in procurement contracts, bribery, tax evasion and abuse of tax and trade polices.

There is a need to make cost and risk of corruption very high. Investigation results depend on the quality of complaints. One of the ACC's performance indicators is how fast a case is investigated, prosecuted, adjudicated and decisions enforced. Review of the Anti-Corruption Act of Bhutan 2006, enforcement of asset declaration and gift rules, strengthening of administrative rules and regulations and prosecution referral guidelines will be completed within the plan period.

A proper and secure office space is required to promote a conducive working environment for the ACC. At the moment the Commission is housed in a rented building which inhibits structural changes to suit the requirement of the ACC.

C. Strategy

The ACC adopts a three-pronged strategy to curb corruption. This is done firstly through public education and advocacy by instilling a sense of responsibility in eradicating corruption. The ACC also works towards preventing systemic flaws by reducing corruption opportunity and reviewing rules and regulations. Finally, the ACC works to suppress corrupt practices through investigation and punishment.

The internal strategic plan to operationalise these strategies has been developed and is being followed. Fighting corruption is virtually everyone's concern and a shared responsibility of the public, the private sector, media, legislature, judiciary, citizens, academe, dratshang, etc. The National Anti-Corruption Strategy which is a common platform to engage all concerned stakeholders in combating corruption has been developed. Pertinent and salient aspects of the ACC's key strategies in the Tenth Plan are to:

- Build institutional and human capacity of the ACC to discharge its principal function of investigation of corruption and supporting roles of prevention of and public education on corruption;
- Build an effective coalition and partnership with key allies and stakeholders and across all sections of society to generate mass support and an enabling environment for combating corruption;
- Facilitate exploitation of ICT in enhancing transparency, accountability and efficiency;
- Inform and educate Bhutanese society on corruption towards developing a high intolerance towards corruption and inculcating a responsible and ethical attitude and deep integrity to combat corruption;
- Promote anti-corruption values, ethics of excellence, integrity and moral standards in youth through school curriculum, family upbringing and cultural propagation; and
- Promote islands of integrity.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Corruption free society	Act of corruption deterred by effective investigation and prosecution without fear and favour	A credible ACC institution established Public awareness created Systemic reviews and eliminated opportunities to corruption Human capacities developed	Institutional strengthening of ACC Public education and advocacy Investigation of allegations of corruption Preventing and curbing corruption Human resource development

E. Management Arrangements

Institutional Arrangements

The ACC will be responsible for the overall execution and coordination of the Programme in collaboration with the Royal Audit Authority, key allies and stakeholders in the society. Corruption being a transnational phenomenon, mutually beneficial and functional institutional linkages with key anti-corruption agencies in the region will be established. Use of anti-corruption tools will be mainstreamed in various corporate entities. The administration will be decentralized to the respective public entities, except for those falling under the Anti-Corruption Act, which the ACC will administer.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Strengthening of legal and Institutional framework	27.000
2	Construction of office building	40.000
3	Investigation of allegations of corruption	14.500
4	Political corruption awareness and advocacy	14.750
5	Preventing and curbing corruption	29.120
	Total	**125.370**

ELECTION COMMISSION OF BHUTAN

ECB/01: STRENGTHENING OF ELECTORAL PROCESS IN THE COUNTRY

A. Overview

1	Sector	:	Election Commission
2	Linkage to National Development Objectives & Strategies	:	Enabling Environment of Good Governance
3	Expected Results	:	Facilitate and promote electoral system and processes on continuing basis
4	Relevant MDG & SDG	:	MDG Goal 8: Develop a global partnership for development
5	Donor Agency	:	
6	Target Group	:	All 20 Dzongkhag
7	Scope	:	
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 79.910 m
11	External Financing Required	:	Nu. 79.910 m
12	Executing Agency	:	Election Commission
13	Implementing Agencies	:	Election Commission
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The Election Commission of Bhutan was established under a Royal decree as one of the constitutional bodies in 2005 to usher in a democratic system of governance in the country. The 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.

While the ECB has successfully conducted the first parliamentary elections in Bhutan in 2008, it is still severely constrained by certain factors that limit its effective functioning in helping ensure a vibrant and fully functional democracy. The agency lacks the appropriate knowledge, skills, facilities and resources to manage, control and conduct elections to continue emulating the huge success of the first parliamentary elections. As a guardian of democracy and the upholder of various responsibilities entrusted by the Constitution, the ECB will need to ensure that parliamentary democracy is firmly established and a vibrant and fully functional democracy takes root through enabling choices and ensuring the freedom and right of people to choose its government.

At present, the Election Commission of Bhutan does not have a proper office space with the office housed in three separate structures located in different places. This acts as a constraint that hinders the administrative functioning of the Commission to properly conduct and manage national and local elections and deliver electoral services and products effectively.

The National Parliament has passed the electoral laws and the Election Commission of Bhutan will ensure that these will be fully implemented with relevant policies to ensure that the process of parliamentary democracy is most suited to the present and future needs of the country.

C. Strategy

The key strategic activities that will be adopted in the Tenth Plan include:

- Identifying and developing facilities, infrastructure and human resource needs required to support and carry out day-to-day operations and electoral events;
- Providing comprehensive training and centralized election support to election personnel;
- Establishing and developing measurable standards;
- Procedures for and innovating service delivery and electoral processes;
- Setting performance benchmark targets, evaluating and reporting on performances following electoral events;
- Establishing Resource Centre for Electoral Training and Information which will inform and educate people about the electoral processes;
- Using information technology in database development, management and updating of Electoral Roll, delimitation of electoral constituencies, election officials, public election funds, etc. to augment the capabilities that would provide the public with the ability to view constituencies, polling places, eligible candidates, referendum items, and other voter and election related information;
- Developing and implementing effective electoral event and communication plans;
- Undertaking regular policy and legislative reviews and inputs; and
- Instituting research and development capabilities on electoral matters.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
A vibrant functioning Constitutional Democratic System	Enable successful conduct of elections to parliament and local governments, and referendums	Office building constructed Public awareness created Human capacities developed	Construction of office building Publicity and awareness Human resource Development

E. Management Arrangements

Institutional Arrangements

The Election Commission will be responsible for the organization and conduct of the general elections, by-elections and referendums in accordance with the provisions of the Election Act and other related acts.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Construction of office building	40.000
2	Publicity and Awareness Programmes	6.000
3	Conduct BRIDGE (Building Resource in Democracy, Governance and Election) course	3.910
4	Purchase of equipment for election	9.000
5	Information and database management	5.000
6	Professional services	5.000
7	Equipments(furniture 2.5m, Computers & Peripherals 2m,)	4.500
8	Development of Training Center	6.500
	Total	**79.910**

JUDICIARY

JUDICIARY/01: INFRASTRUCTURE DEVELOPMENT

A. Overview

1	*Sector*	:	*Judiciary*
2	*Linkage to National Development Objectives & Strategies*	:	*Enabling Environment of Good Governance through improved access to justice*
3	*Expected Results*	:	*To expand the reach of justice to all sections of society*
4	*Relevant MDG & SDG*	:	
5	*Donor Agency*	:	
6	*Target Group*	:	*National*
7	*Scope*	:	*National*
8	*Status-Ongoing or New*	:	*New/Ongoing*
9	*Timeframe*	:	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	:	*Nu. 724.383 m*
11	*External Financing Required*	:	*Nu. 724.383 m*
12	*Executing Agency*	:	*High Court*
13	*Implementing Agencies*	:	*High Court /Dzongkhags*
14	*Documents Available*	:	*Judiciary Master Plan 2006; Sector Tenth Plan*

B. Situational Analysis

Past experience from the late 1980s strongly reinforce the perspective that access to courts and judicial efficiency are normally positive when associated with long-term institutional, structural, professional, and procedural reforms of the judicial system. Over recent years, there has been remarkable progress made in institutional strengthening and capacity building of the Judiciary. Separate district courts have been built in many Dzongkhags. Legal services to the general public are also in the process of being continuously improved and expanded. About 200 legal counsel personnel have been trained till date to enhance people's access to justice. The Advocate Act has been passed and the Office of the Attorney General has been established to provide legal services to the Royal Government. Furthermore, the efficiency in delivering judicial services is being enhanced through the use of information and communications technology. ICT facilities like local area network in the High Court, judiciary websites and email and internet services in the district courts are being provided.

Although the Judiciary has seen tremendous progress in the recent past, many areas still need to be developed and improved. While considerable infrastructure has been expanded it is still inadequate in all most all the Dzongkhags. Many Dzongkhag and Dungkhag courts are not housed appropriately and do not have required facilities. In order to strengthen the structural and the institutional independence of the Judiciary as guaranteed in the Constitution and to enhance equal and unimpeded access to justice, the Judiciary will have to improve infrastructure and enhance institutional capacity. The lack of independent court buildings and adequate infrastructure has culminated in court congestion of litigants and also undermined privacy and independence for citizens seeking justice and judicial personnel administering justice.

The main focus of the Judiciary in the Tenth Plan is to further improve access to justice and physically establish court building on independent premises. For district courts, this would mean moving the courts outside the dzongs, the headquarters of district administrations. This physical separation between the judiciary and the executive level of governments is seen as a visible and highly symbolic manifestation that reflects the guarantees stated in the Constitution.

C. Strategy

The main focus of the judiciary sector in the Tenth Plan will be to develop and improve the infrastructure requirements in order to facilitate the independence of the Judiciary. The establishment of twelve Dungkhag Courts and additional benches along with the up gradation of the present individual Courts has been given high priority in the Tenth Plan. The infrastructure development encompasses the construction of the Supreme, High, Dzongkhag and Dungkhag Courts. However, all judicial facility planning and design must reflect the organizational, operational and facility management requirements of the Justice system. Therefore, strengthening the independence of the judiciary, up gradation and establishments of courts and additional benches has become essential and necessary.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Increased access to and timely justice	Increased access to convenient and timely judiciary services	Court buildings constructed Human Capacities developed	Construction of High Court, Dzongkhag Courts, Dungkhag courts and Supreme court Human Resource development

E. Management Arrangements

Institutional Arrangements

The High Court in collaboration with its regional offices shall implement the Programme activities stated above. The physical construction works, as per government policy shall be carried out by the private sector. The regional offices shall be responsible for monitoring and supervision of the construction activities.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)	Remarks
1	Construction of the Supreme Court	328.185	Spillover
2	Expansion of High Court	55.000	
3	Construction of Dzongkhag Courts	146.000	
4	Construction of Dungkhag Courts	55.200	
5	Construction of Dzongkhag Courts	29.798	Spillover
6	Construction of road and parking in the Dzongkhag court premises	1.200	
7	Institutional strengthening	109.000	
	Total	**724.383**	

ROYAL AUDIT AUTHORITY

RAA/01: INFRASTRUCTURE DEVELOPMENT AND INSTITUTIONAL STRENGTHENING OF ROYAL AUDIT AUTHORITY

A. Overview

1	Sector	:	Governance
2	Linkage to National Development Objectives & Strategies	:	Enabling Environment of Good Governance through the establishment of transparent, accountable, responsive and efficient auditing systems
3	Expected Results	:	Enhanced transparency, accountability and efficiency in the public institutions
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	
7	Scope	:	Nationwide
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 53.555 m
11	External Financing Required	:	Nu. 53.555 m
12	Executing Agency	:	Royal Audit Authority,
13	Implementing Agencies	:	Royal Audit Authority
14	Documents Available	:	Audit Act 2006; Sector Tenth Plan

B. Situational Analysis

The Royal Audit authority has embarked on a concerted plan to shift from traditional compliance or regulatory audit to performance and management audit to ascertain economy, efficiency and effectiveness in the utilization of public resources. The reporting format has been re-structured to make it user friendly and balanced, encompassing both the favourable as well as weak aspects of the operations of the audited agencies.

The Royal Audit Authority's role and responsibilities are guided by provisions of the Audit Act of Bhutan 2006. The legal basis for the RAA's existence has also been enshrined in Article 24.1 of the Constitution of the Kingdom of Bhutan which explicitly provides for the RAA's responsibility "to audit and report on the economy, efficiency and effectiveness in the use of public resources".

In order for RAA to perform its functions effectively as required, the agency will require significant infrastructure development to house its various offices across the country. The regional office in Tsirang does not have adequate office space which inhibits the efficiency and productivity of the officers. It is presently housed in a small and old bungalow with limited space and functional areas required.

In addition, the RAA intends to construct a Regional Training Center at Tsirang to enable the up-gradation of knowledge and skills of auditors through continuous in-house training. The Regional Training Center would not only facilitate the in-house training for RAA but could also be used by other agencies for workshops, seminars and conferences.

C. Strategy

Infrastructure development across all sectors is a major acvitity of the Tenth Plan as it facilitates equitable access to basic amenities and enhances efficiency and productivity of the end users.

The Royal Audit Authority (RAA) as one of the important constitutional bodies also requires the expansion of its infrastructure to accommodate its needs to better fulfill its functions and responsibilities. As the agency is vested with the important responsibility to oversee the implementation of development activities in an economic, efficient and effective manner, the RAA over the Tenth Plan will work towards integrating financial and regulatory audits with a performance audit.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Enhanced transparency, accountability and efficiency in the public institutions	Enhanced economy, efficiency and effectiveness in the use of public resources	RAA Infrastructure developed Qualified and trained auditors on IT, Environment and other relevant disciplines	Construction of Regional Office and training center Human Resource Development

E. Management Arrangements

Institutional Arrangements

The Royal Audit Authority (RAA) in collaboration with its regional office in Tsirang shall implement the Programme/projects. The physical construction works, as per government policy shall be carried out by the private sector. The regional office shall be responsible for monitoring and supervision of the construction activities.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Construction of Regional Office and training center	38.185
2	Institutional strengthening	15.370
	Total	**53.555**

ROYAL CIVIL SERVICE COMMISSION

RCSC/01: STRENGTHEN ADMINISTRATIVE, LEGAL AND MANAGEMENT SYSTEMS IN CIVIL SERVICE

A. Overview

1	Sector	:	All
2	Linkage to National Development Objectives & Strategies	:	Good Governance through improving efficiency, accountability and transparency in public administration
3	Expected Results	:	Efficient delivery of quality public service
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	RCSC/Civil Service
7	Scope	:	National
8	Status-Ongoing/New	:	Ongoing
9	Tentative Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 159.000 m
11	External Financing Required	:	Nu. 159.000 m
12	Executing Agency	:	RCSC
13	Implementing Agencies	:	RCSC
14	Documents Available	:	

B. Situational Analysis

The Ninth plan period saw the implementation of the Position Classification System (PCS) in the civil service which was introduced as a major policy reform to strengthen public administration and enhance delivery of public services. The broad objective of the PCS was to transform the civil service system into one based on meritocracy, professionalism and efficiency while providing for a small compact and efficient civil service. The PCS Policy document was launched on 29th December 2005 and its implementation spearheaded by the RCSC. The revised Bhutan Civil Service Rules was also launched on 2nd June 2006.

The civil service strength has increased at a rate of 5.62% over the last four years and now stands at 19,848. The percentage of expatriates in the civil service has also decreased steadily over the years. The Civil Service Common Examination (CSCE) was introduced in 2005 to streamline and enhance the recruitment of University Graduates. The responsibilities as well as authority for various human resource activities are being decentralized to the Ministries, Agencies and Dzongkhags.

The need to determine realistic staff strength and to right size the civil services was felt and to this end, an organizational development exercise was initiated that will be put into place during the Tenth Plan. The preliminary work on organizational Development recommended under the GG plus was also initiated in collaboration with relevant agencies. The OD Exercise was executed in all ministries, Agencies and Dzongkhags beginning January 2007. The draft civil service Act is also under review and likely to be enacted.

C. Strategy

- Introduce quality and service standards in the Civil Service;
- Gradual implementation of the Position Classification to realize its full potential;
- Recruit the best and brightest into the Civil Service;
- Ensure HR actions on recruitment, appointment, promotion, transfer, discipline and training in the Civil Service are carried out in an efficient, transparent and accountable manner;
- Decentralize HR action to the line Ministries, Agencies and Dzongkhags;
- Maintain optimal size of the Civil Service for providingquality and efficient services to the Government and the public;
- Maintain and promote morale, high standards of ethics and integrity of civil servants;
- Institute an excellent performance management system at both organizational and individual level;
- Conduct regular Organizational Development Exercise;
- Institute M&E and HR Audit to ensure right deployment and utilization of scarce human resources and skills; and
- Formulate policies, legal framework and rules as and when necessitated

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Good Governance through efficient and quality public service delivery	Highly competent, knowledgeable and professional civil service Effective, efficient and responsive civil service system	Civil Service quality Improved Quality service standards developed and e-governance instituted HR info.management system developed and operational Organisational Development undertaken and recommendation of the exercise implemented	Development of quality service standards across all sectors Introduce e-governance Strengthen HR information management system Development of quality service standards across all sectors Introduce e-governance

		Enhanced recruitment, development and management of civil servants Civil Service Act adopted Enhanced Public service delivery All agencies subjected to HR auditing and necessary follow up carried out	Strengthen HR information management system Institute Organisational development in all agencies Improvement of Performance Management System Strengthening selection, HR recruitment, including the common exams, management and deployment of civil service Review and revise existing policies, rules & regulations including the draft Civil Service Act Management Development Programme HR auditing of all agencies

E. Management Arrangement:

Institutional Arrangements

The Royal Civil Service Commission will be responsible for the programme implementation in collaboration with relevant sectors where ever required.

Indicative Costs

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Delivery of Quality Service to the Public and Government	31.000
2	Institutional Strengthening through transparent and accountable decision making and HR management processes in the civil service	23.000
3	Management Development Programme	105.500
	Total	**159.500**

RCSC/02: HUMAN RESOURCE DEVELOPMENT PROGRAMME

A. Overview

1	Sector	:	All
2	Linkage to National Development Objectives & Strategies	:	Investing in Human Capital through human resource development
3	Expected Results	:	Efficient delivery of quality public service with enhanced level of skills and qualification of the civil servants
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	Nation-wide
7	Scope	:	National
8	Status-Ongoing/New	:	Ongoing
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 4,056.757 m
11	External Financing Required	:	Nu. 4,056.757 m
12	Executing Agency	:	RCSC
13	Implementing Agencies	:	RCSC/Agencies
14	Documents Available	:	RGoB, Civil Service Human Resource Development Master Plan (2002-2007), April 2002. RGoB, The Constitution of the Kingdom of Bhutan, RCSC, Management Development Program Report, 2008

B. Situational Analysis

The long term sustainable and successful development of any economy is strongly contingent on the investments made in human capital with the latter constituting a non-diminishing source of economic growth. Cultivating and sustaining human capital through HRD and further improving on its qualitative aspects represents a strategic imperative for promoting growth and reducing poverty. It is in itself a critical factor for the delivery of various development interventions. The quality and critical mass of human resources that is available to the country will also fundamentally shape Bhutan's long term prospects for engendering a culture of innovation, creativity and enterprise so necessary for enhancing national productive capacities.

Human Resource Development

During the 9th Plan, a total of 17, 018 training slots were implemented at a cost of Nu. 2.8 billion. Out of these training slots, 1,175 were Bachelors and higher degrees, while 9,078 in-country training slots were implemented during the 9th FY plan compared to 6,891 during the 8th FY plan. This is an increase of 2,187 slots which is (32%) over the 8th plan which marks an improvement on the expanding capacities of various institutions within the country.

An Analysis of the Trainings implemented during the 9th FYP is indicated below.

Level	9FYP Total	%
Ph. D/Spl	22	0.1%
Masters	780	4.6%
P.G Dip/Cert	231	1.4%
Bachelor	146	0.9%
Diploma	338	2.0%
Short-term/Others	15,441	91.1%
Grand Total	**17,018**	**100.0%**

The Annual Review of the HRD Master Plan was instituted in the 9th Plan to review implementation of the HRD Master Plan and to reprioritize and revise the Plan in accordance with the changing needs and priorities of the Agencies. Four annual reviews have been conducted till date.

Moreover, 13 civil servants have acquired Ph. D qualification in the 9th Plan.

In line with the overall decentralization policy of the Royal Government, the Human Resource Office was instituted in 2004. This was further consolidated with the establishment of HR Committees within every Ministry, Agency and Dzongkhag in 2006.

HR Office was instituted to carry out Human Resource functions like recruitment & selection, promotion, transfers, performance management and training uniformly and consistently across the Civil Service. Today, there are 78 Human Resource Officers in various Ministries, Agencies and Dzongkhags.

Many of the HR functions like recruitment, selection, promotion including authority to approve short-term training are decentralized. HR Committees will guide and address all Human Resource actions within an organization to promote broader participation, ensure fair and transparent HR decisions based on merit.

The MDP comprising of courses for executives, managers and supervisors in the civil service has been developed.

A comparative analysis of qualification of the Civil Service at the start and the end of the 9th Plan is summarized below:

Level	End of 8th FYP	End of 9th FYP
Ph. D	0	13
Masters	143	901
Bachelors	1,568	3,534
PG Dip./ Cert.	143	867
Diploma	1,283	2,807
Certificate/Others	11,121	10,683
Total	**14,258**	**18,805**

C. I. Objectives and Targets

The Human Resource (HR) theme for the Civil Service in the Tenth Five Year Plan is "Enhancing Good Governance in pursuit of Gross National Happiness." The introduction of parliamentary democracy and the continued rapid pace of socio-economic development effected through the Tenth Plan development activities have significant implications for governance. In the Civil Service the challenges will be to efficiently and effectively support the policies of the RGOB n implementing programmes to deliver quality services to the people. To address this, the Civil Service requires a high standard of performance, professionalism, transparency and accountability, which are the four pillars of good governance. It is therefore essential that the Royal Government strengthen human resource capacities in the Civil Service. Equally organizations and their HR management and development strategies must be aligned with national policies and supported by sector and organizational visions, strategies and plans.

The HR objectives for the Civil Service in the tenth FYP are to:

- Deliver High Quality Service to the Government and the public in an efficient and effective manner;
- Align optimally the HRD plan with sectoral and national development plan;
- Attain sufficient inhouse human resource capacity to deliver public services more effectively and efficiently;
- Promote professionalism and competence of the civil servants; and
- Institute transparent and accountable decision-making and HR management processes in the Civil Service;

C. II. Strategy

Ensuring better collaboration between the three key agencies: GNH commission, RCSC, MoLHR and the sectors through regular dialogue and coordination:

- Improved alignment of the Human Resource Training and Development with the sectoral and national development plan;
- Higher resource allocation to priority sectors;
- Encourage and support application for open scholarship and provide necessary top-up fund wherever scholarships do not cover the full cost;
- Transparent, equitable and fair allocation of scholarships through joint decision between the RCSC and the GNHC taking into consideration the level of resources mobilized for each agencies, importance and current situation of the agencies;
- Training identification on the basis of the Organizational Development exercise to determine the strategic human resource needs of the Royal Government;
- Conduct an annual review to ensure relevance of training to organizational needs as well as to respond to changing priorities of the organization;
- Develop rapidly a pool of critical skilled professionals and sustain the same;

- Equip civil servants with the right qualifications, skills, knowledge and right attitude to achieve organizational performance;
- Facilitate continuing education for civil servants to pursue higher qualifications and enhance knowledge and competence;
- Decentralize all short term trainings to line Ministries, Agencies and Dzongkhags;
- Develop capacities of line Ministries, Agencies and Dzongkhags to implement development plans in the most effective and efficient manner;
- Ensure better alignment/match between the field of study and the organisation's mandate to which the candidate belongs;
- Ensure that technical people pursue higher studies directly related to their current degree and not management and general studies;
- Improve HR management and deployment to ensure right people are entrusted with the right responsibilities; and
- Institute M&E and accountability system.

C. III. Rationale for the Sectoral HRD Allocation

The guiding principle in allocation of resources for the 10FYP HRD is that the priority sectors which support the Tenth Plan and long term development objectives of attaining economic excellence receives priority resource allocation. This is a break from the traditional approach of assigning certain percentage increase over the previous plan allocation irrespective of the importance of the sector or existing strengths and gaps.

Further, the Tenth Plan HRD preparation takes into account each organization's core mandate, its existing strength, gaps and accordingly allocation and identification of areas are carried out to ensure the HRD supports organizational mandates and functions.

Accordingly, the social sectors have been allocated the highest allocation constituting almost about forty eight percent of the total HRD allocation of Nu. 5051.714 million. Recognising the importance of quality education, the education sector has been allocated the highest allocation constituting about 39.2% (MoE, RuB & REC) followed by the Health sector with about 9.5% of the total allocation. The Ministry of Labour and Human Resources and the Ministry of Works and Human Settlement have also been allocated significantly increased allocation as these sectors are seen to be important sectors to pursue economic excellence.

Finally, the HRD for the constitutional and allied organizations have been maintained at 100% of the proposal received from these organizations to ensure that the full financial independence and autonomy is maintained and not compromised as provisioned by the Constitution and other acts.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Quality of public service delivery enhanced	Efficient and professional civil service through improved educational and professional capacity	Sectoral and agencies human resource capacity enhanced Plan implementation supported through competent and skilled bureaucrats	Undertake various long term and short term capacity building availed in-country and ex-country Ensure proper HR management and deployment

E. Management Arrangement

Institutional Arrangements

The Royal Civil Service Commission, the Gross National Happiness Commission and the Ministry of Labour and Human resource will be the three key executing/coordinating agencies while the respective Ministries/agencies/sectors will implement the programme activities in line with the 10FYP HRD Master Plan.

All short term trainings will be fully decentralized to the respective agencies while the RCSC will be responsible for administering long term trainings. The GNHC will be responsible for overall HRD planning and resource allocation.

Indicative Cost

#	Field	Slots	Indicative Cost (Nu. in million)
1	Ph.d	208	555.225
2	Masters	1712	2432.933
3	Post Graduate Diploma	563	250.712
4	PG Certificate	98	12.915
5	Bachelors	628	245.511
6	Diploma	653	202.222
7	Short term		357.239
	Total		**4056.757***

* The total HRD indicative figure is Nu 5235.510m which includes HRD for agencies outside civil service. Also the total Short term indicative outlay for the civil service is Nu.1535.992m as per the HRD plan. This has been reduced to Nu. 357.239m to remain within the overall fiscal ceiling. However no changes will be made in the HRD plan.

BHUTAN BROADCASTING SERVICE CORPORATION LIMITED

BBS/01: IMPROVE THE REACH AND QUALITY OF BBS RADIO AND TV

A. Overview

1	Sector	:	Information and Communications
2	Linkage to National Development Objectives & Strategies	:	Long term strategy of creating a knowledge-based society
3	Expected Results	:	Inform Society across the nation and increase the listener ship to 85-90% and TV viewers increased by at least 20 %
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	Whole nation
7	Scope	:	Nation-wide
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 406.779 m
11	External Financing Required	:	Nu. 406.779 m
12	Executing Agency	:	Bhutan Broadcasting Service
13	Implementing Agencies	:	Bhutan Broadcasting Service
14	Documents Available	:	SectorTenth Plan

B. Situational Analysis

The media as a powerful communication tool clearly has a critical role to play in shaping the political, social and economic development agenda in Bhutan. It is particularly important within the context of strengthening democracy and democractic institutions and making governance and policy making more inclusive. This will help ensure the emergence of a robust and vibrant democracy taking root in the country. Finally, the media can play a pivotal role in Bhutan's prospects of emerging in time as a knowledge-based society. Recognizign this, the Constitution fully affirms the principles of freedom of speech, upholds the right to information for all and the development of a free and responsible media.

The Bhutan Broadcasting Service was amongst the first media establishments in Bhutan when its initial radio service the NYAB Radio was started up by a group of volunteers in 1973. In 1986 with the commissioning of a 10 KW short-wave transmitter and a small broadcast studio, Radio NYAB was renamed as Bhutan Broadcasting Service (BBS). The organization has come a long way since. Today the BBS has radio broadcast of 105 hours a week in four languages and its FM and TV services are now available nationwide.

A survey conducted in November 2005 indicates that BBS radio is the prime media in the rural and remote areas of the country. FM listeners to BBS radio also increased from 25 percent in 2000 to 78 percent in 2005. In the Ninth Plan FM transmission coverage was increased to 75 percent of the total area of the country with the remaining areas to be covered in the Tenth Plan by installing high power FM transmitters in all the Dzongkhag headquarter and solar based low power transposers in remote locations. This will ensure at least 95 percent coverage and good quality reception all over Bhutan. The airtime for BBS TV has increased from 14 to 94 hrs a week and this does not include live broadcasts outside the normal schedules. News items are also updated daily on the BBS website. The BBS Radio live on-line service was also launched in February 2008.

Since February 2006, BBS TV has been transmitting its news and services through satellite to all the 20 Dzongkhag and beyond. The satellite service was given free of cost for three years by the GoI. Presently, the BBS has no capacity to provide live news from other parts of the country and without adequate technology andcapacity it would be difficult to sustain and continue nationwide service through satellite. In addition, it is becoming increasingly challenging as important events continually demand live coverage and do require electronic news feeding systems to be developed. For this a satellite newsgathering van SNG, is required to feed in live coverage from the otherparts of the country to Thimphu for live broadcast.

Additionally, the Audience Survey Report 2000 recommended that BBS carry out national audience survey once every two years and one intermediate survey every one year. For the Tenth Plan, BBS proposes two national surveys and one intermediate survey. With the increasing popularity of radio and television in the rural areas the demand for more diverse has also increased over the years.

C. Strategy

There will be a two-pronged strategy for BBS in its media coverage during the Tenth Plan that will focus on expanding both radio and TV coverage. The radio service will be strengthened through FM transmission covering the entire country. The places having access to internet services will be covered through real time internet broadcasting.There is already a good market of internet users in the country as well as abroad for the Internet broadcasting service.

Many villages do not have electricity and most of the rural poor cannot afford television sets. To address this constraint, Gewog TV viewing centers have been established in 172 gewogs. The centers have a satellite dish antenna with receiver and a TV set with appropriate power supply set to view BBS TV. This will increase the coverage and help educate the public on various government initiatives.

Although BBS TV is transmitted via satellite since 2006, majority of rural people are not able to receive these TV services as many of the remote villages are not connected by cable. An alternate option is to set up an independent terrestrial transmission network using the optical fiber backbone network. This option is critical as it will also serve as a back-up service for satellite transmission. It may be noted that at present BBS does not have formal access to the optical fiber network, without which a fully terrestrial system will not be possible. The existing system is a combination one which relies in the first instance on satellite and thereafter terrestrial transmission via cable TV system and a few VHF TV transmitters.

In addition, the existing analogue archives need to be converted into digital format and stored in the system to ensure proper storage and easier access. Digital storage also occupies less space than analogue systems. To document the culture and traditions of the country, a separate division for archives will be established and the documentary section strengthened. The change to digital format has to be done before the analogue systems are phased out.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Informed society across the nation	Improved outreach and capacity for Radio and TV Programme production	BBS Radio services strengthened BBS TV Services strengthened Human capacities developed	Strengthen FM Services Introduce Internet Broadcasting Purchase and distribute digital receivers Up gradation of Chubachu Radio station Installation of TVRO equipment in Gewog Centers Establish Terrestrial TV network Satellite Service Establish News Gathering Systems Strengthen Audio Video archives Programme acquisition Establish Regional Production studio Purchase of Equipment for new TV Center Establish media resource center Develop Human Resources

E. Management Arrangements

Institutional Arrangements

The BBS will execute and implement the Programme/projects in collaboration with its eight regional bureaus in the Dzongkhags.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. In million)	Remarks
1	Strengthen FM Services	24.010	
2	Introduction of Internet Broadcasting	3.140	
3	Up gradation of Chubachu Radio station	9.400	
4	Digitization of radio station	6.980	
5	Purchase and distribution of digital receiver	56.000	
6	Establish Terrestrial TV network Satellite Service	79.275	
7	Establish News Gathering Systems	61.500	
8	Strengthen Audio Video archives	10.000	
9	Programme acquisition	62.500	
10	Establish Regional Production studio	49.700	
11	Purchase of Equipments for the new TV Center	36.544	Spillover
12	Establish media resource center	4.230	
13	Purchase of vehicle	3.500	
	Total	**406.779**	

BHUTAN INFOCOM AND MEDIA AUTHORITY

BICMA/01: STRENGTHENING OF BHUTAN INFOCOMM AND MEDIA AUTHORITY

A. Overview

1	Sector	:	Information, Communications and Media
2	Linkage to National Development Objectives & Strategies	:	Contributes to all the pillars of GNH but notably in enhancing Good Governance through public advocacy and information dessimination on various political, social and economic issues
3	Expected Results	:	Effective and efficient regulatory body in place.
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	National
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 10.500 m
11	External Financing Required	:	Nu. 10.500 m
12	Executing Agency	:	Bhutan InfoComm and Media Authority (BICMA)
13	Implementing Agencies	:	Bhutan InfoComm and Media Authority
14	Documents Available	:	Bhutan Information, Communication and Media Act 2005, Sector Tenth Plan

B. Situational Analysis

ICT and the media are powerful tools of communication and clearly have critical roles to play in furthering the political, social and economic development agenda in Bhutan. Among many other things, they are particularly important as agents of social change in the context of strengthening democracy and democractic institutions and making governance and policy making more inclusive. ICT and media also have enormous potential in helping Bhutan overcome the considerable constraints imposed by its geography. Finally, the ICT and Media sector can play a pivotal role in Bhutan's prospects of emerging in time as a knowledge-based society.

Recognizing this, the Royal Government remains fully committed to the professional development of the ICT and Media sector. The freedom and independence of the media in the dessimination of information is enshrined as a fundamental right under the Constitution, which further affirms the critical role of the sector. The Royal Government has also put in place the legal and institutional framework to support its full development. The Bhutan Information, Communications and Media Act was enacted in July 2006 and subsequently, the Bhutan InfoComm and Media Authority (BICMA) was established to ensure the effective use, management and regulation of this important sector. The BICMA has now been de-linked from the Ministry of Information and Communications and functions as an autonomous agency with a mandate to regulate the ICT and Media sector in Bhutan.

The BICMA's specific functions include the regulation of telecommunications services, media services like cable television, broadcasting and printing press, assignment of radiocom frequencies and management of the radiofrequency spectrum. It licenses all ICT and Media facility providers and service providers. It also prepares various guidelines, sets technical standards and frame terms and conditions for the provision of such services.

C. Strategy

To promote and enhance the application and use of the ICT and Media sector in Bhutan's holistic development, BICMA has already adopted and will maintain a "light touch-regulation" approach as dilineated in the Bhutan ICT Policy and strategies (BIPS) document. The light touch policy as the name implies means applying regulations in a sensible and light handed manner but in no way indicates a laissez faire approach as the independence of the ICT and media sector can be fragile and easily compromised. The policy clearly envisages and supports the development of the sector in the right environment with the freedoms and capacities balanced by the necessary checks and balances.

To that extent the self-regulation of the sector and the creation of a liberalized and competitive ICT infrastructure market through licensing new operators and service providers are the key strategies in the Tenth Plan for strengthening the BICMA. Recruitment of technically qualified staff and capacity building of the staff will also need to be given priority for the effective monitoring and regulation of the sector.

In terms of strategic activities, BICMA will actively engage in the development of National Radio Regulation; enforce the Bhutan Information, Communication and Media Act 2006 and implement various policy directives that emanate from the Act; formulate appropriate rules and guidelines; manage radio spectrum; operationalize the Universal Service Fund and develop the human resources of the institution and sector.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Socio-economic and political development promoted through media	Conducive regulatory environment for media promoted Conducive regulatory environment for media promoted Competitive and vibrant information and communications sector developed Vibrant, informed and politically active civil society created	National Radio Regulation developed Effective enforcement of the Bhutan Information, Communication and Media Act 2006 and implementation of Policy Directives on ICT and Media Rules, codes and guidelines as per the Act formulated Human Capability and Capacity Developed	Development of National Radio Regulation Enforcement of the Bhutan Information, Communication and Media Act 2006 Enforcement and Implementatinon of the policy directives on ICT and Media Formulate Rules, Code, guidelines as per the Act Management of Radio Spectrum Operationalization of Universal Service fund Human Resource Development

E. Management Arrangements

Institutional Arrangements

The Bhutan InfoComm and Media Authority (BICMA) will be the overall execution and implementation of the programme.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Implementation of the Bhutan Information, Communication and Media Act 2005	7.500
2	Enforcement of policy directives on ICT and Media	1.000
3	Improvement of Monitoring station at Tsirang	2.000
	Total	**10.500**

BHUTAN NARCOTIC CONTROL AGENCY

BNCA/01 – INSTITUTIONAL STRENGTHENING AND INFRASTRUCTURE DEVELOPMENT

A. Overview

1	Sector	:	Narcotic Control
2	Linkage to National Development Objectives & Strategies	:	
3	Expected Results	:	Prevention, reduction and eradication of drug abuse in the country
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	Drug addicts
7	Scope	:	
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008- 2013)
10	Indicative Capital Cost	:	Nu. 51.403 m
11	External Financing Required	:	Nu. 51.403 m
12	Executing Agency	:	Bhutan Narcotic Control Agency
13	Implementing Agencies	:	Bhutan Narcotic Control Agency
14	Documents Available	:	NDPSSA Act 2005, Implementation framework for NDPSSA 2005.

B. Situational Analysis

The concern and issue of narcotic drugs and substance abuse in Bhutan was raised as far back as 1988 when a relevant public notification was issued by the Royal Government and implemented by the Royal Bhutan Police. With the growing number of cases of substance abuse being reported in Bhutanese society, the matter was again raised as a serious concern in the National Assembly in 2002. The problem of substance in Bhutan has now grown from an occasional event affecting a few families to one that is quite widespread and growing quickly with cases of deaths caused by overdose of drugs reported in the media quite often.

There is no reliable or accurate information and data on the extent of the drug abuse situation in Bhutan as yet, but as the Status Report on Drug Abuse Situation in Bhutan 2006 conveys the drug problem is definitely "seeping into the social fabric of Bhutanese society." The report further indicates that between 1989 and 1995, 817 arrests were made by the Royal Bhutan Police relating to drug abuse. Of these arrests, 56% were students and 91% youths and adolescents and that about 74% of the arrests were made in Thimphu alone. The Report clearly recognizes that substance abuse is essentially a youth-related problem and that male students are the most vulnerable group. Many students apparently now are habitual abusers with many even peddling drugs.

The Narcotic Drugs, Psychotropic Substances and Substance Abuse (NDPSSA) Act was adopted in 2005 following which the "Bhutan Narcotic Control Agency (BNCA) came into existence in November 2006.The office of the BNCA is fully functional with an Executive Director heading the agency but is inadequately staffed and equipped. The institutional strengthening and capacity building of the agency is thus an important priority activity.

Bhutan lacks any structured treatment provision for the dependent drug abusers. Presently, some drug dependents are treated in the psychiatric unit of Jigme Dorji Wangchuck National Referral Hospital (JDWNRH). But, they are mainly dealing with the 'detoxification' part of it i.e. helping the drug dependents with medical support to safely overcome the withdrawal phase. But the provisions of counseling for relapse prevention and after care so essential for recovery is very limited given the hospitals present capacity stretched to the end to provide services to the more 'critically ill' patients.

The limited capacity for treatment and the lack of a recovery centre makes many drug users seek treatment outside the country which is expensive for many to afford it. Therefore, a recovery centre is the need of the hour to occasionally help numerous young addicts in Bhutan relinquish their substance dependency and rebuild their lives. Though, Bhutan began responding to the drug problem in 2004 an efficient team of service providers to efficiently deliver the requisite services as well as trained cadres to respond to changing situations are yet to be in place.

There is also a lack of quality IEC materials about drug abuse, its consequences and related issues to aid in awareness generation, education and prevention of abuse of drugs and other harmful substances. The lack of any module aimed at prevention of drug abuse among in and out of school children makes difficult to plan and implement any structured intervention among this very vulnerable group.

The objectives:

- To carry out advocacy and public awareness programs on the ill effects of drugs and alcohol abuses amongst in-school youth, out of school youth, parents and teachers;
- To rehabilitate drug dependant youths by providing detoxification, treatment, counseling, community support programme and after care services;
- To develop module/manuals to carry out prevention education amongst youth;
- To develop IEC materials to carry out mass campaign amongst all sections of the youth on the ill effects of drugs and alcohol abuse; and
- To ensure capacity building of the staff for quality service delivery aimed at preventing and reducing drug abuse amongst the youth.

C. Strategy

The BNCA will carry out the following strategic activities during the Tenth Plan:

- Coordinate and facilitate early detection, de-toxification, treatment and rehabilitation with the Ministry of Health, Ministry of Education, Non Governmental Organizations (YDF) and International Organizations;
- Strengthen management capabilities and future requirements of the BNCA and other stakeholders to design and impart systematic professional management development programmes in support of the drug abuse prevention and supply reduction measure;

- Establish research and IT section to carry out baseline survey on drug abuses situation, compile and produce annual drug status report, maintain BNCA website, maintain data base for the drugs abuse information in the country and to carry out surveillance project in schools, institutions and the affected communities; and
- Develop and produce different types of educational materials (pamphlets, booklets, posters, guidebooks etc) for use in schools, institutions and communities.

D. Results Framework

Impact	Outcome	Output	Project/Activities
Drug free society	A dynamic and professional agency committed to prevention, reduction and eradication of drug abuse in the country	Drug addicts treated Awareness on supply reduction and demand reduction created Human capacities developed	Construction of rehabilitation Centre Institutional strengthening Human Resource Development

E. Management Arrangements

Institutional Arrangements

The Bhutan narcotic Control Agency will play the lead role in the overall execution and coordination of the Programme in collaboration with line agencies and ministries.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Construction of Rehabilitation Centre	30.000
2	Drug education and prevention programme	8.000
3	Drug supply reduction programme	2.000
4	Establish treatment centers	5.000
5	Carry out national baseline study	1.500
6	Purchase of drug testing equipment	1.000
7	Equipment (It server and programme)	2.000
8	Office equipments	1.903
	Total	**51.403**

BHUTAN OLYMPIC COMMITTEE

BOC/01: NATIONAL SPORTS INFRASTRUCTURE DEVELOPMENT

A. Overview

1	Sector	:	Sports
2	Linkage to National Development Objectives & Strategies	:	Promoting holistic and non material well being in support of GNH and various national development goals
3	Expected Results	:	Organization of sports/games on a wider scale.
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	Bhutanese Athletes
7	Scope	:	Nationwide
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 100.000 m
11	External Financing Required	:	Nu. 100.000 m
12	Executing Agency	:	BOC
13	Implementing Agencies	:	BOC, Federations
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Well conceived sports and games based initiatives that incorporate the best values of sports can be powerful, practical and cost effective tools to achieve various national development goals. It can help foster healthy development of children and youth, inculcate positive values and life skills, strengthen education, prevent disease and improve health and well being. Sports and games can also potentially be a positive force for strengthening national unity and social cohesion given its huge popularity in Bhutan. It also provides a useful platform through which Bhutan's external relations and links with the global and regional community are enhanced positively and the country's image enhanced.

The Bhutan Olympic Committee (BOC) was set up in 1983 following the Royal Government's decision to join the International Olympic Movement. The BOC's primary mission is to propagate the fundamental principles of olympism in the country within the framework of sports activities and its diffusion in the teaching of physical education and sports in the schools and institutions. The various National Sports Federations (NSFs) and the Dzongkhag Sports Associations (DSAs) were formed as functional arms of the BOC and the Department of Youth and Sports (DYS) under the Ministry of Education was established to promote and develop sports in schools.

Sports are gaining increasing popularity in Bhutan, especially amongst the youth. In view of the many merits and advantages that can be derived from sports and physical activities as iterated previously, it is being increasingly recognized that this activity must be encouraged and catered to for all sections of the population – the young, old, middle-aged, able-bodied and the physically challenged. The various surveys conducted by the Center for Bhutan Studies also reveal the importance of sports and recreational activities in people's perceptions about its relevance to happiness.

However, there is a lack of general awareness on the importance of sports and of how it can act as a positive influence in people's lives. Sadly, a conscious recognition of sports in the national development strategy has also been largely absent in the context of incorporating properly

conceived and planned programme of activities to promote sports activities. Other constraints relate to the inadequate sports infrastructure, shortage of qualified coaches, poor sports equipment, etc. As such, there is need to develop a National Sports Policy and to strengthen the coordination mechanism amongst all the organizations involved in the promotion and development of sports in the country.

C. Strategy

The following strategies shall be pursued by the BOC during the Tenth Plan to promote sports in the country:

- Effectively implement the concept of "Sports for All" by developing capacities of potential players including youths by providing appropriate opportunities and facilities;
- Facilitate school oriented sports and inter-Dzongkhag Sports Competitions and National Sports Competition;
- Adopt a holistic approach in the development of sports especially related to leading healthy life-styles and catering to all segments of the society;
- Develop physical infrastructure and proper training facilities to promote and facilitate sports activities and skills; and
- Strengthen capacities of the organizations involved in the promotion and development of sports.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Excellence in games & sports to promote well being	Knowledge and skills enhanced among the Bhutanese athletes	National sports infrastructure developed Human capacities developed	Construction of sports centers Human Resource Development

E. Management Arrangements

Institutional Arrangements

The Bhutan Olympic Committee (BOC) and National Federations will promote sports and games at the national level by undertaking various activities with further momentum and support of the Royal Government. The Dzongkhag Sports Associations will coordinate the development of sports infrastructure at the Dzongkhag level under the technical supervision and guidance of BOC and respective federations. Close collaboration will be maintained with the DYS, Ministry of Education.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Construction of Training Centers for National Federations and one Stadium for BOC (Sports centers for National Federations 50m, Dzongkhag Sports centers 50m)	100.000
	Total	**100.000**

COUNCIL FOR ECCLESIASTICAL AFFAIRS

DL/01: IMPROVEMENT OF HEALTH & SANITATION SERVICES

A. Overview

1	*Sector*	:	*Religion*
2	*Linkage to National Development Objectives & Strategies*	:	*Achieving the MDGs Plus Health Goals.* *Investing in human capital through improved water and sanitation conditions for religious institutions and improved public health through the active advocacy of the monk body*
3	*Expected Results*	:	*Improve accessibility and sustainability of the health care delivery systemthrough improved water and sanitation systems that will help promote hygiene and sanitation conditions in religious institutions*
4	*Relevant MDG & SDG*	:	*Primarily MDG Goal 7:Target10: Halving the proportion of population without access to safe drinking water and sanitation* *Other Health MDGs* *SDG Goal 12: Improved Hygiene and Public Health*
5	*Donor Agency*	:	
6	*Target Group*	:	*Religious Practitioners*
7	*Scope*	:	
8	*Status-Ongoing or New*	:	*New*
9	*Timeframe*	:	*Five Years (2008 – 2013*
10	*Indicative Capital Cost*	:	*Nu. 139.000 m*
11	*External Financing Required*	:	*Nu. 139.000 m*
12	*Executing Agency*	:	*Dratshang Lhengtshog*
13	*Implementing Agencies*	:	*Dratshang Lhengtshog*
14	*Documents Available*	:	*Sector Tenth Plan*

B. Situational Analysis

The programme consists mainly of trainings and provision of water and sanitation facilities by the Ministry of Health to the monastic institutions. Given the importance that religion has in the everyday lives of most Bhutanese and the influence it weilds, certain activities of the programme also focused on harnessing the advocacy role of the monastic institutions to promote appropriate health seeking behavior and general awareness on public health issues amongst communities.

Some of the achievements made in the Ninth Plan include the training of 1,585 religious practitioners on health and hygiene, provision of water supply to 22 monastic institutions, training on maintenance of the facilities provided to 19 monastic institutions and training of 16 monks and nuns as water caretakers.

C. Strategy

The programme strategy will essentially remain the same as in the Ninth Plan. Trainings will be provided and various physical infrastructure/facilities developed to further improve the health, hydgiene and sanitation of the residents in religious institutions. Efforts will also be strengthened to continue the powerful advocacy of the monastic institutions on public health issues for effective

health utilization. Additionally, the curriculum of the monastic education system will be reviewed to incorporate relevant information on health, healthy lifestyles and other important public health issues.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Improve accessibility and sustainability of the health care delivery system	Residents in monastic institutions adopt healthy and hygienic practices	100 religious institutions equipped with improved water sources and separate sanitation facilities Religious institutions equipped with improved kitchen hygiene	Provision of safe drinking water and Sanitation to Religious Institutions Training of monks and nuns on Kitchen hygiene and nutrition
	Health seeking behavior and general awareness on public health issues amongst communities increased	Living facilities for monks and nuns improved	Improvement in the Living facilities of monks and nuns
		Community-based religious practitioners trained on defined set of health and hygiene practices	Training of community- based religious practitioners on a defined set of health and hygiene practices

E. Management Arrangements

Institutional Arrangements

Under the overall management of the Dratshang Lhentshog, the Religion and Health Project shall execute the activities in coordination with collaborating partners/ agencies.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Provision of safe drinking water and sanitation to religious institutions	100.000
2	Training of monks on kitchen hygiene and nutrition	21.000
3	Improvement in the living facilities of monks	7.500
4	Training of community- based religious practitioners on a defined set of health and hygiene practices	10.500
	Total	**139.000**

DL/02: EXPANSION OF TANGO BUDDHIST COLLEGE

A. Overview

1	Sector	:	Religion
2	Linkage to National Development Objectives & Strategies	:	Preservation and promotion of Culture as an important pillar of GNH
3	Expected Results	:	Provide advanced course in Buddhist studies and philosophy
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	Monks
7	Scope	:	
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 250.005 m
11	External Financing Required	:	Nu. 250.005 m
12	Executing Agency	:	Dratshang Lhentshog
13	Implementing Agencies	:	Dratshang Lhentshog/ Central Monastic Body
14	Documents Available	:	Sector Tenth Plan, Preliminary cost estimates

B. Situational Analysis

The Bhutan Vision 2020 affirms the conservation of culture as an important and integral aspect of sustainable development and a key pillar of GNH. The Vision 2020 statement envisages the propagation of cultural values and traditions as being promoted effectively through the strengthening of various living cultural institutions, such as the Tango Shedra, Bhutan's premier Buddhist study center.

The Tango Shedra, since its inception in 1964 with 25 monk students, has evolved over the years to its present status as the nation's foremost Buddhist institute. In 1988 Tango Shedra was upgraded to a Thorim Shedra (Buddhist College) with a nine year intensive academic programme. The monk students are trained in Buddhist philosophy, art, history, rituals, Bhutanese literature and culture during their academic years in the Shedra. The monk students are awarded certificates and diplomas equivalent to Bachelors and Masters Degree in Buddhist studies and Philosophy at the end of their Sixth Year and Ninth Year respectively.

Most monk students seek admission into the advanced classes at Tango Thorim Shedra after they graduate from Dingrim Shedra (Four year Buddhist study programme, which is equivalent to class 12 levels). The Dingrim Shedras are located in the Dzongkhags and cater to the candidates from the local Rabdey Dratshangs and Goendeys. The numbers of candidates seeking admission into the advanced courses of study at Tango Thorim Shedra are increasing yearly and the Shedra cannot admit all the candidates wishing to pursue their studies at Tango. At present, the Shedra accommodates only about 200 students.

With the rise in the number of the students, the Shedra is facing an acute shortage of residential and academic facilities. The present location of the Shedra at Tango is on a steep slope and this restricts the expansion plans for additional infrastructure development to accommodate the growing student

population. Therefore, an alternative site for infrastructural extension of the Shedra to part of the Dodena area at the foot of the Tango slope has been identified to construct a Thorim Shedra with adequate facilities for 500 students.

C. Strategy

In the Tenth Plan, the achievement of the overall result will be facilitated through the following strategies:

- Develop infrastructure in Dodena to ease pressure on existing facilities at Tango;
- Move part of the student body to the extended facility. This will allow for more manageable classrooms;
- Provide a good environment for learning; and
- Increase intake of students for advanced study and training at the Throrim Shedra.

D. Results Framework

Impact	Outcome	Output	Project/Activities
Provide adequate physical infrastructure to ease the pressure on the present location at Tango.	Provide a good environment for learning	A model buddhist college in place	Infrastructure Development in Dodena to accommodate 500 students

E. Management Arrangements

Institutional Arrangements

The office of the Dratshang Lhentshog in close consultation with the Central Monastic Body and the Tango Thorim Shedra administration shall execute the activities in coordination with collaborating partners/agencies.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Infrastructure Development - Expansion of Tango Shedra**	
	Academic Building	21.253
	Construction of office for staff	4.003
	Dinning hall with kitchen & store	11.571
	Housing for faculty & staff	40.698
	Hostels for students	82.187
	Lhakhang / Multipurpose hall	21.750
	Site development	13.500
	Others(structural, electrical, plumbing and supervision of works	12.543
	Contingencies at 7 % of built up cost	17.500
	Purchase of furniture at 10 % of built up cost	25.000
	Total	**250.005**

DL/03: CONSTRUCTION OF SHEDRA FOR NUNS (NUNNERY)

A. Overview

1	Sector	:	Center Monastic Body/Nangur Anim Shedra,Mongar
2	Linkage to National Development Objectives & Strategies	:	Preservation and promotion of Culture as an important pillar of GNH and Mainstreaming gender balance in development
3	Expected Results	:	Provide religious and value education to young and adult women/nuns
4	Relevant MDG & SDG	:	MDG Goal 2: Achieve Universal Primary Education MDG Goal 3: Promote Gender Equality and Empower Women SDG Goal 13 Access to primary/communal school for all children, boys and girls SDG Goal 14 Completion of primary education cycle SDG Goal 15 Universal functional literacy SDG Goal 16 Quality education at primary, secondary and vocational levels
5	Donor Agency	:	
6	Target Group	:	Nuns
7	Scope	:	
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 150.000 m
11	External Financing Required	:	Nu. 150.000 m
12	Executing Agency	:	Dratshang Lhentshog
13	Implementing Agencies	:	Dratshang Lhentshog/ Central Monastic Body
14	Documents Available	:	Sector Tenth Plan, Preliminary estimate for the construction

B. Situational Analysis

The Bhutan Vision 2020 affirms the conservation of culture as an important and integral aspect of sustainable development and a key pillar of GNH. The Vision 2020 statement envisages the propagation of cultural values and traditions as being promoted effectively through the strengthening of various living cultural institutions such as through shedras and dratshangs.

The Central Monastic Body through its vast network of regional monastic centers provides religious training and teachings to over 6000 registered monks in the country.The Central Monastic Body is looking to extend this support to girls as well. The religious education/training of nuns/women in the country needs to be given due emphasis and educational facilities provided to train them. Bhutan has very few institutions that cater to the religious education needs of the nuns/women and almost all of the existing ones do not provide advanced training in religion. The proposed nunnery will cater to the religious education of girls from different dzongkhags.

C. Strategy

The achievement of the overall result will be facilitated through the following strategic activities:

- Infrastructure development: Establishing a Shedra for nuns will greatly benefit nuns in pursuing advanced religious education and training; and
- Introduction of religious curriculum in the Shedra at par with the Shedra for monks.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Provide access to higher education in religion for nuns	Qualified women teachers/instructors of religion	A full fledged Shaydra for nuns constructed	Construction of Shedra

E. Management Arrangements

Institutional Arrangements

Under the overall management of the Dratshang Lhentshog, the Programme and Planning Division of the Central Monastic Body and the Dratshang Examination Board shall execute and implement the project.

Indicative Cost

#	Description of Project/Activities	Indicative Cost (Nu. in million)
1	**Infrastructure development – Shedra for Nuns**	
	Academic Building	18.748
	Construction of Office for Staff	5.400
	Dining Hall with Kitchen & Store	6.945
	Housing for faculty & Staff	15.404
	Hostels for Students	47.925
	Lhakhang/Multi-purpose Hall	13.049
	Site Development	8.100
	Others (structural, electrical, plumbing and supervision of works	7.500
	Contingencies at 7-8 % of built up cost	11.929
	Purchase of Funiture at 10 % of built up cost	15.000
	Total	**150.000**

DL/04: CONSTRUCTION OF DHARMA CENTRE

A. Over view

1	Sector	:	Gayden dratshang/Central monastic Body
2	Linkage to National Development Objectives & Strategies	:	Preservation and promotion of Culture as an important pillar of GNH
3	Expected Results	:	Enhance access to religious teachings, meditation and monastic cultures. Provide advanced course in Buddhist studies and philosophy
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	Children, youths and adults
7	Scope	:	
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Cost Cost	:	
11	External Financing Required	:	
12	Executing Agency	:	Central Monastic Body
13	Implementing Agencies	:	Dratshang Lhentshog/ Central Monastic Body
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The Bhutan Vision 2020 affirms the conservation of culture as an important and integral aspect of sustainable development and a key pillar of GNH. The Vision 2020 statement envisages the propagation of cultural values and traditions as being promoted effectively through the strengthening of various living cultural institutions such as through shedras and dratshangs.

While spiritual practice and values are not new to the Bhutanese, age-old religious and cultural values are quickly eroding with the onset of modernization and under pressure from rapid globalization. As the Vision 2020 cautions the further erosion of Bhutan's cultural heritage could carry potentially disturbing consequences. So the safeguarding and preservation of Bhutanese culture, values and traditions will thus require the creation of a strong foundation of Buddhist faith, practices, and culture through various cultural institutions.

The concept to establish the Dharma Center in Thimphu arose from discussions at the highest levels in the Royal Government and the Dratshang, on how to make the Dharma more accessible to the general public and deepen people's awareness of their religion, values, and culture. Numerous resolutions of the Coordination Committee Meeting (CCM) of the Council of Ministers, the Lhengye Zhungtshog, the National Assembly and the Executive Committee of the Dratshang have recognized the importance of each person's spiritual growth to achieve genuine happiness and well-being. These resolutions support the Royal Government's development philosophy of achieving Gross National Happiness.

C. Strategy

The Dharma Center will be an extension of the Zhung Dratshang's current activities and will, through its varied activities cater to the growing interests and needs of the Bhutanese people for religious instruction and make available necessary resources to learn and imbibe about Bhutan's culture, traditions, history, art forms and profound spiritual legacy.

Scholars and academics will conduct religious discourses and meditation sessions for the public. Special programmes will be developed for specific target groups through which social issues like substance abuse and value education will be addressed and discussed to advocate positive social development. The dharma center will have a library with an extensive collection of materials on Bhutanese religion, philosophy, culture, art, history and literature, with multi-media displays and presentations. It will also function as a living museum displaying Bhutanese spiritual and cultural practices and artifacts.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Provide access to religious teachings and monastic cultures – Gar-thig-yang Sum	Increased spiritual development and knowledge in Bhutanese cultures	Provide a venue/forum/space for spiritual and intellectual development	Construction of the Center

E. Management Arrangements

Institutional Arrangements

Under the overall management of the Dratshang Lhentshog, The Planning and Programme Division of the Central Monastic Body shall execute the activities in coordination with collaborating partners/agencies.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu.in million)	Remarks
1	Infrastructure development- Construction of Dharma Center Hall		Will be funded through private donations
	Total		

DL/05: CONSTRUCTION OF NEW SHEDRA AT JAMBAY LHAKHANG, BUMTHANG (RELOCATION OF TSHANGKHA SHEDRA)

A. Overview

1	Sector	:	Central Monastic Body / Jambay Lhakhang Shedra, Bumthang
2	Linkage to National Development Objectives & Strategies	:	Preservation and promotion of Culture as an important pillar of GNH
3	Expected Results	:	Tshangkha Shedra relocated and an advanced studies in Buddhist studies and philosophy established
4	Relevant MDG & SDG	:	
5	Donor Agency	:	None
6	Target Group	:	Monks
7	Scope	:	
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013
10	Indicative Capital Cost	:	Nu. 23.541 m
11	External Financing Required	:	Nu. 23.541 m
12	Executing Agency	:	Dratshang Lhentshog
13	Implementing Agencies	:	Dratshnag Lhentshog / Central Monastic Body
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

The Bhutan Vision 2020 affirms the conservation of culture as an important and integral aspect of sustainable development and a key pillar of GNH. The Vision 2020 statement envisages the propagation of cultural values and traditions as being promoted effectively through the strengthening of various living cultural institutions such as through shedras and dratshangs. The Central Monastic Body through a vast network of Rabdheys, Shedras, Lobdras, Gondheys, Gomdheys and Drupdheys provide education, training and teachings to over 6000 registered monks and Gomchens all across the country.

The proposed new Shedra is actually the relocation of the Tshangkha Shedra. The present location of the Shedra is small with no room for expansion of infrastructure and facilities. The environment and atmosphere at the present Tshangkha Shedra due to climatic conditions is not conducive for education and the relocation of the Shedra to Bumthang offers several advantages. It is centrally located and easy to reach from all parts of the country and the new location moreover has adequate space to be developed into an institute of higher learning. Additionally, the current facilities available at the new location such as the temples and houses attached can be used thus reducing the overall infrastructure development costs considerably.

C. Strategy

The activity is to develop the infrastructure and relocate the old Tshangkha Shedra to Bumthang and develop this into a regional academy of higher religious learning. This will greatly benefit monks in pursuing advanced religious education and training.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Provide access to pursue higher education	Qualified monks/teachers/ instructors of religion	Full fledged Dringrim Shedra established	Construction of Shedra

E. Management Arrangements

Institutional Arrangements

Under the overall management of the Dratshang Lhentshog, the Programme and Planning Division of the Central Monastic Body and Trongsa Rabdey Dratshang shall execute and implement the project.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Construction of Shedra** Front Shedra Hostel Hostels on 2 (two) sides Kitchen Toilet & Bath house Classroom (three block) Site Development	 4.900 6.641 1.039 1.127 5.334 4.500
	Total	**23.541**

DL/ 06: CONSTRUCTION OF NEW ZHIRIM LOBDRA AT KUENPHEN YOESELLING, GYELPOSHING, MONGAR

A. Overview

1	*Sector*	*:*	*Central Monastic Body / Lobdra at Kuenphen Yoeselling, Gyelposhing, Mongar*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Preservation and promotion of Culture as an important pillar of GNH*
3	*Expected Results*	*:*	*Enhance access to religious teaching and studies and cultural life*
4	*Relevant MDG & SDG*	*:*	
5	*Donor Agency*	*:*	*None*
6	*Target Group*	*:*	*Monks*
7	*Scope*	*:*	
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 – 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 23.041 m*
11	*External Financing Require*	*:*	*Nu. 23.041 m*

12	*Executing Agency*	:	*Dratshang Lhentshog*
13	*Implementing Agencies*	:	*Dratshnag Lhentshog / Central Monastic Body*
14	*Documents Available*	:	*Sector Tenth Plan*

B. Situational Analysis

The location and climate of the preferred location for the new shedra at Kuenphen Yoeseling would be desirable and appropriate for the construction of the new Lobdra. The Central Monastic Body is planning to reduce the number of small scattered lobdras dispersed widely across the country and to consolidate several lobdras together to create a Zhirim Tewa Lobdra (Zonal Primary School) to improve quality of religious education and ease of management.

C. Strategy

Establishing a Zhirim Tewa Lobdra and merging together several Lobdras will benefit the monks in pursuing religious education and training and offer them better quality education and instruction. This consolidation will help ease the shortage of experienced and qualified religious instructors who are otherwise insufficient to staff the numerous scattered and small Lobdras.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Enhance access to pursue higher education	A good base will be created for the monks to pursue higher studies	Full fledged Zhirim Tewa Lobdra established	Construction of Zhirim Tewa Lobdra

E. Management Arrangements

Institutional Arrangements

Under the overall management of the Dratshang Lhentshog, the Programme and Planning Division of the Central Monastic Body and Mongar Rabdey Dratshang shall execute and implement the project.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	**Construction of Zhirim Lobdra**	
	Front Lobdra Hostel	4.900
	Hostels on 2 (two) sides	6.641
	Kitchen	1.039
	Toilet & Bath house	1.127
	Classroom (three block)	5.334
	Site Development	4.000
	Total	**23.041**

GNH COMMISSION

GNHC/01: STRENGTHENING PLANNING, MONITORING AND EVALUATION SYSTEM

A. Overview

1	Sector	:	Planning, Monitoring and Evaluation
2	Linkage to National Development Objectives & Strategies	:	Enabling Environment of Good Governance through developing clear planning, monitoring and evaluation framework to improve development programmes
3	Expected Results	:	A systematic and coherent M&E system institutionalized to assess the achievements of Five Year Plans through the use of GNH indicators (BDI) for the realization of important development goals articulated in the Vision 2020, MDGs and SDGs.
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	National level
7	Scope	:	National
8	Status-Ongoing/New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 50.000 m
11	External Financing Required	:	Nu. 50.000 m
12	Executing Agency	:	GNH Commission Secretariat
13	Implementing Agencies	:	Policy and Research Division (GNHCS), PPDs, Dzongkhag Planning Units
14	Documents Available	:	Sector Tenth Plan

B. Situational Analysis

Monitoring and Evaluation Systems basically track what is being done and whether the development programmes are making a difference in achieving the objectives framed for it. The monitoring and evaluation of development plans and programmes is one of the key mandates of the GNH Commission Secretariat (GNHCS). A systematic and coherent M&E system to assess the impact of development interventions is highly necessary and a vital management task in the development planning process. The demand and need for such a M&E system in Bhutan was felt more acutely following each successive Five Year Plan due to the increasing magnitude, scale and complexity of the plans.

Recognizing this, the GNH Commission Secretariat initiated the development of a National Monitoring & Evaluation System (NMES) in the Ninth Plan to introduce a standardized system for monitoring and evaluating all development programme activities in the country and streamline the procedures and formats for planning, monitoring and evaluation across all sectors.

The NMES consists of two main components, the M&E institutional set-up and procedures and a web-based computerized system, the Planning & Monitoring system (PlaMS) for data entry, storage and analysis. The GNH Commission Secretariat is currently in the process of integrating the PlaMs with the Multi-Year Rolling Budget System being developed by the Department of National Budget to improve efficiency and cost effectiveness and avoid duplications of efforts. The system is expected to be fully operational by the start of the Tenth Plan with the monitoring and evaluation of the Tenth Plan itself being done entirely within the framework of the NMES.

The importance of a dynamic and efficient M&E system becomes even more pertinent as a primary feature of the Tenth Plan is its results-based planning approach to ensure that development planning and budgeting processes are more dynamic, efficient, responsive and results oriented, Another significant feature of the Tenth Plan is the integration of the time bound and quantitative international and regional development goals – the MDGs and SDGs - within the planning framewok. Given the Royal Government's commitment to meet the SDGs and MDGs by 2010 and 2015 respectively, this provides an opportune moment to incorporate and strengthen the NMES as a tool to assess Tenth Plan outcomes on a result and targeted oriented basis.

In pursuance of the national development philosophy of Gross National Happiness, the Center for Bhutan Studies is developing a comprehensive set of indicators for GNH known as the Bhutan Development Index (BDI). Consisting of various indicators that will proximate progress towards GNH, the BDI will be an important assessment tool to understand the level of happiness of the people in Bhutan. The BDI will also serve as a critical yardstick for the NMES to assess development performance and progress on outcomes.

Since the Ninth Plan, the institutional capacity of the Planning Commission Secretariat has been seriously challenged with the increasing magnitude and complexity of development planning and its monitoring and evaluation requirements. This must be viewed from the context that the number of development interventions has grown exponentially and the Tenth Plan outlay more than doubled. While the Secretariat has witnessed an increase in both the staff and office equipment, there is a need for further institutional strengthening of the Secretariat in order to properly monitor the increased scale of plan activities and carry out various impact assessment studies.

C. Strategy

The main objective of the M&E Programme in the Tenth Plan is to institutionalize a systematic and coherent M&E system to provide critical and reliable information to decision-makers to facilitate informed decision making. The key strategy will be to operationalize the National Monitoring and Evaluation System. The GNH Commission Secretariat shall spearhead this activity and provide necessary technical backstopping to the line ministries, agencies, Dzongkhags and Gewogs for its development and implementation. The Secretariat will also organize workshops to sensitize policy makers, planners and programme staff on the new M&E system. The GNHC shall olso coordinate with the Department of National Budget in improving and managing the integrated planning, budgeting and monitoring system.

In order to strengthen the M&E capacity, training workshops and seminars will be organized to relevant officials and staff of the line ministries, agencies, Dzongkhags and Gewogs. Greater attention will be paid to build competency in research and impact assessments especially for the GNH Commission Secretariat and PPDs.

Since enhancing the institutional capacity of the GNH Commission Secretariat is crucial for the effective implementation and monitoring all the plan activities, the Policy and Research Division will conduct and collaborate on undertaking research and studies in relevant fields with competent economics and development institutes both within and outside the country.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Improved efficiency, effectiveness and accountability in use of resources to achieve goals and targets in Five Year Plans, MDGs and SDGs, Vision 2020 and GNH	A systematic and coherent M&E system institutionalized to assess the achievements of Five Year Plans within the context of the BDI, MDGs, SDGs and Vision 2020	Operationalization of the National Monitoring and Evaluation System Technical development and management of integrated planning, budgeting and monitoring system Strengthening research and Impact Assessment capacity Research and Impact Assessment Studies	National Monitoring and Evaluation System Development and Operationalization Conducting impact assessments studies

E. Management Arrangements

Institutional Arrangement

Plan Monitoring and Coordination Division (PMCD) under the GNH Commission shall be responsible for planning and coordination of all M&E activities. It shall implement and monitor the operationalization of National M&E System, coordinate and conduct impact assessments on selective development themes and priorities in collaboration with the PPDs and Dzongkhag Planning Units.

The GNH Commission shall coordinate with the Department of National Budget in improving and managing the integrated planning, budgeting and monitoring system.

The GNH Commission shall also liaise with the Center for Bhutan Studies, National Statistical Bureau and other relevant agencies to develop indicators and data collection on BDI, Vision 2020, Poverty, MDGs and SDGs.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Operationalization of National Monitoring and Evaluation System	20.000
2	Institutional Strengthening for Result Based Planning and Impact Assessment	30.000
	Total	**50.000**

GNHC/02: TARGETED POVERTY REDUCTION PROGRAMME

A. Overview

1	*Sector*	*:*	*GNH Commission Secretariat*
2	*Linkage to National Development Objectives & Strategies*	*:*	*All national development goals. Poverty Reduction*
3	*Expected Results*	*:*	*Targeted poverty reduction in the country*
4	*Relevant MDG & SDG*	*:*	*Covers the broad range of all MDGs & SDGs but particularly MDG 1 and SDGs I and 2*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Those below the national poverty line*
7	*Scope*	*:*	*National*
8	*Status-Ongoing/New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 1000.000 m*
11	*External Financing Required*	*:*	*Nu. 1000.000 m*
12	*Executing Agency*	*:*	*GNH Commission Secretariat*
13	*Implementing Agencies*	*:*	*GNHCS, NSB, PPDs in all ministries, planning and monitoring units in other autonomous agencies, planning units in Dzongkhags.*
14	*Documents Available*	*:*	*All FYP documents, MDGs, SDGs, Vision 2020 & NHDR 2005; Sector Tenth Plan, Poverty Analysis Report 2004;Vulnerability Analysis and Mapping 2005,*

B. Situational Analysis

Poverty reduction and raising living standards of its people has always featured as key considerations in all of Bhutan's development plans. Poverty reduction is the primary objective and core theme of the Tenth Plan, reflecting the RGoB's deep commitment to achieve tangible and quantifiable progress in the MDGS and SDGs.

The NSBs Poverty Analysis Report 2007 estimated that 23.2 percent of the population is under the poverty line. Two important aspects of poverty situation in Bhutan is that it exists in pockets and is almost entirely a rural phenomenon with approximately 96 percent of the poor living in rural areas.

The poverty reduction initiatives of the Royal Government of Bhutan have in the past been broad based through the expansion of social services and implementing rural development and income generation activities. While tangible results have been achieved in reducing poverty levels, the Poverty Analysis Report 2007 reveals that a sizeable proportion of the population still remains under poverty and that there are wide regional and local disparities in poverty conditions. To effectively combat poverty during the Tenth Plan, the GNH Commission will initiate targeted poverty reduction programmes to complement the mainstream poverty reduction programmes implemented by the sectors.

C. Strategy

The main focus of the targeted poverty reduction programme will be on enabling the poor to secure sustainable livelihoods by enhancing their productive capacity through improvements in their natural, social, human, physical and financial capital.

The GNH Commission will adopt a two pronged strategy to reduce poverty given the rural, pocketed and multi-dimensional nature of poverty. One strategy will be the continued use of conventional poverty reduction programmes/initiatives implemented at the national level and the other will take the form of targeted poverty reduction programmes/initiatives implemented at the local, community or regional levels. The first approach will seek to address the structural causes and factors contributing to poverty at a national level using mainstream sectoral programmes which benefit the poor through provision of basic education, primary health care, nutrition and family planning, safe drinking water and sanitation and shelter. The targeted approach will involve working directly in partnership with those living in or vulnerable to poverty who face severe limitations in reaping the benefits of mainstream development programmes. This approach will identify and address the limitations facing them at an individual, community or local level. Both approaches will complement each other in the sense that the targeted programme will make up for the limitations of the conventional programmes and vice versa.

The targeted approach will be in the form of programmes or projects developed by the commission to improve the capability of the poor to secure sustainable livelihoods. The GNH Commission in partnership with those in poverty will identify their problems and seek solutions. The projects or programmes will address root causes and structural factors of poverty. The targeted programmes will focus on improving the capabilities to avoid or limit their deprivation and key aspects will be to identify and develop the potential of the poor, increase their productive capacity and reduce barriers and improve access to their sources of livelihood.

It is expected future poverty surveys will provide a clear mapping of poverty in Bhutan. The findings from the surveys would serve as a guide map for refining, prioritizing and redirecting mainstream poverty reduction programmes as well refining the targeted poverty reduction programmes. An impact assessment on poverty reduction will be conducted in 2013 after a nationwide survey on poverty to assess the progress made in this regard.

An additional benefit of the targeted poverty reduction programme would be the promotion of environmental conservation as virtually all of the outputs under the programme are required to be in line with sustainable development principles.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Poverty levels scaled down to below 15%	Proportion of people under rural poverty reduced from 31.7% to 20% Sustainable forms of livelihood secured by 10% of people living in poverty	Productivity of the targeted group increased Crop loss due to wildlife and other natural causes reduced Sustainable methods of harvesting timber and non timber forest products adopted and replicated Alternative income generating activities adopted and replicated	Comprehensive resettlement programme Targeted Poverty reduction programme

E. Management Arrangements

Institutional Arrangements

The GNH Commission will be the central coordinating and implementing agency for guiding the sectoral policies on targeted poverty reduction. All the planning units in the government agencies including the dzongkhags will work together with GNH Commission following the guideline on Targeted Poverty Reduction. The NSB will conduct the poverty survey in consultation with the GNH Commission.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Comprehensive Resettlement Programme	800.000
2	Targeted Poverty Reduction	200.000
	Total	**1000.000**

NATIONAL COMMISSION FOR WOMEN AND CHILDREN

NCWC/01: STRENGTHENING THE ADVANCEMENT OF WOMEN AND CHILDREN

A. Overview

1	Sector	:	National Commission for Women and Children
2	Linkage to National Development Objectives & Strategies	:	Mainstreaming Gender equality into development as a cross cutting theme of Tenth Plan
3	Expected Results	:	Gender and child related issues and concerns addressed through the creation of an enabling environment in accordance with the National Plan of Action on Gender, the CEDAW, CRC and other global conventions
4	Relevant MDG & SDG	:	MDG Goal 3: Promote Gender Equality and Empower Women SDG Goal 6: Reduce social and institutional vulnerabilities of the poor, women and children SDG Goal 8: Ensure effective participation of poor and of women in anti-poverty policies and programmes
5	Donor Agency	:	
6	Target Group	:	Women and Children
7	Scope	:	National
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 – 2013)
10	Indicative Capital Cost	:	Nu. 64.206 m
11	External Financing Required	:	Nu. 64.206 m
12	Executing Agency	:	National Commission for Women and Children
13	Implementing Agencies	:	National Commission for Women and Children
14	Documents Available	:	Initial and 2nd CRC Periodic Report Initial to 6th and 7th CEDAW Periodic Report World Fit For Children Report Combined Initial to 6th CEDAW Report Gender Pilot Study 2001 Child Protection Study National Plan of Action for Gender Situational Analysis of Children and Women in Bhutan

B. Situational Analysis

The theme of women in development has always featured as an integral part of the country's five year plans and the Royal Government has conscientiously worked to ensure that equal opportunities are provided for men and women alike to participate and share in the benefits of development. Reflecting the high priority it places on maintaining gender balance and equality, the country subscribes to and is party to various international social conventions that reaffirm the fundamental principles of gender equality.

The National Commission for Women and Children was established in 2004 with a fully functioning secretariat to spearhead the fulfillment of the RGoB's obligations towards meeting the CEDAW and CRC and other related conventions. The Commission is mandated to provide a forum for receiving

and investigating any reports on the violation of the rights of women and children in the country and also fulfill the Royal Government's reporting obligations under the above global conventions that Bhutan is party to.

In keeping with its mandates, the Commission has been actively involved in creating an enabling environment for protecting the rights of women and children in Bhutan. The two national consultations on women and child friendly police and judicial procedures held in 2005 and 2006 highlighted areas of collaboration between the key sectors and identified critical activities for incorporating women and child friendly procedures into existing and future programmes. The Women and Child Protection Unit at the Royal Bhutan Police, one of the key recommendations from the two consultations has already been established and the construction of the Unit is nearing completion. A digitalized Complaints and Response Mechanism is also being set up at the RBP. The network of national gender focal points was revitalized in 2005. A Workshop on Violence against Women organized by the Commission in collaboration with RENEW in December 2006 reinforced the need for collaboration between the judiciary, police, health sector, RENEW and the media to help address violence against women in Bhutan.

C. Strategy

The NCWC will undertake the following strategic activities over the Tenth Plan:

- Sensitization on gender equality & equity, gender issues and concerns of the government's international commitments & legal obligations;
- Sensitization on child and women friendly procedures for RBP and Judiciary;
- Media advocacy and awareness on CRC/CEDAW and other women and children related issues;
- Coordination with relevant sectors on gender mainstreaming in development activities;
- Coordination with the RBP in developing a comprehensive women and children protection mechanisms in all Dzongkhags;
- Strengthening of the human resource capacity of NCWC through long and short term trainings;
- Implementing HRD trainings for gender focal points and key implementing agencies;
- Developing comprehensive support mechanisms with relevant organizations/agencies;
- Setting up a comprehensive data management system;
- Active advocacy to address key policy and legislative gaps pertaining to women and children;
- Conducting necessary surveys/studies/needs assessments; and
- Strengthening the capacity of Forensic Scientific Laboratory.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Gender and child related issues and concerns addressed and rights protected	Adoption of gender and child sensitive approaches and procedures Socio-cultural perceptions of gender roles and relations changed	Enhanced capacity on Women and Child issues Strengthened legal framework for Women and Child Awareness on women and Child issues created Established the data management system Human capacities developed	Training of officials at the regional Women and Child Protection Unit Review and enactment of laws related to Women and Child Awareness and Campaign Set up the data management system Facilitate Women's participation in decision making Human Resource Development

E. Management Arrangements

Institutional Arrangements

The National Commission for Women and Children will play the lead role in the overall execution and coordination of the Programme collaborating with line agencies and ministries.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Establishment of WCUP Units in three regions & desk offices in 20 dzongkhags	14.180
2	Increase accessibility to and coverage of complaints & response mechanism in Dzonngkhags	3.000
3	Review and enactment of laws related to Women and Child	4.887
4	Awareness and sensitization programme	18.000
5	Set up one stop crisis centers accessible to all women and children within the regions(JDWNRH)	1.000
6	Set up the data management system (resource center)	7.700
7	Change in socio-cultural perceptions of gender roles and relation (survey)	1.200
8	Enhancement of knowledge and skills of relevant stakeholders on women and child related issues	4.715
9	Children in monastic institutions have access to protective services	6.100
10	Need assessment for establishment of institution to cater to women and Children	0.684
11	Equipments	2.740
12	Youth Development and Rehabilitation center	
	Total	**64.206**

NATIONAL ENVIRONMENT COMMISSION

NEC/01: CONSERVATION OF ENVIRONMENT

A. Overview

1	*Sector*	:	*Environment*
2	*Linkage to National Development Objectives & Strategies*	:	*National Spatial Planning for poverty reduction through ensuring environmental sustainability*
3	*Expected Results*	:	*Environmental concerns mainstreamed into the development process*
4	*Relevant MDG & SDG*	:	*MDG Goal 1: Eradication of poverty and hunger* *MDG Goal 7: Ensure environmental sustainability* *SDG Goal 1: Eradicate extreme hunger poverty,* *SDG Goal 17 Acceptable level of forest cover* *SDG Goal 18 Acceptable level of water and soil quality* *SDG Goal 19 Acceptable level of air quality* *SDG Goal 20 Conservation of bio-diversity* *SDG Goal 21 Wetland conservation* *SDG Goal 22 Ban on dumping of hazardous waste, including radio-active waste*
5	*Donor Agency*	:	
6	*Target Group*	:	*Policy makers and planners*
7	*Scope*	:	*National*
8	*Status – Ongoing or new*	:	*Ongoing/New*
9	*Timeframe*	:	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	:	*Nu. 109.300 m*
11	*External Financing Required*	:	*Nu. 109.300 m*
12	*Executing Agency*	:	*National Environmental Commission Secretariat*
13	*Implementing Agencies*	:	*National Environment Commission Secretariat, Environmental Units, Dzongkhags and Gewogs*
14	*Documents Available*	:	*Environment Assessment Act 2000, National Environment Strategy, 1998;National Environment Protection Act, Sector Tenth Plan*

B. Situational Analysis

Conservation of the environment is extremely important as the progressive and sustainable development of any human society fundamentally depends on viable and healthy eco-systems. It is also an essential condition for the fullest possible satisfaction of human needs and well-being and conversely, environmental degradation can deeply undermine development and threaten the various multi-dimensional aspects of human well-being. In this regard, the goal of ensuring environmental sustainability is also highly pertinent to the fulfillment of various development goals and in particular, poverty eradication.

Ever since embarking on its first socio-economic development planning, the RGoB's policy has been to ensure that the process of development in all aspects should be holistic and consistent with maintaining the environmental and cultural integrity of the country. Guided by this principle, the National Environment Strategy, "The Middle Path" was formulated which clearly defines the need to raise the material well-being of the people without impinging on their spiritual well-being or causing damage to the natural environment.

Due to this far sighted and enlightened vision of pursuing a sustainable approach to development, Bhutan still retains 72% of its total land area under forest cover, 29% under protected area, and 9% under biological corridors. In 1995, during the 73rd session of the National Assembly, the RGOB made a further commitment to maintain at least 60% of the country under forest cover for perpetuity. Environmental conservation is also a critical pillar of the development concept of Gross National Happiness.

The National Environment Commission was established in 1992, to ensure that environmental concerns become a deep integral part the development agenda. Since then, the NEC has made significant progress in the field of strengthening legislation, institutionalizing environmental assessment processes, information dissemination and meeting the obligations of various international conventions that Bhutan is party to.

The lack of reliable and accurate data and information on environment has been one of the major constraints for making informed decision for planners and policy makers. To address this challenge, the NEC has already designed an environmental information management system framework during the Ninth Plan and work on developing the baseline data to facilitate the monitoring of air and water quality has been initiated.

C. Strategy

Institutionalizing the decentralized environmental assessment process will be continued during the Tenth Plan and form a key strategic activity. The NEC will also promote mainstreaming environmental issues into the development planning process mainly through awareness and capacity building. Environment conservation will also be pursued through strengthening and enforcement of existing laws and drafting of legislations such as Water Act, Waste Prevention and Management Act (WPMA) and Regulations for National Environment Protection Act (NEPA).

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Sustainable development with environmental resources conserved and protected	About 40% of the sectors have taken account of the environment issues into their development policies, plans, and projects About 50% of the clients have used EIMS data and information About 15% of the environmental clearance issued by Competent Authority	Mainstreamed environmental issues into the development of plans, and projects Strong and reliable environmental data and information available for use EA process decentralized to the Dzongkhags and line agencies and capacity build NEPA and EA Act enforced Enacted WPMA and Water Act, rules and regulations are in place and enforced	Mainstreaming environmental issues Strengthening environmental information management system Institutionalizing decentralized EA process Drafting environmental legislation

E. Management Arrangements

Institutional Arrangements

The NEC shall be the overall execution, coordination and implementation agency of the programme in coordination with the line ministries/agencies, Dzongkhags and Gewogs.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	National and International Policy Framework	48.500
2	Strengthening Legal Framework and Legal Services	9.350
3	Environment Mainstreaming	6.100
4	Environment Services	11.500
5	Environmental Monitoring, advocacy and Information Management	30.550
6	Water Resources Coordination and Management	3.300
	Total	**109.300**

NATIONAL LAND COMMISSION

NLC/01: STRENGTHENING OF NATIONAL LAND COMMISSION

A.Overview

1	*Sector*	:	*National Land Commission*
2	*Linkage to National Development Objectives & Strategies*	:	*National Spatial Planning for managing, regulating and administering to the ownership and use of land for socio-economic development, poverty reduction and environmental well-being*
3	*Expected Results*	:	*Provide effective and efficient land record, registration, cadastral, surveying and mapping services.*
4	*Relevant MDG & SDG*	:	*MDG Goal 1: Eradicate extreme poverty and hunger. SDG Goal 1: Eradication of hunger poverty SDG SDG Goal 2: Halve proportion of people living in poverty by 2010 SDG Goal 4: Ensure a robust pro-poor growth process SDG Goal 17: Acceptable level of forest cover SDG Goal 20: Conservation of bio-diversity SDG Goal 21: Wetland conservation SDGGoal 22: Ban on dumping of hazardous waste, including radio-active waste*
5	*Donor Agency*	:	
6	*Target Group*	:	*National*
7	*Scope*	:	*National*
8	*Status – Ongoing or new*	:	*New*
9	*Timeframe*	:	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	:	*Nu. 384.053 m*
11	*External Financing Required*	:	*Nu. 384.053 m*
12	*Executing Agency*	:	*National Land Commission*
13	*Implementing Agencies*	:	*National Land Commission Secretariat, Dzongkhags and Gewogs*
14	*Documents Available*	:	*Sector Tenth Plan, Land Act, 2007*

B. Situational Analysis

The Tenth Plan National spatial planning strategy takes development planning processes to encompass the totality of national space rather than address it on a fragmented basis or a mere sectoral perspective. This facilitates a much better and rational spread of economic, social and environmental benefits for improved quality of life and thereby offers a coherent approach for achieving balanced development at regional and local levels.

As such, the management, regulation and administration of land ownership and utilization of land resources overseen by the National Land Commission are critical aspects of national spatial planning. More specifically, they include ensuring efficient and effective land administration and security of land tenure, providing equal opportunity and access to land, facilitation of the operation of land markets and the effective use of land resources and conservation of the ecosystem.

During the Ninth Plan, the Department of Survey and Land Records, which is now the National Land Commission Secretariat embarked on two main activities namely Land Administration Services and Surveying and Mapping Services, which were also the two core programmes for the

sector. Some of the major achievements secured during the Ninth Plan are listed in the following. These included the compilation of the new Sathrams of the last nine Dzongkhags and the proper archiving and creation of necessary back-up procedures of land records. Other important activities undertaken include the establishment of first order control network in the country, establishment of permanent reference station in Thimphu, construction of bench marks and leveling along the roads, publication of original surveys of 1:25,000 scale maps, verification of 1:50,000 scale maps and the preparation of guide maps. The "Framework of GIS Implementation in Bhutan" and "Spatial Data Inventory" reports were also published. There has also been an increased level of coordination and collaboration among the GIS community which has facilitated technology and data sharing and eased the duplication of activities. The demarcation of the Indo-Bhutan international boundary was another milestone activity.

A major challenge foreseen in the Tenth Plan for the sector includes the dire shortage of adequately trained manpower to carry out the numerous functions and added responsibilities of the Land Commission. The lack of surveying and transport equipment is severe in comparison to the nature and scope of work to be carried out. The lack of essential ICT hardware and soft ware is another constraint that will hinder effective implementation of the Commission's activities. There is also the urgent need to build capacity at the gewogs to handle land transaction procedures, particularly the capacity of the technical and legal staff.

C. Strategy

The main objectives of the Strengtheing of Land Commission Programme over the Tenth Plan will be to improve land registration and transaction services and the the cadastral database, ensuring optimal and productive use of land resources, generating national spatial data and up to date geo-information and conducting high precision surveys for geodetic and geodynamic applications. The major activities during the Tenth Plan will focus on land registration and cadastral services, surveying and map production services, dileanating international boundary and general administration and direction services.

In order to achieve these objectives and ensure efficient land administration services, the Commission will adopt a two-pronged approach of (1) Clearing backlog land transactions (12000 cases), solve excess land issue and cope with regular land transactions, and (2) Embark on the development of macro level land use policy, including classification and zoning of land and cadastral resurveying of at least five Dzongkhags using most feasible advanced technology. Generating the National spatial data infrastructure would be greatly enhanced by topographic base mapping on 1:25000 scale.

Some of the strategies that will be adopted to realize the outlined objectives and targets include the formulation of rules, regulations and guidelines, strengthening capacity building at all levels, adoption of appropriate technologies and resources to improve the efficiency of geospatial data collection, processing and management, developing and enforcing data standards for multi-data-multi-platform compatibility and to enable simple data sharing and accessibility mechanisms.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Optimal and productive use of land contributing to sustainable socio-economic development, poverty reduction and maintenance of territorial integrity	Efficient and Secured Land registration and Transaction Services Provided Land resources Shared Equitably Updated Multipurpose Cadastral Information	Land holdings verified and registered Develop and Update Multipurpose Cadastral Information System	Cadastral reserving and updating and developing database Capacity Building
	Geodetic Infrastructure and Topographical Information, and maps made available to users for better planning and decision making	GPS Network Strengthened and made accurate Topographical Geodatabase on 1:50000 scale produced and maintained Photogram metric Instruments calibrated and maintained	High precision leveling GPS first order network densification Magnetic and Gravity Observations Updating, revision production of base and guide maps Capacity Building and Procurement of Equipment
	Territorial Integrity Maintained	Agreed and Well Documented Boundaries Produced	Capacity Building Boundary Tasks Procurement of materials and Services
	Establishment of well coordinated and adequately supported functional units to plan and achieve all targets on time	Functional Units are well coordinated and supported Availability of adequate competent Employees	Capacity Building Procurement of Equipment Maintenance of Infrastructure and Equipment

E. Management Arrangements

Institutional Arrangements

As per the Land Act, 2007, the National land Commission was formed and the National Land Commission Secretariat institutionalized out of the Department of Survey and Land Records. The programme execution and implementation will thus be spearheaded by the National Land Commission Secretariat in conjunction with all the Dzongkhag land record sections and other stakeholders.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Programme1: Land registration and cadastral surveying services	60.000
2	Programme2: Surveying and Map Production Services	49.643
3	Programme3: International Boundary Services	8.590
4	Programme4: General Administration and Direction Services	14.800
5	Programme5: Cadastral Resurveying	251.020
	Total	**384.053**

Note: More that 50% amount is for refunding tsamdro land compensation as per Land Act, 2007, cadastral resurveying of five dzongkhags and topographic base mapping of entire country on 1:25000 scale

NATIONAL STATISTICAL BUREAU

NSB/01: STRENGTHENING OF NATIONAL STATISTICAL SYSTEM

A. Overview

1	Sector	:	Economic Planning
2	Linkage to National Development Objectives & Strategies	:	Enabling Environment of Good Governance through improved economic planning. Targeted poverty reduction.
3	Expected Results	:	Statistics are collected, produced and delivered effectively
4	Relevant MDG & SDG	:	SDG Goal 4:Ensure a robust pro poor growth
5	Donor Agency	:	
6	Target Group	:	Nation-wide
7	Scope	:	Nationwide
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 45.290 m
11	External Financing Required	:	Nu. 45.290 m
12	Executing Agency	:	National Statistical Bureau
13	Implementing Agencies	:	National Statistical Bureau
14	Documents Available	:	i. Annual Statistical yearbook ii. National Accounts Report. iii. Quarterly Report on Consumer Price Index iv. Bhutan Living Standard Survey; Sector Tenth Plan

B. Situational Analysis

Statistics constitute a vital part of the development planning process of Bhutan. They are required for evidence-based decision and policy making; provide quantitative measures of development progress; allow planners and policy makers to measure the implementation of policies and reforms; and broadly support economic management processes and the delivery of development services.

There is a huge demand for quality statistics and data for an increasing array of national and local development indicators. The National Statistics Bureau (NSB) with its limited human and institutional capacity is however not able to fully satisfy this needs both in terms of quality and availability of data, particularly disaggregated data. National initiatives, such as the poverty reduction theme and the results based management approach of the Tenth Plan require reliable data to be gathered for planning analysis and implementation.

With the growing importance and relevance given to the NSB for meeting national statistical data needs, the Bureau has been granted autonomous status to help it to better function as an independent authority in the affairs of national statistics.

C. Strategy

The NSB will continue conducting nationwide surveys and censuses during the Tenth Plan to improve the statistical information base. Specifically, the NSB will conduct Mid-decadal census in 2010 and Bhutan Living standard Survey in 2012. In order to monitor and evaluate various policies and plans launched by the Government, the NSB will also undertake ad hoc surveys on various

subjects concerning important development subjects. During the Tenth Plan, the NSB will strive to carry out the following strategic activities:

- Introduce new technology such as statistical package and data capture technology so that timeliness can be further improved;
- Strengthen statistical coordination and standards;
- Improve data dissemination procedures so users can access official statistics easily and conveniently;
- Develop and implement National Statistics Development Strategy; and
- Establish a Common Sampling Frame that will be used for all types of surveys of the NSO and other statistical units.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Decisions are made based on timely, realistic and reliable data and information	Timely and accurate statistical information available	Building a sound and reliable National Statistical Database	Statistical Services
		Human capacities developed	Human Resource Development

E. Management Arrangements

Institutional Arrangements

National Statistical Bureau shall be the overall execution and coordination body for the collection, compilation and dissemination of statistics and other related information from all ministries and other stakeholders.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Statistical Services-conduct surveys	27.412
2	Dissemination of statistical information	3.078
3	Develop and maintain reliable national statistical database and designated statistics	8.870
4	Institutional strengthening	5.930
	Total	**45.290**

ROYAL INSTITUTE OF MANAGEMENT

RIM/01: ENHANCING THE QUALITY, RELEVANCE AND COVERAGE OF MANAGEMENT EDUCATION

A. Overview

1	*Sector*	*:*	*Education*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vision 2020: Good Governance, Human Resource Development and Private sector development Investing in Human Capital to vitalize industrial development through the promotion of management education*
3	*Expected Results*	*:*	*Wider coverage and improved management education/ trainings at masters, post graduate diploma/certificate, and diploma levels.*
4	*Relevant MDG & SDG*	*:*	
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Pre-service and in-service candidates of Public and Private Sector*
7	*Scope*	*:*	
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 143.300 m*
11	*External Financing Required*	*:*	*Nu. 143.300 m*
12	*Executing Agency*	*:*	*Royal Institute of Management*
13	*Implementing Agencies*	*:*	*Royal Institute of Management*
14	*Documents Available*	*:*	*SectorTenth Plan*

B. Situational Analysis

If Bhutan is to achieve significant economic diversification and expand its industrial productive capacity, it will need to increase the knowledge content of its economy and enhance the value addition and management capabilities of its industrial base through innovation, creativity and enterprise. A more skilled, learning-oriented and entrepreneurial workforce that continually upgrades its skill, management and knowledge base is much better positioned to generate new ideas and apply them in business. The effective leveraging of technical, organizational and management resources is thus particularly important in Bhutan's context given its limited human resource base and the extremely rapid evolving global and regional business environment.

Management education thus constitutes a critical area of higher education that is envisaged to help catalyze and lead industrial development in Bhutan through innovation, creativity and enterprise. The Royal Government to this end is undertaking programmes to enhance the quality, relevance and coverage of management education and the further development of the Royal Institute of Management, aspects of which are highlighted below.

A comprehensive training need analysis was carried out by the Royal Institute of Management during the Ninth Five Year Plan, which formed the basis for further review, benchmark and up-gradate existing training courses in addition to designing new ones based on the emerging needs of the economy.

The management development framework and tentative in-service management courses has been agreed and finalized at the national level in consultation with relevant stakeholders and client agencies offered by the Royal Institute of Management. A beginning has been made to design and deliver such courses in collaboration with twinning partners while more are expected to be done so during the Tenth Plan including capacity development of the Institute to sustain such programmes in the future.

The Institute is in the process of designing and validating Masters in Public Administration (MPA) and Masters in Business Administration (MBA), which are planned to be launched from 2008. In addition to offering these master level courses, efforts are made to upgrade and validate existing courses at the diploma/Post Graduate Diploma level.

The Institute trains, on an average, 300-400 people annually through both the regular pre-service training and in-service programmes and thereby complementing the shortage of manpower at various levels in the central agencies, local bodies, corporations and private sector. However, the annual turnover of participants is expected to increase tremendously with the full launching of the MDPs and MPA/MBA.

Therefore, emphasis and focus will be made to further develop and enhance the quality and relevance of management education to suit the Bhutanese context both in public and private sectors over the Tenth Plan.

C. Strategy

The following are the strategies that will be adopted for the implementation of the management education programme over the Tenth Plan:

- Continue to develop institutional partnerships/networking in the region and abroad to draw on their experiences and expertise;
- Enhance the capacity and credibility of faculty members through up-gradation of their qualification and competency;
- Facilitate development of appropriate policy framework for continuing management education and in-country programmes;
- Liaise with the Royal Civil Service Commission, Ministry of Labour and Human Resources and other key agencies and stakeholders to design and deliver appropriate management programmes for the public and private sectors; and
- Maintain quality of management programmes through constant benchmarking and validation.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Management capacity of the public and private agencies enhanced	Participants in the public and private sector able to enhance their managerial knowledge and skills through wider coverage and improved education/ training	Masters curricula designed and validated at both the national and international level Existing regular courses at postgraduate diplomas and diploma offered by the Institute upgraded in terms of quality and contents, and new Post Graduate level courses in Accounts and IT/IS designed and offered based on needs assessment Academic qualification of faculty enhanced Curriculum of Management Development (MDPs) designed and validated and courses offered on a regular basis Research capacity of the Institute strengthened Reference materials procured and networking of library resources assured to source reliable information	Develop twinning arrangements to design and conduct New Masters Courses Upgrade the quality of existing courses and design new ones in collaboration with twinning partners Provide scholarships for Masters and flexible Ph.D. courses Develop networking arrangements with relevant partner institutions Train faculty, establish linkage and undertake research works Establish library automation and networking

E. Management Arrangements

Institutional Arrangements

The Royal Institute of Management will play the lead role in the overall execution and coordination of the management education programme. The RIM in coordination with the Royal Civil Service Commission, Ministry of Labour and Human Resources and relevant Government Agencies will ensure provision of trained manpower in the field of management for the civil service, corporations and private sectors.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Design and develop new masters courses and twinning/networking arrangements with relevant partner institutions	22.800
2	Conduct existing courses at the Post Graduate Diploma and Diploma levels through further up-gradation and design new ones based on demand of the sectors	77.000
3	Design and conduct MDPs and twinning/networking arrangement with relevant partner institutions	30.500
4	Establish Research Linkage, Library Automation and Networking	13.000
	Total	**143.300**

RIM/02: CAMPUS DEVELOPMENT OF THE ROYAL INSTITUTE OF MANAGEMENT

A. Overview

1	*Sector*	*:*	*Royal Institute of Management*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Investing in Human Capital to vitalize industrial development through the promotion of management education.*
3	*Expected Results*	*:*	
4	*Relevant MDG & SDG*	*:*	
5	*Target Group*	*:*	*Royal Institute of Management*
6	*Scope*	*:*	
7	*Status-Ongoing or New*	*:*	*New*
8	*Timeframe*	*:*	*Five Years (2008 - 2013)*
9	*Indicative Capital Cost*	*:*	*Nu. 131.750 m*
10	*External Financing Required*	*:*	*Nu. 131.750 m*
11	*Executing Agency*	*:*	*Royal Institute of Management*
12	*Implementing Agencies*	*:*	*Royal Institute of Management*
13	*Documents Available*	*:*	*Sector Tenth Plan*

B. Situational Analysis

The proposal for campus expansion of the Royal Institute of Management did not materialize during the Ninth Plan due to the non- availability of funds. The Institute envisages evolving into a 'premier management institute' for which infrastructure expansion becomes the first priority towards achieving that vision. The existing infrastructure facilities developed in the 1980's meets the requirement of a limited number of pre-service training planned. However, with the increase in the number of trainings in response to the public service capacity development and with the two upcoming masters to be planned from 2008 onwards and the MDP courses, there is an increasing need to expand and develop additional infrastructure facilities to facilitate effective delivery of in-country management education programmes.

C. Strategy

The Royal Institute of Management will work to position itself as the premier management institute recognized for excellence in management development and public administration. One of the facilitating factors would be to expand and construct additional infrastructure facilities within the campus of the institute to achieve the vision and missions of the Institute.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
HRD capacity of public and private sector strengthened through the provision of in-country facilities	Institutional capacity of RIM enhanced to accommodate increased numbers of	Expansion of RIM Campus Construction of additional facilities and renovation existing facilities Provision of adequate training facilities and teaching aids	Acquisition of additional facilities and land to expand the existing campus Construction of Building for Library Resources, ICT Labs and Conference Facilities Construction of Multipurpose Student Resource Center Renovation of existing facilities including auditorium, classrooms and campus facilities Procurement of training equipment and teaching aids River training works and improvement of water supply to the Institute

E. Management Arrangements

Institutional Arrangements

The Royal Institute of Management will play the lead role in the overall execution and coordination of the programme although the actual work will be carried out through contract.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
	Develop/upgrade infrastructure facilities	
1	Expansion of RIM campus – acquisition of additional land and facilities	0.000
2	Major renovation and Campus Development	48.750
3	Construction of Three storey Building for Library Resources, ICT Labs and Conference Facilities	44.000
4	Construction of Multipurpose Student Resource Center	39.000
	Total	**131.750**

ROYAL UNIVERSITY OF BHUTAN

RUB/01: EXPANSION OF TERTIARY EDUCATION

A. Overview

1	*Sector*	:	*Education*
2	*Linkage to National Development Objectives & Strategies*	:	*Infrastructure development* *Vision 2020: Improved access and quality of higher education* *Investing in Human Capital for vitializing industry and reducing poverty through excellence in higher education*
3	*Expected Results*	:	*Increased higher education contributing to socio-economic development and growth*
4	*Relevant MDG & SDG*	:	*MDG Goal 3: Expanding access to tertiary level education*
5	*Donor Agency*	:	
6	*Target Group*	:	*Colleges*
7	*Scope*	:	
8	*Status-Ongoing or New*	:	*New/ongoing*
9	*Timeframe*	:	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	:	*Nu. 1,726.640 m*
11	*External Financing Required*	:	*Nu. 1,726.640 m*
12	*Executing Agency*	:	*Royal University of Bhutan*
13	*Implementing Agencies*	:	*Colleges/ Office of the Vice Chancellor*
14	*Documents Available*	:	*RUB Strategic Plan (2004 – 2012); Sector Tenth Plan*

B. Situational Analysis

The Vision 2020 envisages that Bhutan will have the full range of institutions required for the formation of all relevant knowledge and skills and highlights the particular importance of tertiary education within the context of developing a knowledge based society. Expanding access to tertiary education is also highly relevant considering the Tenth Plan's strategic objective to strengthen human capacity and promote innovation, creativity and enterprise for vitalizing industry in Bhutan.

The Royal University of Bhutan established under Royal decree in 2003 was founded to help strengthen and spearhead the advancement of tertiary education in the country. With ten constituent colleges, the RUB in conjunction with these institutes offers academic programmes ranging from liberal arts, business and management to science, traditional medicine and various technical courses.

Physical expansion and infrastructure development

The existing infrastructure of the university system can only cater to limited number of students. Owing to the increasing pressure on tertiary education, the Royal University of Bhutan plans to increase its enrolment, by over 100% from the present numbers. To accommodate the additional students and academic expansion, the RUB will need to expand its intake capacity and facilities.

The constituent colleges and institutes of the RUB were established much before the formation of the university. The existing infrastructure and facilities of the university system no longer fulfill the requirements of tertiary level education as much of the infrastructure is over three decades old. Therefore, a wide array of remodeling, refurbishments and also redevelopment needs to be

undertaken over the Tenth plan period. The physical expansion of the colleges includes development of infrastructure in terms of creation of additional space for academic and communal purposes, refurbishment and remodeling of existing buildings, construction of residential buildings and development of campuses.

Academic programme development and diversification

Currently, the RUB through its colleges offers academic courses ranging from arts and humanities to science, engineering and technology, at levels ranging from undergraduate diploma to postgraduate masters. As documented in the Strategic Plan, a number of new disciplines will be developed within the eight broad curriculum areas to allow expansion and enhance the development of tertiary education.

C. Strategy

- Develop new and diversify existing curricula to provide for varied academic development and requirement of Bhutan with standards of high quality;
- Rationalization of staff usage and preparation of plans to enhance efficiency and effectiveness;
- Expansion of existing colleges in terms of physical infrastructure;
- Establishment of new government colleges;
- Recruitment of adequate number of academic and support staff to meet the needs of new and increased student enrolment; and
- Support the directives of the Royal Government, including the establishment of private colleges that will be affiliated to RUB.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Appropriate quality and number of graduates provided to meet the emerging needs of the country and to improve human capital	Increased student intake to the tertiary education	Expanded adequate and standard physical infrastructure and academia of the University	Increase intake of students in colleges from 4065 in 2007 to 9721 in 2012 through development of infrastructure and development/ diversification of academic subjects

E. Management Arrangements

Institutional Arrangements

The Planning and Resources Department in the Office of the Vice Chancellor of the Royal University of Bhutan shall be the overall execution and coordination agency for the programme. The member colleges shall be the technical agencies providing all support related to the programme of increasing the intake of students in various colleges.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Increase intake in Sherubtse College from 1009 in 2007 to 1,775 in 2013	142.620
2	Increase intake in College of Science and Technology from 334 in 2007 to 1000 in 2013	260.930
3	Increase intake in Samtse College of Education from 814 in 2007 to 1,180 in 2013	110.800
4	Increase intake in Paro College of Education from 726 in 2007 to 1,316 in 2013	44.620
5	Increase intake in College of Natural Resources from 214 in 2007 to 450 in 2013	73.610
6	Increase intake in Institute of Language and Culture Studies from 342 in 2007 to 795 in 2013 (Taktse)	319.570
7	Increase intake in Jigme Namgyel Polytechnic from 355 in 2007 to 1000 in 2013	153.820
8	Increase intake in Gaeddu College of Business Studies from 0 in 2007 to 1295 in 2013	54.010
9	Increase intake in Royal Institute of Health and Sciences from 226 in 2007 to 750 in 2013	110.060
10	Increase intake in National Institute of Traditional Medicine from 45 in 2007 to 160 in 2013	69.160
11	Increased access to Tertiary Education through OVC	37.440
12	Establishment of New Teacher Training College	350.000
	Total	**1,726.640**

RUB/02: QUALITY ASSURANCE AND TEACHING-LEARNING

A. Overview

1	*Sector*	*:*	*Education*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Investing in Human Capital for vitializing industry and reducing poverty through excellence in higher education*
3	*Expected Results*	*:*	*Enhanced quality and relevance of tertiary education provision.*
4	*Relevant MDG & SDG*	*:*	
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Colleges*
7	*Scope*	*:*	
8	*Status-Ongoing or New*	*:*	*New/Ongoing*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 473.470 m*
11	*External Financing Required*	*:*	*Nu. 473.470 m*
12	*Executing Agency*	*:*	*Royal University of Bhutan*
13	*Implementing Agencies*	*:*	*Colleges/ Office of the Vice Chancellor*
14	*Documents Available*	*:*	*RUB Strategic Plan (2004 – 2012 and The Wheel of Academic Law; Sector Tenth Plan*

B. Situational Analysis

Quality assurance system and teaching learning process

The University's academic structures, policies, procedures and quality assurance systems have been developed and will be tested in use over the next few years. Additionally, the RUB has identified minimum standards of English, ICT and Dzongkha each student of the various tertiary institute programmes must meet. The University on a regular basis will continue to refine, adapt and validate the procedures and processes and introduce new ones when necessary.

Laboratory, library and ICT and other related services

The laboratory and library facilities currently available are not adequate for university education and are under-resourced. Due to limited laboratory resources, the colleges are not able to provide students with the appropriate experimental and hands-on experience. Additionally, as the libraries in the colleges are generally under-resourced, library materials or resources are not adequate. There are also not sufficient numbers of qualified librarians.

Inculcating a new culture of teaching and learning will require both teachers and students to effectively be able to use Information Communication and Technology (ICT) as tools. However, there are no adequate facilities in this regard which further limits academic content and interaction. The Colleges have basic access to the Internet but the access remains limited due to the absence of the broadband connection, inefficient use by college faculty and students and insufficient or under qualified technical staff to manage the ICT system. Thus, the scenario of reaping the benefits of the ICT has been minimal in the University. However, establishing the University Wide Area Network (RUB-WAN) will hopefully encourage a wider use of ICT and promote sharing of resources amongst the colleges and the Office of the Vice Chancellor.

Student services

At present, the colleges are mostly residential and students live in closed communities. The extent, to which they engage in cultural, social and co-curricular activities vary from institute to institute. These interactions though are generally limited due to the lack of available facilities and resources. Currently the colleges either lack appropriate and adequate facilities for student services such as recreational rooms, health facilities, counseling and guidance services and information services.

C. Strategy

- Improving the quality of academic staff, including librarians through attractive incentive packages and service;
- Development of the quality of academic staff through continuous training and up-gradation of qualifications;
- Provision of high quality facilities and appropriate learning resources with strong emphasis on library resources and ICT facilities and services;
- Developing well integrated system of administration, management and planning processes through enhanced and developed communication system;
- Development, diversifyication and adaptation of academic programmes and curricucula

based on the needs and demands ascertained through market needs analysis while also ensuring that quality standards of the University are met; and

- Creating centers of excellence in all of the colleges' specialized areas of study.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Appropriate quality and number of graduates provided to meet the emerging needs of the country	Enhanced quality and relevance of teaching-learning activities in the University, and Environment created that encourage students to take charge of their own learning	Higher and more uniform quality of education offered Developed laboratory, Library, ICT, instructional materials and related facilities and resources Well developed student services to enable academic, social, spiritual, intellectual and personal growth	Enhancement of quality and relevance of education in all the Colleges of the University Enhancement of the coordination activities in the Office of the Vice Chancellor Enhancement of Quality Assurance System and teaching-learning process mainly through the OVC

E. Management Arrangements

Institutional Arrangements

The Planning and Resources Department in conjunction with the Department of Academic Affairs in the Office of the Vice Chancellor of the Royal University of Bhutan shall be the overall execution and coordination agency for the programme. The member colleges shall be the technical agencies to implement accordingly.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Enhancement of Quality Assurance System and teaching-learning process mainly through the OVC	69.020
2	Enhancement of quality and relevance of education at Sherubtse College	43.880
3	Enhancement of quality and relevance of education at CST	74.700
4	Enhancement of quality and relevance of education at SCE	45.500
5	Enhancement of quality and relevance of education at PCE	34.670
6	Enhancement of quality and relevance of education at CNR	43.550
7	Enhancement of quality and relevance of education at ILCS	21.200
8	Enhancement of quality and relevance of education at JNP	40.600
9	Enhancement of quality and relevance of education at Gaeddu College for Business Studies	28.700
10	Enhancement of quality and relevance of education at RIHS	39.000
11	Enhancement of quality and relevance of education at NITM	32.650
	Total	**473.470**

RUB/03: RESEARCH, SCHOLARLY ACTIVITIES AND CONSULTANCY SERVICES

A. Overview

1	Sector	:	Education
2	Linkage to National Development Objectives & Strategies	:	Investing in Human Capital through enhancing tertiary education
3	Expected Results	:	Creation of New knowledge and technology that is for the betterment of Bhutanese society, Government and the university
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	Colleges
7	Scope	:	
8	Status-Ongoing or New	:	New
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 68.250 m
11	External Financing Required	:	Nu. 68.250 m
12	Executing Agency	:	Royal University of Bhutan
13	Implementing Agencies	:	Colleges/ Office of the Vice Chancellor
14	Documents Available	:	RUB Strategic Plan (2004 – 2012) and Government Executive Order (August 2006); Sector Tenth Plan

B. Situational Analysis

Many university systems and institutes of higher education define the excellence of their education by the quality and level of research being carried out within the institution. In addition to imparting quality higher education, most universities have strong research programmes and the production of new knowledge and technology for the benefit of society at large is an integral activity of what most university systems do.

Research development in Bhutan at the national and sector levels is relatively new. There are research centers and units that undertake research by themselves or through external researchers. However, there are associated problems in terms of publication, follow-through, documentation and the lack of collaborative effort in this area. The quality of research and methodologies applied has also been raised as issues which indicate a relative lack of sophistication and experience in this area.

At the institutional level, there is a varying degree of research activities being undertaken. While some of the academic staff in Bhutanese institutes do conduct research along with their teaching programme, many others do not. In few colleges, research has been carried out by visiting lecturers occassionally with no involvement from the institute staff. In general, most research that the staff undertook usually occured whilst they were pursuing postgraduate studies abroad. Also, there is currently little incentive for the academic staff to carry out research since it is not a specific part of their duties and does not critically affect their career progress. Moreover, the facilities for conducting research are generally not available and even the libraries and laboratory material support are not adequate to support undergraduate research much less indepth scholarly research and innovation.

C. Strategy

- Develop a comprehensive policy to foster research activities at the national and institutional levels through well developed strategic perspectives on research aims, directions, linkages, culture and management;
- Develop appropriate research facilities and resources to facilitate research activities;
- Develop and incorporate research activities as part of the academic processes;
- Establishment of co-operative arrangements with Universities, research organizations, institutions and agencies of repute in other countries so as to promote research in the RUB; and
- Creating a forum to share experiences, knowledge and skills.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Appropriate quality and number of graduates provided with at least some basic knowledge and skills in research	New knowledge and technology of relevance to the government and society and the university created to improve teaching- learning process	Developed research facility, capacity and equipment to facilitate faculty and student research	Develop and conduct research, scholarly activity and consultancy services through the OVC Enhancement of research, scholarly activity and consultancy services in the colleges

E. Management Arrangements

Institutional Arrangements

The Department of Planning and Resources in conjunction with the Department of Research in the Office of the Vice Chancellor of the Royal University of Bhutan shall be the overall execution and coordination agency for the programme. The colleges shall be the technical agencies who shall provide all support related to the programme to develop, and conduct research, scholarly activity and consultancy services.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Develop and conduct research, scholarly activity and consultancy services through the OVC	40.000
2	Enhancement of research, scholarly activity and consultancy services at Sherubtse College	1.500
3	Enhancement of research, scholarly activity and consultancy services at CST	0.750
4	Enhancement of research, scholarly activity and consultancy services at SCE	1.500
5	Enhancement of research, scholarly activity and consultancy services at PCE	11.000

6	Enhancement of research, scholarly activity and consultancy services at CNR	1.000
7	Enhancement of research, scholarly activity and consultancy services at ILCS	1.000
8	Enhancement of research, scholarly activity and consultancy services at JNP	0.500
9	Enhancement of research, scholarly activity and consultancy services at GCBS	0.500
10	Enhancement of research, scholarly activity and consultancy services at RIHS	1.500
11	Enhancement of research, scholarly activity and consultancy services at NITM	9.000
	Total	**68.250**

RUB/04: PROMOTION OF WHOLESOME DEVELOPMENT OF THE STUDENTS IN TERTIARY EDUCATION

A. Overview

1	*Sector*	*:*	*Education*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Investing in Human Capital through enhancing tertiary education*
3	*Expected Results*	*:*	*Graduates provided with an excellent tertiary education and opportunities for developing character, courage, comradeship, discipline, leadership, positive outlook, sprit of adventure, group dynamism, sportsmanship and patriotism. Enhanced image and reputation of RUB through well established linkages and partnerships with organizations and institutions both inside and outside the country.*
4	*Relevant MDG & SDG*	*:*	
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*Colleges*
7	*Scope*	*:*	
8	*Status-Ongoing or New*	*:*	*New*
9	*Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 158.740 m*
11	*External Financing Required*	*:*	*Nu. 158.740 m*
12	*Executing Agency*	*:*	*Royal University of Bhutan*
13	*Implementing Agencies*	*:*	*Colleges*
14	*Documents Available*	*:*	*RUB Strategic Plan (2004 – 2012)*

B. Situational Analysis

Since its establishment, the Royal University of Bhutan has endeavored to create and promote its image to build up its academic credentials. A website with an overview of the university's activities has been set up and can be accessed online. The constituent colleges also have their own websites and distribute relevant publicity material and annual publications. However, concerted efforts will need to be made to promote the RUB in developing linkages with national and overseas institutions. There is the need to also further enhance its academic image and reputation through effective marketing and advocacy. Thus, promoting information and publication activities are necessary which are inadequate at present.

Sports also play an important role in the wholesome development of students in tertiary education. Just as the Department of Youth and Sports under the MoE caters to the needs of games and sports education for school going children and the Bhutan Olympic Committee does this at the national level, the RUB established the Royal University Sports Federation of Bhutan (RUSFoB) to coordinate, promote and organize games and sports activities for university students. Though games and sports activities are played in the colleges, necessary facilities and proper coaching is lacking and there is a need to enhance these.

In addition, there are no activities in the colleges to encourage students' participation in community service through appropriate education. There is a need to foster among the youth, especially university graduates, leadership qualities and a sense of responsibility to their communities. The University Council to this end directed the RUB to initiate outdorr activities and cadet services and the university is developing such services for implementation in the member colleges without such facilities and resources.

Further, the opportunities for continuing education are currently limited to a small number of civil servants, mainly teachers, even as the demand for such a programme is significant. Some of the colleges, especially the colleges of education, have made a modest beginning in offering continuing education opportunities. These include continuing education programme for the personnel of Ministry of Agriculture by the College of Natural Resources (CNR), up-gradation and re-orientation courses for teachers of the Ministry of Education by Samtse College of Education, Paro College of Education and Sherubtse College. However, much is to be done to meet the growing demands on continuing education by various in-service personnel from the government, corporations, private and other individuals in the country.

C. Strategy

- Create knowledge and awareness of RUB and its various member colleges and their objectives and activities through effective and dynamic websites and publications (newsletters, journals, reports, prospectus, calendars);
- Ensure effective promotion of the University within Bhutan and outside through the production of documentaries and souvenirs;
- Develop facilities and information services that present a favorable image and reflect the diversity of courses that the university and its constituent colleges has to offer;
- Establish a well connected network of academic and research linkages with relevant regional and international institutions and universities;
- Establish an effective information and communications flow within the University so that its staff form a cohesive academic community;
- Liaise with external institutions and universities for faculty and student exchange activites to facilitate greater exposure and learning opportunities for them;
- Enhance the Royal University Sports Federation of Bhutan (RUSFoB) to coordinate all games and sports activities of the university;
- Support and facilitate college/institute level games, sports and other physical activities through the provision of appropriate and adequate facilities;

- Develop adventure and cadet services to promote character building in terms of personality and leadership qualities;
- Develop effective system and processes to enhance course preparation and delivery;
- Create infrastructure and facilities to begin incorporating distance learning technologies and materials for selected courses;
- Enhance capacity of member colleges/institutes in delivering continuing education through regular, part time and distance delivery;
- Develop international linkages to enhance the platform for exchange of ideas, views, experiences and knowledge leading to improvements in the quality of the continuing education system; and
- Promote and facilitate research within the university's policy and resource framework in a way that reflects positively on the quality of the university's continuing education programmes.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Wholesome development of students in Tertiary Education	Established a good information system and also established linkages and partnerships with organizations and institutions, both inside and outside the country	Well established information and communication facilities and services	Information, publication and International partnership and linkages with colleges through the OVC Information, publication and exchange in the colleges
	Increased students' participation in various games, sports, adventure/ outdoor pursuit and cadet services	Enhanced games, sports, adventure/ outdoor pursuit and Cadet services	Development of Games and Sports at all the Colleges Development of outdoor pursuits and cadet services in the University through the OVC Enhancement of the Royal University Sports Federation of Bhutan mainly through the OVC
	An opportunity created for all the people to enhance their qualifications, competence and skills	Developed comprehensive packages of for continuing education in the University	Enhancement of continuing education through the OVC Enhancement of the Continuing education in the colleges

E. Management Arrangements

Institutional Arrangements

The Planning and Resources Department in conjunction with the Research Department, Information and Publication Division and Department of Academic Affairs in the Office of the Vice Chancellor of the Royal University of Bhutan shall be the overall execution and coordination agency for the programme. The colleges and the Royal University Sports Federation of Bhutan (RUSFoB) shall be the technical agencies who shall provide all support related to the programme and implement it.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in million)
1	Information, publication and exchange at the member Institutes	31.500
2	International partnership and linkages through the OVC	12.000
3	Development of games and sports in the member Institutes	72.440
4	Enhancement of the Royal University Sports Federation of Bhutan mainly through the OVC	20.000
5	Enhancement of Continuing Education mainly through OVC and member Institutes	22.800
	Total	**158.740**

TOURISM COUNCIL OF BHUTAN

TCB/01: SUSTAINABLE TOURISM DEVELOPMENT PROGRAMME

A. Overview

1	Sector	:	Tourism
2	Linkage to National Development Objectives & Strategies	:	Vitalizing Industry for growth and poverty reduction through sustainable tourism development
3	Expected Results	:	Increased contribution to national revenue, employment opportunities and rural income.
4	Relevant MDG & SDG	:	
5	Donor Agency	:	
6	Target Group	:	National
7	Scope	:	National
8	Status-Ongoing/New	:	New/ongoing
9	Timeframe	:	Five Years (2008 - 2013)
10	Indicative Capital Cost	:	Nu. 150.420 m
11	External Financing Required	:	Nu. 150.420 m
12	Executing Agency	:	Ministry of Economic Affairs
13	Implementing Agencies	:	Tourism Council of Bhutan
14	Documents Available	:	Tourism Master Plan, Tourism Policy, Draft Tourism Bill, Tourism Resource Inventory I & II; Sector Tenth Plan

B. Situational Analysis

The tourism industry in Bhutan is a major service industry that contributes significantly to national revenue and generates valuable foreign exchange while also enhancing the image of the country internationally. It is also viewed as a critical growth sector that could boost employment among youths and alleviate poverty conditions in rural Bhutan. Tourism in Bhutan has enjoyed sustained growth levels since the sector was privatized in 1991. In 2008, 27,655 tourists visited the country generating an income of about US$ 40 million. This may be compared to tourist arrivals of 7,559 with revenue generation of about US$ 10.5 million in the year 2000.

Tourism development in the country is guided by the "high value–low volume" policy, essentially to strike a balance between securing economic gains and the need to protect and preserve Bhutan's rich cultural, religious and natural heritage. During the past five year plans, efforts were made to strengthen the high quality destination experience for tourists through development of infrastructure, human resource capacity building, improving hospitality services, and introduction of new tourism products. The major activities implemented in the Ninth Plan are highlighted below.

The Tourism resource inventory has been developed and entered in the national tourism database Tashel. This is a useful resource inventory of tourism potential in the country that will guide future tourism development. The sector has also formulated a Tourism Master Plan for the sustainable development of tourism and drafted a comprehensive Tourism Policy. A Tourism Act (Bill) has been drafted for submission to the National Assembly and will provide the legal framework for sustainable tourism development. Additionally, a corporate identity for the tourism industry has been created for marketing promotion, a computerized visa and accounts system to streamline approval processes introduced successfully and a new interactive and user friendly web portal containing

comprehensive information on Bhutan developed. Notably, a community-based tourism project has been piloted in Nabji-Korphu to enhance rural income and generate community awareness on sustainable use of natural resources. The impact of the pilot project is yet to be assessed and if successful will be replicated in other communities over the Tenth Plan.

In order to maximize the potentials of the tourism sector, the Tourism Council of Bhutan will continue to take a holistic and integrated approach. Policy reforms including the development of rules, regulations, and standards will be given priority to promote sustainable tourism as an industry in the country. Further, new product development, zoning, and innovative ideas will be promoted to off-set seasonality and regionally un-balanced development in the country.

C. Strategy

The Tourism Council of Bhutan (TCB) in collaboration with ABTO and other relevant agencies and Dzongkhags will initiate and undertake the various activities under this programme. The projects and activities will focus on achieving the national and sector goals by creating employment opportunities, generating revenue, supplementing rural income to improve living standards and quality of life of rural communities in Bhutan.

This will be done through creating new off-season products, for instance, by opening areas in the southern and eastern region with mild climatic conditions in winter or implementing a differentiated price policy. The TCB will also renew its efforts in further developing cultural tourism for the internationally experienced travelers willing to spend above-average price for quality experience and exclusivity. Additionally, new tourist destinations will be targeted for development to broaden the destination base and increase community participation particularly through community-based tourism activities. Similarly, efforts will be directed at developing appropriate and strategies to raise awareness on tourism and its related issues. The other strategies that are to be pursued include engaging in product development and marketing, enhancing human resource development, developing quality tourism infrastructure, enhancing eco-tourism and encouraging and facilitating tourism within the region.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
Contribution to National revenue and improve livelihoods of the community	Increase in number of tourists and tourism income	Off-set seasonality and regionally balanced tourism Community aware of tourism benefits and adverse impacts Quality infrastructure serviceable Diversified tourism Tourist happy with services	Development of New and Innovative Products Awareness building Infrastructure development and other services Research, marketing and development of market strategy Hospitality training services

E. Management Arrangements

Institutional Arrangements

The Tourism Council of Bhutan shall be the overall execution and coordination agency for the programme. The implementation of the programme shall be carried out in close coordination with dzongkhags, gewogs and other relevant agencies.

Indicative Cost

#	Description of Projects/Activities	Indicative Cost (Nu. in millon)
1	Development of new and innovative products	25.710
2	Development of products to offset seasonality	21.140
3	Development of products to ensure regionally balanced development	10.570
4	Nature based tours – survey and development of new trekking routes	2.000
5	Product Development Manual	6.500
6	Education and awareness building activities	5.000
7	Infrastructure development and other services	79.500
8	Research, marketing and development of market strategy	
9	Hospitality training services	
	Total	**150.420**

TCB/02: HOTEL & TOURISM MANAGEMENT TRAINING INSTITUTE

A. Overview

1	*Sector*	*:*	*Tourism*
2	*Linkage to National Development Objectives & Strategies*	*:*	*Vitalizing Industry for growth and poverty reduction through sustainable tourism development and investing in human capital through developing hospitality skills and competence*
3	*Expected Results*	*:*	*Improved quality of hospitality services and employment opportunities for the youth unemployed.*
4	*Relevant MDG & SDG*	*:*	*MDG Goal 8: Target 14 em*
5	*Donor Agency*	*:*	
6	*Target Group*	*:*	*National*
7	*Scope*	*:*	*National*
8	*Status-Ongoing/New*	*:*	*New/ongoing*
9	*Tentative Timeframe*	*:*	*Five Years (2008 - 2013)*
10	*Indicative Capital Cost*	*:*	*Nu. 422.286 m*
11	*External Financing Required*	*:*	*Nu. 422.286 m*
12	*Executing Agency*	*:*	*Ministry of Economic Affairs*
13	*Implementing Agencies*	*:*	*Tourism Council of Bhutan, Project Management Unit*
14	*Documents Available*	*:*	*HTMTI project document; and Sector Tenth Plan*

B. Situational Analysis

With the ongoing construction of the Hotel and Tourism Management Training Institute (HTMTI), Bhutan will have incountry capacity to train the next generation of tourism professionals to international standards by the year 2009. The HTMTI will also provide a comprehensive training programme for persons already employed, namely the unskilled labour currently working in hotels and restaurants. The institute will need to gain the support of all stakeholders in the sector and should be developed to emerge as a regional centre for excellence.

To achieve this ambitious goal, institutionalized cooperation with foreign institutes of high reputation shall be sought, establishing a mutual exchange of trainers and students in order to benefit from international expertise. With the increasing number of tourists coming to Bhutan, the capacity of the institute will have to be expanded and upgraded as may be necessary from time to time.

Priority will also need to be given to improve the qualification, skills and competence of tourist guides by developing a more comprehensive curriculum and extending the training time to international standards (i.e. one to two years of specific training for guides topping a general qualification as tourism professional).

C. Strategy

The Tourism Council of Bhutan (TCB) in collaboration with other relevant agencies and dzongkhags will initiate and undertake the various activities under this programme. The projects and activities will focus on achieving the national and sector goals by creating employment opportunities, vocational training opportunities, generating revenue, supplementing rural income to improve living standards and quality of life of the rural communities by strengthening the endeavors to create new, off-season products, e.g. by constructing similar type of Training Institute & Hotel in the other parts of the country if required.

D. Results Framework

Impact	Outcome	Output	Projects/Activities
International standard quality services provided in the hotels and hospitality services	Trained youths employed	HTMTI operational	Infrastructure development including hotel Recreation facilities and other services

E. Management Arrangements

Institutional Arrangements

Tourism Council of Bhutan (TCB) shall be the overall execution and coordination of the programme. The implementation of the project shall be carried out by the Project Management Unit of the TCB.

Indicative Cost

#	Description of the Projects/Activities	Indicative Cost (Nu. in million)
1	Infrastructure development including technical assistance	383.656
2	Recreation facilities and other services	38.630
	Total	**422.286**