



ELEVENTH FIVE YEAR PLAN Volume I : Main Document

2013-2018

"Self-reliance and Inclusive Green Socio-economic Development"



SELF-RELIANCE

GOOD HEALTH
QUALITY EDUCATION
PERFORMANCE MANAGEMENT
FOOD SECURITY

DISASTER MANAGEMENT
EMPLOYMENT
GENDER
GREEN
HERITAGE
CO-ORDINATION
CONSOLIDATION

CSIs
RATIONALIZATION
DECENTRALIZATION
GOVERNANCE
GROWTH-CENTERS
WATER SECURITY
SAFE SOCIETY

INCLUSIVE
DIVERSIFICATION

VALUE-ADDITION
IDENTITY
SOCIAL COHESION
POVERTY REDUCTION

Eleventh Five Year Plan Document

© Copyright Gross National Happiness Commission (2013)

Published by: Gross National Happiness Commission, Royal Government of Bhutan.

ISBN 978-99936-55-01-5



HIS MAJESTY THE KING JIGME KHESAR NAMGYEL WANGCHUCK

Our Nation has seen great socio-economic growth but it is more important that we have growth with equity. We must raise, with all our effort, the less fortunate so that they may, at the earliest, begin to partake in the opportunities brought by modernization and progress.

The government has provided education to our youth. But for the nation to prosper for all time, a sound education must be succeeded by access to the right jobs and responsibilities, so that our youth may bloom as individuals and at the same time serve their Nation well.

The recent Rupee shortage is a serious problem. I feel it is a reminder that, as a Nation, we must exercise our traditional sense of caution and work even harder as we address the challenges of the time. For no matter what challenges lie ahead, it is only the Bhutanese citizen who can protect and safeguard Bhutan.

- His Majesty The King's address to the nation during the 105th National Day celebrations, 17th December 2012, in Thimphu.



དཔལ་ལྷན་འབྲུག་གཞུང་།

Royal Government of Bhutan

PRIME MINISTER

28 October 2013

PREFACE

Globally, transformative changes in the social, economic, environmental and political spheres are compelling countries, both developed and developing alike, to take stock of their development strategies and embark on far reaching reforms to address new challenges and opportunities of the 21st Century. Bhutan finds itself in the midst of similar social, economic and political transformation. With our future increasingly linked to a globalized world, the rapid transformation of our nation has ushered in new realities that require innovative and creative approaches to address them. The Eleventh Plan has provided an opportune time to take stock of the state of our nation against these new developments and build on our strong foundations by ushering in new plans, strategies and preparations that reflect the new opportunities and challenges.

The Eleventh Plan is not a political document but belongs to all our people. It builds on the sweat of all our past achievements, the Vision 2020, and key policy documents such as the Economic Development Policy 2010. It reflects the extensive work carried out across all sectors and agencies at the national and local levels to provide a comprehensive and sustainable development framework, while clearly benchmarking our progress. It has been formulated keeping all the above factors in mind. Most significantly, the Eleventh Plan draws upon the wisdom of His Majesty the King, which has been consistently articulated in Royal Addresses to all cross sections of our people. As we embark on the implementation of the Eleventh Plan, it would be apt to recapitulate the essence of His Majesty's guidance on the fundamental goals and objectives for our nation.

Firstly, to ensure the peace and well-being of the people and sovereignty and security of the country. Secondly, to ensure the security that comes when people are united in their love for the country and are united in their efforts to further secure, consolidate and hand over an even stronger nation to their children. Thirdly, to build a vibrant democracy - fortifying its roots, properly understanding its tenets and judiciously exercising rights in ways that will always benefit the nation. Fourthly, to achieve the goal of self-reliance - which entails changing our mindset, our way of working, and to succeed through our own hard work and sweat, on our own terms and merit. Fifthly, the realization of our development philosophy of GNH, which while timeless in its essence would require every generation to find new ways of achieving its goals in a fast changing globalised world. In this context, His Majesty has stressed that if the current generation succeeded in fulfilling their duty of building a strong Bhutanese economy, then they would have laid the foundation for a sound



དཔལ་ལྷན་འབྲུག་གཞུང་།

Royal Government of Bhutan

PRIME MINISTER

democracy, for Gross National Happiness and for peace and prosperity for all Bhutanese now and in the future.

In going forward, the imperatives and indispensability of the relevance of our education system to achieve our national goals and objectives must remain at the forefront of our thinking, planning and implementation of the current and successive Five Year Plans. His Majesty the King has often underscored that the quality of education for our youth is of paramount importance, reminding us that *"a nation's future will mirror the quality of her youth – a nation cannot fool herself into thinking of a bright future when she has not invested wisely in her children"*. For neither our Vision nor our goals in our plans and policies are attainable if we do not relentlessly and uncompromisingly invest in building a dynamic education system. Such a system must nurture our youth with the right values, character, skills, knowledge and training that are relevant and reflect our changing opportunities and challenges. The complexity and enormity of this task in education cannot be denied - it will require a systemic approach, new thinking, institutions and tools, a longer term perspective of 20 years in our planning, predictable resources, and the collaboration and commitment of all our people. Nor can the urgency to begin this task be overemphasized as the largest sections of our population today are youth whereby our window of opportunity is small. The education sector, which has always been a high priority for the Royal Government, will be given special emphasis in the Eleventh Plan to provide the critical impetus for achieving our shared vision and goals for our future.

While we have every reason to be proud of our achievements as a nation over five decades of development, many challenges remain to be addressed. Disparities in income and social outcomes are of growing concern. The paradox of growing youth unemployment and an acute shortage of a skilled workforce remains a major challenge for private sector development. Related to this, our economy is faced with a narrow industrial base, a high dependency on a single sector and imports and is experiencing unprecedented macroeconomic instability despite a prolonged period of robust economic growth. The sustainability of the demand on our health and education sectors due to rising expectations is under stress. Lack of adequate preparation for the inevitable trend of rapid urbanization is giving rise to new social, economic and infrastructure challenges. Environmentally, we are highly vulnerable to natural disaster arising from climate change and geological risks, while human-wildlife conflict brings challenges of balancing our environmental goals with sustaining the livelihood of our rural communities. We have no doubt made good progress in laying a strong foundation for our democratic process. However, much remains to be done in terms of further strengthening it through greater transparency, efficiency and accountability in the political and administrative processes. Most significantly, combating corruption in all its forms must remain an utmost priority. While the improved and



དཔལ་ལྷན་འབྲུག་གཞུང་།

Royal Government of Bhutan

PRIME MINISTER

respectable ranking of 33 among the 176 nations in Transparency International's 2012 Corruption Perception Index is indeed encouraging and reflective of our commitment to fight corruption, recent reports by relevant national agencies suggest that our task is far from over.

The Eleventh Plan sets out an ambitious development agenda to address these challenges. With an unwavering faith in our future and an enduring belief in our abilities, let us all join together to rededicate our efforts towards fulfilling the sacred responsibilities entrusted upon us by His Majesty the Fourth Druk Gyalpo and His Majesty the King to ensure the peace, prosperity and security of our nation for generations to come. Together, let us work to ensure that the Eleventh Plan is a success so that we lay the foundations for a future that is even more remarkable than our past.

Tashi Delek!

(Tshering Tobgay)
Chairman of the GNH Commission

TABLE OF CONTENTS

ACRONYMS.....xix

GLOSSARY.....xx

EXECUTIVE SUMMARY.....1

1. BACKGROUND.....27

1.1 Introduction.....29

1.2 Development Planning Framework.....29

 1.2.1 Result Based Planning.....30

 1.2.2 Plan Preparation.....31

1.3 Operationalizing Gross National Happiness.....32

 1.3.1 GNH Index.....32

 1.3.2 GNH Policy Screening.....35

1.4 Key Development Milestones.....36

 1.4.1 Bhutan 2020 - A Vision for Peace, Prosperity and Happiness.....36

 1.4.2 Economic Development Policy 2010 (EDP 2010).....40

 1.4.3 Least Developed Country (LDCs) Status.....43

2 CURRENTSITUATION.....47

2.1 Population.....49

 2.1.1 Population and Distribution.....49

 2.1.2 Growth Rate.....50

 2.1.3 Age Structure and Sex Composition.....51

 2.1.4 Differently abled Persons.....51

 2.1.5 Migration.....52

 2.1.6 Population Projections – 2020, 2030 and 2050.....52

2.2 Sustainable and Equitable Socio-economic Development.....55

 2.2.1 Poverty.....55

 2.2.2 Multi-dimensional Poverty.....58

 2.2.3 Income Poverty, Multi-dimensional Poverty and GNH Index.....59

 2.2.4 Millennium Development Goals.....59

2.3 Preservation and Promotion of Culture.....61

 2.3.1 Cultural Heritage and Tradition.....62

 2.3.2 Culture and Livelihood.....63

**2.4 Conservation and Sustainable Utilization and Management
of Environment.....64**

2.5 Promotion of Good Governance.....66

 2.5.1 Democracy and Governance.....66

 2.5.2 Public Service Management.....67

 2.5.3 Transparency, Accountability and Control of Corruption.....69

2.5.4	Media.....	70
2.5.5	Women’s Empowerment and Gender Equality.....	71
2.5.6	Promotion and Protection of Child Rights.....	73
2.5.7	Civil Society Organizations (CSO).....	75
2.5.8	Mainstreaming of Cross-Cutting Issues.....	76
3	MACRO-ECONOMIC SITUATION AND OUTLOOK.....	77
3.1	Macro-Economic Situation.....	79
3.1.1	Real Sector.....	80
3.1.2	External Sector.....	85
3.1.3	Monetary Sector.....	87
3.1.4	Fiscal Sector.....	91
3.2	Macro-economic outlook.....	96
3.2.1	Real Sector Outlook.....	96
3.2.2	External Sector Outlook.....	97
3.2.3	Fiscal Outlook (without hydropower debt servicing).....	101
3.2.4	Fiscal Sector Outlook (with hydropower debt servicing).....	106
3.2.5	Public Debt Stock.....	107
4	ELEVENTH PLAN.....	109
4.1	Eleventh Plan Objective.....	111
4.2	National Key Result Areas (NKRAs)/Key Performance Indicators (KPIs).....	111
4.2.1	Sustainable and equitable socio-economic development.....	112
4.2.2	Preservation and promotion of culture.....	116
4.2.3	Conservation and sustainable utilization of environment.....	117
4.2.4	Good Governance.....	119
4.3	Sector and Dzongkhag Key Result Areas (SKRAs/DKRAs)/Key Performance Indicators (KPIs).....	122
4.4	Strategic Thrust Areas.....	123
4.4.1	Inclusive Social Development.....	123
4.4.2	Green Accelerated Economic Development.....	125
4.4.3	Strategic Infrastructure Development.....	128
4.5	Monitoring and Evaluation.....	130
4.5.1	Integrated Planning and Monitoring System.....	130
4.5.2	Mid-Term Review.....	132
4.5.3	Round Table Meeting.....	132
5.	CENTRAL PLANS.....	133
5.1	Education Sector.....	135
5.1.1	Current Situation.....	137

5.1.2	Key Challenges.....	138
5.1.3	Sector Key Result Areas.....	143
5.1.4	Strategies.....	145
5.1.5	Key Programmes.....	147
5.2	Health Sector.....	149
5.2.1	Current Situation.....	149
5.2.2	Key Challenges.....	150
5.2.3	Sector Key Result Areas.....	155
5.2.4	Strategies.....	156
5.2.5	Key Programmes.....	157
5.3	Human Resource Development & Management.....	159
5.3.1	Current Situation.....	159
5.3.2	Key Challenges.....	159
5.3.3	Sector Key Result Areas.....	161
5.3.4	Strategies.....	161
5.4	Employment.....	162
5.4.1	Current Situation.....	162
5.4.2	Key Challenges.....	165
5.4.3	Sector Key Result Areas.....	168
5.4.4	Strategies.....	168
5.4.5	Key Programmes.....	169
5.5	Renewable Natural Resources (RNR) Sector.....	170
5.5.1	Current Situation.....	171
5.5.2	Key Challenge.....	172
5.5.3	Sector Key Result Areas.....	173
5.5.4	Strategies.....	174
5.5.5	Key programmes.....	175
5.6	Tourism Sector.....	176
5.6.1	Current Situation.....	176
5.6.2	Key Challenges.....	177
5.6.3	Sector Key Result Areas.....	178
5.6.4	Strategies.....	178
5.6.5	Key Programmes.....	178
5.7	Trade, Industries & Mines Sector.....	180
5.7.1	Current Situation.....	180
5.7.2	Key Challenges.....	184
5.7.3	Sector Key Result Areas.....	186
5.7.4	Strategies.....	187

5.7.5	Key Programmes.....	188
5.8	Hydropower, Renewable Energy and Hydromet Sector.....	191
5.8.1	Current Situation.....	191
5.8.2	Key Challenges.....	193
5.8.3	Sector Key Result Areas.....	194
5.8.4	Strategies.....	195
5.8.5	Key Programmes.....	195
5.9	Information, Communication & Technology and Media Sector.....	197
5.9.1	Current Situation.....	198
5.9.2	Key Challenges.....	199
5.9.3	Sector Key Result Areas.....	200
5.9.4	Strategies.....	201
5.9.5	Key Programmes.....	201
5.10	Transport Sector.....	202
5.10.1	Current Situation.....	202
5.10.2	Key Challenges.....	203
5.10.3	Sector Key Result Areas.....	205
5.10.4	Strategies.....	205
5.10.5	Key Programmes.....	206
5.11	Roads & Bridges Sector.....	207
5.11.1	Current Situation.....	207
5.11.2	Key Challenges.....	208
5.11.3	Sector Key Result Areas.....	210
5.11.4	Strategies.....	210
5.11.5	Key Programmes.....	211
5.12	Construction Sector.....	212
5.12.1	Current Situation.....	213
5.12.2	Key Challenges.....	214
5.12.3	Sector Key Result Areas.....	215
5.12.4	Strategies.....	215
5.12.5	Key programmes.....	216
5.13	Human Settlement & Housing Sector.....	217
5.13.1	Current Situation.....	217
5.13.2	Key Challenges.....	219
5.13.3	Sector Key Result Areas.....	220
5.13.4	Strategies.....	221
5.13.5	Key Programmes.....	221
5.14	Emerging Social Challenges.....	222

5.14.1	Current Situation.....	222
5.14.2	Key Challenges.....	228
5.14.3	Strategies.....	228
5.15	Sports.....	229
5.15.1	Current Situation.....	229
5.15.2	Key Challenges.....	229
5.15.3	Sector Key Result Areas.....	230
5.15.4	Strategies.....	230
5.16	Preservation and Promotion of Culture.....	231
5.16.1	Current Situation.....	231
5.16.2	Key Challenges.....	232
5.16.3	Sector Key Result Areas.....	233
5.16.4	Strategies.....	233
5.16.5	Key Programmes:.....	234
5.17	Conservation of Environment.....	235
5.17.1	Current Situation.....	235
5.17.2	Key Challenges.....	238
5.17.3	Sector Key Result Areas.....	241
5.17.4	Strategies.....	241
5.17.5	Key Programmes.....	242
5.18	Good Governance.....	243
5.18.1	Current Situation.....	243
5.18.2	Key Challenges.....	245
5.18.3	Sector Key Result Areas.....	246
5.18.4	Strategies.....	246
6.	LOCAL GOVERNMENT PLANS.....	247
6.1	Introduction.....	249
6.1.1	Planning Process.....	250
6.1.2	Resource Allocation Formula.....	250
6.1.3	Capital Allocation.....	251
6.2.1	Bumthang Dzongkhag.....	261
6.2.1.1	Current Situation.....	261
6.2.1.2	Key Opportunities/Challenges.....	262
6.2.1.3	Strategies.....	263
6.2.1.4	Dzongkhag Key Result Areas.....	265
6.2.2	Chukha Dzongkhag.....	268
6.2.2.1	Current Situation.....	268
6.2.2.2	Key Opportunities/Challenges.....	269

6.2.2.3	Strategies.....	270
6.2.2.4	Dzongkhag Key Result Areas.....	271
6.2.3	Dagana Dzongkhag.....	273
6.2.3.1	Current Situation.....	273
6.2.3.2	Key Opportunities/Challenges.....	274
6.2.3.3	Strategies.....	275
6.2.3.4	Dzongkhag Key Result Area.....	276
6.2.4	Gasa Dzongkhag.....	280
6.2.4.1	Current Situation.....	280
6.2.4.2	Key Opportunities/Challenges.....	281
6.2.4.3	Strategies.....	282
6.2.4.4	Dzongkhag Key Result Area.....	284
6.2.5	Haa Dzongkhag.....	287
6.2.5.1	Current Situation.....	287
6.2.5.2	Key Opportunities/Challenges.....	288
6.2.5.3	Strategies.....	289
6.2.5.4	Dzongkhag Key Result Areas.....	290
6.2.6	Lhuentse Dzongkhag.....	293
6.2.6.1	Current Situation.....	293
6.2.6.2	Key Opportunities/Challenges.....	294
6.2.6.3	Strategies.....	294
6.2.6.4	Dzongkhag Key Result Areas.....	296
6.2.7	Mongar Dzongkhag.....	299
6.2.7.1	Current Situation.....	299
6.2.7.2	Key Opportunities/Challenges.....	300
6.2.7.3	Strategies.....	301
6.2.7.4	Dzongkhag Key Result Areas.....	303
6.2.8	Paro Dzongkhag.....	306
6.2.8.1	Current Situation.....	306
6.2.8.2	Key Opportunities/Challenges.....	306
6.2.8.3	Strategies.....	307
6.2.8.4	Dzongkhag Key Result Areas.....	309
6.2.9	Pemagatshel Dzongkhag.....	312
6.2.9.1	Current Situation.....	312
6.2.9.2	Key Opportunities/Challenges.....	313
6.2.9.3	Strategies.....	314
6.2.9.4	Dzongkhag Key Result Area.....	315
6.2.10	Punakha Dzongkhag.....	318

6.2.10.1	Current Situation.....	318
6.2.10.2	Key Opportunities/Challenges.....	319
6.2.10.3	Strategies.....	319
6.2.10.4	Dzongkhag Key Result Areas.....	321
6.2.11	Samdrup Jongkhar Dzongkhag.....	325
6.2.11.1	Current Situation.....	325
6.2.11.2	Key Opportunities/Challenges.....	326
6.2.11.3	Strategies.....	326
6.2.11.4	Dzongkhag Key Result Areas.....	328
6.2.12	Sarpang Dzongkhag.....	332
6.2.12.1	Current Situation.....	332
6.2.12.2	Key Opportunities/Challenges.....	333
6.2.12.3	Strategies.....	334
6.2.12.4	Dzongkhag Key Result Area.....	335
6.2.13	Samtse Dzongkhag.....	339
6.2.13.1	Current Situation.....	339
6.2.13.2	Key Opportunities/Challenges.....	340
6.2.13.3	Strategies.....	341
6.2.13.4	Dzongkhag Key Result Area.....	342
6.2.14	Tsirang Dzongkhag.....	345
6.2.14.1	Current Situation.....	345
6.2.14.2	Key Opportunities/Challenges.....	346
6.2.14.3	Strategies.....	346
6.2.13.4	Dzongkhag Key Result Area.....	348
6.2.15	Trashigang Dzongkhag.....	350
6.2.15.1	Current Situation.....	350
6.2.15.2	Key Opportunities/Challenges.....	351
6.2.15.3	Strategies.....	352
6.2.15.4	Dzongkhag Key Result Areas.....	353
6.2.16	Trashiyangtse Dzongkhag.....	356
6.2.16.1	Current Situation.....	356
6.2.16.2	Key Opportunities/Challenges.....	357
6.2.16.3	Strategies.....	357
6.2.16.4	Dzongkhag Key Result Area.....	359
6.2.17	Trongsa Dzongkhag.....	361
6.2.17.1	Current Situation.....	361
6.2.17.2	Key Opportunities/Challenges.....	362
6.2.17.3	Strategies:.....	362

6.2.17.4	Dzongkhag Key Result Areas.....	364
6.2.18	Thimphu Dzongkhag.....	367
6.2.18.1	Current Situation.....	367
6.2.18.2	Key Opportunities/Challenges.....	368
6.2.18.3	Strategies.....	369
6.2.18.4	Dzongkhag Key Results Area.....	370
6.2.19	Wangduephodrang Dzongkhag.....	373
6.2.19.1	Current Situation.....	373
6.2.19.2	Key Opportunities/Challenges.....	374
6.2.19.3	Strategies.....	375
6.2.19.4	Dzongkhag Key Result Area.....	376
6.2.20	Zhemgang Dzongkhag.....	378
6.2.20.1	Current Situation.....	378
6.2.20.2	Key Opportunities/Challenges.....	379
6.2.20.3	Strategies.....	380
6.2.20.4	Dzongkhag Key Result Areas.....	382
6.3.1	Gelephu Thromde.....	386
6.3.1.1	Current Situation.....	386
6.3.1.2	Key Opportunities/Challenges.....	386
6.3.1.3	Strategies.....	387
6.3.1.4	Thromde Key Result Areas.....	388
6.3.2	Phuentsholing Thromde.....	389
6.3.2.1	Current Situation.....	389
6.3.2.2	Key Opportunities/Challenges.....	390
6.3.2.3	Strategies.....	390
6.3.2.4	Thromde Key Result Areas.....	392
6.3.3	Samdrup Jongkhar Thromde.....	394
6.3.3.1	Current Situation.....	394
6.3.3.2	Key Opportunities/Challenges.....	394
6.3.3.3	Strategies.....	395
6.3.3.4	Thromde Key Result Areas.....	397
6.3.4	Thimphu Thromde.....	399
6.3.4.1	Current Situation.....	399
6.3.4.2	Key Opportunities/Challenges.....	399
6.3.4.3	Strategies.....	400
6.3.4.4	Thromde Key Result Areas.....	401

ACRONYMS

ADB	Asian Development Bank
ANER	Adjusted Net Enrolment Rate
AHB	Annual Health Bulletin
AES	Annual Education Statistics
BMIS	Bhutan Multiple Indicator Survey 2010
BLSS 2012	Bhutan Living Standard Survey 2012
CBS	Centre for Bhutan Studies
CPI	Consumer Price Index
DKRAs	Dzongkhag Key Result Areas
GDCF	Gross Domestic Capital Formation
GER	Gross Enrolment Rate
GPI	Gender Parity Index
EDP	Economic Development Policy 2010
FYP	Five Year Plan
GNH	Gross National Happiness
GNHC	Gross National Happiness Commission
KPIs	Key Performance Indicators
LDC	Least Developed Country
MDGs	Millennium Development Goals
MFCC	Macroeconomic Framework Coordination Committee
MoEA	Ministry of Economic Affairs
MoF	Ministry of Finance
MTFF	Medium Term Fiscal Framework
MYRB	Multi-Year Rolling Budget
NRH	National Rehabilitation Programme
NER	Net Enrolment Rate
NSB	National Statistics Bureau, Royal Government of Bhutan
Nu	Bhutanese Ngultrum
NKRAs	National Key Result Areas
HRD	Human Resource Development
INR	Indian Rupee
LFS 2012	Labour Force Survey 2012
PAR 2012	Poverty Analysis Report 2012
PEMS	Public Expenditure Management System
PHCB 2005	Population and Housing Census of Bhutan 2005

PLaMS	Planning and Monitoring System
REAP	Rural Economy Advancement Programme
RGoB	Royal Government of Bhutan
RISE	Rapid Investment in Selected Sectors
RMA	Royal Monetary Authority
SKRAs	Sectoral Key Result Areas
TVET	Technical and Vocational Education and Training
USD	US Dollars
UNDESA	UN Department for Economic and Social Affairs

GLOSSARY

<i>Dzongkha</i>	National language
<i>Dzongkhag</i>	District
<i>Dzongkhag Tshogdu (DT)</i>	District Development Committee
<i>Driglam Namzha</i>	Etiquette/national traditions
<i>Gewog</i>	Block
<i>Gewog Tshogde (GT)</i>	Block Development Committee
<i>Kasho</i>	Royal Decree
<i>Thromde</i>	Municipality

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The Eleventh Five Year Plan is the second five year plan to be implemented since the introduction of Democratic Constitutional Monarchy in 2008. It builds on the strong foundations that have been laid since the inception of planned development in 1961. It is guided by His Majesty the King’s Vision for Bhutan and the national priorities that have been consistently underscored in Royal Addresses to the nation. The Plan sets out an ambitious development agenda to achieve this objective and fulfill the current Government’s pledge of ensuring “Prosperity for All” through effective empowerment of the people – “*Wangtse Chhirpel*”.

Chapter One presents the **development planning framework, efforts towards operationalizing Gross National Happiness (GNH) and key milestones to be achieved by 2020** - Bhutan’s development planning framework continues to be guided by our development philosophy of GNH which encompasses the four pillars of sustainable and equitable socio-economic development, preservation and promotion of culture, conservation and sustainable utilization and management of the environment, and promotion of good governance. Pursuant to Article 9-2 of the Constitution, which directs the State “to promote those conditions that will enable the pursuit of Gross National Happiness”, the operational aspects of GNH have been strengthened, most notably with the introduction of the GNH Index in 2008 and the GNH Policy Screening Tool in 2009. The GNH Index is based on biennial surveys and provides an overview of performance across 9 domains of GNH that include health, education, living standards, ecological diversity and resilience, good governance, psychological wellbeing, time use, community vitality and cultural diversity and resilience. Based on the 2010 GNH Index composite score of 0.743, 41 percent of Bhutanese were identified as happy being sufficient in 73 percent of the domains while the remaining 59 percent enjoyed sufficiency in 57 percent of the domains. The GNH Policy Screening has been used as a tool to assess the impact of new policies on GNH and to mainstream GNH into all new policies being formulated against twenty-two variables representing the 9 domains of GNH. Since its introduction, twelve policies related to human resources, youth, education, health and nutrition, land, natural resources, and industries have been approved.

A notable paradigm shift of the Eleventh Plan is the adoption of a Results Based Planning (RBP) framework that articulates clear outcomes and outputs that need to be achieved in order to realize the Eleventh Plan objective of “Self-reliance and Inclusive Green Socio-Economic Development”. The outcomes are defined as Key

Results Areas (KRAs) at the national, sectoral, and *Dzongkhag* level and categorized under each of the four pillars of GNH. At the national level, 16 National Key Result Areas (NKRAs) have been identified. At the sector and *Dzongkhag* levels, more than 300 Sector Key Result Areas (SKRAs) and *Dzongkhag* Key Result Areas (DKRAs) that are aligned to meet the 16 NKRAs have been identified. Furthermore, the performance of all government agencies towards the delivery of the NKRAs, SKRAs and DKRAs are measured through corresponding Key Performance Indicators (KPIs). The KRAs are a result of extensive consultations with stakeholders' right down to the grassroots level. In defining them, key aspects of the Vision 2020, Economic Development Policy 2010 (EDP 2010), the GNH 2010 Index, the Millennium Development Goals (MDGs) the SAARC Development Goals (SDGs), the Istanbul Programme of Action (IPoA), and the Strategy for GNH (SGNH) have also been taken into consideration.

A particular significance of the Eleventh Plan is that it serves as a vital platform for achieving three key and related national milestones by the year 2020, which are namely the objectives articulated in "Bhutan 2020: A Vision for Peace, Prosperity, and Happiness" (Vision 2020), the objectives of self-reliance and full employment of the EDP 2010 and graduating from the list of Least Developed Countries (LDCs). While our socio-economic indicators show that we are making good progress towards achieving these milestones by 2020, with less than 7 years remaining, there are important challenges that need to be urgently addressed.

Key challenges related to Vision 2020 include strengthening the various processes, interactions and systems of a well-functioning democracy; ensuring quality of social outcomes due to widening disparities and inequalities in health, education, income and unemployment; addressing new social challenges arising from rapid development and urbanization; diversification of the economy to reduce economic vulnerability and absorb a growing and increasingly educated labour force; balancing our high environmental aspirations and pressing developmental needs; and strengthening the capacity of key national and local government institutions.

With regard to the EDP 2010, much remains to be done in terms of the progress of activities to facilitate private sector development and economic growth. A major challenge is to ensure that the objectives of EDP 2010 are supported by clear-cut strategies, policies, and support systems that harness our competitive advantage and address vital constraints. In this regard, the effective engagement of the private sector as a collaborative partner in the design of a clear roadmap for the

implementation of the EDP 2010 during the Eleventh Plan period is imperative and will be accorded high priority.

While it is projected that Bhutan will be graduating from the list of Least Developed Countries (LDCs), based on the income criteria, it remains below the graduation threshold on the *Human Assets Index (HAI)* and *Economic Vulnerability Index (EVI)*. The challenges confronting *HAI* include high malnutrition among children, a high under five mortality rates of 69 per 1,000 live births (AHB 2012) and a low adult literacy rate of 55.3 percent (BLSS 2012). *EVI* challenges include a small population size, being geographically remote and landlocked, instability of exports of goods and services, high vulnerability to natural disasters and instability of agricultural production. Improving *HAI* and *EVI* will be vital to reach the graduation threshold.

Chapter Two reviews the **demographic trends** and the state of **socio-economic development progress** thus far. The first decennial Population and Housing Census of Bhutan (PHCB 2005) reports actual resident population of 634,982 comprising of 52.5 percent were males and 47.5 percent females. Of particular significance is the age structure, with 56 percent of the total population below the age of 24 years. A key consideration for the current and future plans is the rapid growth in rural to urban migration, which was estimated at 111,770 persons in 2005. The rural and urban composition was 69.1 per cent and 30.9 percent respectively and the population density was 16 persons per square kilometer. According to PHCB 2005, approximately 21,894 persons or 3.4 percent of the total population were differently-abled, with speech, hearing, visual and mobility being the most common forms of impairment. The population growth rate has been on the decline from 3.1 per cent in 1994 to 1.3 percent in 2012 and is projected to further decline to 1.1 percent by 2020. Despite this declining trend, the population is expected to increase to 818,791 persons by 2020 and to more than a million by 2050.

Against this background, key demographic considerations for the Eleventh Plan include the adoption of a National Population Policy to ensure proper demographic planning, harnessing the potential “demographic bonus” presented by the current demographic structure to create a vibrant and sustainable economy and addressing the challenges of a gradually ageing population, growing differently-abled persons and migratory trends.

In moving forward, it would be pertinent to take stock of key developments, including the progress made and challenges to be addressed, by categorizing them according to the four pillars of GNH.

Sustainable and Equitable Socio-economic Development: A review of the poverty situation provides an overview of the progress made under this first pillar of GNH. According to the “Poverty Analysis Report 2012”, the income poverty incidence has declined from 31.7 percent in 2003 to 12 percent in 2012, exceeding the Tenth Plan target of reducing poverty to 15 percent. Inequalities in income have also been reduced with the Gini-coefficient declining from 0.416 in 2003 to 0.36 over the same period. These gains are largely attributed to the effective implementation of targeted poverty reduction programmes such as the Rural Economy Advancement Programme (REAP) and the National Rehabilitation Programme (NRP), in addition to the broad based national socio-economic development programmes. Despite the progress made in the reduction of overall poverty and income inequalities, significant challenges remain. Notably, poverty remains predominantly a rural phenomenon and considerable regional disparities exist with more than half of the 20 *Dzongkhags* having poverty rates above the national average of 12 percent, with Lhuentse having the highest poverty rate at 31.9 percent. According to the Bhutan Multiple Indicator Survey 2010, the multidimensional poverty incidence in Bhutan was deemed to be 25.8 percent in 2010.

Against this backdrop, the Eleventh Plan will strive to further reduce the income poverty and multi-dimensional rates to less than 5 percent and 10 percent respectively by 2018. With regard to the MDGs, Bhutan has already achieved most of the targets and is on track to achieve the rest by 2015. However, some of the areas of concern such as malnutrition, female enrollment in tertiary education, maternal and under five mortality rates, spread of HIV/AIDS and the challenges of youth unemployment will need to be addressed in the Eleventh Plan.

Preservation and Promotion of Culture: Besides the conservation of several *Dzongs* and monasteries, a number of new initiatives have been taken in the areas of archeology, conservation, infrastructure development, archiving and integrating technology to promote *Dzongkha*. As provided in Article 4 of the Constitution, which recognizes culture as an “evolving dynamic force”, emphasis is being placed “to strengthen and facilitate the continued evolution of traditional values and institutions that are sustainable as a progressive society”. In this regard, the promotion of cultural industries has been given high priority and notable achievements have been made in the promotion of local arts and crafts, nurturing the film and music industry and diversifying cultural tourism. In view of the multiple benefits it generates in terms of the promotion of culture, poverty reduction,

enhancing rural income and employment generation, this area will continue to receive high priority in the Eleventh Plan.

Conservation and Sustainable Utilization and Management Environment: As a result of the traditionally high priority accorded to environmental conservation, Bhutan has been able to maintain forest coverage of 70.5 percent, exceeding the Constitutional mandate of maintaining 60 percent forest coverage at all times. With 51.32 percent of the country under a protected area network, Bhutan is host to one of the highest percentage of protected areas in the world. We have successfully fulfilled international obligations under the Montreal Protocol and have pledged to perpetually remain a net carbon sink and carbon neutral country.

While our achievements in environmental conservation have been laudable, our country has been a victim of natural disasters some of which are attributed to climate change. In the last five years, earthquake, cyclone, windstorm, floods, landslides and fires have been a frequent occurrence. Ensuring a balance between our environmental aspirations and development needs are also increasingly challenging due to persistent human-wildlife conflict and the growing demand for natural resources. Conservation of the natural environment to maintain a sustainable balance between economic development and environment conservation and improving disaster resilience and management will therefore be given utmost importance in the Eleventh Plan.

Promotion of Good Governance: Significant achievements have been made in the promotion of good governance. Our democratic process has been further strengthened with the successful conduct of local government elections and second Parliamentary elections in 2011 and 2013 respectively. Key constitutional bodies have been established and laws and regulations have been put in place to assist them in fulfilling their mandates. Further, several initiatives have been taken to strengthen public service management through civil service reforms and by enhancing efficiency in the delivery of public services. Transparency, financial accountability and control of corruption have been enhanced, through regular audits (600 audits in 2012) by an independently functioning Royal Audit authority; proactive measures by the independent Anti-Corruption Commission (ACC), which include the enactment of Anti-Corruption Act 2011 and the adoption of Gift Rules 2009 and the Asset Declaration Rule 2012; and fostering the growth of a free and responsible media, that includes 12 newspapers, six radio stations and two television news channels. Most recently the Right to Information Bill was tabled in

the first session of the second Parliament in September 2013. The empowerment of women, gender equality and the promotion of civil societies has also been an integral part of our efforts to promote good governance through initiatives such as the National Plan of Action for Gender (NPAG), 2008-2013; the Domestic Violence Prevention Act 2013; building capacities for women leaders; the Civil Society Organizations Act, 2007; and the establishment of the Civil Society Organizations Authority in 2009.

In the area of child protection, major laws such as the Child Care and Protection Act 2011 and the Child Adoption Act of Bhutan 2012 have been enacted. Other legislations namely the Labour and Employment Act 2007, Marriage Act 1980, Inheritance Act 1980, Citizenship Act 1985 and Royal Bhutan Police Act 2009 also address relevant child issues. Bhutan has also conducted a mapping and assessment of the Child Protection System in Bhutan and the developed a National Plan of Action for Child Protection in Bhutan. The assessment clearly indicated current child protection issues, challenges faced and recommendations which will be addressed in the Eleventh Plan in order to ensure systematic and effective prevention and response to child protection issues.

Notwithstanding the achievements made, our efforts in promoting good governance needs to be consistent and relentlessly pursued as this pillar serves as the fundamental basis for the other three pillars of GNH and is vital for establishing a vibrant democracy. In particular, strengthening and supporting institutions combating corruption must be accorded high priority as there is no room for complacency when it comes to addressing this challenge.

Chapter Three discusses the **Macroeconomic situation and the outlook for the Eleventh Plan**. Bhutan's economy remained largely unscathed by the global economic downturn in 2009, primarily due to its limited integration with the global economy. The real GDP grew at 8 percent per annum over the last five years, unemployment rate was reduced from 4.2 percent in 2008 to 2.1 percent in 2012 and poverty was reduced from 23.2 percent in 2007 to 12 percent in 2012. Although Bhutan weathered the global economic crisis, since 2011 the economy has been experiencing unprecedented macroeconomic policy challenges arising from a combination of related factors that include a surge in capital inflows for hydropower development, rapid credit expansion, successive build-up of current account deficits with India and consequently an acute and persistent shortfall in Rupee reserves that has yet to be effectively addressed. Remedial policy measures

to address the lingering Rupee shortfall has resulted in a severe credit crunch in the banking sector, which continues to adversely affect private investment and growth. Managing the rupee shortage is therefore of high priority to ensure a sound macroeconomic policy framework for effective implementation of the Eleventh Plan.

Real Sector - The economy rendered a strong performance with real growth rate averaging 8 percent per annum over the five years of the Tenth Plan, which was fueled primarily by huge Government investments, particularly in the hydropower sector. The lack of economic diversification has however resulted in a situation whereby large number of job seekers continues to be employed in the agriculture sector and those not willing to work in agriculture remain unemployed and poses significant macroeconomic challenges. This has prompted the government to initiate efforts towards economic diversification that will be intensified during the Plan period. Establishing the necessary infrastructure, creating an enabling environment and targeted initiatives such as Rapid Investments in Selective Enterprises (RISE) will form the cornerstone of the government's diversification strategy.

Despite a relatively high savings rate of 33.7 percent, Bhutan's Gross Domestic Savings (GDS) has been inadequate to finance the significantly higher investment rate of 52.3 percent during the Tenth Plan. Most significantly, GDS has exhibited high volatility, experiencing a significant decline to -5.73 percent in the fiscal year 2008/09 which was followed by a growth spike to 43.17 percent in 2010/11. Smoothing the growth in GDS to ensure greater predictability and effective intermediation through the financial sector to promote private investments is therefore a major issue of concern. Gross fixed capital formation grew annually at 7.2 percent during 2001-2011 and by 12.5 percent a year since 2007. Similar to savings, the high investment rate also needs to be assessed in light of the declining returns to capital and the high volatility in investments.

Robust growth performance of the economy, increase in disposable incomes, and the rapid expansion of credit have contributed to a surge in imports and successive current account deficits. Given limited domestic capacity, there are concerns that the Bhutanese economy is overheating, putting upward pressures on prices, wages and the real exchange rate. Inflation measured by CPI averaged about 7.7 percent per annum during the Tenth Plan. The year-on-year inflation rate peaked to 13.53 percent in the 2nd quarter of 2012 and has and since then been on the decline.

External Sector - The Tenth Plan period witnessed high volatility and a widening of current account deficits ranging from 1.2 percent of GDP in 2008/09 to 27.6 percent in 2010/11, which culminated in an acute shortage of Indian Rupee (INR) reserves. While exports increased by 30.5 percent in the last five years (2008/09 - 2012/13), imports grew by 132 percent during the same period mainly due to surge in hydropower related imports and the rapid expansion of credit for consumption related imports. A research study by UNDESA on the underlying causes of the INR shortfall points to a combination of factors, that include the surge in unsterilized hydro-related inflows which has sparked a credit multiplier effect with a strong import bias and thereby created a mismatch in INR inflows and outflows. The overall balance of payments position during the Tenth Plan has been positive, with successive Capital Account surpluses, averaging Nu. 15.6 billion annually, financing the Current Account deficits. However, close to 74 percent of the Net Capital inflows came in the form of external borrowings.

The long term outlook of the external sector appears bright with the significant increase in export revenues expected with the commissioning of the hydro projects. However, caution needs to be taken and appropriate measures identified in the medium term to monitor external financing risks, given the alarming increase in short term debt instruments that come at a considerably high interest rate of 10 percent. A key issues arising from the external imbalances is that of defending the Ngultrum-INR peg, which has become extremely challenging given the magnitude of the imbalances in recent years and the high costs of short-term borrowings to address them.

Monetary Sector - The monetary policy environment in Bhutan has come under intense scrutiny with the emergence of a chronic INR shortfall and subsequent liquidity crunch in the financial system that has severely affected the economy since 2011. This lingering problem that has spilled over into the Eleventh Plan has prompted the need for monetary policy objectives to be better aligned with the longer term development objectives of the country.

Of particular significance has been the high growth in broad money (M2), mainly due to the surge in hydro power inflows, which in turn has contributed to a rapid expansion of domestic credit, averaging 32.3 percent annually from 2008 to 2012. Most significantly, within the span of a year net domestic credit increased by 176.8 percent, from Nu 6.8 billion in 2008 to Nu 18.9 billion in 2009. The rapid expansion of domestic credit has largely translated into imports, thereby exerting pressure on

the peg and draining of INR reserves.

Another challenge of the monetary sector is that the banking sector has been characterized by high volatility in its liquidity, with a volatility coefficient of 0.76 during the Tenth Plan. From a negative Nu. 1.1 billion in 2011, liquidity spiked to Nu. 4.5 billion in 2012.

An important aspect of monetary policy in Bhutan involves the management of foreign reserves. Convertible currency constitutes close to 90 percent of our foreign reserves despite the fact the major share of our current account transactions are denominated in INR. The lingering INR shortfall and its effects provides a compelling argument for a more dynamic reserve management system that appropriately balances the composition of our reserves between INR and other convertible currencies and ensures the sustainability of the pegged exchange rate regime.

Fiscal Sector - The government's fiscal performance has also come under scrutiny as excessive spending by the government has been cited as a key cause of the Rupee crunch. With government expenditure averaging 39 percent of nominal GDP and the size of recent hydro power investments being nearly equivalent to GDP, such concerns are not without merit. However, the government's expenditure on the current account is offset to a large extent by corresponding inflows of aid and revenue from hydropower sales. Moreover, austerity measures that effect critical investments in public infrastructure and services would undermine broader national goals of inclusive growth and sustainable development. Nevertheless, various reforms to broaden the tax base and rein in unproductive and recurrent expenditure would help in addressing current macroeconomic imbalances. The ceiling for fiscal deficit during the Eleventh Plan has been set significantly lower at 3 percent of GDP to ensure that the government limits deficit financing in view of the current liquidity crunch in the domestic market.

The macroeconomic challenges that transpired during the Tenth Plan period have also highlighted the need for effective coordination between monetary and fiscal authorities. For a small open economy like Bhutan, such coordination is critical to ensure a stable macroeconomic environment through periodic joint assessments of the real, fiscal and monetary sectors; formulation of mutually reinforcing preventive measures; and ensuring effective remedial measures during times of crisis. The lingering INR crunch has brought the importance and need for such coordination to the fore.

Macro-economic outlook for the Eleventh Plan - Real GDP is projected to increase by an average of close to 12 percent per annum, with the hydropower sector driving most of the growth. While the projections show a very optimistic growth scenario, the macroeconomic challenges of recent years underscores the need to prudently address various issues in the real, external and monetary sectors. Given the huge revenue gains expected from the hydropower sector, there is also a growing imperative for preventive measures against the phenomenon of ‘Dutch disease’. In this regard, the prudent management and use of hydropower inflows towards an effective strategy for economic diversification, productivity enhancement through knowledge and skills development and employment creation will be critical.

The external sector is expected to worsen with current account deficits averaging 28 percent of GDP per annum over the Plan period and as high as 34.7 percent of GDP in 2015/16, largely on account of imports for hydropower projects. External borrowing will continue to be the dominant source of financing the Current Account deficit, accounting for approximately 60 percent of all inflows.

The Eleventh Plan expenditure outlay is estimated to be around Nu. 213 billion of which 71 percent is allocated to the central agencies and 29 percent to the local governments. Of this, current expenditure is Nu.121 billion while capital expenditure is Nu.92 billion, which is an increase of 63 percent and 24 percent over that of the Tenth respectively. Resources are projected at Nu. 198 billion, comprising of domestic revenues of Nu.140 billion and external grants of Nu.58 billion. As such, the projected fiscal deficit is Nu. 15 billion, or 2 percent of GDP, which will mainly be covered through concessional borrowings. Domestic resources are projected to increase by 55 percent due to the commissioning of three hydro-power projects while grants are projected to increase by 13 percent over that of the Tenth Plan, mainly on account of increase in Government of India’s assistance from Nu. 34 billion to Nu.45 billion. The overall level of assistance from other development partners is projected to decline as a result of phasing out of assistance by some partners.

The total public debt stock, 99 percent of which is external borrowings, is expected to increase by 135 percent in the Eleventh Plan, from Nu. 110 billion in 2013/14 to Nu.259 billion in 2017/18. Of the total debt, 80 percent is denominated in INR on account of borrowings for hydropower projects, which are expected to increase by 184 percent from Nu. 73 billion to Nu. 206 billion. While debt has been increasing substantially and is expected to be 121 percent of GDP, Bhutan’s debt stock is classified as sustainable since 80 percent of the debt are for self-liquidating hydro-power projects.

Chapter Four introduces our socio-economic needs and aspirations for the next five years. It discusses **the Eleventh Plan objectives, national key result areas and key performance indicators, strategic thrust areas** and the mechanism for **monitoring and evaluation**.

The underlying objective of the Eleventh Plan is to achieve *“Self-reliance and Inclusive Green Socio-Economic Development”*. *Self-Reliance* is defined as being able to meet all of our national development needs as articulated through our Five Year Plans by 2020. *Inclusive Social Development* requires reducing poverty and inequality by enhancing the standard of living and the quality of life of the most vulnerable sections of our society. *Green Development* means ensuring carbon neutral development at all times.

To realize the Eleventh Plan objective of *“Self-reliance and Inclusive Green Socio-Economic Development”*, 16 National Key Result Areas (NKRAs), key national outcomes and outputs, needs to be achieved over the next five years. The 16 NKRAs, which are categorized under each of the four pillars of GNH, are defined as follows:

- Under the pillar of Sustainable and Equitable Socio-economic Development there are four NKRAs namely Sustained Economic Growth; Poverty Reduced and MDG Plus achieved; Food Secure and Sustained; and Full Employment. The achievement of these four NKRAs will be measured by corresponding Key Performance Indicators (KPIs) such as the annual GDP growth rates, inflation, poverty, enrollment, mortality, employment, cereal sufficiency target etc.
- Under the pillar of Preservation and Promotion of Culture there are two NKRAs defined as Strengthened Bhutanese Identity, Social Cohesion and Harmony; and Indigenous Wisdom, Arts and Crafts Promoted for Sustainable Livelihood. The corresponding KPIs to measure progress include GNH Index, rural households engaged in cultural industries and jobs created.
- Under the pillar of Conservation and Sustainable Utilization and Management of the Environment there are four NKRAs namely Carbon Neutral/Green and Climate Resilient Development; Sustainable Utilization and Management of Natural Resources; Water Security; and Improved Disaster Resilience and Management Mainstreamed. The NKRAs have corresponding KPIs to measure performance. Water is given special focus in the Eleventh Plan in view of its

importance for the basic survival of all living beings and for our hydroelectric projects and agriculture. It has also been one of the major difficulties faced by the *Dzongkhags* and communities and therefore an ambitious target of ensuring 24 hours water supply has been set.

- Under the pillar Promotion of Good Governance there are six NKRA's covering Improved Public Service Delivery; Democracy and Governance Strengthened; Gender Friendly Environment for Women's Participation; Corruption Reduced; Safe Society; and Needs of Vulnerable Group Addressed. The KPIs such as reducing turnaround time for Government to Citizen, Government to Business and Government to Government services; monitoring government performance; drafting legislation to ensure quota for women in elected offices; reducing female unemployment; implementation of national anti-corruption strategy; and reducing crime per 1,000 population will be the basis for tracking progress towards these NKRA's.

The main strategic thrust to achieve the national outcomes and outputs will be on i) inclusive social development, ii) accelerated green economic development and iii) strategic infrastructure development.

- Inclusive social development which will focus on further reducing income and multidimensional poverty, address emerging social issues and improve social outcomes in health and education sectors. The targeted key interventions include the Rural Economy Advancement Programme (REAP) to address extreme rural poverty at village and community levels; the National Rehabilitation Programme (NRP) to enhance the productive asset base of marginalized households; the Local Government Empowerment Programme (LGEP) to enhance decision making capacity and improve service delivery through provision of essential equipment, machinery and Nu. 2 million per year per *Gewog*; special programme for vulnerable groups such as senior citizens, differently-abled persons, and youth; and targeted health and education interventions to reach the unreached for *Dzongkhags* with poor health and education outcomes.
- Green Accelerated Economic Development which will focus on economic diversification through the development of non-hydropower sectors and by fostering the growth of a dynamic private sector that catalyzes a transition to a green economy. Key interventions include the Economic Stimulus Programme

to address the present credit crunch and make finances available for productive sectors; Rapid Investment in Selected Enterprises (RISE) Programme, the flagship programme to accelerate economic growth and achieve the objective of self reliance, will target an end-to-end development of non-hydro sectors such as tourism, agro-processing, construction, small and cottage industries including cultural industries and manufacturing and mining; optimizing opportunities of accelerated hydropower development to enhance local trade and commerce, participation of local private sector and workforce and aligning corporate social responsibilities of hydropower projects with local needs and plans; enabling environment through simplification of the policy and regulatory framework and facilitating vital infrastructure development such as surface and air transport, dry ports and industrial estates.

- Strategic Infrastructure Development which will focus on development of critical infrastructure to complement the efforts under the above two thrust areas and to achieve the Eleventh Plan objectives. The investments will primarily be in urban, transport, ICT, energy, economic, social and cultural infrastructure. These include the development of 2 regional hubs and infrastructure facilities and services in *Dzongkhag* headquarters and towns; expansion and improvement of road and air connectivity; expansion of ICT infrastructure including a national data centre, government intranet system, national broadband master-plan and facilities for G2C, G2G and G2B services; expansion of energy infrastructure through the accelerated development of 10,000 MW of hydropower, construction of transmission lines and substations and expansion of rural electrification; the development of dry ports in Phuentsholing and Jigmeling or Nanglam and industrial parks in Mongar, Samtse, Samdrup Jongkhar and Sarpang; and construction of educational and health infrastructure and renovation/construction of *Dzongs*.

The chapter concludes with discussion on the proposed monitoring and evaluation system of the Eleventh Plan. The monitoring and evaluation will be based on the National Monitoring and Evaluation System (NMES) which comprises the monitoring and evaluation institutional set-up and procedures and the Planning & Monitoring system (PlaMS). The Eleventh Plan will give particular emphasis to institutionalizing the evaluation of programmes and projects which are currently limited to those that are donor funded. Further, the Mid-Term Review of the Eleventh Plan will assess progress in the implementation of the Plan and make necessary adjustments in policies, programmes and projects and allocation of

resources. Two Round Table Meetings (RTM) will be held; one during the inception of the Eleventh Plan to sensitize development partners on the priorities and policies and the other towards the middle of the Plan to share progress in implementation of the Plan. Bilateral consultations, programme and project specific reviews, and monitoring and evaluation meetings will be held between the Royal Government and development partners.

Chapter Five presents the **Central Plans** and the **Sector Key Result Areas (SKRAs)** with corresponding **KPIs**.

Education Sector: The key issues and challenges of this sector include last mile access to education, disparities in education outcomes at the local levels and catering to the special needs of children with disabilities. A major issue of concern is the relevance and quality of education. Although improvements in efficiency indicators indicate that the quality of education has improved over the years, a number of reports reveal that an increasing numbers of students, including graduates from vocational and tertiary institutions, are inadequately prepared to enter the workforce, which has resulted in a paradoxical situation of relatively high levels of youth unemployment and a critical skills shortage at the same time. Evidently, changing realities, both domestic and external, are placing a demand on our education system to achieve higher standards at a scale that has never been met or required before.

According to Royal Education Council's (REC) research study on the quality of education in Bhutan, the overall trend indicates that there is a big gap between the current and the desired state in the quality of outcomes and processes, with under-prepared teachers, lack of appropriate curricular resources, and poor instructional leadership and in-service training as the three critical reasons for the persistence of ineffective classroom practices across schools and arguably also across vocational and tertiary education institutions. A major challenge, which is also related to the above, is the sustainability of financing the expenditure of the education sector.

The main objectives of the education sector in the Eleventh Plan are to ensure quality of education service delivery; ensure education sustainability; and achieve MDG plus. Strategies include targeted intervention programmes, rationalization of schools through a consolidation programme; enhancing professional development for teachers; improved service delivery and promoting private participation.

Health Sector: The key issues and challenge of this sector include delivering quality

health care; acute shortage of all categories of health personnel against the growing need to expand health services; growing incidence of non-communicable diseases; spread of HIV/AIDS, TB, Malaria and outbreaks of Neglected Tropical Diseases (NTDs); maternal and child health; nutrition; and sustainable healthcare financing. The main objectives of this sector in the Eleventh Plan are to improve access to quality and equitable health services, strengthen preventive, promotive, rehabilitative and palliative health services and promote efficiency and effectiveness in financing and delivery of health services. Strategies to achieve these objectives include greater emphasis on preventive and promotional measures; human resources development; sustainable health financing; standardization of eHealth and interoperability; and consolidation of health infrastructure.

Human Resource Development & Management: The key issues and challenges of this sector are the high percentage of civil servants not meeting the minimum qualification criteria; mismatch between skills and jobs available; retention of civil servants; and unsustainable growth in the size of civil service. To address these challenges, strategies will focus on creating a pool of skilled manpower aligned to meet the objectives of EDP 2010, with an emphasis on addressing the acute shortage of skilled professionals such as doctors, educationists, engineers, architects and ICT specialists; strengthening human resource management systems and processes to enhance performance, efficiency and motivation of the civil servants; review and ensure full implementation of National Human Resource Development Policy 2010 to address issues of coordination and synergies.

Employment: Although the unemployment rate has declined from 4.2 percent in 2008 to 2.1 percent in 2012, major challenges with regard to the quality of employment remain. There is also a lack of synergy between the education system and manpower needs given the shortage of skilled manpower across sectors, and a mismatch of employee aspirations and jobs available given significant import of labor, particularly in the construction sector.

In the Eleventh Plan, 82,000 new jobs need to be created for approximately 120,000 job seekers, to achieve the target of full employment – defined as unemployment of 2.5 percent. The main objective of this sector is to achieve full and productive employment. Strategies to achieve this objective include implementation of the Rapid Investments in Selected Enterprises (RISE) programme and strengthening linkages between the education system and manpower needs of the country to address the mismatch of skills and aspirations.

Renewable Natural Resources (RNR) Sector: The key issues and challenges of this sector are loss of agriculture land, declining productivity, human wildlife conflict, shortage of farm labourers and irrigation facilities, pest and disease management and weak post harvest management and facilities. The key objectives of this sector in the Eleventh Plan are to enhance food and nutrition security; improve rural livelihood; accelerate and sustain RNR sector growth; and promote sustainable management and utilization of natural resources. The strategies to achieve these objectives include targeted and commodity focused interventions; foster transition from subsistence to commercial agriculture; ensure an enabling environment; and promote private sector participation and contract farming.

Tourism Sector: The key issues and challenges of this sector include accessibility, seasonality, the lack of regional spread and product diversification, shortage of skilled manpower in the form of trained guides, skilled workers in hospitality sector, qualified and experienced professionals in product development, destination marketing and other tourism-related services. The sector is still largely dependent on international tour operators for arrivals. The main objective of this sector in the Eleventh Plan is to continue promoting Bhutan as a high value low impact tourist destination. The key strategy will be to promote Bhutan as an exclusive destination based on high level of services, diversified tourism products and improved tourism infrastructure facilities. The focus will be on regional spread, addressing seasonality issues and community participation.

Trade, Industries & Mines Sector: The key issue in terms of trade is the lack of product diversification of our exports, with about 80 percent of total exports consisting of electricity, mineral products and base metal, which are all highly vulnerable. Diversification of our exports into agricultural and non-mineral and non-metal products requires substantial investments. In terms of industries, about 85 percent of Bhutanese industries are small and micro industries, which are constrained by lack of access to capital, technology, markets and labour resulting in low volume, high cost and inferior quality products. The mining sector suffers from the absence of a clear mineral development policy and human resource constraints. The main objectives of this sector in the Eleventh Plan are to create an enabling environment for private sector development and stimulating export growth; ensure green and sustainable development of SME's; ensure sustainable geo-scientific investigation and mineral development; and prevent and reduce risks associated with geo-hazards. Strategies to achieve these objectives include a coordinated implementation of

the Economic Development Policy 2010, the implementation of Rapid Investment in Selected Sector (RISE) Programme and creation of an enabling environment through infrastructure investments, and addressing issues such as excise refunds, access to finance particularly for cottage, small and medium industries, reduction in turn-around-time for Government to Business (G2B) services specially in terms of government clearances/ approvals, and development of capital markets.

Energy sector: This sector is the lynchpin of our economy, accounting for about 18 percent of total revenues and about 20 percent of GDP. The key issues and challenges of this sector include high upfront investment costs for hydro-power projects, which pose significant challenges in terms of raising financing for the project; maintaining the balance between the needs of domestic consumption and export earnings and the demand by households and industries; the viability of the cost of electricity generation and supply and current tariff levels; infrastructure development; system reinforcement; building human resource capacity; and GLoF and hydrological risks. The main objectives of this sector in the Eleventh Plan are to increase energy security and the sector's contribution to revenue, economic growth and employment and to strengthen hydrometeorology data to facilitate reliable weather, GLoF and water related forecasting. The key strategies to achieve these objectives are strengthening of institutional and human capacity of the sector, rural electrification, investment in transmission lines and formulation of energy allocation policy to ensure sustainable and optimum utilization of additional firm power and to enhance energy security and reduce dependency on fossil fuel by promoting other forms of alternate renewable energy.

Information Communication & Technology and Media Sector: The key issues and challenges of this sector include the significantly higher telecommunication tariffs than those in the region which negates the other comparative advantages; lack of international redundancy and a shortage of qualified ICT professionals, all of which pose a challenge for Bhutan to serve as a potential hub for ICT and ICT enabled services. The main objectives of this sector are to promote Bhutanese information society, strengthen good governance, enhance economic development and develop a responsible, vibrant and creative information and media industry. The main strategies to achieve these objectives are the implementation of the e-Gov Master Plan, capacity building and expansion of ICT infrastructure. Opportunities to tap mobile technology to provide public services will be actively explored.

Transport Sector: The key issues and challenges of this sector are enhancing the

capacity of Paro airport to serve double the number of passengers, flights and air cargo; enhancing road safety with the number of vehicles having doubled in the last five years and motor vehicles accidents increasing from 696 in 2005 to 1,730 in 2011. The main objective of this sector in the Eleventh Plan will be to increase access to safe, reliable, affordable, eco-friendly and convenient transport services. Strategies to achieve this objective include strengthening the capacity of Paro International Airport, improving the three domestic airports, expansion of air services to and from international destinations, increasing access to public transportation in rural areas and eco-friendly mass public transportation services in urban areas, and improving driver licensing procedures, motor vehicle fitness standards, public safety awareness campaigns and equipping road safety authorities with necessary equipments and tools to monitor road safety.

Roads & Bridges Sector: The key issues and challenges of this sector are road safety with some highways constructed in the early 1960s and 70s when vehicular traffic was significantly lower and on account of difficult geographical terrain; quality of construction and high transport costs; and financial sustainability of maintaining the vast network of road constructed and blacktopping of unpaved roads. The two main objectives of this sector are to increase efficiency and reliability of road infrastructure to facilitate economic development and strengthen national security and ensure sustainability through mechanization and greater private sector participation. Strategies include institutional and human resource development to strengthen the capacity of road sector to plan, design, build and maintain road network; expansion of the national highway backbone grid, improvement of road specifications and standards; geometric improvements and regular maintenance; exploring tunneling of certain stretches of the highways; and involvement of the private sector in the maintenance of roads to ensure financial sustainability.

Construction: The key issues and challenges of this sector are low demand for construction sector jobs due to low wages, lack of job security, and low levels of mechanization and limited design, planning and supervision capability due to shortage of qualified professionals and a lack of basic tools and technology which result in relatively high costs of construction, poor quality of work, and high maintenance costs. The main objective of this sector in the Eleventh Plan is to enhance the quality of construction industry through the introduction of new energy efficient technology, mechanization and human resource development. Strategies to achieve this objective include training and capacity building of professionals

in the construction sector, consolidation of contract packages, promotion of construction mechanization and use of local construction materials, special service conditions to make construction jobs attractive, and aligning vocational training programmes to the needs of construction industry.

Human Settlement and Housing Sector: The key issues and challenges of this sector are a lack of clear legislation and policies in human settlement planning, gaps in inter-sectoral coordination; limited human resource capacity, both in terms of numbers and skills; and housing shortages given that the National Housing Development Corporation's housing stock is 1,122 units. The shortages are particularly severe in Thimphu, Phuentsholing, Gasa, Lhuentse and Samdrup Jongkhar, where for example, many Bhutanese in Phuentsholing are compelled to live across the border while in Gasa and Lhuentse civil servants are living in temporary makeshift huts. While increasing the housing stock is imperative, making it affordable, particularly for the low and middle income group, is a major challenge. The main objectives of this sector are to ensure balanced and sustainable development of human settlements; improve quality of urban infrastructure and services; and provide safe, aesthetic, adequate and affordable housing. Strategies to achieve these objectives include planned and sustainable development of human settlements through new legislations and policies and improved rules and regulations; accelerated development of valley plans, regional hub plans and rural-urban development plans in order to contain rural urban migration; capacity building of engineers, architects and planners; adoption of new technologies and design innovation to reduce the cost of construction while ensuring quality; increase low income housing for rental; and promotion of home ownership.

Emerging Social Challenges: With rapid development, Bhutan is confronted with new social issues such as those related to youth, senior citizens, single parents, orphans, differently-abled persons, domestic violence and crime. The lack of a central agency that is responsible for coordinating efforts poses a major challenge to effectively address these emerging issues. Current efforts that are being undertaken are based on the initiative of various sectors and civil society organizations and associations and many of these organizations are constrained by lack of technical and financial resources. There is also a paucity of studies, baseline data, and surveys to clearly ascertain the situation and recommend appropriate interventions. The main objective to address emerging social challenges will be to ensure access to integrated critical services covering health, education, justice and protection, counselling, welfare and rehabilitation. Strategies will include the conduct of detailed studies on emerging social issues to enable appropriate

intervention programmes and strengthened partnerships with CSOs.

Sports: The lack of a focused and coherent strategy, despite more than three decades since the establishment of the National Sports Association and the Bhutan Olympic Committee (BOC), has been a major issue for the development of sports in Bhutan. The sector is also challenged by the lack of infrastructure facilities, human resources capacity and financial sustainability. The main objectives of this sector in the Eleventh Plan are to establish a representative and organized sport system that fosters excellence in sports and promotes recreation throughout the country; promotes a vibrant sporting culture that contributes to addressing youth issues, lifestyle related diseases, employment, community cohesiveness and international image of the country. The main strategy will be the implementation of the “Strategic Vision and Road Map for Development of Sports in Bhutan” by the BOC.

Preservation and Promotion of Culture: The Eleventh Plan takes cognizance of culture as an “evolving dynamic force” and the need “to strengthen and facilitate the continued evolution of traditional values and institutions that are sustainable as a progressive society”¹. As such, the preservation and promotion of culture is accorded priority not just for strengthening our identity but is an economic imperative to address poverty through the development of cultural industries.

A major issue and challenge to the preservation and promotion of culture is related to keeping the age old local customs and traditions alive with many of the younger generation either not keen or not having the required skills to continue these traditions, with many having left their villages, a consequence of increasing rural-urban migration trend. The tangible cultural properties such as *Dzongs* and *Lhakangs* are under threat of natural and manmade disasters such as earthquakes, windstorms, landslides, vandalism and fire and conserving and restoring these monuments require substantial resources. The promotion of cultural industries which has potential and is vital for poverty alleviation is confronted with challenges arising from access to finance, poor economy of scale, quality of products and access to markets.

The main objectives of this sector are to strengthen national identity, social cohesion and harmony; and promote indigenous wisdom, arts and crafts for sustainable livelihood. Key strategies to achieve these objectives are strengthening institutional capacity for inventory and documentation of oral traditions, history, arts, living

¹Article 4 of the Constitution

expressions, and architectural knowledge; preservation and promotion of arts, social practices, *Tshechus*, rituals and festivals; host regular cultural exhibitions and colloquiums; conservation and restoration of cultural heritage sites, including the incorporation of disaster resilient measures; capacity development for research and documentation of the performing arts and conservation and restoration measures through trainings/workshops; archival surveys and documentation; and facilitating the growth of cultural industries through access to finance, product development support, raw material banks, promotion of craft clusters, craft bazaars and business incubators.

Conservation of Environment - Conservation of environment is an integral part of our development strategy to ensure that socio-economic development efforts do not come at the cost of our natural environment. Since 2009, all new policies introduced are subject to a GNH Policy Screening to assess the impact of a new policy on GNH. The GNH Policy Screening tool comprise twenty two variables of which three are on environment, namely water and air pollution, land degradation and bio-diversity health. Due to the rapid pace of socio-economic development, land degradation, air pollution, and solid waste management are major issues and challenges facing this sector. However, ensuring water security is currently the most significant issue facing this sector and has been identified as one of the 16 National Key Result Areas to be achieved over the Eleventh Plan period. Water is a vital natural resource for our basic survival as well as for our economy given our high dependence on agriculture and hydropower. Despite having one of the world's highest per capita availability of water, water shortage is a major issue in both rural and urban communities. In 2011, electricity sector experienced negative growth mainly due to hydrological risk. The main objectives of the environment sector are to ensure carbon neutral and climate resilient development, enhance sustainable utilization and management of natural resources and enhance water security. Key strategies to achieve these objectives include implementation of the National Strategy and Action Plan for Low Carbon Development 2012; mainstreaming of environment across all sectoral and local government programmes and projects; implementation of the Integrated Water Resource Management Plan; and addressing water security.

Good Governance - Being vital for sustainable and equitable socio-economic development, the Eleventh Plan will continue to give emphasis to good governance by strengthening democracy, improving public service delivery, promoting gender

equality, curbing corruption, enhancing safety and addressing the needs of the vulnerable groups. The key issues and challenges facing this sector are lack of institutional and human capacity, particularly at the local government level; growth in quantity and complexity of the policy and regulatory environment; gender related issues such as relatively high female unemployment, and low female enrollment in tertiary education, which are a concern particularly in terms of achievement of the MDGs; and sustaining the progress made in combating corruption. The main objectives under this pillar will be to further improve public service delivery and strengthen democracy and good governance. Key strategies to achieve these objectives include the implementation of the Government Performance Management System, National Anti-corruption Strategy, improving public service delivery through G2C, G2B and G2G services, and capacity building and awareness campaigns to enhance transparency, accountability, efficiency and effectiveness in governance.

Chapter Six discusses the **Local Government Plans** comprising of 20 Dzongkhags and 4 Thromdes, and the **Dzongkhag Key Result Areas and Thromde Key Result Areas** with corresponding **KPIs**.

Since the inception of Fifth Plan in 1981, the Royal Government has actively pursued a proactive decentralization policy to promote participatory development, which culminated in the introduction of a *Gewog*-based planning approach in the Ninth Plan, whereby Local Governments (LG) formulated their Five Year Plans based on priorities identified by communities at the *Gewog* level. To further strengthen the decentralization process, a formula based rationalized Annual Grants System (AGS) using population, poverty and area as the criteria and that takes into account the principles of equity, transparency and objectivity was introduced during the Tenth Plan. A key objective of the AGS was to provide predictability of resource availability to local governments and flexibility in its use.

In addition to the SKRAs, *Dzongkhag* Key Results Areas (DKRAs) with corresponding KPIs have been defined for each *Dzongkhag* based on the four pillars of GNH. The structure of the local government plans, whereby the DKRAs and strategies are anchored to the circumstances of each *Dzongkhag*, also emphasizes the need for a common but differentiated approach to development. The high priority accorded to local government plans in the Eleventh Plan is evident from the formula based annual grants of Nu. 15 billion for local government plans, which is an increase of 25 percent over Tenth Plan outlay, Nu. 5 billion for local government empowerment programme and Nu. 5 billion allocated to four *Thromdes*. In total, the local governments receive

direct capital allocation of Nu. 25 billion or about 28 percent of the total capital outlay. In addition, resources for local government education activities and targeted poverty intervention programmes are provided through central government budget.

In order to enhance the usefulness and relevance of the AGS, both in terms of viability and sustainability, the formula for resource allocation to local governments has been revised for the Eleventh Plan with introduction of two additional criteria, namely Multidimensional Poverty Index² (MPI) and Transport Cost Index³ (TCI). To ensure equity, efficiency, accountability and transparency for the realization of the Eleventh Plan goal and outcomes, the responsibilities among Central agencies, Class “A” *Thromdes*, *Dzongkhags* and *Gewogs* have been clearly delineated based on the division of responsibilities framework, which is guided by the ‘*principle of subsidiarity*’. To further strengthen local governments, reforms to create incentives for local governments to enhance revenues from commercial activities in their *Dzongkhags* will also be undertaken as a priority.

The *Dzongkhags* will pursue strategies that will contribute to reduction in multidimensional poverty. The strategies to enhance household incomes will include increasing agriculture, livestock and non-wood forest productivity, developing tourism potential and cottage, small and medium industries. The *Dzongkhags* will work in close collaboration with the central agencies to further improve health and education outcome. To accelerate poverty reduction at community and household levels, targeted poverty intervention programmes such as Rural Economy Advancement Programme (REAP) and National Rehabilitation Programmes will be implemented.

The *Thromdes* will focus on development of sustainable and highly livable urban towns. The preparation of structural and local area plans for core areas will be prioritized to prevent unplanned development. The issues of drinking water shortage will be addressed by exploring and investing in construction of bore wells, ground water exploration and water reservoir to ensure 24 hours of adequate and reliable supply of clean drinking water. Further, the *Thromdes* will ensure urban roads, street lights, recreational parks, sports facilities, sewerage and waste management system etc are constructed and improved to enhance safety and promote community vitality. High priority will also be accorded to initiatives that will enhance their revenues.

²Income, Life Expectancy and Education Index

³Ratio of distance (kms) from the nearest markets (P/ling, S/Jongkhar, G/phu)

CHAPTER 1

BACKGROUND

1.1 Introduction

The Eleventh Five Year Plan builds on the strong foundations we have laid since the inception of planned development in 1961. Its goals, objectives and strategies are guided by His Majesty the King’s Vision for Bhutan and the national priorities that have been consistently underscored in Royal Addresses on various occasions to the nation. The development planning framework is based on our development philosophy of Gross National Happiness.

The Plan also sets out an ambitious development agenda which is based on the government’s ideology of “Prosperity for All” to be achieved by empowering people with liberty, equality and prosperity through the devolution of power and authority from the centre to the people – “*Wangtse Chhirpel*”.

The documentations for the Eleventh Plan are as follows:

- **Volume I: Main Document** – Volume I discusses the current socio-economic development progress, the key challenges and opportunities and the outlook for the Eleventh Plan. The Eleventh Plan goals, objectives, overall strategies, fiscal framework, and sectoral and local government objectives and strategies are presented in Volume I.
- **Volume II: Central Government Programme Profiles** – Volume II provides an overview of the major programmes to be implemented by central agencies. It includes information on the programmes, objectives, costs, activities, etc.
- **Volume III: Local Government Programme Profiles** – Volume III provides an overview of programmes to be implemented by the local governments – 20 *Dzongkhags*, 205 *Gewogs* and 4 *Thromdes*. It includes information on the programmes, objectives, costs, activities, etc.

1.2 Development Planning Framework

Bhutan’s development planning framework continues to be guided by our development philosophy of Gross National Happiness (GNH) which was conceived by the Fourth King His Majesty Jigme Singye Wangchuck in 1972. GNH broadly encompasses four pillars, which are namely i) sustainable and equitable socio-

economic development, ii) preservation and promotion of culture, iii) conservation and sustainable utilization and management of the environment, and iv) promotion of good governance.

1.2.1 Result Based Planning

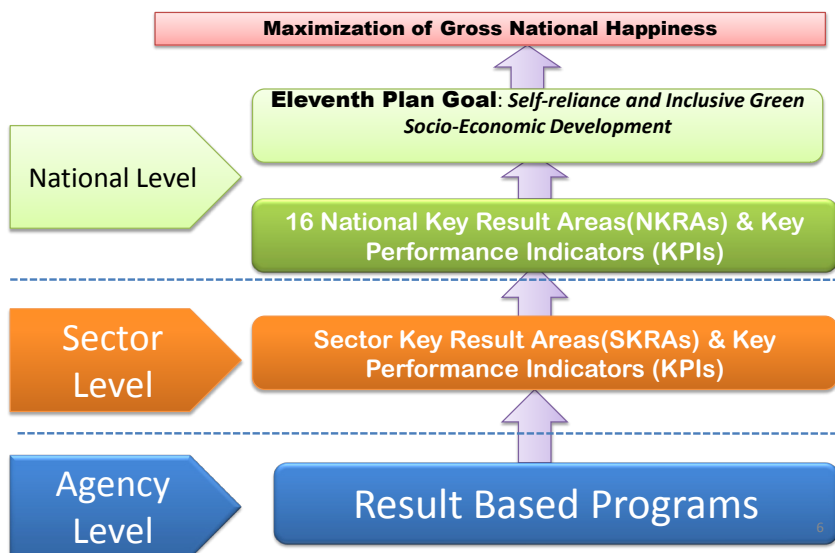
The Plan is based on the Results Based Planning (RBP) framework. The RBP framework articulates the outcomes and outputs that need to be achieved over the next five years in order to achieve the Eleventh Plan objective of “Self-reliance and Inclusive Green Socio-Economic Development”.

The outcomes and outputs, defined as Key Result Areas, have been identified at the National, Sectoral, *Dzongkhag*, *Thromdes* and *Gewog* levels. The result areas were identified through a two year process of extensive consultation involving all relevant stakeholders, both at the central and local levels, and attempts to capture the many needs and aspirations of the nation and its people. Further, the Constitution of Bhutan, the national long term goals envisioned in the Vision 2020, the Economic Development Policy 2010 (EDP 2010), the GNH 2010 Index, Bhutan’s progress towards the Millennium Development Goals (MDGs), the SAARC Development Goals (SDGs), Istanbul Programme of Action (IPoA), international, regional and national commitments on environment, population and development, women and children and the Strategy for GNH (SGNH) etc have all been taken into consideration while defining the key result areas.

At the national level, there are 16 National Key Result Areas (NKRAs) which needs to be achieved over the next five years to realize the Eleventh Plan objective. All central ministries, constitutional bodies, autonomous agencies, *Dzongkhags*, *Thromdes* and *Gewogs* contribute to, through their respective sectors, *Dzongkhag*, *Thromde* and *Gewog* Key Result Areas. The performance of the central and local government agencies towards delivery of the national key result areas are measured through Key Performance Indicators (KPIs) consisting of baselines and targets.

The result based programs, formulated and implemented at agency level, contribute towards the sector, *Dzongkhag* and *Gewog* key result areas.

Box 1.1 - Eleventh Plan Strategic Framework



1.2.2 Plan Preparation

The preparation of the Eleventh Plan started in May 2011 in two stages. The first stage was the drafting of “Guideline for Preparation of the Eleventh Plan⁴”. The purpose of the guideline was to provide a basis for the central and local government agencies to formulate their respective sectoral/local government Plans. The guideline highlights the key challenges, national objective, strategies, key result areas and the key performance indicators. The guideline was prepared in consultation with all relevant stakeholders and circulated in March 2012.

The second stage, which commenced in April 2012, was the formulation of central and local government plans by the respective agencies. The *Gewog* Plans for 205 *Gewogs* were planned and prioritized by *Gewog Tshogde - GT* (Block Development Committee) and *Dzongkhag* Plans for 20 *Dzongkhags* by *Dzongkhag Tshogdu- DT* (District Development Committee) within the resource envelop indicated for the local governments.

⁴Refer www.gnhc.gov.bt/guidelines

1.3 Operationalizing Gross National Happiness

The key efforts undertaken by the government towards operationalizing GNH are the introduction of the GNH Index in 2008 and the GNH Policy Screening Tool in 2009.

1.3.1 GNH Index

While GNH has been the guiding principle for Bhutan’s socio-economic development over the last four decades, it was only in 2008 that efforts to track Bhutan’s progress towards maximizing happiness were initiated with the introduction of GNH Index⁵. The main purpose of developing the GNH Index was to ensure that the policies and programmes pursued, following the changes in the system of governance, continued to be consistent with GNH. It was also to ensure that the Constitutional requirement under Article 9-2 which directs the State “to promote those conditions that will enable the pursuit of Gross National Happiness” would be fulfilled.

The GNH Index has been developed based on biennial surveys of 2008 and 2010.

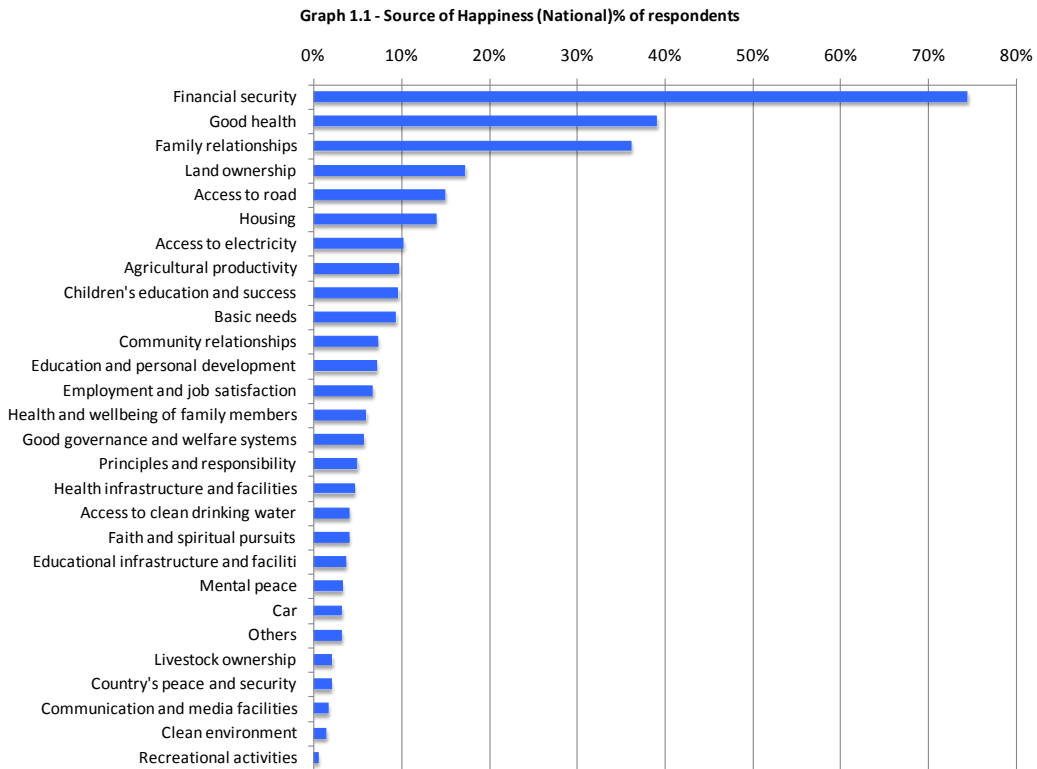
The 2010 GNH Index comprises of 9 domains, 33 indicators and 124 variables. Of the 9 domains, 5 represent the conventional indicators of health, education, living standards, ecological diversity and resilience and good governance which are used by most countries to measure development. The 4 new indicators that attempt to measure the intangible needs of an individual and society include psychological wellbeing; time use; community vitality; and cultural diversity and resilience. Each domain is measured based on 2-4 indicators, as illustrated in Table 1.1.

Table 1.1 – Nine Domains of GNH Index

	Domain	Indicators
1	Psychological wellbeing	4
2	Health	4
3	Time use	2
4	Education	4
5	Cultural diversity and resilience	4
6	Good governance	4
7	Community vitality	4
8	Ecological diversity and resilience	4
9	Living standards	3
	Total	33

⁵Centre for Bhutan Studies.

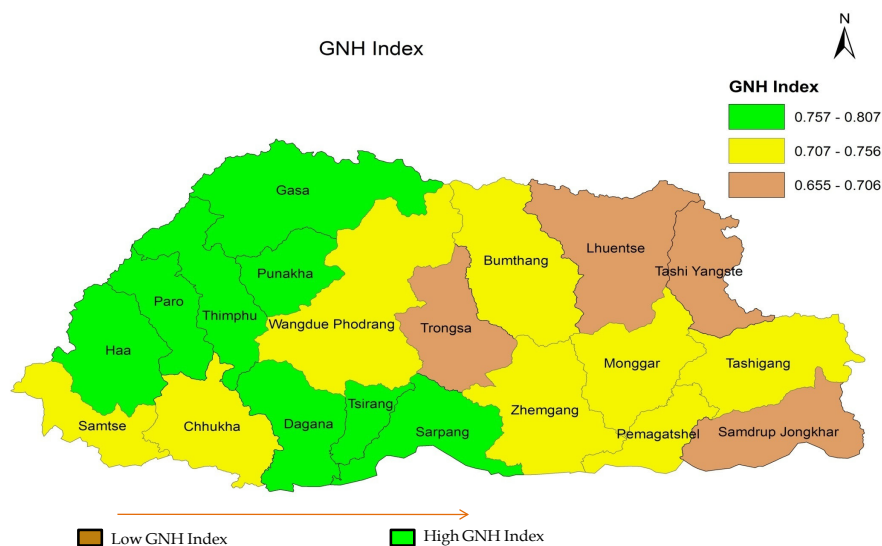
The GNH Index provides an overview of performance across the 9 domains of GNH. The 2010 GNH Index of 0.743 shows that overall 41 percent of Bhutanese are identified as happy as they enjoyed sufficiency in 73 percent of the domains while the remaining 59 percent enjoyed sufficiency in 57 percent of the domains on an average. Financial security, good health and family relationships were the top three sources of happiness at the national level as per the GNH 2010 Survey.



Source: GNH 2010 Survey

Among the *Dzongkhags*, the five western *Dzongkhags* and three south central *Dzongkhags* enjoyed higher levels of sufficiency while Trashiyangtse, Lhuentse, Trongsa and Samdrup Jongkhar had lower levels of sufficiency.

Picture 1.1 - GNH index by district



Source: GNH 2010 Survey

The key findings of 2010 GNH Survey as per the Short Guide to GNH Index, Centre for Bhutan Studies were as follows.

- Men were happier than women on average.
- Of the nine domains, Bhutanese had the most sufficiency in health, followed by ecology, psychological wellbeing, and community vitality.
- 50 percent of people were happy in urban areas; in rural areas it was 37 percent. Urban areas did better in health, living standards and education. Rural areas did better in community vitality, cultural resilience, and good governance.
- Happiness was higher among people with primary education or above than among those with no formal education, but *higher education did not affect GNH very much*.

- The happiest people by occupation were civil servants, monks/nuns, and GYT/DYT members. Unemployed were happier than corporate employees, housewives, farmers or the national work force.
- Unmarried people and young people were among the happiest.
- The happiest *Dzongkhags* included Paro, Sarpang, Dagana, Haa, Thimphu and Gasa while Samdrup Jongkhar and Lhuentse were among the less happier *Dzongkhags*
- In terms of numbers, the highest number of happy people lived in Thimphu and Chukha – as do the highest number of unhappy people!
- Thimphu was better in education and living standards than other *Dzongkhags*, but worse in community vitality.
- Financial Security was ranked the most important source for individual happiness.

1.3.2 GNH Policy Screening

The GNH policy screening⁶ is a tool that is used to assess the impact of introducing new policies on GNH and to mainstream GNH into all new policies being formulated. Policies are screened against twenty-two variables representing the 9 GNH domains. Each screening question has a 4-pointer scale ranging from 1 to 4, 1 being negative and 4 positive. Below is an example under the psychological wellbeing domain:

Table 1.2 – GNH Policy Screening Tool Scoring Scale

Will increase levels of stress in the population	Do not know the effects on levels of stress in the population	Will not have any appreciable effects on levels of stress in the population	Will decrease levels of stress in the population
1 – Negative	2 – uncertain	3 – Neutral	4 – Positive

The GNH screening of each policy is carried out by the proponent sector and the GNHC Secretariat involving a minimum of 10-15 individuals representing diverse professions/fields. The threshold for a policy to be GNH favourable is 66 (22 variables*neutral score of 3).

⁶Refer www.gnhc.gov.bt for more information on the screening tool.

Since the introduction of GNH policy screening, twelve policies have been approved - National Human Resource Development Policy 2010; National Youth Policy 2010, Tertiary Education Policy 2010; National Health Policy 2011; National Land Policy 2011; National Forest Policy 2011; National Irrigation Policy 2011; Alternate Renewable Energy Policy 2012; Renewable Natural Resource (RNR) Research Policy 2012; Subsidized Timber & Other Forest Produce Allotment Policy 2012, Cottage, Small and Medium Industry Policy 2012; and Food & Nutrition Security Policy 2012.

1.4 Key Development Milestones

The Eleventh Plan will also be the basis for achieving the three key and related milestones by the year 2020: i) the goals and objectives articulated in “Bhutan 2020: A Vision for Peace, Prosperity, and Happiness”, ii) the objectives of self-reliance and full employment of the Economic Development Policy 2010 and iii) graduating from the list of Least Developed Countries (LDCs). While our socio-economic indicators show that we are making good progress towards achieving these milestones, there are important challenges that need to be urgently addressed. With just seven years left for 2020, the success of the Eleventh Plan will be critical in our efforts to achieve these milestones.

1.4.1 Bhutan 2020 - A Vision for Peace, Prosperity and Happiness

Since its launch in the year 2000, “Bhutan 2020 – A Vision for Peace, Prosperity and Happiness” formed the basis for the formulation and implementation of successive Five Year Plans. The Vision Statement underscores the need “*to ensure the future independence, sovereignty and security of our nation-state*” as a precondition for the fulfillment of the hopes and aspirations of our nation and people. Furthermore, it provides six guiding principles in the pursuit of this goal: maintenance and strengthening of our distinct Bhutanese identity; maintenance of unity and harmony; ensuring stability; promoting self-reliance; ensuring that development is sustainable; and demonstrating flexibility and capacity to adapt to change.

As we approach 2020, a brief review of where we are today and what remains to be done over the next seven years was assessed on the basis of the Vision Statement’s five thematic headings encompassing: our nation, our people, our economy, our environment and our institutions.

Our Nation – Much has been achieved towards strengthening the peace, security and prosperity of our nation. Today, Bhutan is a Democratic Constitutional Monarchy with a democratically elected parliament and government. State Principles based on which the country will be governed, the powers and responsibilities of various authorities and the fundamental rights and duties of its people are clearly articulated in a written Constitution. The transition was overseen by His Majesty the King Jigme Khesar Namgyel Wangchuck, who then assumed the role of the Head of State from 2008. The King is the symbol of unity of the Kingdom and the people of Bhutan, whose Vision and guidance on national priorities serve as beacons for the future direction of our nation.

While much has been achieved towards strengthening our nation's independence, security and sovereignty, there are many new challenges for a young democracy. The cornucopia of processes, interactions and systems of a well functioning democracy has to be learnt gradually through experience. This needs to be complemented by education and awareness, promotion of female participation in governance, capacity building of our legislators, strengthening of the media and other such efforts.

Our People – The quality of life and the overall socio-economic status of our people has improved significantly. Poverty has been reduced from 31 percent in 2003 to 12 percent in 2012. Our primary school enrollment rates have increased from 72 percent in 1999⁷ to near 100 percent. Life expectancy has increased from 66 years in 1999 to 68 years and population growth rates have stabilized around 1.3 percent from a high of 3.1 percent in 1994. The development concept of GNH has been introduced into the core of our education system. It strives to foster wholesome development of our children so that they are better prepared to appreciate the importance of moral and ethical choices in their lives. A full range of educational institutions for a knowledge based society have been established and more are in pipeline.

However, the quality of social outcomes remains a challenge with disparities and inequalities at local levels. Some *Dzongkhags* have poverty levels of below 0.5 percent while others have a high of 31.9 percent⁸. Similarly disparities are noted in health and education outcomes. Unemployment is low at 2.1 percent in 2012 but youth and female unemployment rates remain comparatively high. With development, Bhutan is also confronted, particularly in major urban towns,

⁷Bhutan 2020.

⁸Poverty Analysis 2012, NSB.

with new social challenges related to youth issues, domestic violence, single parent households, abandoned children, a growing number of senior citizens without adequate family support, and crime. These issues need to be urgently looked into and addressed for our people to be self-confident, live in harmony and unity, and share a common sense of purpose and destiny.

Our Economy – The GDP per-capita has increased from USD 1,387 in 2006 to USD 2,590 in 2011. The economy has grown at an average of 7-8 percent per annum, unemployment rates are below 3 percent and domestic revenue is able to cover about 65 percent of our annual budgetary requirements. We will have harnessed 4,546 MW of hydropower by 2018 from the present levels of 1,488 MW, thereby exceeding the Vision 2020 target of 3,000 MW by 2017. By 2020, the second transnational highway will be completed with the initiation of construction of southern east-west highway and 10,000 MW of hydroelectricity generation capacity realized.

However, our economy continues to be aid dependent, import driven and highly vulnerable. Economic development and structural change have not translated into commensurate increase in secondary and tertiary sector jobs. Agriculture continues to employ about 60 percent of the population mostly in subsistence farming with significantly lower returns. The economy lacks diversification and is predominantly driven by the hydropower sector which has limited potential for the creation of productive jobs to absorb a growing and an increasingly educated labour force.

Our vision of “high-technology” enterprises engaged in high value low volume products and building internationally recognized “centres of excellence” in health and education services remain a vision. In the absence of alternate growth centres, Thimphu and Phuentsholing continue to attract large number of rural-urban migrants. Establishment of dry ports in Phuentsholing, Samdrup Jongkhar and Gelephu to facilitate trade, supposed to have been completed by 2002 and 2007 respectively, remain unaccomplished. Most significantly, the macro-economic imbalances leading to the recent and lingering Rupee shortage is an indication of deficiencies in our macro-economic analytical, management and coordination capacity which need to be strengthened.

Our Environment - Our environment remains pristine with 70.46 percent of land under forest coverage; 19,751 square kilometers under protected areas and biological corridors; and air and water quality within acceptable national standards.

Our efforts towards environment conservation are further reinforced by our Constitutional mandate of maintaining a minimum of 60 percent forest coverage at all times and our commitment to the global community⁹ to maintain our status as a net sink for green house gasses by ensuring that such emission levels do not exceed the sequestration capacity of our forest.

Our strong environment policies have helped maintain our natural environment, much of it pristine. However, population growth, urbanization, industrialization and infrastructure expansion are putting strong pressure on the environment - particularly in terms of the quality of air, water and solid waste management in urban areas and human-wildlife conflict in rural areas. Bhutan is also highly vulnerable to climate change related disasters such as Glacial Lake Outburst Floods (GLOF), floods, landslides and drought. Furthermore, while Bhutan has abundant water resources many of our urban centres and town continue to face acute shortages of clean and reliable drinking water facilities, while climate change and lack of water management resources result in shortages in rural farms. These challenges call for more innovative approaches to balancing our environmental aspirations and pressing developmental needs.

Our Institutions – Constitutional offices such as the Anti-Corruption Commission, Election Commission, Royal Audit Authority, Royal Civil Service Commission and the Supreme Court have been established. The formation of the *Dzongkhag* Yargay Tshogdu (DYT- *Dzongkhag* Development Committee) and *Gewog* Yargay Tshogde (GYT – Block Development Committee) in 1981 and 1991, respectively; introduction of *Gewog* based planning framework in the Ninth Plan (2002-2008); and the allocation of rationalized formula based grants to local governments in the Tenth Plan (2008-2013); have all strengthened the decentralization and democratization process.

However, many of these institutions being relatively new, their effective functioning are constrained by lack of proper infrastructure facilities, human resource constraints and efficient systems. Strengthening Constitutional bodies and empowering local governments are a priority. In particular, to further strengthen and deepen decentralization, more needs to be done to enhance their ability to raise and retain revenues so that local governments have greater incentives to promote commercial activities.

⁹Fifteenth Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Copenhagen, Denmark in 2009.

1.4.2 Economic Development Policy 2010 (EDP 2010)

The Economic Development Policy was launched in 2010 to enhance the productive capacity of the economy and to provide a strategic direction for economic development up to 2020. With a vision to promote a green and self-reliant economy sustained by an IT-enabled knowledge society, the EDP's stated objectives are to achieve economic self-reliance and full employment (97.5 percent) by 2020. The strategies set out to achieve the objectives include diversification of the economic base with minimal ecological footprint, harnessing and value addition to natural resources in a sustainable manner, increasing and diversification of exports, promoting Bhutan as an organic brand, promoting industries that build "Brand Bhutan"¹⁰ and reducing dependency on fossil fuel especially for transportation. The first three years since the launch of EDP 2010 were devoted to creating an enabling environment, preparatory works for infrastructure expansion such as acquisition of land and promotion of Bhutan as a potential destination for investments through road-shows in the region.

A credible and predictable policy environment that minimizes the cost of doing business, expedites business start-ups, and facilitates Foreign Direct Investment is vital to achieve the goal and objective envisaged in the EDP. To create an enabling environment for the implementation of EDP 2010, new laws and policies were formulated in the last three years. Most significantly, the Foreign Direct Investment (FDI) Policy 2002 was revised. Since the adoption of a new FDI Policy in 2010, which follows a negative list approach and a priority list for investors, a total of 18 projects have been approved compared to 19 projects approved in a span of nine years under the previous FDI Policy 2002. The FDIs are mainly in hotel, mineral and metal-based industries, agro and dairy products and ICT. Many of these new industries, which are energy-intensive, will be operational once the new hydropower projects are commissioned by end 2017-18. The Bhutan Education City Act 2012 was enacted to establish Bhutan as an education hub with the entry of high-quality educational institutions from around the world. Among the policies approved were the Cottage, Small and Medium Industry Policy (CSMI) 2012 and Alternative Renewable Energy Policy 2013. The Mineral Development Policy, Bhutan Telecommunications and Broadband Policy, Public Private Partnership Policy and Business Licensing Policy have been drafted and will be approved for implementation in the Eleventh Plan.

¹⁰**Brand Bhutan** – Natural and pristine environment; vibrant and living culture; nation of GNH; peace and security; reliable and competitively priced energy; will form some of the country's Unique Selling Proposition (USP) based on which Brand Bhutan will be developed.

Besides, other new laws and policies proposed in EDP 2010 such as Consumer Protection Act, Competition Policy, Trade Development Act, Investment Law, and Amendment of Companies Act 2000 will be drafted and implemented in the Eleventh Plan.

Additionally, Fiscal Incentives 2010 was implemented to stimulate private sector growth and employment generation. The incentives are categorized as General Incentives (applicable to all sectors), Specific Incentives (cross-sector incentives such as Cottage & Small Industries) and Sector-specific Incentives (such as ICT, Tourism, Film and Media). However, the experience of using fiscal incentives to promote private sector development in Bhutan has been wrought with challenges, falling short of expectations as well as creating rent seeking behavior. It is widely felt that fiscal incentives during the Ninth Plan period largely resulted in industries that exploited tax differentials without any significant contribution to long term industrial development, employment and growth. In view of the above, regular assessment of the impact of fiscal incentives on private sector development and employment generation and concrete recommendations on how they could be better aligned to achieving the objectives of EDP 2010 is necessary.

While an enabling environment and fiscal incentives are important, they cannot compensate for structural bottlenecks, especially the lack of infrastructure, skilled manpower and access to finance. Therefore, much remains to be done in terms of the physical progress of activities to facilitate private sector development and economic growth. The establishment of industrial parks, dry ports, and completion of alternate southern east-west highway, will therefore be expedited on a priority basis during the current Plan.

Ultimately, the successful implementation of EDP 2010 will depend on ensuring that its objectives are supported by clear-cut strategies, policies, and support systems that harness our competitive advantages and address our constraints. An analysis of the EDP 2010 reveals that this vital linkage is weak at best and in some cases an obvious gap exists. For example, four of the constraints point to a lack of trained human resources but human resource development is conspicuously absent as a strategy. Similarly the strategies do not address macro-economic issues related to balance of payments, fiscal deficit and foreign exchange which are highlighted as vital challenges. Of the 8 competitive advantages listed, the most strategic is Bhutan's geographical proximity and open access to the large Indian market. The EDP is however silent on how Bhutan can leverage its location to its

advantage. In this regard, it would be vital to firstly identify the medium and long term growth sectors in India and the region subsequently determine those that are most feasible for Bhutan.

Table 1.3 – EDP 2010 Competitive Advantages, Vital Constraints and Strategies

Competitive Advantages	Vital Constraints listed in EDP	Strategies listed in EDP
<ul style="list-style-type: none"> • Political stability. • Peace and security. • A vibrant and living culture. • Natural and pristine environment. • Geo-economic location and open access to the emerging Indian market. • Reliable and competitively priced energy. • Nation of GNH. • Wide use of English language. 	<ul style="list-style-type: none"> • High dependence on external aid, • High fiscal deficit • Weak balance of payment situation • Rising public debt • Unsustainable FOREX reserves due to low export base • Small domestic market, • Lack of management and professional skills, • Inadequate infrastructure, • High transportation cost, • Low productivity of labour, • Difficult access to finance, • Absence of R&D capability, • Inconsistent policies, • Access to land. 	<ul style="list-style-type: none"> • Diversify the economic base with minimal ecological footprint, • Harness and add value to natural resources in a sustainable manner, • Increase and diversify exports, • Promote Bhutan as an organic brand, • Promote industries that build the Brand Bhutan image, • Reduce dependency on fossil fuel especially in respect to transportation.

Financing of the EDP is another vital constraint that needs to be addressed. There are two aspects to this. Firstly, given limited domestic resources, the success of the EDP for the formal sector and large business projects is hinged on mobilizing external resources through FDI and alternative financing options. Secondly, access to financing for SMEs and rural enterprises needs to be enhanced. SMEs play an

important role in employment creation, rural income generation and poverty alleviation. According to the National Statistics Bureau, 98 percent of the 17,642 industries registered as of 2008 fall into the cottage and small category, which underscores the importance of this segment in self-employment and income generation. The EDP provides some fiscal incentives to promote these industries through tax holidays. However, small enterprises require more than just tax incentives for startup and moving up the value chain. An actionable strategy to incubate a wide range of potential enterprises, address capacity constraints and provide access to finance and loans for SMEs is vital. Strengthening this aspect of the EDP would go a long way in its successful implementation, especially for creation of gainful employment opportunities and development of “niche industries” that is the cornerstone of EDP 2010.

All the above require a short, medium and long term strategy given structural, institutional and human resource capacity constraints and the time lag in addressing them. In this regard, the effective engagement of the private sector as a collaborative partner in the design of a clear roadmap for the implementation of the EDP 2010 during the Eleventh Plan period is imperative and will be accorded a high priority.

1.4.3 Least Developed Country (LDCs) Status

The achievement of Vision 2020 and EDP 2010 objectives are critical for Bhutan’s graduation from the category of LDCs by 2020. For a country to graduate from LDC, three criteria need to be fulfilled as follows:

- *Income criterion*, is assessed on a three-year average estimate of GNI per capita, based on the World Bank Atlas method. The graduation threshold for 2012 triennial review was USD 1,190.
- *Human Assets Index (HAI)* based on indicators of: (a) nutrition: percentage of population undernourished; (b) health: mortality rate for children aged five years or under; (c) education: the gross secondary school enrolment ratio; and (d) adult literacy rate. HAI threshold is 66 or more and Bhutan scored 59 in 2012.
- *Economic Vulnerability Index (EVI)* based on indicators of: (a) population size; (b) remoteness; (c) merchandise export concentration; (d) share of agriculture, forestry and fisheries in gross domestic product; (e) share of

population living in low elevated coastal zones; (f) instability of exports of goods and services; (g) victims of natural disasters; and (h) instability of agricultural production. EVI threshold for graduation is 32 or less and Bhutan scored 44.2 in 2012.

As per the United Nations 2012 country data review¹¹, Bhutan fulfills the income criteria but remains below the graduation threshold on HAI and EVI.

The challenges confronting *HAI* include (a) **malnutrition among children** - almost one in eight children under five in Bhutan are moderately underweight (12.7 percent) and 3.2 percent were classified as severely underweight. More than one third of children (33.5 percent) are moderately stunted or too short for their age, out of which 13.3 percent were severely stunted. Wasting is a reflection of acute malnutrition and moderate wasting is estimated at 5.9 percent and severe wasting at 2 percent (BMIS 2010). (b) **under five years mortality** rate per 1,000 live births remain high at 69 (AHB 2012); (c) **adult literacy** remains low at 55.3 percent (BLSS 2012).

In terms of *EVI*, the challenges include (a) **population size** – Small countries have fewer possibilities for economic diversification and when exposed to natural shocks often the whole country is affected. Bhutan with a population of less than 700,000 is vulnerable to such shocks. (b) **remoteness** – Bhutan being a landlocked and mountainous country is handicapped by high transportation costs and other constraints of landlocked LDCs that reduce our ability to respond to trade shocks. (c) **instability of exports of goods and services** - Bhutan's largest export is hydropower to India followed by exports of mineral and metal based products (where low electricity cost is its comparative advantage). Therefore, our exports are highly vulnerable to hydrological risks and effective functioning of hydropower plants. Agriculture products comes a distant third with about 5 percent of total exports. (d) **victims of natural disasters** – threats of Glacial Lake Outburst Flood (GLOF), landslides, earthquakes, floods, droughts, fires and windstorms are real. In the last few years, Bhutan has faced a number of such natural disasters where lives and properties have been lost. (e) **Instability of agricultural production** – besides natural disasters, agriculture production is affected by growing problems of human-wildlife conflict, competition from agricultural imports from the region, pestilence like the recent attack of army worms which affected most of the country in 2013.

¹¹http://www.un.org/en/development/desa/policy/cdp/ldc/profile/country_23.shtml

With a strong emphasis on improving the health and education outcomes, achieving progress in the HAI may not be a major constraint other than improving the adult literacy rate which may pose a challenge. However, improving the EVI will require special efforts particularly in addressing economic imbalances, productive capacities and diversification challenges. This will not be easy. Hence, the goodwill, support and cooperation of our development partner in the coming years will be critical for Bhutan. Furthermore, even beyond 2020, Bhutan may require continued cooperation and support from its development partners to ensure that the transition will help establish a solid economic foundation that is dynamic and resilient.

CHAPTER 2
CURRENT SITUATION

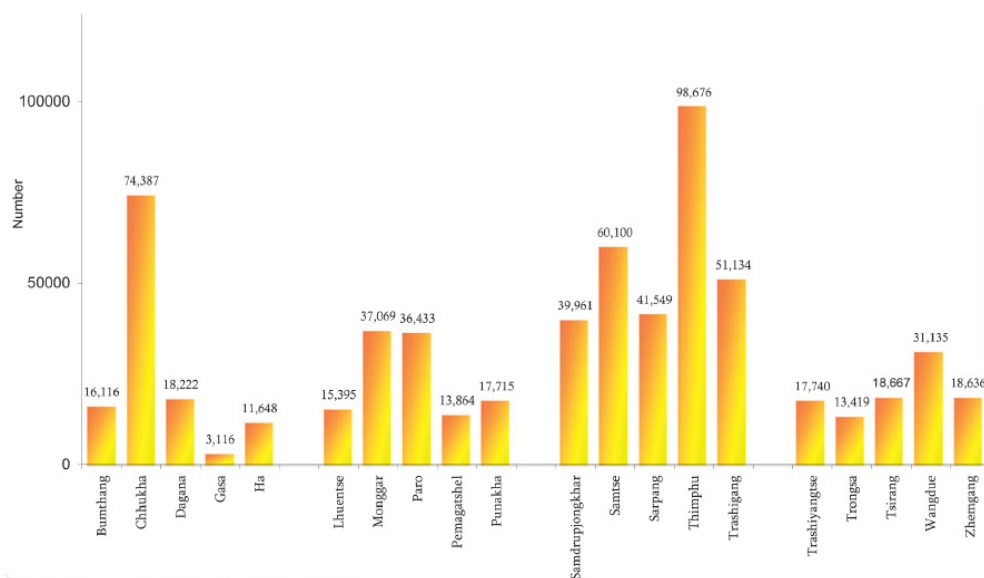
2.1 Population

Population is a vital component of sustainable and equitable people-centered development. The interplay of fertility, mortality and migration affect not only demographic, economic and social development but also socio-cultural cohesion. Understanding the present and future composition of the population and its spatial distribution is necessary for the formulation of people centered Five Year socio-economic development plans. According to the first decennial Population and Housing Census of Bhutan (PHCB 2005) carried out in 2005, the total population of Bhutan was 672,425.

With a floating population of 37,443, the actual resident population of Bhutan was 634,982 persons, of which 52.5 percent were males and 47.5 percent were females, while the rural and urban composition was 69.1 percent and 30.9 percent respectively. Statistical Year Book 2012 (NSB) has estimated a population of 720,679 in 2012 with an average household size of 4.6 and a population growth rate of 1.3 percent.

2.1.1 Population and Distribution

Graph 2.1 - Population by Dzongkhags 2005

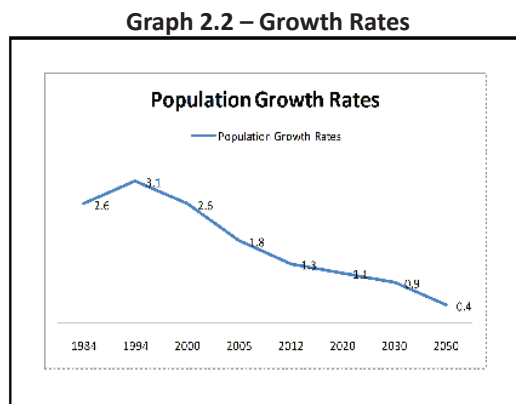


Source: PHCB 2005.

With a total surface area of 38,816 square kilometers and a total population of 634,982, the population density was 16 persons per square kilometer as per PHCB 2005. Thimphu was the most densely populated *Dzongkhag* with a population of 98,676 and a density of 54 persons per square kilometers while Gasu was the least with a population density of 1 person per square kilometer.

2.1.2 Growth Rate

The population growth rate¹³ has been on the decline from 3.1 per cent in 1994 to 1.3 per cent in 2012 (Statistical Yearbook 2012 NSB). If the present trends continues, growth rates are projected to decline to 1.1 per cent in 2020, 0.9 per cent in 2030 and 0.4 per cent in 2050 (Population Projections (2005-2050), Working Committee for draft NPP 2012).



The mortality rate, specifically the crude death rate (CDR) has declined from 13 per 1000 persons in 1984 to 8.5 per 1000 persons in 2012¹⁴. Similarly, with the decline in mortality, total fertility rate (TFR) has also constantly declined over the period, from around 6 children per woman during the 1980s to 2.6 children in 2010.

Despite the decline in both mortality and fertility rates, an incremental growth will be experienced due to the population momentum effect which occurs when a large proportion of the population are of child-bearing age. However, if the TFR drops to below replacement level (average of 2.1 surviving children per woman) Bhutan will experience a much slower population growth. Currently, in the absence of a comprehensive National Population Policy efforts have been towards controlling population growth. However, for a country with a small population this could have an adverse impact in terms of security, demographic and socio-economic development. The draft National Population Policy has been drafted and will be presented for approval by the Cabinet in the Eleventh Plan. The National Population Policy will be the basis for planning a stable and sustainable population growth.

¹³Demographic Health Surveys of 1984 and 1994 and the National Health Survey of 2000, Ministry of Health.

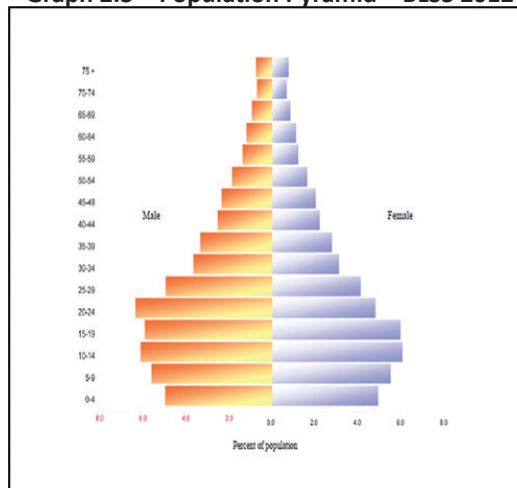
¹⁴BLSS 2012.

2.1.3 Age Structure and Sex Composition

The age structure and sex composition of a population is represented by a population pyramid. PHCB 2005 estimates that a large proportion of the population is below the age of 24 years, comprising 56 percent of the total population. The narrowing of the base may be indicative of declining births in recent years.

BLSS 2012 estimates nearly half the population is below 25 years of age. Children (below 15 years of age) accounted for 30 percent of the population, and the elderly (aged 60 and above), about 10 percent. The overall gender ratio was 97 males per 100 females.

Graph 2.3 – Population Pyramid – BLSS 2012



Bhutan's youthful population provides opportunities of demographic bonus¹⁵. However, this window of opportunity will remain only if we are able to gainfully utilize the youth population to contribute towards productive economic development.

2.1.4 Differently-abled Persons

The PHCB 2005 revealed that 21,894 persons or 3.4 percent of the total population were differently-abled, of which 45.7 percent were females and 54.3 percent were males. Among the *Dzongkhags*, Lhuentse and Trongsa had the highest proportion of the differently-abled persons with 6.4 percent and 5.6 percent, respectively.

The most common forms of disability acquired since birth were speech and hearing. On the other hand, the most common forms of disability acquired after birth are visual and hearing followed by mobility. Visual and hearing were more severe among the elderly population (50 years and above) while moving and speech were among the younger population (0-4 years). Mental health problems were high in the age group 15-39 years and gradually declined thereafter.

¹⁵Demographic Bonus is a prominent presence of people in the productive age group (15-64 years), which can contribute to high economic growth due to the favourable Dependability Ratio.

Various other reports also suggest prevalence of disability, particularly among children aged 2-9 years, in Bhutan. Bhutan's Two-Stage Child Disability Study 2010-11 reports prevalence of children with a single disability at 13.8 per cent, compared to 7.6 per cent prevalence of children living with multiple disabilities. While Bhutan Multiple Indicator Survey 2010 reports 30.4 percent of children to have at least one disability, with the highest proportion (31.5 percent) living in the eastern region. The disability prevalence was higher among children of illiterate mothers, poor and those living in remote areas.

2.1.5 Migration

As per PHCB 2005, rural to urban migration (111,770) accounted for the highest population move followed by rural to rural migration (111,548) within the country. There were about 19,992 people who moved from urban to rural areas while 23,874 people moved from urban to urban centres. The highest proportion of migrants (31.5 percent) migrated for family reasons. This was followed by 17 percent for employment, 15 percent for education and training, 11 percent due to marriage, 10 percent for work transfer, 3.4 percent for resettlement, 7 percent living with relatives, and the remaining 7 percent for other unspecified reasons.

In terms of *Dzongkhag*-wise net migration, Thimphu received the highest with 39,770 persons and Trashigang had the highest outflow of 16,697 persons.

2.1.6 Population Projections – 2020, 2030 and 2050

The projections are based on medium variant projection. The medium variant projection assumes that the Total Fertility Rate (TFR) of 2.1 births per woman will be attained by 2020, given that 2010 TFR is 2.6. The purpose of presenting this projection is to present the likely scenario in the coming decades.

Despite the gradual decrease in population growth rate, the population is expected to reach 818,791 persons by 2020, and will further increase to 1,038,445 persons by 2050. The average annual growth rates implied in the projection is going to decrease during the projection period from a high of 2.1 percent in 2006 to a low of 0.4 percent by 2050, if the fertility is brought to the replacement level of 2.1 (two surviving children per woman) during the period 2005-2020 and remains unchanged thereafter.

The population density is projected to increase from 16 persons per sq km in 2005 to 27 persons per sq km by 2050. During the period 2005-2050, the working age population is estimated to grow by around 73.6 per cent. This window of opportunity can result in demographic dividends¹⁶ if accompanied by adequate savings, investments, sound public policies and the full participation of youth and women. The youth population (15-24 years) is expected to increase from 129,403 in 2020 to 171,563 by 2030.

Table 2.1 - Population indicators for Bhutan based on the medium variant population projection

	2005 (PHCB)	2020 (NP)	2030 (NP)	2050 (NP)
Total Population	634,982	818,791	896,962	1,03,8445
Pop. Growth rate	1.8%	1.1%	0.9%	0.4%
Density (Persons per sq km)	16	21	23	27
Total Fertility Rate¹⁷	3.6	2.1	2.1	2.1
Population under 15 years	33.1%	30.7%	24%	22.2%
Population aged 15 to 64 years	62.2%	63.9%	69.4%	66.1%
	Demographic Bonus			
Elderly Population(65+ years)	4.7%	5.4%	6.6%	11.7%
Youth 15-24 years	145,807	129,403	171,563	145,053
Dependency ratio¹⁸	60%	56.6%	44%	51.3%
School going children (5-14 years)	23.2 %	21.2%	16%	15%
Median Age	22.3	26.9	30.2	35.3
Life expectancy at birth (E)				
Males	64.7	69.4	71.6	75.0
Females	65.8	71.6	74.3	78.3

¹⁶The rise in the rate of economic growth due to increase in the number and proportion of population in the working age or productive ages (15-64 years).

¹⁷The average number of children that would be born alive to a woman (or a group of women) during her lifetime if she were to pass through her child bearing years conforming to the age-specific fertility rates of a given year. This indicator shows the potential for population growth in the country.

¹⁸Dependency ratio is the ratio of children (< 15 years of age) and elderly population (65+ years) to the size of the working population (15-64 years).

The young population indicated by the median age¹⁹ of 22 years implies that the population will continue to increase in the near future due to the population momentum²⁰ effect. Moreover, the ageing population (65 years and above) is projected to increase from 7 percent in 2005 to 11.7 percent by 2050 and will further grow with the improvements in health and life expectancy rates. Overall life expectancy at birth increased from 47.5 years in 1984 to 66.3 years in 2005 and is projected to reach 75 years for male and 78.3 years for females by 2050. The dependency ratio is expected to decline from 60 percent in 2005 to 56.6 percent and 44 percent by 2020 and 2030 respectively. Subsequently it is expected to rise as the working age population moves into the older age group leading to high old age dependency ratio.

On the basis of the above projections, major demographic considerations for the Eleventh Plan include:

- Adoption of a National Population Policy to provide clear direction for future demographic planning in terms of the desired level of population growth rates.
- Exploiting the opportunities provided by “demographic bonus” to create a vibrant and sustainable economy.
- Implementation of special programmes to address the challenges of the growing number of older population, differently-abled persons and migratory trends.

¹⁹Median Age: The age that divides a population into two numerically equal groups; that is, half the people are younger than this age and half are older. It is a single index that summarizes the age distribution of a population.

²⁰Population momentum refers to population growth at the national level which would occur even if levels of childbearing immediately declined to replacement level.

2.2 Sustainable and Equitable Socio-economic Development

2.2.1 Poverty

A poverty analysis based on the Bhutan Living Standard Survey has been carried out once every five years since 2003. According to the most recent “Poverty Analysis Report 2012” poverty incidence has declined from 31.7 percent in 2003 to 12 percent in 2012, exceeding the Tenth Plan target of reducing poverty to 15 percent.

Table 2.2 - Poverty Indicators 2003, 2007 and 2012

	2003	2007	2012
Total Poverty line	Nu. 740.36 person/month	Nu. 1,096.94 person/month	Nu. 1,704.84 person/month
Food poverty line	Nu. 403.79 person/month	Nu. 688.96 person/month	Nu. 1,154.74 person/month
Non-food allowance	Nu. 336.57 person/month	Nu. 407.98 person/month	Nu. 550.10 person/month
Poverty rate	31.7 percent	23.2 percent	12 percent
Rural	38.3 percent	30.9 percent	16.7 percent
Urban	4.2 percent	1.7 percent	1.8 percent
Gini-coefficient	0.416	0.35	0.36

Source: Poverty Analysis Report, 2003, 2007 & 2012, NSB.

As reflected above, rural poverty was reduced from 38.3 percent to 16.7 percent while urban poverty was reduced from 4.2 percent to 1.8 percent over the same period. Similarly, inequalities in income, measured in terms of Gini-coefficient, have been reduced from 0.416 in 2003 to 0.36 in 2012.

The reduction in poverty is attributed to provision of infrastructure facilities such as roads, electricity, telecommunication, water and sanitation and the success of targeted poverty reduction programmes such as the Rural Economy Advancement Programme (REAP) and the National Rehabilitation Programme.

Characteristics of the poor and non-poor

A review of the characteristic of the poor and non-poor on the basis of Poverty Analysis Report of 2003, 2007 and 2012 reveal poverty is a rural phenomenon. Those employed in agriculture were poorer while poverty was less acute in households with educated heads. Poor families also tended to have a bigger family size.

Table 2.3 – Poverty Characteristics 2003, 2007 and 2012

	PAR, 2003	PAR, 2007	PAR, 2012
Area	Rural had deeper poverty than urban Bhutan	Rural had deeper poverty than urban Bhutan	Poverty is a rural phenomenon.
Employment sector	95% of the rural poor are employed in agriculture while 89 % of the rural non-poor are engaged in agriculture.	Among the employed, poverty levels are higher among those whose household head is engaged in agriculture (33%).	Poor household are concentrated in agriculture.
Education	62.8% of the urban poor had no schooling compared to 34.98% of the urban non-poor. In rural Bhutan, the education attainment did not have significant difference in the poor and non-poor households.	Literacy rate among poor is 40% compared to non-poor with 60% literacy.	Literacy rate among poor is 52% while non-poor is 65%. Significant reduction in poverty rate if the household head attended secondary levels of education both in urban and rural Bhutan.
Household size	Average family size of poor is 6.6 and non-poor is 4.6.	Average family size of poor is 6.87 and non-poor 4.64.	Poor household tend to have larger family around 6.3 while non-poor household have 4.4.

Source: Poverty Analysis Report, 2003, 2007 & 2012, NSB.

Among the *Dzongkhags*, Dagana, Lhuentse, Pemagatshel, Samdrup Jongkhar, Samtse, Lhuentse and Zhemgang had poverty rates above national average of 12 percent. The highest levels of poverty were in Lhuentse with poverty incidence of 31.9 percent. Mongar *Dzongkhag* recorded the highest levels of poverty reduction with poverty declining from 44.4 percent in 2007 to 10.5 percent in 2012.

Table 2.4 - Poverty by *Dzongkhags*

<i>Dzongkhags</i>	Poverty 2007	Poverty 2012
Bumthang (Rank)	10.9 (4)	3.4 (4)
Chukha (Rank)	20.3 (11)	11.2 (10)
Dagana (Rank)	31.1 (15)	25.1 (17)
Gasa (Rank)	4.1 (3)	<0.5 (2)
Haa (Rank)	13.2 (5)	6.4 (5)
Lhuentse (Rank)	43.0 (17)	31.9 (20)
Mongar (Rank)	44.4 (18)	10.5 (8)
Paro (Rank)	3.9 (2)	<0.5 (1)
Pemagatshel (Rank)	26.2 (13)	26.9 (19)
Punakha (Rank)	15.6 (8)	10.0 (7)
Samdrup Jongkhar (Rank)	38.0 (16)	21.0 (15)
Samtse (Rank)	46.8 (19)	22.2 (16)
Sarpang (Rank)	19.4 (10)	4.2 (5)

Thimphu (Rank)	2.4 (1)	0.5 (3)
Trashigang (Rank)	29.3 (14)	11.5 (11)
Trashi Yangtse (Rank)	14.3 (7)	13.5 (12)
Trongsa (Rank)	22.2 (12)	14.9 (14)
Tsirang (Rank)	13.9 (6)	14.8 (13)
Wangduephodrang (Rank)	15.8 (9)	10.9 (9)
Zhemgang (Rank)	52.9 (20)	26.3 (18)
Bhutan	23.2	12.0

Source: Poverty Analysis Report, 2007, 2010

In the Eleventh Plan, the target will be to reduce overall income poverty rate from 12 percent in 2012 to less than 5 percent by 2018 with particular focus on *Dzongkhags* with poverty levels above the national average.

2.2.2 Multi-dimensional Poverty

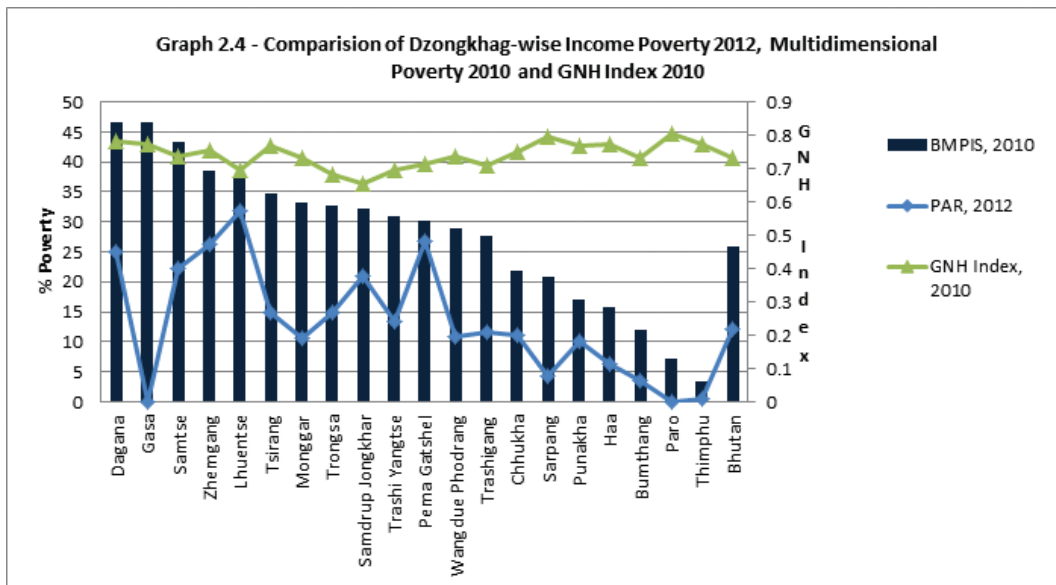
On a multi-dimensional measure²¹, poverty in Bhutan is deemed to be 25.8 percent in 2010. The thirteen indicators that comprise Bhutan's initial Multi-dimensional Poverty Index (MPI) measured in terms of health, education and living standards are i) primary schooling and ii) children out of school (education); iii) child mortality, iv) nutrition and v) food insecurity (health); and vi) electricity, vii) housing, viii) cooking fuel, ix) drinking water less than 30 minutes away, x) improved sanitation and xi) asset ownership of livestock, xii) land and xiii) appliances (living standards). The highest levels of deprivation pertain to access to improved sanitation (pit latrines with slab), cooking fuel (if wood, dung or charcoal used), schooling (five years of school education) and electricity. From the three core domains, education (41 percent) contributes the highest to multidimensional poverty followed by living standards (37 percent) and health (23 percent).

²¹Bhutan Multiple Indicator Survey 2010, National Statistic Bureau.

The target for the Eleventh Plan is to reduce multi-dimensional poverty from 25.8 percent in 2010 to less than 10 percent by 2018.

2.2.3 Income Poverty, Multi-dimensional Poverty and GNH Index

A comparison of twenty *Dzongkhags* in terms of income poverty, multidimensional poverty and GNH 2010 Index, reveal Paro *Dzongkhag* as the happiest *Dzongkhag* with low incidence of both multidimensional and income poverty and Samdrup Jongkhar *Dzongkhag* as the least happy with both income and multidimensional poverty higher than the national average. Gasa *Dzongkhag* has the second lowest incidence of income poverty but is also second poorest in terms of multidimensional measure. Gasa has high levels of income from cordyceps but due to difficult terrain and remoteness it also suffers from lack of access to health and education facilities.



2.2.4 Millennium Development Goals

While the last review of Bhutan’s progress towards MDGs was carried out in November 2008²¹, recent statistics indicate that Bhutan has made good progress. We have already achieved many of the targets and are on track to achieve most by 2015 or earlier. Some of the MDGs falling behind are chronic malnutrition among children below the age of 5, ratio of female to male in tertiary institutions, maternal

²²Bhutan’s Progress: Midway to the MDGs, November 2008, RGoB and UNDP.

mortality rate, under five mortality rate, infant mortality rate, number of HIV cases detected and the growing youth unemployment. Accordingly, in the Eleventh Plan, the objective is to strive for MDG Plus targets, targets equivalent or near to that of the developed countries, for those goals already achieved and likely to be achieved and to accelerate progress towards those falling behind.

In this respect, the support and cooperation of our development partners will be critical to overcome some of the challenges confronted by Bhutan as follows:

- The status of MDGs presented below represents national level aggregates and often national level aggregates mask disparities at local levels. For instance, income poverty at national level in 2012 was 12 percent. At disaggregated level, it ranges from a low on 0.5 percent (Thimphu, Paro and Gasa) to a high of 31.5 percent in Lhuentse. Similarly disparities are seen in health and education outcomes when disaggregated at local levels - among *Dzongkhags/Gewogs*, between rural urban and on the basis of gender. Therefore, addressing these disparities and the last mile challenges requires special efforts and substantial resources.
- The other challenge is sustaining the MDG achievements. While the initial investments on many of the MDGs were supported by our development partners, sustaining the achievements will largely have to be through domestic resources. Therefore, mobilization, prioritization and allocation of domestic resources to sustain the MDGs will be vital.
- The improved national level indicators have resulted in some of our development partners indicating their desire to phase out development assistance from Bhutan. However, addressing MDGs at disaggregated levels, sustainability, accelerating progress towards those goals falling behind and striving for higher MDG Plus goals requires substantial resources and efforts. Also, cost of reaching the unreached are significantly higher. Hence, till Bhutan is able to finance and sustain the MDGs, the support and cooperation of the development partners will be crucial.

The status of MDGs is shown in Table 2.5. The targets in green indicate achieved or on track, yellow indicates at risk and red indicates need attention.

Table 2.5 - STATUS OF MDGS

Goal / Target / Indicator	1990*	2000*	Target 2015	2012	Source
GOAL 1 : ERADICATE EXTREME POVERTY AND HUNGER					
Target 1 : Halve by 2015 the proportion of people living below the poverty line					
• Proportion of population below the national poverty line (%)		36.30%	18.15%	12.00%	PAR 2012
Target 2 : Halve by 2015, the proportion of the people who suffer from hunger					
• % of pop. below minimum level of dietary energy consumption		3.80%	1.90%	2.8	PAR 2012
• % of under-weight under-five children	38%	19%	19%	12.70%	BMIS 2010
• % of under-height under-five children	56%	40%	28%	33.50%	BMIS 2010
GOAL 2 : ACHIEVE UNIVERSAL PRIMARY EDUCATION					
Target 2 : Ensure, by 2015, children everywhere, boys & girls alike, will be able to complete a full course of primary schooling					
• Gross Primary enrolment ratio	55%	72%	100%	118%	AES 2012
• Net primary Enrolment ratio		62%	100%	96%	AES 2012
• Proportion of pupils starting grade 1 who reach grade 5	73%	91%	100%	100%	AES 2012
• Proportion of pupils starting grade 1 who reach grade 7	35%	81%	100%	98%	AES 2012
GOAL 3 : PROMOTE GENDER EQUALITY AND EMPOWER WOMEN					
Target 4 : Eliminate gender disparity in primary & secondary education preferably by 2005 & in all levels of education no later than 2015					
• Ratio of girls to boys in primary education	69%	82%	100%	99%	AES 2012
• Ratio of girls to boys in secondary education	43%	78%	100%	107%	AES 2012
• Ratio of females to males in tertiary institutes	12%	41%	100%	71%	AES 2012
GOAL 4 : REDUCE CHILD MORTALITY					
Target 5 : Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate					
• Under-five mortality ratio (per 1000 live births)	123	84	41	69	BMIS 2010
• Infant mortality ratio (per 1000 live births)	90	60.5	30	47	BMIS 2010
• Proportion of children covered under immunization program	84%	85%	>95%	94.40%	AHB 2013
GOAL 5 : IMPROVE MATERNAL HEALTH					
Target 6 : Reduce by three quarters, between 1990 & 2015, the maternal mortality ratio					
• Maternal mortality ratio (per 100,000 live births)	560	255	140	255	NHS 2000
• Births attended by skilled health personnel	15%	24%	100%	81%	AHB 2012
GOAL 6 : COMBAT HIV-AIDS, MALARIA AND OTHER DISEASES					
Target 7 : Halt and begun to reverse the spread of HIV/AIDS					
• HIV cases detected	0	38		321	■ 4.13
• Contraception prevalence rate	19%	31%	60%	65.60%	BMIS 2010
Target 8 : Halt and begun to reverse the incidence of malaria and other major diseases					
• No. of malaria cases & incidences (cases per 100,000)	3,687	875		50	HMIS 2012
• No. of tuberculosis cases & incidences (cases per 100,000)	720	168		176	NTCP, 2011
GOAL 7 : ENSURE ENVIRONMENTAL SUSTAINABILITY					
Target 9 : Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources					
• Proportion of land area covered by forest	72.50%	72.50%	60.00%	70.50%	RNR 2012
• Ratio of protected area to surface area for maintaining biological diversity	23%	26%		51.44%	RNR 2012
• CO2 (per capita) emission					
• Proportion of population using solid fuels (wood, charcoal & dung)		75%		28.6	BLSS 2012
Target 10 : Halve, by 2015, the proportion of people without sustainable access to safe drinking water & sanitation					
• Proportion of population without sustainable access to an improved water source	55%	22%	27.5%	10.00%	AHB 2012
• Proportion of population without access to improved sanitation	33%	12%	17.5%	5.00%	AHB 2012
GOAL 8 : DEVELOP A GLOBAL PARTNERSHIP FOR DEVELOPMENT					
Target 14 : In cooperation with developing countries, develop and implement strategies for decent and productive work for youth					
• Youth unemployment rate		2.60%		7.30%	LFS 2012
Target 18 : In cooperation with the private sector, make available the benefits of new technologies, especially information and communication technology					
• Fixed telephone lines in service	4052	16,580		27,057	MolC
• Mobile cellular subscribers (per 100 persons)				70.48	Annual Report
• Computers in use (per 100 persons)		0.58			
• Internet users (per 100 persons)		0.43		19.71	2012

Source: Various reports as indicated in remarks column.

2.3 Preservation and Promotion of Culture

Preservation and promotion of our rich cultural heritage is a critical element to strengthening national cohesion, identity and unity, which are vital for the peace,

stability and sovereignty of our nation. Accordingly, culture is accorded high priority in our socio-economic development plans. The emphasis is not only on preserving and promoting our cultural heritage, but also recognizing it as an “evolving dynamic force” and the need “to strengthen and facilitate the continued evolution of traditional values and institutions that are sustainable as a progressive society” as provided in Article 4 of the Constitution.

2.3.1 Cultural Heritage and Tradition

Recognizing the importance of cultural heritage and tradition in maximizing GNH, two out of the nine domains in the GNH Index are devoted to strengthening our cultural heritage, namely: i) ‘Cultural Diversity and Resilience’, which emphasizes the promotion of our national language, cultural participation, artistic skills and *Driglam Namzha* (etiquette/traditions that define national character) and; ii) ‘Community Vitality’, which focuses on family, community relationships, voluntary contributions and investment in time and money to society, and safety.

The preservation and promotion of cultural heritage includes both tangible and intangible heritage. Tangible heritage include *Dzongs*, monasteries, temples, religious objects and relics in the form of manuscripts and statues. Intangible heritage include *Driglam Namzha*, national dress, language, arts and crafts, food, and traditional games and festivals.

Notable achievements, besides renovation and conservation of many *Dzongs* and monasteries, include:

- Implementation of guidelines for conservation of heritage sites by all conservation projects.
- Establishment of an archaeology unit under the Ministry of Home & Cultural Affairs.
- Archiving and microfilming facilities of important historical documents and records in the National Library of Bhutan. Bill on Archives of Bhutan is being formulated to strengthen and protect the system.
- To promote the national language, digital *Dzongkha* dictionary, *Dzongkha* keyboard layout in phones with Android software and *Dzongkha* language support in phones with Maemo software (such as the Nokia 900 series) have been developed.

- The Royal Textile Academy in Thimphu, which will serve as a textile school, museum and conservation centre, was inaugurated in June 2013.

While many initiatives have been taken, further efforts to promote our national language and cultural heritage/traditions will be pursued.

2.3.2 Culture and Livelihood

The preservation and promotion of culture is also an important source of livelihood, particularly for our rural communities, through the development of cultural industries. Some of the notable initiatives and achievements to promote cultural industries include:

- Craft Bazaar, with 80 stalls, was established in Thimphu in 2011 to showcase a wide range of authentic Bhutanese arts and crafts. It has facilitated the creation of a viable venue for rural artisans to market their products.
- The certification system, 'Made in Bhutan Seal', was launched in May 2012 to authenticate wholly produced and/or substantially transformed products with required minimum value addition within Bhutan.
- Interventions to set-up craft clusters based on regional comparative advantages, raw-material banks, design banks, product development and marketing are being undertaken by the newly established Agency for Promotion of Indigenous Crafts.
- The Bhutanese film and music industry is gaining increasing popularity and have completely edged out foreign films from local cinema halls. Since the first film *Gasa Lamai Singye* in 1988, the industry has now produced a total of about 300 films, with an average annual production of 30 films. Similarly, about 400 music albums have been marketed. The industry is also making significant contribution towards promotion of national language, culture and traditions and in conveying social messages on HIV, drugs and youth related issues. A draft Film Policy has been developed in order to promote, diversify and professionalize a sustainable film industry in the country.
- Cultural tourism has been growing with the introduction of new tourism products such as rural home-stays/farm houses and community lodges besides promotion of festivals, *Dzongs* and monasteries. From the total of about 100,833 visitors during 2012 about 77 percent of tourists visited Bhutan on cultural tourism.

In the Eleventh Plan, cultural industries will be given high priority in view of the multiple benefits it offers in terms of promotion of culture, poverty reduction, enhancing rural income and employment generation.

2.4 Conservation and Sustainable Utilization and Management of Environment

Bhutan has always accorded high priority to environmental conservation. With strong environmental legislation, policies and programmes, we have been able to maintain forest coverage of 70.5 percent, exceeding the Constitutional mandate of maintaining 60 percent forest coverage at all times. With 51.32 percent of the country under a protected area network, which include ten protected areas and biological corridors, Bhutan is host to one of the highest percentage of protected areas in the world.

Bhutan has successfully fulfilled its international obligations under the Montreal Protocol to phase out 100 percent of chlorofluorocarbons (CFCs) and other Ozone Depleting Substances (ODS) by 2010. We have pledged to perpetually remain a net carbon sink and carbon neutral country during the COP 15 conference held in Copenhagen in 2009. In keeping with this pledge, Bhutan has prepared a National Strategy and Action Plan for Low Carbon Development which will be operationalized in the Eleventh Plan.

Further, in our efforts to capture benefits that people derive from the natural environment, work on establishing GNH Accounts²³, covering ecological capital, cultural capital, human capital, social capital and economic capital has started. The preliminary estimates show that Bhutan's natural wealth provides Nu.760 billion (USD \$ 15 billion) a year in ecosystem services, of which forests alone provide 93.8 percent, with the remainder attributable to

"Every Bhutanese is a trustee of the Kingdom's natural resources and environment for the benefit of the present and future generations and it is the fundamental duty of every citizen to contribute to the protection of the natural environment, conservation of the rich biodiversity of Bhutan and prevention of all forms of ecological degradation including noise, visual and physical pollution through the adoption and support of environment friendly practices and policies".

Article 5 of The Constitution of Kingdom of Bhutan.

²³Efforts initiated with support of Dr Ida Kubiszewski and Professor Robert Costanza. However, it will take some time for Bhutan to come up with a full and detailed GNH Accounts as there are many challenges of methodology, valuation, capacity constraints etc.

services provided by rivers, lakes, cropland, and wetlands. Of the total value, 53 percent of the benefits go to people outside Bhutan in services like forest carbon sequestration and watershed protection, and 47 percent to our own people in clean air, water, healthy soils, recreation, and other values.

Other initiatives towards conservation of natural environment include: adoption of policy to promote organic agriculture production; strong focus on and expansion of community forestry programmes; establishment of a core group for Mainstreaming Gender, Environment, Climate, Disaster Risk Reduction and Poverty (GECDP) to assist sectors in mainstreaming these elements in their policies, plans, and programmes; enactment of new laws such as the Waste Prevention and Management Act 2009 and the Water Act in 2011; and the introduction of a progressive green tax that charges 20 percent for vehicles above 1800 cc and 5 percent for smaller or public transport, freight and utility vehicles that benefit the rural population.

In spite of these efforts towards environmental conservation, Bhutan has been a victim of natural disasters some of which are attributed to climate change. In the last five years, earthquake, cyclone, windstorm, floods, landslides and fires have been a frequent occurrence as follows:

- *May 2009: Cyclone Aila* - ,which claimed 13 lives and caused extensive damage to public and private properties with losses of Nu.719 million (US\$17 million).
- *September 2009: Earthquake* - 6.2 on the Richter Scale hit eastern parts of the country. It claimed 12 lives and damaged 4,950 rural homes, temples, and monasteries, 117 schools, 45 BHUs, 29 RNR Centres, and 26 *Gup* offices, with losses estimated at Nu.2.5 billion (US\$52 million).
- *September 2011, Earthquake* with its epicenter in Sikkim and measuring 6.8 on the Richter scale, this time striking the western part of the country. It claimed one life, injured 14 people, and damaged 6,977 rural homes and temples, 36 schools, 22 BHUs, 27 RNR Centres, and 30 other public buildings, with losses estimated at Nu.1.2 billion (US\$24.46 million).
- *Series of fires in 2010 and 2011* razed homes and shops in the town of Chamkhar, the satellite town of Wamrong, and three homes in Haa.
- *24 June 2012* - A most grievous loss, which left the country stunned, was the devastating fire that consumed the precious 374 years old Wangduephodrang *Dzong*.

To better prepare to deal with such natural disasters, a new Department of Disaster Management was created in 2008, a Disaster Management Bill 2011 was passed by the Parliament in 2013, extensive public education and awareness on hazards, risks and vulnerabilities of disaster were conducted, early warning systems in major river basins were established and various disaster management response teams including the voluntary Disaster Relief organization *De-suung* have been created.

Conservation of the natural environment to maintain a sustainable balance between economic development and environment conservation and improving disaster resilience and management will be given utmost importance in the Eleventh Plan. Capacity building through training of engineers and technicians, green engineering, and review and revision of Bhutan Building Rules to incorporate disaster resilient constructions will be carried out.

2.5 Promotion of Good Governance

Good Governance an important pillar for a vibrant democracy and sustainable and equitable socio-economic development, and therefore, continued efforts have been made to strengthen good governance.

2.5.1 Democracy and Governance

The second Parliamentary elections were successfully held in 2013. The election to the National Council was held on 23 April 2013. The voter turnout was 45.16 percent with 171,544 voters voting, out of the total registered voters of 379,819. 67 candidates stood for elections to 20 seats. No women were elected though six had registered. Of the five eminent members nominated by His Majesty the King, two were women.

For the National Assembly seats, the primary round was held on 31 May 2013. From the four²⁴ registered political parties, Druk Phuensum Tshogpa (DPT) and People's Democratic Party (PDP) went through to the general round having secured the highest and second highest votes, respectively. The voter turnout was 55.27 percent with 211,018 casting their votes from the total registered voters of 381,790.

The general round for the National Assembly elections was held on 13 July 2013. The People's Democratic Party having secured 32 National Assembly Seats was

²⁴The other two political parties were Druk Nyamrup Tshogpa and Druk Chirwang Tshogpa

elected to form the new government and Druk Phuensum Tshogpa with 15 Seats the opposition party. The overall voter turnout was 66.1 percent with 252,485 voters casting their votes out of a total of 381,790 registered voters.

The local government elections were held in 2011. From the total of 2,185 candidates 1,104 representatives were elected at various levels. Of the 165 female candidates 76 were elected to office. The voter turnout was 56 percent.

Further, constitutional bodies such as the Election Commission, Royal Audit Authority and Anti Corruption Commission had been established prior to the transition to democracy while the Supreme Court and the Royal Civil Service Commission (RCSC) reconstituted, as per the Constitution following the inception of democracy. Laws and regulations have been put in place to assist them in fulfilling their constitutional mandates and to ensure independence in discharging of their functions.

2.5.2 Public Service Management

Civil Service - To create a dynamic and professional civil service, a number of civil service reforms have been implemented over the years. For instance, the Position Classification System was introduced in 2006 to promote meritocracy and enhance efficiency, transparency, professionalism and accountability in the civil service. An organizational development exercise was conducted in 2007 to define the optimal size, structures and capacity building of the civil service. Additionally, to help regulate and further improve the civil service, the Civil Service Act 2010 and revised Civil Service Rules and Regulations 2012 were introduced following the reconstitution of RCSC in 2009.

Currently, there are 24,275 civil servants, of which 67 percent are male and 33 percent female. About 57 percent of the civil servants are in *Dzongkhag* Administration and *Thromdes* and the rest with the central agencies. Two percent of the civil servants (559) were expatriates. On an average, civil service has been growing at the rate of 4 percent per annum over the last five years and pay and allowance to civil servants constitute about 45 percent of the total recurrent expenditure.

In the Eleventh Plan, the government will commission a comprehensive review of the civil service to identify shortcomings and challenges and to further improve efficiency and effectiveness of the civil service.

Public Service Delivery - One of the most important functions of the government is to provide efficient and effective public service delivery to its people. Towards this, a number of new initiatives were undertaken in the last five years, which include:

Government to Citizen Services (G2C) was initiated in 2010 to increase efficiency and transparency in public service delivery through the use of ICT. About 136 most commonly availed services ranging from civil registration, timber permits, and security clearance were streamlined and automated to reduce the service delivery turn-around-time by 70 percent. Online services are made available through 131 Community Centres (CCs) connected with internet and the remaining 74 CCs will provide the service after internet connectivity is established in the Eleventh Plan.

Agencification Guidelines 2012 – Agencification Guidelines was issued to improve performance and public service delivery by an agency/organization by separating planning and policy-making, regulatory and implementation functions and by facilitating higher flexibility in terms of key organizational processes such as human resource management, procurement, budgeting and performance management. Since the adoption of Agencification Guidelines, 12 new departments under various ministries were created, six government departments were granted autonomous status and four agencies were delinked from the civil service.

Government Performance Management System (GPMS) – was initiated to a) drive clarity of objectives for the Ministry/Dzongkhag; b) enhance accountability and performance; and c) allow efficient resource allocation/utilisation. It maps out tangible targets in terms of outputs, key performance indicators and activities and other essential metrics that will facilitate measuring the performance of all central and local government agencies.

The full implementation of GPMS across all government agencies will be completed during the Eleventh Plan. The system will be used to measure the Key Performance Indicator of “average performance rating of government agency targeted at more than 90 percent” under the National Key Result Area of Improved Public Service Delivery. Efforts will also be made to cascade this to individual levels so that it can be used as the basis for performance evaluation and meritocracy in the civil service.

2.5.3 Transparency, Accountability and Control of Corruption

With the introduction of parliamentary democracy and the establishment of various democratic processes, transparency and accountability has been further enhanced with increased public participation in policy making. In addition to the Legislative Committee established in 2003 and Public Accounts Committee established in 2004, 12 new committees were established in 2008 during the First session of First National Assembly. The first session of the second Parliament held in September 2013 restructured the existing 14 committees to ten committees.

Financial Accountability: To ensure economy, efficiency and effectiveness in use of public resources, annual audit is carried out by the Royal Audit Authority (RAA), a supreme audit institution and a constitutional body that functions independently and reports directly to the Parliament.

In 2012, the Royal Audit Authority conducted 600 audits during the year including 500 normal audits, 98 certification audits, 1 performance based audit and 1 thematic audit. The irregularities reported decreased to Nu. 391.007 million in 2012 from Nu. 770.141 million in 2011, decrease of 49 percent. The irregularities comprised of 47 percent categorized under Shortfalls, Lapses and Deficiencies, 33 percent under Fraud, Corruption and Embezzlement, 12 percent under Violation of Rules and Regulations and 8 percent under mismanagement.

Curbing Corruption: To control corruption, the Royal Government has taken several proactive measures, starting with the establishment of an Anti Corruption Commission (ACC) in 2005, enactment of Anti Corruption Act 2011 (repealing ACA 2006), adopting “Zero Tolerance towards Corruption” policy and becoming a signatory to the UN Convention Against Corruption (UNCAC) in 2005. Other rules and regulations put in place to curb corruption include Gift Rules 2009, The Debarment (of Corrupt Firms) Rules 2008 and Asset Declaration Rule 2012.

The ACC’s 2012-13 annual report shows corruption is still a major challenge although people’s perception of the prevalence of corruption is declining. In 2012-2013, ACC received 449 complaints compared to 458 cases in the previous year. The major areas of complaints were misuse of resources like government property and funds followed by personnel, land, construction and procurement of goods and services. Among the types of corruption, the misuse of authority continues to be a major issue with 564 complaints, followed by embezzlement and nepotism with 397 and 351 complaints respectively.

The National Integrity Assessment (NIA) Survey 2012²⁵ reports a national integrity score of 8.37 on a scale of 0-10 (0 means highly corrupt and 10 highly transparent). Similarly, Transparency International's 2012 Corruption Perception Index ranked Bhutan 33rd among the 176 nations, an improvement of five positions from 38th in 2011.

While corruption perception figures indicate improvements, further efforts will be made towards strengthening and supporting institutions combating corruption as there can be no room for complacency when it comes to addressing this challenge.

2.5.4 Media

Media in Bhutan is fairly young. Kuensel and Bhutan Broadcasting Service (BBS) were established in the mid 1980s as the first Bhutanese newspaper and radio station. With the introduction of ICT in the late 1990s, Bhutanese media has grown considerably in all its forms – print, broadcast, film, music and internet. Today, there are 12 newspapers, six radio stations, two television news channels, and one entertainment channel. The growth of a free and responsible media continues to receive encouragement and support of the government.

Further, to promote government transparency and accountability, a fair and competitive business environment, personal dignity and to combat corruption, the Right to Information Bill was tabled during the first session of the Second Parliament in September 2013.

Print Media - With increasing literacy and changing social needs, a number of private newspapers and magazines were launched. Bhutan Times and Bhutan Observer were licensed in 2006; Bhutan Today in 2008; Business Bhutan and The Journalist in 2009; Druk Nyetshul in 2010, Druk Yoedzer and Druk Gyelyong Sharshog in 2011. With the increased number of newspapers the market for the print media has become competitive. Given the small readership market, advertisement revenues, mainly from government agencies, form the major source of revenue for most newspapers. Consequently, some of the newspapers have either shut operations or suspended print versions due to financial difficulties.

Radio - Bhutan Broadcasting Service (BBS) is the national public service broadcaster. BBS Radio (then known as Radio NYAB) was started in November 1973 by young

²⁵Conducted by Anti Corruption Commission of Bhutan and National Statistics Bureau.

volunteers belonging to the National Youth Association of Bhutan. In 1986, with the commissioning of a 10 KW short-wave transmitter and a small broadcast studio, Radio NYAB was renamed Bhutan Broadcasting Service. BBS radio broadcasts for 24 hours in four languages (*Dzongkha*, Sharchop, Lhotshamkha and English), on both shortwave and FM frequency as well as online.

In the last few years, seven private FM Radio Stations, namely Kuzoo FM, Radio Valley, Centennial Radio, Radio High, Radio Waves and Sherubtse College were established. While the FM services and shortwave services of the BBS reach the entire country, Kuzoo FM radio services are available in 18 *Dzongkhags*, and the remaining radio stations services are currently available only in Thimphu. These new radio services have created a platform for people to voice their concerns, spread awareness and are already addressing a wide range of social issues.

Television - BBS TV is the only television channel that caters to local news and programmes within Bhutan and was launched on 2 June 1999. Described as the most important event in the history of electronic media in Bhutan, BBS launched its satellite television service in February 2006. BBS launched its second TV channel 'BBS 2' in 2012 which broadcasts current programmes and entertainment shows.

Cable television services are now available in 19 of the 20 *Dzongkhags* and more than 40 different channels are provided by the cable TV operators. While the film industry is still in its infancy, the number of Bhutanese films has been increasing with more people venturing into the industry. A National Film Policy is currently being drafted in order to provide further impetus to the industry.

2.5.5 Women's Empowerment and Gender Equality

The ratification of the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) in 1981 saw the establishment of the National Women's Association of Bhutan (NWAB) with the mandate of addressing the issues related to our women and reporting and monitoring on the progress. In order to further strengthen the national machinery for women, the National Commission for Women and Children (NCWC) was instituted in 2004. Several non-governmental organizations working on women's issues such as Respect, Educate, Nurture and Empower Women (RENEW) and Tarayana Foundation have also been established.

Women issues in the Tenth Plan were mainly approached in line with the National

Plan of Action for Gender (NPAG), 2008-2013. The seven critical areas identified in the NPAG namely: good governance; economic empowerment; violence against women; education and training; health; prejudices and stereotypes; and ageing mental health and disabilities; provided the platform for addressing gender related issues. The NPAG witnessed progress in terms of conducting researches and studies identifying challenges and gaps, creating awareness and sensitization on gender equality and women's empowerment and creating an enabling policy environment through enactment of issue-specific laws such as the Domestic Violence Prevention Act 2013. The Tenth Plan, also witnessed increased data and statistical evidences; increased collaboration with Civil Society Organizations (CSOs) working on the issues of women and an increase in the gender discourse movement, evident through the media discussions (mainstream and social) and comparatively higher levels of incorporation of gender into mainstream sector policies and issues with the implementation of the Government's Policy Protocol.

Under the area of good governance significant achievements were made in terms of conducting surveys and studies to identify factors and challenges influencing the participation of our women in governance, creating awareness on their political participation, building capacities for women leaders and providing a platform for networking amongst the women leaders and aspiring leaders. Provision of support services like scholarships for girls from disadvantaged families, establishing girl-friendly infrastructure in the schools, improving boarder facilities and creating an enabling environment were major achievements under the area of education. Establishment of Early Childhood, Care and Development Centres (ECCD) and extended classrooms helped in increasing girls' participation in schools. The literacy rate of women increased in the plan period due to the expansion of non-formal education, where over 70 percent of the participants were women, and continuing education programmes.

The critical area of women's economic empowerment witnessed increased participation of women in economic activities through the provision of various support like capacity building, entrepreneurial skills development, business management programmes and formation of farmers groups, cooperatives and self-help groups and the provision of micro credit. However, women's lower participation in regular paid employment (6.1 percent as compared to 17.8 percent for men) and substantial engagement in agricultural occupations (38.2 percent against 23.7 percent for men) and the fact that 73 percent²⁶ of our employed women are in the

²⁶Labour Force Survey, 2012, Ministry of Labour and Human Resources.

agricultural sector warrants further assessment and special interventions on skills development and other economic empowerment measures. Progress has been forged in the area of providing social safety for women in the workplace through the enactment of the Labour and Employment Act 2007, although enforcement may need to be strengthened in the Eleventh Plan.

Creating awareness among the health personnel and the general public on gender related aspects of health, HIV and AIDS, teenage pregnancy, adolescent health amongst others have seen good progress over the last five years. Further, significant achievements were made to eliminate violence against women (VAW) through awareness and sensitization programs, provision of counseling and legal services and establishment of shelter services for the victims of VAW. The expansion of women and child protection units in 4 police stations, up gradation of complaints and response mechanism and establishment of women friendly judicial procedures were additional achievements.

The platform for planning and programming in the Eleventh Plan is provided by the findings and recommendations of the review of the NPAG and the Gender Equality Diagnostic Study of Selected Sectors (GEDSS) namely Education, Urban Development, Environment, Energy, Private Sector, Transport, Agriculture and Rural Livelihoods, and Work and Unemployment. Other strategies in the Eleventh Plan would include: creating a gender responsive legal environment through development of a Gender Equality Law including special temporary measures such as quotas to enhance women's participation in governance; implementation of the Gender Responsive Planning and Budgeting Strategy; strengthening gender mainstreaming initiatives/capacity at all levels including the private sector; collecting and using sex-disaggregated data; awareness programs at all levels; enhancing women's participation in employment and economic activities; and effective monitoring and implementation of current laws, rules and regulations, policies, plans and programs.

2.5.6 Promotion and Protection of Child Rights

Firm commitment has been given towards protecting our children and implementing the Convention on the Rights of the Child (CRC) by aligning national legislations to related articles in the Convention. Article 9.18 of the Constitution of the Kingdom of Bhutan 2008 reaffirms the states' duties by committing *"to take appropriate*

measures to ensure that children are protected against all forms of discrimination and exploitation including trafficking, prostitution, abuse, violence, degrading treatment and economic exploitation”.

The plan period witnessed a landmark achievement in the Child Protection area with the conduct of a mapping and assessment of the Child Protection System in Bhutan and the development of a National Plan of Action for Child Protection in Bhutan. The assessment clearly indicated current child protection issues, challenges faced and recommendations. The following six priority areas for focus will be addressed in the eleventh plan in order to ensure systematic and effective prevention and response to child protection issues:

- Law, policies, standards and regulations
- Service and service delivery mechanisms across a continuum of care
- Capacity and resources (human, financial and infrastructure)
- Coordination, collaboration and accountability
- Communication and advocacy
- Knowledge management

The enactment of major laws namely the Child Care and Protection Act 2011 and the Child Adoption Act of Bhutan 2012 was a major achievement. Other legislations such as the Labour and Employment Act 2007, Marriage Act 1980, Inheritance Act 1980, Citizenship Act 1985 and Royal Bhutan Police Act 2009 also address relevant child issues.

The National Youth Policy has actively included children and called for their inclusion in all future discourse that concerns them. Young people such as Young Volunteers in Action (YVIA), Scouts Association of Bhutan and Druk Adolescent’s Initiative on Sexual Awareness Network (DAISAN) have been formed to inform policy makers on their concerns and to integrate them into sector policies. New partnerships between young people and government agencies such as the Police-Youth Partnership have paved the way for more meaningful dialogue and engagement. The educational needs of differently-abled children were addressed through integrative education initiated in five schools and establishment of new NGOs. Besides the regular teaching programme other skills development trainings

were also provided for these children. Special educational needs and early childhood care and development are vital components under the draft National Education Policy for Bhutan.

2.5.7 Civil Society Organizations (CSO)

With the enactment of Civil Society Organizations Act, 2007 and subsequent establishment of the Civil Society Organizations Authority in 2009 the number of CSOs have grown. CSOs are in key areas of education, health, women, children, culture, environmental protection, and private sector development. Presently there are 30 registered CSOs²⁷, of which 24 are Public Benefit Organizations and 6 Mutual Benefit Organizations. CSOs complement the efforts of the government in provision of certain services that the government is unable to deliver or services that can be delivered more effectively by such organizations.

CSOs like Tarayana Foundation have contributed in addressing the local needs of disadvantaged remote communities through livelihood enhancement programmes such as skills training in traditional paper making, traditional clay pot making, nettle weaving, soap and candle making, refining cane and bamboo crafts, etc, housing support to remote communities like *Lhops* in south western Bhutan, and microfinance etc.

Bhutan Youth Development Fund provides financial support for youth development activities like leadership skills, drug rehabilitation, special education, basic skills and vocational training, advocacy research and education.

RENEW (Respect, Educate, Nurture and Empower Women) is dedicated to empowerment of women and girls in Bhutan, especially the victims and survivors of domestic violence.

Draktsho aspires to ensure young persons with Disabilities in Bhutan have quality opportunities for developing skills for life and vocation, and for becoming self-reliant, make a living and lead a contented life overcoming barriers created gender or other differences

Many other CSOs have contributed towards addressing various issues such as HIV/AIDS, Environment, Media etc. In the Eleventh Plan, the government will work together with the CSOs to realize the plan objectives.

²⁷Refer <http://www.csoa.org.bt>.

2.5.8 Mainstreaming of Cross-Cutting Issues

The growing environmental, social and economic issues like environmental degradation, over utilization of natural resources, climate change, issues of poverty, gender, differently-abled, unemployment and income, food and nutrition, health and sanitation and changing nature of natural disasters pose serious threats to our hard earned developmental and economic gains and momentum and to our goal of sustainable development. Recognizing the fact that these issues are all cross-cutting and inextricably linked to the overall developmental process, it is imperative that all socio-economic and environmental cross-cutting issues/ concerns are addressed systematically through mainstream development by integrating them in our decision making processes of policy making, planning and budgeting right at the outset rather than after environmental, social and economic degradation has already occurred.

The mainstreaming of cross cutting issues is to enhance environmental, social and economic conditions in an integrated manner through smart developmental management and interventions for the effective realization of Eleventh Plan goals and for GNH-based development focused on real life outcomes. It will also support recognizing environment as a finite resource for all development but one that presents great opportunity if managed in an integrated manner that exploits all synergies to address important issues. Towards this end in the Eleventh Plan, the central level Mainstreaming Reference Group will provide advisory and other mainstreaming support while sectors and local governments whose mainstreaming capacity has been built will be responsible for effective mainstreaming of cross-cutting issues in policy making, planning, budgeting and implementation. In the Eleventh Plan efforts will be made towards strengthening and institutionalizing the mainstreaming process at all levels of decision making, planning and implementation. The mainstreaming tool (six steps process) and framework which was developed for sectors and local governments will provide support and guidance to the central and local level.

CHAPTER 3
**MACRO-ECONOMIC
SITUATION AND OUTLOOK**

3.1 Macro-Economic Situation

The Tenth Plan's overarching focus on Poverty Reduction was pursued in the context of a robust growth environment despite the global economic downturn in 2009. Although some effects of the global downturn did manifest in the form of reduced tourism revenue and industrial exports, the domestic economy remained largely unscathed due to its limited integration with the global economy and growth remained buoyant mainly due to huge investments in the hydropower sector. While in most countries, the global downturn had a pronounced impact on marginalized groups through increased unemployment and erosion of savings, Bhutan saw a drop in its unemployment rate and the Government's poverty reduction efforts remained largely on track since most of the poverty stricken in Bhutan are subsistence farmers isolated from the formal economy.

Although Bhutan weathered the global economic crisis well, the economy experienced an unprecedented macroeconomic policy challenge arising from a successive build-up of current account deficits with India and consequently an acute and persistent shortfall in Rupee reserves. The remedial policy measures undertaken to address the Rupee shortfall caused a severe tightening of the credit market, which adversely affected private investment and growth in the latter half of the Tenth Plan period. The lingering Rupee shortfall and consequent credit crunch in the financial system has given rise to major challenges, affecting both households and key sectors of the economy, and is expected to spill over into the Eleventh Plan period. Managing the rupee shortage is therefore of high priority to ensure a sound macroeconomic policy framework for effective implementation of the Eleventh Plan.

Achieving the Eleventh Plan goal of "Self-reliance and inclusive green socio-economic development" will require a strong macroeconomic framework. Globally, recent conventional macroeconomic policies have been geared towards stability through inflation targeting and fiscal sustainability. However, there is now an increasing consensus that in developing countries macroeconomic frameworks must strike a balance between stabilization targets and broader development objectives. While stability shall continue to form a cornerstone of macroeconomic objectives since it is a necessary condition for the achievement of other objectives, the Eleventh Plan shall additionally focus on creating an enabling environment for growth that is inclusive and sustainable and leads to self-reliance. Hence, microeconomic strategies shall have to be aligned with the macroeconomic objectives. In this

regard, the conditions and strategies to facilitate diversification of the economic base, employment-intensive sectors with enormous potential for backward and forward linkages shall be explored. To ensure credit is channelled towards such purposes priority sector lending shall be adopted. On the fiscal front, efforts to enhance the tax base and creation of fiscal space shall be pursued in addition to exploring fiscal incentives for economic activities that generate employment and are carbon neutral. Finally, the establishment of a Stabilization Fund with multi-faceted purposes that serve monetary as well as fiscal policy and investment objectives shall be explored given the relevance of such mechanisms in resource-dependent countries.

3.1.1 Real Sector

Despite growth having been lower than forecast in the Tenth Plan, the economy rendered a strong performance with real growth rate averaging 8 percent per annum over the five years of the Plan. Poverty also declined from 23 percent in 2007 to 12 percent as of 2012, well beyond the Plan target.

Table 3.1 – Tenth Plan Economic Targets and Outcomes

<i>Real Sector</i>	<i>10FYP Target</i>	<i>10FYP Outcome</i>
GDP Growth	9%	8.0%
Agriculture	4%	1.5%
Industry	9.8%	7.0%
<i>Electricity</i>	<i>7.4%</i>	<i>1.9%</i>
<i>Construction</i>	<i>15.2%</i>	<i>13.1%</i>
Service	7.2%	10.9%
Investment (% of GDP)		53.6%
Consumption (% of GDP)		65.8%
Per capita GDP (USD)		2,590 (2011)
Overall Inflation		7.7%
Unemployment Rate	2.5%	2.1%

Source: MTFP (July 2013)

However, growth continues to be driven largely by government spending and investment. The industrial sector continues to be dominated by a few large state owned enterprises, mostly under the umbrella of Druk Holding Investments (DHI), with the hydropower subsector constituting almost 20 percent of GDP. The manufacturing subsector accounts for only one-fifth of the industrial sector output, and is narrowly concentrated in food processing and cottage industries. The lack of economic diversification has resulted in a situation of high growth rates driven by the hydropower sector without a commensurate increase in gainful employment for a rapidly growing and educated labour force, which poses significant macroeconomic challenges.

The aspirations of the Economic Development Policy 2010 and FDI Policy 2010 aimed at diversification of the economy and fostering a vibrant private sector remains largely unfulfilled due to numerous supply side challenges. An ADB²⁸ study have revealed that the sophistication level of Bhutan's exports have remained stagnant over the years and that market failures exist, thereby deterring private investment. A product space analysis of Bhutan also reveals an inherent difficulty in economic diversification because the capabilities used in the current basket of products are not easily transferrable to other products.

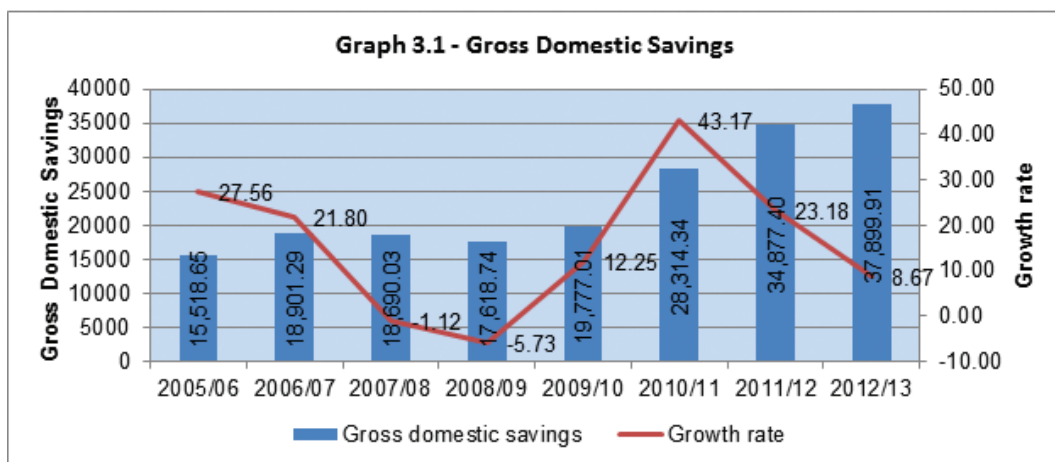
This provides a strong rationale for the government to lead efforts towards economic diversification and to develop backward and forward linkages in the industrial sector. During the Eleventh Plan period, DHI will play a strategic role in exploring new products, business models and market strategies. With three new hydropower projects expected to begin generation by 2017-18, a key strategy would be to develop export oriented power intensive industries by harnessing the availability of cheap and reliable power rather than simply exporting electricity as a primary product. In this regard, establishing the necessary infrastructure and creating an enabling environment will be crucial for success. Initiatives such as RISE (Rapid Investments in Selective Enterprises), where end-to-end support will be provided for about five select sectors that have potential for vertical integration, value addition and job generation will form the cornerstone of the government's diversification strategy.

Savings, Investment and Consumption - Although Bhutan's Gross Domestic Savings have displayed a better trend than its South Asian neighbours, the level of savings has been inadequate to finance the significantly higher investment rate. A development constraints study by the ADB revealed that while Bhutan had a high domestic savings rate of 33.7 percent, this was inadequate to support an investment rate of 52.3 percent.

²⁸Bhutan Critical Development Constraints Study, 2013.

The high level of savings at the national level is also mainly a result of government investments and savings of state owned enterprises and is not necessarily a good indicator of household savings. Despite the unavailability of data, it can be surmised that savings at the household level is low considering the stage of development and average disposable income of households. This is also borne out by the fact that household final consumption expenditure grew by an average of 11.3 percent during 2007-2010, outpacing the GDP growth rate. Key factors for low household savings rate in Bhutan include a lack of credible savings instruments and incentives.

More challenging than the level of savings is the high volatility in the trend of Gross Domestic Savings, as is evident from the data for the period 2005-2012 in the table below. Savings witnessed the most significant decline in the fiscal year 2008/09 recording a negative growth of 5.73 percent while its growth peaked in 2010/11 at 43.17 percent. While such volatility in savings is probably inevitable due to the small size of the domestic economy and is linked to the colossal size of public investments, it poses a significant macroeconomic policy challenge as savings is a key determinant of credit growth and investment. A key issue, therefore, in addition to the level of domestic savings is how the savings can be made less volatile, more predictable and effectively intermediated through the financial sector to promote private investments.

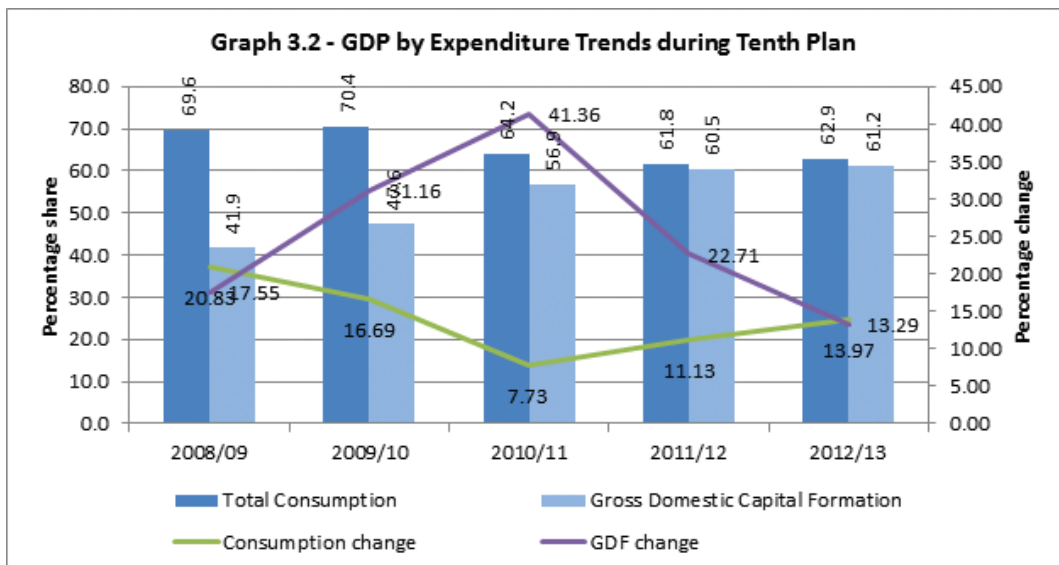


Source: MTF (July 2013)

Similarly, the high investment rate that has been driving growth also needs to be assessed in light of the declining returns to capital that can be attributed to a combination of factors such as inefficiencies in spending, high import content of

capital investments and the recent surge in investments on roads and hydropower for which the returns would only be realized in the future. As is empirically observed globally, consumption expenditure has constituted a greater share of GDP than investment. However, investment has displayed significant volatility which is partly attributable to volatile domestic savings and the colossal size of investments relative to GDP. Moreover, hydropower investments thus far have been externally financed, with limited contribution of domestic savings. This is inevitable in an economy where the public sector is significantly larger than the private sector. In comparison to other South Asian economies, Bhutan records the highest share of Government consumption and investment as a percentage of GDP (ADB, 2012). Government consumption is primarily driven by expenditure incurred for the social sectors of health and education and investment is dominated largely by hydropower construction and infrastructure.

A positive trend can be observed in that the growth rate of Gross Domestic Capital Formation has consistently outpaced the growth rate of consumption. Gross fixed capital formation grew annually at 7.2 percent during 2001-2011 and by 12.5 percent a year since 2007. In comparison to the Ninth Plan Period investment has displayed a significantly higher growth rates which reflect the huge investments in infrastructure and growth in housing.



Source: MTFF (July 2013)

The percentage contributions to GDP of the various demand side variables also corroborate the high volatility of the components. However, it is encouraging to note that despite Gross Domestic Capital Formation constituting a smaller share of GDP, its percentage contribution to Nominal GDP growth has been the most significant with an average of 12.13 percentage points over the Tenth Plan period.

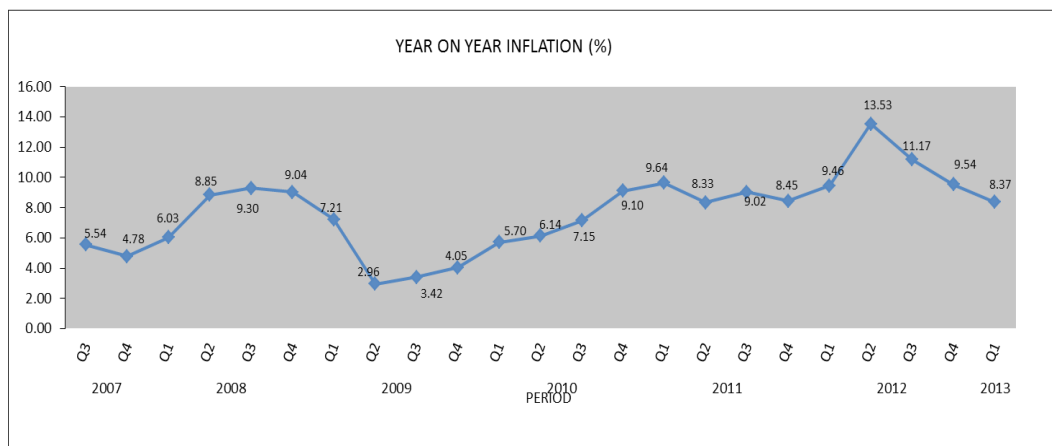
Table 3.2 – Contribution to GDP Growth Rate

Percentage contribution to GDP growth rate of	2008/09	2009/10	2010/11	2011/12	2012/13
Consumption	13.35	11.62	5.45	7.15	8.63
Gross Domestic Capital Formation	6.96	13.04	19.69	12.93	8.04
Resource Balance	-9.01	-9.32	-6.92	-11.37	-11.21
NGDP growth	11.30	15.34	18.21	15.45	11.95

Source: Calculation based on MTFE

Empirical evidence suggests that countries achieve a higher level of per capita income and higher standards of living through productivity enhancing capital accumulation and improvement in total factor productivity. As such, it is necessary to weigh the relative returns on different types of capital investments during the Eleventh Plan period and how these investments enhance labour and total factor productivity (TFP). The Eleventh Plan and EDP 2010 would need to prioritize non-hydropower related capital investments to prevent excessive dependence on hydropower, improve productivity and competitiveness and facilitate diversification of the economy taking into account Bhutan's potential and dynamic competitive advantages.

Inflation - As the economy has grown and incomes have increased largely due to hydropower investments and government development projects, the wealth effect and availability of credit has translated into a surge in imports due to increasing domestic absorption amid limited domestic production capacity. This has exerted huge pressure on the current account and subsequently on our reserves. Given limited domestic capacity it is also hypothesized that the Bhutanese economy is functioning above its potential output level, putting upward pressures on prices and wages and possibly making the real exchange rate over-valued thereby making manufacturing export potentially less competitive. Inflation measured by CPI averaged about 7.7 percent per annum during the Tenth Plan. The year-on-year inflation rate was highest in the 2nd quarter of 2012 recording 13.53 percent and since then it has been on the decline.

Graph 3.3 – Year on Year Inflation

Source: NSB, 2013

It is envisaged that highly focused economic initiatives in the Eleventh Plan, which include the establishment of a Stabilization Fund, will mitigate the risks of a Dutch disease situation in Bhutan and help stabilize the real exchange rate by sterilizing inflows and facilitating diversification.

3.1.2 External Sector

Bhutan continues to be a net importer of goods and services. The Tenth Plan period witnessed high volatility and a widening of the current account deficit, ranging from 1.2 percent of GDP in 2008/09 to 27.6 percent in 2010/11, culminating in an acute shortage of Indian Rupee (INR) reserves. While exports increased by 30.5 percent in the last five years (2008/09 - 2012/13), imports grew by 132 percent during the same period mainly due to an increase in import of machinery and other inputs for hydropower related construction. Additionally, the rapid expansion of credit for consumption has largely translated into imports.

Although the overall balance of payments position during the Tenth Plan has been positive, with successive Capital Account surpluses averaging Nu. 15.6 billion annually financing the Current Account deficits, close to 74 percent of the Net Capital inflows came in the form of external borrowings. The external sector position is expected to deteriorate during the peak construction period of ongoing and new hydro power plants. Hence the current trends in external imbalances

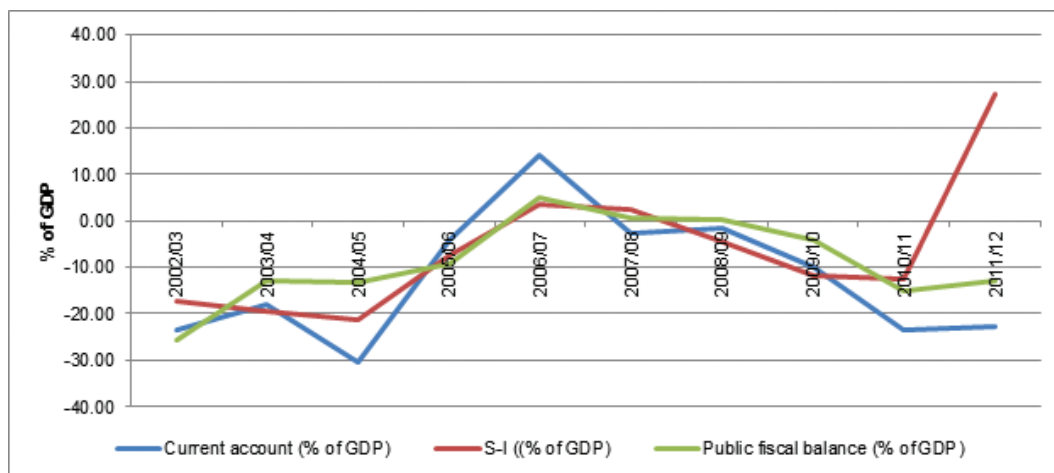
need to be assessed in a broader and longer term context of increasing and diversifying the export base. The magnitude of the external imbalances is further amplified by the small size of the economy and the colossal investments required for harnessing hydropower.

While the longer term outlook of the external sector appears bright given the significant increase in export revenues expected with the commissioning of the hydro projects, caution needs to be taken and appropriate measures identified in the medium term to monitor external financing risks, particularly given the alarming increase in short term debt instruments such as the State Bank of India (SBI) overdraft and GOI standby credit financing which reached a record INR 45 billion in 2011/12. Although these short-term debts are liquidated as and when there is a corresponding INR inflow, they come at a considerably high interest rate of 10 percent.

A key issue arising from the external imbalances is that of defending the Ngultrum-INR peg, which is the cornerstone of Bhutan's monetary policy. This has become extremely challenging given the magnitude of the imbalances in recent years which have necessitated costly short-term borrowings. As such we need to explore other financing instruments to meet external imbalances, fiscal instruments that limit the propensity to import to a sustainable level and provide incentives for import substitution and export growth.

The situation of the Bhutanese economy can be illustrated using the twin deficits approach. With high investment rates, Gross Domestic Savings have not been sufficient to finance investment resulting in a current account deficit. The direction of both series has been highly correlated as can be seen from the graph. Similarly the fiscal balance which also includes loans availed for hydro power contributed to the current account deficit.

Graph 3.4 – Twin Deficit



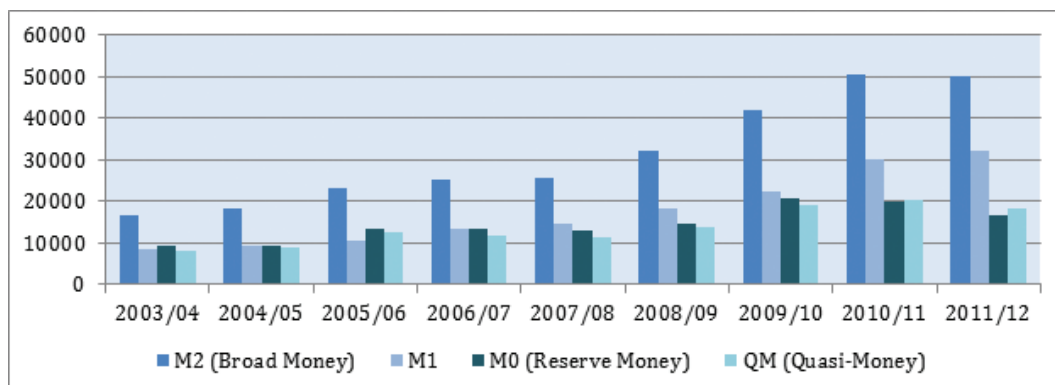
Source: GNHC (PPD, 2013)

The establishment of a stabilization fund is being explored to address the challenges of the external sector by stabilizing the current account imbalances through an array of investment activities such as the issuance of INR denominated bonds.

3.1.3 Monetary Sector

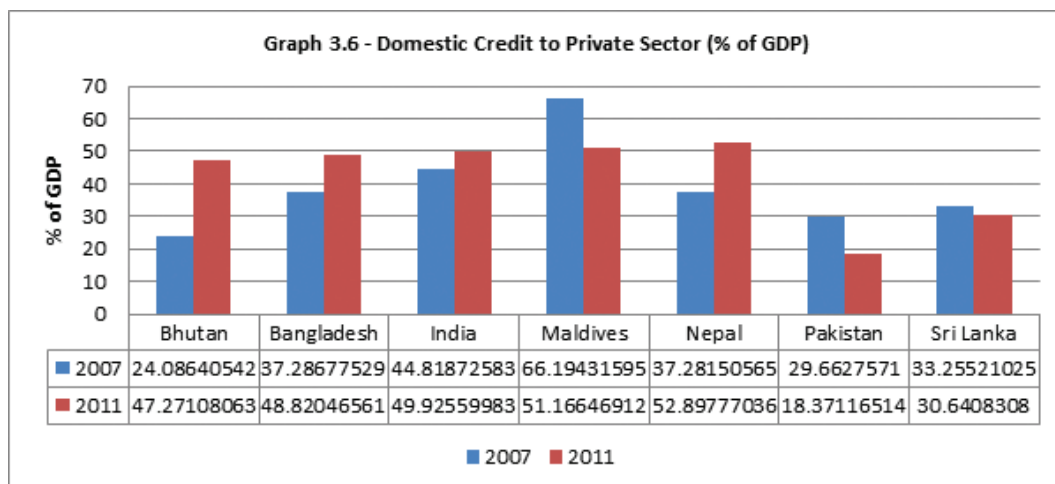
The monetary policy environment in Bhutan has come under intense scrutiny with the emergence of a chronic INR shortfall and subsequent liquidity crunch in the financial system that has severely affected the economy since 2011. This lingering problem that has spilled over into the Eleventh Plan has prompted the need for monetary policy objectives to be better aligned with the longer term development objectives of the country.

Of particular significance in the monetary sector has been the high growth in broad money (M2) during the Tenth Plan period, outpacing GDP growth rate by a factor of four. The high growth can largely be explained by the surge in short-term deposits in the banking system, which in turn contributed to a rapid expansion of domestic credit.

Graph 3.5 – Money Supply

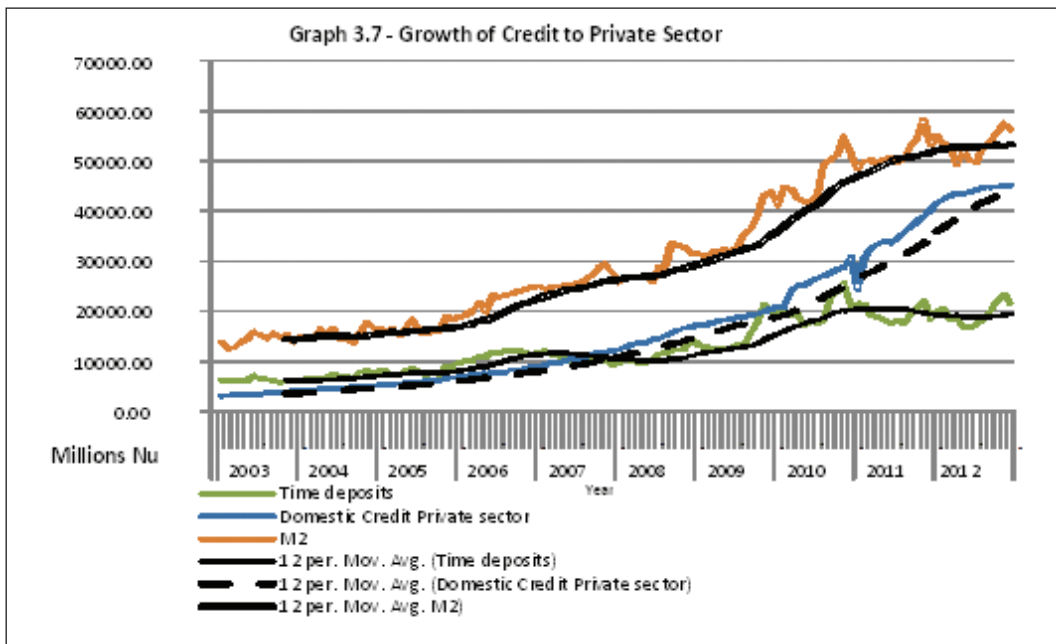
Source: MTFE (July 2013)

This rapid expansion of domestic credit, averaging 32.3 percent annually from 2008 to 2012, and its composition, has largely translated into imports, thereby exerting pressure on the peg and draining of INR reserves. Currently, personal, housing and construction loans account for the largest share of credit in the economy, both of which invariably lead to imports. The magnitude of the rapid expansion in domestic credit can be illustrated from the fact that Bhutan's domestic credit to GDP ratio nearly doubled between 2007 and 2011. Most significantly, within the span of a year net domestic credit increased by 176.8 percent, from Nu 6.8 billion in 2008 to Nu 18.9 billion in 2009. In 2007, Bhutan had the lowest domestic credit to GDP ratio in South Asia but has today surpassed that of Sri Lanka or Pakistan.



Central banks typically sterilize inflows or use various types of macro-prudential tools to contain excessive credit growth to minimize the destabilizing impact on the real economy.

The decomposition of credit and deposits reveals that banks have borrowed short term and lent long term reflecting an asset liability mismatch, which is evident from the fact that since 2009 time deposits have stagnated while credit has increased significantly. Hence, addressing the current challenges in the monetary sector require policy interventions that encourage credit to be channeled to productive sectors and incentives to encourage long term savings such as tax exemption on interest earnings from time deposits.



Source: ADB (2013)

Another challenge of the monetary sector is that the banking sector is characterized by high volatility in its liquidity. For instance, excess liquidity in the system ranged from a peak of Nu. 4.5 billion in 2012 to a low of negative Nu. 1.1 billion in 2011. The average excess liquidity during the period 2008-2012 was Nu. 2.69 billion but the standard deviation was an alarming Nu. 2.04 billion. The volatility coefficient for this period was 0.76 implying that the average volatility swung to as high as 76 percent of the average excess liquidity. This warrants the deployment of monetary policy tools to ensure a stable level of liquidity and avoid excess liquidity that can

lead to reckless lending. Moreover, a stable level of liquidity is crucial to promote investments by the private sector.

Table 3.3 – Banking Sector Liquidity

	2008	2009	2010	2011	2012
Excess liquidity	3125.6	2598.1	4379.4	-1130.8	4500
Average	2694.46				
Standard deviation	2045.81				
Volatility	0.76				

Source: GNHC (PPD, 2013)

Furthermore, it needs to be verified whether the surge in unsterilized hydro-related inflows and other Official Development Assistance inflows through the same logic, are sparking off a credit multiplier effect and consequently the growing current account deficits and persistent shortfall in the INR reserves. These inflows, which ultimately exit the economy after a brief time lag, remain unsterilized; and within this short period leads to an expansion of short term deposits that invariably result in an expansion of the money supply. In which case, establishing a stabilization fund would be critical to effectively sterilizing the large inflows and preventing the money multiplier effect in the banking system.

Monitoring credit allocation and ensuring that they are channeled in the right direction will be critical to addressing the negative impacts of credit expansion, particularly on the external sector. The ADB recommends interim measures that target credit demand rather than supply. In this regard, fiscal incentives will play a critical role in diverting credit away from non-productive sectors to more productive sectors that generate employment and enhance exports. Similarly, a stronger and proactive promotion of the capital market is critical to channel the savings of the public to more productive purposes. Currently, industries are more inclined to borrow at exorbitant interest rates from banks in the absence of incentives for capital market listings. Providing fiscal incentives for stock market listings and re-investment in shares would, in addition to encouraging and channeling savings towards productive purposes, also enhance transparency and productivity. The UNDESA recommends the adoption of an Asset Based Reserve Requirement system to channel credit towards priority sectors. The RMA is already in the process of formulating a priority sector lending policy which will provide the much needed

impetus to promote exports and employment. Such coordinated measures that involve monetary tools and fiscal incentives for financial sector vibrancy are crucial to address the current challenges in the monetary sector.

An important aspect of monetary policy in Bhutan involves the management of foreign reserves. Convertible currency constitutes close to 90 percent of our foreign reserves despite the fact that the major share of our current account transactions are denominated in INR with approximately 90 percent of our exports and 70 percent of imports being with India. The lingering INR shortfall and its effects on the economy provide a compelling argument for a more dynamic reserve management system that takes into consideration an appropriate ratio in the composition of our reserves between INR and other convertible currencies.

According to the UNDESA study, holding a sufficient portion of reserves in INR would also provide some level of cushioning to address the mismatch in the timing of inflows and outflows of INR and thereby avoid a reactive liquidation of USD. The study shows that although huge current account deficits surfaced in earlier years, no alarm was created because the central bank maintained adequate INR reserves.

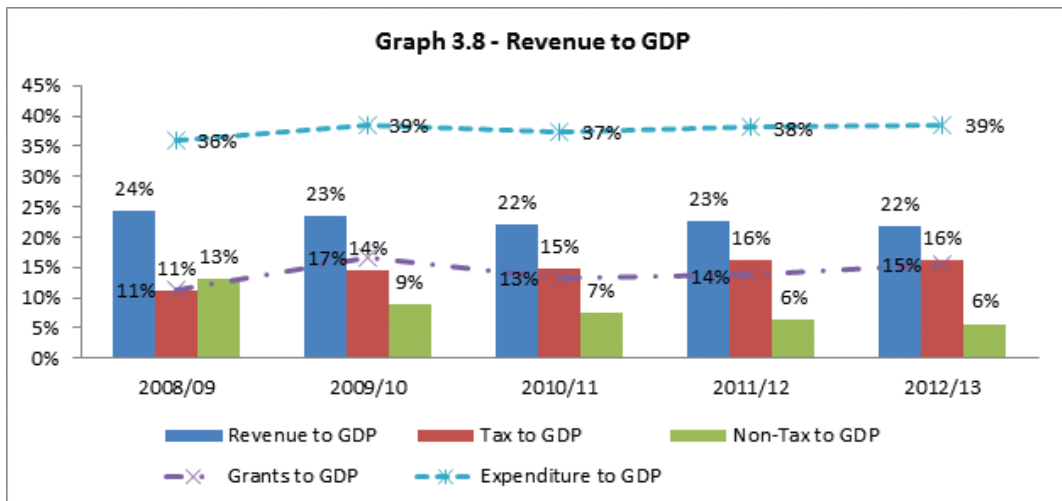
3.1.4 Fiscal Sector

The government's fiscal performance has also come under scrutiny in the wake of the INR crunch. It has been argued that excessive spending by the government resulted in huge current account deficits and consequently the INR crunch. Government spending also leads to a multiplier effect that increases aggregate demand and ultimately imports given the limited domestic productive capacity. It is felt that the large investments of the government have resulted in an overheating of the economy. Amid such concerns there have been calls to tighten fiscal spending considering the government's dominant presence in the economy. With government expenditure averaging 39 percent of nominal GDP, and given the colossal nature of recent investments such as the Punatsangchu I amounting to nearly 100 percent of GDP, such concerns are not without merit. Moreover, the concentration of these investments in the same time period has also given rise to concerns that they contribute to the liquidity crunch.

However, the counterargument is that the impact of the government's expenditure on the current account is offset to a large extent by corresponding inflows of aid and revenue from hydropower sales. It also needs to be highlighted that the

government's fiscal approach has been generally prudent with the budget deficit never exceeding GDP growth rates. Moreover, curtailing of the government investments in much needed public infrastructure and services would undermine Bhutan's pursuit of inclusive growth and sustainable development. Nevertheless, various reforms are required to broaden the tax base, rein in unproductive and recurrent expenditure and manage the current macroeconomic imbalances.

Enhanced fiscal management will be crucial for a smooth transition away from an aid driven economy and to achieve the Eleventh Plan goal of self-reliance. While revenue mobilization has been commendable, averaging 23 percent of GDP over the Tenth Plan, this falls far short of government expenditure. During the Tenth Plan, official development assistance accounted for an average of 14 percent of GDP. Bhutan's improved socio-economic indicators will result in an eventual phasing out of aid by development partner for which the government must be prepared. Enhancing government revenues to fill in the expected decline in aid will be crucial to sustain the high rate of GDP growth.



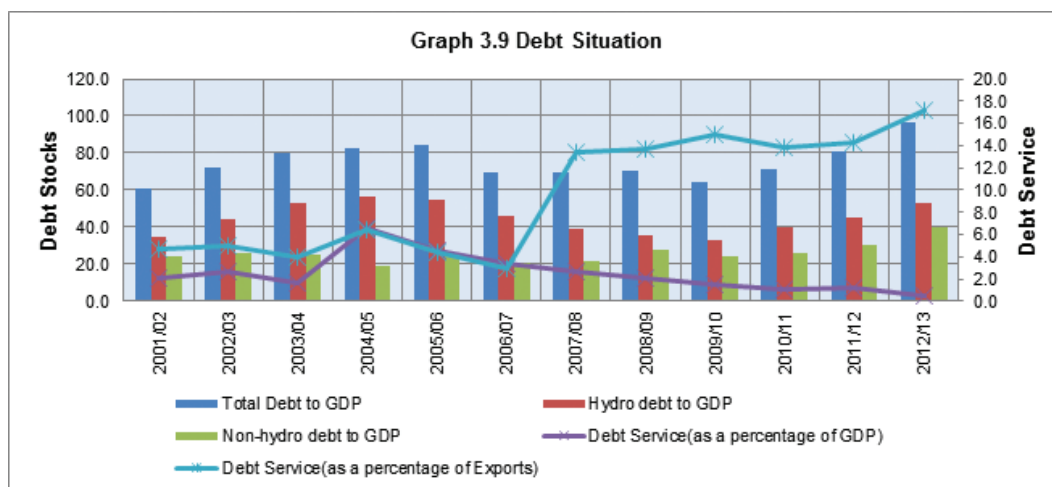
Source: MTF (July, 2013)

Table 3.4 – Revenue by Sectors (Nu. In millions)

	2008-09	% of Total Revenue	2009-10	% of Total Revenue	2010-11	% of Total Revenue	2011-12	% of Total Revenue
Electricity	5,725.68	40.40	3,790.03	24.10	3,817.92	21.50	3,612.55	17.50
Trade	2,789.40	19.70	3,464.45	22.00	4,882.97	27.50	7,166.66	34.70
Services	1,909.95	13.50	1,938.93	12.30	2,042.12	11.50	2,498.07	12.10
Finance	1,909.95	6.10	841.758	5.30	547.473	3.10	846.75	4.10
Manufacturing	562.797	4.00	420.759	2.70	658.343	3.70	592.574	2.90
Primary	191.418	1.40	209.419	1.30	368.018	2.10	375.851	1.80

Source: National Revenue Report (various years)

Given Bhutan's high level of debt stock of 97 percent of GDP and the rate at which it has been increasing, enhanced debt management capabilities will be crucial. Although most of the debt thus far has been channeled towards self-liquidating hydro investments, the recent surge in short term debt availed to address INR liquidity shortages have become a cause for serious concern.



Source: MTF (July 2013)

The fiscal deficit during the Eleventh Plan has been targeted at 3 percent of GDP, excluding the construction of debt financed hydropower projects. This is far more stringent than the 6.75 percent targeted in the Tenth Plan, which is mainly to ensure that the government limits deficit financing from the domestic market

which is already facing a severe liquidity crunch and also to avoid crowding out of private sector investments.

Alignment of Monetary and Fiscal Policies - The macroeconomic challenges that transpired during the Tenth Plan period have highlighted the need for effective coordination between monetary and fiscal authorities. For a small open economy like Bhutan, such coordination is critical to ensure a stable macroeconomic environment through periodic joint assessments of the real, fiscal and monetary sectors; formulation of mutually reinforcing preventive measures; and ensuring effective remedial measures during times of crisis. The lingering INR crunch has brought the importance and need for such coordination to the fore. For instance, instead of RMA's moratoria on various forms of lending to discourage imports, a viable policy alternative was the imposition of adequately large taxes, which fiscal authorities were politically constrained in imposing. Coherence between monetary and fiscal policies is also critical for the smooth implementation of development projects. Based on fiscal outlays, monetary authorities need to undertake prudent liquidity management to ensure reliable access to credit by the private sector. Coordination is also crucial in ensuring the sustainability of the currency peg. Given Bhutan's stage of development, fiscal spending and to a certain extent deficits, are critical to deliver growth. Hence a trade-off needs to be arrived at between monetary targets and growth priorities. A moderate level of inflation is acceptable for Bhutan, given the infrastructure investment requirements and the low level of urbanization.

It is argued that in the case of Bhutan, monetary policy is redundant or has minimal leverage given that inflation is largely an exogenous phenomenon due to the pegged exchange rate regime. Various studies provide evidence, that the non-tradable sector has been growing and inflationary pressure has been building in the sector, which is mainly a result of monetary and fiscal expansion. Moreover, in addition to price stability, central banks, particularly in developing countries, have a critical role in maintaining financial system stability, safeguarding the balance of external payments and more promoting broader socio-economic development goals.

In facilitating monetary and fiscal policy coordination, the existing Macroeconomic Framework Coordination Committee's (MFCC) responsibilities could be expanded to include the following:

1. Ensuring efficient exchange of information between key government agencies that would improve coordination of fiscal and monetary policies. Based on information provided by the MoF, GNHC and MoEA about the government’s financing requirements and development activities, RMA would suggest appropriate policies that are based on sustainable monetary and external position of the economy;
2. Assessment of the availability of credit/liquidity by RMA to ensure smooth implementation of development projects by the private sector which is dependent on credit. Deliberate and analyze the results of the Government’s cash balance projections;
3. Deliberate and formulate strategies and policies for achieving public debt and monetary management objectives. (UNESCAP, 2009).

In this regard the MFCC needs to be strengthened in order to meet the above mentioned objectives and serve as a competent economic advisory body that ensures convergence of diverse policies to achieve broader national goals. Given the pace of economic growth and increasing macroeconomic challenges a business as usual approach will further jeopardize the health of the economy.

Table 3.5 - Convergence of factors and trends that led to the current macroeconomic challenges

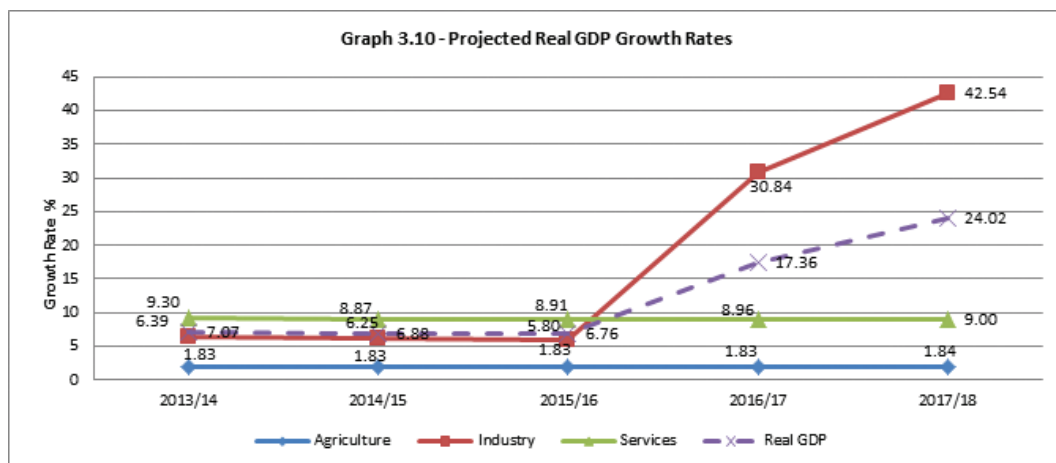
Factors and trends	Sectors			
	Monetary Sector	Fiscal Sector	External Sector	Real Sector
	<ul style="list-style-type: none"> • Unsterilized inflows leading to short term deposit expansion • Excessive credit channeled towards sectors that ultimately lead to imports • Lack of a forward looking monetary policy 	<ul style="list-style-type: none"> • Fiscal expansion leading to a current account deficit through increased Aggregate Demand • Lack of fiscal incentives to invest, diversify and contain consumption • Lack of coordination with monetary authorities 	<ul style="list-style-type: none"> • Pegged Exchange rate • Excessive Imports • Narrow base of exports • Low value exports • Deteriorating terms of trade 	<ul style="list-style-type: none"> • Undiversified economic base • Strong influence of government expenditure • Market failures • High consumption • Inability to absorb shocks • Perhaps operating above potential output

3.2 Macro-economic outlook

3.2.1 Real Sector Outlook

GDP Growth Projections - Real GDP is projected to increase by an average of close to 12 percent per annum, with the electricity sector driving most of the growth. This is based on the assumption that the hydro power projects in the pipe line are completed as scheduled. The real GDP growth rate is expected to spike to 17.36 and 24 per cent towards the end of the plan period, driven primarily by the industry sector, which is expected to grow by 30.8 percent and 42.5 percent in the last two years of the Plan due to the commissioning of three mega projects. The services sector is expected to sustain consistent growth rates averaging about 9 percent per annum, primarily fuelled by tourism and the expanding non-tradable sector. The growth in the primary sector is expected to remain moderate, at less than 2 percent per annum.

While the projections show a very optimistic growth scenario, the macroeconomic challenges of recent years underscores the need to prudently address various issues in the real, external and monetary sectors. Given the huge revenue gains expected from the hydropower sector, there is also a growing imperative for preventive measures against the phenomenon of ‘Dutch disease’. In this regard, the prudent management and use of hydropower inflows towards an effective strategy for economic diversification, productivity enhancement through knowledge and skills development and employment creation will be critical.



Source: MTFP (July 2013)

The sector-wise growth projections are as follows:

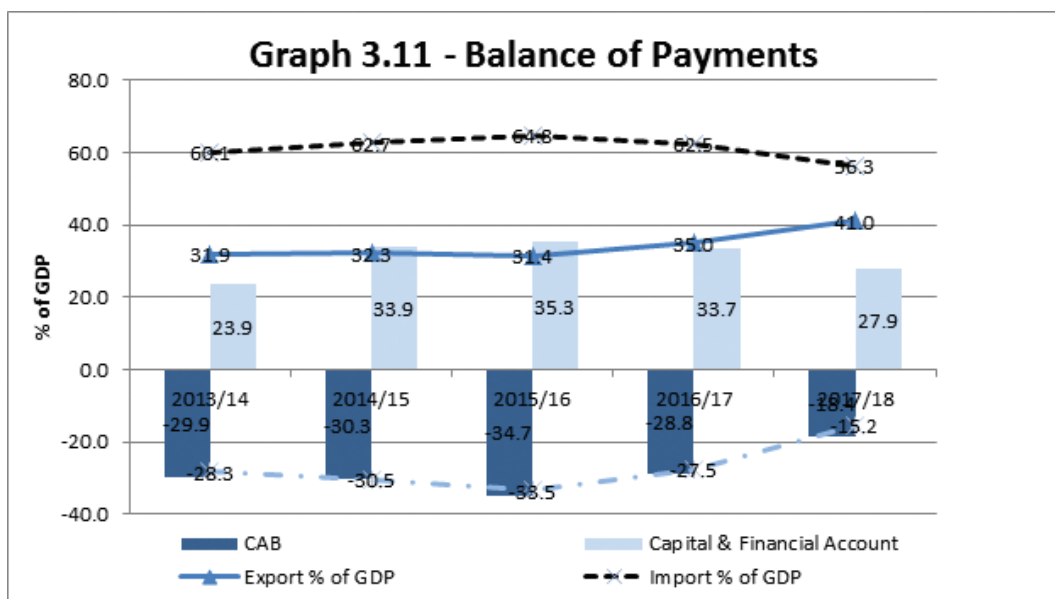
	2013/14	2014/15	2015/16	2016/17	2017/18	Average Growth
Agriculture, livestock, and forestry	1.83	1.83	1.83	1.83	1.84	1.83
Industry	6.39	6.25	5.80	30.84	42.54	18.36
Mining and quarrying	11.25	11.25	11.25	11.25	11.25	11.25
Manufacturing	9.94	9.94	9.94	9.94	9.94	9.94
Electricity, gas & water	5.32	6.15	3.93	69.01	81.37	33.16
Construction	4.63	3.02	4.18	2.88	-4.09	2.12
Services	9.30	8.87	8.91	8.96	9.00	9.01
Wholesale and retail trade, hotel and restaurant	11.22	11.28	11.33	11.39	11.45	11.33
Wholesale and retail trade	10.19	10.19	10.19	10.19	10.19	10.19
Hotel and restaurant	16.92	16.92	16.92	16.92	16.92	16.92
Transport, storage and communications	9.33	9.33	9.33	9.33	9.33	9.33
Financing, insurance and real estate	10.87	9.02	9.06	9.10	9.14	9.44
Finance	12.35	10.00	10.00	10.00	10.00	10.47
Real estate	4.47	4.47	4.47	4.47	4.47	4.47
Community, social and personal services (govt)	7.00	7.00	7.00	7.00	7.00	7.00
Private social & recreational services	4.58	4.58	4.58	4.58	4.58	4.58
Real GDP at factor cost	7.02	6.83	6.70	17.80	24.72	12.62
Plus taxes net of subsidies	8.00	8.00	8.00	8.00	8.00	8.00
Real GDP at market prices	7.07	6.88	6.76	17.36	24.02	12.42

Source: Royal Government of Bhutan, National Statistic Bureau (MTFF July 2013)

3.2.2 External Sector Outlook

The external sector is expected to worsen with the current account balance averaging around -28 percent of GDP. It is expected to reach a low of -34.7 percent

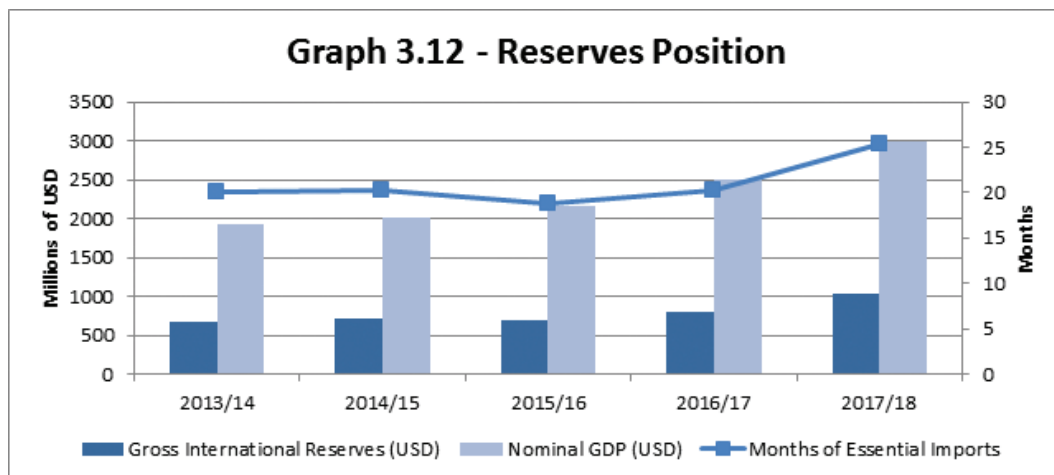
of GDP largely on account of hydropower construction imports. However, except for the first year of the plan (2013/14), it is projected that the capital and financial account balance will be sufficient to finance the current account deficit. Despite exports projected to increase by 192 percent by the end of the Eleventh Plan coinciding and largely on account of the commissioning of the 3 new hydropower projects, imports will also increase by 107 percent. This needs to be assessed in light of the significantly larger base of the import value which will increase consistently every year implying that the trade deficit is expected to worsen.



Source: MTFP (July 2013)

External borrowing will continue to be the dominant source of financing the Current Account deficit, accounting for approximately 60 percent of all inflows. Hydro grants will constitute 33 percent and FDI 5 percent of all inflows. The contribution of FDI to the capital account is projected to decline in the Eleventh Plan, despite the increase in its absolute value during the last years of the Plan. As highlighted earlier these inflows will not be able to finance the deficit for the five year period.

Gross international reserves are projected to improve from USD 627.9 million as of 2011/12 to USD 1,049.5 million by 2017/18. This will be sufficient to cover around 20 months of essential imports.



Source: MTF (July 2013)

While deterioration in the Current Account deficit is mainly attributable to investments in the hydro power sector, the debt for which are self-servicing once projects are commissioned, the following issues are a matter of concern:

- National savings are not adequate to finance the level of investment in the economy. Hence, external borrowing is inevitable. However, the deterioration of the current account is not only attributable to rising investment but also due to declining savings. A recent study by ADB notes that GDS plummeted to 16.1 percent of GDP in 2008 due to the financial crisis, but started to recover in 2009 and 2010, yet they are still below pre-crisis levels.
- Heavy dependence on foreign financing of current account creates economic vulnerabilities. Export promotion and import substitution policies are expected to release pressure on Balance of Payments.
- Dwindling Reserves are not only likely to fall short of statutory requirements of 12 months of essential import, but may also fail to keep pace with market demand thus triggering further short term borrowing or exacerbating pressure on the exchange rate peg. Hence alternative short term financing mechanisms need to be explored.

Table 3.8 – Key Recommendations

Microeconomic	i	Diversification through initiatives such as RISE (Rapid Investments in Selective Enterprises) that will extend end-to-end support to 5 high potential sectors based on criteria that include potential for employment, revenue and profitability. Support will include: <ul style="list-style-type: none"> a. Establishing enabling infrastructure b. Streamlining business regulations- clearances, labour permits, land acquisition c. Identifying specific incentives d. Alleviating current bottlenecks e. Moving up the value chain for existing manufacturing industries f. Identification of new high value products
	ii	Exempting fixed term deposits from taxes to encourage savings
	iii	Providing tax credits vs. tax breaks
	iv	Excise duty exemption or refund for selected industries
	v	Priority sector lending
	vi	Provide incentives for capital market listing of companies
	vii	Incentives to promote local content
	viii	Explore capital gains tax and hefty inheritance tax for urban property
Macroeconomic	i	Alignment of Monetary and Fiscal Policy
	ii	Establishment of the Stabilization Fund <ul style="list-style-type: none"> a. Sterilize inflows from hydro power exports and related loans and grants b. Reduce volatility in liquidity and credit c. Enable government to support counter-cyclical interventions to sustain the desired level of growth in the economy d. Priority Sector Investments and private sector development e. Investing in Foreign Government Bonds
	iii	Dynamic Reserve portfolio management
	iv	Exploration of alternative short term financing options
	v	Floating of RGoB bonds
	vi	Building of Macroeconomic modeling and analytical capacity

3.2.3 Fiscal Outlook (without hydropower debt servicing)

Fiscal projections presented exclude hydropower debt servicing in order to provide a clearer overview of the financial transactions of the Eleventh Plan programmes.

The fiscal projections have been framed to ensure that the current expenditures are covered through domestic revenues; critical capital investments are either financed through surplus domestic revenues, grants from development partners or highly concessional loans from multilateral institutions; capital investments activities that have potential for public private partnerships are excluded from the capital outlay; and fiscal deficit is kept below a prudent level averaging 3 percent of GDP over the five year period.

Based on the above, the Eleventh Plan expenditure outlay is estimated to be around Nu. 213 billion, of which current expenditure is Nu.121 billion and capital expenditure of Nu.92 billion. Resources are projected at Nu. 198 billion, comprising of domestic revenues of Nu.140 billion and external grants of Nu.58 billion. As such, a fiscal deficit of Nu. 15 billion, or 2 percent of GDP, is projected.

Table 3.9 – Fiscal Projections (without Hydropower debt servicing) in Nu. Millions

	10 th Plan Outcome	11th Plan Projections	Variance
Revenue & Grants	149,945.60	198,455.04	32%
Domestic Revenue	89,990.30	139,816.34	55%
Grants	51,960.10	58,638.70	13%
Outlay	152,657.60	213,966.69	40%
Total Expenditure	148,652.40	213,291.49	43%
Current	74,298.20	121,291.49	63%
Capital	74,354.20	92,000.00	24%
Net Lending	4,719.70	675.20	
Fiscal Balance	(2,712.00)	(15,511.65)	
As % of GDP	(0.50)	-2.05%	
Net Borrowing	(5,185.90)	16,220.30	
Borrowings	11,988.10	21,493.15	
Repayments	17,174.00	5,272.85	
Resource Gap	(7,897.90)	708.65	

As % of GDP	(1.80)	0.09%	
-------------	--------	-------	--

Note: 10th Plan outcome, resource & grant total does not add up as "Other Receipts" figure not shown, similarly, expenditure outlay figures does not add up as "Other Payments" and "Advances/Suspense (Net)" not shown.

Expenditure Outlay - In contrast to past plans, where plan size more than doubled on a plan-to-plan basis, the Eleventh Plan outlay is projected to increase by 40 percent. The current expenditure is projected to increase by 63 percent, which is mainly due to increase in personal emoluments²⁸ which constitutes about 45 percent of total current expenditure; increased cost of infrastructure maintenance due to past investments in schools, hospitals and roads; and increased interest payment obligations.

The capital expenditure is projected to increase by about 24 percent over that of the Tenth Plan, mainly on account of investments in roads, health, education, urban development, culture and human resource development. The increase is significantly lower than that of the Tenth Plan as the emphasis in the Eleventh Plan is on consolidation and sustainability. Secondly, considering the current economic situation, capital expenditure has been kept relatively small to prevent further deterioration in the trade imbalances.

Table 3.10 – Expenditure Projections (Nu. In Millions)

	2013/14	2014/15	2015/16	2016/17	2017/18	Total
Total Exp.	31,746.60	36,600.29	39,748.09	47,224.59	57,971.92	213,291.49
Current	17,092.85	21,674.04	22,773.59	28,150.09	31,600.92	121,291.49
Capital	14,653.75	14,926.25	16,974.50	19,074.50	26,371.00	92,000.00
Net Lending	622.00	60.00	60.00	(33.00)	(33.80)	675.20

Source: MTFF (July 2013)

Resources - Resources are projected to increase by about 32 percent over that of the Tenth Plan. Of the total resources, 70 percent are domestic revenues and 30 percent are grants. Domestic resources are projected to increase by 55 percent, with the major increases occurring in the final year of the Plan with the commissioning of Punatsangchhu I, Punastangchhu II and Mangdechhu hydro-power projects.

Grants are projected to increase by 13 percent over that of the Tenth Plan, mainly on account of increase in Government of India's assistance from Nu. 34 billion to Nu.45 billion. The overall level of assistance from other development partners is projected to decline as a result of phasing out of assistance by some partners.

Table 3.11 – Resource Projections (Nu. In Millions)

	2013/14	2014/15	2015/16	2016/17	2017/18	Total
Revenue & Grants	29,603.13	33,754.12	35,072.42	41,972.15	58,053.21	198,455.04
Domestic Revenue	19,793.62	22,307.01	23,781.14	28,887.14	45,047.43	139,816.34
Tax Revenue	15,324.77	17,203.41	18,422.96	20,356.72	22,294.84	93,602.70
Non-Tax Revenue	4,468.85	5,103.59	5,358.18	8,530.42	22,752.59	46,213.63
Grants	9,809.51	11,447.12	11,291.28	13,085.01	13,005.79	58,638.70

Source: MTFF (July 2013)

Fiscal Balance – The overall fiscal balance is projected to remain negative except for a small surplus in the last year of the Plan when the three mega hydropower projects are commissioned.

Table 3.12 – Fiscal Balance Projections (Nu. In Millions)

	2013/14	2014/15	2015/16	2016/17	2017/18	Total
Fiscal Balance	(2,765.47)	(2,906.16)	(4,735.68)	(5,219.44)	115.09	(15,511.65)
As % of GDP	-2.43%	-2.3%	-3.3%	-3.0%	0.1%	- 2.05%

Source: MTFF (July 2013)

Against the targeted fiscal deficit ceiling of less than 3 percent of GDP over the plan period, a fiscal deficit of Nu. 15 billion or 2 % of GDP is projected. The deficit will be covered through concessional borrowings mainly from World Bank, Asian Development Bank, International Fund for Agricultural Development and Japan International Cooperation Agency (JICA) loans.

Indicative Planning Figures - From the total outlay of Nu. 213 billion, 71 percent is allocated to the central agencies and 29 percent to the local governments. The allocation projected for local governments does not include provisions for targeted poverty interventions programmes, capital investments plans for local government education sector and recurrent expenditure for *Thromdes*. These have been budgeted under central agencies allocation.

²⁸Increase in pay and allowance due to increase in the number of civil servants and the proposed pay and allowance revisions in the Eleventh Plan. In the Tenth Plan, civil service grew by about 4 percent annually and the same growth trend is projected.

Table 3.13 – Agency-wise Indicative Planning Figures (Nu. In Millions)

Agency-wise Expenditure Outlay (Nu. In millions)					
Sl. No.	Agency	Plan Outlay			% of Total
		Current	Capital	Total	
A	Constitutional Bodies	2,613.49	1,567.50	4,180.99	1.96%
1	Judiciary	1,247.99	623.00	1,870.99	0.87%
2	Royal Civil Service Commission	248.39	207.00	455.39	0.21%
3	Anti-Corruption Commission	237.53	93.50	331.03	0.15%
4	Election Commission	220.58	428.00	648.58	0.30%
5	Royal Audit Authority	659.01	216.00	875.01	0.41%
B	Autonomous Agencies	11,619.18	7,014.65	18,633.83	8.74%
1	His Majesty's Secretariat	182.14		182.14	0.09%
2	Secretariat of His Majesty the Fourth King	135.06		135.06	0.06%
3	National Assembly of Bhutan	535.12	54.00	589.12	0.28%
4	National Council	355.36	330.00	685.36	0.32%
5	Royal Privy Council	83.89		83.89	0.04%
6	Council for Religious Affairs	2,983.26	379.00	3,362.26	1.57%
7	Cabinet Secretariat	179.61	23.00	202.61	0.09%
8	Office of the Attorney General	124.87	43.90	168.77	0.08%
9	Gross National Happiness Commission	227.95	625.00	852.95	0.40%
10	National Land Commission	1,182.19	500.00	1,682.19	0.79%
11	National Environment Commission	183.94	374.00	557.94	0.26%
12	<i>Dzongkhag</i> Development Commission	88.34	63.00	151.34	0.07%
13	National Statistics Bureau	153.46	92.44	245.90	0.11%
14	Centre for Bhutan Studies	97.64	14.50	112.14	0.05%
15	Royal Institute of Management	280.94	273.00	553.94	0.26%
16	Royal University of Bhutan	-	1,086.45	1,086.45	0.51%
17	Royal Education Council	181.43	292.00	473.43	0.22%
18	Bhutan Council for School Examination & Assessment	404.01	50.00	454.01	0.21%
19	Royal Institute of Law & Bhutan National Legal Institute	32.80	589.50	622.30	0.29%

20	University of Medical Sciences of Bhutan	3,233.61	487.30	3,720.91	1.74%
21	Bhutan Narcotic Control Agency	87.94	45.00	132.94	0.06%
22	Drug Regulatory Authority	56.67	33.00	89.67	0.04%
23	Bhutan InfoComm & Media Authority	93.75	118.25	212.00	0.10%
24	Bhutan Standard Bureau	145.77	36.00	181.77	0.08%
25	National Commission for Women & Children	99.17	55.00	154.17	0.07%
26	Bhutan Olympic Committee	176.07	395.00	571.07	0.27%
27	Tourism Council of Bhutan	314.17	345.61	659.78	0.31%
28	Royal Institute of Tourism and Hospitality	-	25.50	25.50	0.01%
29	JDWNR Hospital	-	334.20	334.20	0.16%
30	Bhutan Broadcasting Service		340.00	340.00	0.16%
31	CSO Authority		10.00	10.00	0.00%
C	Ministries	70,429.50	55,657.19	126,086.69	59.11%
1	Ministry of Agriculture and Forest	8,786.88	4,856.00	13,642.88	6.40%
2	Ministry of Economic Affairs	1,626.42	6,782.06	8,408.48	3.94%
3	Ministry of Education	933.75	7,438.74	8,372.49	3.93%
4	Ministry of Finance	38,589.53	2,678.55	41,268.08	19.35%
5	Ministry of Foreign Services	3,287.34	320.00	3,607.34	1.69%
6	Ministry of Home & Cultural Affairs	8,076.18	3,702.00	11,778.18	5.52%
7	Ministry of Health	4,306.82	3,839.41	8,146.23	3.82%
8	Ministry of Information & Communications	1,068.58	3,548.43	4,617.01	2.16%
9	Ministry of Labour and Human Resources	1,271.25	1,383.00	2,654.25	1.24%
10	Ministry of Works and Human Settlements	2,482.73	21,109.00	23,591.73	11.06%
D	Others (HRD and Exigencies)	-	2,910.66	2,910.66	1.36%
1	Human Resource Development		2,000.00	2,000.00	0.94%
2	Other Capital (Vehicles, misc. exigencies etc)		910.66	910.66	0.43%
E	Total for Central Agencies	84,662.17	67,150.00	151,812.17	71.18%
	Total for Local Governments	36,629.32	24,850.00	61,479.32	28.82%
1	<i>Dzongkhag and Gewogs</i>	33,578.44	20,000.00	53,578.44	25.12%

2	<i>Thromdes</i>		4,850.00	4,850.00	2.27%
3	<i>Thromde Schools</i>	3,050.88		3,050.88	1.43%
	Grand Total	121,291.49	92,000.00	213,291.49	100.00%
Note: i) Recurrent budget of <i>Thromdes</i> provisioned under Ministry of Finance (CPE), ii) Education capital budget for local governments kept under Ministry of Education. Iii) Capital budget for <i>Dzongkhags</i> and <i>Gewogs</i> apportioned in the ratio of 60:40.					

3.2.4 Fiscal Sector Outlook (with hydropower debt servicing)

Accounting for hydropower inflows and outflows for debt servicing, the projections for recurrent expenditure, domestic revenue, net lending and repayment are more optimistic as follows:

1. The recurrent expenditure and domestic revenue are expected to increase by about Nu. 11 billion. Interest received on account of hydropower is recorded as revenue at the time of receipt by the Ministry of Finance and booked as current expenditure when the interest is repaid to the lender. When hydropower operations are included in the fiscal projections, domestic revenues are projected to increase by about 67 percent as compared to 55 percent when hydropower is excluded, thereby inflating the level of revenue projections. Similar increases in recurrent expenditure and the total expenditure are projected.
2. With recoveries from hydropower projects exceeding lending, the net lending projections present a favourable fiscal space with a fiscal deficit of just Nu. 112 million against a projection of Nu. 15 billion without hydropower operations, creating artificial fiscal space.

Inclusion of hydropower debt servicing obligations presents a more favourable fiscal outlook as the fiscal deficit falls. The main implications here are that overall, the debt stock composition will change with INR debt being replaced by concessional borrowings.

Table 3.15– Fiscal Projections (with Hydropower debt servicing) in Nu. Millions

	10th Plan Outcome	11th Plan Projections	Variance
Resources	149,945.60	209,328.14	40%
Domestic Revenue	89,990.30	150,689.44	67%
Grants	51,960.10	58,638.70	13%
Expenditure Outlay	152,657.60	209,440.29	37%
Total Expenditure	148,652.40	224,164.59	51%
Current	74,298.20	132,164.59	78%
Capital	74,354.20	92,000.00	24%
Net Lending	4,719.70	(14,724.30)	
Fiscal Balance	(2,712.00)	(112.15)	
As % of GDP	(0.50)	-0.20%	
Net Borrowing	(5,185.90)	1,895.05	
Borrowings	11,988.10	21,493.15	
Repayments	17,174.00	19,598.09	
Resource Gap	(7,897.90)	1,782.90	
As % of GDP	(1.80)	0.36%	

Note: 10th Plan Resource total does not add up as “Other Receipts” figure not shown, similarly, expenditure outlay figures does not add up as “Other Payments” and “Advances/Suspense (Net)” not shown.

3.2.5 Public Debt Stock

The total public debt stock is expected to increase from Nu. 110 billion in 2013/14 to Nu.259 billion in 2017/18, an increase of about 135 percent, by the end of the Plan. Public debt stock is comprised of 99 percent external borrowings and 1 percent domestic borrowings. Hydro-power debt is expected to account for 80 percent of the total public debt stock, most of which is denominated in INR. The borrowings for hydro-power projects are estimated to increase by 184 percent from Nu. 73 billion to Nu. 206 billion. Non-hydro borrowings are projected to increase by 36 percent from Nu. 37 billion to Nu. 50 billion, and mainly used for critical infrastructure investments projects in roads, electrification, urban development and agriculture sectors.

While Bhutan’s debt has been increasing substantially and is expected to be

121 percent of GDP by the end of the Plan, the government's ability to repay its obligation has also been improving. Despite the high level of public debt stock and associated debt indicators, Bhutan debt stock may be classified as sustainable since 80 percent of the debt are for self-liquidating hydro-power projects. The public debt stock projections for the Eleventh Plan are as follows:

Table 3.14 - Public Debt Projections (Nu. In millions)					
	2013/14	2014/15	2015/16	2016/17	2017/18
Total Debt (DOD)	110,505.00	143,337.35	179,839.92	220,330.85	259,290.47
Domestic Debt	554.48	786.92	2,204.71	2,204.71	2,204.71
External Debt	109,950.52	142,550.43	177,635.21	218,126.15	257,085.77
Hydro Debt	72,827.93	96,410.95	127,824.92	167,540.50	206,492.53
Non-Hydro Debt	37,122.59	46,139.48	49,810.29	50,585.65	50,593.24
CC debt (US \$ millions)	662.02	775.76	819.22	868.40	920.86
Rupee debt (millions INR)	71,252.49	93,335.79	123,268.67	157,840.27	190,212.79
Total Debt Service (budgetary)	4,488.92	4,967.58	5,256.90	5,190.89	14,602.86
Interest payments	1,968.10	2,094.70	2,051.73	2,246.05	6,785.75
Principal payment	2,520.82	2,872.88	3,205.17	2,944.84	7,817.10
Debt Service Ratio	31.97	10.94	10.15	11.54	17.61
Nominal GDP (Nu. in mill)	113,892.90	127,416.60	143,081.49	171,627.13	213,017.32
(As a Percentage of Nominal GDP)					
Total Debt	97.03	112.5	125.69	128.38	121.72
Domestic Debt	0.49	0.62	1.54	1.28	1.03
External Debt	96.54	111.88	124.15	127.09	120.69
Hydro Debt	63.94	75.67	89.34	97.62	96.94
Non-Hydro Debt	32.59	36.21	34.81	29.47	23.75
CC Debt	35.02	34.33	30.23	27.36	25.79
INR Debt	62.56	73.25	86.15	91.97	89.29

Source: MTFF (July 2013)

CHAPTER 4
ELEVENTH PLAN

4.1 Eleventh Plan Objective

With the long term vision of GNH in sight, the government shall in the Eleventh Plan focus on **Self Reliance and Inclusive Green Socio-economic Development**.

The rationale for such an aspiration is motivated by an understanding of Bhutan's current situation and priorities and its alignment to the GNH based development path. The first element of **self-reliance** is crucial in many dimensions: First, our economy while achieving robust growth rates over the last decade is still import driven, has a narrow tax base that is largely dependent on hydropower revenues and low levels of productive employment though the overall unemployment rates reported is commendable. Secondly, with the improved socio-economic indicators, some of our traditional development partners have already indicated their desire to phase out development assistance from Bhutan. Hence the urgency to pursue the self-reliance objective that transforms our economy to a more diversified economy that creates productive employment opportunities, ensures a broader tax base and provides an enabling environment for private sector development. Self-reliance is interpreted as the *“ability to meet all our national development needs as articulated through 5 Year Plans by 2020”*.

The second element of **Inclusive Development** refers to *“reducing poverty and inequality by enhancing the standard of living and the quality of life of the most vulnerable sections of our society”*. While our poverty and social indicators report significant progress, disparities exist within regions, area of residence and gender. The Eleventh Plan will ensure inclusiveness by targeting the disadvantaged and vulnerable sections of our population so that all sections of our population enjoy the benefits of socio-economic development.

As in the past plans, an important cross cutting principle shall be the continued adoption of rigorous environmental standards in the pursuit of our development objectives. Hence the plan shall ensure the mainstreaming and incorporation of **Green** or **Carbon Neutral** strategies in all our activities.

4.2 National Key Result Areas (NKRAs)/Key Performance Indicators (KPIs)

National Key Result Areas (NKRAs) are outcomes at the national level that the government needs to achieve over the next five years in order to realize the Eleventh Plan objective of *“Self Reliance and Inclusive Green Socio-Economic Development”*.

Sixteen NKRAs have been identified based on the four pillars of GNH. All central agencies and local governments contribute towards delivery of the 16 NKRAs through their respective Sector Key Result Areas (SKRAs), and *Dzongkhag* Key Result Areas (DKRAs). The performance is monitored through clear measurable Key Performance Indicators (KPIs) at the national, sector and local government levels.

4.2.1 Sustainable and equitable socio-economic development

The key result areas under this pillar are sustained economic growth, reduce poverty and achieve MDG Plus targets, food secure and sustained and ensure full employment. The KPIs are as follows:

Table 4.1 - NKRAs under Sustainable and equitable socio-economic development

GNH Pillars	National Key Result Areas	Key Performance Indicators	Baseline	Target	
Sustainable and Equitable Socio-Economic Development	1. Sustained Eco. Growth	Annual average GDP growth	8-9 %	>10%	
		Percentage of domestic financing to total expenditure	65%	>85%	
		Annual average fiscal deficit over plan period	0.3%	<3 %	
		Consumer Price Index	8.37%	7-8%	
		Priority sector lending	TBD	TBD	
		Exports (without electricity) Nu. In billions	15 (2012)	>28 (2017-18)	
	2. Poverty Reduced & MDG Plus achieved		Income poverty reduced	12 % (2012)	<5 %
			Multidimensional poverty reduced	25.8% (2010)	< 10 %
			Gini Coefficient reduced	0.36 (2012)	<0.3
			IMR per 1000 live births	47	<20
			MMR per 100,000 live births	255	<100
			US MR per 1000 live birth	69	<30
			Percentage of rural pop with access to improved drinking water supply (%)	94.1%	near 100%
			Percentage of rural pop with access to improved sanitation (%)	51	>80
			Malaria incidence per 10,000 population	10	<3.5
			TB treatment success rate	90%	>90%
			Severe mental distress (GNH Index 2010)	5%	<5 %
			Adjusted Primary Net Enrolment Ratio (6-12 yrs old)	i) APNER = 98% (M 97% & F 98%) ii) NER 96% (M 95 & F 96)	i) APNER 100%-M/F ii) NER 98% - M/F
			Basic Net Enrolment Ratio (13-16yrs old)	94% (F 96% & M 93%)	>96% (M/F)
			Ratio of females to males in tertiary education	71.00%	>90%
			GER at tertiary level (19-23yrs) M/F	18%	>35%
			% of people with adequate housing quality sustained (corrugated galvanized iron (CGI) or concrete brick or stone for roofing, pit latrine with septic tank for toilet and two persons per room for overcrowding) - GNH Index 2010	74.20%	>74.2%
			% of Household with per capita income per person per month of 1.5*Nu. 1096.94/- or more (GNH Index 2010 -)	53.40%	>53.4 %
	3. Food secure and sustained		Cereal self sufficiency* (%)	64 (2011)	>75
			Stunting (Height for age) %	33.5 % (2010)	<30 %
			Milk Self Sufficiency* (%)	90 (2011)	100
	4. Employment		Full employment	97.9%	>97.5%
			Youth unemployment reduced	7.3%	<2.5%
			% of regular paid employee	23.9%	>40%
			Long term/chronic unemployment reduced	na	TBD

The KPIs for **NKRA 1 - Sustained Economic Growth** – are as follows:

- i) *Annual average GDP growth rate sustained* - over the five year period the target is to achieve growth rate of 10 percent or more from about 8 percent in 2012;
- ii) *Percentage of domestic financing to total expenditure enhanced* – Currently, about 60 to 65 percent of the total expenditure is funded through domestic revenues. The target is to increase domestic financing to total expenditure to 85 percent or more by 2017-18. The present Eleventh Plan fiscal projections indicate coverage of about 75 percent in 2017-18, with expenditure projections of Nu. 60 billion against domestic revenue projections of Nu. 45 billion. For additional 10 percent, efforts to enhance domestic revenue or rationalize expenditures (particularly recurrent) will be necessary.
- iii) *Annual average fiscal deficit over the plan period sustained* – In the past plans, the annual average fiscal deficit of 5-6 percent of GDP was projected. In the Tenth Plan, fiscal deficit of Nu. 15.193 billion or 6.76 percent of GDP was projected against which the actual outcome was an average of 0.3 percent of GDP over a five year period. In the Eleventh Plan, average fiscal deficit of less than 3 percent of GDP is projected considering the present economic situation and to avoid crowding out of private sector borrowings from domestic financial institutions.
- iv) *Consumer Price Index sustained* – inflation, measured in terms of consumer price index, is targeted to be maintained around 7-8 percent over the Eleventh Plan period.
- v) *Priority sector lending enhanced* – This KPI was identified to ensure lending to productive sectors. The target will be decided based on the priority sectors to be identified by the government.
- vi) *Exports without electricity increased* – Exports without electricity will be tracked to enhance economic diversification. Accordingly, the target is to double exports without electricity from Nu. 15 billion in 2012 to Nu. 28 billion by 2017-18.

The KPIs for **NKRA 2 – Poverty Reduced and MDG Plus Achieved** – are as follows:

- i) *Income poverty reduced* – The income poverty will be reduced from 12 percent in 2012 to less than 5 percent by 2017-18.
- ii) *Multidimensional poverty reduced* – With data on multidimensional poverty now being available, poverty reduction will also be tracked on multidimensional basis (health, education and living standards). The target will be to reduce multidimensional poverty from 25.8 percent to less than 10 percent by 2018.
- iii) *Gini-coefficient reduced* - will be used to monitor inequalities. The target is to reduce from 0.36 in 2012 to 0.3 by 2017-18. Gini-coefficient usually ranges from 0.2 to 0.5. Even the most equal countries like Norway, Denmark, Sweden and Finland have a Gini coefficient of about 0.24 to 0.26.
- iv) *MDG Plus achieved* indicators are for the health and education sectors. In the area of health, the targets are to significantly reduce infant mortality rate, under five mortality rate, maternal mortality rates, incidence of tuberculosis and malaria and improve coverage of clean drinking water and improved sanitation. In the education sector, the main focus will be to ensure gender parity at tertiary levels, as Bhutan has already achieved the target for gender parity at primary and secondary school levels. The target set is at least 90 percent from the current 71 percent female to male in tertiary education. In terms of school enrollment rates the target is to achieve close to 100 percent by 2018.
- v) In addition to the above KPIs, poverty reduction will also be assessed based on the GNH Index. The quality of housing and household per capita income reported by the GNH Index will be tracked.

The KPIs for **NKRA 3 – Food Secure and Sustained** – are as follows:

- i) *Cereal self-sufficiency enhanced* - Cereal sufficiency will be enhanced from 64 percent in 2011 to 75 percent by 2017-18. Disaggregated targets for production of rice, maize, wheat etc are kept under RNR Sector’s key result areas.
- ii) *Milk sufficiency enhanced* – The target is to increase from 90 percent in 2011 to 100 percent sufficiency.

- iii) *Stunting reduced* – The Bhutan Multiple Indicator Survey 2010 reports prevalence of moderate and severe stunting among 33.5 percent of the children under five, a reflection of chronic malnutrition. The critical window for a child’s optimal physical and mental growth and development is the first 33 months, from the time it is in its mother’s womb (9 months) and till it reaches two years of life. Thereafter, it is irreversible and stunted children grow up to be stunted adults with reduced physical and cognitive capacity. This could lead to poor health, impaired educational attainment, reduced work productivity and lower wage earning potential throughout one’s life.

The target for the Eleventh Plan is to reduce stunting from 33.5 percent in 2010 to less than 30 percent by 2017-18.

The causes for chronic malnutrition are many and complex, therefore multi-sectoral coordinated efforts will be vital to address the issue, particularly that of the Ministries of Agriculture and Forest, Health, and Education.

The KPIs for **NKRA 4 – Full Employment** – are as follows:

- i) *Full employment achieved* - The target is to ensure full employment defined as employment of 97.5 percent or unemployment of 2.5 percent. The baseline is higher than the plan target as unemployment in 2012 was 2.1 percent below the definition of full employment.
- ii) *Youth unemployment reduced* - Among the unemployed, youth unemployment is high at 7.3 percent in 2012. The target is to ensure full employment to youth or reduce youth unemployment from 7.3 percent in 2012 to 2.5 percent by 2018.
- iii) *Percentage of regular paid employee increased* - Labour Force Survey 2012 reports that only 23.9 percent of those employed fall under the regular paid employee status. Further, females under this category are much lower at 6.1 percent as compared to males (17.8 percent). The target is to increase the proportion of regular paid employees to about 40 percent. This is an ambitious target but needs to be pursued to ensure income, social security and gender equality.
- iv) *Long term/chronic unemployment reduced* – long term or chronic unemployment is normally defined as unemployment lasting for longer

than one year (EU Statistics) or 27 months (United States Bureau of Labor Statistics). In Bhutan, some of the unemployed choose to remain voluntary unemployed, particularly youth, till they get the job of their choice due to strong social support of family and relatives. Therefore, the target is to track those actively looking for work but have remained unemployed over a longer period of time. However, due to lack of data the target is yet to be decided. Data on chronic unemployment will be collected and tracked during the Eleventh Plan.

4.2.2 Preservation and promotion of culture

The key result areas under this pillar are strengthened Bhutanese identity, social cohesion and harmony and indigenous wisdom, arts and crafts promoted for sustainable livelihoods. The KPIs are as follows:

Table 4.2 - NKRA under Preservation and Promotion of Culture

SIXTEEN NATIONAL KEY RESULT AREAS AND KEY PERFORMANCE INDICATORS (NKRA/KPIs)				
GNH Pillars	National Key Result Areas	Key Performance Indicators	Baseline	Target
Preservation and Promotion of Culture	5. Strengthened Bhutanese Identity, social cohesion and harmony	Cultural diversity & resilience Index sustained (GNH 2010 Index)	0.074/0.11	0.074/0.11
		Community Vitality Index sustained (GNH 2010 Index)	0.088/0.11	0.088/0.11
		GNH Index 2010 sustained	0.743	>0.743
	6. Indigenous wisdom, arts and crafts promoted for sustainable livelihood	No. of rural households engaged in cultural industries	208	2000
		No. of jobs created by cultural industries	1200	2500

The KPIs for **NKRA 5 – Strengthened Bhutan Identity, Social Cohesion and Harmony** – are the following 3 GNH Index KPIs:

- i) *Cultural diversity & resilience Index sustained* – covers cultural participation, artistic skills, native language and *Driglam Namzha*. The target is to sustain sufficiency at 0.074 or more from maximum score of 0.11 (1/9 as all nine domains are weighted).
- ii) *Community Vitality Index sustained* – includes donation, community relationship, family relationship and safety. The target is to sustain at 0.088 or more from maximum score of 0.11 (1/9 as all nine domains are weighted).
- iii) *GNH Index 2010 sustained* – the target is to sustain GNH Index at 0.743 or more.

The KPIs for **NKRA 6 – Indigenous Wisdom, Arts and Crafts Promoted for Sustainable Livelihoods** – are as follows:

- i) *Number of rural households engaged in cultural industries increased* – The target is to increase from 208 households to more than 2,000 households by 2017-18.
- ii) *Number of jobs created by cultural industries increased* – The target is to increase from 1,200 to more than 2,500 jobs by 2017-18.

4.2.3 Conservation and sustainable utilization of environment

The key result areas under this pillar are carbon neutral, green & climate resilient development, sustainable utilization and management of natural resources, water security and improved disaster resilience and management mainstreamed. The KPIs are as follows:

Table 4.3 - NKRA under Conservation and Sustainable Utilization of Environment

GNH Pillars	National Key Result	Key Performance Indicators	Baseline	Target	
Conservation & Sustainable Utilization and Management of Environment	7. Carbon neutral/Green & climate resilient development	Green House Gas Emission controlled	1559.56 Gg CO ₂	< 6309.6 Gg CO ₂	
		Ambient air quality sustained or reduced	Ambient Air Quality national standard 2010.	Ambient Air Quality Standards revised as per national circumstances.	
		Perception of Ecological issues (GNH Index) sustaine	69%	69%	
	8. Sustainable utilization and management of Natural Resource	Proportion of forest area under sustainable forest management		6.60%	>12%
		Ecological footprint	N/A		Study to establish baseline & targets conducted.
		Population Status of umbrella species (Tiger)		155	>155
		24 hour availability of drinking water		N/A	100%
	9. Water Security	Ambient Water quality maintained within national standards		Ambient Water Quality Standards 2010	Ambient Water Quality Standards revised to include new parameters of total hardness, grease and oil.
		Long term mean annual flow of the entire country		73,000 million m ³	73,000 million m ³
	10. Improved disaster resilience and management mainstreamed	No of disaster response teams trained and equipped in DM.		1 (NaSRT)	20 Dongkhags
Response time (no. of hours within which emergency response time reaches site of disaster)			N/A	Within 2 hours of disaster	

The KPIs for **NKRA 7 – Carbon Neutral/Green & Climate Resilient Development** – are as follows:

- i) *Green House Gas Emission controlled* – the baseline of 1559.65 Gg CO₂ is based on 2000 status. The target is to maintain GHG less than 6,309.6 Gg CO₂.

- ii) *Ambient air quality maintained* – The baseline is the 2010 national standard. The target is to revise ambient air quality standard to include new parameters PM 2.5, Ozone and CO.
- iii) *Perception of ecological issues (GNH Index) sustained* – 2010 GNH survey reports that 69 percent of those surveyed did not see pollution as a major concern. The target is to sustain or increase the perception.

The KPIs for **NKRA 8 – Sustainable Utilization and Management of Natural Resources** – are as follows:

- i) *Proportion of forest area under sustainable forest management increased* – target is to increase from 6.6 percent to 12 percent by end of the plan period.
- ii) *Ecological footprint sustained* – is an accounting tool that measures how much biologically productive land and sea is used by a given population or activity, and compares this to how much land and sea is available. The target over the next five years is to conduct a study to establish a baseline and target for the future.
- iii) *Population Status of umbrella species (Tiger) maintained* –The richness of prey species determines the health of ecosystem. The umbrella species used is tiger population and the target is to maintain 155 numbers.

Water has been given special focus in the Eleventh Plan in view of its importance for the basic survival of all living beings and for our hydroelectric projects and agriculture. According to the Bhutan Environment Outlook 2008, Bhutan has the one of the world's highest per capita availability of water with long-term mean annual flow estimated at 73,000 million m³ per annum and the per capita water availability estimated at 100,000 m³. However, shortage of drinking water is a major problem in many *Dzongkhags* and towns. The National Environment Commission is conducting the first ever water resource inventory in the country to assess the state of water availability and water sources. The findings from the assessment will be incorporated and the KPIs for water security updated in the course the Plan.

The performance under **NKRA 9 – Water Security** – will be assessed through the following 3 KPIs.

- i) *24 hour availability of drinking water ensured* – The target is to ensure all settlements have 100 percent water supply 24 hours a day.
- ii) *Ambient Water quality maintained* – The baseline is 2010 national standards. Currently, besides dissolved oxygen, other parameters of pH, Total Suspended Solids (TSS), Conductivity, Biochemical Oxygen Demand (BOD), T. Coliform, F. Coliform, Lead, Arsenic and copper are also tested in the lab to monitor the quality of water. The target is to increase parameters of total hardness, ammonia and oil grease, which are very important for monitoring industries and automobile workshops.
- iii) *Long term mean annual flow of the entire country sustained* – Based on studies carried out in 2002 by the Department of Energy and NorConsult for preparation of Water Resources Management Plan the long term mean annual flow of the entire country was estimated to be 73,000 million m³. The target is to maintain mean annual flow and be a reflection of our efforts particularly in watershed management.

The KPIs for **NKRA 10 – Improved Disaster Resilience and Management Mainstreamed** – are as follows:

- i) *Number of disaster response teams trained and equipped in Disaster Management increased* - Currently there is one national search and rescue team (NaSRT) the target is to institute one search and rescue team in all 20 Dzongkhags.
- ii) *Response time enhanced* (number of hours within which emergency response time reaches site of disaster) – the target is to respond within 2 hours of disaster.

4.2.4 Good Governance

The key result areas under this pillar are improved public service delivery, democracy and governance strengthened, gender friendly environment for women’s participation, corruption reduced, safe society and the needs of vulnerable groups addressed. The KPIs are as follows:

Table 4.4 - NKRA under Good Governance

GNH Pillars	National Key Result Areas	Key Performance Indicators	Baseline	Target	
Promotion of Good Governance	11. Improved public service delivery	Avg Service Delivery TAT reduced for all G2C, G2B and G2G services		<70%	
		Average performance rating of government agencies >90 %		>90 %	
	12. Democracy and Governance strengthened	Political Participation (GNH 2010 Index)	56.40%	>70%	
		% of functional Community based groups (Water User Groups, Road Maintenance Communities)	na	>90%	
		No. of functional registered CSOs	100%	100%	
		Voter Turnout sustained	Parliament 66.1 %; LG 56 %	Parliament 70 %; LG 70 %	
	13. Gender friendly environment for women's participation	Draft legislation to ensure quota for women in elected offices including the parliament and local government bodies		Legislation Drafted	
		Ratio of female to male in tertiary education	71%	>90%	
		Female youth unemployment	7.20%	<2.5 %	
		Agencies with gender sensitive policies/gender mainstreaming strategies	N/A	>20	
	14. Corruption Reduced	Corruption Perception Index - Transparency International	33/176 (2012)	< 20	
		No of agencies reporting on implementation of anti corruption strategy		All	
	15. Safe Society	Nationwide reported crime (annually) by category, age group and gender;	7/1000	<5/1000	
		% of people who feel safe (GNH Index 2010)	81%	>81%	
	16. Needs of Vulnerable Group addressed	Establishment of baselines and targets for emerging issues	Baseline and targets established.		

The KPIs for **NKRA 11 – Improved Public Service Delivery** – are as follows:

- i) *Average Service Delivery Turn-Around Time (TAT) reduced for all G2C, G2B and G2G services* – the target is to reduce the turnaround time for Government to Citizen, Government to Business and Government of Government services by 70 percent. Use of mobile technology where feasible will be adopted.
- ii) *Average performance rating of government agencies enhanced* – the target is to ensure all central and local government performance is greater than 90 percent. The Government Performance Management System (GPMS) will be introduced to measure government performance.

The KPIs for **NKRA 12 – Democracy and Governance Strengthened** – are as follows:

- i) *Political participation sustained* – This indicator is adopted from the GNH Index. The target is to achieve at least 70 percent or more. The questions related to this indicator during the 2010 GNH Survey were whether individuals would vote in the upcoming general elections, and participation in at least one “Zomdue”.
- ii) *Percentage of functional community based groups maintained* – A

functional and active community groups such as the water user groups and road maintenance communities are effective means of strengthening democracy and governance at community levels. The target is to ensure that 90 percent of such groups are functional and effective at community levels.

- iii) *Number of functional registered CSOs ensured* – the target is kept at 100 percent to ensure all registered CSOs are functional and active.
- iv) *Voter turnout sustained* – the baseline is based on 2013 parliamentary elections and for local government 2011 elections. The target is to ensure at least 70 percent voter turnout.

The KPIs for **NKRA 13 – Gender Friendly Environment for Women’s Participation** – are as follows:

- i) *Draft legislation to ensure quota for women in elected offices including the parliament and local government bodies* – the target is to draft legislation and present it to the Parliament.
- ii) *Ratio of female to male in tertiary education increased* –The target is to increase ratio of females to males in tertiary education from 71 percent to at least 90 percent by 2017-18.
- iii) *Female youth unemployment reduced* – the target is to ensure full female youth employment of 97.5 percent or reduce female unemployment from 7.2 percent to less than 2.5 percent.
- iv) *Agencies with gender sensitive policies/gender mainstreaming strategies increased* – the target is to ensure that at least 20 percent of the agencies implement gender sensitive policies and adopt gender mainstreaming strategies.

The KPIs for **NKRA 14 – Corruption Reduced** – are as follows:

- i) *Corruption Perception Index improved (Transparency International)* – the target is to improve Bhutan’s ranking of 33 out of 176 countries in 2012 to top 20.
- ii) *Number of agencies reporting on implementation of anti corruption strategy* – all agencies.

The KPIs for **NKRA 15 – Safe Society** – are as follows:

- i) *Nationwide reported crime (annually) by category, age group and gender reduced* – currently crime reported is 7 per 1,000 population, the target is to bring it down to 5 per 1,000 population.
- ii) *Percentage of people who feel safe sustained* – The indicator is adopted from the GNH Index 2010. The target is to sustain at 81 percent or more.

The KPIs for **NKRA 16 – Needs of Vulnerable Group Addressed** – are as follows:

- i) *Establishment of baselines and targets for emerging issues* – Carry out a comprehensive study to determine baselines and targets for emerging issues.

Currently, there is no agency within the government catering to the needs of the small but growing numbers of vulnerable people. Therefore, the government will be partnering closely with relevant CSOs to realize this national key result area.

The 16 NKRA's have been formulated based on the four pillars of GNH to ensure that development is holistic and sustainable and other important aspects of development such as our cultural, environment and good governance are not compromised in pursuit social and economic development. Therefore, cross-cutting issues like gender, environment, disaster management, climate resilient development, poverty, culture and governance have all been identified as national key result areas in the Eleventh Plan.

4.3 Sector and Dzongkhag Key Result Areas (SKRAs/DKRAs)/ Key Performance Indicators (KPIs)

To achieve the 16 NKRA's, Sector Key Result Areas (SKRAs) and *Dzongkhag* Key Result Areas (DKRAs) with their respective KPIs have been defined for each sector and *Dzongkhag*. These have also been formulated based on the four pillars of GNH to ensure that all sectors contribute towards strengthening them. The SKRAs, DKRAs and their KPIs, will be the basis for monitoring the performance of various sectors and local governments in the Eleventh Plan. They are discussed in detail under Chapters 5 and 6 on sector and local government plans respectively.

4.4 Strategic Thrust Areas

Towards achieving the NKRA and KPIs, the main strategic thrust will be on i) inclusive social development, ii) accelerated green economic development and iii) strategic infrastructure development.

4.4.1 Inclusive Social Development

While at the national level our poverty and social indicators have improved significantly, disparities exist among *Dzongkhags*, *Gewogs*, gender and area of residence. To ensure regional balance and equity, inclusive social development has been identified as one of the thrust areas.

The main focus of this thrust area will be to further reduce poverty both in terms of income and multidimensional poverty, address emerging social issues (issues related to the elderly, youth, single parents, differently-abled persons, safety etc.), and improving social outcomes.

The key performance indicators for this thrust area are Poverty Reduction and Millennium Development Goals Plus (MDG +), with targets comparable to those of developed countries. Other indicators include income poverty and multidimensional poverty reduction targets; gini-coefficient target to measure inequalities and improved health and education targets. The targets, wherever feasible and relevant, will be monitored at disaggregated levels (such as by region, area of residence, and gender) to ensure inclusiveness.

Ensuring inclusive development requires that we overcome weaknesses in our current broad based national level programmes that often miss out the most vulnerable and isolated sections of our population. As such, the key programmes for inclusive social development are:

- **Rural Economy Advancement Programme (REAP)** seeks to target extreme poverty in rural areas by identifying the poorest and remote villages, which will otherwise not be addressed through broad-based development programmes. The focus is on securing sustainable livelihoods through programmes that emphasize diversifying crop cultivation to enhance food security and nutritional intake, generating supplementary income through skills development in non-farm livelihood activities, and building social capital through formation of self-help groups for mutual collaboration.

The beneficiary villages were selected based on the village poverty profile submitted by the *Dzongkhags*. The targeted poverty intervention programme is formulated based on the socio-economic surveys of the village carried out by the GNHC. REAP Phase I was implemented during the Tenth Plan where targeted support was provided to the villages of Thangdokha, Dramekha and Ngatsena in Haa; Sanu Dungtoe in Samtse, Mandokha and Choleykha in Chhukha; Lopokha (additional villages of Shoba, Nazhina, Lawa, Lamga, Megteyna, Samthang and Rukha under Athang Gewog benefited under the eco-tourism activities) in Wangduephodrang; Lauri in Samdrupjongkhar; Ungar in Lhuentse; Samcholing in Trongsa; Reti in Sarpang; Lamtang in Zhemgang and Pam & Chaibi in Mongar. An evaluation of REAP I is currently being conducted and will inform the next phase of REAP II which will be implemented in the Eleventh plan. About 109 poorest villages have been identified across all twenty *Dzongkhags*. At the same time, efforts are being made to identify and formulate special poverty alleviation interventions for all the households living under the poverty line.

- **National Rehabilitation Programme (NRP)** is a programme initiated and spearheaded by the Office of Gyalpoi Zimpon in collaboration with a number of government agencies. The main objective of the programme is to reduce poverty by enhancing the productive asset base of the beneficiaries through provision of adequate land, transitional & livelihood support and socio-economic facilities.

The beneficiaries include the landless and socio-economically disadvantaged groups. Under the programme, the beneficiaries are provided with a minimum of 0.5 acres of land as residential land and a maximum of 5 acres (including residential land) depending on criteria such as: family size; number of domicile members; number of able bodied persons; land capability; distance to urban centre; and type of urban centre. In addition, transition support such as temporary shelter, essential food supplies in the initial phase of resettlement, agricultural inputs, health and education services, income generating support for sustainable livelihoods and housing construction support are provided.

The programme was initiated in the Tenth Plan and till date NRP at Khenadrang, Pemagatshel with 44 households has been completed. Rehabilitation programme at Nye, Lhuentse (55 households); Bebji, Haa

(83 households); Borangmo, Nganglam (51 households) and Dawathang, Samdrup Jongkhar (31 households) are ongoing while feasibility studies and planning for Serzhong (Tsirang) and Tanzama (Nganglam) respectively, have been initiated.

- **Local Government Empowerment Programme (LGEP)** to enhance decision making capacity and improve service delivery through provision of essential equipment, machinery, Nu. 2 million per year per *Gewog* and other common resources.
- **Special Programme for vulnerable groups** – caters to the needs of vulnerable groups such as senior citizens, single parents, differently-abled persons, and vulnerable children and youth. A study will be conducted to determine the baselines and targets based on which appropriate interventions will be formulated.
- **Targeted Health and Education Interventions** - to improve health and education outcomes, including through innovative mechanisms to reach the unreached, will be developed for *Dzongkhags* with poor health and education outcomes. Rationalization and consolidation of education facilities will be explored to improve teacher to pupil ratio, educational facilities, address issues of informal boarding and for optimum utilization of resources. Similarly, in the health sector, programmes to reduce waiting time by improving doctor to patient ratio, improving medical facilities, and enhance the use of IT enabled services will be pursued.

4.4.2 Green Accelerated Economic Development

Our economy is predominantly driven by the hydropower sector, is highly aid dependent and heavily reliant on imports for both consumption and capital goods needs. The government continues to play the role of “provider” rather than “enabler” due to a small and underdeveloped private sector despite more than two decades of “private sector development as an engine of economic growth” slogan. Therefore, the emphasis of this thrust area will be economic diversification with a focus on development of non-hydropower sectors and fostering the growth of a dynamic private sector that catalyzes a transition to a green economy. Key attributes of a green economy include low carbon emissions, efficient and sustainable resource use, and socially inclusive economic growth and investments, which are closely aligned with our development planning framework.

The performance under this thrust area will be broadly assessed against the achievement of the Eleventh Plan goal of Self-Reliance as defined above. Key performance indicators to gauge our performance under this thrust area include annual economic growth, fiscal deficit, inflation, priority sector lending, exports, employment, food self-sufficiency and total expenditure financed through domestic revenue. However, in keeping with international best practices, these indicators will be adjusted using the GNH Policy Screening tool, GNH Index and Strategic Environment Assessments (SEAs) to incorporate broader environmental and social criteria which are critical for achieving the objective of a transition to a green economy.

The main programmes for this thrust area include:

- **Economic Stimulus Programme-** Economic Stimulus Programme of Nu. 5 billion will be implemented to inject liquidity in the financial institutions to address the present credit crunch problems and make finances available for productive sectors.
- **Rapid Investment in Selected Enterprises (RISE) Programme** – The flagship programme to accelerate economic growth and achieve the objective of self reliance will be the RISE programme. The Government, in consultation with the relevant stakeholders, will identify 4-5 non-hydro priority sectors for end-to-end intervention in the Eleventh Plan. The selection of priority sectors will be based on three filters of i) employment generation, ii) revenues to the government, and iii) returns to the entrepreneurs. Tentatively, the sectors identified are tourism, agro-processing, construction, small and cottage industries including cultural industries such as textiles, arts and crafts and manufacturing/mining.
 - The focus of **Tourism sector** will be to achieve higher yields per tourist as well as double the arrivals but spread across the country and throughout the calendar year. The initiative will emphasize on strengthening tourism governance, developing new products, facilitating development of tourist infrastructure/amenities in south, central and eastern Bhutan and aggressive destination promotion and marketing with the aim of ensuring at least 20 percent of the tourists visit eastern part of the country.
 - The emphasis will be on developing **Agro-processing** industries particularly cottage, small and medium type industries aimed at improving farmers' income, import substitution and export promotion, promoting commercial farming and employment.

- The interventions will be directed towards making **Construction sector** an attractive sector for employment. With seven new mega hydroelectric projects scheduled to start construction in the Eleventh Plan, the sector provides an excellent opportunity to realize the goal of full employment. However, many of these jobs are manual in nature and currently filled by foreign workers as Bhutanese youth prefer white collar jobs. Therefore, efforts to mechanize the construction industry, improve working conditions and facilitate better remunerations through initiatives that enhance productivity (such as specialization, multi-skilling and multi-tasking) will be pursued to attract more youth to seek jobs in the construction sector. In addition, improving the quality of construction industry through innovative construction technology, promoting use of local materials to reduce imports of construction materials and capacity strengthening of local construction industries to participate in large infrastructure projects will be undertaken.
- With the aim to provide a platform for the promotion and preservation of our cultural identity and an alternate source of livelihood especially for the rural communities the development of **Small and Cottage Industries including Cultural industries** will be promoted. The focus will be on creating an enabling environment such as access to finance, starting a business, raw material availability and market. The support in terms of product development, quality assurance and capacity building of artisans and craftsmen in textiles and arts and crafts will be provided.
- To accelerate economic diversification, promote exports and generate employment opportunities, sustainable development of the **manufacturing and mining sector** will be prioritized. Efforts to improve the climate for doing business will be intensified through legislation and policy support. Addressing issues such as access to finance particularly for Small and Medium Enterprises (SMEs), excise refund, credit rating for Bhutan, reduction in turn-around-time for Government to Business (G2B) services and development of capital markets will be given priority. Development of strategic infrastructure such as dry ports, industrial parks, and improving air transport will be accelerated.

Further, to maximize the benefits of additional firm power that will be available with the commissioning of three new hydropower projects towards the end of the Eleventh Plan and to enhance scale and

competitiveness of our products as well as to ensure it is clean and green, the establishment of large industries will be explored instead of large number of small manufacturing companies.

A detailed blue print of interventions will be developed with clear initiatives, time line, targets, resource requirements and persons accountable to deliver the initiatives. The implementation of the programme will be rigorously monitored by the Cabinet and Committee of Secretaries and problem solving sessions facilitated to expedite smooth implementation of the programme.

- ***Optimizing Opportunities of Accelerated Hydropower Development*** – With three new hydropower projects under construction and seven new projects scheduled to start construction during the Eleventh Plan there are ample economic, social and environmental opportunities offered by accelerated development of hydropower projects. The economic opportunities such as enhancing the local trade and commerce, greater participation of Bhutanese private sector, greater employment opportunities, aligning of project’s environmental and corporate social responsibilities with the community’s needs and the local government’s plans will be optimized.
- ***Enabling environment*** – The enabling environment for businesses will be improved through simplification of procedures; enhancing efficiency in reviewing, streamlining and enforcing legislation, policies, rules and regulations; and facilitating infrastructure investments such as surface and air transport, dry ports and industrial parks.

4.4.3 Strategic Infrastructure Development

To complement efforts under inclusive development and green accelerated economic development, the thrust area on strategic infrastructure development will focus on developing economic, social and cultural infrastructures which are critical to achieving the Eleventh Plan goals and objectives.

The overall key performance indicator for this thrust area will be Balanced Regional Development, which is to ensure that development is spread equitably across the country. Some of the major activities include:

- ***Urban infrastructure*** – With the aim of boosting socio-economic development in the eastern region and to provide alternatives to Thimphu

and Phuentsholing for rural-urban migration, the development of up to 2 regional hubs (tentatively Kanglung and Nganglam) will be explored. The location of a regional hub is based on a set of criteria that includes economic potential, existing socio-economic facilities, land availability, and water. Besides regional hubs, focus will be on improving urban infrastructure facilities and services (water supply in particular) in *Dzongkhag* headquarters and towns and development of human settlement plans based on the concept of green cities and valley planning.

- **Transport infrastructure** – Under transport infrastructure, construction and improvement of national highways, road connectivity to hydropower projects, blacktopping of selected *Gewog* Connectivity (GC) roads, strengthening of air transport facilities and feasibility of alternate modes of transport such as ropeways, railways and waterways will be explored.
- **Communication infrastructure** – The focus will be on strengthening the ICT infrastructure facilities such as national data centre, government intranet system, fibre optic connectivity and facilities for G2C, G2G and G2B services.
- **Energy infrastructure** – includes the accelerated development of 10,000 MW of hydropower, construction of transmission lines and substations, and expansion of rural electrification.
- **Economic infrastructure** – To facilitate private sector development, economic infrastructure such as the dry ports in Phuentsholing and Jigmeling/Nganglam and four industrial parks (Bondeyma in Mongar *Dzongkhag*, Dhandhum in Samtse *Dzongkhag*, Motanga in Samdrup Jongkhar *Dzongkhag* and Jigmeling in Sarpang *Dzongkhag*) will be developed.
- **Social/Cultural infrastructure** – Schools, hospitals, institutions and important historical and cultural monuments will be renovated, reconstructed and constructed. Some of the major educational infrastructure includes school consolidation, Centenary Institute of Education etc. Under health new hospitals in Gelephu, Samtse, Thimphu, Deothang and Tsirang will be constructed. The cultural infrastructure includes reconstruction/ construction of *Dzongs* in Wangdue Phodrang, Trashigang, Sarpang, Pemagatshel, Gasa, Lingzhi, Paro Ta *Dzong* and Phajoding Lhakang. Besides, *Anim Shedra* in Gyelposhing, two new *Zhirim Lobdras* and construction of Tango Buddhist College are included.

4.5 Monitoring and Evaluation

The monitoring and evaluation of the Eleventh Plan will be based on the National Monitoring and Evaluation System (NMES). The NMES comprises the monitoring and evaluation institutional set-up and procedures and the Planning & Monitoring system (PlaMS) - a web-based computerized system. The monitoring and evaluation institutional set-up and procedures are described in the Monitoring and Evaluation (M&E) Manual 2006. The manual will serve as a guide for ministries, agencies, *Dzongkhags* and *Gewogs* in undertaking systematic monitoring and evaluation of their plans and programs. The M&E Manual 2006 will be revised during the Eleventh Plan to incorporate changes that have taken place, particularly with the introduction of Integrated Planning and Monitoring System.

While the monitoring of plans has been actively pursued and adequate systems and capacities developed over the years, very little progress has been made in institutionalizing the evaluation aspect. Currently, evaluations are mostly limited to donor funded programmes and projects as part of project agreement requirements. Therefore, recognizing the importance of evaluation for evidence based planning and programming and the need to institutionalize an internal demand for it, the evaluation protocol and guidelines have been drafted by GNHC Secretariat in 2012. The guidelines will be upgraded to an evaluation policy in the Eleventh Plan.

4.5.1 Integrated Planning and Monitoring System

The Eleventh Five Year Plan will be monitored using the integrated planning, budgeting and expenditure management system. The Planning and Monitoring System (PlaMS) of GNHC, Multi Year Rolling Budget System (MYRB) of Department of National Budget, and the Public Expenditure Management System (PEMS) of Department of Public Accounts, Ministry of Finance have been integrated to share planning, budgeting and expenditure information for planning and monitoring purposes.

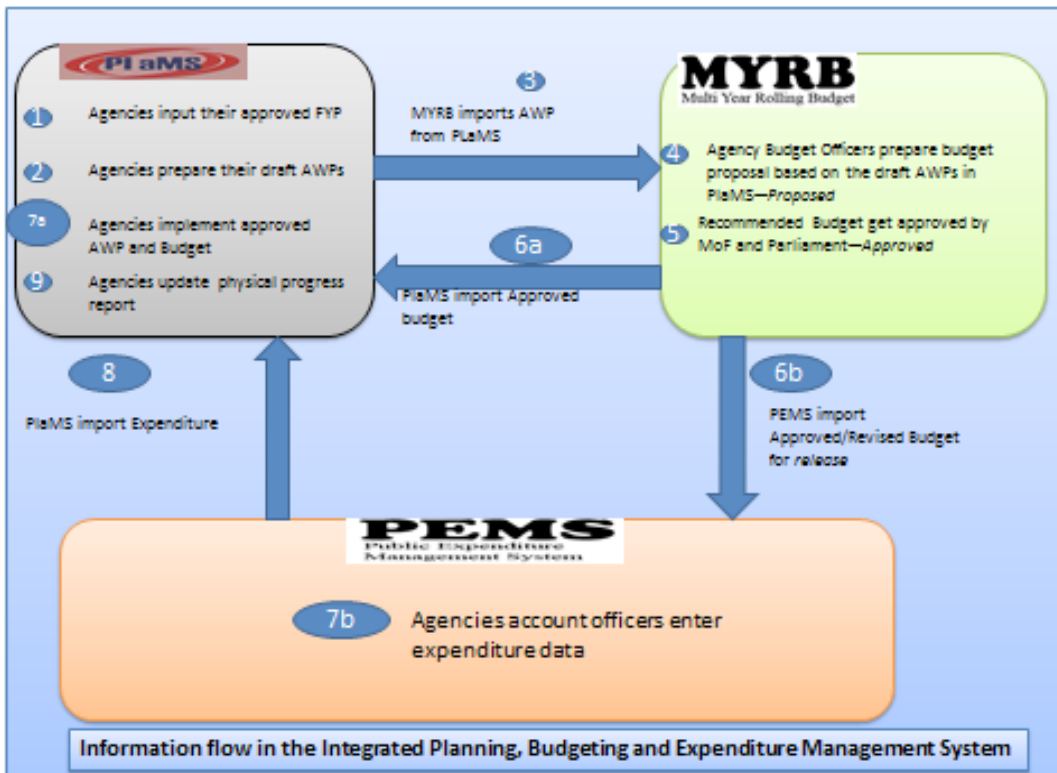
PlaMS, a web based system, is used by all the Planning Officers, Program and Project Managers of Ministries, autonomous agencies, *Dzongkhags* and *Gewogs* for managing the results based five year plan programs, preparing annual work plans based on the approved five year plans, and to track plan performance on a weekly, quarterly, semi-annual and annual basis.

MYRB is used by Budget Officers in all RGOB budgetary agencies to manage annual and rolling budgets while the PEMS is used by all the Accounts Officers in various Government agencies to manage public expenditure on a real time basis. Both the systems are web based solutions.

The use of the integrated system by all government agencies commenced from July 2013, which coincided with the start of the first fiscal year of the Eleventh Plan. The integrated system is aimed at making planning, budgeting and progress monitoring more effective and less cumbersome.

As depicted in the figure below, the integrated planning, budgeting and expenditure management system provides a powerful and comprehensive platform for results based planning and monitoring. Information on approved Five Year Plans and approved annual budget and expenditures is shared automatically in this integrated system.

Picture 4.1 – Integrated Planning and Monitoring System



4.5.2 Mid-Term Review

The Eleventh Plan will be reviewed half way through its implementation to assess progress of the Plan and to make mid-term adjustments in policies, programmes and projects and allocation of resources.

4.5.3 Round Table Meeting

The Round Table Meeting (RTM) is an important forum for interaction with our development partners on socio-economic development priorities and progress. During the Plan period, two RTMs will be held, one towards the beginning of the Eleventh Plan and another towards the middle of the Plan. The first RTM for the Eleventh Plan will be held in December 2013 to sensitize our development partners on the Eleventh Plan priorities and policies.

Besides the RTM, bilateral consultations, programme and project specific reviews, and monitoring and evaluation meetings will be held between the Royal Government and development partners as per mutually agreed timings.

CHAPTER 5
CENTRAL PLANS

5.1 Education Sector

The single most important factor towards achieving the socio-economic development goals will be the success of the education sector in enhancing the social, economic, cultural, environmental, and political capabilities of our most important asset, our people. Education virtually impacts all dimensions of development and is critical for ensuring sustainable poverty alleviation which can only come through the empowerment of our people, particularly the remote and most vulnerable sections of our population. An educated citizenry that is able to understand, translate and act upon information, laws, rights and responsibilities is critical for ensuring a “vibrant democracy” and effective governance. Similarly, the realization of our vision of a “knowledge based society” is absolutely dependent on a technically skilled workforce with competencies benchmarked to leading industry standards and capabilities to think globally but act locally. Recognizing this, the education sector continues to remain a strategic priority for the Royal Government and will be given further impetus in the Eleventh Plan.

Education in Bhutan comprises early childcare development, primary and secondary education, special education for the physically and mentally challenged, non-formal and adult education, monastic education, vocational and technical education and training (TVET) and higher or tertiary education. The responsibility for the administration of education in Bhutan is shared amongst the Ministry of Education (MoE), the Ministry of Labour and Human Resources (MoLHR), the Royal University of Bhutan (RUB), and the local governments. Provision of monastic education is facilitated by the central monastic body and privately managed independent monasteries. Although education plans are centrally coordinated, their implementation has largely been decentralized to local governments, schools and institutions to ensure greater autonomy, accountability and dynamism to achieve desired educational outcomes.

The school-based education structure comprises of 11 years of free basic education from classes Pre Primary to X, divided into 7 years of primary education (PP-VI), starting at the age of 6, and 4 years of Secondary Education (VII-X). At the end of the cycle (Class X) there is a national board examination, Bhutan Certificate for Secondary Education (BCSE). Beyond class X, government funded education is based on merit.

The Bhutan Council for School Examinations and Assessment (BCSEA) conducts the national examinations for classes X and XII. The examinations for classes VI and VIII

have been decentralized to the schools, although the questions, model answers and marking schemes are provided by the BCSEA.

The TVET system comprises of 8 institutes spread across the country with an intake capacity of about 1,000 students a year and 138 teachers. Programmes offered vary from 6 months to 2 years at the certificate level in courses ranging from electrical, mechanical, construction engineering, auto-mechanics, driving, computer hardware, carpentry, furniture making. The two institutes of Zorig Chusum provide 2-6 year programmes in the 13 traditional arts and crafts. These institutes generally cater to students or school leavers after Class X with the objective of imparting knowledge skills necessary to make them employable in the labour market.

Tertiary education in Bhutan comprises of three years of undergraduate studies provided by the Royal University of Bhutan (RUB) through its 10 constituent colleges located in various parts of the country and one private college, the Royal Thimphu College. The current total intake of RUB is about 9,000 students. Undergraduate degree and diploma programmes include civil, mechanical, computer and electrical engineering, natural resources, language and cultural studies, education, traditional medicine, nursing and health science, business and commerce, sciences, and liberal arts studies. In addition the Royal Institute of Management provides post-graduate diploma and diploma programmes ranging from 1 to 2 years in management and development, finance and business, ICT, and law. It recently introduced post graduate degree courses in public administration and management.

The Monastic body reports that there are 7,240 monastic novices in 388 monastic schools and 3 nunneries across Bhutan. This enrolment is significantly lower than the one reported for 2006, which was 9287.

Table 5.1.1 – Summary of Students in Various Institutions

	Government			Private			Total		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
A	Early Childhood Care & Development								
	1,064	1,024	2,088	894	853	1,747	1,958	1,877	3,835
B (i)	School Education								
	22,878	22,493	45,371	1,086	980	2,066	23,964	23,473	47,437
	23,460	23,506	46,966	138	140	278	23,598	23,646	47,244
	19,573	20,277	39,850	663	603	1,266	20,236	20,880	41,116
	12,482	12,643	25,125	4,041	4,354	8,395	16,523	16,997	33,520
	1,572	1,470	3,042			-	1,572	1,470	3,042
	16	16	32				16	16	32
	79,981	80,405	160,386	5,928	6,077	12,005	85,909	86,482	172,391
B (ii)	Bhutanese students studying in India*								
			-	222	128	350	222	128	350
	79,981	80,405	160,386	6,150	6,205	12,355	86,131	86,610	172,741
C	Special Institutes**								
	249	175	424			-	249	175	424
D	Continuing Education								
	439	495	934	574	569	1,143	1,013	1,064	2,077
E	Tertiary Education								
	4,798	3,116	7,914	2,273	1,938	4,211	7,071	5,054	12,125
	4,473	2,938	7,411	479	489	968	4,952	3,427	8,379
	143	69	212	1,770	1,391	3,161	1,913	1,460	3,373
	182	109	291	24	58	82	206	167	373
	5,486	3,786	9,272	2,847	2,507	5,354	8,333	6,293	14,626
F	Vocational institutes								
	655	447	1,102			-	655	447	1,102
G	Monastic Education ****								
	7,240		7,240	5,149		5,149	12,389	-	12,389
H	Non-Formal Centres								
	2,435	7,193	9,628			-	2,435	7,193	9,628
I	Sanskrit Patshala								
	5	2	7			-	5	2	7
GRAND TOTAL	96,866	92,857	189,723	15,040	9,565	24,605	111,906	102,422	214,328

* The data is based on informal estimates of students studying in India. The number could actually be higher.

** All special needs children enrolled in special institute as well as in formal school 233

*** Private Tertiary enrolment in Royal Thimphu College

**** The monastic enrolment reflected under public is from 2011, the enrolment reflected under private is from 2004.

Source: Annual Education Statistics 2013, MoE.

5.1.1 Current Situation

The Ministry of Education's Annual Education Statistics 2013 reports a net primary enrollment ratio (PP to VI) of 96 percent, net basic education enrollment ratio (PP-X) of 94 percent and adult literacy of 55 percent. Evidently, with high priority accorded to the education sector, Bhutan is well on track to achieve the MDGs. In terms of the MDGs, the targets for gross primary enrolment ratios, proportion of pupils starting grade 1 who reach grade 5, and the ratio of girls to boys in primary schools and secondary schools have already been achieved while the other targets are well on track to be achieved.

According to BLSS 2012, the general literacy rate has increased from 59.5 percent in 2005 to 63 percent in 2012. Literacy is higher in urban areas at 79 percent as compared to 56 percent in rural areas. In terms of gender, literacy is higher among males at 72 percent as compared to 55 percent for females. However, the Gender Parity Index is calculated at 1.02, indicating that on the whole there is no significant gender inequality in the Bhutanese education system. Both boys and girls have equal opportunities in terms of access, quality of learning process, equality of outcomes and external results.

Table 5.1.2 - Key Education Indicators

Indicators	Male	Female	Total
Gross enrolment in ECCD	7%	7%	7%
Apparent Intake Rate (AIR)	81%	80%	81%
Net Intake Rate (NIR)	48%	48%	48%
Net Enrolment Ratio (NER) Primary	95%	96%	96%
Adjusted NER Primary	98%	99%	98.5%
Net Enrolment Ratio (NER) Basic	92%	95%	94%
Net Enrolment Ratio (NER) Secondary (Class VII-X)	82%	89%	86%
Gross Enrolment Ratio (GER) Primary	116%	116%	116%
Gross Enrolment Ratio (GER) Basic	105%	107%	106%
Gross Enrolment Ratio (GER) Secondary (Class VII-X)	86%	93%	90%
Gross Enrolment Ratio (GER) Higher Secondary	56%	54%	55%
Gross Enrolment Ratio (GER) Higher Secondary including CE	60%	59%	60%
Gross Enrolment Ratio (GER) Tertiary within Bhutan	21%	15%	18%
Gross Enrolment Ratio (GER) Tertiary within Bhutan and outside Bhutan	29%	21%	25%
Repetition Rate (Primary)	6.3%	4.7%	5.5%
Primary Completion Rate	110%	114%	112%
Survival rate to grade VI	78%	79%	79%
Survival rate to grade X	59%	62%	60%
Youth Literacy rate (15-24 years)*	90%	82%	86%
Adult Literacy (15 years and above)*	66%	45%	55%
Gender Parity Index (GPI) Primary			1.01
Gender Parity Index (GPI) Basic			1.04
Gender Parity Index (GPI) Secondary (Class VII-X)			1.08
Gender Parity Index (GPI) HigherSecondary (based on GER)			0.97
Gender Parity Index (GPI) Tertiary within Bhutan			0.70
Gender Parity Index (GPI) Tertiary within Bhutan and outside Bhutan			0.73

Source: AES 2013/NSB 2013

5.1.2 Key Challenges

Last mile challenges and disparities at local levels - The Adjusted Net Enrolment Ratio (ANER)²⁹ for primary education is 98.5 percent (2013). This indicates that 1.5 percent of primary school going age children are out of school. This 1.5 percent are assumed to be children in remote and hard to reach areas, children of nomadic

²⁹Reported NER of 96 percent does not take into account 6-12 year old children studying abroad and those in monastic schools. ANER takes into account all 6-12 year old children enrolled in the school system, including children enrolled in the monastic system and abroad.

communities, children with learning disabilities whose special learning needs are yet to be catered for and children of the urban poor.

Further, while national statistics indicate good progress in overall enrollment rates, the Bhutan Multiple Indicator Survey 2010 indicates that some disparities in achievements exist between urban and rural areas, *Dzongkhags* and genders. According to the Survey, the adjusted Net Primary Attendance Ratio (NAR) for 2010 indicates that Punakha, Chukha, Mongar, Lhuentse, Wangdue and Gasa are the six *Dzongkhags* that have the lowest adjusted NAR, significantly below the national average of 91.9 percent. Similarly, the Gender Parity Index (GPI) reveals that Pemagatshel, Trongsa, Haa, Punakha and Mongar have a variance in their GPI scores by more than 0.03 from 1.0, indicating that some inequity exist in terms of gender participation. In all of these five *Dzongkhags*, the participation level of girls in primary education significantly exceeds that of boys. However, these ratios change in favor of male children as students move to higher classes mainly due to higher drop-out rates among female students.

Table 5.1.3 – Dzongkhag-wise Net Primary Attendance Ratio (Adjusted)

Net primary attendance ratio (adjusted)				
<i>Dzongkhag</i>	Male	Female	Total	GPI
Bumthang	96.7	98.4	97.6	1.02
Sarpang	95.3	96.1	95.7	1.01
Pemagatshel	94.1	97.5	95.7	1.04
Thimphu	94.7	94.9	94.8	1.00
Trongsa	92.5	96.8	94.5	1.05
S/Jongkhar	94.0	95.0	94.5	1.01
Haa	91.3	96.6	93.7	1.06
Dagana	93.6	93.4	93.5	1.00
Trashiyangtse	93.5	92.2	92.8	.99
Tsirang	92.9	92.1	92.5	.99
Trashigang	92.4	91.8	92.1	.99
BHUTAN	91.2	92.7	91.9	1.02
Paro	90.2	93.2	91.7	1.03
Samtse	91.6	91.2	91.4	1.00
Zhemgang	88.7	91.5	90.1	1.03

Punakha	85.9	93.8	89.6	1.09
Chukha	88.5	90.1	89.3	1.02
Mongar	84.6	90.3	87.4	1.07
Lhuntse	88.0	86.8	87.4	.99
Wangdue	84.9	87.0	85.9	1.02
Gasa	75.3	75.2	75.3	1.00

Source: BMIS 2010

Addressing the last mile challenge of enrollment, including disparities at local levels and catering to the special needs of children with disabilities will require innovative and cost effective strategies in the delivery of education.

Relevance and Quality of Education: In spite of the significant progress made with regard to providing access to education, the quality of education is an issue of growing concern to parents and policy makers. Judging solely by improvements in efficiency indicators such as drop-out rates, repetition rates, completion rates and survival rates, the quality of education has certainly improved over the years, although some of these rates, such as repetition and dropout rates in class IV and VII, are still undesirably high and need further improvement.

However, what remains of great concern is that an increasing numbers of our students, including graduates from vocational and tertiary institutions, are inadequately prepared to enter the workforce. On the other hand Bhutan continues to face an acute shortage of skilled and highly specialized manpower such as doctors, engineers, ICT experts and teachers. This has resulted in a paradoxical situation of relatively high levels of youth unemployment and a critical skills shortage at the same time. Furthermore, the rapid socio-economic development and transformative changes that have been taking place, both domestically and globally, require higher standards in education at a scale that has never been met or required before. The fact that most of our students are unable to meet the admission criteria of top tier tertiary education institutions abroad, particularly for professional courses, is but one testament of the poor learning outcomes of our education not being commensurate to the requirements of youth today. This calls for building on our strong foundations an education system that is not only free but is of such quality that it provides the knowledge, skills and attitude to allow our people to tap their full potential and succeed. Given that today the largest section of our population are youth our window of opportunity is small and therefore improving the quality of education is urgent. Of particular concern in

the outcome of education, which is highly relevant to achieving our Plan objective, is weak student performance in the foundational subjects. In all the countries that have succeeded in the economic areas we strive to develop, the competitive advantage of their education system has been a high level of performance in math and science. In our case, most students perform poorly in math and science, and have similar weaknesses even in English despite it being the medium of instruction for most subjects at all levels in school and higher education.

According to Royal Education Council's (REC) research study on the quality of education, the overall trend indicates that there is a big gap between the current and the desired state in the quality of outcomes and processes. Some of the key deficiencies in the quality of learning outcomes and processes highlighted in the report include:

- The overall level of performance of students is just above passing grades;
- Graduates lack basic analytical and communication skills and the attitudes needed as entry level professions;
- Teaching consists of one way teacher-led chalk-and-talk without being able to get the students to comprehend and demonstrate learning;
- Assessment in the classroom does not close the loop between what is taught and what students learn;
- Low academic and professional standards for entry into teaching profession;
- Schools lack quality processes for developing teachers' capacity, the autonomy and instructional resources to initiate academic improvement and the essential physical infrastructure to support learning;
- No clear link between the stated national socio-economic goals and the goals of the education system;
- The supporting systems for schools need a great degree of strengthening in the areas of teacher preparation, curriculum standards and resources and the incentives for quality.

The report underscored three critical reasons for the persistence of ineffective classroom practices across schools: namely under-prepared teachers, lack of appropriate curricular resources, and poor instructional leadership and in-service training. The study recommended a thoughtfully designed and carefully

implemented comprehensive reform effort to bridge the gap between the current set of challenges facing our school system and the high aspirations it holds. Various other studies/reports also suggest that education infrastructure facilities alone are not sufficient to improve education outcomes but adequate, motivated and appropriately qualified teachers play a critical role in ensuring quality education. However, our education system continues to be constrained by an acute shortage of teachers and limited capacities. Teaching, today, is the least preferred profession among graduates, and attracting high performing graduates to join teaching is increasingly a major challenge. Some of the reasons for this include lack of incentives, both financial and non-financial incentives, perceived poor career progression and limitations in the recruitment process. During the Tenth Plan, initiatives to strengthen human resource policy to provide better career progression for teachers were implemented. However, the proposed teacher incentives remains unimplemented due to resource constraints.

The TVET and tertiary education systems are also faced with a similar set of challenges on the issue of relevance and quality of education. Furthermore, current projections indicate that about 60,000 students would be completing classes 10 and 12 and entering the labour market over the Eleventh Plan. If we are to close the “education to employment” gap, it is vital to ensure that the TVET and tertiary education institutes have the intake capacity to provide relevant and quality post-secondary education and training to ensure their employability.

According to REC Report 2008, an independent assessment of the TVET system indicates that the content standards of programmes are not reflective of industry standards or requirements; students are inadequately trained upon graduation; the training institutes are under-resourced and faculty under-qualified; and there is a significant “education to employment gap” as students do not necessarily follow into the trade for which they have been trained however inadequately.

There is a widely shared view on the need for the TVET institutes and colleges of RUB to be consolidated along a single-campus and multi-disciplinary model if we are to ensure relevance and quality in our TVET and tertiary education system.

Sustainability: The share of education sector budget to the five year plan outlays has averaged around 11 percent over the last ten five year plans, with allocation increasing from Nu. 9.4 million during the 1st Plan (1961-1966) to Nu. 10.3 billion in the 10th Plan (2008-13), of which Nu. 875 million was for current expenditure and

Nu. 9,489 million for capital expenditure in the Tenth Plan. The expenditure in the education sector is expected to further increase in coming years particularly with increasing cost of maintenance of past infrastructure investments and additional capital investments to absorb the increasing enrollment pressure at various levels. In addition, with the phasing out of WFP's assistance after 2018, the government will need to take over the school feeding programme. The school feeding programme has been one of the important factors contributing to the better enrollment rates.

5.1.3 Sector Key Result Areas

The sector key result areas and key performance indicators for TVET and Education sector are as follows:

Table 5.1.4 – TVET Sector Key Result Areas and Key Performance Indicators

Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective -Improve Quality and Relevance of Technical and Vocational Education and Training			
Quality and Relevance of TVET improved	TVET graduates employed in four months	60-70%	90%
	Competency based TVET curricula developed based on NOSS	25%	30
	Ratio of local worker to foreign worker reduced	1 to 8	1 to 6
	Improved performance of the instructors	N/A	TBD
Environment friendly practices incorporated into TVET curriculum (MoLHR)	Environment friendly practices incorporated into TVET curriculum (MoLHR)	N/A	100%
Enhance effectiveness and efficiency in delivery of public service	TAT for public services reduced	NA	70%
	Implementation of National Anticorruption Strategy		100%
	Improved Average performance rating System	NA	>90%
	Foreign Labour management service TAT	NA	70%

Table 5.1.5 – Education Sector Key Result Areas and Key Performance Indicators

EDUCATION SECTOR - SKRAs/KPIs					
GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target	
Key Objectives - i) Ensure quality of education service delivery and facilitate development of Bhutan as a knowledge based society, ii) Ensure education sustainability and iii) Achieving MDG plus.					
Sustainable and Equitable Socio-Economic Development	Adult literacy rate improved	Adult literacy rate 15 years + (UNESCO Definition)	55 (2013 - AES)	70% -M/F	
	Teacher performance outcome improved	% of teachers satisfied with teaching profession	68.3 % (2013)	85%	
		INSET Master plan implemented	INSET Master Plan developed	INSET Master plan implemented	
		% of teachers who have availed at least one NBIP in the 11th FYP	NA	100%	
	Students performance outcome improved	Survival rates (to class VI)	Survival rates (to class VI)	98.3 (96.2-m: 99.2-f) AES 2012	M/F-100%
			Survival rates (to class X)	85.1 (83.8-m: 85.4-f) AES 2012	M/F-90%
			Completion rates (primary)	117%	100%
			Completion rates (secondary)	74%	95%
			Transition rates from primary to secondary	98 (97-m: 100-f) AES 2012	M/F-100%
		Learning Outcomes Scores in Math, English, Dzongkha and Science in class III, VI, X (m/f)	Class III: Eng: 60 Math: 61.5 Dzongkha: 63.5 EVS: 65	All subjects: > 65%	
			Class VI: Eng: 48.3 Math: 46.1 Dzongkha: 60 Science: 43.7	Other subjects: 60% Dzongkha: 70%	
			Class X: Eng: 54.11 Math: 51.93 Dzongkha: 67.03 Science: 50.26 (PMS 2012)	Other subjects: 60% Dzongkha: 70%	
		MDGs+ Achieved.	Adjusted Primary Net Enrolment Ratio (6-12 yrs old)	APNER = 98% (M 97% & F98%) NER 96% (M95 & F96)	APNER 100%; NER 98%
			Basic Net Enrolment Ratio (13-16yrs old)	94% (Female 96% & Male 93%) AES 2012	96% (male/female)
	Ratio of females to males in tertiary education		71% (AES 2012)	90%	
	GER at tertiary level (19-21 years)-both within and outside Bhutan		18% (21%-m; 15%-f) AES 2012	35%	
	Health, Wellbeing and Protection of school children improved	Percent of students below accepted nutritional level (height for age)	33.5%	< 30 %	
		Attendance rate	90%	90%	
		Schools/Institutes with sporting calendar/sporting event	NA	100%	
	Preservation and Promotion of Culture	Knowledge on Culture, traditional values enhanced	% of schools above 70 on GNH index	94%	100%
Students scoring greater than 60% in Dzongkha (in grades X and XII)			23%	50%	
Conservation & Sustainable Utilization and Management of Environment	Environment education enhanced in schools Eco-efficient & disaster resilient infrastructure developed	% of students who can perform traditional dance/songs (M/F)	NA	70%	
		Percent of schools practicing green initiatives	N/A	100%	
		New school constructions are eco-efficient/disaster resilient infrastructure	N/A	100%	
Strengthening Good Governance	Education sustainability ensured	School education expenditure as a % of GDP	6.9 % (2012)	6.90%	
		Tertiary education expenditure as a % of GDP	1.90%	1.90%	
		% of self-financed students in tertiary education	12% (m/f)	30 % (m/f)	
	Improved student discipline and conduct	Average of disciplinary incidences in schools	N/A	Reduced by 50%	
		TAT for common availed services	N/A	< 70%	
	Enhanced efficiency and effectiveness in public service delivery	Anti-corruption strategy implemented		Implemented	
		Average performance rating (Govt. Performance Management System - GPMS)	N/A	>90 %	

5.1.4 Strategies

Any strategy to strengthen our education system and institutions to the level required to bring about the transformation in our socio-economic development process must ensure that we take a comprehensive stock of the state of our entire education system (spanning school, TVET, higher education, and continuing education) as an integrated whole rather than disparate parts (including regular assessment and diagnostics of student performance and identify the root causes of the mismatch between educational outcomes and our developmental needs); establish clear quality criteria in terms of the desired outcomes that are responsive to the changing expectations of students and are regularly benchmarked to global standards (such as student outcomes and employment, instructional methods, and organizational dynamism); understand the capacity gaps in achieving those criteria; provide a collaborative and highly competent institutional support system that focuses on helping students, teachers and school leaders develop research based innovative strategies of implementation to achieve the desired outcomes and; disseminate those evidence-based effective strategies throughout the system. This calls for a sustained systemic strategy rather than disparate interventions to address challenges in isolation. The planning and implementation of such an education strategy certainly requires a longer-term perspective of more than five years. The experience of top performing education systems like in Finland and Singapore suggest a gestation of at least 20 years. Most importantly, the strategy must be supported with adequate and predictable resources and the necessary institutional and policy support systems.

Some of the elements of the strategy for improved outcomes of the education sector, relevant to the school, TVET and tertiary education systems, include:

- Clarifying goals and raising performance standards for schools through shared national education goals that are aligned with the national socio-economic goals; learning standards and quality teaching processes;
- Curriculum improvements to deliver educational goals with greater involvement of principals and teachers in curriculum design and communication and training on improved curriculum;
- Attracting the best talent into teaching by recruiting the most capable candidates into teaching and preparing them for effective classroom practice;
- Giving teachers the skills and tools to raise the quality of classroom instruction

through continuous professional development and structured teaching-learning resources;

- Developing Principals to become Instructional Leaders – through leadership training, professional support and instructional improvement processes;
- Enabling the capacity of schools to focus on learning and teaching through policies to promote autonomy, accountability, incentives and improving the quality of instructional tools and infrastructure facilities to support learning;
- Maintain relentless focus on implementation – demonstrate real changes in school, manage change and build institutional capacity to execute reforms;
- Ensuring students grasp basic academic concepts, acquire essentials life skills and are fully equipped for college and professional life;
- The possible introduction of a vouchers scheme for meeting the targets for tertiary enrolment that will also encourage private participation in this sector.

Targeted intervention programmes: Targeted intervention programmes will be developed to address disparities. The focus will be on *Dzongkhags* with education indicators below the national average and hard to reach communities, children in remote areas, nomadic communities etc. Targeted programmes will include activities like additional infrastructure facilities, improved teacher deployment, special incentive packages and in certain situation where cost of service delivery is very high it could include relocation of students to nearby schools with boarding facilities.

Rationalization of schools: In pursuit of improving access, past Plans focused on extensive education infrastructure expansion program resulting in 553 schools and 112 Extended Classrooms (ECRs) for about 180,000 school children. While facilitating access and enhancing enrolment, this strategy has led to other challenges. The deployment of teachers continues to be a major issue due to the remote and difficult location of these extremely small schools. Due to lack of economies of scale the difficulty of providing appropriate and adequate infrastructure facilities and resources results in multi-grade teaching learning situations which ultimately compromise the overall quality of education.

The Eleventh Plan will focus on rationalization of schools with the objective of ensuring quality learning outcomes, with particular focus on children in remote rural schools.

The Plan will also ensure sustainability of education service delivery by making efficient and effective use of available resources through the rationalization process keeping in mind the ground realities facing each *Dzongkhag*, *Gewog* and school.

The approach would be to downgrade unsustainable primary schools with enrolment of less than 100 students which do not have scope for future increase in enrolment to extended classrooms (ECRs). Currently, there are approximately 270 primary schools with enrolment of less than 100 children. With rationalization, all the primary schools would be developed to ensure that they are adequately and appropriately staffed and resourced, and the children have access to an appropriate and conducive teaching learning environment. Similarly, the downgraded schools or ECRs would be developed to ensure quality learning for the remaining students, and the additional teachers made available as a result of the rationalization would be redeployed by the *Dzongkhag* to the schools which face teacher shortage.

Professional Development for Teachers: Towards enhancing teacher morale and motivation and improving the quality of the teaching profession, Teacher Human Resource Policies and the In-Service Teacher Education and Training (INSET) Masterplan have been drawn up for implementation. The Ministry of Education in collaboration with Royal Education Council will focus on promoting innovation, creativity and enterprise in education through implementation of research recommendations.

Improved service delivery and private participation: To ensure sustainability, school administration and governance system will be strengthened and private participation actively pursued. Tracking school rankings, teacher outcomes and improving public service delivery will be enhanced through Performance Management Systems (PMS). Private participation and schemes to encourage self-financed students particularly in tertiary education will be developed.

5.1.5 Key Programmes

Some of the key programmes for the Eleventh Plan:

Education

- i) Construction of new schools based on need to increase space especially at the secondary levels;
- ii) Provision of minimum standard facilities, wherever required, to ensure a

positive environment for teaching-learning process. These include facilities such as science labs, libraries, games and sports facilities, computers, ICT infrastructure, etc ;

- iii) Consolidation of schools through provision of additional facilities such as hostels, kitchen and store, warden/matron quarters, toilet facilities, water supply, dining hall, etc. in nearby schools and rationalizing smaller schools;
- iv) Provision of staff quarters/allowances especially in remote and rural areas to make rural posting attractive and improve quality of education in the remote locations;
- v) Addressing gender gaps at higher secondary level through provision of gender responsive facilities such as hostels and hostel toilets for girls' toilets and housing for female teachers;
- vi) Strengthening curriculum research and development and finding mechanisms to enhance efficiency, accountability and retain specialized skills;
- vii) Enhance capacity of tertiary education to achieve GER at tertiary education of 35 percent by 2017-18;
- viii) Enhance quality and relevance of tertiary education programmes to meet the needs of individuals as well as the industry and society at large.

TVET

- i) Improve quality of TVET/VTI – infrastructure expansion, program diversification and curriculum improvement in close collaboration with the industries and private sector; and improving capacity of the instructors.

Programme details are presented in Eleventh Plan Volume II document.

5.2 Health Sector

All Bhutanese avail free health services from primary to tertiary level health care as a right guaranteed by the Constitution of Bhutan under its Principles of State Policy, Article 9, Section 21, which states that: “the State shall provide free access to basic public health services in both modern and traditional medicines.” Health is also an important component for happiness and wellbeing. The 2010 GNH Survey reports that health domain contributed 14 percent to GNH, the highest contribution among the nine domains.

While provision of health care services is the responsibility of the Health Sector, the need to involve other sectors in addressing health issues is equally important. Adoption of the “GNH Policy Screening Tool”³¹ which has health as one of the variables for policy screening has facilitated in mainstreaming health.

In the Eleventh Plan, the Ministry of Health shall strive towards achieving universal health coverage by focusing on providing improved and equitable access to quality health care services. Continued efforts shall be made in achieving goals and targets beyond MDGs. Investments will also be made in working towards fulfilling the global monitoring framework for prevention of non-communicable diseases (NCDs).

5.2.1 Current Situation

Considerable progress has been made in developing the capacity of the health system and it has resulted in significant improvements in health outcomes.

Table 5.2.1 – Key Health Indicators

Sl.#	Indicators	Life expectancy and mortality				Source
		2000	2005	2010	2012	
1	Life expectancy at birth (years)	66.1	65.3	67.4	68.1	NHS, 2000; Medium Variant Population Projection (NPP Committee, 2011).
2	Crude birth rate – CBR (per 1000 live births)	34.1	20	19.7	18.5	NHS, 2000; PHCB, 2005; BLSS 2012
3	Crude death rate – CDR (per 1000 persons)	8.6	7	7.8	8.5	NHS, 2000; PHCB, 2005; BLSS 2012
4	Total Fertility Rate (TFR)	4.7	3.6	3.1	2.1	NHS, 2000; PHCB, 2005; BLSS 2012
5	Under-five (U5) mortality rate (probability of dying by age 5 per 1000 live births)	84	61.5	69	NA	NHS, 2000; PHCB, 2005; BMIS, 2010.
6	Infant mortality rate (probability of dying by age 1 per 1000 live births)	60.5	40.1	47	NA	NHS, 2000; PHCB, 2005; BMIS, 2010.
7	Maternal mortality ratio (per 100,000 live births)	255	NA	NA	NA	NHS 2000;

Source: Annual Health Bulletin 2012.

³¹Tool used to screening draft policies before it is approved and health is one of the 22 variables used for screening refer www.gnhc.gov.bt

Bhutan is on track to achieve MDG targets related to child mortality, improving maternal health and halting/reversing spread of TB and malaria. The lack of progress on HIV/AIDS remains a concern. The number of HIV/AIDS detected cases has increased from 38 in 2000 to 321 in 2013.

Health coverage is estimated at 90 percent. Currently there are three health facilities for every 10,000 persons. There are 31 hospitals, 14 BHU I, 178 BHU II and 550 outreach clinics providing modern health services. There is one

Indigenous Hospital and 48 Indigenous Unit providing Sowa Rigpa services. The total manpower in the health sector is 4,280, of which 194 are doctors, 736 nurses, 1,543 other category of health workers and 1,807 administrative and support staff.

The enactment of the University of Medical Sciences of Bhutan (UMSB) Act and its establishment in 2012, is a major initiative of the Health Sector towards providing in-country professional medical education and, thereby, addressing the critical shortage of health and allied professionals.

The government health sector expenditure over the last ten years has averaged Nu. 1.2 billion per annum with annual expenditure growth of 12.5 percent. The government health expenditure as a percentage of GDP stands at 3.23 percent³². The recurrent expenditure to GDP in the Eleventh Plan is projected to be around 0.56 percent. The expenditure in the health sector is expected to increase in the coming years with the introduction of new technologies and services and growing incidence of non-communicable diseases for which the associated costs are much greater than for conventional diseases. The Ministry of Health has started tracking national spending and resource flow in health through the National Health Accounts and other thematic studies to ensure sustainability of healthcare financing.

5.2.2 Key Challenges

Delivering Quality Health Care – The public expectation for quality health care is viewed against the five-star private hospitals. In addition, the easy availability of un-validated information from the net with the ever increasing literate population

Indicators	2013
Prevalence of underweight children under five years of age	12.7% (BMIS, 2010)
Under-5 Mortality Rate	69 (BMIS, 2010)
Infant Mortality Rate	47 (BMIS, 2010)
Maternal Mortality Rate	255 (NHS, 2000)
Immunization coverage	94.4% (EPI Survey, 2008)
Number of TB cases per 100,000	158 (NTCP, 2012)
Malaria incidence per 10,000	1 (VDPC, 2012)

³²National Health Accounts 2009-10

is forcing the public health system to adapt to the latest medical technologies and medical procedures. Such adaptations may not necessarily be cost effective and efficient in service delivery.

On the other hand there are no standard health services package developed at all levels of service delivery and standard operating procedures for most of the services and procedures needs to be developed. In absence of such standards, it is very difficult or near impossible to measure the quality of health care delivery.

Health Human Resource: The Bhutanese Health System suffers from acute shortage of all categories of health personnel. The training for most categories of health workers and especially for doctors is long and expensive. In addition Bhutan does not have training institutes for most categories of health workers. Even in the region, there are few reputed health training institutes so limitation in availability of slots is a challenge.

Therefore we will continue to face health human resource shortage in the Eleventh Plan even as we face the need to expand health services. Consolidation of health infrastructure would therefore be a strategic area of focus.

With the increasing rate of urbanization, deployment of health personnel to rural areas will become a new challenge. Workload, remuneration, and many other workplace factors need to be looked beyond Civil Service norms otherwise shortage of health human resource will become a major problem.

Table 5.2.2 – Status of Health Workers

Sl.#	Categories of Health Workers	Total
1	Doctors (MBBS/Specialists)	194
2	Assistant Clinical Officers (ACO)	39
3	Nurses (Assistant Nurse/GNM/B. Sc. Nurse)	736
4	Health Assistants	416
5	Basic Health Workers	162
6	Drungtshos (Indigenous Physicians)	35
7	sMenpas (Sowa Menpas)	63
8	Pharmacists	11
9	Medical Lab. Technologists	27
10	Physiotherapists	10

11	Technicians	780
12	Administrative & Support Staff (Regular)	1202
13	General Service Personnel (GSP)	439
14	Elementary Service Personnel (ESP)	166
Total Staff Strength, MoH		4280

Source: AHB, 2013

In comparison to Bhutan's 2 doctors per 10,000 people in 2012, India had 6 doctors per 10,000 people in 2003, Malaysia had 7 doctors per 10,000 people in 2000, Pakistan had 7 doctors per 10,000 people in 2003 and Singapore had 14 doctors per 10,000 people in 2001³³.

Table 5.2.3 –Health Human Resource and Infrastructure Indicators

Sl. #	Indicators	Year					Source
		2008	2009	2010	2011	2012	
1	Number of Doctors and density (per 10,000 population)	171 [2.5]	176 [2.6]	187 [2.7]	181 [2.6]	194 [2.7]	HRM, MoH
2	Number of Nurses and density (per 10,000 population)	567 [8.4]	556 [8.1]	556 [8.0]	723 [10.2]	736 [10.2]	HRM, MoH
3	Number of Pharmacists and density (per 10,000 population)	14 [0.2]	12 [0.2]	11 [0.2]	11 [0.2]	11 [0.2]	HRM, MoH
4	Number HA&BHW and density (per 10,000 population)	425 [6.3]	505 [7.4]	535 [7.7]	572 [8.1]	578 [8.0]	HRM, MoH
5	Number of Drungtshos (Indigenous Physicians) and density (per 10,000 population)	36 [1.0]	41 [1.0]	43 [1.0]	38 [1.0]	35 [1.0]	HRM, MoH
6	Number of sMenpas (Sowa Menpas) and density (per 10,000 population)	54 [1.0]	52 [1.0]	63 [1.0]	56 [1.0]	63 [1.0]	HRM, MoH
7	Number and distribution of health facilities (per 10,000 population)	209 [3.1]	212 [3.1]	212 [3.0]	215 [3.0]	222 [3.1]	HMIS, MoH
8	Ratio of beds per Nurses	2.1	2.1	2.3	1.8	1.7	HMIS, MoH
9	Ratio of Nurses per Doctor	3.3	3.2	3.0	4.0	3.8	HMIS, MoH

Source: Annual Health Bulletin, 2013

Non-Communicable Diseases (NCDs): NCDs are establishing its presence with modern sedentary lifestyles, traditionally high-fat-based dietary habits and consumption of alcohol and tobacco. Consequently, diabetes, hypertension, cancers and traffic injuries are increasingly on the rise. Besides the profound implication on the quality of life of individuals, families and society at large, the cost of treating patients with NCDs is exorbitant. We would need to intensify our efforts on health promotion, multi-sectoral response to NCDs and ensuring health is considered as a critical component in all policies.

³³<http://www.nationsencyclopedia.com/WorldStats/WHO-systems-no-physicians-per10k.html>

Table 5.2.4 –Selected NCD and Costs per Admission

Non-Communicable Diseases seen in Bhutan from 2007-2011						Disease Specific cost per admission
Disease Names	2007	2008	2009	2010	2011	JDWNRH Cost 2009/2010 (Nu.)
Diabetes	1732	2541	2605	3275	3740	Nu. 28,760.00
Cancers	841	685	1147	1041	980	Nu. 24,405.00
Alcohol Liver Diseases	1471	1329	1602	1943	2050	Nu. 20,648.00
Mental Illnesses	1804	2012	1953	2878	2570	Nu. 28,439.00
Hypertension	19347	20347	21177	23853	23051	Nu. 24,336.00

Source: Annual Health Bulletin 2012; The Cost of Your Healthcare 2009-2010 MoH

HIV/AIDS, TB, Malaria and Neglected Tropical Diseases (NTDs) – HIV/AIDS cases have increased from 2 in 1993 to 321 in 2013. The expansion of economic activities and increasing affluence and travel, import of foreign labour and casual attitude of the people towards sex is a major challenge in the battle against HIV/AIDS. The TB case detection and treatment is progressing well. However Multi Drug Resistant (MDR) TB, and HIV-TB co-infection is increasing. The impact of climate change is already becoming visible with malaria cases being detected in areas that were once free of the disease. Although Bhutan is making all efforts to eliminate malaria, cross border transmission is still an issue. Dengue, chikugunya outbreaks have been reported, isolated cases of Kala-azahar are reported and Japanese Encephalitis is also suspected to have made its entry.

Maternal and Child Health- Tremendous progress has been made in the field of mother and child health. However, performance on certain indicators such as MMR, compared to other countries in the region and the low allocations relative to health spending is still a cause of concern. Nearly two-fifth of deliveries are still attended by medically untrained personnel increasing the risk of maternal and neonatal death. Infant death and especially neonatal death are among the highest death occurring within the health facilities. There is a need to invest heavily in this area.

Nutrition – The general nutritional status of the people has been improving over the decade. While malnutrition indicators like underweight prevalence and wasting have improved, stunting prevalence of 33.5 percent still remains as a major public health issue. In addition, anemia prevalence in women and children are quite alarming with 54.8 percent and 80.6 percent respectively. Bhutan has also been

experiencing sporadic outbreaks of vitamin deficiencies, particularly Vitamin B1 and B12 since 1998, and occurrences have been recorded almost every year. There is a need to put in coordinated efforts among Health, Agriculture and Education and Economic Sectors to improve the nutritional status.

Sustainable Healthcare Financing: The constitution mandates the state to provide free health care ensuring the global commitment to universal health coverage is achieved. Currently the government budget outlay for health is around 6 percent and total health expenditure as percent of GDP is 3.6 percent. Global health experts recommend for a country like Bhutan allocation of around 5 percent of the GDP and about 8 percent of the total government budget on health to ensure that quality health care services are provided.

The Bhutan Health Trust Fund is one innovative mechanism set up by the government with support of its partners to ensure sustainable supply of essential drugs. The endowment fund of the BHTF stands at around USD 24 million.

There is also a need to promote good governance so that wastage is minimized and cost efficient and effective health services are promoted.

5.2.3 Sector Key Result Areas

Table 5.2.5 – Health SKRAs and KPIs

HEALTH SECTOR - SKRAs/KPIs				
GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objectives - i) Improve access to quality and equitable health services, ii) Strengthen preventive, promotive and rehabilitative health services iii) Promote efficiency and effectiveness in financing and delivery of health services				
Sustainable and Equitable Socio-Economic Development	Curative and Rehabilitative Healthcare Services Provided	Average Nationwide OPD waiting time from 9 AM to 11 AM	30-60 minutes	23 minutes
		% of population within 3 hrs walking distance	90%	95%
		Independent Patient satisfaction rate	85%	>85 %
		Nurse to Doctors Ratio	3.7:1	4.0:1
		Nurse to bed ratio	1:9	1:6
	Preventative, Promotive and Rehabilitative Healthcare services Improved	IMR per 1000 live births	47	<20
		MMR per 100,000 live births	255	<100
		US MR pr 1000 live birth (BMIS 2010)	69	30
		Stunting (Height for age)(%)	33.50%	<30%
		Percentage of rural pop with access to improved sanitation (%)	51	>80
		Malaria incidence per 10,000 population	10	3.5
		TB treatment success rate	90%	>90%
		STD/STI incidence per 10,000 pop	17	<15
		Diabetes incidence per 10,000 population*	47	<50
		Hypertension incidence per 10,000 population*	343	<400
Cancer incidence per 10,000 population*	15 <20			
Alcohol Liver Diseases incidence per 10,000 population*	29	<20		
Conservation & Sustainable Utilization and Management of Environment	Eco-efficient, disaster resilient and differently-abled health infrastructure ensured	Percentage of new facilities constructed with eco-efficient / disaster resilient component	NA	100%
	Medical waste management improved	Hospital Acquired Infections (%)	27.5	<8
Preservation and Promotion of Culture	Traditional medicinal services strengthened in sustainable manner	No of new cases per Traditional Medicine unit	2646	>3500
Promotion of Good Governance	Enhance efficiency and effectiveness of public service delivery	Anticorruption Strategy implemented		100%
		Average performance rating (Govt. Performance Management System - GPMS)	na	>90 %
	Average Turn Around Time for commonly availed services	na	70%	
Financially sustainable Healthcare promoted	Out-of-pocket expenditure	11%	<15%	

University of Medical Science of Bhutan/Jigme Dorji Wangchuck National Referral Hospital				
Improved Public Service delivery	Improved quality of healthcare services provided	No of patients referred outside reduced (per year)	830	600
		Reporting time for routine laboratory investigations (hours)	12	3
		Waiting time for OPD services at JDWNRH (minutes)	45-120	30
		Waiting time for GI Endoscopic services (weeks)	3 to 6	2
		Waiting time for routine operations (weeks)	3 to 4	1
	Medical Education & Research strengthened	Institutional deliveries for JDWNRH catchment areas (%)	60	80
		No of post graduate Residency programs started	0	5
		No of research articles published in international peer reviewed journals by UMSB staff	0	5

5.2.4 Strategies

Strengthening service delivery: In line with the policy of decentralization, the local government shall take more responsibility for management and delivery of health services at the local level. The centre shall focus more on policy directions, service standard development, quality assurance, selection of appropriate medical technologies and procedures, ensuring un-interrupted medical supplies and health personnel recruitment. The Ministry will continue to focus on improving access and delivery of quality health care services by strengthening both institutional and human capacity with emphasis on decentralization. The Health Sector will continue to explore areas which can be decentralized to the districts. Capacities to improve efficiency in management, coordination and planning including resource mobilization shall be pursued to strengthen the initiative of decentralized approach.

In line with the commitment to work towards achieving Universal Health Coverage (UHC), the package of Health services to be delivered at every level of health facilities shall be standardized and expansion of services will be explored on need basis.

Health Prevention and Promotion – There has been global evidences to indicate that investment in health prevention and promotion aspects are more cost effective, than treating diseases, particularly the NCDs, which requires lifelong and expensive treatment. Emphasis will be continued to strengthen preventive and health promotion, through intensifying awareness programmes, enhancing cross-sectoral coordination, and advocating for health in all policies to address public health challenges such as, but not limiting to NCDs, injuries, HIV/AIDS, TB, Malaria, Maternal and Child Health, Nutrition and Neglected tropical Diseases.

Health human resources development – Development of health human resource in line with the Health HRD Master Plan shall be accelerated. Effective planning and efficient deployment of health personnel to improve service delivery will be pursued. The deployment of health personnel to hospitals, BHUs and ORCs will be need-based depending on number of patients attended by these health centres.

Sustainable Health Financing – There is a global push to go for achieving Universal Health Coverage (UHC). For a developing country like Bhutan, in order to achieve UHC, almost 5 percent of the GDP and 8 percent of the total government budget needs to be allocated to health sector. In addition, measures such as enhancing effectiveness and improving efficiency, and other alternative options to maintain constitutional commitment to provide free health care services and also to achieve UHC will be explored.

Standardization of eHealth and interoperability –Recognizing that lack of data within and between systems hinders care and leads to fragmentation of the health information system, it is vital to develop measures for effective and timely transmission of data. The development of an integrated health information system shall be centralized to ensure the eHealth standardization and interoperability of the system. Interoperability is essential in garnering full potential of ICT and medical devices towards supporting health system development. Needs assessment for eHealth, inclusive of developing national policies, strategies, norms and appropriate governance mechanisms, and long term strategic plans or frameworks for eHealth, shall be conducted. Usage of ICT enabled healthcare solutions such as telemedicine shall be enhanced.

ICT technology shall also be leveraged to replace some of the paper based system to provide better and faster services and save cost.

Consolidation of health infrastructure – The production of health human resource has not kept pace with the expansion of health infrastructure and, therefore, there is a huge mismatch between the health human resources and the number of health infrastructure, affecting the quality of health services. Also, some of the existing facilities are underutilized while others over burdened. Hence, rationalization of health infrastructure through use of health facility screening tool and consolidation of health infrastructure will be pursued.

5.2.5 Key Programmes

- **Medical Services** – Some of the major activities include:
 - i. Construction of 150 bedded Gelephu Hospital;
 - ii. Construction of 40 bedded Samtse Hospital;
 - iii. Construction of 40 bedded Thimphu Hospital;
 - iv. Construction of 40 bedded Detoxification Centre;
 - v. Construction of GMP Production Facility;
 - vi. Construction of Public Health Laboratory;
 - vii. Construction of Deothang Hospital;
 - viii. Construction of Tsirang Hospital.

- **Traditional Medicine Services** - The main focus will be on up-scaling the production of indigenous medicines through automation of production processes to cater to both the domestic and international demands of traditional medicines.
- **Medicines, Technologies & Logistics** –Through the program all health facilities in the country will be well equipped with medical equipments and essential drugs to prevent shortages of such items on real time basis.
- **Public Health Services** – The programme will focus on preventive, promotive and rehabilitative programs.
- **Institutional Strengthening & Monitoring** – The priority will be on strengthening human resources - doctors, nurses and technicians and improving the health data/record management by strengthening the Health Information and Management system.
- **Diagnostic & Curative Services** -

Programme details are presented in Eleventh Plan Volume II document.

5.3 Human Resource Development & Management

Development and management of human resources is an essential prerequisite for Bhutan's aspiration to be an ICT enabled knowledge based society. The high priority given to human resource development through investments in education, implementation of long and short-term trainings both in-country and ex-country and the various reforms in human resource management, particularly in the civil services, has to a great extent improved human resource situation. However, the quality of human resources particularly in professional and high skilled areas continues to be a constraining factor, both in the public and private sector. As a result, dependency on foreign workers continues to be high.

The Eleventh Plan focus will be on creating a highly skilled and well qualified talent pool.

The main agencies responsible for HRD include the Ministry of Education, the Ministry of Labour and Human Resources, Royal University of Bhutan and the Royal Civil Service Commission.

5.3.1 Current Situation

Due to small and nascent private sector, most job seekers prefer jobs in the civil service for better job security, career advancement and training & educational opportunities.

As of December 2012, there were a total of 24,275 civil servants, of which 559 were expatriates and 64 international volunteers. Professional and management position made up 49 percent of the total civil service, followed by supervisory and support positions with 40 percent and operational position 9 percent. The executive and specialist position comprised less than 1 percent of the civil service.

In terms of educational qualifications, about 66 percent of civil servants have a diploma and below, 22 percent have Bachelors Degree and the rest have a post graduate diploma, Masters or Ph.D degree. Lack of qualified human resources in various positions is an issue and only about 47 percent of the civil servants meet the minimum qualification criteria. A large percentage of civil servants not meeting the required qualification criteria were in the supervisory & support and operational position categories.

5.3.2 Key Challenges

While the overall civil service size has been on the rise, the percentage of civil servants in various position levels not meeting the minimum qualification criteria remains high. This is an issue of great concern particularly if the high numbers are

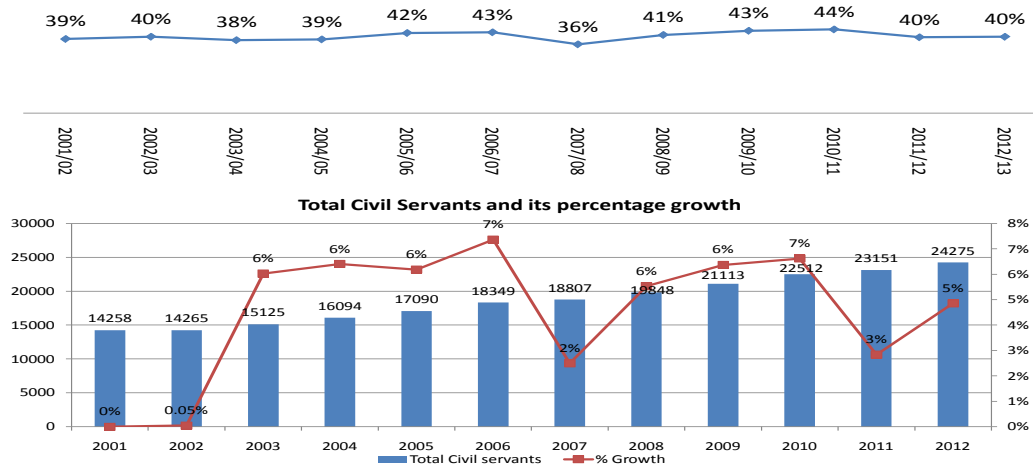
in educational and vocational institutions.

The current human resource development strategy also lacks synergy between the education system and manpower needs leading to mismatch of aspirations of the job seekers and jobs available. On one hand, we continue to be dependent on expatriates, international volunteers and foreign skilled manpower while on the other hand unemployment, particularly youth unemployment, remains high. Some of the sectors, particularly health, education, construction, ICT and aviation continue to depend on expatriates and volunteers to fill in the gap.

Further, retention of the civil servants is becoming a challenge. Increasingly, many teachers, engineers, doctors and technical professionals are leaving the civil service to join international organizations, corporations, and projects offering better remuneration and service benefits. For instance, in the education sector, where there is already an acute shortage of teachers, the teacher turnover is high at about 4 percent annually. In the last 9 months alone, education sector lost 261 teachers³⁴. Therefore, addressing human resource management issues need urgent attention to enhance performance, efficiency and motivation among the civil servants.

The other key challenge is the implications of growing civil service on recurrent expenditures. Currently, pay and allowance comprise about 45 percent of the total recurrent costs. If the present annual growth trend of civil service continues it is likely to put a significant burden on recurrent costs in the coming years that may not be sustainable.

Graph 5.3.1 - Percentage of Pay & Allowances to Total Current Expenditure.



Source: DNB, MoF

³⁴Annual Education Statistics 2013

5.3.3 Sector Key Result Areas

The key result areas will be based on RCSC's Human Resource Development Master Plan for civil service and Ministry of Labour and Human Resources' HRD Plan for Private Sector.

5.3.4 Strategies

In order to improve performance and efficiency of the civil service, civil services rules and regulation, processes and systems will be reviewed and updated.

In terms of human resource development, the focus will be on creating skills and knowledge to achieve the objectives of EDP 2010, with an emphasis on addressing the acute shortage of skilled professionals such as doctors, educationists, engineers, architects and ICT specialists. The support to private sector will mainly be in terms of short-term vocational skills and entrepreneurship skills training.

All definite and firm resources will be earmarked and programmed for critical HR requirements. For individuals accessing international scholarships through open competitions, unlike past practice of adjusting such trainings against HRD master plan slots, can pursue it without requiring necessary adjustments. However, this does not apply to HR that has been already programmed with firm resources mentioned above.

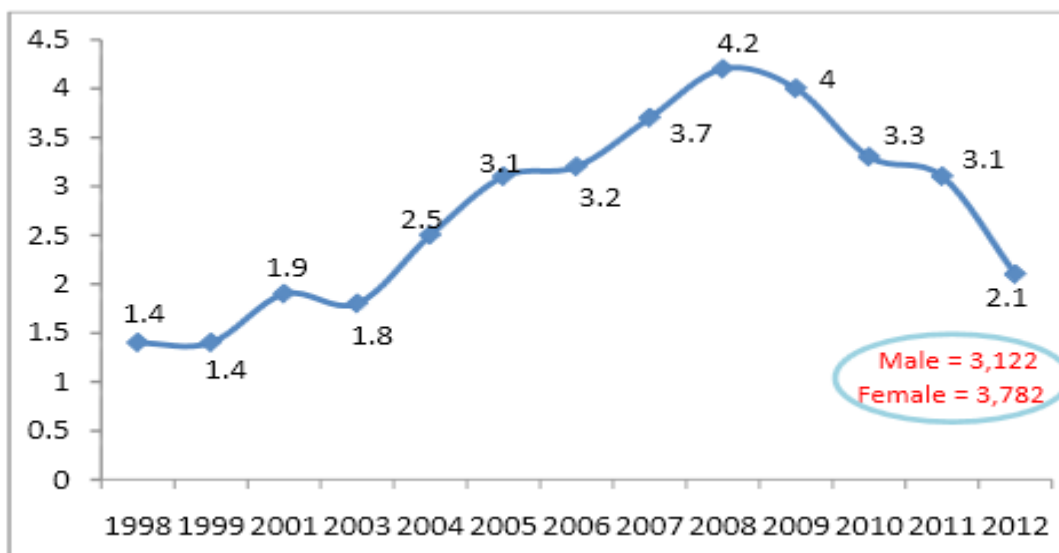
From the total of Nu. 2 billion allocated for Human Resource Development, Nu. 1.4 billion will be earmarked for technical and critical skills development and the remaining Nu. 0.6 billion for general human resource development programmes.

5.4 Employment

The Labour and Employment Act 2007 govern the employment and working conditions in Bhutan. One of the objectives of the Economic Development Policy 2010 is to achieve full employment by 2020. Full employment is defined as employment of 97.5 percent or unemployment rate of 2.5 percent.

Employment is defined as “if a person has performed some paid work in cash or in kind, during the reference period for at least one hour or the person has a job or business formally attached but temporarily absent from the work and going to resume the work”. “Reference period refers to the week preceding the date of the survey interview”³⁵. Labour Force Surveys are conducted by the Ministry of Labour and Human Resources on an annual basis.

Graph 5.4.1 - Overall Unemployment Rates 1998 to 2012



Source Annual Report Fiscal Year 2011-12, MoLHR.

5.4.1 Current Situation

The overall unemployment rates increased from 1.4 percent in 1998 to 4.2 percent in 2008 and have since then declined to 2.1 percent in 2012. Similarly at disaggregated levels, unemployment has decreased by area of residence (rural/urban), by gender and by youth in 2012.

³⁵Labour Force Survey 2012, MoLHR.

Table 5.4.1 - Key Employment Indicators from Labour Force Survey 2012

Indicators	2009	2010	2011	2012
Population	679,700	696,500	713,200	734,851
Labour Force	325,700	331,900	334,200	336,391
Persons Employed	312,800	320,900	323,700	329,487
Unemployment Rate (%)	4.0	3.3	3.1	2.1
Unemployment by area of residence (in numbers)	12,900	11,000	10,500	6,904
Rural	7500	6100	5100	3663
Urban	5400	4900	5400	3241
Unemployment by area of residence (in %)	4.0	3.3	3.1	2.1
Rural	3.0	2.6	2.1	1.5
Urban	7.5	5.1	5.9	3.5
Unemployment by sex (in numbers)	12900	11000	10500	6904
Male	4400	4600	3200	3122
Female	8500	6400	7300	3782
Unemployment by sex (in %)	4.0	3.3	3.1	2.1
Male	2.6	2.7	1.8	1.9
Female	5.3	4.0	4.5	2.2
Youth Unemployment Rate (%)	12.9	9.2	9.2	7.3
Youth Unemployment by area of residence (in numbers)	9000	5100	4800	3476
Rural	5400	2000	2200	1743
Urban	3600	3100	2600	1732
Youth Unemployment by area of residence (in %)	12.9	9.2	9.2	7.3
Rural	9.8	4.9	5.7	5.0
Urban	25.2	21.4	18.7	13.5
Youth Unemployment by sex (in numbers)	9000	5100	4800	3476
Male	3200	1800	1500	1392
Female	5800	3300	3300	2083
Youth Unemployment by sex (in %)	12.9	9.2	9.2	7.3
Male	10.7	7.1	6.8	7.3
Female	14.7	11	10.9	7.2

Source: LFS 2012, MoLHR.

Agriculture sector continues to be the largest employer accounting for 62 percent of total employment, followed by public administration at 8 percent, manufacturing at 5 percent and others contributing less than 5 percent. In terms of gender, the percentage of females employed are higher in agriculture, wholesale and retail trade, and hotels and restaurants sectors.

Table 5.4.2 – Employed Persons by Activity and Sex

Percentage distribution of employed persons by economic activity and sex

Major Economic Activity	2009			2010			2011			2012		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Agriculture & forestry	59.11	72.12	65.37	54	65.3	59.4	53.32	67.69	60.15	23.9	38.4	62.2
Mining & Quarrying	0.12	0.2	0.16	0.4	0.2	0.3	0.47	0.26	0.37	0.1	0	0.2
Manufacturing	1.29	8.38	4.7	2.8	5.1	3.9	3.76	6.84	5.22	2	3	5
Electricity, gas & water supply	1.79	0.4	1.12	2.3	1	1.6	3.41	0.91	2.22	1.5	0.4	2
Construction	0.8	0.07	0.45	1.3	0.5	0.8	2.18	0.52	1.39	1.3	0.2	1.5
Wholesale & retail trade	0.12	0	0.06	8.9	10.5	9.6	6.35	11.07	8.59	1.7	2.1	3.8
Hotels & restaurants	0.92	0.86	0.9	1	1.5	1.2	1.7	2.08	1.88	0.8	1.1	1.8
Transport, storage & communications	0.31	0.27	0.29	4.6	1.2	3	4.64	0.65	2.75	2.2	0.3	2.6
Financial intermediation	0.43	0.2	0.32	0.9	0.6	0.7	0.82	0.59	0.71	0.5	0.3	0.7
Real estate, renting & business activities	0.37	0.13	0.26	5.4	2.9	4.1	3.82	1.24	2.59	0.4	0.2	0.6
Public Administration & defence	14.66	2.86	8.99	11	4.7	8	12.52	3.78	8.4	6.9	1.4	8.3
Education	3.33	2.59	2.97	3.2	2.9	3	3.7	2.21	3	2.1	1.3	3.5
Health & social work	1.05	0.6	0.83	1.6	1.7	1.7	1.06	0.72	0.86	0.9	0.5	1.4
Other community, social & personal service activities	9.73	7.32	8.57	2.7	1.9	2.3	1.7	0.59	1.2	3.3	1.3	4.6
Private households with employed persons	5.97	3.99	5.02	0.1	0.1	0	0.53	0.72	0.65	1.2	0.6	1.8
Extra-territorial organizations & bodies	0	0	0	0	0	0	0	0	0	0.1	0	0.1

Source: LFS.

In terms of the nature of employment, majority of those employed are agriculture family worker³⁶ representing 39.5 percent followed by regular paid employee consisting of 23.9 percent of the total.

Table 5.4.3 – Major Occupation

Major Occupation	Male	Female	Total
Regular paid employee	17.8	6.1	23.9
Casual paid employee	2.4	1.2	3.6
Contract/Piece paid employee	1.1	0.5	1.6
Family worker (Non-agriculture)	0.5	1.1	1.7
Family worker (Agriculture)	11.9	27.6	39.5
Own account worker (Non agriculture)	5.0	5.2	10.2
Own account worker (Agriculture)	10.2	9.3	19.5
Employer	0.0	0.0	0.1
Total	49.0	51.0	100.0

Source: LFS 2012.

³⁶Family worker defined as a person who helps in an economic enterprise operated by a member of his/her family without payment of wages or salary.

At the *Dzongkhag* level, the unemployment was highest in Thimphu with an unemployment rate of 4.3 percent followed by Sarpang, Trongsa, Tsirang, Dagana, Paro and Zhemgang all registering unemployment rates higher than the national average of 2.1 percent. Gasa, Bumthang, Pema Gatshel and Samdrup Jongkhar had unemployment rate of less than 1 percent.

Table 5.4.4 – Dzongkhag-wise Employment Status

Dzongkhag	Employed			Unemployed			Total labour force			Not in the labour force			Labour force participation			Unemployment rate			Employment Rate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Bumthang	3311	4167	7478	15	5	20	3326	4172	7498	1657	1711	3368	66.7	70.9	69.0	0.5	0.1	0.3	99.5	99.9	99.7
Chhrukha	20773	19250	40023	221	409	630	20994	19659	40653	7846	10311	18157	72.8	65.6	69.1	1.1	2.1	1.5	98.9	97.9	98.5
Dagana	2793	4929	7722	88	127	215	2881	5056	7937	5690	3938	9628	33.6	56.2	45.2	3.1	2.5	2.7	96.9	97.5	97.3
Gasa	1974	2054	4028	2	0	2	1976	2054	4030	294	382	676	87.0	84.3	85.6	0.1	0.0	0.0	99.9	100.0	100.0
Haa	3549	3394	6943	3	26	29	3552	3420	6972	1953	2222	4175	64.5	60.6	62.5	0.1	0.8	0.4	99.9	99.2	99.6
Lhuntse	3442	3848	7290	83	7	90	3525	3855	7380	824	680	1504	81.1	85.0	83.1	2.4	0.2	1.2	97.6	99.8	98.8
Monzer	10851	12586	23437	164	214	378	11015	12800	23815	4268	4436	8704	72.1	74.3	73.2	1.5	1.7	1.6	98.5	98.3	98.4
Paro	8151	10437	18588	352	172	524	8503	10609	19112	5435	5615	11050	61.0	65.4	63.4	4.1	1.6	2.7	95.9	98.4	97.3
Pemagatshel	6750	7517	14267	43	10	53	6793	7527	14320	2934	3219	6153	69.8	70.0	69.9	0.6	0.1	0.4	99.4	99.9	99.6
Punakha	6962	8120	15082	115	130	245	7077	8250	15327	4545	3974	8519	60.9	67.5	64.3	1.6	1.6	1.6	98.4	98.4	98.4
Samdrup Jongkhar	9663	10479	20142	11	27	38	9674	10506	20180	3455	4195	7650	73.7	71.5	72.5	0.1	0.3	0.2	99.9	99.7	99.8
Samtse	19089	17786	36875	443	231	674	19532	18017	37549	6937	8468	15405	73.8	68.0	70.9	2.3	1.3	1.8	97.7	98.7	98.2
Sarpang	6580	8286	14866	284	279	563	6864	8565	15429	8181	9568	17749	45.6	47.2	46.5	4.1	3.3	3.6	95.9	96.7	96.4
Thimphu	25924	20123	46047	661	1400	2061	26585	21523	48108	10512	18380	28892	71.7	53.9	62.5	2.5	6.5	4.3	97.5	93.5	95.7
Trashigang	7626	7958	15584	107	149	256	7733	8107	15840	3739	4222	7961	67.4	65.8	66.6	1.4	1.8	1.6	98.6	98.2	98.4
Trashuvantse	4226	4757	8983	37	69	106	4263	4826	9089	1577	1947	3524	73.0	71.3	72.1	0.9	1.4	1.2	99.1	98.6	98.8
Trongsa	2418	3578	5996	97	99	196	2515	3677	6192	3087	3220	6307	44.9	53.3	49.5	3.9	2.7	3.2	96.1	97.3	96.8
Tsirang	4522	4184	8706	99	203	302	4621	4387	9008	2284	2680	4964	66.9	62.1	64.5	2.1	4.6	3.4	97.9	95.4	96.6
Wangdiphodrang	9944	10854	20798	238	106	344	10182	10960	21142	6079	6506	12585	62.6	62.8	62.7	2.3	1.0	1.6	97.7	99.0	98.4
Zhemgang	2815	3821	6636	60	120	180	2875	3941	6816	4713	4302	9015	37.9	47.8	43.1	2.1	3.0	2.6	97.9	97.0	97.4
Total	161363	168128	329491	3123	3783	6906	164486	171911	336397	86010	99976	185986	65.7	63.2	64.4	1.9	2.2	2.1	98.1	97.8	97.9

Source: LFS 2012.

5.4.2 Key Challenges

Quality of employment – While we have been successful in reducing unemployment rates, the review of LFS 2012 indicates that the quality of employment could be improved.

- The agriculture and forestry sector continue to be the largest employer while contributing least to GDP growth rate. The impressive economic growth achieved by the secondary and tertiary sectors has not translated into jobs, thereby indicating some levels of inequity in economic growth.
- Even among the employed many are still vulnerable and lack income and social security as 40 percent of those employed are agriculture family workers. Women are particularly vulnerable as they comprise 27.6 percent in this category.
- About 68.9 percent of those employed in the agriculture sector worked for

more than 48 hours of which 46.1 percent reportedly work more hours to increase earnings indicating low income for those employed in the sector.

- Only 33 percent of those employed earned monthly incomes of Nu. 10,000 or more.
- In terms of the level of education, 53.6 percent of those employed were illiterate with the next highest level being middle secondary school level dropouts at 11 percent. Only 4.1 percent had either an undergraduate or Bachelors degree. This indicates either a poor synergy between the education system and manpower needs resulting in a lack of skilled manpower or a mismatch of potential employees and jobs available.

Creation of new jobs: During the next five years, approximately 120,000 jobs seekers will be entering the labour market. Out of this, 60 percent will be those with education qualifications of Class X and higher. While this presents an opportunity of a large number of educated job seekers, creating jobs that meets the aspirations of these qualified youth will be a major challenge. The Labour Force Survey 2012 estimates that the unemployment rate among the middle secondary education group was the highest at 22.8 percent. This was followed by the higher secondary education group at 20.4 percent and Bachelor Degree group at 12.3 percent.

Table 5.4.5 - Job Seekers 2013-2018

Level of Education	2,013	2,014	2,015	2,016	2,017	Total
Cl x studying	14,899	15,386	15,537	16,865	16,392	79,079
Cl xii studying	7,163	8,070	8,939	9,232	9,322	42,726
Cl x job seekers	5,380	5,960	6,154	6,215	6,746	30,455
Cl xii job seekers	4,992	5,014	5,649	6,258	6,462	28,375
Degree job seekers	2,189	2,409	2,629	2,849	3,069	13,145
Job seekers (60%)	12,561	13,383	14,432	15,321	16,277	71,975
Other Job seekers (40%)	8,374	8,922	9,622	10,214	10,851	47,983
Total Job Seekers	20,935	22,305	24,054	25,535	27,128	119,958

Source: MoLHR

Projections based on the employment elasticity³⁷ of sectoral growth reveal

³⁷The employment elasticity of sectoral growth captures the percentage point increase in employment in a sector when it grows by 1 percent and are derived based on past trends. Multiplying projected growth rates for sectors with their respective employment elasticity gives us an estimate of the jobs that can be created in each sector over the next 5 years.

potential for creating 120,000 jobs for corresponding number of job seekers in the Eleventh Plan. The services sector presents the highest potential for absorbing job seekers followed by industries and agriculture.

The jobs in service sector - hotels and restaurant; transport, storage and communications; wholesale and retail; real estate, renting and business activities - are expected to grow as a result of doubling of tourist arrivals from 100,000 to 200,000 and initiation of seven new mega hydropower projects during the Eleventh Plan. The jobs in the industrial sector are also expected to grow with the commissioning of three new hydropower projects, establishment of power intensive industries and construction activities related to mega hydropower projects. The share of agriculture sector for new employment is expected to be very low, in absence of any other policy intervention.

Hence, jobs will be available but the greater challenge would be to match supply of jobs with the right skills in the labour market.

Table 4.7 – Employment Projections based on Employment Elasticity of Sectoral Growth

Year	New Employment share of each sector			New Jobs that can be created in each sector			
	Share of Agriculture	share of Industry	Share of Services	Agriculture	Industry	Services	Total
2013-14	3.43%	10.97%	85.61%	717	2,296	17,922	20,935
2014-15	3.58%	11.20%	85.23%	798	2,497	19,010	22,305
2015-16	3.59%	10.43%	85.97%	864	2,510	20,680	24,054
2016-17	2.47%	38.12%	59.41%	630	9,735	15,170	25,535
2017-18	2.15%	45.84%	52.01%	583	12,431	14,106	27,121
Total				3,592	29,469	86,888	119,950

Source: GNHC calculations (2013)

5.4.3 Sector Key Result Areas

Table 5.4.6 - Sector Key Result Areas and Key Performance Indicators for Employment

Employment - SKRAs/KPIs			
Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective -Ensure Full and productive employment			
Full employment achieved (2.5 %)	Youth unemployment	7.30%	<2.5%
	Female youth unemployment	7.20%	<2.5 %
	Rural unemployment maintained	2.10%	2.10%
	% of job seeking graduates employed within 6 months of graduation	NA	90%
	reduce chronic unemployment	NA	TBD
	% of regular paid employee	23.90%	40%
Working environment in private sector improved	Increase in Private Sector employment	22%	>22%
	Social protection for private sector employees	NA	50%
Enhance effectiveness and efficiency in delivery of public service	TAT for public services reduced	NA	70%
	Implementation of National Anticorruption Strategy		100%
	Improved Average performance rating System	NA	>90%
	Foreign Labour management service TAT	NA	70%

5.4.4 Strategies

The main objective of this sector is to achieve full and productive employment. Strategies to achieve this objective include

- Implementation of the Rapid Investments in Selected Enterprises (RISE) programme;
- Private Sector Development;
- Institutionalizing multi-sectoral coordination committee to strengthening linkages between the education system and manpower needs of the country to address the mismatch of skills and aspirations;
- Incentivizing business and industries that give priority to employment of Bhutanese; and
- The government will also explore decent and productive overseas employment particularly for the youth.

In the Eleventh Plan, about 82,000 new jobs need to be created for approximately 120,000 job seekers, to ensure full employment of 97.5 percent. The tentative sector-wise new jobs required to be created is presented below. The projections are based on past trends and new potential such as construction of seven new mega hydropower projects and doubling to tourist arrivals in the Eleventh Plan.

Table 5.2.7 – Sector-Wise Job Creation Projections with UER 2.5 percent

Sector	2013	2014	2015	2016	2017	Total
Agriculture	3,500	3,828	4,255	4,612	4,997	21,192
Hydro Construction	2,406	2,632	2,925	3,170	3,435	14,568
Construction (Non-hydro)/Manufacturing	1,356	1,483	1,649	1,787	1,936	8,211
Culture	919	1,005	1,117	1,211	1,312	5,564
ICT	1,094	1,196	1,330	1,441	1,562	6,623
Tourism	4,287	4,690	5,212	5,649	6,121	25,959
Total	13,562	14,834	16,488	17,870	19,363	82,117

Source: MOLHR

5.4.5 Key Programmes

- Promotion of full and productive employment
- Promotion of decent working conditions and work environment

Programme details are presented in Eleventh Plan Volume II document.

5.5 Renewable Natural Resources (RNR) Sector

RNR sector comprises of agriculture, livestock and forestry. For an agrarian country like Bhutan, the RNR sector plays a vital role in bringing about equitable development through enhancing rural prosperity and poverty alleviation. About 62.2³⁸ percent of the population directly depended on agriculture for their livelihood.

However, in spite of the changes and innovations infused over the years to propel RNR sector growth, the sector's growth remained insufficient to adequately address rural poverty, attain food security and to sustain the overall economic growth. The sector's full potential is challenged by low productivity due to issues such as acute shortage of farm labour driven by outbound rural-urban migration, loss of arable land to urbanization, difficult terrain, fragmented land holdings, loss of crops to wildlife, lack of access to market and agricultural credit, climate change and natural disasters, post harvest management issues and subsistence nature of farming. Consequently, dependence on import of food and food grains remain high and returns to farmers remain small as a result of higher costs of production and low economies of scale.

Table 5.5.1 – Land Cover

Land cover type	Area (Sqkm)	Area (%)
Forest Area	27,053	70.46
Cultivated Agriculture area	1,225	2.93
Built up Area	62	0.16
Non-built up Area	3	0.01
Bare Area	1,230	3.20
Degraded Area	260	0.54
Meadows	1,575	4.10
Shrubs	4,005	10.43
Marshy Area	3	0.01
Snow Cover area	2,854	7.43
Water Bodies	277	0.72
Total Area	38,394	100

Source: Statistical Yearbook 2012 NSB.

³⁸Labour Force Survey 2012

5.5.1 Current Situation

Based on food availability, access and nutrition, Bhutan is modestly food secure. 60 percent of cereal, vegetables and animal products are domestically produced, and 95 percent of fruits and nuts are domestically available, with apples and oranges enough to be exported. However 97 percent of fish, 80 percent of beef and 77 percent of pork demand and 90 percent of oils and fats are still met from imports (as of 2010)³⁸. In terms of access, about 3 percent of the population spends less per person than the food poverty line of Nu. 1,154.74³⁹. The nutritional status⁴⁰, measured in terms of stunting prevalence, while reduced from 56 percent in 1988 to 33.5 percent in 2010, still remains high.

RNR sector is also the largest employer. As per Labour Force Survey 2012, 62.2 percent of those employed were in RNR with 23.9 percent male and 38.4 percent female. The survey also reveals that among all occupation groups, 68.9 percent of those employed in agriculture worked for more than 48 hours per week due to the sector providing the lowest monthly income in all occupation groups.

The share of agriculture to real GDP has declined by more than half from 25 percent in 2001/02 to 12 percent in 2011/12 mainly because of higher growth in other led by the electricity and construction and also due to various challenges faced by the sector itself. In terms of nominal GDP in current prices, agriculture contribution has doubled from Nu 6 billion in 2001/02 to Nu. 14 billion in 2011/12.

Table 5.5.2 – RNR Sectors Contribution to GDP

	Share to Real GDP (percent)										
	2001/02 Actual	2002/03 Actual	2003/04 Actual	2004/05 Actual	2005/06 Actual	2006/07 Actual	2007/08 Actual	2008/09 Actual	2009/10 Actual	2010/11 Proj.	2011/12 Proj.
Agriculture, livestock, and forestry	25.11	23.59	22.58	21.53	20.49	18.50	16.83	16.19	15.03	13.79	12.95
Agriculture proper	11.79	11.11	10.66	10.18	9.64	8.69	7.97	7.70	7.16	6.57	6.14
Livestock production	7.21	6.68	6.27	6.04	5.85	5.32	4.88	4.68	4.36	4.02	3.79
Forestry and logging	6.10	5.80	5.64	5.31	5.00	4.50	3.98	3.81	3.51	3.20	3.02
	Nominal GDP at current prices (Nu. In million)										
Agriculture, livestock, and forestry	6,205.16	6,863.97	7,350.62	7,850.75	8,386.81	8,970.65	9,656.19	10,618.46	11,668.25	12,818.61	14,128.59
Agriculture proper	2,841.15	3,096.06	3,336.20	3,582.82	3,805.30	4,151.32	4,718.77	5,364.41	6,099.19	7,009.27	7,860.72
Livestock production	1,652.48	1,752.24	1,909.34	2,126.14	2,363.84	2,498.73	2,577.73	2,759.72	3,002.30	3,175.44	3,402.34
Forestry and logging	1,711.53	2,015.67	2,105.08	2,141.80	2,217.67	2,320.60	2,359.69	2,494.33	2,566.76	2,633.91	2,865.53

Source: MTFP.

³⁹Draft Food and Nutrition Security Policy 2012.

⁴⁰PAR 2012.

⁴¹BMIS 2010

5.5.2 Key Challenges

Loss of agriculture land and declining productivity – Achieving food self-sufficiency would largely depend on area under food grain cultivation and yield per hectare. Both are on the decline. Rapid development and urbanization has put a lot of pressure on agriculture land. According to the Department of Agriculture’s estimates, about 2000 acres of agricultural land was lost to non-agriculture development purposes during 1998-2008. This is likely to increase in the near future with increased development activities unless effective measures are put in place to protect prime agricultural lands.

Studies also indicate that yield per hectare has been on the decline at a compounded annual rate of 1.84 percent over the last 27 years. This could be attributed to various factors such as declining investment in the agriculture sector, loss of prime agriculture land to other use, climate change, land being kept fallow due to shortage of farm labour/irrigation, loss of crop to wildlife and limited scope of mechanization. Unless these issues are addressed in the Eleventh Plan, achieving food self-sufficiency goal in the Eleventh Plan will still remain a challenge.

Agriculture Environment and Challenges - Agriculture farming is characterized by steep geographic terrain. With the exception of few wide valleys in the western, central and some plains in the southern part of the country, in most part agricultural lands are located on the slopes. Assessment indicates that 31 percent of the agriculture land is located on slopes more than 50 degrees. This is also one of the reason why soil erosion rate is high, estimated at 8.6 tonnes/ha or approximately 3.5 t/acres (DOA, 2011).

Moreover, despite having an abundance of water resources, agriculture is still dominated by the rain-fed dry land farming and wetland cultivation. Of the 77,493 acres of “chuzhing” only 59,243 acres are serviced with improved irrigation system. Dry land irrigation for other crops is virtually non-existent.

Further, pest and diseases continue to be a problem for the farming communities. Feral vertebrate pests such as wild boar and deer, apes such as monkey and marsupial like porcupine are major problem. It is estimated that 126 kgs of crops per household are lost annually to wild animals pests. Other crop diseases such as Gray Leaf Spot and Turcicum Leaf Blight in maize, Greening in Citrus, phythoptra diseases in chilli and potatoes also continue to pose major challenges.

Domestic cattle and equine population left stray in winter is one of leading factor discouraging farmers from growing winter and spring crops such as wheat, barley and buckwheat affecting the cropping intensity and overall production potential.

Labor shortage including increasing feminization of the agricultural labour force is becoming one of the leading constraints in agriculture production. According to agriculture statistics 2011, available farm labour constitutes only 26 percent. Rural female population is more by 3.7 percent overall. In the age group of 15-64 which is also an active population group, female population is higher by 7.5 percent, and this is likely to increase. This gender imbalance in agriculture workforce will also have significant impact on agriculture.

These factors have contributed to RNR sector providing the least monthly earnings among all major occupations. If this trend continues, it is likely that more and more people could leave their farms which could adversely impact the goals of achieving food and nutrition security, reducing unemployment levels and, may likely reverse the gains achieved in poverty reduction.

5.5.3 Sector Key Result Areas

Table 5.5.3 – RNR Sector SKRAs and KPIs

RNR SECTOR - SKRAs/KPIs			
Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objectives - to i) Enhance food and nutrition security, ii) Improve Rural Livelihood iii) Accelerate and sustain RNR sector growth and iv) Promote sustainable management and utilization of natural resources.			
Enhance Food and Nutrition Security	Cereal production (RNR Stat. 2012)	183,333 MT/pa	223,737 MT/pa
	Paddy production (RNR Stat. 2012)	78,730 MT/pa	98894 MT/pa
	Milk production (RNR Stat. 2012)	29625 MT/pa	40,000MT/pa
	Egg production (RNR Stat. 2012)	57m/pa	92 m/pa
	Vegetable Production(RNR Stat. 2012)	96,855 MT/pa	143,319 MT/pa
	Fruits & Nuts production(RNR Stat. 2012)	96,523 MT/pa	106,129 MT/pa
Generate additional employment opportunities and increase mean annual rural household cash income	Annual cash income from sale of RNR products (Nu. in millions/annum) - (RNR Stat)	1,877.71 (2011)	3,305
	Percent contribution of agriculture income to total hh income (%) - (BLSS)	10.2 (2011)	25
Accelerate RNR sector growth through commercial farming	Real annual growth rate in RNR sector (%) - (NSB)	1.9 (2011)	4
	Mean annual value of export (Nu. in million/annum) - (RNR Stat)	1623 (2012)	3,246
	Mean annual volume of export (mt/annum) - (RNR Stat)	62,742(2011)	1,25,484
Enhance conservation of plant and animal genetic resource and natural	Inventory of traditional knowledge related to biological	0 (2012)	1
Enhance sustainable land and biodiversity resource management	Land area under organic/natural production (acres) - (RNR Stat)	2,069 (2011)	5,560
Enhance efficiency and effectiveness of RNR service delivery	TAT of commonly availed services (%)		70
	Average performance rating (%)		95
	Anti-corruption strategy implemented - (ACC)		95

5.5.4 Strategies

A key strategy will be to transform the RNR sector into a commercially viable sector that provides higher returns to the farmers, improves rural livelihood, reduces imports and promotes exports, and offers attractive employment opportunities to youth. To facilitate this transformation, focused initiatives will be undertaken as follows:

Targeted and commodity focused approach: One *Gewog* One Product, based on commercial viability of such product and the potential of different *Gewogs*, will be one of the strategies to achieve the objective of food and nutrition security. At national level, the focus will be on fewer prioritized products that will enhance food self sufficiency and also contribute to import substitution and export promotion. The *Dzongkhags* identified to produce prioritized products will be provided necessary support, both technical and resources, by the Ministry of Agriculture and Forests through central RNR programmes.

Transition from subsistence to commercial agriculture: Investment in the RNR sector will be aimed at ensuring gradual transition from subsistence to commercial production. This would require introduction and application of technologies that improves productivity of crop, forest and livestock. To provide both economies of scale and fair terms of trade, the evolving farmers' organizations and cooperatives will be supported technically and financially, notably through preferential access to loans from financial institutions, extension support services and other forms of support.

Enabling environment: A policy and legal framework that incentivizes RNR production and promotes private sector investment will be implemented. Access to finance will be facilitated through priority lending by financial institution to the RNR sector. Infrastructure facilities such as irrigation, storage and communication to facilitate efficient and effective production, marketing and distribution of RNR products will be prioritized. Linkages between research and extension services will be strengthened and streamlined to improve the productivity of farming systems.

Promote private sector participation and contract farming: Government will facilitate an enabling environment for private sector participation and contract farming to enhance market access, innovations and technical expertise. Private sector participation will be encouraged in the entire value-chain, starting from agriculture input supply to production, processing, distribution and marketing.

A reliable institutional mechanism will be established to effectively cater to the needs of the interested private entities. Wherever applicable, best practices gained from the Hazel nut and Coffee plantation ventures will be used to attract private investment in the RNR sector.

5.5.5 Key programmes

Some of the major programmes are as follows:

- National field crops development
- Agriculture infrastructure development
- National Organic
- National horticulture development
- National livestock development
- Market development
- RNR Research and extension services
- National bio-security and food safety

Programme details are presented in Eleventh Plan Volume II document.

5.6 Tourism Sector

Tourism in Bhutan is governed by the policy of “high value-low impact” tourism. The policy serves to develop tourism that has minimum negative impact on our natural and cultural heritage. The tourism pricing of USD \$200 per person per night during off-seasons and USD \$250 per person per night during seasons forms the basis for regulating tourist arrivals. Travel to Bhutan is booked either through Bhutanese tour operator or their international partners.

Culture and nature are the two leading purposes for tourist arrivals. The majority of arrivals are in spring (February-April) and autumn (August-October) season.

The tourism sector is the major source of foreign exchange earnings and employment. Gross earnings in 2012 were USD 62.80 million and approximately 22,045 employment opportunities were created in 2011. Out of USD 62.80 million, USD 16.63 million was generated as direct revenue for the Government through the “Royalty” (35 percent tourism levy on daily tariff). Other taxes such as the Business Income Tax (BIT) and Sales Taxes paid by tourism service providers also translate into government revenue, therefore increasing revenue generated by the tourism industry.

5.6.1 Current Situation

With improvements in tourism infrastructure facilities and better air connectivity, the number of tourist arrivals to Bhutan has increased from about 6,000 in 2001 to about 105,407 in 2012. The figure includes 54,685 international visitors and 50,722 regional visitors. The average length of stay was 6.90 days.

The arrival figures include about 57 percent international visitors, 26 percent regional high-end visitors, 16 percent MICE (Meeting, Incentive, Conferences, Exhibition) visitors, and 1 percent familiarization visitors. The highest number of visitors was from Japan at 15.98 percent, followed by USA at 13.67 percent and China at 8.57 percent. Among the regional tourist, arrivals from India topped the list with 87 percent, followed by Bangladesh at 11 percent and Maldives at 2 percent.

In terms of the tourism spread, Paro *Dzongkhag* hosted the maximum bed nights (32.69 percent) followed by Thimphu, Wangduephodrang, Punakha and Bumthang. Pemagatshel, Zhemgang, Tsirang, Dagana, Sarpang and Samtse were among the *Dzongkhags* that hosted less than 0.04 percent bed nights. This is due to lack of tourism products in these *Dzongkhags*. However this is likely to change in

the coming years with the Royal Manas National Park being open to tourism. The tourist arrivals in Trashigang and Samdrup Jongkhar have improved significantly as a result of opening of Merak Sakteng trek and also use of Samdrup Jongkhar as an entry point from the south-east.

The tourism package covers the cost of accommodation in a '3-Star' and above category hotel, local guide and transportation, and three meals. Currently, there are 123 accommodation providers with a capacity of 2,749 rooms offering 5,464 bed nights consisting of 8 '5-Star', 7 '4-Star', 40 '3-Star', 54 '2-Star' and 19 '1-Star' category. Accommodation classified as '2-Star' and below have been encouraged to upgrade to '3-Star' and above in order to cater to tourist. The annual occupancy rates was highest in the '3-Star' category with 34.46 percent followed by '5-Star'.

In terms of tour operators, there were 741 registered local tour operators, of which 318 were operational. The top 12 tour operators accounted for 41.46 percent of total arrivals with the highest number of tourists managed by a single operator of 4,159 visitors.

5.6.2 Key Challenges

It is evident from the above that the tourism sector has made much progress and is one of the key economic sectors contributing to economic growth, employment and revenues. However, constraints in terms of accessibility, regional spread, seasonality and product diversification are still issues of concern.

With just one international airport at Paro and with only Druk Air, the national carrier with a fleet of three Airbus A319 and one ATR 42-500, flying to limited destinations in the region, traveling to Bhutan is a challenge to many visitors. The number of visitors to Bhutan currently is determined by Druk Air's capacity. In 2012, about 88 percent of the visitors used air as preferred mode of travel to Bhutan. Since October 2013, a private airline, Bhutan Airlines owned by of Tashi Air Private Limited, started operating between Paro and Bangkok sector with one Airbus 320.

The other major challenge faced is the shortage of manpower in the form of trained guides, skilled workers in hospitality sector, qualified and experienced professionals in product development, destination marketing and other tourism-related services. The sector is still largely dependent on international tour operators for arrivals.

Among the 20 *Dzongkhags*, Paro, Thimphu, Punakha, Wangduephodrang and Bumthang are the major beneficiaries of tourism. Lack of tourist infrastructure

facilities/amenities, travel time and limited tourism products are some of the reasons for other *Dzongkhags* not benefitting much from the sector. However, with the completion of three domestic airports and efforts already underway to create infrastructure facilities and products in Central, South and East, the lack of regional spread is expected to be addressed in the next few years.

5.6.3 Sector Key Result Areas

Table 5.6.1 – Tourism Sector SKRAs and KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators (Outcome)	Baseline	Target
Key Objective -Promote Bhutan as high end high value low impact destination				
Sustainable and Equitable Socio-Economic Development	Improved Service Delivery	Tourist arrivals (no./pa)	1,05,407	>200,000
		Tourist satisfied with visit	85% (2011)	>90 %
	New products developed	No. of new products (wellness, cultural, sports, eco-tourism, MICE community based tourism etc)		At least 2 in each category.
		% of tourist visiting east, south and central circuits > 50%	21.86% (2011)	>50 %
	Contribution to GDP, Revenue and Employment increased	Contribution to GDP(US\$ m)	62.8 m	>250 m
		No. of Bhutanese employed	28,982 (2012)	40,000
Yield per tourist/night(US \$)		344	350	
Preservation and Promotion of Culture	Bhutanese culture and tradition promoted among visitors	% of tourist on cultural tours	77.09% (2011)	80%
		Growth in sale of handicraft products	TBD	TBD
Conservation & Sustainable Utilization and Management of	Environment conservation promoted and well being of rural communities improved through eco-tourism	Rural communities benefitting from eco-tourism (CBST)	4 communities (project areas)	8
		% of tourists on eco-tourism	13.04% (2012)	20%
Strengthening Good Governance	Enhance effectiveness and efficiency in delivery of public service	TAT for public services reduced		>75 %
		Anticorruption Strategy implemented		
		Average performance rating (Govt. Performance Management System - GPMS)		>90 %

5.6.4 Strategies

Tourism will be one of the priority sectors under Rapid Investments in Selected Enterprises (RISE) programme. Under the programme, selected initiatives that contribute to achieving higher yields per tourist as well as double the arrivals but spread throughout the country and throughout the calendar year will be defined and implementation of these initiatives closely monitored.

5.6.5 Key Programmes.

- **Sustainable Tourism Development:** The focus of this programme will include product diversification to ensure regional and seasonal spread, improving quality and standards of services including accommodation

and tourism attractions, exploring new markets, and decentralization of tourism planning and development. Further, the programme will ensure that local communities are able to reap the benefits from this industry. The thrust area for this industry will continue to be high end sustainable tourism destination.

- **Strengthening of Royal Institute of Tourism and Hospitality:** The Institute is expected to enhance the quality of tourism and hospitality professionals by benchmarking its training programmes to international standards and working towards its vision of becoming a regional center of excellence. The training modules and curriculum will be reviewed and improved based on periodic training needs assessments. Required additional infrastructures will be put in place and capacity development of faculties will receive priority.

Programme details are presented in Eleventh Plan Volume II document.

5.7 Trade, Industries & Mines Sector

This is a critical sector for sustainable economic growth and poverty reduction. The high priority accorded to the sector over the last five decades has resulted in significant structural changes in the economy with secondary and tertiary sectors taking over the primary sector and annual growth rates averaging around 8 percent per annum over the last decade. However, the structural change has not translated into productive employment opportunities, vibrant private sector growth and economic diversification. The economy continues to be driven by hydropower and construction sectors with limited potential for employment creation. Besides, small domestic market, difficult terrain, high transportation costs, lack of skilled human resources and access to finance remain major challenges to sustainable economic growth.

In an effort to diversify the economy and address the challenges, the Economic Development Policy (EDP) was adopted in 2010. The EDP targets *high value and low volume green* services and products that have minimal impact on environment – potential sectors include tourism, Information and Communication Technology (ICT) and IT enabled industries, cultural industries, construction and high-value niche commercial and organic agricultural products.

The main thrust area for the trade, industries and mining sectors in the Eleventh Plan is “*Brand Bhutan, Economic Diversification and Inter-generational Equity*”.

5.7.1 Current Situation

Trade: India is Bhutan’s largest trading partner accounting for 84 percent of exports and about 73 percent of imports. In 2011, Bhutan’s imports from India were worth Nu. 35.2 billion while exports to India amounted to Nu. 26.3 billion, leading to a trade deficit of Nu. 8.8 billion⁴² (10 percent of GDP). Electricity export makes up 38 percent of the total exports to India (Nu. 10.4 billion) while 51 percent of imports from India comprises of mineral fuel, base metal and vehicles. The balance of trade with India was in surplus till 2009 and thereafter it ran into deficit with imports outpacing exports with the commencement of three hydro-power projects in 2010-11.

Trade with rest of the world accounted for 16 percent of exports and 27 percent of imports. After India, the other major trading partners include Bangladesh, Thailand, Japan, South Korea, Hong Kong and Singapore. The main items of export were agro products (apples, oranges, mushrooms, cordyceps) and the main items

⁴²Statistical Yearbook 2012, NSB.

of imports were vehicles (22 percent of total imports in 2011), machinery and mechanical appliances (42 percent of total imports in 2011).

Table 5.7.1 – Trade Statistic

(Nu. in Million)

Trade	2007	2008	2009	2010	2011
Exports	27,859.06	22,590.64	23,992.74	29,324.39	31,485.95
India	22,723.72	21,480.02	22,434.39	26,000.89	26,377.97
Third Countries	5,135.34	1,110.62	1,558.35	3,323.50	5,107.98
Imports	21,745.44	23,495.12	25,650.18	39,084.09	48,697.64
India	15,099.54	17,339.55	19,968.01	29,338.00	35,201.07
Third Countries	6,645.90	6,155.57	5,682.17	9,746.09	13,496.57
Balance of trade	6,113.62	(904.48)	(1,657.44)	(9,759.70)	(17,211.69)
India	7,624.18	4,140.47	2,466.38	(3,337.11)	(8,823.10)
Third Countries	(1,510.56)	(5,044.95)	(4,123.82)	(6,422.59)	(8,388.59)

Source: Statistical Year book 2012, NSB.

The wholesale and retail trade's share of GDP averaged around 6 percent during the last five years and created an employment of 3.8 percent in 2012. The trade sector's contribution to national revenue increased from Nu. 2,789 m (19 percent of total revenue) in 2008-09 to Nu. 7,166 m (34 percent of total revenue) in 2011-12⁴³. The increase is attributed to higher remittances from excise duty refund, sales tax collections from goods and alcoholic products, customs duty, and corporate and business tax from trading units.

Trade with India is based on a Free Trade and Commerce Agreement between the two countries, that was renewed in 2006 for ten years. With Bangladesh, which is one of the top three export destinations, Bhutan has a Preferential Trade Agreement that was renewed in 2009 for five years. The current trading arrangement allows duty/tax free access to 18 exportable items from Bhutan to Bangladesh. Trade between Bhutan and Bangladesh has seen a substantial increase in the last five years. Imports from Bangladesh increased from a meager amount of Nu. 75.41 million in 2007 to Nu. 169.35 million in 2011. Import from Bangladesh in 2010 was recorded at Nu. 190.11 million, which is the highest till date. Similarly, exports to Bangladesh increased from Nu. 469.59 million in 2007 to Nu. 1226.66 million in 2011. The balance of trade has always been in Bhutan's favour ever since the commencement of trade with Bangladesh.

⁴³Various National Revenue Reports, DRC, MoF.

Bhutan and Thailand signed the Trade and Economic Cooperation agreement in November 2013. The value of Bhutan's exports to and imports from Thailand was Nu. 4.67 million and Nu. 1,223.70 million respectively in 2011.

Bhutan is also negotiating trade agreement with Nepal. For the year 2011, the value of Bhutan's export to and import from Nepal were Nu. 76.00 million and Nu. 138.89 million respectively.

In terms of global and regional trade agreements, accession to World Trade Organization (WTO) is still under consideration. The Working Party for Accession to WTO was established in 1999 and its memorandum on Bhutan's Foreign Trade Regime was submitted in 2003. At the regional level, Bhutan is member of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC). The negotiation on BIMSTEC free trade agreement is on-going.

The South Asia Free Trade Agreement (SAFTA) aimed at reducing tariffs for intraregional trade between the eight South Asian countries came into effect on 1 January 2006. It aims to reduce tariffs in stages to reach 0-5 percent level by 2013, with a longer time frame for the Least Developed Countries (Bhutan, Bangladesh and Nepal) to reach that goal by 2016. Due to the large number of products in the sensitive list, trade expansion under SAFTA has been limited; Bhutan has 150 products in the list compared to 1,257 products in Nepal's list. Reductions in the number of products under this list by member states are still being negotiated by the Working Group on Reduction in the Sensitive Lists. The other agreement within the SAARC framework is on Trade in Services (SATIS) which was signed at the Sixteenth SAARC Summit held in Thimphu from 28-29 April 2010. The Agreement has been ratified by all the Member States and negotiations on finalization of schedules of specific commitments are ongoing.

Industries – Industries is dominated by few major manufacturing firms based on mineral and metal and a large number of smaller firms dealing in handicrafts, food processing, construction, wood and paper processing. In 2011⁴⁴, there were 22,776 industrial firms, of which 133 were large, 220 medium, 2,649 small and 19,774 cottage industries. In terms of the type of industries, there are 291 agro-based, 831 forests based, 209 mineral based, 20,799 services and 646 others. Among the *Dzongkhags*, Thimphu *Dzongkhag* had the highest number of industrial firms representing about 35 percent (7,973) followed by Chukha with 14 percent (3,094). Gasa had the least with 76 cottage industries followed by Lhuentse with 198.

⁴⁴Statistical Yearbook 2012, NSB.

The major industries are located at Samtse (cement, fruit processing and liquor), Pemagatshel (gypsum mining), Gelephu (wood processing and liquor), Thimphu (agro and wood processing) and Phuentsholing (calcium carbide, ferrosilicon, plaster of paris, steel, beverages, bottling plant). Many of the major industries are located in the South due to proximity to the Indian market both for raw material and exports. The industries in the north are mostly small and medium sized cottage industries in agro-processing, wood-based, cultural industries (textile and handicrafts) and handmade paper.

To achieve the objective of Economic Development Policy 2010, the Foreign Direct Investment Policy (FDI) was revised in 2010 and made more liberal by incorporating a negative list in its provisions. Since its revision, 41 FDI projects have been approved of which 18 are operating and 24 projects have been issued with FDI registration certificates. The FDI projects are in hotels, hydropower, pharmaceuticals, dairy, steel, water bottling and banking. The holding of foreign investors' range from 20 percent to 100 percent, with Mountain Hazelnut Ventures Private Limited being a 100 percent foreign owned company. The key sources of FDI into Bhutan are from India, Hong Kong, USA, Japan, Singapore, Samoa, France, and Vietnam. Banking accounts for the largest share of FDI, with the International Finance Corporation (IFC) buying a 20 percent stake in the Bhutan National Bank, followed by the hydropower sector with foreign investment of Nu. 1.22 billion for the 115 MW Dagachhu hydropower project.

Table 5.7.2 – Foreign Direct Investments

	Foreign Direct Investment Inflows										
	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
In Millions of Nu.	101.2	117.9	157	401.5	273.9	3269.3	125	312.7	885.9	1181.6	483.7

Source: MTFP.

The industry sector's contribution to GDP was the highest averaging around 40 percent per annum over the last five years with manufacturing sector contributing 10 percent.

Mining - Bhutan has pursued mining activities cautiously bearing in mind the social and environmental consequences. The sector is, therefore, still underdeveloped. Although Bhutan has significant deposits of a number of mineral resources, including limestone, coal, graphite, gypsum, slate and dolomite, most mining activities are limited to relatively small operations and mainly involve the above minerals. The total mineral production ranges from 5000 metric tons to over

a million metric tons annually. All the mines in the country are operated using opencast mining technique and the current land coverage by mining activities is 0.033 percent of the total area of the country. About 15,000 square kilometer from the total geographical area of 38,394 square kilometer has been geologically mapped in the scale of scale of 1:50,000 systemically. There are currently about 55 registered firms in the mining sector.

Mining is important source of revenues. During the period 2005 to 2011, revenues from mining sector ranged from Nu. 155 million to Nu. 233 million annually, excluding business/corporate/personal income taxes paid by the promoters of the mines. The mineral production and their uses over the last three years are as follows.

Table 5.7.3 – Mineral Productions

Minerals	2009			2010			2011		
	Export	Domestic use	Total	Export	Domestic use	Total	Export	Domestic use	Total
Dolomite (metric tonnes)	1,028,146	847	1,028,993	1,214,620	0	1,214,620	1,071,433	8,981	1,080,414
Lime stone (metric tonnes)	34,921	615,031	649,952	34,522	670,389	704,912	39,860	585,675	625,535
Gypsum (metric tonnes)	283,141	16,595	299,736	306,536	37,499	344,034	312,371	41,435	353,806
Coal mines (metric tonnes)	27,076	21,469	48,545	58,819	28,997	87,815	73,354	33,551	106,904
Marble (square feet)	0	13,074	13,074	70,701	187	70,888	700,013	0	700,013
Slate (square feet)	0	18,998	18,998	0	0	0	0	0	0
Quartzite (metric tonnes)	12,927	69,651	82,578	2,305	109,065	111,371	90,468	45	90,513
Talc (metric tonnes)	64,949	0.00	64,949	36,442	0	36,442	8,230	0	8,230
Stone (metric tonnes)	63,841	447,940	511,781	80,871	6,569,107	6,649,978	182,761	1,674,460	1,857,221
Granite (square feet)	0	19,905	19,905	0	9,396	9,396	0	427	427
Phyllite (metric tonnes)	n.a	n.a	n.a	0	11,700	11,700	1,667	6,541	8,208
Calc Tufa (metric tonnes)	n.a	n.a	n.a	n.a	n.a	n.a	0	19,897	19,897
Iron Ore (metric tonnes)	n.a	n.a	n.a	n.a	n.a	n.a	0	0	0

Note: The unit for the Marble, Slate & Granite is in Metric tonnes for the year 2010.

Source: Department of Geology and Mines, MoEA, Thimphu.

Further development of mining sector will be pursued considering the environmental and social impacts and intergenerational equity.

5.7.2 Key Challenges

Foreign trade – Foreign trade is dominated by a few products. In 2011, about 80 percent of Bhutan's total export amounting to Nu. 31,485 million comprised of electricity (Nu. 10,411 million), mineral products (Nu. 4,626 million - ferro-alloys,

calcium carbide, silicon manganese and silicon carbide) and base metal (Nu. 10,476 million - steel bars, ingots and copper wire). The export earnings from these products are highly vulnerable with the production of electricity highly dependent on hydrological flows and the uninterrupted operation of the hydro power plants and mineral and base metals products being currently competitive only due to cheap electricity rather than any technological advantage. Further, due to high import content of raw materials for these products, they account for the highest share of the import bill. The import bills for base metal and mineral products in 2011 were Nu. 8,565 million and Nu. 10,805 million respectively. The next major export product is agriculture products (mandarin, potatoes, apples, cordyceps and agro products) which accounted for about 5 percent of the total exports. Bhutan faces major challenge in product diversification. Continued emphasis on mineral products and base metals for export promotion could mean compromising on environmental concerns and having to continue to provide electricity to these industries at prices lower than export prices. Diversification of our exports in agricultural and non-mineral and non-metal products will however require substantial investments.

Ease of Doing Business - In the 2012 IFC/World Bank Report on “Ease of Doing Business” Bhutan ranked 142 out of 183 countries. The areas requiring improvements were resolving insolvency, protecting investors, getting electricity and dealing with construction permits amongst others. In the region, Bhutan ranks seventh out of eight countries.

Table 5.7.4 – Ease of Doing Business – IFC/World Bank 2012

Ease of Doing Business	Starting a Business	Dealing with Construction Permits	Getting Electricity
142	83	135	145
Registering Property	Getting Credit	Protecting Investors	Paying Taxes
83	126	147	67
Trading Across Borders	Enforcing Contracts	Resolving Insolvency	
169	35	183	

Industrial base - About 85 percent of Bhutanese industries are small and micro industries dealing in agro products, textiles and handicrafts and large number of such industries are located in urban areas. While development of such industries

are important in view of Bhutan’s desire to develop clean green manufacturing industries with high potential for employment and for promoting broad based inclusive growth, they are constrained by lack of access to capital, technology, markets and labour resulting in low volume, high cost and inferior quality products.

Mining - In the absence of a clear mineral development policy, the management, allocation and monitoring of mining sector has been difficult. The sector also faces human resource constraints both in the government and the private mining sector which has hampered effective functioning of the sector. The draft Mineral Development Policy has been prepared to address these issues, and is expected to be approved within the first year of the Eleventh Plan.

5.7.3 Sector Key Result Areas

Table 5.7.5 – Trade Sector SKRAs and KPIs

TRADE & INVESTMENT SECTOR - SKRAs/KPIs				
GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective -Create an enabling environment for private sector development and stimulate export growth.				
Sustainable and Equitable Socio-Economic Development	Enabling environment created	Legal framework finalized ☐	1	3
		Ease of Doing Business improved in targeted areas;	0	3
		No. of Dry Port established and Operational	0	2
	Export Promoted	Value of exports of goods annually (without electricity) - Nu. Billion	15	28
		No. of new export products	14	28
		Contribution to GDP and employment increased.	Annual average GDP % ☐	10.92
		No. of Bhutanese employed by gender	12,508	17,000
Preservation and Promotion of Culture	Strengthened Brand Bhutan	Brand Bhutan Strategy developed and implemented	0	By 2014
Conservation & Sustainable Utilization and Management of	Promote Environment Friendly Trade	No. of trade fairs on environment friendly goods facilitated	NA	3
		Improve fuel quality	EURO III	EURO IV
Strengthening Good Governance	Enhance effectiveness and efficiency in delivery of public service	TAT for public services reduced		>75 %
		Anti-corruption Strategy implemented		100%
		Average performance rating (Govt. Performance Management System - GPMS)		>90 %

Table 5.7.6 – Industries Sector SKRAs and KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective -Ensure green and sustainable development of SME's, private sector development and industries.				
Sustainable and Equitable Socio-Economic Development	Enabling environment created	FDI inflow excluding Hydropower (in Nu. Mil.)	6388.1	10,000
	Economic expansion and diversification enhanced	Industrial Estates/SEZ developed	2	6
		No. of large and Medium industries approved	353	478
	Contribution of GDP and employment increased	Annual Average GDP Growth (%)	7%	18.36%
Preservation and Promotion of Culture	CSMI and Cultural industries promoted	No. of rural households engaged in cultural industries	202	2000
		No. of operational CSIs	13068	19918
		No. of Business incubation facilities	0	3
		No. of craft clusters	2	4
Conservation & Sustainable Utilization and Management of Environment	Promote Green industries and eco-efficient Technologies	Industries using low polluting and emission technology		All Industries
Strengthening Good Governance	Enhance effectiveness and efficiency in delivery of public service	TAT for public services reduced		>75 %
		Anticorruption Strategy implemented		100%
		Average performance rating (Govt. Performance Management System - GPMS)		>90 %

Table 5.7.7 – Geo-Mining Sector SKRAs and KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective -i) Ensure sustainable geo-scientific investigation and mineral development and ii) Prevention and reduction of risks associated with geo-hazards				
Sustainable and Equitable Socio-Economic Development	Environmentally and socially responsible mineral development promoted	No. of mines revegetated or created recreational areas or other human uses after closing	5	22
		Number of laws ammended/revised to promote scientific method, sustainable and environmental friendly mining	0	2
	Intergenerational equity ensured	Policy drafted promoting value addition of minerals leading to few and quality mines	0	Mineral Development Policy
		Contribution to Community Development Fund	NA	Nu.54 mil.
	Risk associated with GLOF and Geo hazards reduced	No. of earthquake monitoring station estb.	0	30
		Macro seismic hazard & risk map of the country conducted	0	1
Landslide inventory mapped		0	1	
GDP Contribution and employment increased	Annual average GDP growth rate (%)	10.16	11.25	
	No. of Bhutanese employed by gender	2000	3000	
Conservation & Sustainable Utilization and Management of Environment	Environmental impacts from snow and glacier melt reduced.	Climate Change induced GLOF risk mitigated	1	3
Strengthening Good Governance	Enhance effectiveness and efficiency in delivery of public service	TAT for public services reduced		>75 %
		Anticorruption Strategy implemented		100%
		Average performance rating (Govt. Performance Management System - GPMS)		>90 %

5.7.4 Strategies

The flagship programme to accelerate economic growth and achieve the objective of self reliance will be the Rapid Investments in Selected Enterprises (RISE) programme. The Government, in consultation with the relevant stakeholders,

will identify 4-5 non-hydro priority sectors for end-to-end intervention in the Eleventh Plan. The selection of priority sectors will be based on three filters of i) employment generation, ii) revenues to the government, and iii) returns to the entrepreneurs. Tentatively, the sectors identified are tourism (to achieve higher yields per tourist as well as double the arrivals but spread throughout the country and throughout the calendar year), agro-processing (selected produce with high potential), construction (enhance the capacity of Bhutanese contractors to deliver quality and take on more complex projects), small and cottage industries (including cultural industries such as textiles, arts and crafts) and manufacturing (explore establishment of few large scale hydro-power intensive industries).

A detailed blue print of interventions will be developed with clear initiatives, time line, targets, resource requirements and persons responsible to deliver the initiatives. The implementation of the programme will be rigorously monitored by the Cabinet and Committee of Secretaries and problem solving sessions facilitated to expedited smooth implementation of the programme.

To facilitate private sector development, the government will facilitate the development of economic infrastructure such as industrial estates in Jigmeling in Gelephu, Dhamdum in Samtse, Motanga in Samdrup Jongkhar and Bondeyma in Mongar and establishment of dry ports in Phuentsholing.

The government will also review and address issues related to excise refund, access to finance particularly for cottage, small and medium industries, reduction in turn-around-time for Government to Business (G2B) services specially in terms of government clearances/ approvals, and development of capital markets.

5.7.5 Key Programmes

Some of the key programmes include:

- **Export Promotion and Market Access:** The programme aims to strategically enhance our export capacity and leverage our comparative advantages to build our competitiveness in the international market through export promotion and marketing and facilitation of exports through integration into the regional and international trading environment.
- **Strengthening Trade Policy and Regulatory Framework:** The emphasis will be on strengthening the policy and regulatory framework to improve and simplify the procedures for business start-ups, prevent business malpractices, promote

fair competition in the market and promote international best practices in the business environment. The drafting of the Consumers' Protection Act and enactment of the Trade Development Act and the Competition Policy/Act are key policy and regulatory instruments that will be pursued. Further, the Dechencholing fuel depot will be relocated to Thinchupangkha under Paro *Dzongkhag* and Fuel quality will be upgraded to Euro IV.

- **Promotion of sustainable and environment friendly industrial development** - The focus will be on development of industrial parks to promote private sector development and enhance socio-economic activity in a particular region. In order to promote balanced regional development and enhance rural economy, four Industrial Parks will be developed and established at Bondeyma in Mongar, Dhandhum in Samtse, Motanga in Samdrup Jongkhar and Jigmeling in Sarpang. Further, the development and management of industrial parks in Jigmeling and Dhamdum would be pursued through PPP model and additional infrastructures in existing parks would be developed
- **Development of Cottage & Small Industries (CSIs) in Bhutan:** The growth of CSIs are essential for poverty alleviation, employment generation and sustainable economic development of our country. In accordance with the MSME Policy 2012, the development of CSIs will be promoted through six broad objectives:
 1. Strengthen the policy environment and institutional framework
 2. Strengthen the legislative framework and enterprise environment
 3. Facilitate access to finance and incentives
 4. Enhance competitiveness and innovation
 5. Enhance employment and develop a culture of entrepreneurship
 6. Improve market access
- **Geological Mapping, Mineral Exploration and Sustainable Mineral Development:** The demand for industrial minerals and construction materials will increase rapidly over the next few decades and therefore, the mineral sector will continue to play an important role in Bhutan's socio-economic development. The department will prioritize the target areas for mineral investigation and construction materials study. For ensuring mineral development, the Department will further strengthen both technical and human capacity of the government and private sector. Scientific mining

will be ensured through improvement of the regulatory framework and strengthening its implementation.

- **Geo-scientific Studies and Risk Assessment of Geo-hazards:** Bhutan is highly vulnerable to all forms of geo-hazards such as GLOFs, earthquake, landslides and flash floods owing to the fragile geology, active tectonics and climate change. Comprehensive geo-scientific studies and geo-hazard risk assessment is needed to address the threat posed by these geo-hazards. An earthquake monitoring network has already been initiated. The Eleventh Plan will focus on strengthening this initiative, including through the strengthening of human and institutional capacity to undertake studies and risk assessments. The geophysical investigation of potential groundwater reserves will be carried out. The validation of potentially dangerous lakes in the northern frontiers of Bhutan Himalayas will be carried out annually.

Programme details are presented in Eleventh Plan Volume II document.

5.8 Hydropower, Renewable Energy and Hydromet Sector

The energy sector is the lynchpin of our economy and accounts for about 18 percent of total revenues and about 20 percent of GDP. Bhutan has an estimated hydropower potential of 23,760 MW with a mean annual energy production capability close to 100,000 GWh. At present, the installed hydropower capacity is 1,488 MW, about 5 percent of the total potential.

The main thrust area for the Energy sector in the Eleventh Plan is “*Energy Security for Sustainable Development*”.

5.8.1 Current Situation

Currently, construction of 1,020 MW Punatsangchhu I Hydroelectric Project, 1,000 MW Punatsangchhu II and 720 MW Mangdechhu Hydroelectric Projects are ongoing. All three projects are scheduled to be completed by 2017-18.

The other projects, to achieve 10,000 MW hydroelectricity generations by 2020, are planned to start construction during the current Plan period. The construction period ranges from 8-9 years.

Sl. No.	Project	Capacity (MW/GWh)
1	Sankosh	2560/6216
2	Amochhu	540/1835
3	Kuri-Gongri	2640/10055.59
4	Chamkharchhu-I	770/3249
5	Bunakha	180/1669
6	Wangchu	570/2526
7	Kolongchu	600/2599

Source: MEA.

To ensure electricity for all and for inclusive growth, the government has actively pursued rural electrification since the Sixth Plan (1988-1993). Till date 82,270 households have been electrified out of the total of 88,642 households in the country resulting in overall electrification coverage of 92.82 percent.

Besides mega hydroelectricity plants, the installed capacity from renewable energy technologies is about 8,152 kW (solar PV contributing 152 kW and from small hydro

projects 8,000 kW). Further, about 900 biogas plants and 10 solar heating systems were promoted as part of the programme to promote alternate renewable energy.

The domestic electricity tariff was revised recently in October 2013 and in spite of about 15-20 percent increase for different categories of consumers, it is still the lowest in the region. For example⁴⁵, in the neighbouring Indian state of West Bengal, the lifeline block, meant for rural households, has a cap of 75 units, with a tariff of Rs 3.19 a unit. In the bordering state of Assam, the lifeline block is capped at 30 units and the tariff is Rs 2.75 a unit. The cap for low voltage (LV) users in West Bengal is 350 units, with tariff averaging at Rs 5.69 a unit. For the same category, the tariff is Rs 4.59 a unit in Assam. When it comes to medium voltage (MV) consumers, the tariff is Rs 6.97 a unit in West Bengal, and Rs 3.25 a unit in Assam. High voltage (HV) consumers or factories in West Bengal pay Rs 6.13 a unit, while in Assam it is Rs 4.18 a unit

A new element in the revised electricity tariff is that rural consumers are provided free electricity for first 100 units for the next three years. This was done to encourage the rural community to use electricity to cut down use of firewood for environmental and health reasons.

Table 5.8.2 Revised Electricity Tariff

Category	Existing (Nu per unit)	2013/2014 (Nu per unit)	2014/2015 (Nu per unit)	2015/2016 (Nu per unit)
LV Block I, (Rural) 0-100 KWh	0.85	0	0	0
LV Block I 0-100 KWh	0.85	0.98	1.12	1.28
LV Block II 100-300 KWh	1.62	1.86	2.13	2.45
LV Block III 300+ KWh	2.14	2.46	2.82	3.23
LV Bulk	2.14	2.56	3.07	3.68
Medium voltage				
Energy charge	1.79	1.98	2.19	2.43
Demand Charge Nu/KW/ month	115	155	195	235
High Voltage				
Energy charge	1.54	1.67	1.81	1.96
Demand Charge Nu/KW/ month	105	130	155	180

⁴⁵Kuensel 15 October 2013

5.8.2 Key Challenges

The high upfront investment costs required for developing hydro-power projects pose significant challenge in terms of raising financing for the project. The Government of India has agreed to provide the required financing and also buy any surplus power through the Umbrella Agreement on Development of Hydropower Projects signed between the two governments in 2006 and a Protocol to the 2006 agreement signed in 2009. The pace of hydropower project development will however depend on the availability of financing.

The extensive rural electrification programme to supply electricity to all households through grid and non-grid supply carried out since the Sixth Plan has resulted in substantial increase in number of domestic consumers and the demand for electricity. Maintaining the balance between the needs of domestic consumption and export earnings, meeting the demand by households and industries, and the cost of electricity supply and viability of tariff levels will be a challenge till new hydropower projects are commissioned.

Other challenges that need to be addressed include infrastructure development, system reinforcement and human resource capacity.

Glacial Lake Outburst Floods (GLOF) – Bhutan is home to 677 glaciers and 2,674 glacial lakes (Second National Communication, 2011). A recent study by Japan International Cooperation Agency (JICA) revealed that there are 2 potentially dangerous lakes, Thorthormi and Raphstreng, contrary to the figure of 25 lakes reported by International Center for Integrated Mountain Development (ICMOD) in 2001.

The report indicates that the two lakes are about 30 meters apart separated by a shrinking moraine dam. If the barrier is broken the water body from Thorthormi would flow into Raphstreng creating the threat of a possible outburst flood. The combined volume of water from these two lakes are projected to produce about 53 million cubic metres which would cause a flood three times more powerful than the 1994 flood in Punakha from Luggye lake. However, the risk has been reduced substantially after the mitigation works undertaken in the Tenth Plan.

5.8.3 Sector Key Result Areas

Table 5.8.3 - Energy Sector SKRAs and KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective - i) Increase energy security and contribution to revenue, economic growth and employment.				
Sustainable and Equitable Socio-Economic Development	Energy security enhanced	Installed capacity of HPP	1488 MW	4546 MW
		Total HV transmission lines constructed	1296 kms	1474kms
		solar power capacity	152 kW	1152 kW
		wind power capacity	0	360 kW
		small HPP capacity	8000 kw	20000 kw
		capacity of Biomass	0	10 kw
	National Capacity to Design, Build, Operate and Manage HPP developed.	No. of Bhutanese contractors qualifying for bidding for HPP	1	3
Contribution to GDP and employment increased.	Annual average GDP %	1.90	33.16	
	No. of bhutanese employed	5853	14593	
	Electricity revenue contribution to domestic revenue %	30%	40%	
Conservation & Sustainable Utilization and Management of Environment	Meaningful and purposeful alternate renewable energy promoted.	No. of households using bio-fuel as source of cooking/heating	600	3,400
Strengthening Good Governance	Enhance effectiveness and efficiency in delivery of public service	TAT for public services reduced		>75 %
		Anticorruption Strategy implemented		100%
		Average performance rating (Govt. Performance Management System - GPMS)		>90 %

Table 5.8.4 - Hydrometeorology Sector SKRAs and KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective - i) Hydrometeorology data strengthened to facilitate reliable weather, GLoF and water related forecasting.				
Sustainable and Equitable Socio-Economic Development	Hydrological, meteorological, glacier and snow monitoring network and database established.	Improved hydrological and meteorological observing and monitoring network and services with good national coverage	94	166
		Enhance weather forecasting(days)	1	3
		River flow forecasting(days)	0	1
		Glacier Mass Balance Monitoring stations	0	3
Preservation and Promotion of Culture	Hydrological/meteorological risk to historical and cultural properties reduced.	No. of Basin wise multi-hazard early warning systems	1	2
Conservation & Sustainable Utilization and Management of Environment	Delivery of weather, climate, GLoF, water and related environmental information and service enhanced.	No. of Research in climate prediction/projection to improve the skills of seasonal, decadal, and longer time scales	0	2
		No. of pamphlets, outlooks, guidance related to extreme hydromet events	0	4
Strengthening Good Governance	Enhance effectiveness and efficiency in delivery of public service	TAT for public services reduced		>75 %
		Anticorruption Strategy implemented		100%
		Average performance rating (Govt. Performance Management System - GPMS)		>90 %

5.8.4 Strategies

Enhancing institutional and human capacity will be a critical strategy. The energy sector's capacity to design, build, operate and manage hydropower projects will be developed through human resource development. Since hydro-meteorological services play an important role in development of hydroelectric projects, capacity to collect, analyses and interpret hydro-meteorological data will be strengthened. Other issues such as the benefits of separating transmission and distribution utilities and feasibility of establishing a Power Trading Company will be explored.

Development of sustainable energy allocation policy - With the commissioning of new hydropower projects in the next few years, Bhutan's firm power will be enhanced substantially. To prepare for the optimum utilization of firm power that would be available and to plan for clean green industrial development, energy allocation policy will be formulated.

Development of Renewable Energy - To enhance energy security and reduce dependency on fossil fuel, other forms of alternate renewable energy will be promoted. Renewable energy (RE) master-plan will be developed to map RE potential and sites and feasibility studies will be conducted.

5.8.5 Key Programmes

- Accelerated Hydropower Generation & Transmission Network Strengthening – Major activities include new system infrastructures and system reinforcements to ensure reliability and security of domestic power supply; pre-feasibility studies and reconnaissance studies for new hydropower projects, implementation of pre-construction activities and construction of hydropower projects; establishment of a Power Training Institute to address manpower deployment in Hydropower projects; and construction of new transmission lines and associated substations by BPC.
- Enhancing Hydrological Network for Water Resources Assessment and Improvement of Flood Information/GLOF Early Warning System - Strengthening of hydrological information and establishing early warning networks and stations to reduce the risks of climate change induced disasters like floods, landslide, and droughts will be the focus.
- Strengthening Meteorological Network Coverage and Enhancing Weather and Climate Information Services - The current observation network in

Bhutan is inadequate in terms of spatial coverage and representativeness. Hence, strengthening meteorological network coverage and enhancing weather and climate information services will be the focus.

- Promotion and Development of Renewable/Alternate Energy Technologies
- The Programme aims to diversify energy supply mix using other renewable energy resources like solar, wind, biomass, small hydro and other emerging modern fuels for energy generation and to strengthen the institutional capacity for provision of efficient and responsive energy services in the Country. The Program intends to develop Renewable Energy Master Plan, conduct pre-feasibility and feasibility studies to attract the investors in the RE Sector. The Programme will promote biogas plants as alternate source of fuel for cooking, Compact Fluorescent Lamp (CFL) instead of incandescent lamps in the LV category consumers, energy efficient wood stoves to reduce fuel-wood demand and solar water heating systems as alternative means for heating water and space.

Programme details are presented in Eleventh Plan Volume II document.

5.9 Information, Communication & Technology and Media Sector

Information, Communication & Technology and Media play an important role in developing a more open, just and democratic societies. It is a key element for empowering people and enhancing transparency, accountability and good governance. The right to information as enshrined under Article 7(3) of the Constitution is a fundamental right of every Bhutanese citizen. Accordingly, the Right to Information Bill was tabled in the first session of the second Parliament in September 2013 and will be further deliberated during the next session.

ICT and Media are also critical “to promote a green and self reliant economy sustained by an IT enabled knowledge society guided by the philosophy of GNH” as underlined in the Economic Development Policy 2010 (EDP). The sector has been identified as one of the sectors for provision of high end green services such as Business Process Outsourcing (BPOs), Knowledge Process Outsourcing (KPOs), Data Centres and other IT enabled services in health, education, finance etc.

Given the importance of the sector, a number of initiatives have been implemented to strengthen the ICT backbone infrastructure, develop appropriate policy and legislation and enhance the technical capacity of ICT professionals. Further, an E-Gov Master Plan that has been developed to provide the strategic direction for development of the sector will be implemented during the Eleventh Plan.

The main thrust in the Eleventh Plan will be to make the sector “affordable, reliable and sustainable” through implementation of the E-Gov Master Plan. The objective of the E-gov Master Plan is to consolidate and optimize the investments in various IT infrastructures during the Tenth Plan period for improved service delivery, enhanced access to services and information and facilitating good governance. The focus will be on consolidating the E-gov projects such as the G2C, establishing a government data centre, and further improving the nationwide intranet system – Thimphu Wide Area Network (TWAN) & Dzongkhag Local Area Network (DLANs) for smooth and seamless functioning of many of our online services. Special attention will be paid to tapping the potential of mobile technology for delivering services including for financial payments.

5.9.1 Current Situation

Since the launch of television and internet on 2 June 1999 and cellular mobile on 11 November 2003, ICT and media sector has made significant progress. The key indicators of the ICT and Media sector are as follows:

Table 5.9.1 – ICT & Media Indicators

ICT & Media Indicators						
Sl. No.	Indicators	2004	2008	2010	2011	2012
1	Fixed line telephone subscribers	30,285	27,937	26,292	27,490	27,057
2	Cellular mobile subscribers	18,995	228,347	394,316 (56.7%)	484,189 (68.4%)	560,890 (77.8 %)
3	No. of Geogs with access to cellular mobile services (out of 205 Geogs)	n.a.	98	204	205	205
4	Internet subscribers:	35	5,548	94,285	94,285	133,289
	i) Lease line	109	199	280	308	317
	ii) Fixed Broadband	1,300	8,675	13,233	15,078	16,766
	iii)GPRS/EDGE			82,462	118,852	120,406
	iv) 3G Users					18,686
5	No. of Television Stations	1	1	1	1	1
6	No. of Radio Stations	1	4	6	7	7
7	No. of newspapers	1	4	7	10	12

Source: MoIC Progress Report June 2012

Policy: Bhutan Information, Communication and Media Act (BICMA) 2006 provide the overall legal framework for the development of ICT and media sector. The Act is being revised to incorporate provisions on cyber security, data protection, privacy, broadcasting etc. Further, the e-Gov Master Plan, Telecom & Broadband Policy, Media Policy, Film Policy and Advertisement Policy have been drafted and will be submitted to the government for approval in the Eleventh Plan.

Infrastructure: Under the National Broadband Master plan project, optical fibers have currently reached all 20 *Dzongkhags* and 174 *Gewogs*. Except for four, the remaining *Gewogs*, will be connected by December 2013. The Second International Gateway has been established at Gelephu and operationalized to create the required redundancy. Direct high bandwidth connectivity to India, Nepal and Bangladesh is being established under SASEC Information Highway Project. More than 90 Government organizations are connected through the Thimphu Wide Area Network (TWAN). Of the 182 Community Centres (CCs) that have been established, 87 CCs have broadband internet connectivity as of June 2013 while the remaining will be connected in the Eleventh Plan. Computers are being made freely accessible to some rural communities to facilitate learning (HIWEL) and an IT Park was established in Babesa on 1st November 2011.

Telecommunications - All 205 *Gewogs* have access to mobile services and the remaining 10 villages will be connected by mobile services by the end of 2013. B-Mobile, a subsidiary of Bhutan Telecom Limited (BTL), and Tashi-Cell, a subsidiary of Tashi InfoComm Limited (TICL), are currently the two service providers offering mobile services with BTL being the sole provider of fixed-line telecommunication in the country. Internet services are provided by Druknet (under BTL), TICL, Samden Tech and Drukcom.

e-Service Delivery - In the area of e-Services, a Government-to-Citizen (G2C) initiative is underway to implement 136 e-Services. 22 G2C e-services have been made available through the CCs that are connected with internet.

5.9.2 Key Challenges

Telecom tariff – Telecommunication tariff will be an important consideration for investors to set-up BPOs, KPOs, Data Centre and IT enabled services. Currently, telecommunication tariffs in Bhutan are much higher than those in India with differences ranging from 114 percent for 1 mbps to 315 percent for 8 mbps. The high difference in tariff levels could negate Bhutan’s comparative advantage of political stability, clean environment and availability of cheap and reliable power. The tariff structure will be reviewed to make it more competitive and affordable.

Table 5.9.2 – Telecom Tariff

Comparison of Telecom Tariff between Bhutan and India						
Bandwidth (mbps)	Bhutan Telecom (Nu/Month)	Tashicell (Nu/Month)	India (INR/Mon)	Difference (Nu/mon)	Difference between Bhutan & India(%)	Remarks
1	26,785.00	21,736.00	12,500.00	14,285.00	114%	
2	53,570.00	43,472.00	24,500.00	29,070.00	119%	
3	80,355.00					Current BITC lease
5	133,925.00		41,666.67	92,258.33	221%	
7	187,495.00	152,156.00				
8	214,280.00	162,000.00	51,600.00	162,680.00	315%	Current Shaun Lease
10	267,850.00		66,666.67	201,183.33	302%	
15	386,325.00	254,494.60	100,000.00	154,494.60	154%	Shaun Projection
25	618,100.00	382,417.38				Provision for wing 3 & 4
27	667,548.00	413,010.77				BITC Projection
40	947,760.00	611,867.81	200,000.00	411,867.81	206%	Scan Café Projection
50		764,834.77	233,333.33	531,501.44	228%	BITC Projection
70		1,070,768.86				BITC Projection

Source: DITT, MoIC estimates August 2012.

International redundancy: International redundancy is defined as direct telecom infrastructural links with multiple countries. At present, all telecom links to the outside world are routed through Siliguri, India. Any operational failure in the telecom link through Siliguri could lead to connectivity problems⁴⁶. An alternate telecom link with the outside world is necessary for international redundancy without which it may be difficult to position Bhutan as a potential hub for ICT and ICT enabled services. An alternate link through Cox’s Bazaar, Bangladesh will be explored.

Talent Pool - the strength of the ICT sector is primarily determined by availability of a rich pool of competent information and communications professionals. Currently, Bhutan has about 350 ICT professionals within the civil service. However, the sector still lacks qualified professionals particularly in specialized ICT skills such as network security, cyber laws, software development and programming. Creating a talent pool and strengthening ICT human resource management through parenting, clear career advancement opportunities and effective deployment and utilization of ICT personnel will be a priority.

5.9.3 Sector Key Result Areas

Table 5.9.3 – ICT and Media Sector SKRAs/KPIs

ICT & MEDIA SECTOR - SKRAs/KPIs					
GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target	
Key Objective -i) Promote Bhutanese information society, strengthen good governance and enhance economic development and ii) To develop a responsible, vibrant and creative information and media industry					
Sustainable and Equitable Socio-Economic Development	Access to reliable and affordable ICT and media services improved	Villages with reliable mobile network	85%	100%	
		Dzongkhag with access to high speed internet services	20%	100%	
		Monthly Broadband subscription charge (home)	Nu. 399	< Nu. 399	
Preservation and Promotion of Culture	Culture and traditions kept alive through ICT and media.	Contribution to GDP and number of job created	No. of Bhutanese employed in IT/ITES by gender	964	3000
		Exhibitions, debates, quiz on culture/traditions covered/ facilitated by ICT/media	0	5	
Conservation & Sustainable Utilization and Management of Environment	E-waste reduced	Amount of e-waste (MT/annum)	0	<8 MT	
Strengthening Good Governance	Effective and efficient public service delivery	Number of e-services delivered	49	>100	
		Number of m-services delivered	3	>10	
		M-payment gateway introduced	0	1	
		TAT for public services reduced		>75 %	
		Anticorruption Strategy implemented			
	Average performance rating (Govt. Performance Management System - GPMS)			>90 %	

⁴⁶Telecom Consultants of India Limited (TCIL) report titled, “Report on redundant network for Bhutan and Siliguri Single Point of Failure” on 21 March, 2011 suggest alternate path through Karsiyang, West Bengal and back-to-back Service Level Agreement with Indian service providers could provide international redundancy.

5.9.4 Strategies

While implementation of e-Gov Master Plan, capacity building and ICT infrastructure expansion will be the main strategy for ICT sector, the following will be pursued to address the issues and challenges confronting the ICT sector:

- Review of telecommunication tariff to ensure affordability and competitiveness.
- Improve international redundancy by exploring alternate link through Cox Bazar, Bangladesh.
- Create talent pool and strengthen ICT human resource management through parenting, clear career advancement opportunities and effective deployment and utilization of ICT personnel.

5.9.5 Key Programmes

- ICT for good governance and socio economic development - the focus will be on consolidating the e-governance projects, digital migration, establishing a whole of government data centre, and further improving the nationwide intranet system (TWAN & DLANS) for smooth and seamless functioning of many of our e-government services.
- Promotion and Development of Media - the main focus will be introducing media and information literacy curriculum in schools, and promotion of contemporary arts, creative media and films and strengthening policy and legal instruments.

Programme details are presented in Eleventh Plan Volume II document.

5.10 Transport Sector

Transport sector covers surface and air transport. The surface transport is regulated by the Road Safety & Transport Act 1999 and air transport by the Civil Aviation Act 2000.

The main thrust of the transport sector in the Eleventh Plan will be to ensure safe, efficient and reliable transport services.

The focus of surface transport activities will be the implementation of the Bhutan Transport Strategies 2040. The primary objective of Bhutan Transport Strategy is to address the issue of growing traffic congestion particularly in Thimphu and Phuentsholing and improve access to reliable and safe public transport to all parts of the country. Also, emphasis will be placed on making our roads safer through extensive advocacy and education programmes.

Air Transport activities will focus on expansion of facilities at Paro International Airport, enhance safety and regulatory system and upgradation of three domestic airports including the feasibility and construction of Short Take-Off and Landing (STOL) airstrips.

5.10.1 Current Situation

Surface Transport – Surface transport is the main means of passengers and good transportation. The services were provided by the government till it was fully privatized in 1991. Today there are 21 operators managing a fleet of more than 209 buses operating on more than 73 routes⁴⁷. The transport operators are provided interest subsidy of 60 percent on the loan as an incentive for operating in economically unviable routes.

To address urban transportation needs, a study on Bhutan Urban Transport Systems to assess the feasibility of introducing eco-friendly mass urban transport system using clean fuel for Thimphu and Phuentsholing has been completed. The study recommends Bus Rapid Transit (BRT), high capacity buses (60 seats) which meet European emission standards, for Thimphu to be implemented under Public Private Partnership model. In the meantime, city bus services in Thimphu will continue to be provided by Bhutan Post.

To enhance public service delivery, the web-based Registration and Licensing Information System (e-RaLIS) services were launched reducing the turnaround time for issuance of new driving licenses and renewals significantly.

⁴⁷Statistical Yearbook 2012, NSB

Air transport – Aviation services in Bhutan commenced in 1983 with Druk Air flights to Kolkata with fleet of two 18-seat Dornier 228 aircraft. Since then, aviation services have expanded to ten international routes connecting Bhutan with India, Thailand, Nepal, Bangladesh and Singapore. Currently, Bhutan has signed Air Service Agreement (ASA) with India, Nepal, Bangladesh, Thailand, Myanmar, Maldives and Singapore. Signing of ASA with the remaining SAARC countries (Pakistan, Afghanistan and Sri Lanka) have also been initiated with a larger plan to air-link all SAARC capitals. Similarly, ASA with South East Asian nations such as South Korea, Vietnam, Laos, Malaysia, Cambodia and Hong-Kong are being explored.

Table 5.10.1 – Selected Air Transport Indicators

	2007	2008	2009	2010	2011
Number of passengers carried	121,711	119,105	118,084	132,615	166,264
Druk Air's operating revenue (Nu. M)	1,255	1,168	1,344	1,495	2,261
Number of flights by Druk Air	3,415	3,224	3,142	2,954	3,810

Source: Statistical Year Book 2012, NSB.

With the completion of construction of Yongphula, Bumthang and Gelephu airports, domestic air services was launched in 2011 by Druk Air and Tashi Air (first private domestic operator). However, the services to Yonphula has been suspended till 2014 to complete major development works and only chartered services are available to Gelephu.

Druk Air provides international and domestic air services with a fleet of three A319 and one ATR 42-500. Tashi Air Private Limited, a private airline which started domestic services with one Pilatus PC-12, has since October 2013 started operating between Paro and Bangkok with one Airbus A320.

Air cargo transported was 620,000 tons in 2012.

5.10.2 Key Challenges

Surface transport – Road safety is a major issue with number of vehicles increasing every year. Over the last five years the number of vehicles has almost doubled with 90 percent of vehicles registered under Thimphu and Phuentsholing regions. With increase in number of vehicles, the number of motor vehicles accidents has also been on the rise with figures increasing from 696 in 2005⁴⁸ to 1,730 in 2011. Thimphu and Chukha *Dzongkhags* tops the accident list with light vehicles leading the category of vehicles involved in accidents.

⁴⁸MoIC Progress Report, June 2012

Causes of Motor Vehicle Accidents 2011

	Mechanical fault	Drunk Driving	Bad weather	Without license	Unknow causes	Other	Total
Total in 20 Dzongkhags	49	222	76	158	2	1223	1730
Of which in Thimphu	10	176	22	126	0	949	1283
Of which in Chukha	27	34	24	14	0	180	279
Of which light vehicles	25	195	46	138	1	1046	1451

Source: Statistical Yearbook 2012, NSB.

Moreover, since the transport functions are carried out by number of agencies – highway construction and maintenance by the Department of Roads, urban roads by *Thromde*, traffic management by the Royal Bhutan Police, licensing/ vehicle fitness by the Road Safety Transport Authority – issues of coordination and implementation is a challenge.

Air transport – Air travel is the most efficient means of travel to and from Bhutan, particularly for tourists, business travelers, foreign investors and medical referrals patients, the alternate being travel by road through India. At present, Paro International Airport caters to 160,000 passengers annually, an average of 450 passengers per day, 3800 scheduled flights annually, and about 10 flights daily in and out of Paro. A key issue is the capacity of Paro airport to serve double the number of passengers, flights and air cargo in the Eleventh Plan.

With the expansion of aviation sector, the Department of Civil Aviation is confronted with a key challenge of retaining its professionals who are being offered better remuneration and service conditions by the airline companies. Further, conflicting functions of regulation and implementation being carried out by the department is creating potential for conflict of interest. Therefore, retention of professionals and separation of conflicting function are critical issues that need to be reviewed and addressed in the Eleventh Plan.

5.10.3 Sector Key Result Areas

Table 5.10.2 –Transport Sector SKRAs/KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective -i) Increase access to safe, reliable, affordable, eco-friendly, convenient transport services, including surface, air, railway, ropeways and waterways.				
Sustainable and Equitable Socio-Economic Development	Eco-friendly, safe, reliable and affordable surface/ air transport increased.	Reduction of annual road fatalities per 10,000 vehicles	17	<10
		Increase in ton of air cargo carriage (in million tons)	0.62 m/tons	2.2 m/tons
		No. of passengers handled by Paro International Airport annually	160140	300000
		Lack of effective implementation (LEI) percentage to be reduced to ICAO acceptable level	63.50%	50%
		No. of passengers using the domestic sector annually	1044	10,000
	New modes of transport explored/ introduced	Number of alternative modes of transport introduced (ropeway, waterway, electric public transport).	0	3
	Contribution to GDP	Average annual growth contribution to GDP	11.87%	10%
Preservation and Promotion of Culture	Facilities for senior citizens and those with special needs incorporated.	Public transport services with facilities for senior citizens, women, children and those with special needs	0	30%
Conservation & Sustainable Utilization and Management of Environment	Surface/air transport emission and congestion reduced.	Public Transport Ridership	11.8% (2012)	30%
		Vehicular/Aviation emission controlled	Vehicle-230.36 Gg, Aviation-2.5 Gg	Vehicle-230.36 Gg, Aviation-2.5 Gg
Strengthening Good Governance	Enhance effectiveness and efficiency in delivery of public service	TAT for public services reduced		>75 %
		Anticorruption Strategy implemented		
		Average performance rating (Govt. Performance Management System - GPMS)		>90 %

5.10.4 Strategies

The surface transport is regulated by the Road Safety & Transport Act 1999 and air transport by the Civil Aviation Act 2000. Since both Acts were legislated more than a decade ago they will be reviewed and revised during the current Plan period.

Surface Transport – Access to public transportation, particularly in rural areas, will be expanded by incentivizing transport operators through special subsidies. In urban areas, eco-friendly mass public transportation services will be introduced to reduce road congestion, vehicle emissions and improve public service efficiency. Road safety will be strengthened by improving driver licensing procedures, motor vehicle fitness standards, public safety awareness campaigns (especially on drink driving and over-speeding) and equipping road safety authorities with necessary equipments and tools to monitor road safety.

To address the issue of coordination and implementation, integration and streamlining of transport activities under one agency will be explored.

Air Transport – The key strategy will be to strengthen Paro International Airport through expansion of infrastructure facilities and upgradation of security and

navigational equipment to increase its capacity to handle more passengers, cargo and flights. At the same time, upgradation of Gelephu to an international airport will also be explored. Further, improvements of the three domestic airports will be carried out to enhance safety and reliability and to facilitate increased domestic air transport. Bhutan will continue to pursue further signing of Air Service Agreements to expand air services to and from international destinations.

The retention of professionals will be addressed through a comprehensive review of civil service system and conflicting functions will be addressed by exploring ways to ensure greater independence and autonomy of the Department of Civil Aviation. Further, the legal and policy instruments will be reviewed and strengthened.

Alternate modes of transport – To ease the pressure on air and surface transport, alternate modes of transporting passengers and goods will be explored such as waterway, ropeway, cable cars and railway links. Furthermore, the government is already exploring piloting of electric powered taxis to address environmental issues and reduce dependency on fossil fuel.

5.10.5 Key Programmes

- Surface Transport Development - the programme will focus on the implementation of Bhutan Transport Strategies 2040, and in particular address the issues of traffic congestion in the major *Thromdes* by setting up the Bus Rapid Transport systems in Thimphu and Phuentsholing. In addition, alternate modes of transport will also be explored for the purpose of controlling the carbon emission.
- Development of Air Transport - the programme will focus on further expansion of the Paro International Airport to deal with the expansion in air traffic and passengers, as well as strengthen the domestic airports to optimize their functionality.
- Promotion of electric vehicles will be pursued to address environmental issues and reduce dependency on fossil fuel.

Programme details are presented in Eleventh Plan Volume II document.

5.11 Roads & Bridges Sector

For a landlocked country, a good network of road and bridges play a critical role in facilitating trade, transit, reducing the high cost of transportation normally associated with mountainous countries and for delivery of socio-economic services particularly to scattered and far-off rural communities.

Recognizing the importance of the roads and bridges sector, Bhutan started its first Five Year Plan in 1961 with the construction of the first national highway - Phuentsholing-Thimphu highway. Since then the network of roads and bridges have expanded significantly and today all twenty *Dzongkhags* are connected by road.

The Department of Roads is the national authority responsible for all roads in the country. For roads in a *Thromde*, the *Thromde* Administration is responsible for the administration and management of all roads, constructed or maintained by it, including any access roads. Similarly, for roads in the *Dzongkhag* and *Gewog*, the *Dzongkhag* administration is responsible for the administration and management of all roads constructed or maintained by it, including access roads. For farm roads technical specification, guidelines and manuals are provided by the Ministry of Agriculture and Forest.

The strategic framework for the construction, expansion and maintenance of road infrastructure up to the year 2027 is guided by the Road Sector Master Plan (RSMP).

The main thrust of the roads and bridges sector in the Eleventh Plan will be to complete the national highway grid using environment friendly technology, construction and upgradation of roads connecting to hydro-power projects and to enhance the safety, reliability and quality of roads.

5.11.1 Current Situation

Bhutan's road transportation network is classified into five categories as follows:

- National Highways – consisting of Asian Highway/International Road (currently Phuentsholing-Thimphu Highway), Primary National Highway (existing East-West Highway and North-South highways) and Secondary National Highway (currently District Roads);
- *Dzongkhag* Roads (currently feeder Roads);

- Farm Roads (currently Farm Roads and Power Tiller Roads);
- *Thromde* Roads (currently Urban Roads); and
- Access Roads.

Currently, Bhutan has 10,578.26 kilometers of various categories of roads, 337 numbers of bridges totaling 10,604.5 meters and 380 pedestrian bridges nationwide.

Table 5.11.1 - Type and Length of Roads by Dzongkhag as of June 2012

Dzongkhags	Expressway	Primary NH	Secondary NH	Access Road	Dzongkhag Road	Thromde Road	Farm Road	Forest Road	Power Tiller Road	Total	%
Bumthang	-	151.26	-	21.36	50.00	1.70	169.09	47.80	-	441.21	4.2%
Chukha	-	272.00	-	177.33	58.57	28.58	334.57	30.90	23.30	925.25	8.7%
Dagana	-	11.00	87.00	2.20	62.29	1.50	231.05	18.50	28.10	441.64	4.2%
Gasa	-	-	48.65	3.18	7.00	-	11.01	-	-	69.84	0.7%
Haa	-	16.00	25.60	0.90	34.00	7.93	108.65	47.00	6.10	246.18	2.3%
Lhuntse	-	-	45.00	3.70	69.41	0.77	376.85	7.05	5.50	508.28	4.8%
Mongar	-	213.40	20.00	27.34	71.44	11.40	689.18	44.80	3.50	1081.06	10.2%
Paro	-	103.00	64.59	25.60	41.06	5.20	353.72	5.19	2.00	600.36	5.7%
Pemagatshel	-	66.60	36.00	5.76	94.80	-	330.76	17.60	-	551.52	5.2%
Punakha	-	52.00	26.50	18.41	52.33	4.41	312.63	59.00	10.40	535.68	5.1%
S/Jongkhar	-	73.80	48.00	21.90	41.00	7.32	242.61	11.50	-	446.13	4.2%
Samtse	-	50.00	49.00	8.30	60.40	8.25	213.20	7.00	-	396.15	3.7%
Sarpang	-	112.60	-	13.91	40.30	14.62	203.75	111.30	-	496.48	4.7%
Tashi Yangtse	-	-	40.00	4.16	40.70	8.72	178.56	20.69	-	292.83	2.8%
Thimphu	6.20	74.00	23.53	20.50	57.90	216.15	57.98	103.86	-	560.12	5.3%
Trashigang	-	121.50	5.00	41.73	168.33	6.60	610.32	8.50	23.00	984.97	9.3%
Trongsa	-	174.65	-	10.16	23.85	0.62	177.98	-	4.60	391.86	3.7%
Tsirang	-	77.00	-	12.41	25.00	3.30	169.25	6.50	-	293.46	2.8%
Wangdue	-	132.00	-	120.26	110.78	8.50	257.54	117.81	-	746.89	7.1%
Zhemgang	-	159.31	50.69	20.78	81.12	14.10	228.50	2.25	11.60	568.35	5.4%
Grand Total	6.20	1860.12	569.55	559.88	1190.29	349.67	5257.20	667.25	118.10	10578.26	100%

Source: Department of Roads, MoWHS

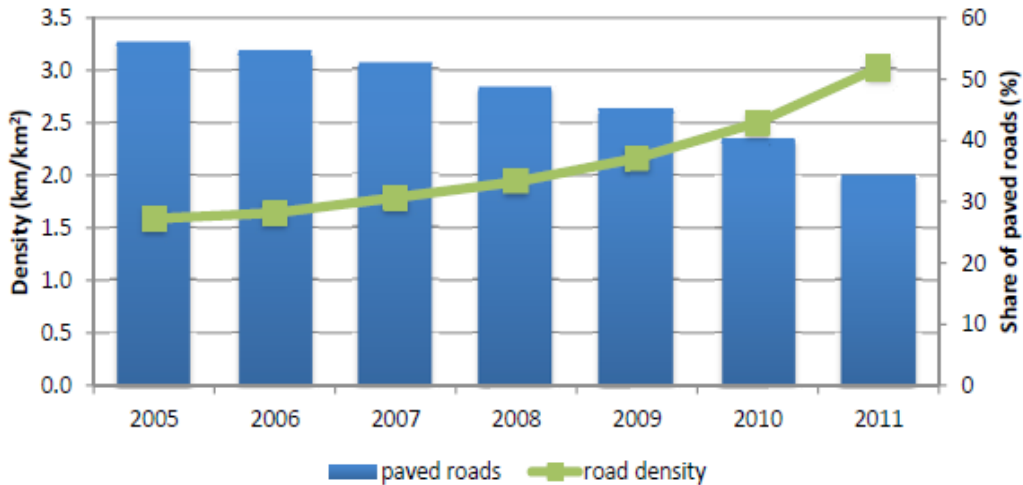
5.11.2 Key Challenges

Most of the existing primary and secondary national highways, including the Northern East-West highway, were constructed in the 1960s and 1970s when the traffic volume was low with the primary objective of providing connectivity to settlements. With increase in traffic volume, road safety has become a growing challenge.

Additionally, financial sustainability in terms of improving the specification of the existing roads, maintenance costs and blacktopping cost of unpaved roads is another challenge. To improve access particularly in rural areas, extensive network of *Gewog* Connectivity roads have been constructed and many of these roads are unpaved. A preliminary assessment of blacktopping about 2,000 kilometers

of *Gewog* Connectivity roads would cost about Nu. 13 billion. The ADB’s Country Diagnostic Study 2012 estimates that while the density of road has doubled from about 1.5 km/km² in 2005 to 3 km/km² in 2011, the percentage of paved roads have decreased from about 55 percent to about 35 percent during the same period.

Graph 5.11.1 – Percentage of Paved Roads and Road Density



Source: Calculations based on National Statistics Bureau, various years. *Statistical Yearbook of Bhutan*.

Source: Asian Development Bank (ADB)’s Country Diagnostic Study 2012

5.11.3 Sector Key Result Areas

Table 5.11.2 - Roads Sector SKRAs/KPIs

ROADS & BRIDGES SECTOR - SKRAs/KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective - i) Increase efficiency and reliability of road infrastructure to facilitate economic development and strengthening national security, and ii) Ensure sustainability through mechanization and greater private sector participation				
Sustainable and Equitable Socio-Economic Development	Construction and up gradation of Primary National Highways incorporating EFRC completed	KM of Primary National Highways constructed in EFRC manner.	2444	2881
		KM of Primary National Highways up-graded in EFRC manner	1068.64	1261.43
		Permanent solutions to stabilize problematic landslide areas (No.)	3	7
	Roads connecting to new HPP constructed and strengthened incorporating EFRC and Bhutanese architectural features	KM of new roads connecting HPP constructed in EFRC manner	23.08	34.10
		KM of roads connecting HPP up-graded.	33.80	73.00
	Construction and maintenance of road network strengthened through standards, specifications and geometrics improvement for all weather access road to ensure safety	Travel time in trucking hours along the NEWH (Hrs).	46.5	30
		National Highways open to traffic all times (immediate clearance of road blocks) (Hrs).	na	5
		No. of gewogs connected with black topped road	NA	203
	Bridges constructed and replaced to improve access	No. of temporary (bailey) bridges replaced	160	184
		No. of suspension bridges constructed	384	458
		No. of suspension bridges maintained	400	446
		No. of bridges with Bhutanese architectural features.	NA	24
		No. of bazaams constructed	16	26
	Strengthening Good Governance	Enhanced efficiency and Effectiveness of in Public service delivery	TAT of commonly availed services reduced by at least 70%;	
National Anti-corruption strategy implemented			NA	100%
Average Performance Rating				>90%;
Private sector participation		Km of roads constructed and maintained through PPP model	25.36	105.94
	No. of km road maintained through PPP (No. of km)	296	1296.00	

5.11.4 Strategies

Institutional and human resource development will be one key strategy to strengthen the capacity of road sector to plan, design, build and maintain road network. To reduce travel time and costs and to enhance road safety, road specifications and standards will be improved and geometric improvements and regular maintenance of road will be carried out. The government will also explore possibilities of tunneling certain stretches of the highways through PPP wherever feasible. The involvement of the private sector in the maintenance of roads will also be explored in order to ensure financial sustainability.

5.11.5 Key Programmes

- Construction and Upgradation of Southern East-West Highway: The construction and upgradation of the Southern East West Highway (SEWH) from Sipsu to Jomotsangkha will be a priority. In the Eleventh Plan the remaining links between Gelephu – Panbang; Sarpang – Lhamoizingkha; Deothang – Nganglam; and Samrang – Jomotsangkha will be constructed.
- Upgradation/Improvement of Northern East -West Highway: The northern East-West highway from Thimphu to Trashigang will be upgraded and improved.
- Construction/Upgradation of North South Highways: The ongoing North-South highways including Gyalposhing – Nganglam, Gomphu – Panbang, Gesarling – Lhamoizingkha and Damchu – Chukha bypass Road will be completed. On completion of these roads, there will be 7 North-South highways helping to strengthen the road network and facilitate easy movement of goods and services to the Southern borders.
- Construction and Upgradation/Improvement of roads connecting hydro power projects: The construction of Mandelping-Digala, Riphay – Koshala and Tingtibi-Praling will be completed. The upgradation of Chazam – Tashiyangtse will be also carried out for the Kholongchu HPP.
- Construction of *Dzongkhag* roads: The construction of ongoing *Dzongkhag* roads Tsebar-Mikuri-Durungri road connecting Gyalposhing-Nganglam Highway will be completed in the Eleventh Plan.

Programme details are presented in Eleventh Plan Volume II document.

5.12 Construction Sector

The construction sector plays a vital role in the delivery of quality infrastructure which is essential for our socio-economic development. It is also a key sector in terms of its contribution to economic growth and employment. The key agencies responsible for the development of construction sector are:

Department of Engineering Services (DES): DES was created in 2011 by bifurcating the erstwhile Department of Urban Development and Engineering Services (DUDES) into Department of Engineering Services (DES) and Department of Human Settlement (DHS). DES is responsible for promoting construction technology, providing technical backstopping to the other ministries, *Dzongkhag* Administrations and *Thromdes* and supporting professional development of all the engineers.

Construction Development Board (CDB): CDB is a bridge between the government and the construction industry and is responsible for facilitating development of a vibrant construction industry. Its core functions include registration, classification and monitoring of contractors, consultants and engineers/architects.

Construction Development Corporation Limited (CDCL): CDCL was established on 1st July 2006 as a public sector company owned by the Royal Government of Bhutan with the following objectives:

- Enhance efficiency, mechanization, improve standards and create a good benchmark of quality infrastructure in the construction sector.
- Lead the modernization of the construction industry through the introduction of appropriate machineries and technologies, including the maintenance of an equipment bank of machines not easily available in the market to support the government and the private sector.
- Participate in the booming construction industry, introducing technology intensive construction and building capacity of local construction industry through collaborations.
- Generate employment and at the same time develop necessary skills for skilled and unskilled national manpower, thereby gradually reducing dependence on the expatriate work force.

The private sector is represented by the **Construction Association of Bhutan** under the Bhutan Chamber of Commerce and Industries (BCCI). Its membership includes all firms under the construction industry.

The sector has come a long way with establishment of various agencies and introduction of many new initiatives towards making the sector more efficient and effective. However, poor quality of construction, human resource constraints and high construction costs continue to affect the sector. The main thrust in the Eleventh Plan will, therefore, be on enhancing the quality of construction through efficient and appropriate technology, mechanization and human resource development.

5.12.1 Current Situation

The construction sector contributed about 16 percent of nominal GDP and recorded an annual growth of 35 percent in 2011. The sector's contribution is expected to increase in the coming years with accelerated development of hydro-power projects. In terms of employment less than 5,000⁴⁹ Bhutanese were employed by the construction sector in 2012.

Table 5.12.2 Construction Sector's contribution to GDP at current prices in million Nu.

	2000	2006	2007	2008	2009	2010	2011
GDP at current prices in million Nu.	19,735.77	40,673.52	49,456.60	54,713.01	61,223.48	72,496.64	85,580.58
Construction sector contribution	2,761.41	6,019.71	6,781.01	6,250.98	7,469.68	10,308.86	13,916.57
Annual Growth	40.33	-3.21%	12.65%	-7.82%	19.50%	38.01%	35.00%
Share of total GDP	13.99%	14.80%	13.71%	11.43%	12.20%	14.22%	16.26%

Source: National Accounts Statistic 2012, NSB.

The contractor classification was re-categorized to increase flexibility and to allow contractors to participate in larger contract. Currently there are about 3,892 registered contractors, of which 120 are large (above Nu. 15 million), 380 medium (Nu. 4-15 million) and 3,392 small (under Nu. 4 million) contractors. About 127 Bhutanese contractors, in various categories, are engaged in the construction of three ongoing hydropower projects. Besides construction companies, there are about 63 architects and 46 construction related consultants in Bhutan⁵⁰.

⁴⁹LFS 2012

⁵⁰CDB

Table 5.12.3 - Dzongkhag-wise Contractor Classification

<i>Dzongkhag</i>	Large	Medium	Small	Registered	Total
Bumthang	1	10	112	0	123
Chukha	13	25	235	0	273
Dagana	0	4	87	0	91
Gasa	0	0	21	0	21
Haa	4	14	122	0	140
Lhuentse	1	13	90	0	104
Mongar	4	23	194	1	222
Paro	12	24	238	2	276
Pemagatshel	0	12	183	2	197
Punakha	1	10	90	0	101
Samdrup Jongkhar	3	13	123	0	139
Samtse	0	10	173	0	183
Sarpang	4	25	279	1	309
Thimphu	61	124	806	2	993
Trashigang	5	31	234	1	271
Trashiyangtse	3	6	131	1	141
Trongsa	1	12	93	0	106
Tsirang	0	3	93	0	96
Wangdue Phodrang	3	14	165	1	183
Zhemgang	1	9	81	1	92

Source: Construction Association of Bhutan website

5.12.2 Key Challenges

Construction sector perceived poorly for employment: With three new hydropower projects under construction and seven new projects planned to be started in the Eleventh Plan, there are ample opportunities for addressing unemployment. However, construction sector jobs are perceived as inferior by many Bhutanese and as a result foreign workers⁵¹ are brought in to fill the gap. Some of the reasons for this perception are low wages, lack of job security (workers have to find a new job once the construction project is completed), low level of mechanization and the manual nature of work.

⁵¹About 22,000 foreign workers were employed by hydropower projects (labour net, 2012).

Limited capacity and poor quality: The shortage of engineers, architect and other qualified professionals combined with a lack of basic tools and technology for effective planning, designing and supervision results in frequent changes in the scope of work and consequently the cost of construction projects. It is estimated that Bhutanese construction projects are 15-20 percent more costly and take 50 percent longer to complete compared to similar construction work by Indian contractors on similar projects. 90 percent of all construction projects in Bhutan have time and cost overruns as compared to 40 percent in India and 5 percent in best-in-class countries⁵². Further, due to poor quality of construction, the cost of maintenance is expected to be double the industry standard.

5.12.3 Sector Key Result Areas

Table 5.12.5 – Construction Sector SKRAs/KPIs

CONSTRUCTION SECTOR - SKRAs/KPIs				
GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective -Enhance quality of construction industry through introduction of new energy efficient technology, mechanization and human resource/professional development.				
Sustainable and Equitable Socio-Economic	Contribution to GDP and employment opportunities created	Annual average contribution of construction to GDP	12.73%	> 13 %
		No. Bhutanese employed in construction industry by gender	5000	10,000
Preservation and Promotion of Culture	Bhutanese architect and aesthetics in construction incorporated while adopting modern construction technology.	% of houses constructed using modern technology while maintaining Bhutanese architect/aesthetics.	na	100%
		No. of standards made for standardized building components	na	30%
Conservation & Sustainable Utilization and Management of Environment	Eco-friendly/disaster resilient, innovative and good quality construction promoted	% of construction mechanized ethnology introduced	na	50%
		% of eco-efficient/disaster resilient technologies	na	50%
		No. of water reservoirs	0	5
		Percentage of rural pop with access to improved drinking water supply (%)	94.1%	100%
		No. of flood preventive infrastructures in place	na	13
Strengthening Good Governance	Effective and efficient public service delivery	No. of Bhutanese contractors qualifying for HPP bidding	na	3
		TAT for public service delivery reduced		70%
		Construction quality assurance (compliance with standards %)		100%
		National Anti-corruption strategy implemented		100%
		Average performance rating		> 90 %

5.12.4 Strategies

Training and capacity building of engineers, architects and other professionals in the construction sector will receive high priority in the Eleventh Plan's Human Resource Development Master-plan.

⁵²Construction Sector Diagnostic Study 2009 McKinsey & Company.

Mechanization of construction sector, use of local construction materials, centrally fixed rate contracts for some key materials (like cement, steel, bitumen etc.) will be pursued in order to avail institutional-buyer-discounts to reduce the cost of construction.

To encourage youth to work in the construction sector special service conditions such as job security and better wages will be explored. Vocational training programmes will be aligned to the needs of construction industry and will include apprenticeships and on-the-job trainings. Vocational training graduates will be encouraged to form their own construction firms and the government will provide necessary support for start-ups.

5.12.5 Key programmes

- Promotion and Strengthening of Construction Sector: The Construction Development Board (CDB) will concentrate on promoting efficient and quality based construction sector. These will be carried out through awareness programs among the contractors and mechanization. The benefits of creating an autonomous Construction Development Authority (CDA) to be able to discharge its roles and responsibilities efficiently will be explored.
- Engineering Adaptation and Disaster Risk Reduction: The major activities to be undertaken during the plan period are construction of flood protection walls and land reclamation along major flooding rivers, disaster risk assessment and mapping and development of guidelines and manuals. Flood risk assessment and vulnerability mapping will also be carried out. These are aimed to reduce the vulnerability of people and places to floods.
- Technical support and management for infrastructure development and engineering services: The Department of Engineering Services will provide technical backstopping to all government agencies and *Thromdes*. It will promote the construction of MICE facilities through PPP. The construction of water reservoirs in water stressed towns will also be initiated. The development of regional hubs and centers in eastern Bhutan to promote regional balanced development will be carried out.
- Technical support for construction and maintenance of suspension bridges and mule tracks: There are still many communities who need trail suspension bridges as a principle means of transport. The Department of Engineering Services (DES) will also initiate the construction of *bazams* and maintenance and technical backstopping for the construction of trail suspension bridges.

Programme details are presented in Eleventh Plan Volume II document.

5.13 Human Settlement & Housing Sector

Human Settlement: Until recently, the focus of this sector was mainly on urban development to meet the needs arising from the rising trends in rural-urban migration and rapid pace of urbanization, particularly in the two major towns of Thimphu and Phuentsholing. The Bhutan National Urbanization Strategy 2008 estimates that the average annual growth of urban population in Bhutan during 2000-2005 was 7.3 percent, with Thimphu city experiencing the highest growth at 12.6 percent. This rapid growth in urban population has created severe pressure on existing facilities leading to problems of water shortages, lack of sanitation and waste disposal facilities etc. To address these problems, a number of urban development programmes, particularly in Thimphu and Phuentsholing, have been implemented over the last decade. However, in spite of major infrastructure expansion, the rural-urban migration trend continues and urban centres continue to face difficulties in provision of urban services. Further, expansion of the existing services is also constrained by limited land availability in urban areas. In the meantime, large scale unplanned developments near urban areas are taking place.

In order to address the issues of rapid urbanization and unplanned development a new Department of Human Settlement (DHS) was created by bifurcating the erstwhile Department of Urban Development and Engineering Services into two separate departments in 2011. The Department of Human Settlement is responsible for preparation of human settlement policies, strategies and plans.

The main thrust of the human settlement sector will be to develop strategic human settlements with a focus on balanced regional development and improving the quality of life and socio economic status of both urban and rural residents.

Housing: The National Housing Development Corporation Limited (NHDCL) was established on 15 July 2003 to promote and develop housing in Bhutan in line with the National Housing Policy 2002. It was corporatized in 2009.

The main thrust of housing sector in the Eleventh Plan will be to provide safe, adequate and affordable housing to all and promote homeownership. Where feasible, participation of the private sector will be encouraged.

5.13.1 Current Situation

Human Settlement: –Till recently, priority was accorded to planning and development of urban centres and not on human settlements. However, the emergence of

unplanned settlements near the urban areas is constraining urban expansions and provision of service facilities. Therefore, DHS was mandated to develop settlement plans that take into consideration the planning of an entire region.

As of now, comprehensive human settlement plans do not exist, other than structural and local area plans for settlements classified as i) Class A *Thromdes* – Thimphu, Phuentsholing, Gelephu and Samdrup Jongkhar; ii) Class B *Thromdes* – *Dzongkhag* centre; and iii) Yenlag Throm. The criteria for various categories of towns are as follows:

Class A Thromdes should have a resident population of more than 10,000 with population density of 1,000 persons or more per square kilometers. The area should not be less than 5 square kilometers and should have revenue base sufficient to finance the establishment and maintenance of infrastructure and provision of services. It should have a national administrative significance such as being the capital city or a town that services more than one *Dzongkhag*.

Class B Thromdes should have a resident population of more than 5000 with population density of 300 persons or more per square kilometers. The area should not be less than 1 square kilometer. It should have significant commercial, industrial or institutional centre and at least 50 percent of the population dependent on non-primary activities.

Yenlag Throm should have a resident population of more than 1500 and area not less than 50 acres.

In 2010, the Parliament approved four Class A *Thromdes* and 18 Class B *Thromdes*. Yenlag Throms are yet to be approved.

Housing: The sector is guided by the Housing Policy 2002. Currently, there are 1,122 housing units across the country for rental and 32 apartments in Changjiji allotted under homeownership programme to low income groups.

BLSS 2012 reports that 85 percent of the households in the rural areas lived in houses whereas almost three-fourths of urban households (73 percent) lived either in part of a house or in an apartment. It also indicates that about 60 percent of the household owned their own dwellings, out of which 83 percent households were in rural areas and 17 percent in urban areas. 62 percent of households in urban areas rented their dwellings. The private sector is the largest provider of dwellings for rent, especially in the urban areas, where its rentals comprise 43 percent of dwellings. About one-fifth of urban dwellings are owned by the government and public corporations.

Table 5.13.1 - Distribution of Households by Tenure Status by Housing Provider and by Area (Urban or Rural) (%)

Area	Owned	Rent-free	Renting				
			Government	Public Corporation	Employer	Private	Others
Urban	16.6	20.6	14.0	4.0	1.0	42.6	1.2
Rural	82.9	7.2	2.5	0.6	0.1	6.5	0.2
Bhutan	60.3	11.8	6.4	1.8	0.4	18.8	0.5
Source: BLSS 2012							

Among the *Dzongkhags*, Pemagatshel had the highest proportion of households that own their dwellings (91 percent) and Thimphu the lowest with 19 percent. The proportion of households that own their dwellings is below 60 percent in only three other *Dzongkhags*: Chhukha (43 percent), Sarpang (52 percent), and Paro (58 percent). In Thimphu, three-fifths of households rent and one-fifth live in rent-free dwellings; 80 percent of the rent-paying households live in dwellings owned by private individuals; and 18 percent live in housing owned by the government and public corporations.

Households in the poorest per capita consumption quintile paid a house rent of Nu 1,217 a month, on average, while the richest households pay about Nu 4,487. The average monthly rental is highest in Thimphu and Wangduephodrang (about Nu 5,000) and lowest (about Nu. 900) in Gasa and Lhuentse.

5.13.2 Key Challenges

Human Settlement – In absence of a clear legislation such as the National Spatial Planning Act and the National Human Settlement Policy it is difficult to plan, coordinate and implement human settlement strategy.

The sector also faces acute shortage of human resources. While the department has urban planners, urban designers, architects, infrastructure planner and engineers, the numbers are not adequate. Moreover, lack of qualified and experienced GIS professionals, municipal engineers, urban economists, sociologists, planning lawyers, investment planners and environmentalists limit the sector to address complex urban issues.

Further, other issues such as timely availability of land, resources to implement structural and local area plans and resistance to introduction of new/revision of taxes, hamper strategic human settlement development.

Housing – National Housing Development Corporation was established in 2003 to implement the National Housing Policy 2002 objective of providing safe and affordable housing for all. A decade after its establishment not much progress has been made considering the present housing stock of 1,122 units which includes units/bungalows constructed in 1970s and 1980s. Places like Thimphu, Phuentsholing, Gasa, Lhuentse and Samdrup Jongkhar have severe housing shortages. As a result, many Bhutanese in Phuentsholing are forced to live across the border and in places like Gasa and Lhuentse civil servants are living in temporary makeshift houses due to lack of proper housing.

The challenge is not only in terms of increasing the housing stock but also making it affordable particularly for the low and middle income group. The high cost of financing and raw materials makes construction expensive resulting in higher rents. NHDC’s assessment indicate that low income people spend about 50-60 percent of their income on house rent in Thimphu and Phuentsholing against an ideal proportion of 30 percent of income.

5.13.3 Sector Key Result Areas

Table 5.13.2 – Human Settlement and Housing Sector SKRAs/KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective - i) Ensure balanced and sustainable development of human settlements, ii) Improve quality of urban infrastructure and services and iii) Provide safe, aesthetic, adequate and affordable housing.				
Sustainable and Equitable Socio-Economic Development	Strategic and smart human settlements developed with high liveability index for balanced regional development	No. of development plans/ structural plans developed/Local Area Plans	45	67
		No. of growth centers developed	na	2
		% of solid waste reduced, reused and recycled	na	70%
	Access to affordable housing enhanced	No. of waste management measures instituted	na	10
		No. (units) of affordable and quality housing constructed (through PPP)	na	50
		No. of housing units constructed in all Dzongkhags	1122	1427
	Improved quality of infrastructure facilities and services	% of population with access to safe, clean and reliable drinking water and sanitation	81%	100%
		Livability Index of Class A Thromdes	TBD	TBD
		Standards developed and incorporated in government infrastructures for differently abled people (%)	NA	100%
Preservation and Promotion of Culture	Develop aesthetic, culturally and socially ambient human settlement	% of new human settlement developed in accordance with the rural and urban HS guidelines	na	100%
		% of aesthetic and culturally ambient housing complexes developed	na	100%
Conservation & Sustainable Utilization and Management of Environment	Innovative, affordable and eco-efficient/disaster resilient housing construction technology adopted	No. of houses constructed using innovative and affordable construction technology	287	362
		No. of eco-efficient/disaster resilient buildings constructed	na	75
		No. of housing complexes with waste management practices instituted	na	5
Strengthening Good Governance	Effective and efficient public service delivery	Municipal services TAT reduced		70%
		National Anti-corruption strategy implemented	na	100%
		Operating expenditures covered by municipal revenues	na	100%

5.13.4 Strategies

Human Settlement – To ensure sustainable development of human settlements, new legislation and policies will be formulated and existing rules and regulations reviewed and improved. Development of valley plans, regional hub plans and rural urban development plans will be accelerated in order to contain the rural urban migration. Capacity strengthening of engineers, architects and planners will be given emphasis.

Housing: NHDC will explore new technologies and design innovation to reduce the cost of construction while ensuring high quality. Over the next five years, about 800 new units of low income housing for rental will be constructed across the country. To promote homeownership, about 100 units will be constructed which will be allotted to low income civil servants based on modalities such as direct purchase, lease, and purchase and installment payment basis depending on the purchasing capacity of the beneficiaries. Given the limited resources of the government, partnership with private sector for the provision of low-cost housing will also be explored.

5.13.5 Key Programmes

- Enhancing human settlement in Bhutan: The development of settlement has been accorded high priority in past plans but the efforts were mostly concentrated in urban areas. With the creation of the Department of Human Settlement (DHS), focus will be accorded equally to both urban and rural settlements. The major activities in the Eleventh Plan are development of valley development plans, urban development plans and rural development plans. The environment and disaster resilient aspects will be incorporated while developing the structural and local area plans.
- Promotion of affordable housing and home ownership: The NHDC will construct affordable housing particularly in *Dzongkhags*/towns like Thimphu, Phuentsholing, Samdrup Jongkhar, Lhuentse and Gasa where housing shortage is a major problem.

Programme details are presented in Eleventh Plan Volume II document.

5.14 Emerging Social Challenges

With development, Bhutan is confronted with new social challenges such as those related to youth, senior citizens, single parents, orphans, differently-abled persons, domestic violence and crime. The rising rural-urban migration, changing urban lifestyle and exposure to information and media are giving rise to breakdowns in family relationships, drug abuse, crime and youth related problems. While insufficient data makes it difficult to assess the scale of these challenges, they cannot be ignored. Many urban areas are already confronted with these challenges and for the first time the Eleventh Plan pays special attention to these issues.

5.14.1 Current Situation

Institutional set-up - Currently, the Ministries of Health and Education are taking the initiative to address issues related to youth, orphans, differently abled person, and senior citizen issues. The other agency responsible is the National Commission for Women and Children which was established in 2004 to fulfill Bhutan's obligations towards the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) and the Convention on the Rights of the Child (CRC). The Office of Gyalpoi Zimpon has also been providing support to the underprivileged youths, orphans and senior citizens in the form of monthly stipends and rations.

Besides, there are a number of civil society organizations (CSO) and associations working in these areas such as:

- *Youth Development Fund*, which was established as a CSO in 1999 to provide financial support for youth development activities like leadership skills, drug rehabilitation, special education, basic skills and vocational training, advocacy research and education.
- *Tarayana Foundation*, which was established in 2003 to help the poor and disadvantaged communities become self reliant through programmes aimed at building local capacities, providing scholarships, facilitating micro-finance and housing improvement.
- *RENEW (Respect, Educate, Nurture and Empower Women)*, which was established as a CSO in 2004 and is dedicated to the empowerment of women and girls in Bhutan, especially victims of domestic and gender based violence. RENEW provides counseling, temporary and long-term shelters, legal assistance and need-based provision of vocational training in selected skills and micro-

enterprises as a way of providing opportunities to help transform lives of many women.

- *Draktsho Vocational Training Centre for Special Children and Youth*, established in 2001 as a CSO to empower disabled youth through training for their eventual integration into the mainstream population. Its main focus is to equip the trainees with vocational skills to enhance their opportunities for gainful employment. It also aims to build their self-esteem and self-reliance, thereby making them more independent, confident and contributing members of the society.
- *Ability Bhutan Society*, established in 2011 as a public benefit organization (PBO). It provides services and facilities to address the needs of families and individuals with multiple impairments, especially children living with mental retardation, cerebral palsy, autism and multiple disabilities.
- *Royal Society for Senior Citizens*, established as a CSO in 2011 to enhance human security especially amongst its old age citizens.
- *Lhak-Sam*, established by a group of HIV positive people in September 2009 and registered as CSO in 2010. Its main aim is to promote a strong support system based on solidarity, social networking and people's participation for addressing and taking collective action towards effective responses to HIV/AIDS and its impact.

Enabling Environment – The various articles of the Constitution, in particular Article 7 and 9, protect the rights of an individual, women and children and mandates the State to take appropriate measures to eliminate all form of discrimination and exploitation.

Domestic laws such as Child Adoption Act 2012, Child Care and Protection Act of Bhutan 2011, Narcotic Drugs, Psychotropic Substances and Substance Abuse Act 2005 and Rape Act 1996 have been enacted to protect the rights and welfare of individuals.

At the international level, Bhutan is a signatory to the Convention on Elimination of all Forms of Discrimination Against Women (CE DAW), Convention of Rights of the Child (CRC) and the UN Convention on the Rights of Persons with Disabilities.

Existing Facilities – The National Institute for the Visually Impaired established in 1973 was the first institution established for special needs children. Subsequently,

a number of institutions/facilities have been created for differently-abled person. The Ministry of Education has established Changangkha Lower Secondary School in 2001 as an integrated school providing special needs education and education for the hearing impaired was introduced in Drukgyel Lower Secondary School in 2003. In addition, there are six other schools catering to the special needs education. The Ministry has also introduced the Inclusive Education programme for children with Special Education Needs (SEN) and has established a division for Special Education Needs under the Department of School Education. The Annual Education Statistic 2012 reports that there are about 343 students and 177 teachers in the eight special education schools.

RENEW provides shelter homes and safe houses for the victims of family violence and their children which operate 24 hours a day. The shelter provides emergency protection, food and lodging, emergency medical care, crisis intervention and counseling.

Draktsho provides vocational courses on tailoring, embroidery, weaving, etc. and life skills such as personal management skills, sign language, safety skills, etc. to differently-abled persons.

Youth Development Fund supports women's Nazhoen Pelri Treatment and Rehabilitation Centre for Drugs and Alcohol Dependence, located in Serbithang and a number of drop in centres for alcohol and/or drug dependent people

Royal Bhutan Police established the Youth Development and Rehabilitation Center in Tshimasham in 1999 with the aim to provide reformatory training for juveniles in conflict with the law.

Differently-abled persons: According to the two stage child disability (aged 2-9 years) study⁵³ carried out by NSB in 2012, the prevalence of any form disability⁵⁴ was 21 percent. If mild disability was excluded then the prevalence of moderate or severe disability clubbed together was about three (2.7) percent. The prevalence of disability⁵⁵ was higher among the age group 2-5 years. The prevalence of cognitive disability⁵⁶ was highest with 15 percent, followed by behavior disability 5.6 percent and fine motor 5.5 percent.

⁵³Out of sample size of 11,370 children, 3,500 children were screened as having potentially functional impairment.

⁵⁴Difficulty in 8 functional domains: gross motor, fine motor, vision, hearing, speech, cognition, behavior and seizures.

⁵⁵Intellectual or specific learning disability.

⁵⁶Refers to the small movements of the hands, wrists, fingers, feet, toes, lips, and tongue.

Table 5.14.1 – Disability Prevalence

	Any Disability		Mild		Moderate		Severe		Moderate or Severe	
	Prevalence Rate (%)	Standard Error	Prevalence Rate (%)	Standard Error	Prevalence Rate (%)	Standard Error	Prevalence Rate (%)	Standard Error	Prevalence Rate (%)	Standard Error
All Children	21.3	1.1	18.6	1.0	2.1	0.4	0.7	0.2	2.7	0.4
By sex										
Male	20.7	1.6	18.0	1.4	1.9	0.5	0.8	0.3	2.7	0.6
Female	22.0	1.6	19.0	1.4	2.2	0.6	0.6	0.2	2.8	0.6
By age										
2-5 Years	26.8	1.7	22.7	1.4	3.2	0.7	0.9	0.3	4.1	0.7
5-9 Years	15.5	1.5	13.9	1.4	0.8	0.3	0.5	0.1	1.3	0.3

Note: The prevalence figures are rounded off to the nearest first decimal point and thus do not necessarily add up to the totals.

Source: Two Stage Child Disability Study 2012, NSB

The prevalence of disability was higher among the poor, in rural areas, those with mothers of low level education or mothers with no education, and in the age group 2-5 years. Disability was insensitive to gender.

Table 5.14.2 – Weighted Prevalence of any Disability by Characteristic (%)

	Prevalence Rate (%)	Standard Error	95% Confidence Interval		Number of children (unweighted)
			Lower	Upper	
Bhutan	21.3	1.1	19.1	23.6	764
Sex					
Male	20.7	1.6	17.6	23.9	387
Female	22.0	1.5	19.1	24.8	377
Region					
Western	20.8	1.9	17.0	24.6	247
Central	23.3	1.8	19.7	26.9	281
Eastern	20.0	1.8	16.6	23.5	236
Residence					
Rural	23.1	1.3	20.6	25.7	657
Urban	14.1	2.0	10.1	18.1	107
Mothers Education					
None	22.8	1.3	20.2	25.3	625
Primary	18.6	3.1	12.5	24.6	76
Secondary +	13.5	2.8	8.0	19.0	63
Age					
2-5 years	26.8	1.7	23.5	30.1	502
5-9 years	15.5	1.4	12.8	18.2	262
Wealth Quintile					
Poorest	26.0	2.6	21.0	31.1	236
Second	25.6	2.2	21.3	29.9	188
Middle	21.2	2.2	17.0	25.5	159
Fourth	14.4	2.0	10.5	18.3	120
Richest	14.0	2.7	8.8	19.3	61

Source: Two Stage Child Disability Study 2012, NSB

Senior citizens – Baseline Survey for the Royal Senior Citizens 2013 estimates that there are 101,563 senior citizen (55 years and above), of which 62 percent were males and 38 percent were females. 53.9 percent lived in urban areas.

Table 5.14.3 – Senior Citizens Profile

Area	Age	Male	Female	Total
Urban	<= 55	1372	250	1622
	56 - 62	7736	6862	14598
	63 - 69	4117	7611	11728
	70 - 75	6114	4866	10980
	76 - 82	8609	2620	11229
	83+	1622	2994	4616
	Sub-total		29570	25203
Rural	<= 55	749	873	1622
	56 - 62	8859	3868	12727
	63 - 69	11604	3743	15347
	70 - 75	4492	3868	8360
	76 - 82	4866	0	4866
	83+	2870	998	3868
	Sub-total		33440	13350
Both areas	<= 55	2121	1123	3244
	56 - 62	16595	10730	27325
	63 - 69	15721	11354	27075
	70 - 75	10606	8734	19340
	76 - 82	13475	2620	16095
	83+	4492	3992	8484
	Total		63010	38553

Source: Baseline Survey for the Royal Senior Citizens 2013

The study also revealed that 46 percent of senior citizens were cared for by families led by themselves, 23 percent were taken care of by their sons and 22 percent by daughters. 6 percent lived with their cousins and 3 percent with other relatives. The largest number of senior citizens lived in the Eastern region (35433), followed by the Southern region (28697) and least lived in the Western region (11478).

Table 5.14.4 – Senior Citizens Marital Status and Employment Status

Population of senior citizen by marital status and employment						Percentage				
Marital status	Empl-oyed	Unem-plied	Self-employed	Disabled	Total	Employed	Unem-plied	Self-employed	Disabled	Total
Married	17593	19714	31941	499	69747	25.22	28.3	45.8	0.7	68.9
Widowed	8609	6239	12851	0	27699	31.08	22.5	46.4	0.0	27.4
Divorced	499	998	1123	0	2620	19.05	38.1	42.9	0.0	2.6
Never Married	0	624	499	0	1123	0.00	55.6	44.4	0.0	1.1
Total	26701	27575	46414	499	101189	26.39	27.3	45.9	0.5	100.0

Source: Baseline Survey for the Royal Senior Citizens 2013

Domestic violence – Records with RENEW indicate that cases of domestic violence are on the rise with a total of 1,141 cases reported till now in the country. In the last three to four years about 300-400 cases are reported annually.

5.14.2 Key Challenges

There is no one overall agency within the government responsible for coordination of these emerging issues. Many of the issues are being currently addressed based on the initiative of various sectors or CSOs/association. Further, while there are a number of CSO/associations established to address these issues, many of these CSO/authorities lack technical and financial resources to be able to comprehensively address issue. Therefore, resources and coordination is a major problem.

Also, there are very few studies, baseline data, surveys etc to get a clear understanding of the situation and to recommend appropriate interventions. Therefore, it is difficult to recommend concrete result oriented programmes to address these issues in the Eleventh Plan.

5.14.3 Strategies

In order to assess the current situation and plan appropriate interventions, a more detailed study on the issues will be carried out. Strategies and programmes will be formulated based on these studies. The government's intervention will be through broad-based programmes and prioritizing issues within sectoral programmes. Within the framework of Civil Society Act 2007 and based on comparative advantage of the CSOs, the government will work in close partnership with the various CSOs to address these issues.

5.15 Sports

Recognizing the positive contribution of games and sports in addressing lifestyle related health problems, strengthening community vitality, and preventing juvenile delinquency, amongst other benefits, the promotion and development of sports will be actively pursued in the Eleventh Plan.

While efforts to promote and develop sports date back to the early seventies with the establishment of the National Sports Association in 1972 and the Bhutan Olympic Committee (BOC) in November 1983, a focused and coherent development of sports has remained lacking.

To address this challenge, the BOC undertook a comprehensive situational analysis of the sports sector in 2009 and further, based on the first ever nation-wide Bhutan Sports Baseline Survey 2010 (BSBS, 2010) formulated a Strategic Road Map for the development of organized sports in Bhutan

The main thrust in the Eleventh Plan will be to establish a representative and organized sports sector that will be able to deliver sports and recreation to all and promote a vibrant sporting culture. Investments in sports infrastructure will receive priority.

5.15.1 Current Situation

The Ministry of Education, BOC and its 15 affiliated National Sport Federations, volunteers and sports enthusiasts have been responsible for promoting sports in Bhutan.

The federations representing various sports are athletics, archery, badminton, basketball, boxing, bodybuilding and weight lifting, cricket, football, golf, indigenous games and sports, table tennis, taekwondo, tennis, shooting and volleyball.

About 80 percent of all existing sports facilities in the country are owned by schools and other institutions and many of these facilities are either poorly maintained or are not accessible to local communities. In Thimphu, the BOC manages various sports facilities (the national stadium including the archery range, taekwondo training centre, Olympic archery range, synthetic athletic track and field arena, table tennis hall) even though BOC does not have legal ownership over these facilities.

5.15.2 Key Challenges

The major challenges include lack of infrastructure facilities, human resources capacity and financial sustainability.

5.15.3 Sector Key Result Areas

Table 5.15.1 – Sports Sector SKRAs/KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target	
Key Objective - i) Establish a representative and organized sport system that delivers excellence through sport and recreation for all in the country and ii) Promote a vibrant sporting culture that contributes positively to addressing youth issues, lifestyle related diseases, employment, community cohesiveness and international image of the country					
Sustainable and Equitable Socio-Economic Development	School sports strengthened in schools to enable sports for all by 2018	% of students participating in sports activities (by gender)	NA	Near 100%	
	Community Sports established where there is critical mass to enable sports for all	% of population participating in different sports	57.5	75	
	Promotion and recognition of talents in various sports to enable sports for all	No. of Elite Bhutanese athletes by 2018 (by gender and sports)	Archery: 3(F) 1 (M) Shooting: 2(F) 3(M) Boxing: 36 (M) Taekwondo: 4(F) 6(M) Football : 63 (M)		Archery: 12 Shooting: 15 Boxing: 50 Taekwondo: 25 Football: 126
		% of Bhutanese athletes participating in international competitions and events.		0	50
	High Altitude Training Center and endurance sports programs developed	No. of endurance and adventure sports programs developed and implemented		1	3
	4. Access to sport facilities facilitated and established in strategic nucleated locations. (Responsible RGoB & BoC)	% of urban population with access to sports facility		54.25	70
Preservation and Promotion of Culture	Indigenous Games and sports promoted	No. of traditional games/tournaments organize	8	40	
Strengthening Good Governance	A democratic and robust sport governance system that will efficiently deliver organized and established sports to all Bhutanese	Average financial expenditure performance rating of BoC	89%	90%	
		Anti-corruption Strategy Implemented			
		No. of MoUs signed with National and International partners.	5	10	
		No of BOC and NSFs constitutions revised and adopted.	16	16	

5.15.4 Strategies

The main strategy will be the implementation of the “Strategic Vision and Road Map for Development of Sports in Bhutan” by the BOC. The government will facilitate the implementation of the road map by ensuring enabling conditions for development of sports in the form of access to land, mainstreaming sports in sector/local government policies and programmes, incentives and participation in national, regional and international sporting events.

5.16 Preservation and Promotion of Culture

The preservation and promotion of culture is an important pillar of GNH and one that distinguishes Bhutan's development. The focus is on strengthening our unique cultural identity to reinforce national cohesion and unity that are vital for peace, stability and sovereignty of our nation. Bhutan's unique identity is reflected through its language, dress, architecture, etiquette, indigenous sports, and the everyday Bhutanese way of life. The traditional beliefs and customs stress respect for all sentient beings and encourage values such as tolerance, compassion, respect, and generosity.

The Eleventh Plan also recognizes culture as an “evolving dynamic force” and the need “to strengthen and facilitate the continued evolution of traditional values and institutions that are sustainable as a progressive society⁵⁷”. Furthermore, the preservation and promotion of culture is accorded priority not just for strengthening our identity but also as an economic imperative for tourism and to address poverty through the development of cultural industries.

5.16.1 Current Situation

- Guidelines for conservation of heritage sites by all conservation projects have been developed and are under implementation.
- Institutionalization of archaeology has been initiated with the establishment of an archaeology unit under the Ministry of Home & Cultural Affairs.
- The National Library of Bhutan has been equipped with archiving and microfilming facilities of important historical documents and records. A Bill on Archives of Bhutan is being formulated to strengthen the national archives system.
- To promote the national language, digital *Dzongkha* dictionary, *Dzongkha* keyboard layout in phones with Android software and *Dzongkha* support in phones with Maemo software (eg Nokia 900 series) have been developed.
- The Royal Textile Academy in Thimphu, which will serve as a textile school, museum and conservation centre, was inaugurated in June 2013.
- Bhutanese film and music industry is gaining increasing popularity and have completely edged out foreign films from local cinema halls. Since the first film

⁵⁷Article 4 of the Constitution

Gasa Lamai Singye in 1988, the industry has now produced about 300 films with an average annual production of 30 films. Similarly, about 400 music albums have been marketed. The industry is making significant contribution towards promotion of national language, culture and traditions and in conveying important social messages on HIV, drugs and youth related issues.

- Craft Bazaar, with 80 stalls, was established in Thimphu in 2011 to showcase a wide range of authentic Bhutanese arts and crafts. It has facilitated in creation of a viable market for rural artisans to market their products.
- The certification system, ‘Made in Bhutan Seal’, was launched in May 2012. The seal authenticates wholly produced and/or substantially transformed products with required minimum value addition within Bhutan.
- Interventions to set-up craft clusters based on regional comparative advantages, raw-material banks, design banks, product development and marketing are being undertaken by newly established Agency for Promotion of Indigenous Crafts.

5.16.2 Key Challenges

Overall, a plan or framework which brings together in one place all aspects of culture and traditions as well as the gaps and challenges is lacking. This is necessary to ensure that all aspects of culture and tradition get the required support as well as to coordinate the efforts made by various sectors.

Some of our local dialects, songs, dances, *lozeys*, festivals and rituals are in danger of extinction as there are very few people to keep these traditions alive. Those still practicing today are a small group of elderly people and together with them these traditions may also pass away one day. The younger generations are either not keen or do not have the skills to continue these traditions, many having left their village, as a result of rural-urban migration. Preserving, promoting and documenting the fading intangible cultural heritage are crucial.

In terms of the tangible cultural heritage, many of the rich historical, cultural and spiritual sites which existed for centuries are under threat from both natural and manmade disasters such as earthquakes, windstorms, landslides, vandalism and fire. Conservation, restoration, making these sites disaster resilience, inventorying of these monuments and capacity building in conservation practices have become necessary. The investment required for these activities are substantial and could pose a challenge.

Cultural industries have the potential to contribute to poverty alleviation by enhancing rural incomes. However, economies of scale, quality and access to markets are among the challenges that need to be addressed to harness this potential.

5.16.3 Sector Key Result Areas

Table 5.16.1 – Culture Sector SKRAs/KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Sustainable and Equitable Socio-Economic Development	Cultural industries promoted	No. of rural households engaged in cultural industries	208	2000
	Contribution to employment enhanced	No. of jobs created by Cultural industries	1200.00	2500.00
Preservation and Promotion of Culture	Intangible Cultural heritage preserved and promoted	No of Tshechus / Cultural events developed/promoted	NA	12
		Religious institutions (gomdeys) sustained	23	23
		Strategy on promoting culture developed and implemented	NA	1
	Tangible cultural heritage preserved and promoted	No. of structural heritage maintained	4 dzongs restored, 4 archaeological sites excavated	Identification of 9 archeological sites & conservation of 9 Dzongs/ Monasteries
		No of new heritage structures built	2	6
	Contemporary performing arts, art and music promoted to complement and enhance Bhutanese identity and culture	No. of films made with Bhutanese culture tradition and values content	195	225
		Increase in Dzongkha newspaper readership	15%	50%
	Dzongkha and other languages of Bhutan preserved and promoted	No. of IT platforms and devices supporting Dzongkha	2	3
		No. of public agencies making their service accessible in Dzongkha language	NA	100%
		Enhanced access to quality spiritual education and spiritual pursuits	Completion rates for primary and secondary level religious education	30%
Completion rates for tertiary level religious education	30%		60%	
Clear rules and regulations for Tshamkhang construction	NA		Completed	
Strengthening Good Governance	Effective and efficient public service delivery	TAT for public services reduced		>75 %
		Anticorruption Strategy implemented	All agencies	
		Average performance rating (Govt. Performance Management System - GPMS)		>90 %

5.16.4 Strategies

- A plan for promotion and preservation of culture and traditions in all its forms will be formulated to guide the development of this important area.
- The inventory and documentation of oral traditions, history, arts and objects, living expressions, and architectural knowledge will be carried out.
- Performing arts, social practices, *tshechus*, rituals and festivals will be preserved and promoted.
- Exhibitions and colloquiums on culture, religions, traditions and living expressions will be conducted.

- Cultural heritage sites will be conserved and restored, incorporating disaster resilient measures.
- Research and documentation of performing arts (Lozay, Zhungdra, Zhey, Tsangmo and Mask dance) will be promoted.
- Capacity development for research and documentation on conservation and restoration measures will be carried out through trainings/workshops. Archival survey and documentation in 5 *Dzongkhags* will be carried out.
- To promote cultural industries, access to finance, product development, raw material banks, craft clusters/craft bazaars and business incubators will be facilitated.

5.16.5 Key Programmes:

- i) Preservation and promotion of culture, DoC, MoHCA -
 - Preparation of a plan for promotion and preservation of culture and traditions
 - Construction of Pemagatshel *Dzong*
 - Construction of Sarpang *Dzong*
 - Re-construction of Wangduephodrang *Dzong*
 - Conservation of Trashigang *Dzong* Conservation of Gasar *Dzong*
 - Renovation of Paro Ta *Dzong*
 - Renovation of Phajoding Goenpa
- ii) Expansion of Tango Buddhist College (Spillover)
- iii) Development of *Dzongkha* Language, *Dzongkha* Development Commission
- iv) Promotion and development of craft industry, DCSI, MoEA
- v) Contemporary performing arts, art and music promoted to complement and enhance Bhutanese identity and culture, DoIM, MoIC

5.17 Conservation of Environment

The conservation of environment (one of the four pillars of GNH) is an integral part of our development strategy to ensure that socio-economic development efforts do not come at the cost of our natural environment. Since 2009, all new policies introduced by the sectors are subject to GNH Policy Screening to assess the impact of a new policy on GNH. The GNH Policy Screening tool includes three variables⁵⁸ on environment from the total of twenty two variables to further enhance efforts to conserve our environment.

Bhutan issued a declaration during the Fifteenth Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in 2009 in Copenhagen, Denmark. Through the declaration entitled “Declaration of the Kingdom of Bhutan – The Land of Gross National Happiness to Save our Planet” the government has committed to maintain Bhutan’s status as a net sink for Green House Gasses by ensuring that greenhouse gas emission levels do not exceed the sequestration capacity of its forest. In this context, a National Strategy and Action Plan for Low Carbon Development has been formulated in 2012.

Bhutan has been able to maintain its natural environment, much of it pristine, due to its strong commitment towards conservation of environment and through enactment of various legislations such as National Environment Protection Act, 2007, Environmental Assessment Act 2000, Regulation for Environmental Clearance of Projects and Regulation on Strategic Environmental Assessment 2002, Waste Prevention and Management Act of Bhutan 2009, Waste Prevention and Management Regulation 2012 and Water Act of Bhutan 2011.

5.17.1 Current Situation

Currently, the national forest coverage is about 70.5 percent, which exceeds the Constitutional requirement of maintaining 60 percent forest coverage at all times. The high level of forest coverage has allowed Bhutan to maintain negative carbon emissions. Presently, carbon emissions are about one third of the total sequestration capacity of our forest.

Biological diversity - 51.32 percent of the country is under a protected area network which includes ten protected areas and biological corridors. Bhutan also falls within the top ten global biodiversity hotspots. The country has more than

⁵⁸Water and air pollution, land degradation and bio-diversity health.

5,600 species of vascular plants, 600 species of birds and 190 species of mammals. 26 species of mammals and 14 species of birds found in Bhutan feature in the World Conservation Union's Red List of Threatened Species⁵⁹.

Air environment – Air environment to a large extent is still unpolluted. Currently, monitoring of air quality is limited to suspended particulate matter (PM10), while SO_x and NO_x are monitored periodically. The air quality monitoring stations have been established in Gomtu, Pasakha, Bajo, Kanglung, Kurichhu and Thimphu and data from these stations are broadcast on Bhutan Broadcasting Service Television (BBS TV) and websites of BBSC,

Air Pollution Index - National Standards for PM10:

1. Sensitive area (75µg/m³)
2. Mixed area (100µg/m³)
3. Industrial area (200µg/m³)

*µg/ m³= Micro gram per meter cube

Kuensel and NEC for dissemination of information. Thimphu recorded suspended particulate matter (SPM) of 45.80µg/m³ on 17/6/2013⁶⁰. Pasakha, Gomtu and Phuntsholing recorded significantly higher PM 10 concentration than Thimphu. PM 10 concentration in most other places will be lower than Thimphu because of smaller population, fewer vehicles and less industrial activities.

Water environment - Bhutan's water resources are mainly in the form of rivers. There are four major river basins, viz. Amochhu (Toorsa), Wangchhu (Raidak), Punatsangchhu (Sunkosh) and Drangmechhu (Manas). The three smaller river basins include Meramachhu, Jomotshangkachhu and Sherichhu. All rivers originate within the country except Amochhu, Gongri and Kurichhu all of which originate in the southern part of the Tibetan Plateau⁶¹.

Table 5.17.1 - River Systems of Bhutan and Mean Annual Flow

River System	Basin Area (km ²)	Mean Annual Flow (m ³ /sec)
Amochhu Sub-basin	2,400	161 (at Dorokha bridge)
Wang chhu Sub-basin	4,689	102 (at Tsimasham dam) 71 (at Tamchhu)
Samtse Area Multi-river	962	-
Punatsangchhu Sub-basin	10,355	291 (at Wangdue Rapids) 411 (at Dubani) 538 (at Kerabani)
Gelegphu Area Multi-river	1,956	-

⁵⁹Bhutan Environment Outlook 2008, NEC, RGoB.

⁶⁰<http://www.bbs.bt>

⁶¹Bhutan Environment Outlook, 2008, NEC, RGoB.

Mangdechhu Sub-basin	4,095	68.4 (at Bjizam, Trongsa) 113 (at Riphay) 148 (at Tingtibi)
Chamkharchhu Sub-basin	3,297	54.1 (at Kurje)
Kurichhu Sub-basin	4,000	297 (at Kurizampa)
Dangmechhu Sub-basin	5,207	870 (at Panbang)
Samdrup Jongkhar Area Multi-river	2,279	-
Shinkhar-Lauri Multi-river	779	-

Source: Water Resources Management Plan, Department of Energy, 2003

The National Environment Commission conducts water quality surveys and monitoring along major rivers and tributaries at least twice annually; pre- and post-monsoon. The data collected through the survey indicate that the main rivers and their major tributaries, with a few exceptions, are still unpolluted. The natural water quality can be characterized as highly oxygenated, slightly alkaline with low conductivity and no recorded salinities. However, there are localized water pollution problems due to frequent unsanitary conditions along banks of streams and rivers (see box below).

Water Quality of Wangchhu, Thimphu.

The water quality assessment of Wangchhu which falls within the limits of the City periphery was conducted during the period March 5-9, 2012. The river was investigated at three different stretches for water quality assessment viz. Cheri, Babesa, and Khasadrapchhu, considering physical, chemical, microbiological and biological characteristics of the river. Results revealed Wangchhu at Babesa highly contaminated, that measured 428 CFU/100 ml faecal coliforms, whereas at Khasadrapchhu it showed indication of recovery measuring 46CFU/100 ml water. Maximum permissible standard limit of faecal coliforms as recommended for Bhutan at final effluent from a sewerage treatment plant (STP) is 1,000 MPN/100 ml water. At Cheri, the river was free from faecal coliforms.

A team also applied a bio-monitoring tool in the water quality assessment, which includes rapid field assessment of the quality of river considering bottom dwelling larvae of insects which are considered highly sensitive to the increase in pollution. Results revealed no pollution (water quality class I) in Cheri, critical to heavy pollution (III/IV) in Babesa, and critical to moderate pollution (III/II) in Khasadrapchhu.

This problem is exacerbated in the urban centers where surface drainage, grey water sullage from domestic households and uncontrolled seepage or overflow from septic tanks and pipes enter into the watercourses.

5.17.2 Key Challenges

Environmental conservation is becoming increasingly challenging as we open up to meet the development needs of a growing population. The key environmental challenges that the country faces relate to the nexus of environmental degradation, poverty and economic growth. Population growth, increasing demand of natural resources, inappropriate technology and consumption choices, and pressures of development are the drivers of environmental degradation.

The ambient air and water quality, in general, still ranges from good to excellent but there are some pockets of urban and industrial areas where air and water quality is deteriorating due to vehicular and industrial pollution, construction activities, and unsanitary waste disposal. It is also increasingly evident that poor environmental quality has adversely affected human health. The environmental problems such as lack of access to adequate clean water, clean air and energy are closely linked to poverty. Interventions such as reducing indoor air pollution, protecting sources of safe drinking water, protecting soil from contamination, improved sanitation measures, and better public health governance, offer tremendous opportunities for reducing the incidence of a number of critical health problems.

Although the Government has enacted Waste Prevention and Management Act in 2009 yet there are challenges in terms of proper waste management. While there are some good practices being carried out on a pilot basis, lack of proper waste management, indiscriminate littering, open dumping of solid waste are some of the challenges faced which eventually pollutes natural environment posing serious hazards to public health. While the waste regulation is being revised, education, awareness and advocacy programmes are very critical for proper waste management.

With the ever increasing development activities and industries, a challenge to the environment and planning sector is the cumulative effect of the combined activities on the ecosystem within a given space. The challenge of the task lies in the lack of capacity within the National Environment Commission to undertake such a huge activity.

Another major set of challenges arises from emerging global environmental concerns such as climate change, global warming, stratospheric ozone depletion, and biodiversity loss. The key is to operationalize the principle of common but differentiated responsibility of countries in relation to these problems. At the same time, multilateral regimes and programmes responding to these global

environmental issues must not adversely impact the development opportunities of developing countries.

The major challenge faced by the sector in implementation of the legislation pertains to lack of human resources and capacity.

Water Security - Water is an important natural resource for basic survival of all living beings. It is also a vital resource for our agriculture, hydropower projects and industries. Bhutan has one of the world's highest per capita availability of water with long-term mean annual flow estimated at 73,000 million m³ per annum and the per capita water availability estimated at 100,000 m³. On the demand side, the gross consumptive demand is estimated to increase from 422 million m³ in 2002 to 541 million m³ in 2022. Non-consumptive demand, in the form of hydropower demand, is estimated to increase from 6,700 million m³ in 2002 to 26,900 million m³ in 2022⁶².

Table 5.17.2 - Consumptive and non-consumptive water demand

Demand Category	2002 (million m ³ /year)	2012 (million m ³ /year)	2022 (million m ³ /year)
Municipal Demand	10	19	37
Irrigation Demand	393	472	472
Rural Demand	11	15	20
Industrial Demand	0.6	0.9	1.5
Livestock Demand	7.5	8.8	10.2
<i>Sum of maximum consumptive demand</i>	422	516	541
<i>Sum of water supply (excluding irrigation) demands</i>	29.1	43.7	68.7
Add-on irrigation demand	15	-	26
Non-consumptive hydro-power demand	6,700	16,600	26,900

Source: Final Water Resources Management Plan (WRMP) report, 2003.

⁶²Bhutan Environment Outlook, 2008, NEC, RGoB.

While at macro level the per capita water availability is high, at local levels access to water is a serious concern with several places facing water shortages. Only 78 percent of the population has access to safe drinking water and about 12.5 percent of arable land is irrigated⁶³.

The 2002 water supply adequacy analysis carried out in 28 urban towns, as part of Water Resource Management Plan preparation, revealed that 11 towns faced water shortages and another seven more towns would face water constraints by 2013⁶⁴. Till recently, surface water was the main source for drinking water but some towns like Thimphu, Gelephu and Samdrup Jongkhar have now resorted to exploring ground water due to acute water shortages.

Similarly, despite abundance of water resources at macro level, arable land is largely dependent on rains. In the absence of rain, farmers are forced to leave their land fallow and this has direct impact on poverty and national food and nutrition security goals. Many irrigation channels constructed in the past remains unutilized due to lack of water. In the Tenth Plan, to enhance paddy production extensive network of new irrigation schemes were constructed in targeted *Dzongkhags* but without adequate and reliable water source these schemes may not benefit the farmers.

Further, hydropower sector is the major contributor to the national revenue. However, the level of revenue it contributes depends on hydrological factors. In 2011, electricity sector experienced negative growth mainly due to hydrological risk. Hydropower not only contributes to export earnings but it is also one of the main reasons for enhancing competitiveness of many of our industries due to cheap electricity.

Recognizing the importance of water, the government enacted Water Act in 2011 and formulated of Water Vision 2025 and Water Policy. However, issues of coordination among different stakeholders; water rights issues; water conservation, management and utilization; etc remain a challenge.

Human-wildlife conflict - The success of environment conservation has created a new challenge of human-wildlife conflict affecting all 20 *Dzongkhags*. In some of the *Dzongkhags* farmers have stopped cultivating due to the loss of crops to wildlife. It is estimated that annual crop loss ranges from 0.3 to 18 percent of the total household income. To achieve food security, addressing this issue will be essential.

⁶²Bhutan Water Policy, NEC.

⁶³Bhutan Environment Outlook 2008, NEC, RGoB.

5.17.3 Sector Key Result Areas

Table 5.17.3 – Environment Sector SKRAs/KPIs

Environment Sector - (SKRA/KPIs)			
SKRA	KPI	Baseline	11 th plan Target
Key objective- i) Carbon neutral & climate resilient development ensured ii) sustainable utilisation and management of natural resource pursued			
Negative impacts on environment from development activities minimized or avoided	Green House Gas emission controlled	1559.56 Gg CO ₂	< 6309.6 Gg CO ₂
	Ambient Air Quality maintained	Ambient Air Quality national standard 2010.	Ambient Air Quality Standards revised as per national circumstances.
	Ambient Water Quality maintained	Ambient Water Quality Standards 2010	Ambient Water Quality Standards revised to include new parameters of total hardness, grease and oil.
	Ecological footprint	N/A	Study to establish ecological footprint baseline and target conducted.
	Population status of umbrella species (Tiger)	155	155
	Proportion of total land area under protected area management	51.32	51.32
Opportunities for livelihood strengthened	% of projects undergo EA process	2 projects without EC (11.7%)	All projects undergo EA Process as per the regulation for environmental clearance of projects 2002 (100%)
	Annual income from sale of forest products from CE and NWFP groups (Nu./HH)	Nu. 2,000	Nu. 4,000
	Proportion of farming HH citing wildlife as constraint to farming (GNH Survey)	51	40
Sustainable production and efficient utilization of timber enhanced	Human wildlife conflict incidences (No. of cases in a year)	162	50
	% recovery rate of wood from upgraded technology	64	70
Water Security enhanced	Forest area brought under sustainable forest management	184611	218542
	Longterm mean annual flow of the entire country (million m ³)	73,000	73,000
	River specific minimum environmental flow developed	N/A	All river planned for hydropower plants
	Integrated Water Resource Management Plan developed	NA	1
Disaster Resilience, Preparedness and Responsiveness strengthened	Response time (No. of hours within which emergency response time reaches site of disaster)	NA	Within 2 hours of disaster
	No of disaster response teams trained and equipped in Disaster Management	1 (NaSART)	All 20 Dzongkhags
Enhanced efficiency and effectiveness of service delivery	TAT of commonly availed services reduced	N/A	70%
	Average performance rating	N/A	>90%
	Anti-corruption strategy implemented	N/A	Implemented

5.17.4 Strategies

The key strategies include:

- Implementation of the National Strategy and Action Plan for Low Carbon Development 2012.
- Mainstreaming of environment across all sectoral and local government programmes and projects. In this context, the Eleventh Plan SKRAs are formulated based on the four pillars of GNH and this requires all sectors/ local governments to address environmental issues. A mainstreaming framework has been developed to guide sectors and local governments in the integration of cross cutting issues in plans, programmes and activities.

- Water security will be strengthened through the development of integrated water resource management plan and better coordination. This will be further supported through the enforcement of Water Act and development of water regulation.
- Environmental assessment process will be strengthened through establishment of four regional environment offices which also aims to deliver prompt, professional and effective public services. This will be supported with the development of online environmental clearance system.
- Conducting strategic environmental assessment for hydropower projects and transmission lines and carrying capacity of the mines and industries to ensure sustainable development and inter-generational equity.
- Sustainable production and utilization of timber and non-timber forest based products will be pursued through sustainable forestry management practices.
- To address the issue of human-wildlife conflict, the Ministry of Agriculture and Forest will construct solar-powered electric fence, provide electric fence energizer and will continue with *Gewog* level insurance programs for livestock and crops from endowment funds. The Ministry will also carry out a study to understand ecology and behavioral aspects of the main conflict species and develop a strategy to address the issue on a permanent basis.

5.17.5 Key Programmes

- Sustainable Management of Forest Landscapes and Conservation of Biodiversity
- Integrated watershed management and
- National bio-diversity conservation

Programme details are presented in Eleventh Plan Volume II document.

5.18 Good Governance

The fourth pillar of GNH is Good Governance as it provides an enabling environment that is vital for sustainable and equitable socio-economic development. Bhutan has made good progress in strengthening governance through promotion of transparency, efficiency and accountability in the political and administrative processes.

The Eleventh Plan will continue to place emphasis on further strengthening governance by strengthening democracy, improving public service delivery, promoting gender equality, curbing corruption and enhancing safety.

5.18.1 Current Situation

Democracy and Decentralization – The second Parliamentary elections was held on 13 July 2013 and the Peoples Democratic Party was elected to form the second government for a term of five years.

Further, the Parliament passed the Local Government Act 2009, which translated the important constitutional principle of decentralized governance into law and mandated the formation of local governments for the development, management and administration of areas under their jurisdiction. Accordingly, the first local government elections were held in 2011 and the next local government elections are scheduled to be held in 2016.

Also, the government has initiated number of proactive measures to further strengthen the process of decentralization, including the introduction of *Gewog* Based Planning process in the Ninth Plan and the rationalized formula based annual grants system for all local government from the Tenth Plan. The formula for local government annual grants was reviewed and revised⁶⁴ and the Eleventh Plan resource envelop to the local governments are based on the revised resource allocation formula.

Public Service Management – To promote meritocracy, enhance efficiency, transparency, professionalism and accountability in the civil service, number of civil service reforms have been implemented such as the Position Classification System in 2006, the Civil Service Act 2010 and the revised Civil Service Rules and Regulations 2012. Currently, there are 24,275 civil servants providing public services delivery.

⁶⁴Revised resource allocation formula includes multi-dimensional poverty index, transport cost index, population and geographical area.

In addition, to strengthen performance of government agencies, the Government Performance Management System (GPMS) has been developed, Agencification Guidelines framed and 136 most commonly availed Government to Citizen Services - G2C services such as birth and death registration, trade licenses, timber permit etc – simplified and automated.

Gender equality - The Constitution guarantees equality for all its citizens including women. Furthermore, it contains special provisions to eliminate all forms of discrimination and exploitation⁶⁵ against women including trafficking, prostitution, abuse, violence, harassment, intimidation, degrading treatment and economic exploitation. In the area of inheritance, traditional customs favour women who have greater access to land and ownership.

Although female literacy rate has improved from less than 40 percent in 2010 to 55 percent⁶⁸ in 2012, it remains low compared to the male literacy rate of 72 percent. The national Gender Parity Index (GPI) is reported at 1.02⁶⁷. This indicates that on the whole, the correct proportions of females in relation to males are enrolled in the education system and there is no gender inequality in the Bhutanese education system.

Female civil servants account for 32 percent⁶⁸ of the total civil servants. In absolute terms, the number of female civil servants increased from 2,180 in 1996 to 7,926 in 2012.

Curbing corruption – In an effort to curb corruption, the Anti-Corruption Act 2011 – ACA 2011 (repealing ACA 2006) was enacted, various new rules and regulations such as such Gift Rules 2009, The Debarment (of Corrupt Firms) Rules 2008 and Asset Declaration Rule 2012 have been put in place and the National Anti Corruption Strategy launched. Transparency International's 2012 Corruption Perception Index ranked Bhutan 33rd among the 176 nations, an improvement of five positions from 38th in 2011. Similarly, the ACC's 2012-13 annual report indicates that corruption is still a major challenge although people's perception of the prevalence of corruption is declining. In 2012-2013, ACC received 449 complaints compared to 458 cases in the previous year.

⁶⁵Article 9 of Constitution.

⁶⁶BLSS 2012.

⁶⁷Annual Education Statistic 2012, MoE.

⁶⁸Civil Servant Statistic December 2012, RCSC.

5.18.2 Key Challenges

Democracy and Decentralization - Democracy was introduced in Bhutan in 2008, and a democratic culture has yet to find firm footing. The Democracy Index produced by the Economist Intelligence Unit ranks Bhutan 104 out of 167 countries in 2011. One area Bhutan scores low is the political participation. The concern with this is if the citizens stop participating in the political process, for example not voting, then that system loses legitimacy since it is hard for it to claim that it has a political mandate of the majority of the people. Therefore, education and awareness and enhancing participation particularly of youth, women and disadvantaged groups are vital.

To strengthen the process of decentralization, administrative and fiscal devolution of authority alone is not sufficient but of equal importance is to build the capacity of those at the grassroots to plan, implement and monitor development activities. Human resource strengthening at local levels both in terms of numbers and technical skills will be critical. At the same time, efforts will be made to deepen fiscal decentralization such as selected revenue sharing so as to create incentives for local governments to promote more commercial activities.

Public Service Management – While a number of initiatives has been implemented in the past to improve public service management, efficiency, performance and public service delivery remains a challenge. The rapid growth of civil service, which averaged 4 percent per annum during the last five years, and high costs, amounting to about 45 percent of the total recurrent expenditures, is a concern. The turn-around time for many of the public services to its citizens, businesses and intra government services remain high and inefficient. Enhancing government performance and reducing the turn-around time for public service delivery (G2C, G2B and G2G) will be key priorities.

Gender – Female participation in elected offices, ratio of female to male in tertiary education, female youth unemployment and gender sensitive policies and working environment are some of the challenges in ensuring gender equality.

Corruption – While the ACC's 2012-13 annual report indicates that people's perception of the prevalence of corruption is declining it is still a challenge. The major areas of concerns are the misuse of authority, misuse of government property, embezzlement and nepotism.

5.18.3 Sector Key Result Areas

Table 5.18.1 – Governance Sector SKRAs/KPIs

GNH Pillars	Sector Key Result Areas	Key Performance Indicators	Baseline	Target
Key Objective -i) Improved public service delivery; ii) Democracy and Governance strengthened				
Strengthening Good Governance	Strengthened Accountability, Transparency, Efficiency and Effectiveness in Governance	Litigants satisfaction with judicial services	81.10%	>90%
		National Integrity Score	7.44(2009)	8
		Access to media	55%	75%
		Public satisfaction on OAG's efforts in combating corruption cases	Medium	High
		TAT for public services	N/A	>70%
		Implementation of National Anticorruption Strategy		All Agencies/LGs
		Civil service performance/GPMS rating		>90%
		Average performance rating of LGs	NA	>90%
	Participation in democratic governance deepened and strengthened	Voters turn out in elections (%)	Parliamentary : 66.1% Local Govt: 56%	Parliamentary: 80% Local Govt.: >70%
		% of functional Community based groups (WUG, RMC)	NA	90%
		% of functional registered CSOs	100%	100%
		Agencies implementing gender sensitive policies/strategies	NA	20
		Security and safety of society enhanced	No. of nation wide crime reported annually	7 per 1000 pop
	Peoples perception on safety		81%	81%

5.18.4 Strategies

- Education, awareness and capacity building will be one of the key strategies to enhance political participation, particularly the youth and women.
- The capacity of the local governments will be strengthened through training, deployment of adequate number of technically qualified personnel and ensuring minimum facilities are available.
- A legislation to ensure quota for women in elected offices including the parliament and local government bodies will be drafted and presented to the Parliament.
- Civil service rules and regulations will be reviewed and revised to make civil service more efficient.
- The government will ensure full implementation of the National Anti-corruption strategy and agencies combating corruption will be strengthened and equipped with adequate resources.

CHAPTER 6
**LOCAL GOVERNMENT
PLANS**

6.1 Introduction

The bottom-up *Gewog*-based planning process, as per the decentralized planning framework, was introduced in the Ninth Plan. Since then, the local governments have been formulating their Five Year Plans based on the development priorities identified by the communities at the *Gewog* level.

The introduction of the *Gewog*-based planning process was followed by “fiscal decentralization” in the Tenth Plan. The allocation of annual grants to local governments based on the resource allocation formula that took into account principles of equity, transparency and objectivity was launched. The new system of allocating resources to the local governments provided greater predictability and offered higher flexibility in prioritization and programming of activities. The devolution of authority has enhanced capacities of the local governments in planning, prioritization and fiscal management.

Further, to bring clarity on the roles of various levels of the government in the delivery of public services at the local level and to facilitate the distribution of resources between the centre and the local governments, the division of responsibilities framework was developed in 2012. The division of responsibilities framework⁷⁰, clearly delineates responsibilities among the central agencies, Class “A” Thromde, Dzongkhags and *Gewogs* guided by the ‘*principle of subsidiarity*’. The ‘*principle of subsidiarity*’ is that provision of public goods and services should take place at the lowest level of the government and that the centre should be involved only when the lower levels of the government cannot provide the goods and services efficiently. The division of responsibility framework will be reviewed during the Eleventh Plan mainly to assess the capacity of the local governments to shoulder increased responsibilities and to build their capacities accordingly.

In addition to the broad based socio-economic development activities, targeted poverty intervention programmes such as the Rural Economy Advancement Programme (REAP) and the National Rehabilitation Programme (NRP) were initiated in the Tenth Plan to accelerate poverty reduction and address disparities at the local level. Accordingly, 13 poorest villages⁷¹ were supported through REAP I and around 109 villages have been identified for implementation under REAP II in the Eleventh Plan.

⁷⁰Refer www.gnhc.gov.bt/guidelines-local-government/

⁷¹Thangdokha, Dramekha and Ngatsena - Haa, Sanu Dungtoe - Samtse, Mandokha & Choleykha - Chukha, Lopokha - Wangdue Phodrang, Lauri - Samdrup Jongkhar, Ungar - Lhuentse, Samcholing - Trongsa, Reti - Sarpang, Lamtang - Zhemgang, Pam & Chaibi - Mongar.

Under the NRP, 44 households in Khenadrang, Pemagatshel were rehabilitated. While the rehabilitation at Nye, Lhuentshe (55 households); Bebji, Haa (83 households); Borangmo, Pemagatshel (51 households) and Dawathang, Samdrup Jongkhar (31 households) are ongoing, the planning and feasibility study for Tanzama, Pemagatshel and Serzhong, Tsirang respectively have been initiated under the programme. Efforts are also underway to identify other communities for rehabilitation given that this programme benefits not only the beneficiary communities but also the government through avoidance of the higher costs associated with provision of public goods and services for reaching the unreached.

6.1.1 Planning Process

The local government plans were formulated based on the Local Government Act 2009, the Eleventh Plan preparation guidelines, the Local Development Planning Manual, the Thromde Structural Plans, the Local Area Plans (LAPs) and the indicative five year resource envelope. The process involved close consultations with the communities in order to take stock of the ground realities and assess their needs and aspirations. These were further deliberated and discussed at the Gewog Tshogdes, Dzongkhag Tshogdus, and Thromde Tshogdus before being finalized and approved. The draft LG Eleventh Plan was then submitted to the GNHC for further discussion and coordination at the national level.

While sectoral activities at the local level, as per the division of responsibility framework, are prioritized and planned by the local governments, the planning for education activities is centrally coordinated by the Ministry of Education. This is done given the strategic importance of the education sector for the future of our nation and to ensure that all children across the nation have equal access to quality, adequate, efficient and cost effective education services. The implementation is done by the local governments with resources provided by the Ministry of Education.

6.1.2 Resource Allocation Formula

Table 6.1.1 – Criteria for Resource Allocation Formula

Sl. No.	Criteria	10 th Plan Formula	Revised New Formula
1.	Population	70 %	35 %
2.	Poverty	25 %	0 %

3.	Area	5 %	10 %
4.	Multidimensional Poverty Index ⁷² (MPI)	-	45 %
5.	Transport Cost Index ⁷³ (TCI)	-	10 %

The major changes in the formula in the Eleventh Plan are that allocation for population has been reduced from 70 percent to 35 percent, area has been increased from 5 percent to 10 percent, poverty criteria has been replaced by multidimensional poverty index with a weight of 45 percent and a new criteria on transport cost index with a weight of 10 percent has been included to account for high cost of investments in interior and remote *Dzongkhags/Gewogs* that face higher transportation costs.

The formula based resource allocation does not apply to class “A” *Thromdes*. The resource allocation to class “A” *Thromde* are need based due to the diversity and complexity of these *Thromdes* in terms of social, economic and environmental issues. Further, while some *Thromdes* are ready with their structural plans and the local area plans, which form the basis for infrastructure planning and investments, others are still in the process of preparation.

6.1.3 Capital Allocation

From the total capital budget of Nu. 92 billion, Nu. 25 billion (about 27 percent of the total) is allocated to Local Governments as follows:

- Formula based annual grants to the *Dzongkhags* and *Gewogs* - Nu. 15 billion
 - Of which to *Dzongkhag* – Nu. 9 billion (60 percent)
 - Of which to *Gewogs* – Nu. 6 billion (40 percent)
 - Local Government Empowerment Programme (*Dzongkhags* and *Gewogs*)- Nu. 5 billion
 - Capital grants to class “A” *Thromdes* (Thimphu, Phuentsholing, Gelephu and Samdrup Jongkhar) - Nu. 5 billion
- Total Nu. 25 billion**

⁷²Income, Life Expectancy and Education Index

⁷³Ratio of distance (kms) from the nearest markets (P/ling, S/Jongkhar, G/phu)

The formula based annual grants of Nu. 15 billion to the local governments (Dzongkhags and Gewogs) in the Eleventh Plan is an increase of 25 percent over the Tenth Plan allocation of Nu. 12 billion while capital grants to the four class “A” Thromdes is also significantly higher compared to the Tenth Plan allocation. Based on the formula, the following is the allocation to Dzongkhags and Gewogs:

Table 6.1.2 – Indicative Capital Allocation to *Dzongkhags*

Sl.No	<i>Dzongkhag</i>	Indicative Capital Allocation (Nu. In M)
1	Bumthang	396.012
2	Chhukha	560.156
3	Dagana	468.827
4	Gasa	379.887
5	Haa	349.296
6	Lhuentse	465.037
7	Monggar	544.536
8	Pemagatshel	373.145
9	Paro	477.595
10	Punakha	437.412
11	Samdrup Jongkhar	442.260
12	Samtse	639.440
13	Sarpang	445.421
14	Trashiyangtse	421.870
15	Trashigang	602.338
16	Thimphu	350.122
17	Trongsa	368.462
18	Tsirang	358.437
19	Wangduephodrang	518.395
20	Zhemgang	401.352
	TOTAL	9,000.00

Table 6.1.3 – Indicative Capital Allocation to *Gewogs*

<i>Dzongkhag</i>	<i>Gewog</i>	11 FYP Indicative Capital Allocation (Nu. In M)
Bumthang	Chhoekhor	58.435
	Chhumey	36.654
	Tang	31.456
	Ura	26.401
Chhukha	Bjachho	26.286
	Bongo	58.631
	Chapcha	28.461
	Dala	79.562
	Dungna	16.079
	Geling	27.014
	Getena	20.207
	Logchina	45.355
	Metap	12.191
	Phuntsholing	53.715
	Sampheling	51.692
Dagana	Deorali	20.134
	Dorona	16.770
	Drujegang	24.928
	Gesarling	21.962
	Gozhi	25.739
	Kana	28.615
	Khibisa	20.078
	Lajab	15.384
	Lhamoizingkha	20.240
	Nichula	12.861
	Trashiding	25.007
	Tsangkha	21.253
	Tsendagang	23.222
Tseza	22.151	

Gasa	Goenkhomey	13.330
	Goenkhatoe	11.609
	Laya	26.978
	Lunana	38.519
Haa	Bji	34.346
	Gakidling	25.019
	Katsho	12.569
	Sama	23.957
	Sangbeykha	22.136
	Uesu	22.292
Lhuentse	Gangzur	52.713
	Jarey	25.175
	Khoma	39.027
	Kurtoe	34.093
	Menbi	34.494
	Metsho	26.694
	Minji	28.187
	Tsenkhar	35.584
Mongar	Balam	22.574
	Chali	27.123
	Chaskhar	37.644
	Drametse	39.090
	Drepong	20.991
	Gongdue	31.133
	Jurmey	34.732
	Kengkhar	43.098
	Mongar	46.165
	Narang	23.411
	Ngatshang	26.524
	Saleng	41.824
	Sherimung	36.055
	Silambi	28.559

Mongar	Thangrong	32.240
	Tsakaling	25.786
	Tsamang	24.362
Paro	Doga	19.433
	Dopshari	23.478
	Doteng	14.518
	Hungre	11.307
	Lamgong	22.873
	Lungnyi	20.208
	Naja	35.624
	Shaba	30.342
	Tsento	45.520
	Wangcha	36.711
Pemagatshel	Chimung	12.802
	Chokhorling	15.226
	Chongshing	13.440
	Dechenling	26.382
	Dungmen	20.073
	Khar	22.457
	Nanong	28.663
	Norbugang	25.661
	Shumar	40.146
	Yurung	14.552
	Zobel	18.233
Punakha	Baap	23.801
	Chhubu	24.158
	Dzoma	18.171
	Goenshari	12.747
	Guma	29.490
	Kabjisa	27.870
	Lingmukha	9.966
	Shengana	15.111

Punakha	Talo	16.175
	Toebesa	20.654
	Toewang	23.137
Samdrupjongkhar	Dewathang	38.214
	Gomdar	41.287
	Langchenphu	21.334
	Lauri	56.009
	Martshalla	43.346
	Orong	43.662
	Pemathang	27.865
	Phuntshothang	48.899
	Samrang	6.377
	Serthi	38.655
	Wangphu	35.181
	Samtse	Norgaygang
Pemaling		54.561
Sang Ngag Chhoeling		52.654
Norboogang		64.547
Denchukha		48.251
Dophuchen		80.670
Dungtoed		29.528
Namgyel Chhoeling		53.085
Phuntshopelri		63.013
Samtse		57.882
Trashichholing		43.668
Tadhing		72.359
Tendruk		72.115
Ugyentse		26.423
Yoeseltse		44.191

Sarpang	Samtenling	19.429
	Chuzargang	26.024
	Dekiling	37.669
	Chhuzom	31.841
	Gelephu	28.304
	Gakidling	32.445
	Jigmecholing	49.004
	Sershong	20.206
	Shompangkha	14.590
	Singye	12.949
	Tareythang	4.440
	Umling	17.129
Thimphu	Chang	23.699
	Dagala	16.783
	Geyni	11.277
	Kawang	24.432
	Lingshi	14.889
	Mewang	41.487
	Naro	11.031
	Soe	9.082
Trashigang	Bartsham	19.854
	Bidung	23.992
	Kanglung	47.271
	Kangpara	34.484
	Khaling	38.320
	Lumang	60.044
	Merak	39.079
	Phongme	33.616
	Radhi	37.330
	Sakteng	38.631
	Samkhar	30.845
	Shongphu	41.308

Trashigang	Thrimshing	29.019
	Udzorong	42.583
	Yangnyer	33.485
Trashiyangtse	Bumdeling	35.297
	Jamkhar	13.973
	Khamdang	29.597
Trashiyangtse	Ramjar	13.266
	Toetsho	20.473
	Tongmijangsa	17.241
	Yalang	18.321
	Yangtse	21.917
Trongsa	Drakteng	26.184
	Korphu	17.712
	Langthel	36.327
	Nubi	37.274
	Tangsibji	24.593
Tsirang	Barshong	10.656
	Beteni	17.738
	Dunglagang	14.807
	Goseling	15.470
	Kikhorthang	21.289
	Mendregang	15.841
	Patale	18.380
	Phuentenchu	15.591
	Rangthangling	16.447
	Semjong	17.132
	Tsholingkhar	16.950
	Tsirangtoe	14.807

Wangduephodrang	Athang	25.066
	Bjena	22.002
	Daga	22.848
	Dangchu	19.895
	Gangtoe	20.113
	Gasetshogom	20.604
	Gasetshowom	13.329
	Kazhi	26.095
	Nahi	13.814
	Nyisho	23.864
	Phangyuel	13.496
	Phobjikha	24.462
	Ruepaise	20.681
	Sephu	38.323
	Theedtsho	18.794
Zhemgang	Bardo	41.925
	Bjoka	24.384
	Goshing	31.792
	Nangkor	47.360
	Nangla	41.830
	Phangkhar	36.129
	Shingkhar	34.321
	Trong	45.965
TOTAL		6,000.000

An allocation of Nu. 5 billion is earmarked for municipal infrastructure and services for the four class “A” Thromdes.

The Local Government Empowerment Programme for which Nu 5 billion has been allocated is towards common facilities such as utility vehicles, power tillers, etc and includes Nu. 2 million for each Gewog every year.

In addition to the Nu. 25 billion directly earmarked as capital allocation to the Local Governments, a provision of Nu. 4.5 billion has been kept under Ministry

of Education for Dzongkhag Education Services which will be implemented for the benefit of the local communities. The allocation under the targeted poverty intervention programmes is also over and above the local government allocation. Moreover, many centrally executed plans and programmes ultimately benefit the local governments and communities, though the resources are reflected under the sector concerned.

6.2.1 Bumthang Dzongkhag

Bumthang is centrally located on the east-west lateral highway. It borders Autonomous Region of Tibet in the north, Lhuentse in the east, Trongsa in the west and Zhemgang to the South. It has an approximate area of 2,668 square kilometers with an elevation ranging from 2400 to 6000 m above sea level.

Bumthang has four *Gewogs* namely Chhokhor, Chumey, Tang and Ura.

6.2.1.1 Current Situation

Table 6.2.1 – Key Indicators

Population (BLSS 2012)	12,707	Mean annual household income Nu. (BLSS 2012)	168,715 (164,829)
Number of Dungkhags	0	Poverty incidence % (PAR 2012)	3.4 (12)
Number of <i>Gewogs</i>	4	Multidimensional Poverty (BMIS 2010) %	11.9 (25.8)
Number of Households (BLSS 2012)	2,827 (127,942)	GNH Index (GNH 2010)	0.736 (0.743)
Area (sq.kms) (RNR Statistics 2012)	2,668	Unemployment (LFS 2012) %	0.3 (2.1)
Forest cover (%) (RNR Statistics 2012)	52.06	General literacy (BLSS 2012)	67.6 (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	11.9 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	97.6 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	17.6 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	25 (26)
(Figures in the bracket represent National average/total.)			

On the basis of the standard of living, health and education outcomes, Bumthang *Dzongkhag* is above national average.

The poverty and unemployment rates are lower than the national average. The mean annual household income is Nu. 168,715 mainly from agriculture, livestock, non-wood forest products, weaving and tourism.

The general literacy level is about 67.6 percent. The adjusted net primary attendance rate is 98 percent, indicating that 2 percent of children aged 6 to 12 are not enrolled in school.

The *Dzongkhag* falls a day short in terms of meeting the sufficiency levels for number of mean healthy days in a month as per GNH 2010 Index. The BLSS 2012 also indicate a high number of crude death rates and lower crude birth rates on average indicating a declining population trend.

The 2010 GNH Index reports Bumthang to be in medium happiness category with a value of 0.736.

6.2.1.2 Key Opportunities/Challenges

Bumthang *Dzongkhag* is one of the most richly endowed districts in terms of historical and spiritual legacy. Some of the oldest and most venerated temples are found in Bumthang, including Jambay and Kurjey Lhakhang. Besides, there are numerous other temples and shrines, and many of them are linked to Guru Rinpoche's visit in 746 A.D. Further, two-thirds of the *Dzongkhag* (Chhoekhor and Tang Gewogs) in the northern part falls within the boundary of Wangchuck Centennial Park, buffered by pockets of biological corridors while southern Bumthang (Chumey, lower Tang and Ura Gewogs) is part of another protected area, Thrumshingla National Park, making the region home to rare and endangered flora and fauna. Bumthang is also rich in agricultural produce such as buckwheat, honey, apples, potato, rice, dairy products, etc. Bumthang is also well known for the art of weaving the specialized *yathra* sheep wool textiles which is highly marketable both within and outside the country.

Some of the economic opportunities of the *Dzongkhag* are development of new cultural and ecotourism products and services, and development of cottage, small and medium industries of historical, religious and cultural potential which will contribute towards enhancing household income and employment generation.

Bumthang is already a very popular tourist destination but the number of nights tourists spend at present is limited due to long travel time taken by road. With the establishment of domestic air services in Bumthang, the *Dzongkhag* can benefit if the number of days usually spent on the road travelling could be converted into bed nights in Bumthang. The *Dzongkhag* could explore new tourism products to encourage tourists to spend more time.

The potential in agriculture and livestock production and the specialized art of weaving *yathra* could be explored and developed into thriving cottage, small and medium industries.

With better health and education status currently, the *Dzongkhag* can further build on their success and improve these outcomes by strengthening health and education services.

Some of the major challenges faced include loss of crop to wildlife, very cold winter and snow falls, lack of storage and marketing facilities particularly for agricultural products and disparities at local levels.

6.2.1.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies of the *Dzongkhag* will be i) tourism development and development of cottage, small and medium industries, and ii) targeted poverty reduction programmes.

Tourism development will be pursued in close collaboration with the Tourism Council of Bhutan, local communities and businesses. The *Dzongkhag* will focus on development of new products unique to the *Dzongkhag* so that tourists are encouraged to spend more days in Bumthang. The products will include eco-tourism, trekking, farm/home stays, historical and cultural excursions. The *Dzongkhag* will facilitate development of necessary tourism infrastructure and services including training of local communities/entrepreneurs in tourism hospitality and services.

The *Dzongkhag* also has potential for agro-processing industries based on products such as buckwheat, honey, apples, potato, rice, medicinal plants, mushrooms and dairy products. The *Dzongkhag* in coordination with the relevant central agencies will address issues of human-wildlife conflict, agricultural storage, packaging and marketing facilities, and facilitate establishment of farmers’ groups/cooperatives to increase production scale and management. The other potential area for **development of organized cottage and small industries** is the cultural industries based on textiles. Bumthang is famous for sheep wool textile such as “*yathra*”. The *Dzongkhag* in collaboration with the Agency for Promotion of Indigenous Craft will facilitate product development, quality assurance, establishment of cooperatives, raw material bank and export promotion of these products. The *Dzongkhag* will work towards creating an enabling environment for development of cottage

and small industries by addressing issues of access to credit, land, storage and marketing facilities, raw material etc in close coordination with the relevant central agency/institutions.

Towards reaching the unreached and the disadvantaged, the **Targeted Poverty Intervention Programme** will be implemented. Under the programme, six poor villages namely Trashiling, Zhurey, Lusibi, Chutoe, Tandingang and Shingneer will be supported under REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level in addition to specific interventions at household levels. The funds for this programme will be directly provided from the centre.

Others issues such as disaster management, solid waste management and public service delivery will also receive priority.

6.2.1.4 Dzongkhag Key Result Areas

GNH Pillar	Key Result Areas	Key Performance Indicator	Baseline (year)	11 FYP Target	Key Initiatives
Sustainable and equitable Socio-Economic Development	Increased food production	1. Cereal crop production i) Buckwheat production (MT/yr) ii) Wheat production (MT/yr) iii) Barley production (MT/yr) iv) Rice production (MT/yr) 2. Cash crop production i) Potatoes production (Mt/Yr) 3. Livestock production i) Milk Production (MT/yr) ii) Butter production (MT/yr) iii) Cheese production (balls/yr) 4. Mean annual household income (in Nu.) 5. Poverty incidence 6. Proportion of farm roads that are all-weather motorable and EFRC compliant (km/no) 7. No of functional Road user groups	1.i) 522.06 (2010) ii) 454.87 (2010) iii) 202 (2010) iv) 236.04 2.i. 5808.06 (2010) 3.i) 1721 (2010) ii) 62 (2010) iii) 194392 (2010) 4. 271044 (2010) 5. 3.4 (2012) 6.n/a 7.n/a	1.i) 783.09 ii) 682.31 iii) 222.20 iv) 354.06 2.i. 7163.81 3.i) 2049 ii) 74 iii) 231326 4 > 300000 5. < 3.4 6. track 7. track	1. Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities (green house, backyard farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, group formation, Capacity development) 3. Improve Marketing facilities (farm roads, marketing sheds, value addition and packaging, information and data management) 4. Capacity development (training and awareness programs) 5. Health infrastructure development (Renovation / Maintenance of BHUs)

Sustainable and equitable Socio-Economic Development	Improved health status of the communities	1) Mean walking time to the nearest health centre (in minutes) 2) Proportion of household with proper safe water supply 3) Proportion of HHs with proper sanitation facilities 4) No. of MM incidences 5) No. IM incidences 6) No. U5 mortality incidences 7) Immunization coverage (%)	1. 48.83(2010) 2. 100(2012) 3. 77 (2012) 4. 1(2011) 5. 5(2011) 6. 1 (2011) 7. 95 %	1) <48.83 2) =>100 3) =>85 4) 0 5) 0 6) 0 7) >95	6. Improve quality and efficiency health care services (tools and equipments, MCH) 7. Development of urban infrastructure/facilities
	Improved quality of urban life	1) Frequency of waste collection done by municipally per week (times) 2) Water supply per day(hrs) 3) No. of ring road connected	1)3(2010) 2)12(2012) 3) 1(2012)	1) =>3 2) =12 3) 3(2 bridges)	
Preservation and promotion of culture and traditions	Traditional and cultural heritage of the Dzongkhag preserved and promoted	1) Proportion of population that 'always' take part in local festivals in the community 2) Mean time spent on socio-cultural activities (in min/day) 3) Proportion of population that have 'very strong' sense of belonging to the community 4) Proportion of population that have 'very good' knowledge & understanding of 'local festivals'	1) 50.7(2010) 2)105.71(2010) 3)69(2010) 4)14.85(2010)	1) >50.7 2) >105.71 3) =>69 4) >14.85	1. Infrastructure development (Renovation of Lhakhang& dratshang, Const of Drasha, lhakhang, Mandir) 2. Enhancement of knowledge on culture and tradition (training and awareness programmes, Inventory on ancient historical monuments)

<p>Conservation and sustainable management and utilization of natural resources</p>	<p>Sustainable management and utilization of natural resources</p>	<p>1) Forest cover of <i>Dzongkhag</i> % 2) Proportion of population that feel 'highly responsible' for conservation of the natural environment 3) Annual average household income from forest product(Nu.)</p>	<p>1) 52.06(2011) 2) 77.8(2010) 3) 90,000(2012)</p>	<p>1) 52.07 2) >77.8 3) 130,000</p>	<p>1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFP (Mass bamboo and cane plantation, Promotion of orchids and incense plants etc) 3. Promotion of eco-tourism</p>
<p>Promotion of Good Governance</p>	<p>6)Improved effectiveness and efficiency in public service delivery</p>	<p>1) Mean happiness of the people (scale 0-10) 2) Percentage of annual capital grant utilized 3) Turn Around Time reduced (%) 4) No. of people using Community Information Center</p>	<p>1) 6.26(2010) 2) 97.96(2011) 3) n/a 4) n/a</p>	<p>1) >6.26 2) =>97.96 3) track 4) track</p>	<p>1. Capacity development (trainings and awareness programmes) 2. Development of Infrastructure/facilities</p>

6.2.2 Chukha Dzongkhag

Chukha *Dzongkhag* is one of the largest *Dzongkhag* in the country and it is located in the south-western part of the country and shares its borders with the *Dzongkhags* of Dagana to the east, Samtse and Haa to the west, Paro and Thimphu to the north and the Indian states of West Bengal to the south.

It has 11 *Gewogs* namely Bjachhog, Bongo, Chapcha, Darla, Dungna, Geling, Getena, Logchina, Metakha, Phuntsholing and Sampheling, and a *Drungkhag* and a *Thromde* in Phuentsholing.

6.2.2.1 Current Situation

Table 6.3.1 – Key Indicators

Population (BLSS 2012)	54,861	Mean annual household income Nu. (BLSS 2012)	259,988 (164,829)
Number of <i>Dungkhags</i>	1	Poverty incidence % (PAR 2012)	11.2 (12)
Number of <i>Gewogs</i>	11	Multidimensional Poverty (BMIS 2010) %	21.9 (25.8)
Number of Households (BLSS 2012)	12792	GNH Index (GNH 2010)	0.752 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1,879	Unemployment (LFS 2012) %	1.5 (2.1)
Forest cover (%) (RNR Statistics 2012)	85.77	General literacy (BLSS 2012)	70.5 (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	12.3 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	89.3 (91.9)
Crude Birth Rate (number of live births in a year per 1,000 population) (BLSS 2012)	17.3 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	27 (26)
(Figures in the bracket represent National average/total.)			

The current situation of the *Dzongkhag* is assessed based on the standard of living, health and education outcomes which make up the multidimensional poverty index.

The high level of mean annual household income and low unemployment rates

have contributed to relatively low levels of income poverty. The majority of the rural population depends on agriculture, livestock and horticulture for their livelihood. The main agricultural products include mandarin, cardamom, potatoes and a variety of vegetables. Livestock rearing is another major occupation and provides opportunities in dairy and poultry products because of the availability of ready markets.

The general literacy rate is high at 70.5 percent compared to the national average of 63 percent. However, the percentage of children aged 6 to 12 enrolled in school is low at 89 percent, indicating that about 11 percent of the children are not enrolled in school. This could be due to remoteness of some of the settlements.

The *Dzongkhag* meets the sufficiency levels for number of mean healthy days in a month as per GNH 2010 Index. The BLSS 2012 also indicate a higher number of crude death rates and lower crude birth rates on average indicating a declining population trend.

The 2010 GNH Index reports Chukha to be in medium happiness category with a value of 0.752.

6.2.2.2 Key Opportunities/Challenges

Chukha *Dzongkhag* offers lot a of economic opportunities. It is the commercial and industrial hub of the nation with adequate access and facilities such as roads, telecommunications and electricity. The two largest hydropower plants, 336 MW Chukha hydroelectricity plant and 1020 MW Tala hydroelectricity plant, and some of the large mineral, metal and wood based industries are located in the *Dzongkhag*. The *Dzongkhag* also has potential for enhancing cash crop, non-wood forest products and floriculture production if issues of human wildlife conflict, farm labour shortages, irrigation and storage and marketing facilities are addressed.

Further, the establishment of a mini dry-port in Phuentsholing, construction of Raidak-Lamoizingkha and Manitar-Raidak roads, an international standard football ground and three new mega hydroelectricity projects viz. 180 MW Bunakha Hydroelectric project, 540 MW Ammochhu Hydroelectric project, and 570 MW Wangchu Hydroelectric project are planned for implementation in the Eleventh Plan. These activities provide opportunities for employment generation and further boosting of trade and commerce in the *Dzongkhag*.

In terms of the challenges, while the overall poverty rates are just below the national average, there are villages within the *Dzongkhag* where poverty is high

and people lack the basic socio-economic facilities due to remoteness and difficult terrain. Addressing these pockets of rural poverty will be a challenge. In the Tenth Plan, Mandokha and Choleykha villages were among the ten poorest villages supported under the Rural Economy Advancement Programme (REAP) I.

6.2.2.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies of the *Dzongkhag* will be on i) enhancing agricultural and livestock productivity, and ii) targeted poverty reduction programmes.

The majority of the rural population in the *Dzongkhag* depends on agriculture, livestock and horticulture for their livelihood. Therefore, the *Dzongkhag* will focus on **enhancing agriculture and livestock productivity** which will not only contribute towards enhancing household incomes and employment generation but will also contribute towards import substitution of agricultural and livestock products. The *Dzongkhag* has potential to enhance agricultural production of mandarin, cardamom, potatoes and a variety of vegetables, besides possessing a rich reserve of non-wood forest resources such as medicinal plants, edible wild vegetable and roots. Hence efforts will focus on development of rural infrastructure, commercialization, farm mechanization, better herd management and use of improved breeds of cattle, addressing human wildlife conflict and development of small and medium enterprises through formation of farmers’ groups/cooperatives.

Towards reaching the unreached and the disadvantaged, the **Targeted Poverty Intervention Programme** will be implemented. Under the programme, five villages namely Dolepchen, Laleykha, Pana C, Pangsila and Zamsar will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level, in addition to specific interventions at household levels. The funds for this programme will be directly provided from the centre.

6.2.2.4 Dzongkhag Key Result Areas			
GNH Pillar	KRA	KPI	KI
Sustainable and equitable socio Economic development	Enhanced rural household income and food sufficiency	<ol style="list-style-type: none"> 1. Mean annual household income [259,988 (2012), >265,000] 2. Poverty Incidence [11.2% (2012 BPA), <10] 3. Cash crop production [Mandarin (MT) [2089 (2012), >2800] [Cardamom (MT) [748 (2012), >800] [Areca nut (MT) [1104 (2012), >5000] [Ginger (MT) [757 (2012), >5000] 4. Cereal crop production [Rice (MT) 2439 (2012), >2500] [Maize (MT) 3218(2012), >3230] [Wheat (MT) 304 (2012), >310] 5. Livestock production [Milk (MT/Yr) [1865 (2012), >2000] [Butter (MT/Yr) [76.1 (2012), >100] [Pork (MT/Yr) [43.2(2012), >50] [Chicken (MT/Yr) [85.7 (2012), >100] 	<ol style="list-style-type: none"> 1. Development of RNR infrastructure/facilities 2.Targeted Extension and support services 3.Improve Marketing facilities
	Improved health status of the communities	<ol style="list-style-type: none"> 1. Proportion of hhs with safe water supply (%) [98.8 (2012 BPA), >100] 2.Proportion of HHs with improved sanitation facilities [84.8 (2012 BPA), >95] 	<ol style="list-style-type: none"> 1. Capacity development (training and awareness programs) 2. Health infrastructure development 3. Improve quality and efficiency of health care services
	Improved quality of urban life	<ol style="list-style-type: none"> 1.Proportion of farmers living more than 3 hrs walking distance from the nearest road point [13.2 (2012 BRNPS), <10] 2.Water supply per day (hrs) [8 (2012), 24] 3.Sewerage network(m) [468 (2012), > 600] 4.No. of landfill sites [1 (2012), > 3] 5.Frequency of waste collection done by municipality per week [2 (2012), > 3] 	<ol style="list-style-type: none"> 1.Development of urban infrastructure/facilities 2.Capacity development (training and awareness campaign, waste management)

<p>Preservation and Conservation of Environment</p>	<p>Enhanced sustainable management and utilization of natural resources for income generation</p>	<p>1. Proportion of population that feel 'highly responsible' for conservation of the natural environment [73 (2010), >90] 2. Income per Community Forestry (CF) Groups (in 000) [15 (2010), >25] 3. NWFP (Products) [3(2011) ,>5] 4. No. of functional Community Forestry Groups [20 (2012), >25]</p>	<p>1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFP 3. Promotion of eco-tourism</p>
<p>Preservation and Promotion of tradition and culture</p>	<p>Traditional and cultural heritage of the <i>Dzongkhag</i> preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day) [86.75 (2010), > 100] 2. Proportion of population that 'always' take part in local festivals in the community [60 (2010), > 70] 3. Proportion of population that have 'very strong' sense of belonging to the community [72 (2010), > 80] 4. Proportion of population that have 'very good' knowledge & understanding 'local festivals' [7(2010), > 9.7] 'masked & other dances' [2.4 (2010), > 5.6] 'traditional Bhutanese songs' [2.7 (2010), > 4.2]</p>	<p>1. Infrastructure development 2. Enhancement of knowledge on culture and tradition</p>
<p>Good Governance</p>	<p>Institution and local capacity enhanced to ensure Good Governance</p>	<p>1. Mean happiness of the people (scale 0-10) [6.04 (2010), >7] 2. Percentage of annual capital grant utilized [90 (2012), > 95] 3. No of functional disaster response team [n.a (2012), 15] 4. No of people availing services from CCs [n.a (2012), Track]</p>	<p>1. Capacity development (trainings and awareness programmes) 2. Development of Infrastructure/facilities</p>

6.2.3 Dagana Dzongkhag

Dagana *Dzongkhag* is situated in the southwestern part of the country with Sarpang *Dzongkhag* to the south, Tsirang to the east, Wangdue Phodrang to the north and Chhukha to the west.

It has one *Dungkhag* namely Lhamoizingkha and fourteen *Gewogs* namely Deorali, Dorona, Drujegang, Gesarling, Goshi, Kana, Khebisa, Lajab, Lhamoizingkha, Nichula, Trashiding, Tsendagang, Tsangkha and Tseza. It has an area of about 1723 square kilometers with elevation ranging from 600 meters to 3800 meters above the sea level

6.2.3.1 Current Situation

Table 6.4.1 – Key Indicators

Population (BLSS 2012)	19352	Mean annual household income Nu. (BLSS 2012)	95,966 (164,829)
Number of <i>Dungkhags</i>	1	Poverty incidence % (PAR 2012)	25.1(12)
Number of <i>Gewogs</i>	14	Multidimensional Poverty (BMIS 2010) %	46.6 (25.8)
Number of Households (BLSS 2012)	3815 (127,942)	GNH Index (GNH 2010)	0.783 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1723	Unemployment (LFS 2012) %	2.7 % (2.1)
Forest cover (%) (RNR Statistics 2012)	87.06	General literacy (BLSS 2012)	61% (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	4.3 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	97.6 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	17.7 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	27 (26)
(Figures in the bracket represent National average/total.)			

Dagana *Dzongkhag* is one of the poorer *Dzongkhags* with high levels of poverty incidence, unemployment and low general literacy. The 2010 GNH Index reports Dagana to be in high happiness category with a value of 0.783. Access to the *Dzongkhag* is through the Dagana-Tsirang highway which is often closed during the monsoons cutting-off the *Dzongkhag* from the rest of the country.

Agriculture farming is the main source of income for majority of the population.

The fertile land and suitable climatic conditions make Dagana one of the major producers of mandarin and cardamom in the country. Other crops and vegetables like broccoli, cauliflower, cabbage, potato, chillies, tomatoes and horticulture crops like banana, passion fruit, pear and avocado are also grown.

The *Dzongkhag* also has potential for harvesting Non-Wood Forest Products (NWFP) such as Pipla, Thysolinia and Cinnamon. However, the NWFP potential is underutilized thereby not contributing to income of the households.

Currently, a 126 MW Dagachhu Hydroelectricity project is under construction in the *Dzongkhag* which is expected to be commissioned by early 2014.

6.2.3.2 Key Opportunities/Challenges

Favorable climatic conditions and fertile land provides the opportunity for the *Dzongkhag* to enhance agricultural (paddy, vegetables, fruits etc), livestock (dairy and meat products) and NWFP (Pipla, Thysolinia and Cinnamon) production.

Dagana also has potential for tourism development. Dagana - Lamoizingkha could be developed as a beautiful 3 days trek for bird watchers and could be even extended for the fourth day to Tala from Lamoizingkha. Another ancient footpath route starting from Genekha (Thimphu) via some beautiful lakes to Dagana could be developed into an 8-days trek. Besides, there are cultural attractions in Tseza and Kana *Gewogs*. Bird watching and orchid tours along the road are tourist's attractions in Gesarling and Trashiding *Gewogs*. Wachey cave is also an interesting sight for tourists.

Further, with the completion of 126 MW Dagachhu Hydroelectricity project in early 2014 the reliability of electricity supply in the *Dzongkhag* will be enhanced creating opportunities for establishing small and medium industries in the *Dzongkhag*. In addition, the construction of a 2,560 MW Sankosh Hydroelectricity project during the Eleventh Plan will provide favorable environment for boosting local trade and commerce and enhancing employment and income generating activities.

The major challenge faced by the *Dzongkhag* is the high levels of poverty. Among the 20 *Dzongkhags*, Dagana has the third highest level of poverty, almost double that of the national average of 12 percent in 2012. The high levels of poverty is attributed to remoteness of the *Dzongkhag* and poor agricultural productivity due to human wildlife conflict, farm labour shortages and lack of adequate irrigation, storage and marketing facilities.

6.2.3.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on are i) enhancing agricultural and livestock productivity, ii) tourism development and iii) targeted poverty reduction programmes.

With the majority of the population depending on agricultural products such as paddy, vegetables and fruits; livestock mainly dairy and meat products; and non-wood forest products like pipla, thysolinia and cinnamon; for their livelihood and income generation, the *Dzongkhag* will focus on enhancing **agriculture, livestock and non-wood forest production**. Support in the form of land terracing, rehabilitation and plantation of citrus and cardamom, supply of high quality disease resistant seeds and seedlings, supply of labour saving farm machinery, irrigation and capacity development such as group formation, awareness, advanced training on farming and marketing skills will be provided. Measures to address human wildlife conflict will be pursued aggressively. Further, with adequate and reliable electricity available from early 2014, the *Dzongkhag* will explore possibilities of establishing small and medium agro-processing industries in the *Dzongkhag*.

To supplement farm income, the *Dzongkhag* will promote **tourism development**. The *Dzongkhag* in close cooperation with the Tourism Council of Bhutan, local communities and businesses will explore development of new tourism products such as trekking, bird watching, orchid tours, bicycle tours, water sports and farm/home stays in the *Dzongkhag*. With the communities the *Dzongkhag* will facilitate development of tourism infrastructure and services including training of communities in tourism hospitality and services.

To address the high levels of poverty in the *Dzongkhag*, the **targeted poverty reduction programme** will be implemented in collaboration with the relevant central agency. Under the programme, seven villages namely Balukop, Bartsa, Devitar, Banglachu, Sanu Dorona, Tachay and Tshalabji will be supported through the REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

6.2.3.4 Dzongkhag Key Result Area					
GNH Pillars	Dzongkhag Key Result Areas	Key performance indicators	Baseline	Target	Key Interventions
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food sufficiency	1. Annual household income in Nu.	1. 95966 (2012)	1. >100,000	1. Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities, green house, rain water harvesting, backyard farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, Capacity development) 3. Improve Marketing facilities (marketing sheds, value addition and packaging, information and data management)
		2. Poverty Incidence	1. 25 % (2012)	1. 5%	
		3. Cash crop production (in MT/yr)			
		i. Cardamom (MT)	i. 121 (2010)	i. 193	
		ii. Ginger(MT)	ii. 24 (2010)	ii. 263	
		iii. Onion(MT)	iii. 8.83 (2010)	iii. 50	
		iv. Tomato(MT)	iv. 12.5 (2010)	iv. 60	
		v. Carrot(MT)	v. 4.112 (2010)	v. 14.15	
		vi. Cabbage(MT)	vi. 20.42 (2010)	vi. 94	
		vii. Chili(MT)	vii. 189.6 (2010)	vii. 328	
		viii. Mustard(MT)	viii. 112 (2010)	viii. 238	
		4. Cereal crop production (in MT/yr)			
		i. Paddy production (MT)	i. 4088 (2010)	i. 5084	
		ii. Maize production (MT)	ii. 3188 (2010)	ii. >5474	
		iii. Millet production (MT)	iii. 257 (2010)	iii. >477	
iv. Buckwheat Production (MT)	iv. 175 (2010)	iv. >471			
v. Wheat Production (MT)	iv. 27.4 (2010)	v. > 42			

Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food sufficiency	5. Average land left uncultivated due to wild life threats (in acres)	5. 116 (2010)	5. <116	1. Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities) green house, rain water harvesting, backyard farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, Capacity development) 3. Improve Marketing facilities (marketing sheds, value addition and packaging, information and data management)	
		6. Proportion of people who "NEVER" feel "food insecurity"	6. 96.60 (2010)	6. > 98		
		7. Proportion of hhs producing sufficient food grains	7. 40.3 (2012)	7. 55		
		8. Livestock production (in MT/yr)				
Improved health status of the communities	1. Proportion of hhs with safe water supply (%)	1. 97 (2011)	1. 100	1. Capacity development (training and awareness programs) 2. Health infrastructure development (Renovation / Maintenance of BHUs 8 nos., Construction & up-gradation of ORCs to Sub-post 5 nos.), 3. Improve quality and efficiency of health care services (tools and equipments, MCH)		
	2. Proportion of HHs with proper sanitation facilities	2. 89.5 (2011)	2. 95			
	3. Mean walking time to the nearest health care centre	3. 89.3 (2010)	3. <60			
	4. Child survival rate	4. 97.7 % (2012)	4. 100 %			
	5. Increased access for Institutional delivery (%)	5. 51 (2011)	5. 90			

Sustainable and Equitable Socio-Economic Development	Improved quality of urban life	1. Proportion of farmers living more than 3 hrs	1. 10 (2010)	1. <3	1. Development of urban infrastructure/facilities (Dzongkhag yenlag towns), 2. Capacity development (training and awareness campaign, waste management)
		2. walking distance from the nearest road point	2. 8 (2012)	2. > 12	
		3. Water supply per day (hrs)	3. 1 (2012)	3. > 3	
		4. No. of landfill sites	4. 0 (2012)	4. 3	
Preservation of Environment	Enhanced sustainable management and	1. Proportion of population that feel 'highly responsible' for conservation of the natural environment	1. na (2010)	1. >25	Reforestation/water source protection and CF management Initiatives
		2. Income per Community Forestry (CF) Groups (in 000)	2. 1500 Kg (2012)	2. 3000kg	
		3. NWF (Products)			
		1. Pipla production-	1. 150 bundles	1. 500 bundles.	
		2. Thysolinia production-	2. 1000 kg (2012)	2. 1000 kg	
Utilization of natural resources for income generation		3. Cinnamon production-	3. 12 (2011)	3. >20	2. Promotion of NWF (pipla, thysolinia and cinnamon) 3. Promotion of eco-tourism
		4. No. of functional Community Forestry Groups	4. n.a	4. 23	
		5. Waste management initiatives	5. n.a	5. Track	

<p>Preservation and Promotion of Culture</p>	<p>Traditional and cultural heritage of the Dzongkhag preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day)</p>	<p>1. 86 (2010)</p>	<p>1. > 120</p>	<p>1. Infrastructure development (Renovation of Lhakhang & dratshang, Const of Drasha, lhakhang, Mandir) 2. Enhancement of knowledge on culture and tradition (training and awareness programmes, inventory on ancient historical monuments)</p>
		<p>2. Proportion of population that 'always' take part in local festivals in the community</p>	<p>2. 42 (2010)</p>	<p>2. > 70</p>	
		<p>3. Proportion of population that have 'very strong' sense of belonging to the community</p>	<p>3. 70 (2010)</p>	<p>3. > 80</p>	
		<p>4. Proportion of population that have 'very good' knowledge & understanding</p>			
		<p>1. 'local festivals'</p>	<p>1. 8.7 (2010)</p>	<p>1. > 40</p>	
		<p>2. 'masked & other dances'</p>	<p>2. 4.8 (2010)</p>	<p>2. > 30</p>	
		<p>3. 'traditional Bhutanese songs'</p>	<p>3. 4 (2010)</p>	<p>3. Track</p>	
		<p>1. Mean happiness of the people (scale 0-10)</p>	<p>1. 5.71 (2010)</p>	<p>1. > 6.5</p>	
		<p>2. Percentage of annual capital grant utilized</p>	<p>2. 60 (2011)</p>	<p>2. > 95</p>	
		<p>Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<p>3. No of functional disaster response team</p>	
<p>4. No of people availing services from CCs</p>	<p>4. n.a (2012)</p>			<p>4. Track</p>	
<p>5. Turn Around Time (TAT)</p>	<p>5. n.a</p>			<p>5. rd. by 75%</p>	
<p>6. Implementation of National Anti-corruption strategy</p>	<p>6. n.a</p>			<p>6. Track</p>	
<p>7. Implementation of GPMS</p>	<p>7. n.a</p>			<p>7. Track</p>	

6.2.4 Gasa Dzongkhag

Gasa *Dzongkhag* is situated in the extreme northwest of the country bordering the Autonomous Region of Tibet in the north and Thimphu, Punakha and Wangdue Phodrang Dzongkhags in the south.

The Dzongkhag comprises four Gewogs namely Khatoed, Khamoed, Laya and Lunana. It is located at an altitude ranging from 1500-4500 meters above sea level. The climatic condition ranges from temperate to alpine with cold winters and pleasant short summers.

6.2.4.1 Current Situation

Table 6.5.1 – Key Indicators

Population (BLSS 2012)	3049	Mean annual household income Nu. (BLSS 2012)	364, 797 (164,829)
Number of Dungkhag	0	Poverty incidence % (PAR 2012)	<0.5 (12)
Number of <i>Gewogs</i>	4	Multidimensional Poverty (BMIS 2010) %	46.6 (25.8)
Number of Households (BLSS 2012)	688 (127,942)	GNH Index (GNH 2010)	0.771 (0.743)
Area (sq.kms) (RNR Statistics 2012)	3075	Unemployment rate(LFS 2012)	0 (2.7)
Forest cover (%) (RNR Statistics 2012)	26.25	General literacy rate (BLSS 2012)	49.4 % (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	28.2 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	75.3 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	12.3 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	27 (26)
(Figures in the bracket represent National average/total).			

Gasa *Dzongkhag* has the lowest levels of income poverty with annual household income of Nu. 364,797 (BLSS 2012). The annual household income is highest amongst all *Dzongkhags*. Wages contribute about 15 percent of the total income, agriculture 22 percent and non-agriculture 63 percent. Non-agriculture income is generated mainly from collection and sale of cordyceps.

While in terms of income Gasas has the lowest levels of poverty, the poverty

measured on multidimensional basis (health, education and living standards) is the highest in the country at 46.6 percent (BMIS 2010). This is mainly because the delivery of health and education services is a challenge due to difficult terrain, harsh climatic conditions and remoteness. Addressing health and education issues remain a priority.

The 2010 GNH Index reports Gasa to be in high happiness category with a value of 0.771.

6.2.4.2 Key Opportunities/Challenges

The key opportunities are in the area of livestock and NWFP production. Gasa *Dzongkhag* produced about 20 MT of butter, 37 MT of cheese and 23 MT of *chugo* in 2011 (RNR Statistics, MoA, 2012). The *Dzongkhag* recorded highest collection of cordyceps in 2010 with 26 percent (141.7 kgs) of the total 541.9 Kgs collected (DAMC, MoA, 2010).

In addition, the *Dzongkhag* falls under the Jigme Dorji Wangchuck National Park and is the habitat for different species of birds and animals like the takin, musk deer, blue sheep, snow leopard, red panda, raven, wild pheasants, snow pigeons, red billed cough, Himalayan black bear, tiger, etc. The *Dzongkhag* is famous for hot springs and number of “*Menchus*” (medicinal springs) with renowned medicinal properties providing health, mind and recreational benefits. Therefore, it provides an excellent opportunity for drawing numerous domestic as well as foreign tourists. The number of foreign tourists visiting the *Dzongkhag* is increasing where it recorded 409 visitors in 2011 (NSB, 2012).

The lack of access to health and education facilities and services is a major challenge faced by the *Dzongkhag*. The difficult terrain, harsh climatic conditions and remoteness makes it difficult to provide these facilities. Some of the problems are lack of private service providers and contractors, less time for development and transportation due to snowfall in winter in the northern regions of the *Dzongkhag*. The general literacy rate according to BLSS 2012 was 49.4 compared to the national average of 63. The primary school completion rate is also lowest in the country with only 41.3 percent (89)⁷⁴ of children completing primary education. Access to education is provided by four schools.

BLSS 2012 also reports that Gasa had low child survival rate of 85 percent

⁷⁴National primary school completion rate

compared to 94.1 percent at national level. Crude death rate which shows the number of deaths per year per thousand people was reported to be 28.2 which is significantly higher than the national average of 8.5 (BLSS, 2012). There is also an increasing problem of lifestyle diseases, stress, drug and alcohol abuse and lack of mental health care. The *Dzongkhag* doesn't have a hospital and health services are provided by two BHUs and two ORCs.

The development of infrastructure facilities is a challenge. The *Dzongkhag* was recently connected with motorable road. Although 96.9 percent of the 688 households have access to electricity, only 35.7 percent have access to grid electricity supply.

6.2.4.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on are i) improving health and education outcomes, ii) tourism development, iii) livestock production and commercialization and sustainable management of forestry products, and iv) targeted poverty reduction programmes

As highlighted above, while the *Dzongkhag* has the lowest levels of income poverty, it has the highest levels of multidimensional poverty. This is primarily due to poor health and education outcomes in the *Dzongkhag*. Therefore, one key strategy will be to **improve health and education outcomes**. The *Dzongkhag* in close cooperation with the Ministries of Health and Education and other relevant central agencies will ensure that necessary infrastructure facilities and other resources such as equipment, drugs and vaccines and adequate/qualified personnel are made available to improve delivery of health and education services. Where delivery of such services is difficult due to remoteness and challenging terrain, the *Dzongkhag* will make alternative arrangements to ensure that these communities are not deprived of the services guaranteed by the Constitution.

The rich flora and fauna and number of “*Menchus*” and “*Nyes*” (religious sites) make Gasa an attractive destination for both foreign and local tourists. The *Dzongkhag* will liaise with Tourism Council of Bhutan, local communities and businesses for the **development of tourism** in the *Dzongkhag*. The *Dzongkhag* will facilitate development of tourism infrastructure and services such as guesthouses, trekking path, home stays, community lodges and exotic tourism products. The *Dzongkhag* will also facilitate training and capacity development of communities in tourism hospitality and other related services.

With livestock products being one of the main sources of livelihood, the *Dzongkhag* will focus on **enhancing livestock productivity and commercialization**. The *Dzongkhag* will facilitate establishment of commercial livestock farming, breed improvement, access to micro-credit and insurance schemes. Further, as majority of the households depend on non-wood forest products such as cordyceps and medicinal plants for income, which accounts for almost 60 percent of their total income. Therefore to ensure sustainable livelihood from non-wood forest products, the *Dzongkhag* will ensure **sustainable management of forest and forestry products** through implementation of activities such as community and private forestry establishment, afforestation and reforestation programme, watershed management and conservation.

While Gasa enjoys the highest levels of household income compared to the rest of the *Dzongkhags*, there are villages within the *Dzongkhag* where poverty levels are high. Therefore, to address these disparities, five villages namely Amochhu, Remi, Wachey, Yesona and Zomena will be supported through REAP Phase II, one of the **targeted poverty reduction programmes**. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

Further, to improve the living conditions, particularly that of the civil servants, the National Housing Development Corporation in cooperation with the *Dzongkhag* Administration will construct 24 housing units in the Eleventh Plan to address the lack of decent housing facilities in the *Dzongkhag*.

6.2.4.4 Dzongkhag Key Result Area

GNH Pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline (year)	11 FYP Target	Key Interventions
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food grain sufficiency	1. Mean annual household income (in Nu.) 2. Proportion of households producing sufficient food grains 3. Proportion of population 'NEV-ER' reporting degree of food insecurity 4. Average acreage of land uncultivated due to wild life threats 5. Population Poverty Rate (%) 6. Proportion of households living > 1hr walking distance from the nearest motorable road point	1. 364,797 (2012) 2. 21.2(2012) 3. 99 (2010) 4. 32 (2010) 5. 0.5 (2012) 6. 65.1 (2011)	1. >400000 2. >40 3. >99 4. < 20 5. <0.5 6. <30	1. Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities, commercial farming) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder development, group formation, Capacity development, Farm mechanization) 3. Improve Marketing facilities (farm roads, marketing sheds, value addition and packaging, information and data management)
	Improved health status of the community	1. Mean healthy days (0-30 days) 2. Proportion of households with access to improved water source 3. Proportion of households with access to improved sanitation 4. Mean walking time to the nearest health care centre (in mins) 5. Deliveries attended by trained personnel (%)	1. 27.55 (2010) 2. 100(2012) 3. 55(2012) 4. 61.2 (2010) 5. 5 (2011)	1. >28 2. 100 3. >90 4. <60 5. >50	1. Development of health facilities (BHU and sub-posts) 2. Targeted capacity and awareness programmes (Community health development(CDH), Non-communicable diseases, TB, Reproductive health, Sanitation)

	Improved quality of urban life	<p>1. Households water supply (%)</p> <p>2. Households connected to sewerage network (%)</p> <p>3. Waste collection done by municipality per week (no)</p>	<p>1. 80 (2011)</p> <p>2. 20 (2011)</p> <p>3. 0 (2012)</p>	<p>1. 100</p> <p>2. >50</p> <p>3. >1</p>	<p>1. Development of urban infrastructure/facilities</p> <p>2. Capacity development (training and awareness campaign, water and waste management)</p>
<p>Preservation and Promotion of Culture</p>	<p>Traditional and cultural heritage of the <i>Dzongkhag</i> preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day)</p> <p>2. Proportion of population that 'always' take part in local festivals in the community</p> <p>3. Proportion of population that have 'very strong' sense of belonging to the community</p> <p>4. Proportion of population who give unpaid volunteer help</p> <p>5. Number of trees planted within religious and cultural premises</p>	<p>1. 98 (2010)</p> <p>2. 71 (2010)</p> <p>3. 86 (2010)</p> <p>4. 48 (2010)</p> <p>5. na (2012)</p>	<p>1. >120</p> <p>2. > 90</p> <p>3. > 90</p> <p>4. >50</p> <p>5. > 100/institution</p>	<p>1. Infrastructure development (Renovation of <i>Ihakhangs, dratshang, drubdeys, drashag and Chortens</i>)</p> <p>2. Enhancement of knowledge on culture and tradition (training and awareness programmes, inventory on ancient historical monuments and sites)</p>
<p>Preservation of Environment</p>	<p>Enhanced sustainable management and conservation of natural resources</p>	<p>1. Proportion of population that feel 'highly responsible' for conservation of the natural environment</p> <p>2. Proportion of households composting household waste</p> <p>3. Waste management initiatives in the rural areas (no)</p>	<p>1. 87 (2010)</p> <p>2. 39 (2010)</p> <p>3. na (2012)</p>	<p>1. > 95</p> <p>2. >70</p> <p>3. Track</p>	<p>1. Reforestation/water source protection and CF management initiatives (Plantation, Land management)</p> <p>2. Promotion of NWFPP (Sustainable harvesting of Cordyceps, Promotion of orchids and Aromatic and medicinal plants)</p> <p>3. Promotion of eco-tourism</p> <p>a. Development of infrastructure (transit camp, home stay programs, road site amenities)</p> <p>b. Product diversification</p> <p>c. Capacity development and awareness programme</p>

<p>Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<ol style="list-style-type: none"> 1. Mean happiness of the people (scale 0-10) 2. People perception on the performance of LG (%) 3. Percentage of annual capital grant utilized 4. Implementation of anti-corruption strategy 5. Turn Around Time (TAT) 6. Implementation of Govt. Performance Management System (GPMS) 	<ol style="list-style-type: none"> 1. 6.45 (2010) 2. 89 (2011) 3. 70.82 (2011) 4. No (2012) 5. na (2012) 6. no (2012) 	<ol style="list-style-type: none"> 1. >7 2. >95 3. > 95 4. Yes 5. Reduce by 70% 6. Yes 	<ol style="list-style-type: none"> 1. Development/ maintenance of Infrastructure/facilities 2. Capacity development (trainings and awareness programmes) 3. Equip with appropriate and necessary equipments
-------------------------------	---	--	---	---	---

6.2.5 Haa *Dzongkhag*

Haa *Dzongkhag* is situated at an elevation ranging from 1000 to 5600 meters above sea level. It borders Autonomous Region of Tibet in the north-west and *Dzongkhags* of Thimphu, Paro and Samtse in the south and east.

The *Dzongkhag* is administratively divided into six *Gewogs* namely Bji, Katsho, Eusu, Samar, Gakidling and Sangbaykha. The *Dzongkhag* is supported by one *Dungkhag* to cover the *Gewogs* of Gakidling and Sangbaykha.

6.2.5.1 Current Situation

Table 6.6.1 – Key Indicators

Population (BLSS 2012)	8691	Mean annual household income Nu. (BLSS 2012)	127,278 (164,829)
Number of <i>Dungkhags</i>	1	Poverty incidence % (PAR 2012)	6.4 (12)
Number of <i>Gewogs</i>	6	Multidimensional Poverty (BMIS 2010) %	15.9 (25.8)
Number of Households (BLSS 2012)	1770 (127,942)	GNH Index (GNH 2010)	0.775 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1865	Unemployment (LFS 2012) %	0.4 (2.1)
Forest cover (%) (RNR Statistics 2012)	65.35	General literacy (BLSS 2012)	68.6% (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	3.9 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	93.7 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	26.9 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	28 (26)
(Figures in the bracket represent National average/total.)			

Haa being located at a very high altitude, the cultivatable agricultural land forms only around 2 percent of the total area of the *Dzongkhag*. Most of the area comprises of dry land and pasture land. The people of Haa depend on livestock and trade for their livelihood. Livestock rearing constitute an important economic activity, with a majority of the northern *Gewogs* depending on livestock products such as butter, cheese and yak meat. As per the Bhutan RNR statistics 2012, the highest source of income was from livestock products, about 53 percent of the

total income. Other sources of income were from cereal and cash crops like wheat, buckwheat, barley, potato, apples and vegetables.

Health services are provided by one BHU-I supported by 3 grade II BHUs. 98.1 percent of households have access to clean & safe drinking water as compared to the national average of 96.1 percent. GNH 2010 Survey reports that people of Haa enjoyed mean healthy days of 28 days in a month. The *Dzongkhag* has good education coverage with one higher secondary schools, three lower secondary schools, three primary school and two community schools. Recently, a private higher secondary school was established. The literacy rate for *Dzongkhag* is 68.6 percent which is higher than the national average of 63 percent. However, about 8 percent of children aged 6-12 years are not enrolled in schools.

While the poverty incidence for the *Dzongkhag* is reported to be low as compared to the national average of 12 percent in 2012, there are pocket of settlements where poverty is high. In the Tenth Plan, Thangdokha, Dramekha and Ngatsena under Gakeyling Gewog were among the villages supported under the targeted poverty intervention programmes of REAP I and the National Rehabilitation Programme (NRP).

The 2010 GNH Index reports Haa to be in high happiness category with a value of 0.775.

6.2.5.2 Key Opportunities/Challenges

Haa valley opened to foreign tourism in 2002. Since then tourism has been an important source of livelihood through community based tourism. The rare White Poppy (*Meconopsis superba*) which is endemic to Haa and cannot be found anywhere else in the world, the wooded hills for hiking and mountain biking, religious and cultural sites, yak and cattle shows and the annual Summer Festival organized jointly by Tourism Council of Bhutan and *Dzongkhag* are some of the main attractions providing opportunities for further development of tourism in the *Dzongkhag*. Further, the traditional agricultural lifestyle and architecture could also provide opportunities for enhancing community based tourism through development of home-stays tourist packages.

The *Dzongkhag* also has potential to enhance agricultural and livestock production. Wheat is the main cereal crop grown in the *Dzongkhag* and other crops include barley and buckwheat. In the south cardamom and ginger constitutes the principal cash crops while in the north, potato is the main cash crop with apples and

vegetables cultivated on a moderate scale.

However, agricultural and livestock productivity is challenged by human wildlife conflict, shortage of farm labour and lack of storage and marketing facilities.

6.2.5.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) tourism development, ii) agricultural and livestock production and iii) targeted poverty intervention programme.

To supplement farm income, the *Dzongkhag* will promote **tourism development**. The *Dzongkhag* in close cooperation with the Tourism Council of Bhutan, local communities and businesses will explore development of new tourism products unique to Haa such as trekking, mountain biking, White Poppy (*Meconopsis superba*) tours, religious and cultural tours, and farm/home stays. The *Dzongkhag* will facilitate development of tourism infrastructure and services including training of communities in tourism hospitality and services.

Given that the majority of people are dependent on agriculture and livestock for their livelihood, the *Dzongkhag* will focus on **enhancing agricultural & livestock production**. Support in the form of supply of high quality disease resistant seeds and seedlings, farm mechanization, capacity development through group formations, awareness, advanced training on farming and marketing skills will be facilitated. Measures to address human wildlife conflict will be pursued aggressively.

Under the **targeted poverty reduction programme**, five villages namely Fentena, Tima, Getangay, Youkha and Yaba will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households. The funds for this programme will be directly provided from the centre.

Further, about 83 poor and disadvantaged households will be rehabilitated in Bebji under Sombaykha Gewog as part of the National Rehabilitation Programme. Besides transitional support, the main interventions include support for house construction, water and electricity supply and construction of an extended classroom.

6.2.5.4 Dzongkhag Key Result Areas					
GNH Pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline (year)	11 FYP Target	Key Interventions
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food grain sufficiency	1. Mean annual household income (in Nu.) 2. Proportion of people 'never' reporting degree of "food insecurity" 3. Average acreage of land uncultivated due to wild life threats 4. Poverty incidence (%)	1. 122705 (2010) 2. NA(2010) 3. NA(2010) 4. 6.4(2007)	1. >134975.5 2. > 99 3. < 50 4. <5	1. Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities, rain water harvesting, commercial farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, group formation, Capacity development) 3. Improve Marketing facilities (farm roads, marketing sheds, value addition and packaging, information and data management)
	Improved health status of the community	1. Mean healthy days (0-30 days) 2. Incidence of infant mortality 3. Incidence of U5 mortality 4. Incidence of maternal mortality 5. Proportion of hhs with safe water supply 6. Proportion of HHs with improved sanitation facilities 7. Mean walking time to the nearest health care centre (in (min)	1. 27.58 (2010) 2. na (2011) 3. na (2011) 4. na(2011) 5. 98.1(2012) 6. 65.6 (2012) 7. 116.2 (2010)	1. >=28 2. Track 3. Track 4. Track 5. 100 6. 100 7. <=60	1. Development & maintenance of health facilities (BHU and sub-posts) 2. Targeted capacity and awareness programmes

	Improved quality of urban life	<ol style="list-style-type: none"> 1. Household water supply (%) 2. Hhs connected to sewerage network (%) 3. Waste collection done by municipality per week (no) 	<ol style="list-style-type: none"> 1. na (2012) 2. na (2012) 3. na (2012) 	<ol style="list-style-type: none"> 1. 100 2. 100 3. 2 	<ol style="list-style-type: none"> 1. Development/maintenance of urban infrastructure/facilities 2. Capacity development (training and awareness campaign, water and waste management)
Preservation and Promotion of Culture	Traditional and cultural heritage of the <i>Dzongkhag</i> preserved and promoted	<ol style="list-style-type: none"> 1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population who give unpaid volunteer help 	<ol style="list-style-type: none"> 1. 95 (2010) 2. 60.5 (2010) 3. 70 (2010) 4. 48 (2010) 	<ol style="list-style-type: none"> 1. > 120 2. > 60.5 3. > 90 4. > 50 	<ol style="list-style-type: none"> 1. Infrastructure development (Renovation of <i>Lhakhang</i> & <i>dratshang</i>, <i>Const of Drasha</i>, <i>lhakhang</i>) 2. Enhancement of knowledge on culture and tradition (training and awareness programmes on culture and tradition)
Preservation of Environment	Enhanced sustainable management and conservation of natural resources	<ol style="list-style-type: none"> 1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Proportion of hhs composting hh waste 3. No. of functional Community Forestry Groups 4. Income from forestry and eco-tourism services (track) 	<ol style="list-style-type: none"> 1. 87.9 (2010) 2. 48.8 (2010) 3. NA(2012) 4. NA(2012) 	<ol style="list-style-type: none"> 1. > 90 2. > 60 3. > 8 4. Track 	<ol style="list-style-type: none"> 1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFP

<p>Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<p>1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people availing services from CCs 5. Implementation of Anti-corruption strategy 6. Government Performance enhanced (GPMS)</p>	<p>1.6.42 (2010) 2. 88.4 (2011) 3. na (2012) 4. na (2012) 5. not yet. 6. not yet.</p>	<p>1. > 7 2. > 95 3. 7 4. Track 5. Full implementation. 6. > 90 %.</p>	<p>1. Development & maintenance of Infrastructure/ facilities 2. Capacity development (trainings and awareness programmes)</p>
-------------------------------	---	---	--	--	---

6.2.6 Lhuentse Dzongkhag

Lhuentse *Dzongkhag* is situated in the northeast part of the country and it borders Autonomous Region of Tibet in the north, and Mongar in the east and Bumthang in the south- west. It is the ancestral home of our Monarchs. The *Dzongkhag* consists of eight *Gewogs* namely Gangzur, Jaray, Khoma, Kurtoe, Menbi, Metsho, Minjay and Tshenkar.

6.2.6.1 Current Situation

Table 6.7.1 – Key Indicators

Population (BLSS 2012)	14245	Annual household income Nu. (BLSS 2012)	86,629 (164,829)
Number of Dungkhags	0	Poverty incidence % (PAR 2012)	31.9 %(12)
Number of <i>Gewogs</i>	8	GNH Index (GNH 2010)	0.698 (0.743)
Number of Households (BLSS 2012)	3040 (127,942)	Multidimensional Poverty (BMIS 2010) %	37.2 (25.8)
Area (sq.kms) (RNR Statistics 2012)	2809	Unemployment (LFS 2012) %	1.2% (2.1)
Forest cover %(RNR Statistics 2012)	61.48	General literacy (BLSS 2012)	55% (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	17.5 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	87.4 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	11.4 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	24 (26)
(Figures in the bracket represent National average/total.)			

The poverty incidence is one of the highest in the country at 31.9 percent (Poverty Analysis Report 2012). The limited economic opportunities, infrastructure facilities and remoteness have contributed to low levels of mean annual household income, which was half of the national average in 2012.

The *Dzongkhag's* health and education indicators are also relatively poor compared to other *Dzongkhags*. About 12 percent of children aged 6-12 years are not enrolled in schools, the general literacy rate are among the lowest, and on an average people are sick for 6 days in a month.

These factors have contributed to low levels of GNH Index value of 0.698.

6.2.6.2 Key Opportunities/Challenges

Being the ancestral home of our monarchs, host of important religious sites and its reputation in *Kishuthara* textile weaving, there is potential to enhance economic development through agriculture and livestock productivity, tourism and cultural industries.

Household incomes can be enhanced through agriculture and non wood forest products. The favorable climatic conditions provide opportunities to enhance production of paddy, maize and vegetables such as chilli, potato, cauliflower, garlic and cabbage. In terms of non wood forest products, there is potential for sustainable harvesting of *Pa-tsha*, *Naka pani*, *black pepper*, *amla* etc.

There are a number of historical and religious sites in Lhuentse which could be explored for development as potential tourism products, both for domestic and international tourists. Natural tourist attractions include historical and religious sites, trekking routes, picnic spots and camping sites. Besides, the rich art of “kishuthara” weaving, farm houses/home stays and the rich flora and fauna could be potential products.

The prospect of developing small scale agro processing/cultural product could be explored.

Some of the challenges faced include:

- Lack of tourism infrastructure – Currently, the number of tourists visiting the *Dzongkhag* is very few mainly due to lack of proper accommodation and other facilities. The tourists either have to depend on the *Dzongkhag* Guest House for accommodation or have to drive all the way from Mongar.
- With regard to agricultural productivity, the *Dzongkhag* has arable land of 5876 Ha (MoAF 2012, Bhutan RNR Statistics) with the capacity to be food self-sufficient. However, due to shortage of farm labor and human wildlife conflict, agricultural productivity has not been harnessed to its full potential.

6.2.6.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) targeted poverty intervention programme, ii) enhancing agricultural production and iii) development of cottage and small industries.

Lhuentse has the highest levels of poverty incidence in the country. Therefore, one key strategy will be the implementation of **targeted poverty intervention programme** to accelerate poverty reduction in the *Dzongkhag*. Under REAP II, six villages namely Kemptsong, Lukchu, Laber, Ney, Tsango and Yumchey/Pam will be supported. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households. The funds for this programme will be directly provided from the centre.

Similarly, under the national rehabilitation programme, 55 poor and disadvantaged households are being rehabilitated in Nye, Lhuentse. Besides the provision of transitional support, other activities being implemented include farm road construction (4.7 km), house construction support, construction of an Extended Classroom, power supply and water supply.

Considering the agricultural potential the *Dzongkhag* has in terms of production of paddy, maize and vegetables such as chilli, potato, cauliflower, garlic and cabbage, besides, the non wood forest products such as *Pa-Tsha*, *Naka pani*, *black pepper and Amla*, **enhancing agricultural productivity** will be another major strategy. Agricultural productivity will be enhanced by strengthening key infrastructure such as farm roads, irrigation channels, storage and marketing facilities, formation of cooperatives/farmers group, farm mechanization and addressing human wildlife conflict issues.

The *Dzongkhag* Administration will also focus on **development of cottage and small industries** to enhance household incomes, to generate employment and to facilitate import substitution particularly of agricultural products. The *Dzongkhag* in consultation with relevant central agencies will facilitate development of cottage and small industries by facilitating an enabling environment for development of such industries. Addressing issues of access to finance, land, raw materials, storage and marketing services will be prioritized. The development of agro-processing, cultural industries based on the famous “*Kishuthara*” and tourism and hospitality services will be further strengthened. The *Dzongkhag* in consultation with the Tourism Council of Bhutan, local communities and businesses will facilitate development of both foreign and local tourism in the *Dzongkhag*. The issue of accommodation will be addressed by encouraging local communities to develop community lodges, home stays and farm houses.

6.2.6.4 Dzongkhag Key Result Areas					
GNHC Pillars	Dzongkhag Key Result Areas	Key performance indicators	Baseline	Target	Key Interventions
		1. Mean annual household income in Nu. 2. Poverty Incidence 3. Cash crop production (in MT/yr) <ol style="list-style-type: none"> 1. Chilli production (MT) 2. Potato Production (MT) 3. Citrus production (MT) 4. Cauliflower production (MT) 5. Garlic Production (MT) 6. Cabbage (MT) 4. Cereal crop production (in MT/yr) <ol style="list-style-type: none"> 1. Paddy production (MT) 2. Maize production (MT) 3. Millet production (MT) 4. Barley production increased (MT) 5. Wheat Production (MT) 5. Average land left uncultivated due to wild life threats (in acres) 6. Proportion of people who “NEVER” feel food insecurity” 7. Livestock production (in MT/yr) <ol style="list-style-type: none"> 1. Milk production (MT) 2. Egg production (MT) 3. Chicken production (MT) 4. Fish production (MT) 5. Pork production (MT) 	1. 8662(2012) 2. 31.9 %(2012) 1. 418 (2010) 2. 146 (2010) 3. 209 (2010) 4. 32 (2010) 5. 78 (2010) 6. 73.54 (2010) 1. 2861 (2010) 2. 2852 (2010) 3. 79 (2010) 4. 7 (2010) 5. 20 (2010) 5. 144 (2010) 6. 96.60 (2010) 1. 1145 (2010) 2. 0.41 (2010) 3. 3 (2010), 4. 0.0 (2010) 5. 3.71 (2010)	1. >90,000 2. <5 % 1. 731 2. 182 3. 284 4. >230 5. >147 6. 262.28 1. > 3490 2. >3622 3. >97 4. >8.6 5. > 24 5. <144 6. > 98 1. > 1415 2. >4.5 3. >4 4. >0.01 5. >10	Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities, green house, rain water harvesting, backyard farms) Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, Capacity development) Improve Marketing facilities (marketing sheds, value addition and packaging, information and data management)
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food sufficiency				

Sustainable and Equitable Socio-Economic Development	Improved health status of the communities	<ol style="list-style-type: none"> 1. Proportion of hhs with safe water supply (%) 2. Proportion of HHs with proper sanitation facilities 3. Mean walking time to the nearest health care centre 4. Child Survival rate 5. Increased access for Institutional delivery (%) 	<ol style="list-style-type: none"> 1. 99.2 (2011) 2. 99.1 (2011) 3. 84.1 (2010) 4. 100% (2012) 5. 51 (2011) 	<ol style="list-style-type: none"> 1. 100 2. >99.1 3. <60 4. 100% 5. 90 	<ol style="list-style-type: none"> 1. Capacity development (training and awareness programs) 2. Health infrastructure development (Renovation / Maintenance of BHUs, Construction & up-gradation of ORCs to Sub-post.) 3. Improve quality and efficiency of health care services (tools and equipments, MCH)
	Improved quality of urban life	<ol style="list-style-type: none"> 1. Proportion of farmers living more than 3 hrs walking distance from the nearest road point 2. Water supply per day (hrs) 3. No. of landfill sites 	<ol style="list-style-type: none"> 1. 10 (2010) 2. 8 (2012) 3. 1 (2012) 	<ol style="list-style-type: none"> 1. <3 2. > 12 3. > 3 	<ol style="list-style-type: none"> Development of urban infrastructure/facilities Capacity development (training and awareness campaign, waste management)
Preservation of Environment	Enhanced sustainable management and utilization of natural resources for income generation	<ol style="list-style-type: none"> 1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Income per Community Forestry (CF) Groups (in 000) 3. NWFP (Products) <ol style="list-style-type: none"> 1. Patsha production- 2. Naka production- 3. Amla production- 4. No. of functional Community Forestry Groups 	<ol style="list-style-type: none"> 1. 86.3 (2010) 2. 15 (2010) 1. na 2. na 3. na 4. 12 (2011) 	<ol style="list-style-type: none"> 1. >95 2. >25 1. track 2. track 3. track 4. >20 	<ol style="list-style-type: none"> 1. Reforestation/water source protection and CF management initiatives 2. Sustainable management of NWFP (Pipla, Thysolinia, and Cinnamon, Black peppers) 3. Promotion of eco-tourism

<p>Preservation and Promotion of Culture</p>	<p>Traditional and cultural heritage of the Dzongkhag preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day)</p> <p>2. Proportion of population that 'always' take part in local festivals in the community</p> <p>3. Proportion of population that have 'very strong' sense of belonging to the community</p> <p>4. Proportion of population that have 'very good' knowledge & understanding</p> <ol style="list-style-type: none"> 1. 'local festivals' 2. 'masked & other dances' 3. 'traditional Bhutanese songs' 	<p>1. 91 (2010)</p> <p>2. 42 (2010)</p> <p>3. 82 (2010)</p> <p>1. 8.7 (2010)</p> <p>2. 4.8 (2010)</p> <p>3. 4 (2010)</p>	<p>1. > 120</p> <p>2. > 70</p> <p>3. > 90</p> <p>1. > 50</p> <p>2. > 40</p> <p>3. > 30</p>	<p>Infrastructure development (Renovation of Lhakhang & dratshang,)</p> <p>Enhancement of knowledge on culture and tradition (training and awareness programmes, Inventory on ancient historical monuments)</p>
<p>Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<p>1. Mean happiness of the people (scale 0-10)</p> <p>2. Percentage of annual capital grant utilized</p> <p>3. No of functional disaster response team</p> <p>4. No of people availing services from CCs</p> <p>5. Turn Around Time (TAT)</p> <p>6. Implementation of National Anti-corruption strategy</p> <p>7. Implementation of GPMS</p>	<p>1. 5.8 (2010)</p> <p>2. 85.9 (2011)</p> <p>3. n.a (2012)</p> <p>4. n.a (2012)</p> <p>5. n.a</p> <p>6. n.a</p> <p>7. n.a</p>	<p>1. >6.5</p> <p>2. > 99</p> <p>3. 15</p> <p>4. Track</p> <p>5. Reduce by70 %</p> <p>6. Track</p> <p>7. 90 %</p>	<p>Capacity development (trainings and awareness programmes)</p> <p>Development of Infrastructure/facilities</p>

6.2.7 Mongar Dzongkhag

Mongar *Dzongkhag* is 450 km east of the capital city, Thimphu. The lower and southern parts are sub-tropical while northern and higher regions have temperate climatic conditions. The *Dzongkhag* is bordered by Trashigang, Lhuentse, Pemagatshel, Samdrup Jongkhar, Zhemgang and Bumthang *Dzongkhags*. The Kurichhu, Sherichhu and Dangmechhu are important rivers in the *Dzongkhag*.

There are 17 *Gewogs* namely Balam, Chali, Chaskhar, Dremitse, Drepong, Gongdu, Jurmey, Kengkhar, Mongar, Narang, Ngatshang, Saling, Sherimung, Silambi, Thangrong, Tsakaling and Tsamang, and a *Dungkhag* at Weringla to support the two most remote *Gewogs* - Gongdue and Silambi.

The 60 MW Kurichhu Hydropower Plant located at Gyelposhing Mongar was commissioned in 2002.

6.2.7.1 Current Situation

Table 6.8.1 – Key Indicators

Population (BLSS 2012)	38254	Mean annual household income Nu. (BLSS 2012)	114,971 (164,829)
Number of <i>Dungkhags</i>	1	Poverty incidence % (PAR 2012)	10.5 (12)
Number of <i>Gewogs</i>	17	Mean Happiness (GNH 2010)	0.732 (0.743)
Number of Households (BLSS 2012)	7578 (127,942)	Multidimensional Poverty (BMIS 2010) %	33.2 (25.8)
Area (sq.kms) (RNR Statistics 2012)	1945	Unemployment (LFS 2012) %	1.6 (2.1)
Forest cover (%) (RNR Statistics 2012)	91.59	General literacy (BLSS 2012)	59.5% (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	12.3 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	87.4 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	27.7 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	26 (26)
(Figures in the bracket represent National average/total.)			

The poverty incidence has drastically decreased to 10.5 percent (2012) from 44.7 percent in 2007. The reduction in poverty is attributed to improved accessibility brought about by extensive network of farm roads built in the Tenth Plan, increased

market opportunities and also increased commercialization of agricultural and livestock products.

Moreover, in the Tenth Plan under the Rural Economy Advancement Programme (REAP) I, targeted poverty intervention programmes were implemented in Pam and Chaibi under Gongdue *Gewog* to enhance rural income and living conditions of about 18 households with 270 people.

While incomes have improved, multidimensional poverty is high at 33.2 percent against the national average of 25.8 percent in 2010. The mean household income and general literacy is lower than the national average while crude death rate is higher.

The 2010 GNH Index reports Mongar to be in medium happiness category with a value of 0.732

6.2.7.2 Key Opportunities/Challenges

The electricity generated from 60 MW Kuri Chhu Hydro Power Plant, the completion of Gyelposhing-Nganglam highway in the Eleventh Plan, the construction of industrial estate at Bondeyma, close proximity to domestic airports at Bumthang and Yongphula and huge agricultural potential including fruits, maize, vegetables and potatoes provides excellent opportunity to develop the *Dzongkhag* as an agro-processing hub of the East. Further, the development of 2,640 MW Kuri-Gongri hydroelectricity project during the Eleventh Plan will boost economic and business opportunities and growth in the *Dzongkhag*.

The *Dzongkhag* being located in the sub-tropical region has huge potential for production of agricultural products like barley, maize, potatoes and fruits. In 2011, the *Dzongkhag* contributed to the production of 110 metric tons (25 percent of total production) of mango, 96 metric tons (17 percent of total production) of plum, 2,723 metric tons of mandarin and 131 metric tons of peach in the country. The *Dzongkhag* also produced 9,927 metric tons of maize and 5,423 metric tons of potatoes.

There is also potential for tapping cultural, eco and community based tourism opportunities in some parts of the *Dzongkhag*. The existence of many unique and age-old cultural and traditional festivals and practices in various places - *Drameste Ngacham*, *Yagang Tsechu*, and religious sites like *Aja Ney*, *Kengkhar Gewog* (some households particularly earn their living from their skills in wooden handicrafts) provides opportunities for tourism development.

Some of the major challenges that needs to be addressed are:

- With the growth in population and water sources drying up, the provision of clean and safe drinking water is a major challenge.
- Small and fragmented landholdings, access to rural credit and human wild life conflict are obstacles for commercial farming and development of livestock enterprises. Facilities for storage, distribution and marketing of agricultural products are a constraint.

6.2.7.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) enhancing agricultural production ii) development of cottage and medium industries and iii) targeted poverty intervention programme.

The *Dzongkhag* being located in the sub-tropical region has huge potential for production of agricultural products like paddy, barley, maize, potatoes and fruits. Therefore, the *Dzongkhag* will focus on **enhancing agricultural productivity**. However issues of human wildlife conflict, farm labour shortages, lack of adequate irrigation, storage and marketing facilities have hampered agricultural productivity. The focus in the next five years will be to address these issues in close cooperation with the Ministry of Agriculture and Forest.

The development of **clean and green industries** such as agro-processing, cultural industries based on handicrafts production, and tourism and hospitality industries have high potential. The *Dzongkhag* will work with the relevant central agencies to develop Mongar as an industrial hub for east and central Bhutan. The completion of the Gyelposhing-Nganglam highway and the construction of Bondeyma industrial estate during the Eleventh Plan complement the already existing comparative advantages of being close to the two domestic airports in Bumthang and Yonphula, agro-processing potential and reliable electricity supply.

While the *Dzongkhag* was successful in bringing down poverty from 44.7 percent in 2007 to 10.5 percent in 2012, there are still pockets of villages where poverty levels are still high. Therefore, under the **targeted poverty reduction programme**, six villages namely Changchana/Sheripong, Dak, Gongdue, Salabi, Salipong and Yari will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/

cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

6.2.7.4 Dzongkhag Key Result Areas					
GNH Pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline (year)	11 FYP Target	Key Interventions
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food grain sufficiency	<ol style="list-style-type: none"> 1. Mean annual household income (in Nu.) 2. Proportion of people 'never' reporting degree of "food insecurity" 3. Average acreage of land uncultivated due to wild life threats 4. Poverty incidence (%) 	<ol style="list-style-type: none"> 1. 51009 (2010) 2. 84.14 (2010) 3. 97.7 (2010) 4. 10.5(2012) 	<ol style="list-style-type: none"> 1. 56109.9 2. <50 3. <=98 4. <=5 	<ol style="list-style-type: none"> 1. Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities, commercial farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, group formation, Capacity development) 3. Improve Marketing facilities (farm roads, marketing sheds, value addition and packaging, information and data management)
	Improved health status of the community	<ol style="list-style-type: none"> 1. Mean healthy days (0-30 days) 2. Incidence of infant mortality 3. Incidence of U5 mortality 4. Incidence of maternal mortality 5. Proportion of hhs with safe water supply 6. Proportion of HHs with improved sanitation facilities 7. Mean walking time to the nearest health care centre (in (min) 	<ol style="list-style-type: none"> 1. 25.9 (2010) 2. na (2011) 3. na (2011) 4. na(2011) 5. 96.1 (2012) 6. 69.7(2012) 7. 86.53 (2010) 	<ol style="list-style-type: none"> 1. >=28 2. Track 3. Track 4. Track 5. 100 6. 100 7. <60 	<ol style="list-style-type: none"> 1. Development of health facilities (BHU and sub-posts) 2. Targeted capacity and awareness programmes

	Improved quality of urban life	1. Household water supply (%) 2. Hhs connected to sewerage network (%) 3. Waste collection done by municipality per week (no)	1. 100 (2011) 2. 20 (2011) 3. 2 (2012)	1. =100 2. 100 3. >2	1. Development of urban infrastructure/facilities 2. Capacity development (training and awareness campaign, water and waste management)
Preservation and Promotion of Culture	Traditional and cultural heritage of the Dzongkhag preserved and promoted	1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population who give unpaid volunteer help	1. 86(2010) 2. 61.4(2010) 3. 78(2010) 4. 28(2010)	1. >90 2. > 80 3. > 90 4. > 40	1. Infrastructure development (Renovation of Lhakhang& dratshang) 2. Enhancement of knowledge on culture and tradition (training and awareness programmes, inventory on ancient historical monuments)
Preservation of Environment	Enhanced sustainable management and conservation of natural resources	1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Proportion of hhs composting hh waste 3. No. of functional Community Forestry Groups 4. Income from forestry and eco-tourism services	1. 87.1 (2010) 2. 60.3 (2010) 3. 6 (2011) 4. na (2012)	1. > 90 2. > 75 3. > 12 4. Track	1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFP (Cordyceps, Promotion of orchids and incense plants etc) 3. Promotion of eco-tourism

<p>Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<p>1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people availing services from CCs 5. Implementation of Anti-corruption strategy 6. Government Performance enhanced (GPMS)</p>	<p>1. 5.8 (2010) 2. 96.9 (2011) 3. na (2012) 4. na (2012) 5. na 6. na</p>	<p>1. > 7 2. 100 3. 18 4. Track 5. 100 % 6. > 90 %</p>	<p>1. Development/maintenance of Infrastructure/facilities 2. Capacity development (trainings and awareness programmes)</p>
-------------------------------	--	---	--	---	--

6.2.8 Paro Dzongkhag

Paro is situated in the north-western part of the country. It borders Autonomous Region of Tibet in the north, Haa in the west and Thimphu in the east.

The *Dzongkhag* is administratively divided into ten *Gewogs* namely Doteng, Wangchang, Hungrel, Dogar, Shaba, Dopshari, Tsenton, Lamgong, Naja and Lungnyi.

6.2.8.1 Current Situation

Table 6.9.1 – Key Indicators

Population (BLSS 2012)	31485	Mean annual household income Nu. (BLSS 2012)	201, 823 (164,829)
Number of Dungkhags	0	Poverty incidence % (PAR 2012)	<0.5 (12)
Number of <i>Gewogs</i>	10	Multidimensional Poverty (BMIS 2010) %	7.1 (25.8)
Number of Households (BLSS 2012)	7090 (127,942)	GNH Index (GNH 2010)	0.807 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1251	Unemployment (LFS 2012) %	2.7 (2.1)
Forest cover % (RNR Statistics 2012)	60.91	General literacy (BLSS 2012)	67.3% (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	8 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	91.7 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	25.1 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	26 (26)
(Figures in the bracket represent National average/total.)			

Paro is one of the socio-economically developed *Dzongkhags* in the country with poverty of less than 1 percent and better than average health and education indicators. However, unemployment reported is 2.7 percent in 2012 compared to the national unemployment rate of 2.1 percent.

The 2010 GNH Index reports Paro to be in high happiness category with a value of 0.807.

6.2.8.2 Key Opportunities/Challenges

Paro valley is one of the food baskets of Bhutan. The very fertile land and suitable terrain makes agricultural activity one of the major sources of livelihood. The

entire valley is suitable for growing varieties of crops such as paddy, wheat, millet, potatoes, apple and seasonal vegetables.

Tourism is another important source of income and employment. With the only international airport located in the *Dzongkhag* and many rich historical and cultural attractions such as Paro Dzong, National Museum of Ta Dzong, ruined Drugyel Dzong, Paro Taktshang (Tiger's Nest), Kyichu Monastery etc, tourism has gained momentum in the *Dzongkhag* with the potential to grow and develop further. The influx of tourists has triggered and promoted a host of business activities including hotel industry, and promotion of traditional handicrafts and other souvenir items catering to the tourists.

Although much has been achieved, the *Dzongkhag* faces challenges of water shortages especially for drinking and irrigation purposes. The increasing urban growth has also put heavy pressure on water resources and farmland which could contribute to loss of agricultural land and which could result in reduction of agricultural production. Addressing human wildlife conflict, farm labour shortage and storage and marketing facilities are critical.

Other emerging issues of concern are crime, youth challenges, problem of solid waste management, pollution, congestion etc.

6.2.8.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) development of tourism and hospitality services and ii) targeted poverty intervention programme.

With relatively high levels of unemployment reported in the *Dzongkhag*, efforts to create productive employment opportunities will be enhanced. The *Dzongkhag* will focus on **development of tourism and hospitality services**. With the only international airport located in the *Dzongkhag* and many rich cultural, religious and historical heritage, tourism is already a booming industry. However, many of the tourists visiting the *Dzongkhag* are either just passing through or at the most spend only about two bed nights in the *Dzongkhag*. The *Dzongkhag* in collaboration with the Tourism Council of Bhutan, local communities and businesses will explore development of new tourism products unique to the *Dzongkhag* to encourage tourist to spend more bed nights in Paro. Further, in view of the *Dzongkhag's*

close proximity to the capital city Thimphu, suitable infrastructure facilities and easy access by air, opportunities to develop Paro as a MICE (Meeting, Incentive, Conference and Exhibition) destination, both for foreign and local participants, will be explored.

While the overall poverty rates in the *Dzongkhag* is less than 1 percent, pockets exist where poverty levels are relatively high. Under the **targeted poverty reduction intervention**, five villages namely Nubri, Soe Yaksa, Tenchakha, Tsendug Goenpa and Bemphu will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. Funds for this programme will be directly provided from the centre.

Other issues such as water shortages both for drinking and irrigation purposes, human wildlife conflict, rising crime, solid waste management, congestion, pollution etc. will be addressed in close cooperation with the relevant central agencies.

6.2.8.4 Dzongkhag Key Result Areas					
GNH Pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline (year)	11 FYP Target	Key Interventions
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food grain sufficiency	<ol style="list-style-type: none"> 1. Mean annual household income (in Nu.) 2. Proportion of people 'never' reporting degree of "food insecurity" 3. Average acreage of land uncultivated due to wild life threats 4. Poverty incidence (%) 	<ol style="list-style-type: none"> 1. 168415 (2010) 2. NA(2010) 3. NA(2010) 4.<0.5(2012) 	<ol style="list-style-type: none"> 1. >202098 2. > 98 3. < 30 4. <0.5 	<ol style="list-style-type: none"> 1. Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities, backyard farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, group formation, Capacity development) 3. Improve Marketing facilities (farm roads, marketing sheds, value addition and packaging, information and data management)
	Improved health status of the community	<ol style="list-style-type: none"> 1. Mean healthy days (0-30 days) 2. Incidence of infant mortality 3. Incidence of U5 mortality 4. Incidence of maternal mortality 5. Proportion of hhs with safe water supply 6. Proportion of HHs with improved sanitation facilities 7. Mean walking time to the nearest health care centre (in min) 	<ol style="list-style-type: none"> 1. 25.24 (2010) 2. na (2011) 3. na (2011) 4. na(2011) 5. 98.9 (2012) 6. 93.4(2011) 7. 89.49(2010) 	<ol style="list-style-type: none"> 1. >=28 2. < 1 3. < 1 4. < 1 5. 100 6. 100 7. <= 60 	<ol style="list-style-type: none"> 1. Development of health facilities (BHU and sub-posts) 2. Targeted capacity and awareness programmes

	Improved quality of urban life	1. Household water supply (%) 2. Hhs connected to sewerage network (%) 3. Waste collection done by municipality per week (no)	1. 96.4 (2011) 2. 0(2012) 3. na (2012)	1. 100 2. > 95 3. 2	1. Development of urban infrastructure/facilities 2. Capacity development (training and awareness campaign, water and waste management)
Preservation and Promotion of Culture	Traditional and cultural heritage of the Dzongkhag preserved and promoted	1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population who give unpaid volunteer help	1. 106.3 (2010) 2. 36.6 (2010) 3. 73 (2010) 4. 37 (2010)	1. >120 2. > 40 3. > 90 4. > 40	1. Infrastructure development (Renovation of Lhakhang& Dratshang, Const of Drasha, lhakhang) 2. Enhancement of knowledge on culture and tradition (training and awareness programmes, Inventory on ancient historical monuments)
Preservation of Environment	Enhanced sustainable management and conservation of natural resources	1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Proportion of hhs composting hh waste 3. No. of functional Community Forestry Groups 4. Income from forestry and eco-tourism services	1. 87.1 (2010) 2. 17.8(2010) 3. NA(2011) 4. na (2012)	1. > 95 2. > 80 3. > 10 4. Track	1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFPP 3. Promotion of eco-tourism

<p>Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<p>1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people availing services from CCs 5. Implementation of Anti-corruption strategy 6. Government Performance enhanced (GPMS)</p>	<p>1. 5.95 (2010) 2. 89.2 (2011) 3. na (2012) 4. na (2012) 5. na 6. na</p>	<p>1. > 7 2. > 95 3. 11 4. Track 5. 100 % 6. 90 %.</p>	<p>1. Development of Infrastructure/facilities 2. Capacity development (trainings and awareness programmes)</p>
-------------------------------	--	---	---	---	--

6.2.9 Pemagatshel *Dzongkhag*

Pemagatshel, meaning “**Blissful Land of the Lotus**”, is one of the least developed and remotest *Dzongkhag* located in the southeastern part of the country. The *Dzongkhag* covers an area of about 1023 sq km with elevation ranging from 1000 to 3,500 meters above sea level and experiences an average annual rainfall of 1500mm to 3000mm. It shares its borders with the *Dzongkhags* of Trashigang in the north and north-east, Mongar in the north and north-west, Zhemgang in the west, Samdrup Jongkhar in the south and south east.

The *Dzongkhag* is administratively supported by a *Dungkhag* in Nganglam and eleven *Gewogs* namely, Chongshing, Chimung, Choekhorling, Dechheling, Dungmin, Khar, Nanong, Norbugang, Shumar, Zobel and Yurung.

6.2.9.1 Current Situation

Table 6.10.1 – Key Indicators

Population (BLSS 2012)	22,336	Mean annual household income Nu. (BLSS 2012)	118,325.00 (164,829)
Number of <i>Dungkhags</i>	1	Poverty incidence % (PAR 2012)	26.9 (12)
Number of <i>Gewogs</i>	11	Multidimensional Poverty (BMIS 2010) %	30.3 (25.8)
Number of Households (BLSS 2012)	4,681	GNH Index (GNH 2010)	0.712 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1023	Unemployment (LFS 2012) %	0.4 (2.1)
Forest cover %)(RNR Statistics 2012)	87.65	General literacy (BLSS 2012)	56.1 % (63 %)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	1.8 (8.5)	Adjusted Net Primary Net Attendance Rate (AES 2012) %	95.7 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	10.6 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	25 (26)
(Figures in the bracket represent National average/total.)			

The *Dzongkhag* has the second highest levels of poverty after Lhuentse *Dzongkhag*. The high levels of poverty is mainly due to remoteness, limited income generating opportunities, land fragmentation, poor quality of land, shortage of water and steep and unstable terrain.

The main sources of income for the people of Pemagatshel are from agriculture and livestock. Most of the cultivated land is under Tseri cultivation. The main cereal crop is maize and other crops like oranges, potatoes, and subtropical fruits and vegetables are also grown in most villages. Off-farm income is provided by gypsum mining and gypsum powder factory at Khothakpa under Shumar *Gewog*. The minerals available in the *Dzongkhag* include gypsum, talc and quartzite.

Due to high levels of poverty, 44 households from very remote places such as Wafai (23 households), Chongmashing (8 households), Borphu (9 households), Namkhari (2 households), Bainangwoong (2 households) were relocated to Khenadrang. The beneficiaries were provided with land and transitional support such as temporary shelter, essential food supplies, agricultural inputs, and income generation support. The activities consisted of the construction of reservoirs, filtration and sedimentation tanks to facilitate proper and continuous water supply; construction of an extended classroom & other school facilities; an outreach clinic; 0.6 km farm road; housing and power supply support; and sustainable land management. The initial assessment reveals that monthly income levels from the sale of eggs and vegetables amounted to Nu. 4,000 and the programme has made significant socio-economic improvements in the lives of the beneficiaries.

The 2010 GNH Index reports Pemagatshel to be in medium happiness category with a value of 0.712.

6.2.9.2 Key Opportunities/Challenges

The completion of Gyalposhing–Nganglam highway and Tsebar–Mikuri–Durungri feeder road, the commencement of Dungsam Cement Project, the feasibility of establishing a regional hub at Nganglam, the construction of the Pemagatshel *Dzong* and development of new township at Rinchenthang, Nganglam and Denchi are some of the major activities in the *Dzongkhag* during the Eleventh Plan. These projects will contribute to greater economic opportunities for the *Dzongkhag* in terms of employment generation, income of households and local trade and commerce.

The *Dzongkhag* has potential for cultivation of horticultural crops like cardamom, ginger, vegetables and tropical fruits. However, farm labor shortage, lack of storage and marketing facilities have not resulted in commensurate increase in the incomes of the farmers. Therefore, many of the farmers have shifted to off-farm activities such as manual work at the Gypsum mining, road constructions and production of cultural, religious and tea items such as *Jaling*, *Dhung*, *Thonphu poe*, *Nyashing Jurma tea leaves*, *Thongsa Kamthap* and *Yurung Bura* for their livelihood.

Addressing issues of farm labor shortage, storage and marketing facilities, human wildlife conflict, water scarcity etc would result in significant transformation in the lives of the people and their livelihoods.

6.2.9.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on are, i) enhancing agricultural productivity, ii) development of small and medium industries, and iii) targeted poverty intervention programme

With large number of households dependent on agriculture for their livelihood, the *Dzongkhag* will focus on **enhancing agricultural productivity**. Efforts to enhance production of maize, paddy, cardamom, ginger, vegetables and tropical fruits will be made by investing in facilities such as irrigation, storage, packaging and marketing, facilitating establishment of farmers’ groups/cooperatives and addressing human wildlife conflict.

Pemagatshel *Dzongkhag* is famous for production of items such as *Jaling*, *Dhung*, *Thonphu poe*, *Nyashing Jurma tea leaves*, *Thongsa Kamthap* and *Yurung Bura*. The *Dzongkhag* will explore possibilities of establishing organized **small and medium cultural industries**. The *Dzongkhag* in cooperation with Agency for Promotion of Indigenous Crafts will facilitate product development, quality assurance, marketing of the products, and sustainable management of raw material and establishment of raw material banks in the *Dzongkhag*.

Under the **targeted poverty reduction programme**, five villages namely Chephung, Kerong, Laishingri, Mikuri-Bangyul and Nyaskhar will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. Funds for this programme will be provided directly from the centre.

Further, rehabilitation of 51 households in Borangmo, Nganglam is ongoing with the construction of a 4.7 km farm road and an Outreach Clinic; house construction support and water and electricity supply. The feasibility and geo tech studies for rehabilitation in Tanzama, Norbugang Gewog, Nganglam has been completed and the preliminary planning and designing are underway.

6.2.9.4 Dzongkhag Key Result Area					
GNH Pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline (year)	11 FYP Target	Key Interventions
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food grain sufficiency	1. Mean annual household income (in Nu.)	1. Nu 1, 18,325.00 (2012 BLSS)	1. >1,30,000.00	1. Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities, commercial farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, group formation, Capacity development) 3. Improve Marketing facilities (farm roads, marketing sheds, value addition and packaging, information and data management)
		2. Poverty incidence (%)	2. 26.9 (2012 BLSS)	2. <12	
		3. Mandarin	3. 14,087 Mt (2021 BRNRS)	3. 16,000 Mt	
		4. Maize	4. 6394 Mt (2012 BRNRS)	4. 7000 Mt	
		5. Potatoes	5. 2831 Mt (2012BRNRS)	5. 3000 Mt	
		6. Milk	6. 806 Mt (2012 BRNRS)	6. 900 Mt	
		7. Pork	7. 15 Mt (2012 BRNRS)	7. 17 Mt	

Sustainable and Equitable Socio-Economic Development	Improved health status of the community	1. Mean healthy days (0-30 days) 2. Incidence of infant mortality 3. Incidence of U5 mortality 4. Incidence of maternal mortality 5. Proportion of hhs with safe water supply 6. Proportion of HHs with improved sanitation facilities 7. Mean walking time to the nearest health care centre (in min)	1. 25.44 (2010) 2. 0 (2011) 3. 0 (2011) 4. 2 (2010) 5. 99.1 (2012 BLSS) 6. 81.1(2012 BLSS) 7. 87.2 (2010)	1. > 27 2. Track 3. Track 4. < 1 5. 100 6. > 95 7. < 60	1. Development of health facilities (BHU and sub-posts) 2. Targeted capacity and awareness programmes
	Improved quality of urban life	1. Household water supply (%) 2. Hhs connected to sewerage network (%) 3. Waste collection done by municipality per week (no)	1. 80 (2011) 2. na (2012) 3. 0 (2012)	1. 100 2. > 80 3. 1	1. Development of urban infrastructure/facilities 2. Capacity development (training and awareness campaign water and waste management)
Preservation and Promotion of Culture	Traditional and cultural heritage of the Dzonkhag preserved and promoted	1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population who give unpaid volunteer help	1. 118 (2010) 2. 38.8 (2010) 3. 78.8 (2010) 4. 64 (2010)	1. >120 2. > 60 3. > 90 4. > 75	1. Infrastructure development (Renovation of Lhakhang& dratshang) 2. Enhancement of knowledge on culture and tradition (training and awareness programmes, Inventory on ancient historical monuments)

<p>Preservation of Environment</p>	<p>Enhanced sustainable management and conservation of natural resources</p>	<p>1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Proportion of hhs composting hh waste 3. No. of functional Community Forestry Groups</p>	<p>1. 78 (2010) 2. 18.9 (2010) 3. 14 (2011)</p>	<p>1. > 90 2. > 50 3. > 20</p>	<p>1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWWFP</p>
<p>Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<p>1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people availing services from CCs</p>	<p>1. 5.61 (2010) 2. 83 (2011) 3. na (2012) 4. na (2012)</p>	<p>1. > 7 2. > 95 3. 12 4. Track</p>	<p>1. Development/maintenance of Infrastructure/facilities 2. Capacity development (trainings and awareness programmes)</p>

6.2.10 Punakha *Dzongkhag*

Punakha *Dzongkhag* is situated in western Bhutan, bordered by Gasa *Dzongkhag* to the north, Thimphu to the west and Wangduephodrang to the east and south. The *Dzongkhag* is located at an altitude ranging from 1200 to 4800 meters above sea level. until 1955, Punakha served as the winter capital of Bhutan. It also serves as the winter residence for the Central Monastic Body.

It has eleven Gewogs namely Barp, Chhubu, Dzomi, Goenshari, Guma, Lingmukha, Shelngana, Talo, Toebesa and Toedwang.

6.2.10.1 Current Situation

Table 6.11.1 – Key Indicators

Population (BLSS 2012)	21,926	Mean annual household income Nu. (BLSS 2012)	147,254 (164,829)
Number of <i>Dungkhags</i>	0	Poverty incidence % (PAR 2012)	10 (12)
Number of <i>Gewogs</i>	11	Multidimensional Poverty (BMIS 2010) %	17.0 (25.8)
Number of Households (BLSS 2012)	4,519 (127,942)	GNH Index (GNH 2010)	0.770 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1,110	Unemployment (LFS 2012) %	1.6 (2.1)
Forest cover % (RNR Statistics 2012)	75.87	General literacy (BLSS 2012)	55.2 % (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	18.9 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	89.6 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	17.2 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	26 (26)
(Figures in the bracket represent National average/total)			

Punakha *Dzongkhag* is well known for rice, vegetables and fruits owing to its favourable location, soil and climatic conditions. The *Dzongkhag* basically grows a little of everything but the main crops are paddy, wheat, maize and mustard. Though citrus fruits are among the main fruits grown in the *Dzongkhag*, other fruits like persimmon, guavas, peaches, plums, pears and apples are also grown. The *Dzongkhag* also grows a variety of vegetables such as chilies, radish, cabbages, brinjals, green leaf vegetables and tomatoes.

The *Dzongkhag* is also a popular tourist destination. Punakha *Dzong* is a major attraction besides Chhimi Lhakhang, and the two hot springs, namely Koma Tshachu and the Chhubu Tshachu.

The 2010 GNH Index reports Punakha to be in high happiness category with a value of 0.770.

6.2.10.2 Key Opportunities/Challenges

The conducive climatic condition enables the people to produce surplus rice, fruits and vegetables which are sold in neighboring *Dzongkhags* i.e Thimphu and Wangduephodrang. The *Dzongkhag* is one of the largest producers of rice in the country.

The *Dzongkhag* also has potential to be developed as a unique tourist destination for both international and domestic tourists. The income generated and employment created through tourism contributes immensely to the growth and development of the local economy.

The development of the Punatsangchu hydroelectricity projects I and II offers opportunities for further development of the *Dzongkhag*.

Some of the issues include the threat of Glacial Lake Outburst Floods (GLOF), the unplanned growth of Lobesa town (located at the tri junction of Thimphu, Punakha and Wangduephodrang highway) and issues related to water scarcity, human wildlife conflict and emerging social issues.

6.2.10.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) development of tourism services, and ii) targeted poverty intervention programme.

Efforts to promote **cultural and eco-tourism** in close coordination with the Tourism Council of Bhutan, local communities and businesses will be enhanced. Punakha is famous for its idyllic and serene natural setting, with wooded hills, lush green valleys and the Phochhu and Mochhu rivers flowing by. Attractions such as Punakha *Domchoe* and *Tshechu* are very popular festivals. There are other places of historical and cultural significance which provide a great opportunity for promoting cultural and eco-tourism. Besides tapping this rich source of religious and cultural heritage

and traditions for tourism purposes the *Dzongkhag* will promote bird watching, rafting, kayaking and cultural trekking in the valley.

Economic opportunities provided by the construction of Punatsangchhu hydroelectricity project I and II to boost the local economy, trade and commerce and employment potential will be optimized.

Under the **targeted poverty reduction interventions**, five villages namely Gumgang, Kewana, Nidupchu, Yorbo and Chimcheyna will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

In addition, the *Dzongkhag* will ensure that issues of human wildlife conflict, water shortages both for drinking and irrigation purposes, storage and marketing facilities for agricultural products, disaster preparedness and management will be addressed in close coordination with the relevant central agencies.

6.2.10.4 Dzongkhag Key Result Areas					
GNH pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline	Target	Key Interventions
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food sufficiency	1. Mean annual household income (in Nu.) 2. Poverty Incidence 3. Cereal crop production (MT/year) i. Rice ii. Wheat 4. Vegetable production (MT/year) i. Cucumber ii. Onion iii. Eggplant iv. Peas v. Chilli 5. Proportion of people 'never' reporting degree of "food insecurity" 6. Average acreage of land uncultivated due to wild life threats 7. Livestock production i. Milk production (MT) ii. Egg production (million no.) 8. Proportion of farm roads that are all-weather motorable and EFRS compliant (km/no) 9. No of functional Road user groups	1. 171722 (2010) 2. 10(2012) 3.i. 12425 (2010) ii. 1414 (2010) 4.i. 629.88 (2010) ii. 109.88 (2010) iii. 41.90 (2010) iv. 81 (2010) v. 896.71(2010) 5. 95.2(2010) 6. 147.5(2010) 7. i. 883(2010) ii. 0.700(2010) 8.n/a 9.n/a	1. >180000 2. <10 3.i. 14244 ii. >1414 4.i. 1020.40 ii. 258.23 iii. 143.84 iv. 162.83 v. 1569.24 5. > 98 6. <100 7. i. > 1050 ii. >1.000 8. track 9. track	1. Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities, green house, vegetable dryers, backyard farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, Capacity development) 3. Improve Marketing facilities (marketing sheds, value addition and packaging, information and data management)

Sustainable and Equitable Socio-Economic Development	Enhanced health status of the communities	<ol style="list-style-type: none"> 1. Immunization coverage 2. Mean walking time to the nearest health centre (in minutes) 3. Proportion of hhs with safe drinking water 4. Proportion of hhs with proper sanitation facilities 5. Mean healthy days (0-30 days) 6. Incidence of infant mortality 7. Incidence of U5 mortality 8. Incidence of maternal mortality 	<ol style="list-style-type: none"> 1. 98 2. 76.43 3. 91 4. 64.7 5. 26.01 6. na 7. na 8. 1 	<ol style="list-style-type: none"> 1. >98 2. <60 3. 100 4. 100 5. >30 6. <1 7. <1 8. <1 	<ol style="list-style-type: none"> 1. Capacity development (training and awareness programs) 2. Health infrastructure development (Renovation / Maintenance of BHUs, Construction & up-gradation of ORCs to Sub-post) 3. Improve quality and efficiency of health care services (tools and equipments, MCH) 4. Upgrade/enhance technology for safe drinking water supply / public toilets
	Improved Urban Basic Facilities	<ol style="list-style-type: none"> 1. No. of hours per day with drinking water supply 2. Proportion of hhs connected to sewerage system 3. Proportion of hhs connected to footpath 4. Proportion of hhs availing Waste Collection facilities 5. No. of Recreational Facilities 	<ol style="list-style-type: none"> 1. 8 hours per day 2. n/a 3. n/a 4. n/a 5. 0 	<ol style="list-style-type: none"> 1. 8 hours per day 2. track 3. track 4. track 5. 1 	<ol style="list-style-type: none"> 1. Development of Khuruthang, Lobesa and Samdingkha Towns 2. Sustainable Water Management Practices 3. Construction of recreational facilities-park

<p>Preservation and promotion of culture and traditions</p>	<p>Enhanced conservation of cultural heritage sites</p>	<p>1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population who give unpaid volunteer help</p>	<p>1. 114 2. 63 3. 76 4. 49</p>	<p>1. > 120 2. > 80 3. > 90 4. > 65</p>	<p>1. Development of Religious and Cultural sites 2. Renovation of Religious and Cultural sites 3. Promotion of National Language 4. Promotion of Traditional practices 5. Encourage rural people to practice & participate in traditional activities/ local festivals. 6. Archive, record and inventoried the unique songs, rituals, lozays, cuisines, arts & crafts in <i>Dzongkhag</i> 7. Encouraging volunteerism</p>
<p>Conservation and sustainable management and utilization of natural resources</p>	<p>Proper utilization and management of natural resources</p>	<p>1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Income per Community Forestry (CF) Groups (in 000) 3. NWFP (Products) 4. No. of functional Community Forestry Groups [(2011),]</p>	<p>1. 80.9 2. 15 3. 3 4. 10</p>	<p>1. > 95 2. > 25 3. > 5 4. > 15</p>	<p>1. Promotion of sustainable use of local materials in infrastructure development 2. Proper management of land fill sites 3. Encourage establishment of private and community forest 5. Promotion of eco-tourism 6. Capacity development of sustainable management of natural resources 7. Exploring bio-gas as alternate source of energy</p>

<p>Promotion of Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<p>1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people availing services from CCs 5. % of population participating in Voting 6. Ratio of male & female participants in GTs</p>	<p>1.6.04 2.90 3.n.a 4.n.a 5. 85% 6. 7:77</p>	<p>1.>7 2.> 95 3.15 4.Track 5. 90% 6. 14:77</p>	<p>1. Improve facilities to enable better service delivery 2. Capacity development of <i>Dzongkhag</i> and Geog staff/ functionaries 3. Promotion of service oriented attitude in public service delivery 4. Timely monitoring of plan activities 5. Streamlining accountability of <i>Dzongkhag</i> Administration 6. Enhance Disaster mitigation efforts</p>
--	--	--	--	--	---

6.2.11 Samdrup Jongkhar *Dzongkhag*

Samdrup Jongkhar is the gateway and commercial hub for the five eastern *Dzongkhags*. Samdrup Jongkhar lies in the south-eastern part of Bhutan sharing its border with the Indian states of Assam and Arunachal Pradesh. It has a total land area of 1,878 sq. km and is situated at an altitude of 200-3600 meters.

Administratively it comprises of two *Dungkhags* of Samdrupchoeling and Jomotshangkha, a *Thromde* and eleven *Gewogs* namely Wangphu, Gomdar, Orong, Dewathang, Phuntshothang, Pemathang, Samrang, Martshala, Langchenphu, Serthi and Lauri.

6.2.11.1 Current Situation

Table 6.12.1 – Key Indicators

Population (BLSS 2012)	30432	Mean annual household income Nu. (BLSS 2012)	98,062 (164,829)
Number of <i>Dungkhags</i>	2	Poverty incidence % (PAR 2012)	21%(12)
Number of <i>Gewogs</i>	11	Multidimensional Poverty (BMIS 2010) %	32.3 (25.8)
Number of Households (BLSS 2012)	7198 (127,942)	GNH Index (GNH 2010)	0.655 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1878	Unemployment (LFS 2012) %	0.2 % (2.1)
Forest cover %)(RNR Statistics 2012)	86.95	General literacy (BLSS 2012)	61.7% (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	2.7 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	94.5 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	17 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	23 (26)
(Figures in the bracket represent National average/total.)			

Poverty incidence is high in Samdrup Jongkhar. On income measure it stands at 21 percent compared to the national average of 12 percent in 2012 and on multidimensional basis 32.3 percent in 2010. Further, the 2010 GNH Index reports the lowest levels of sufficiency in Samdrup Jongkhar with a score of 0.655.

Maize is the staple crop and is widely cultivated on dry land. Mandarin orange and ginger are the main cash crops contributing significantly to the economic development of the district. Other crops grown include paddy, millet, mustard, legumes, buckwheat, and potato.

In the Tenth Plan, under the Rural Economy Advancement Programme (REAP) I support was provided to Lauri village. Through the programme dairy cooperative was established and high yielding jersey cows supplied to the beneficiaries in addition to dairy equipment.

6.2.11.2 Key Opportunities/Challenges

Favorable climatic conditions and plane arable land offer potential for farm mechanization thereby enhancing agricultural productivity. The *Dzongkhag* also has the comparative advantage to market RNR produces due to its proximity to the Indian market and well connected network of 244 km farm roads. With adequate irrigation facilities, the *Dzongkhag* has an opportunity of producing 3880 MT paddy annually and 7659 MT of maize annually. Besides farm products, sustainable harvesting of Non Wood Forest Products (NWFP) such as Chirata, Rubia and Satuwa and livestock products such as milk, pork, fish, chicken, and beef have potential to enhance household incomes.

The plan to develop Motanga Industrial Estate in the Eleventh Plan in the *Dzongkhag*, and a rich mineral base will provide huge opportunities for establishment of medium and large agro-processing and mineral based industries in the *Dzongkhag*.

Further, the construction of Dewathang-Nganglam (74.50km), Samdrupcholing-Samrang (24 km), Samrang-Jomotshangkha (85.20Kkm) and the upgradation of Samdrup-Jongkhar-Tashigang highways will further improve access and connectivity.

However, some of the major challenges faced by the *Dzongkhag* are human wildlife conflict, farm labour shortages, lack of adequate irrigation, storage and marketing facilities.

6.2.11.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) industrial development, ii) agricultural and livestock development and iii) targeted poverty intervention programme.

Samdrup Jongkhar *Dzongkhag* has a huge potential for developing as an industrial hub of the east. Its proximity to the large Indian market, rich mineral reserves such as coal, dolomite, and high grade limestone, agricultural potential, the construction of southern east-west highway and the establishment of an industrial estate at Motanga provides comparative advantage. The *Dzongkhag* in collaboration with the relevant central agencies will explore possibilities of **developing niche medium and large industries** in the *Dzongkhag*. The development of such industries will help in employment generation, improving household income and reducing poverty.

The *Dzongkhag* has lot of agricultural and livestock potential. Maize, mandarin orange, ginger, paddy, millet, mustard, legumes, buckwheat, potato and variety of vegetables are grown. In terms of livestock products, milk, pork, fish, chicken, and beef have potential. The *Dzongkhag* will put in place appropriate strategies to **enhance agricultural and livestock productivity** in particular to tackle human wildlife conflict, address farm labour shortages, irrigation facilities, and strengthen storage, distribution and marketing infrastructure.

With high levels of poverty in the *Dzongkhag*, implementation of **targeted poverty intervention programmes** will be the key strategy. Under the programme, five poorest villages in the *Dzongkhag* namely, Philuma under Orong *Gewog*, Kakaney and Tshotsalo under Martshalla *Gewog*, Yarphu under Wangphu *Gewog* and Monmola under Serthi *Gewog* are being supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives are some of the interventions being implemented. Further, under the National Rehabilitation Programme, rehabilitation of 31 poor households in Dawathang, Langchenphu *Gewog* is underway with the construction of a 2.6 km farm road, power and water supply and support to house construction. The funds for this programme will be directly provided from the centre.

6.2.11.4 Dzongkhag Key Result Areas					
GNH Pillar	Dzongkhag Key Result Area (DKRA)	Key Performance Indicator (KPI)	Baseline	Target	Key Intervention (KI)
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food sufficiency	1. Mean annual household income in Nu. 2. Poverty Incidence (%) 3. Cash crop production (In MT/Yr) i. Chili production (MT) ii. Rajma bean production (MT) iii. Citrus production (MT) iv. Cabbage v. Cauliflower vi. Onion vii. Tomato viii. Potato production (MT) ix. Mango x. Walnut xi. Cardamom xii. Ginger xiii. Areca nut 4. i. Cereal crop production (MT/Yr) ii. Paddy production (MT) iii. Maize production (MT) iv. Buckwheat Production (MT) v. Wheat Production (MT)	1. 51976 (2010) 2. 21 (2012) 3. i. 646 (2011) ii. 124 (2011) iii. 2842 (2011) iv. 89 (2011) v. 89 (2011) vi. 18 (2011) vii. 10.72 (2011) viii. 2607 (2011) ix. 37 (2011) x. 50 (2011) xi. 5 (2011) xii. 401 (2011) xiii. 452 (2011) 4. i. 2730 (2011) ii. 8134 (2011) iii. 1191 (2011) iv. 192 (2010) v. 102.31 (2011)	1. >80,000 2. <12 3. i. >650 ii. >300 iii. >4183 iv. >100 v. >100 vi. >99.39 vii. >30 viii. >3000 ix. >46.8 x. >60 xi. >30 xii. >515 xiii. >685.1 4. i. > 3684.25 ii. >8134 iii. >798 iv. >200 v. >145	1. Development of RNR infrastructure/facilities (RNR Centers, irrigation facilities, green house, rain water harvesting, backyard farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, Capacity development) 3. Improve Marketing facilities (marketing sheds, value addition and packaging, information and data management)
		5. Average land left uncultivated due to Wild life threats (in acres) 6. Proportion of people who "NEVER" feel "food insecurity" 7. i. Livestock production (In MT/Yr) ii. Milk production (MT) iii. Cheese production (MT) iv. Egg (Dozens/Annum) v. Pork (MT/Annum) vi. Chicken (MT/Annum) vii. Fish (MT/Annum)	5. 69.9 (2010) 6. 95.3 (2010) 7. i. 1448 (2011) ii. 149.15 (2011) iii. 11775 (2011) iv. 8.74 (2011) v. 6 (2011) vi. 14 (2011)	5. < 45 6. Track 7. i. >1723 ii. >174.79 iii. >77510 iv. >23.65 v. >75 vii. >30	

Sustainable and Equitable Socio-Economic Development	Improved health status of the communities	<ol style="list-style-type: none"> 1. Mean Healthy days (no. of days/month) 2. Immunization coverage (%) 3. Incidence of Maternal Mortality (no/year) 4. Incidence of Infant Mortality (per 1000 live births) 5. Incidence of under 5 mortality (per 1000 live births) 6. Proportion of household having access to safe drinking water (%) 7. Mean walking time to the nearest health care center (minutes) 8. Proportion of households having improved sanitation facility (%) 	<ol style="list-style-type: none"> 1. 23.5 (2010) 2. 95 (2011) 3. 1 (2011) 4. 11.6 (2011) 5. 23 (2011) 6. 99.5 (2012) 7. 109 (2010) 8. 89.5 (2011) 	<ol style="list-style-type: none"> 1. 30 2. 100 3. 0 4. <6 5. <15 6. 100 7. <60 8. >95 	<ol style="list-style-type: none"> 1. Improve quality and efficiency of health care services capacity and institutional development. 2. Development of health infra-structures and facilities 3. Promotion of indigenous health services 4. Promotion of mobile health services to elderly and vulnerable population of the society
	Improved quality of urban life	<ol style="list-style-type: none"> 1. Proportion of urban population who have "VERY GOOD" quality of life (%) 2. Proportion of farmers living more than 3 hrs walking distance from the nearest road point (%) 3. Proportion of households having access to safe water supply for more than 12 hrs a day (%) 4. Number of land fill sites (Nos) 	<ol style="list-style-type: none"> 1. 5.4 (2010) 2. 20 (2010) 3. 30 (2010) 4. 0 (2010) 	<ol style="list-style-type: none"> 1. >20 2. <10 3. >70 4. 2 	<ol style="list-style-type: none"> a. Development of urban infra-structures/facilities (Jomotsangkha and Samdrup Choling Yenlag Throm) b. Human resource & Capacity development (training and awareness on waste management)

<p>Preservation of Environment</p>	<p>Enhanced sustainable management and utilization of natural resources for income generation</p>	<p>1. Proportion of population that feel 'highly responsible' for conservation of the natural environment (%) 2. Non wood forestry products production (NWFPs) (MT/Annunum) 1. Chirata 2. Rubia 3. Satuwa 3. Number of functional Community forestry groups (No) 4. Number of functional Private forestry groups(No) 5. Number of functional NWFP Groups(No) 6. Protected Water catchment Area (Acres) 7. Area under afforestation/plantation (Acres)</p>	<p>1. 86.3 (2010) 1. 13 (2011) 2. 12 (2011) 3. 0 (2011) 3. 32 (2012) 4. 99 (2012) 5. 18 (2011) 6. 123.75 (2011) 7. 136.92 (2011)</p>	<p>1. >95 1. >15 2. >28 3. >5 3. >36 4. >157 5. >18 6. >200 7. >200</p>	<p>a. Institutional & capacity development b. Water shed & Land management program c. Promotion of Community forestry groups & Non wood forestry products d. Promote eco-tourism e. Awareness and enforcement on eco-efficient, disaster & and climate resilient construction techniques</p>
---	--	--	---	---	--

<p>Preservation and Promotion of Culture</p>	<p>Traditional and cultural heritage of the Dzongkhag preserved and promoted</p>	<ol style="list-style-type: none"> 1. Proportion of household who feel that Bhutanese tradition is very important (%) 2. Proportion of households that has at least 1 member having ability to speak mother tongue (%) 3. Proportion of population that have "VERY STRONG" "sense of belonging to the community" (%) 4. Percentage of households who feel that Driglam Namzha is very important (%) 5. Percentage of hhs that at least have one zorig chusum skill (%) 6. Proportion of population participating in festival (%) 7. Mean time spent on socio-cultural activities (mins/day) 	<ol style="list-style-type: none"> 1. 98 (2010) 2. 94.8 (2010) 3. 69 (2010) 4. 98 (2010) 5. 78.3 (2010) 6. 42 (2010) 7. 108 (2010) 	<ol style="list-style-type: none"> 1. 100 2. 100 3. >80 4. 100 5. 100 6. >70 7. >120 	<ol style="list-style-type: none"> a. Provision of eco-efficient, disaster resilient infrastructures & facilities b. Awareness and capacity building program to enhance knowledge on culture and tradition c. Promotion of Zhungkha d. Awareness/promotion programs on community vitality (community relationship, neighborhood groups, Family and safety)
<p>Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<ol style="list-style-type: none"> 1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people availing services from CCs 5. % of population participating in Voting 6. Ratio of male & female participants in GTs 	<ol style="list-style-type: none"> 1.6.04 2.90 3.n.a 4.n.a 5. 85% 6. 7:77 	<ol style="list-style-type: none"> 1. >6.5 2. > 95 3. 15 4. Track 5. >85% 6. Track 	<ol style="list-style-type: none"> 1. Improve facilities to enable better service delivery 2. Capacity development of Dzongkhag and Gewog staff/functionaries 3. Promotion of service oriented attitude in public service delivery 4. Timely monitoring of plan activities 5. Streamlining accountability of Dzongkhag Administration 6. Enhance Disaster mitigation efforts

6.2.12 Sarpang Dzongkhag

Sarpang *Dzongkhag* is situated in the south-central part of the country and shares its 200 kilometers southern border with the Indian state of Assam, to its east is Zhemgang *Dzongkhag*, to west lies Tsirang and to its north Trongsa *Dzongkhag*. Around three quarters of its land is under forest cover mostly consisting of the broad leaf sub-tropical evergreen trees. The *Dzongkhag* is located in the sub-tropical climatic zone, extending from an elevation of 200 meters to 3,600 metres, from the Phibsoo Wildlife Sanctuary in the west to the Manas National Park in the east.

The *Dzongkhag* is supported by 12 Gewogs namely Gelephu, Samtenling, Sershong, Chuzagang, Umling, Tareythang, Jigmecholing, Gakidling, Dekiling, Sengye, Chhuzergang and Shompangkha, and a Drungkhag and a Thromde in Gelephu.

6.2.12.1 Current Situation

Table 6.13.1 – Key Indicators

Population (BLSS 2012)	34,426	Mean annual household income Nu. (BLSS 2012)	133,002 (164,829)
Number of Dungkhags	1	Poverty incidence % (PAR 2012)	4.2 (12)
Number of Gewogs	12	Multidimensional Poverty (BMIS 2010) %	20.8 (25.8)
Number of Households (BLSS 2012)	7,725 (127,942)	GNH Index (GNH 2010)	0.795 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1666	Unemployment (LFS 2012) %	3.6 % (2.1)
Forest cover %)(RNR Statistics 2012)	88	General literacy (BLSS 2012)	59.9 (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	1.7 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	95.7 (91.9)
Crude Birth Rate (number of live births in a year per 1,000 population) (BLSS 2012)	10.5 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	27 (26)
(Figures in the bracket represent National average/total.)			

Sarpang Dzongkhag's poverty incidence of 4.2 percent is below the national poverty incidence of 12 percent in 2012. However, unemployment rate of 3.6 percent is second highest after Thimphu. The 2010 GNH Index reports Sarpang to be in high happiness category with a value of 0.795.

Paddy, maize wheat and millet are some of the major crops grown in the *Dzongkhag*. whereas orange, areca nut, cardamom and ginger are the principal cash crops grown by the farmers.

The Central Regional Referral Hospital is located in Gelephu. In the Eleventh Plan, a new 150 bedded hospital will be constructed which will not only benefit Sarpang but also the other five central *Dzongkhags*.

The road access to Indian markets for the five central *Dzongkhag* is through Sarpang. Sarpang *Dzongkhag* is also connected with domestic air services with the establishment of an airport in the Tenth Plan.

6.2.12.2 Key Opportunities/Challenges

The *Dzongkhag's* proximity to Indian markets, availability of vast flat land, air connectivity, and reliable electricity supply with the completion of Tsirang-Jigmeling electricity transmission line provides significant economic opportunities for Sarpang. In Addition, the planned development of Jigmeling Industrial Estate, establishment of dry port, upgradation of domestic airport to international standard and the completion of Lamoizingkha-Sarpang and Gelephu-Panbang highways (parts of southern east-west highway) are expected to further boost the comparative advantage of the *Dzongkhag*. The *Dzongkhag* also has potential for timber and mineral based industries.

Favorable terrain and climatic conditions combined with the fertile agriculture land offer tremendous opportunity for farm mechanization and commercial agriculture and horticulture development. Different varieties of crops can be grown in the *Dzongkhag* due to its warm weather and humidity. Also, Sarpang has potential for sustainable harvesting of NWFPs such as bamboo, cane, aromatic herbs and incense and enhancing livestock production such as eggs, poultry, fish and pork.

However, agriculture and livestock productivity is challenged by human wildlife conflict, lack of adequate irrigation facilities, and lack of storage and marketing facilities.

Although the overall poverty rate of Sarpang *Dzongkhag* is low compared to the

national average of 12 percent, there are settlements within the *Dzongkhag* which are very remote and where poverty rates are very high. One such village was Reti in Sarpang which received targeted poverty intervention support under Rural Economy Advancement Programme (REAP) I. Addressing health, education and living standards disparities within the *Dzongkhag* will be a key challenge.

6.2.12.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) industrial development, ii) enhancing agricultural and livestock productivity and iii) targeted poverty intervention programme.

The *Dzongkhag* in collaboration with the relevant central agencies will work towards developing Gelephu as a **major industrial hub** given the economic opportunities and other comparative advantages as a gateway to central Bhutan, and in terms of land availability, accessibility by air, land and railway in near future. Efforts will also be made to establish a dry port in Gelephu.

The *Dzongkhag* will also put in place appropriate strategies to enhance **agricultural and livestock productivity**. The issues of human wildlife conflict, irrigation, farm labour shortages, and storage, distribution and marketing facilities particularly for agricultural products will be addressed.

Under the **targeted poverty reduction programme**, five villages namely Balatung, Pemachhoeling, Tinjurey, Torkey and Bhagjungey will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

6.2.12.4 Dzongkhag Key Result Area					
GNH Pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline (year)	11 FYP Target	Key Interventions
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food sufficiency	1. Mean annual household income (in Nu.)	1. 13002 (2012)	1. >15000	1. Development of RNR infrastructure/facilities
		2. Average land left uncultivated due to wild life threats (in decimals)	2. 25.8(2010)	2. 20	
		3. Proportion of people who “NEVER” feel “food insecurity”	3. 97 (2010)	3.>98	2.Targeted Extension and support services
		4. Cereal Production	4 i. 8704 (2011)	4. i. >9000	
		i. Rice (MT)	ii. 6922 (2011)	ii.>7000	3. Improve Marketing facilities
		ii. Maize (MT)	iii. 1207 (2011)	iii. >1500	
		ii. Millet (MT)	5 i. 15389 (2011)	5.i. >16000	
		5. Cash crop production	ii. 70 (2011)	ii.>80	
		i. Mandarin (MT)	iii. 3915(2011)	iii. >5000	
		ii. Mango (MT)	iv. 560 (2011)	iv. >700	
		iii. Arcanut (MT)	6. 184 (2011)	6. >200	
		iv. Banana (MT)	7. 15 (2010)	7. >20	
		6. Chili (MT)	8. 0 (2011)	8. 8	
		7. Pulses (MT)	9 i. 1465 (2011)	9.i. >2000	
		8. Farm storage facilities	ii. 26.6 (2011)	ii. >50	
		9. Livestock Production	iii. 24 (2011)	iii. >30	
		i. Milk (Tons)			
		ii. Chicken (MT)			
		iii. Pork (MT)			

Sustainable and Equitable Socio-Economic Development	Enhanced health care facilities and quality services	<p>1. Sustained Immunization coverage</p> <p>2. Incidence of MMR</p> <p>3. Incidence of IMR</p> <p>4. Incidence of U5MR</p> <p>5. Mean healthy days by Gewog (scale 0-30 days)</p> <p>6. Proportion of household "composting" household waste</p> <p>7. Pop with improved water source (%)</p> <p>8. Proportion of pop with improved sanitation facilities</p> <p>9. Mean walking time to the nearest health care centre by Gewog (minutes)</p> <p>10. Access to reproductive health services (%)</p> <p>11. Access for Institutional delivery (%)</p>	<p>1. 100 %</p> <p>2. 5 (2011)</p> <p>3. 5 (2011)</p> <p>4. 3 (2011)</p> <p>5. 26.97 (2011)</p> <p>6. [80 (2010)</p> <p>7. 97.7 (2012)</p> <p>8. 91.1 (2012)</p> <p>9. 68 (2010)</p> <p>10. 28 (2011)</p> <p>11. 68 (2011)</p>	<p>1. 100 %</p> <p>2. <2</p> <p>3. <2</p> <p>4. <2</p> <p>5. >28</p> <p>6. >90</p> <p>7. >98</p> <p>8. >95</p> <p>9. <60</p> <p>10. >50</p> <p>11. >80</p>	<p>1. Development of health facilities</p> <p>2. Targeted capacity and awareness programmes</p>
	Improved urban living with provision of basic infrastructure and services	<p>1. Proportion of urban hhs satisfied with urban services and facilities</p> <p>2. coverage of sewerage system</p> <p>3. Frequency of waste collection done by municipality per week</p> <p>4. No. of landfill sites</p> <p>5. Street light coverage</p> <p>6. Nos. of parking area developed</p>	<p>1. 70 (2010)</p> <p>2. 30 (2012)</p> <p>3. NA</p> <p>4. NA</p> <p>5. 20 (2012)</p> <p>6. 0 (2012)</p>	<p>1. > 95</p> <p>2. > 50</p> <p>3. NA</p> <p>4. NA</p> <p>5. > 50</p> <p>6. > 3</p>	<p>1. Development of urban infrastructure/facilities</p> <p>2. Capacity development</p>

<p>Preservation and Conservation of Environment</p>	<p>Enhanced sustainable management and utilization of natural resources for income generation</p>	<p>1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Income generation from Community Forestry (Nu. in million) 3. No. of RNR integrated technology park established 4. Proportion of GRF managed as CFs (%) 5. Area managed as PF (%) 6. Area under afforestation/ plantation (acre)</p>	<p>1. 90.3 (2010) 2. 0.04 (2010) 3. 0 (2012) 4. <1(2011) 5. <1(2011), 6. 395 (2012)</p>	<p>1. >95 2. >1 3. >3 4. >4 5. >2 6 . > 5 0 0</p>	<p>1. Promotion of eco-tourism ii. Promotion of NWFP production iii. Reforestation and CF/PF management initiatives</p>
<p>Preservation and Promotion of tradition and culture</p>	<p>Traditional and cultural heritage of the Dzongkhag preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population that have 'very good' knowledge & understanding of i. 'local festivals' ii. 'masked & other dances' iii. 'traditional Bhutanese songs'</p>	<p>1. 113.67 (2010) 2. 73 (2010) 3. 85 (2010), 4. i. 24 (2010) ii. 34.5 (2010) iii. 18 (2010)</p>	<p>1. > 150 2. > 80 3. > 90 4. i. 50 ii. > 50 iii. 50</p>	<p>1. Enhancement of knowledge on culture and tradition ii. Development Religious Infrastructure iii. Procurement and supplies</p>

<p>Good Governance</p>	<p>Institution and local capacity enhanced to ensure Good Governance</p>	<p>1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people trained on disaster preparedness and response 5. No of people availing services from CCs [n.a (2012), Track]</p>	<p>1. 6.41 (2010) 2. 95 (2012) 3. na 4. n.a (2012) 5. na (2012)</p>	<p>1. > 7 2. > 95 3. 9 4.>50 5. Track</p>	<p>i. Infrastructure Development ii. Procurement and supplies iii. Capacity development for LG functionaries iv. Awareness programs for public</p>
-------------------------------	---	--	---	--	---

6.2.13 Samtse Dzongkhag

Samtse *Dzongkhag* is situated in the in southwestern foothills of the country. It is bordered by Chukha *Dzongkhag* in the east, Haa *Dzongkhag* in the north and Indian states of West Bengal and Sikkim in the south and west respectively. Samtse is at an elevation of 600-800m above sea-level and lies in the sub-tropical monsoon climate zone with good forest cover. There are two *Dungkhags* namely Dorokha and Trashichholing and fifteen *Gewogs* namely Norgaygang, Pemaling, Sang Ngag Chhoeling, Norboogang, Denchukha, Dophuchen, Dungtoed, Namgyelchholing, Phuntshopelri, Samtse, Trashichholing, Tadhing, Tendruk, Ugyentse and Yoeseltse.

6.2.13.1 Current Situation

Table 6.14.1 – Key Indicators

Population (BLSS 2012)	55,009	Mean annual household income Nu. (BLSS 2012)	103,207 (164,829)
Number of <i>Dungkhags</i>	2	Poverty incidence % (PAR 2012)	22.2 (12)
Number of <i>Gewogs</i>	15	Multidimensional Poverty (BMIS 2010) %	43.3 (25.8)
Number of Households (BLSS 2012)	11,699 (127,942)	GNH Index (GNH 2010)	0.736 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1,305	Unemployment (LFS 2012) %	1.8 (2.1)
Forest cover %)(RNR Statistics 2012)	78.03	General literacy (BLSS 2012)	49.8 % (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	7.7 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	91.4 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	11.8 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	27 (26)
(Figures in the bracket represent National average/total.)			

In the last five years, poverty incidence was reduced from 46.8 percent in 2007 to 22.2 percent in 2012 in Samtse. While this is a significant achievement, poverty still remains high and was almost twice the national average of 12 percent in 2012. The high level of poverty is attributed to low levels of literacy in the *Dzongkhag*. The general literacy was 49.8 percent against national average of 63 percent, second lowest in the country, youth literacy was 70.6 percent compared to national

average of 86.1 percent and adult literacy of 40.2 percent against national average of 55.3 percent. The 2010 GNH Index reports Samtse to be in medium happiness category with a value of 0.736.

In an effort to accelerate poverty reduction in the *Dzongkhag*, Sanu Dungtoe was selected as one of the ten poorest villages under REAP I in the Tenth Five Year Plan. Through the programme people of Sanu Dungtoe were provided skills in traditional carpentry, mill and poultry farms were established to enhance their income and livelihood.

With three hospitals at Samtse, Sipsu and Gomtu, nine BHUs, two indigenous units and 18 outreach clinics, the *Dzongkhag* enjoys a good degree of health coverage with most households with access to health facility. Further, the construction of a new 40 bedded hospital in the Eleventh Plan will help improve health coverage.

6.2.13.2 Key Opportunities/Challenges

Samtse with its warm climate and rich fertile land has high potential to increase cash crop production and also has opportunities for double cropping. The flat arable land is suitable for farm mechanization. Paddy, maize, wheat, buckwheat, barley and millet are some of the cereal crops grown in Samtse. Among the cash crop, cardamom, mandarin, areca nut, ginger and wide variety of fruits and vegetables are grown. The *Dzongkhag* also has rich forest resources particularly bamboo, cane and incense plants, and sustainable extraction of these products will contribute to rural income generation. The *Dzongkhag* has potential for development of bamboo treatment and preservation industry and cane furniture production.

Minerals such as limestone and dolomite are also found in Samtse.

Further, proximity to the Indian markets, the completion of Samtse-Phuentsholing highway and the establishment of Damdhum Industrial Estate will provide huge opportunities for economic growth in Samtse.

In terms of the challenges, increasing agriculture and livestock productivity is constrained by human wildlife conflict, farm labour shortages, lack of adequate irrigation facilities, and lack of storage and marketing facilities.

High levels of illiteracy resulting in low quality of employment and high poverty rates is a major concern.

6.2.13.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) targeted poverty intervention programme ii) improving education outcomes and iii) industrial development.

Samtse has the fourth highest levels of poverty in the country. Therefore, one key strategy will be the implementation of the **targeted poverty reduction programme**. Under the programme, five villages namely Khempa, Gibjee, Kamai Banzang, Majuwa and Cibichang will be supported under REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

The Poverty Analysis Report 2012 indicates a direct correlation between poverty levels and education. People with low literacy rate were poorer and there was a significant reduction in poverty rate if the household head attended secondary levels of education both in urban and rural Bhutan. The low level of literacy is one of the main factors for high poverty rates in the *Dzongkhag*. Therefore, improving **education outcome** will be a priority. The *Dzongkhag* will work closely with the Ministry of Education to ensure adequate infrastructure facilities, teachers and teaching materials are made available and where relevant consolidation of schools to improve quality and efficiency of education will be explored.

The close proximity to the Indian market, availability of mineral reserve base, wide variety of agricultural products, and the completion of Samtse-Phuentsholing highway and the Dhamdum Industrial Estate in the Eleventh Plan offer opportunities for Samtse to develop as **medium and large scale industrial hub**. The *Dzongkhag* in close consultation with the relevant central agencies will work towards creating an enabling environment in the *Dzongkhag* for establishment of medium and large scale industries. The industries could be mineral based, agro-based or wood/cane based.

The *Dzongkhag* will also put in place appropriate strategies to tackle human wildlife conflict, address farm labour shortages, and strengthen storage, distribution and marketing facilities, particularly for agricultural products, drinking water shortages etc.

6.2.13.4 Dzongkhag Key Result Area					
GNH Pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline (year)	11 FYP Target	Key Interventions
Sustainable and Equitable Socio-Economic Development		1. Mean annual household income 2. Poverty Incidence (%) 3. Cash crop production i. Mandarin (MT) ii. Cardamom (MT) iii. Arecanut (MT) iv. Ginger (MT) 4. Cereal crop production i. rice (MT) 8867 (2011), >9000] ii. maize (MT) iii. wheat (MT) 5. Average land left uncultivated due to wild life threats (in acres) 6. Proportion of people who "NEVER" feel "food insecurity" 7. Livestock production i. [Milk (MT/Yr) ii. [Butter (MT/Yr) iii. [Pork (MT/Yr) iv. [Chicken (MT)	1. 103207 (2012) 2. 22.2 (2012) 3. i. [2595 (2010) ii. 551 (2010) iii. (MT) [3129 (2010) iv. [2458 (2010) 4. i. 8867 (2011) ii. 7056(2011) iii. 261 (2011) 5. [30(2010) 6. [91,(2010) 7. i. [199.06 (2011) ii. 7.1 (2011) iii. 21.62(2011) iv. 7994 (2011)	1.>150000 2. <5 3.i. >3800 ii. >1000 iii. >5000 iv. >5000 4i. >9000 ii. >7500 iii. >300 5. <20 6. ,>95 7. i. >250 ii. >100 iii. >30 iv. >9000	1.Development of RNR infrastructure/facilities 2.Targeted Extension and support services 3. Improve Marketing facilities
		Enhanced rural household income and food sufficiency			

Sustainable and Equitable Socio-Economic Development	Improved health status of the communities	<p>1. Proportion of pop with improved water source (%)</p> <p>2. Proportion of pop with improved sanitation facilities</p> <p>3. Mean walking time to the nearest health care centre in mins.</p> <p>4. Track IM, MIM, U5M</p> <p>5. Increased access for Institutional delivery (%)</p>	<p>1. 97.5 (2010)</p> <p>2. 68.3 (2012)</p> <p>3. 89 (2010)</p> <p>4. NA</p> <p>5. 68 (2011)</p>	<p>1. >98</p> <p>2. >70</p> <p>3. <60</p> <p>4. Track</p> <p>5. >80</p>	<p>1. Capacity development (training and awareness programs)</p> <p>2. Health infrastructure development</p> <p>3. Improve quality and efficiency of health care services</p>
	Improved quality of urban life	<p>1. Proportion of farmers living more than 3 hrs walking distance from the nearest road point</p> <p>2. Water supply per day (hrs)</p> <p>3. Sewerage network(m)</p> <p>4. Frequency of waste collection done by municipality per week</p> <p>5. Street light coverage</p> <p>6. Nos. of parking area developed</p>	<p>1. 22 (2010)</p> <p>2. 8 (2012)</p> <p>3. 468 (2012)</p> <p>4. 1 (2012)</p> <p>5. 2 (2012)</p> <p>6. na</p>	<p>1. <10</p> <p>2. 24</p> <p>3. > 600</p> <p>4. > 3</p> <p>5. > 3</p> <p>6. >1</p>	<p>1. Development of urban infrastructure/facilities (Samtse town, Trashichholing, Phuntshopeliri, Dophuchen towns)</p> <p>2. Capacity development (training and awareness campaign, waste management)</p>

<p>Preservation and Conservation of Environment</p>	<p>Enhanced sustainable management and utilization of natural resources for income generation</p>	<p>1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Income per Community Forestry (CF) Groups (in 000) 3. NWFP (Products) 4. No. of functional Community Forestry Groups</p>	<p>1. 73 (2010) 2. 15 (2010) 3. 3(2011) 4. 10 (2011)</p>	<p>1. >90 2. >25 3. >5 4. >15</p>	<p>1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFP 3. Promotion of eco-tourism</p>
<p>Preservation and Promotion of tradition and culture</p>	<p>Traditional and cultural heritage of the Dzongkhag preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population that have 'very good' knowledge & understanding of i. 'local festivals' ii. 'masked & other dances' iii. 'traditional Bhutanese songs'</p>	<p>1. 86.75 (2010) 2. 60 (2010) 3. 72 (2010) 4. i 7(2010), ii. 2.4 (2010) iii. 2.7 (2010)</p>	<p>1. > 100 2. > 70 3. > 80 4. i >9.7 ii. > 5.6 iii. > 4.2</p>	<p>1. Infrastructure development 2. Enhancement of knowledge on culture and tradition</p>
<p>Good Governance</p>	<p>Institution and local capacity enhanced to ensure Good Governance</p>	<p>1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people availing services from CCs</p>	<p>1. 6.04 (2010) 2. 90 (2012) 3. na 4. n.a (2012)</p>	<p>1. > 7 2. > 95 3. 15 4. Track</p>	<p>1. Capacity development (trainings and awareness programmes) 2. Development of Infrastructure/facilities (including 2 Dungkhags)</p>

6.2.14 Tsirang Dzongkhag

Tsirang *Dzongkhag* is located in the south-central part of the country with elevations ranging from 400 to 2000 m above sea level. It shares its border with Wangdue Phodrang *Dzongkhag* to the north, Sarpang to the east and southeast and Dagana to the west and southeast. There are twelve *Gewogs* namely Barshong, Mendrelgang, Tsholingkar, Tsirangtoe, Dunglagang, Kikhorthang, Sergithang, Rangthangling, Gosaling, Semjong, Phuentsenchu and Patsaling.

6.2.14.1 Current Situation

Table 6.15.1 – Key Indicators

Population (BLSS 2012)	18947	Mean annual household income Nu. (BLSS 2012)	118,101 (164,829)
Number of <i>Dungkhag</i>	nil	Poverty incidence % (PAR 2012)	14.8 (12)
Number of <i>Gewogs</i>	12	Multidimensional Poverty (BMIS 2010) %	34.8 (25.8)
Number of Households (BLSS 2012)	4120 (127,942)	GNH Index (GNH 2010)	0.770 (0.743)
Area (sq.kms) (RNR Statistics 2012)	639	Unemployment rate (LFS 2012) %	3.4 (2.1)
Forest cover % (RNR Statistics 2012)	87.34	General literacy rate (BLSS 2012)	59.6 (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	4.0 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	92.5 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	18.5 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	26 (26)
(Figures in the bracket represent National average/total.)			

The poverty incidence is reported at 14.8 percent in 2012, an increase from 13.9 percent in 2007. The *Dzongkhag* also reports a lower general literacy rate, mean annual household income and higher unemployment rates compared to the national average.

The 2010 GNH Index reports Tsirang to be in high happiness category with a value of 0.770.

Agriculture and livestock are two important source of livelihood. Paddy, maize and

millet are the major cereal crops grown while orange, cardamom and vegetables are the principal cash crops. Mandarin constitutes an important source of cash income for most of the farmers. Livestock rearing is also an important economic activity with poultry, piggery and fisheries contributing to income generation.

6.2.14.2 Key Opportunities/Challenges

The favourable climatic conditions and diverse agro-ecological features present potential in enhancing agriculture production. RNR Statistics 2012 reports that the *Dzongkhag* produced about 2464 MT of vegetables, 843 MT of milk, 947100 dozens of eggs, 44 MT of chicken, 26 MT of pork, 4 MT of fish in 2011.

Further, opportunities exist for tourism development. Tourism products such as bicycle trips, river rafting and kayaking on Sunkosh river, trekking routes (old route from Damphu to Gelephu in 3 days and Damphu to Wangdue in 7 days) and flower tours could be explored. Being strategically located along Wangdue-Sarpang national highway, opportunities in terms of development of hospitality and related services are also possible.

Moreover, the completion of electricity transmission line between Basochhu and Tsirang and the commissioning of Dagachhu hydroelectricity project will enhance electricity supply reliability in the *Dzongkhag* providing opportunities for establishment of new industries, particularly cottage, small and medium industries.

Amongst others, one major challenge is poverty reduction. Tsirang is one of the *Dzongkhag* reporting higher incidences of poverty. Other challenges include water shortage, human wildlife conflict and urban problems of solid waste management, infrastructure etc.

6.2.14.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) enhancing agriculture and livestock productivity, ii) tourism development targeted, and iii) poverty intervention programme.

With agriculture and livestock products being a major source of livelihood for the people of Tsirang, the *Dzongkhag* will focus on **enhancing agricultural and livestock production**. The *Dzongkhag* will invest in improving infrastructure facilities such as farm roads and market sheds, addressing issues of water shortage both for drinking and irrigation purposes, farm labour shortage and human wildlife conflict.

Establishment of cooperatives and farmers group in agriculture and livestock will be encouraged and facilitated.

The *Dzongkhag* in collaboration with the Tourism Council of Bhutan, local communities and businesss will explore possibilities of developing new **tourism development** products such as bicycle, trekking routes, river rafting, nature tour, homestays/farmhouses for community based tourism etc to attract tourist to the *Dzongkhag*.

In order to provide better health care services, a new hospital will be constructed in Tsirang during the Eleventh Plan. The *Dzongkhag* will also put in place appropriate strategies in cooperation with relevant central agencies to address drinking water shortages, urban infrastructure facilities and services and improving health and education outcomes.

In addition to REAP II, the rehabilitation of around 25 poor and disadvantaged households from Serzhong village in Tsirang will be supported under National Rehabilitation Programme in the Eleventh Plan.

With high levels of poverty in the *Dzongkhag*, the implementation of **targeted poverty reduction programme** will be a key strategy to accelerate poverty reduction. Under the programme, five villages namely Baithrakay, Pangthang, Toisang, Tathang and Balakhap will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

6.2.14.4 Dzongkhag Key Result Area					
GNH Pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline (year)	11 FYP Target	Key Interventions
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food grain sufficiency	<ol style="list-style-type: none"> 1. Mean annual household income (in Nu.) 2. Proportion of households producing sufficient food grains 3. Proportion of population 'NEVER' reporting degree of food insecurity 4. Average acreage of land uncultivated due to wild life threats 5. Population Poverty Rate (%) 6. Proportion of households living > 1hr walking distance from the nearest motorable road point 	<ol style="list-style-type: none"> 1. 118,101 (2012) 2. 48.9 (2012) 3. 98.6 (2010) 4. 80 (2010) 5. 14.8 (2012) 6. 17.3 (2011) 	<ol style="list-style-type: none"> 1. >150,000 2. >70 3. >99 4. < 50 5. < 12 6. <5 	<ol style="list-style-type: none"> 1. Development of RNR infrastructure/facilities (RNR -EC, irrigation facilities, rain water harvesting, commercial farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, group formation, capacity development) 3. Improve Marketing facilities (farm roads, marketing sheds, value addition and packaging, information and data management)
	Improved health status of the community	<ol style="list-style-type: none"> 1. Mean healthy days (0-30 days) 2. Proportion of households with access to improved water source 3. Proportion of households with access to improved sanitation 4. Mean walking time to the nearest health care centre(in mins) 5. Deliveries attended by trained personnel (%) 	<ol style="list-style-type: none"> 1. 26.5 (2010) 2. 96.1 (2012) 3. 85.(2011) 4. 85.6 (2010) 5. 57 (2011) 	<ol style="list-style-type: none"> 1. > 27 2. 100 3. 100 4. < 60 5. >80 	<ol style="list-style-type: none"> 1. Development & maintenance of health facilities (BHU and sub-posts) 2. Targeted capacity and awareness programmes
	Improved quality of urban life	<ol style="list-style-type: none"> 1. Household water supply (%) 2. Households connected to sewerage network (%) 3. Waste collection done by municipality per week (no) 	<ol style="list-style-type: none"> 1. na (2012) 2. na (2012) 3. na (2012) 	<ol style="list-style-type: none"> 1. 100 2. 100 3. >1 	<ol style="list-style-type: none"> 1. Development/maintenance of urban infrastructure/facilities 2. Capacity development (training and awareness campaign, water and waste management)

<p>Preservation and Promotion of Culture</p>	<p>Traditional and cultural heritage of the Dzongkhag preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population who give unpaid volunteer help 5. Number of trees planted within religious and cultural premises</p>	<p>1. 142 (2010) 2. 68 (2010) 3. 87 (2010) 4. 71 (2010) 5. na (2012)</p>	<p>1. > 150 2. > 80 3. > 95 4. > 80 5. >100/institution</p>	<p>1. Infrastructure development (Renovation of lhakhangs & dratshangs, Construction of drasha, lhakhang, Mandir) 2. Enhancement of knowledge on culture and tradition (training and awareness programmes on culture and tradition)</p>
<p>Preservation of Environment</p>	<p>Enhanced sustainable management and conservation of natural resources</p>	<p>1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Proportion of households composting household waste 3. Waste management initiatives in the rural areas (no)</p>	<p>1. 90.6 (2010) 2. 15.4 (2010) 3. na (2012)</p>	<p>1. > 95 2. > 60 3. Track</p>	<p>1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFP</p>
<p>Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<p>1. Mean happiness of the people (scale 0-10) 2. People perception on the performance of LG (%) 3. Percentage of annual capital grant utilized 4. Implementation of anti-corruption strategy 5. Turn Around Time (TAT) 6. Implementation of Govt. Performance Management System (GPMS)</p>	<p>1. 6.21 (2010) 2. 80 (2011) 3. 71 (2011) 4. No (2012) 5. na (2012) 6. no (2012))</p>	<p>1. > 7 2. >95 3. > 95 4. Yes 5. Reduce by 70% 6. Yes</p>	<p>1. Development & maintenance of Infrastructure/facilities 2. Capacity development (trainings and awareness programmes)</p>

3.2.15 Trashigang *Dzongkhag*

Trashigang *Dzongkhag* is the largest and the most populous *Dzongkhag* in the country. It shares its borders with Mongar *Dzongkhag* in the west, Samdrup Jongkhar and Pemagatshel in the South, Trashi Yangtse in the north and the Indian state of Arunachal Pradesh in the east. It is situated at an elevation ranging from 600-4,500 meters above sea level. The climate is mainly temperate with an annual rainfall between 1000 mm and 2000 mm. There are three *Dungkhags* (namely Sagteng, Wamrong and Thrimshing) and fifteen *Gewogs* namely Bartsham, Bidung, Kanglung, Kangpara, Khaling, Lumang, Merak, Phongmey, Radhi, Sakteng, Samkhar, Shongphu, Thrimshing, Udzorong and Yangneer. Dangmechhu, which is one of the largest river in the country flows through the *Dzongkhag*.

3.2.15.1 Current Situation

Table 6.16.1 – Key Indicators

Population (BLSS 2012)	43,682	Mean annual household income Nu. (BLSS 2012)	80, 657 (164,829)
Number of <i>Dungkhags</i>	3	Poverty incidence % (PAR 2012)	11.5 (12)
Number of <i>Gewogs</i>	15	Multidimensional Poverty (BMIS 2010) %	27.6 (25.8)
Number of Households (BLSS 2012)	10,175 (127,942)	GNH Index (GNH 2010)	0.708 (0.743)
Area (sq.kms) (RNR Statistics 2012)	2204	Unemployment (LFS 2012) %	1.6 (2.1)
Forest cover (%) (RNR Statistics 2012)	81.65	General literacy (BLSS 2012)	60.1 (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	18 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	92.1 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	23.5 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	25 (26)
(Figures in the bracket represent National average/total.)			

Agriculture and livestock rearing are the main source of livelihood. Maize, Soya beans and beans are the major crops grown in the *Dzongkhag*. Among the horticultural products, potato, radish, asparagus, cabbage and chillies have the potential to be cultivated on a commercial scale.

The only domestic airport in the eastern part of the country is located at Yongphula, Trashigang. The widening of Trashigang and Samdrup Jongkhar highway is ongoing

and once completed the travel time on this important highway will be reduced significantly.

The 2010 GNH Index reports Trashigang to be in medium happiness category with a value of 0.708.

3.2.15.2 Key Opportunities/Challenges

Trashigang has a number of cultural and religious attractions such as the Trashigang *Dzong*, Kanglung Zangdopelri, the typical architecture of Mithidrang town, Trashigang Tshechu and the unique pastoral communities of Merak and Sakteng. The *Dzongkhag* is also known for its traditional skills of weaving and dyeing. The *Dzongkhag* is also a home to many natural reserves with rich and varied flora and fauna and endangered species. This provides opportunities for tourism development in the *Dzongkhag* by promoting weaving tours, wildlife tours, day hiking and camping tours. Further, with the improvement of the domestic airport in Yongphula during the Eleventh Plan access to the *Dzongkhag* will be easier.

In terms of road connectivity, all fifteen *Gewogs* will be connected with farm and feeder roads once the ongoing *Gewog* connectivity road at Merak and Sakteng is completed. This will provide better opportunities for the farmers to access markets for their agricultural and livestock products outside their *Gewogs*. While maize, paddy, soya bean and bean are the major crops in the *Dzongkhag*, maize is grown in all the 15 *Gewogs* of the *Dzongkhag* and in sizable quantities (9,974 metric tons – RNR Statistic 2012). Therefore, potential exists for establishing collection centers for maize and establishment of maize processing units.

In addition, plans to develop Kanglung as one of the regional hubs in the east, renovation of Trashigang *Dzong* and the establishment of Centenary Institute of Education in Yongphula will boost opportunities for education, trade and commerce in the *Dzongkhag*.

Some of the challenges faced by the *Dzongkhag* include rural urban migration. The PHCB 2005 reports that Trashigang had the highest migration loss of 16,697 persons. This has resulted in agricultural land being kept fallow due to farm labour shortages and land fragmentation leading to low agricultural productivity. Other challenges faced by the *Dzongkhag* include human wildlife conflict, water shortages both for drinking and irrigation purposes etc.

3.2.15.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) development of Kanglung as a regional hub ii) enhancing agriculture and livestock productivity, iii) tourism development and iv) targeted poverty intervention programme.

The *Dzongkhag* faces the highest levels of rural urban migration with large number of people migrating out to other *Dzongkhags*. Therefore, in order to address the rural-urban migration and to create better economic opportunities for people living in the region the **development of a regional hub in Kanglung** will be explored during the Eleventh Plan. A preliminary study indicates high potential if the issue of water supply can be addressed. In particular the *Dzongkhag* will look into the possibilities of establishing Kanglung as an educational hub.

With agriculture and livestock being the main source of livelihood, the *Dzongkhag* will focus on **enhancing agriculture and livestock productivity** by addressing the issues of storage and marketing facilities, human wildlife conflict, irrigation facilities, farm labour shortages and establishment of farmers’ groups/cooperatives. The *Dzongkhag* will also explore possibilities of establishing small and medium industries which have potential for creating jobs and enhancing households. Small and medium industries based on agro-processing, tourism and hospitality services have potential.

With the establishment of domestic air service at Yongphula, Trashigang has good prospects in terms of attracting larger numbers of visitors. Initiatives will be undertaken to **develop tourism** in the *Dzongkhag* with support and coordination with the Tourism Council of Bhutan, local communities and businesses. The *Dzongkhag* will focus on developing new products that will increase the number of bed nights tourist spend in Trashigang so that the local economy and households benefit. New products such as trekking routes, nature tours like bird watching, and adventure tourism will be developed. Merak-Sakten will be promoted as a unique and exotic destination.

Under the **targeted poverty reduction interventions**, six villages namely Kheree, Banyaltang, Khaimanma, Ngambinang, Khashateng and Kheliphu will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

6.2.15.4 Dzongkhag Key Result Area					
GNH Pillar	KRA	KPI	Base line (year)	Target	KI
Sustainable and equitable socio Economic development	Enhanced rural household income and food sufficiency	1. Mean annual household income [Nu] 2. Poverty incidence [%] 3. Cash crop production i. Citrus Production (MT) ii. Production of potato(MT) iii. Production of chilli (MT) iv. Production of oil crops (MT) 4. Cereal crop production i. Paddy Production (MT) ii. Maize Production (MT) 5. Average land left uncultivated due to wild life threats (in acres) 6. Proportion of people who “NEVER” feel “food insecurity” 7. Livestock production i. Milk production (MT) ii. Fish Production(MT) iii. Egg production (million) iv. Pork Production (MT)	1.>100000 2.<=5% 3.i.>778 ii.>5240 iii.>1148 iv.>431 4.i.>2938 ii.>11358 iii. <50 iv.> 98% 5.> 3556 6.>2 7.i.>3.8 ii.>11	1.Development of RNR infrastructure/facilities 2.Targeted Extension and support services 3.Improve Marketing facilities	
	Improved health status of the communities	1. Mean walking time to the nearest health centre (in minutes) 2. Proportion of hhs with safe drinking water 3. Proportion of hhs with proper sanitation facilities 4.Track IM, MM, U5M	82.6 (2010) 98.6 (2010) 93.07	<60 100 100	1. Capacity development (training and awareness programs) 2. Health infrastructure development 3. Improve quality and efficiency of health care services

	Improved quality of urban life	<ol style="list-style-type: none"> 1. Proportion of hhs connected with proper footpath and road 2. Water supply per day (hrs) 3. Proportion of hhs connected to proper sewerage system 4. No. of landfill sites 5. Frequency of waste collection done by municipality per week 	<p>[na (2012) 8 (2012) na (2012) 1 (2012) 2 (2012)</p>	<p>80 24 >80 > 3 > 3</p>	<ol style="list-style-type: none"> 1. Development of urban infrastructure/facilities 2. Capacity development (training and awareness campaign, waste management)
Preservation and Conservation of Environment	Enhanced sustainable management and utilization of natural resources for income generation	<ol style="list-style-type: none"> 1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. i. Area under CFMG (acre) 3. NWFP (Products) 4. No. of functional Community Forestry Groups 	<p>80.4 (2011) 5548 (2010) 3(2011) 32 (2011)</p>	<p>>95 >6000 >5 >40</p>	<ol style="list-style-type: none"> 1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFP 3. Promotion of eco-tourism

<p>Preservation and Promotion of tradition and culture</p>	<p>Traditional and cultural heritage of the Dzongkhag preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. i. Proportion of population that have 'very good' knowledge & understanding of 'local festivals' ii.of 'masked & other dances' ii.of 'traditional Bhutanese songs'</p>	<p>121 (2010), 56 (2010) 82 (2010) 11.3 (2010) 6.7 (2010) 2.7 (2010)</p>	<p>> 140 > 70 > 90 > 25 > 20 > 15</p>	<p>1. Infrastructure development 2. Enhancement of knowledge on culture and tradition</p>
<p>Good Governance</p>	<p>Institution and local capacity enhanced to ensure Good Governance</p>	<p>1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people availing services from CCs</p>	<p>6.16 (2010) [87.5 (2012) n.a (2012) [n.a (2012)</p>	<p>>7 > 95 15 Track</p>	<p>1. Capacity development (trainings and awareness programmes) 2. Development of Infrastructure/facilities</p>

6.2.16 Trashiyangtse *Dzongkhag*

Trashiyangtse *Dzongkhag* was created in 1992. It is located in the north eastern part of the country sharing border with Trashigang and Mongar in the south, Lhuentse in the west, the Indian State of Arunachal Pradesh in the east and the Tibet Autonomous Region of China in the north. There are eight *Gewogs* namely Bumdeling, Jamkhar, Khamdang, Ramjar, Toetsho, Tongmijangsa, Yalang and Yangtse.

6.2.16.1 Current Situation

Table 6.17.1 – Key Indicators

Population (BLSS 2012)	16,057	Mean annual household income Nu. (BLSS 2012)	83,744 (164,829)
Number of <i>Dungkhag</i>	nil	Poverty incidence % (PAR 2012)	13.5 (12)
Number of <i>Gewogs</i>	8	Multidimensional Poverty (BMIS 2010) %	30.9 (25.8)
Number of Households (BLSS 2012)	3754 (127,942)	GNH Index (GNH 2010)	0.698 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1449	Unemployment rate(LFS 2012) %	1.2 (2.1)
Forest cover %(RNR Statistics 2012)	70.90	General literacy rate (BLSS 2012)	60.4 % (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	8.9 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	92.8 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	11.5 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	24 (26)
<i>(Figures in the bracket represent National average/total.)</i>			

The poverty incidence in Trashiyangtse has dropped to 13.5 percent in 2012 from 14.3 percent in 2007. The 2010 GNH Index reports Trashiyangtse to be in low happiness category with a value of 0.698.

Agriculture and livestock farming is the main source of livelihood for majority of the population. Rice, maize, millet, buckwheat and wheat are the major cereal crops grown. While orange, potatoes and chilly are the main cash crops of the *Dzongkhag*. Trashiyangtse is known for the production of traditional handicraft like wooden bowl (“Dapa”) and Daphne paper (“Desho”). Trashiyangtse is endowed with Cordyceps in the pastoral areas which fetches a very high price through exports.

Trashiyangtse is also known for its rich biological diversity with Bumdeling Wildlife Sanctuary being well known as the winter habitat and roosting place for Black-Necked Cranes, a highly endangered species of bird in the world. The Bhutan Glory butterfly is also found here. There are possibilities of discovering very rare species of flora and fauna in the conservation area of Bumdeling Wildlife Sanctuary.

6.2.16.2 Key Opportunities/Challenges

The 600 MW Kholongchhu Hydropower Project which is under construction provides lot of opportunities for local economy growth. Once completed, the project will contribute towards enhancing electricity supply and reliability thereby creating opportunities for establishing small and medium industries in the *Dzongkhag*. The significant increase in the number of project workers in the *Dzongkhag* during the construction period will help boost local trade and commerce and employment opportunities for the Bhutanese.

The *Dzongkhag* has opportunities for developing small and cottage industries specializing in wooden, handmade paper and agricultural/medicinal plant products

With the establishment of domestic airport in Yongphula, the accessibility to Trashiyangtse has been made easier. The numerous heritage sites and major festivals such as the annual Gomphu Kora and Chorten Kora festivals, Chazam (iron bridge), the black necked cranes and handicrafts tours could be attractive products for tourism development.

Some of the challenges include lack of proper tourist amenities such as hotels.

In addition, depleting forest resources has posed a challenge to the people making '*Dapa*' (wooden bowl). The situation is further compounded by fewer youth willing to take up the trade which was traditionally passed on as a family trade usually from father to son.

In terms of agriculture, the fragmented land-holdings, farm labour shortage, human wildlife conflict, lack of storage and marketing facilities pose constraint to enhancing agricultural productivity.

6.2.16.3 Strategies

In keeping with the Plan objective of "Self-reliance and Inclusive Green Socio-economic Development", the key strategies the *Dzongkhag* will focus on are i) enhancing agriculture and livestock productivity, ii) tourism development and

harnessing economic potential from the construction of the 600 MW Kholongchhu Hydropower Project, and iii) targeted poverty intervention programme.

Trashiyangtse *Dzongkhag* will focus on **enhancing agricultural and livestock productivity** by investing in agriculture infrastructure, farm mechanization to address farm labour shortages, overcoming human wildlife conflict, and constructing irrigation, storage and marketing facilities. Possibilities of establishing small food processing units will be explored. In addition, farmers will be encouraged to form groups to avail better market and rural credit and also to be in a position to supply large quantities of agricultural/livestock products to Kholongchhu hydropower project.

To supplement farm income, the *Dzongkhag* will also focus on **development of tourism facilities and services**. The *Dzongkhag* will liaise closely with Tourism Council of Bhutan, local communities and businesses to develop Trashiyangtse as an exotic tourist destination and facilitate development of new tourism products specific to the *Dzongkhag* such as trekking path, black neck crane festival, handicraft tours, water sports and religious and cultural tours which could also cater to domestic tourists. The *Dzongkhag* will also facilitate to develop tourist infrastructure facilities like guesthouses, home/farm stays, community lodges and camping trails. The local entrepreneurs and communities will be provided necessary training on tourism and hospitality services.

With reliable electricity supply available, the *Dzongkhag* will explore development of cottage and small industries to enhance household incomes and create jobs for the local communities. The *Dzongkhag* in close collaboration with the Agency for Promotion of Indigenous Crafts and the Department of Cottage and Small Industries will facilitate an enabling environment for development of cottage and small industries by addressing issues such as access to finance, markets, raw materials and product development.

Under the **targeted poverty reduction interventions**, five villages namely Pangthang, Ngalimang, Dukti, Karmazom and Kuenzangling will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

6.2.16.4 Dzongkhag Key Result Area					
GNH Pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline (year)	11 FYP Target	Key Interventions
Sustainable and Equitable Socio-Economic Development	Enhanced rural household income and food grain sufficiency	<ol style="list-style-type: none"> 1. Mean annual household income (in Nu.) 2. Proportion of households producing sufficient food grains 3. Proportion of population 'NEVER' reporting degree of food insecurity 4. Average acreage of land uncultivated due to wild life threats 5. Population Poverty Rate (%) 6. Proportion of households living > 1hr walking distance from the nearest motorable road point 	<ol style="list-style-type: none"> 1. 83,774 (2012) 2. 59.4 (2012) 3. 96.6 (2010) 4. 52.7 (2010) 5. 13.5 (2012) 6. 31.3 (2011) 	<ol style="list-style-type: none"> 1. > 90,000 2. > 70 3. >98 4. < 40 5. < 12 6. <20 	<ol style="list-style-type: none"> 1. Development of RNR infrastructure/facilities (RNR-EC, irrigation facilities, backyard farms) 2. Targeted Extension and support services (supply of HYV seeds and seedling, breed improvement, feed and fodder, group formation, capacity development) 3. Improve Marketing facilities (farm roads, marketing sheds, value addition and packaging, information and data management)
	Improved health status of the community	<ol style="list-style-type: none"> 1. Mean healthy days (0-30 days) 2. Proportion of households with access to improved water source 3. Proportion of households with access to improved sanitation 4. Mean walking time to the nearest health care centre (in min) 5. Deliveries attended by trained personnel (%) 	<ol style="list-style-type: none"> 1. 24.33 (2010) 2. 94.8(2012) 3. 73 (2012) 4. 88 (2010) 5. 24 (2011) 	<ol style="list-style-type: none"> 1. > 27 2. 100 3. 100 4. < 60 5. >50 	<ol style="list-style-type: none"> 1. Development of health facilities (BHU and sub-posts) 2. Targeted capacity and awareness programmes

	<p>Improved quality of urban life</p>	<p>1. Household water supply (%) 2. Households connected to sewerage network (%) 3. Waste collection done by municipality per week (no)</p>	<p>1. na (2012) 2. na (2012) 3. na (2012)</p>	<p>1. 100 2. > 95 3. 1</p>	<p>1. Development of urban infrastructure/facilities 2. Capacity development (training and awareness campaign, water and waste management)</p>
<p>Preservation and Promotion of Culture</p>	<p>Traditional and cultural heritage of the Dzongkhag preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population who give unpaid volunteer help 5. Number of trees planted within religious and cultural premises</p>	<p>1. 88 (2010) 2. 42 (2010) 3. 83 (2010) 4. 54 (2010) 5. na (2012)</p>	<p>1. >120 2. > 70 3. > 90 4. > 65 5. >100/institution</p>	<p>1. Infrastructure development (Renovation of lhakhangs & dratshangs, construction of drasha and lhakhang) 2. Enhancement of knowledge on culture and tradition (training and awareness programmes, inventory on ancient historical monuments)</p>
<p>Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<p>1. Mean happiness of the people (scale 0-10) 2. People perception on the performance of LG (%) 3. Percentage of annual capital grant utilized 4. Implementation of national anti-corruption strategy 5. Turn Around Time (TAT) 6. Implementation of Govt. Performance Management System (GPMS)</p>	<p>1.6.08 (2010) 2. 87 (2011) 3.60 (2011) 4. no (2012) 5. na (2012) 6. no (2012)</p>	<p>1. > 7 2. >95 3. > 95 4. Yes 5. Reduce by 70% 6. Yes</p>	<p>1. Development of Infrastructure/facilities 2. Capacity development (trainings and awareness programmes)</p>

6.2.17 Trongsa *Dzongkhag*

Historically, Trongsa is one of the most important *Dzongkhags*. It is the seat of the Trongsa Penlop and, the formal investiture of the Crown Prince of Bhutan as the Trongsa Penlop is observed in this Trongsa *Dzong*.

Trongsa *Dzongkhag* is located in the heart of the country with elevation ranging from 800 meters to 4,800 meters above sea level. It shares its boundaries with Bumthang *Dzongkhag* to the northeast, Wangdue Phodrang to the west and Zhemgang to the south. The *Dzongkhag* is home to the famous Jigme Singye Wangchuck National Park which covers an area of 1723 sq.km and is home to many globally endangered flora and fauna, including the Golden Langur. The *Dzongkhag* has five *Gewogs* namely Drakteng, Korphu, Nubi, Langthel and Tangsibji.

6.2.17.1 Current Situation

Table 6.18.1 – Key Indicators

Population (BLSS 2012)	13,361	Mean annual household income Nu. (BLSS 2012)	167,709 (164,829)
Number of <i>Dungkhags</i>	0	Poverty incidence % (PAR 2012)	14.9 (12)
Number of <i>Gewogs</i>	5	Multidimensional Poverty (BMIS 2010) %	32.7 (25.8)
Number of Households (BLSS 2012)	2,810 (127,942)	GNH Index (GNH 2010)	0.684 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1822	Unemployment (LFS 2012) %	3.2 (2.1)
Forest cover % (RNR Statistics 2012)	87.16	General literacy (BLSS 2012)	65.7 % (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	7.1 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	94.5 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	12.3 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	25 (26)
(Figures in the bracket represent National average/total.)			

While the mean annual household income is slightly above the national average of Nu. 164,829, poverty incidence remained high at 14.9 percent in 2012. Trongsa *Dzongkhag* also has high rate of unemployment of 3.2 percent.

The 2010 GNH Index reports Trongsa to be in low happiness category with a value

of 0.684.

Agriculture is the main occupation and main source of income for the majority of the population. Farmers grow almost all kinds of crops, and in some areas, potatoes are the main source of cash income.

The 720 MW Mangdechhu Hydroelectric project is located on the left bank of Mangdechhu. The project construction started in 2010 and is scheduled to be completed by 2017-18.

6.2.17.2 Key Opportunities/Challenges

Trongsa has suitable climatic conditions which is conducive for enhancing agricultural and horticultural products, besides livestock products such as poultry, piggery and dairy backyard farming.

With the presence of numerous cultural and religious heritage structures and sites, and its location on the national highway, the number of tourists visiting Trongsa is increasing every year. Presently, there exists an eco-tourism trail which connects the sacred places like Nabji Lhakang, Kubra, Ugen Drak and Phumzur Lhakhang. A Royal Heritage Trail from Bumthang to Trongsa has been opened, further boosting the tourism growth in both the *Dzongkhags*.

The *Dzongkhag* however faces acute shortage of hospitality and other tourists facilities and services which are very important especially during the peak tourist seasons. Currently, there are only three resorts/guesthouses/hotels which meet the service standards for international tourists.

The *Dzongkhag* is also confronted with the problem of small and fragmented land holdings. Many farmers do not own land and depend on sharecropping. Hence any efforts towards cash crop and commercial farming are confronted with the problems associated with the pattern of land holdings. Other challenges faced by the farmers include farm labour shortage, human wildlife conflict, shortage of water, and lack of storage and marketing facilities.

6.2.17.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) enhancing agriculture and livestock productivity, ii) tourism development, ii) facilitating establishment of cottage, small and medium enterprises, and iii)

targeted poverty intervention programme.

Agriculture and Livestock productivity - The challenges of small and fragmented land holdings will be addressed by providing high yielding seeds, establishment of farmer groups/ cooperatives, and training on new and efficient cropping technologies. Issues of irrigation facilities, human wildlife conflicts, marketing and storage will be addressed. Efforts shall also be made to improve livestock productivity through introduction of improved breed of livestock AI programmes and supply of pure jersey cows. Besides, programmes to increase productivity will include improved pasture management and feed and fodder development plans.

Promoting Tourism - In close collaboration with the Tourism Council of Bhutan, local communities and businesses the *Dzongkhag* will facilitate development of tourism infrastructure such as hotels, community lodges, farm houses, etc, and new products unique to the *Dzongkhag* based on local handicrafts products, culture, history and eco-tourism trails.

Facilitating Establishment of Cottage, Small and Medium Enterprises - The commissioning of Mangdechhu Hydroelectric Power project in 2017-18 provides an excellent opportunity for development of cottage, small, and medium enterprises and industries. The *Dzongkhag* in collaboration with the central ministries will support and help in identifying potential enterprises and industries. In addition to investments in urban development, market sheds, processing plants, cold storages, produce collection centres shall be built in appropriate places at *Gewog* and *Dzongkhag* to support the growth of micro, small and farm enterprises.

Under the **targeted poverty reduction interventions**, five villages namely Phumzur, Pangzur, Thangyel, Bayzam and Wangling will receive support through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at households levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

6.2.17.4 Dzongkhag Key Result Areas					
GNH Pillar	KRA	KPI	Baseline(year)	Target	KI
Sustainable and equitable socio Economic development		1. Mean annual household income [Nu] 2. Poverty Incidence 3. Cash crop production i. Oil seeds production (MT) ii. Vegetable Production(MT) iii. Other fruits and Nuts Production (MT) iv. Potato production (MT) v. Citrus production (MT) vi. Medicinal and Aromatic Plant Production (MT)	1.167,709 (2012) 2.14.9% (2012) 3.i.62 (2011) ii.827 (2011) iii.168 (2011) iv.1,954 (2011) v.179 (2011) vi.n.a (2011)	1.>190,000 2.<12% 3.i.94 ii.>1144 iii.>214 iv.>2345 v.>190 vi.20	1.Development of RNR infrastructure/facilities 2.Targeted Extension and support services 3.Improve Marketing facilities
	Enhanced rural household income and food sufficiency	4. Cereal crop production i. Paddy production (MT) ii. Maize production (MT) 5. Average land left uncultivated due to wild life threats (in acres) 6. Proportion of people who “NEVER” feel “food insecurity 7. Livestock production i. Milk production(MT) ii.Egg production(MT) iii.Pork production(MT) iv. Fish production(MT)	4.i.1807 (2011) ii.2153 (2011) 5.23% (2010) 6.95.7% (2010) 7.i.1044 (2011) ii.2.75 (2011) iii.0.15 (2011) iv.na (2011)	4.i.>2400 ii.>2500 5.<15% 6.> 98% 7.i>1242 ii.>2.9 iii.>38.5 iv.>1	

Sustainable and equitable socio Economic development	Improved health status of the communities	<ol style="list-style-type: none"> 1. Mean walking time to the nearest health centre (in minutes) 2. Proportion of hhs with safe drinking water 3. Proportion of hhs with proper sanitation facilities 4.Track IM, MM, U5M 	<p>98 (2010) 95 (2010) 60 (2010)</p>	<p><60 100 95</p>	<ol style="list-style-type: none"> 1. Capacity development (training and awareness programs) 2. Health infrastructure development 3. Improve quality and efficiency of health care services
	Improved quality of urban life	<ol style="list-style-type: none"> 1. Proportion of hhs connected with proper footpath and road 2. Proportion of hhs having access to safe water supply 3. Proportion of hhs connected to proper sewerage system 4.No. of landfill sites 5.Frequency of waste collection done by municipality per week 	<p>60 (2012) 95 (2012) [90 (2012) 1 (2012) 2 (2012)</p>	<p>90 100 95 > 3 > 3</p>	<ol style="list-style-type: none"> 1.Development of urban infrastructure/facilities 2.Capacity development (training and awareness campaign, waste management)
Preservation and Conservation of Environment	Enhanced sustainable management and utilization of natural resources for income generation	<ol style="list-style-type: none"> 1.Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Area under CFMG (acre) NWFP (Products) No. of functional Community Forestry Groups 	<p>79.18 (2010) 1929 (2010) 3(2011) 30 (2011)</p>	<p>>90 >2300 >5 >40</p>	<ol style="list-style-type: none"> 1.Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFP

<p>Preservation and Promotion of tradition and culture</p>	<p>Traditional and cultural heritage of the Dzongkhag preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population who give unpaid volunteer help</p>	<p>102 (2010) 44 (2010) 66 (2010) 47(2010)</p>	<p>> 130 > 70 > 80 >65</p>	<p>1. Infrastructure development 2.Enhancement of knowledge on culture and tradition</p>
<p>Good Governance</p>	<p>Institution and local capacity enhanced to ensure Good Governance</p>	<p>1.Mean happiness of the people (scale 0-10) 2.Percentage of annual capital grant utilized 3.No of functional disaster response team 4.No of people availing services from CCs</p>	<p>6.01 (2010) 90 (2012) n.a (2012) n.a (2012)</p>	<p>>7 > 95 15 Track</p>	<p>1.Capacity development (trainings and awareness programmes) 2.Development of Infrastructure/facilities</p>

6.2.18 Thimphu *Dzongkhag*

Thimphu *Dzongkhag* is located in the western part of the country. It is bordered by the *Dzongkhags* of Gasa, Punakha and Wangduephodrang to the east, Chukha and Dagana to the south, Paro to the west. In the north, it borders the Tibet Autonomous Region of China. It is situated at an elevation ranging from 1,300 to 7,300 meters above sea level. Thimphu *Dzongkhag* has eight *Gewogs* namely Chang, Dagala, Geyni, Kawang, Lingzhi, Maedwang, Naro and Soe. It is also supported by one *Drungkhag* of Lingzhi and Thimphu *Thromde*.

6.2.18.1 Current Situation

Table 6.19.1 – Key Indicators

Population (BLSS 2012)	89,376	Mean annual household income Nu. (BLSS 2012)	305,775 (164,829)
Number of <i>Dunkhags</i>	1	Poverty incidence % (PAR 2012)	0.5 (12)
Number of <i>Gewogs</i>	8	Multidimensional Poverty (BMIS 2010) %	3.4 (25.8)
Number of Households (BLSS 2012)	20,551 (127,942)	GNH Index (GNH 2010)	0.773 (0.743)
Area (sq.kms) (RNR Statistics 2012)	1,749	Unemployment (LFS 2012) %	4.3 (2.1)
Forest cover (%) (RNR Statistics 2012)	42.86	General literacy (BLSS 2012)	80% (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	4.8 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	94.8 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	22.4 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	28 (26)
(Figures in the bracket represent National average/total.)			

Poverty incidence in Thimphu *Dzongkhag* was reduced from 2.4 percent in 2007 to 0.5 percent in 2012. The mean annual household income is almost double the national average in 2012 and the health and education indicators report significantly better outcomes compared to the rest of the country. However, unemployment rate was twice the national average. The high rate of unemployment is attributed to high levels of immigration to Thimphu, mostly youth.

The 2010 GNH Index reports Thimphu to be in high happiness category with a value of 0.773.

The majority of Thimphu resident are engaged in trade and commerce, construction and service sectors.

In remote *Gewogs* such as Soe, Naro, Lingzhi, Geneykha and Dagala, the majority of people are engaged in agriculture and livestock farming. The main agricultural products are paddy, wheat, mustard and beans which are grown for commercial purposes. Vegetables such as chillies, potatoes, radish and turnip are also grown in all the *Gewogs*. Fruits like plums, walnuts, apricots, apples, pears and peaches are grown for commercial purpose. Apple is grown on a large scale for export to the neighboring countries of India and Bangladesh. Chilly is a vegetable grown on a commercial basis. Livestock rearing is another important occupation for the rural people with most farmers establishing back yard dairy and poultry farms.

6.2.18.2 Key Opportunities/Challenges

Thimphu being the capital city, is well endowed with socio-economic infrastructure facilitates and better economic opportunities. This has lead to high rate of inward migration with number of people from other *Dzongkhags* moving to Thimphu in search of jobs and better health and education services. The rapid rate of inward migration is not only putting extra pressure on existing infrastructure facilities but also creating new challenges for the *Dzongkhag* such as the followings:

- What used to be green agricultural fields just a few years ago has now been converted into commercial, institutional and housing apartments, roads, bridges etc. This has lead to lower agricultural productivity in the *Dzongkhag*. The *Dzongkhag* reports the lowest levels of forest coverage at 42.86 percent (RNR Statistic 2012).
- Issues of urban waste management, housing and water shortages, pollution, congestion etc are on the rise.
- Rapid urbanization has also led to emerging social issues such as youth engaging in anti-social activities partly due to high levels of youth unemployment, rising crime, growing urban poverty, gradual loss of the close knit community ties, etc.
- The neighbouring areas like Khasadrapchu, Kawang and Depsi are growing rapidly. Therefore, there is an urgent need to ensure local area plans for these areas are finalized to avoid unplanned growth of these areas.

The *Dzongkhag* has opportunities for enhancing agricultural production as paddy, wheat, mustard, beans and vegetables such as chillies, potatoes, radish and turnip are grown in all the *Gewogs*. However, issues of human wildlife conflict, storage and marketing, water etc need to be addressed to optimize opportunities.

The interior *Gewogs* of Soe, Naro, Dagala and Lingzhi have potential in enhancing their income from sustainable harvesting of non-wood forest based products such as cordyceps and medicinal plants, besides livestock. Similarly, Geney *Gewog* has potential for sustainable harvesting of masutake and other mushrooms.

6.2.18.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) agriculture and livestock development and improving health and education outcomes, and ii) targeted poverty intervention programme.

Development of agriculture and livestock outcomes will be through enhancing production by addressing issues of water shortages, human wildlife conflict, storage and marketing facilities, besides providing proactive extension support services.

Further **improvement of health and education services** will be undertaken by constructing a new 40 bedded District hospital in Thimphu and educational infrastructure will be rationalized to improve delivery of education services.

Other major infrastructure investment planned in the *Dzongkhag* during the Eleventh Plan are the construction of Public Health Laboratory, construction of National Rehabilitation Resource Centre, permanent craft bazaar, renovation of Phajoding Goenpa and restoration of Lingzhi *Dzong*.

Under the **targeted poverty reduction interventions**, four villages namely Dangochang, Chebesa, Barchong and Tshochekha will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

6.2.18.4 Dzongkhag Key Results Area					
GNH Pillar	KRA	KPI	Baseline (year)	Target	KI
Sustainable and Equitable Socio-Economic Development	Improved health status of the community	<ol style="list-style-type: none"> 1. Incidence of infant mortality 2. Incidence of U5 mortality 3. Incidence of maternal mortality 4. Proportion of hhs with safe water supply 5. Proportion of HHs with improved sanitation facilities 	<ol style="list-style-type: none"> 1. 0(2011) 2. n/a 3. n/a 4. 100% (2011) 5. 91% (2011) 	<ol style="list-style-type: none"> 1. Track 2. Track 3. Track 4. 100% 5. 100% 	<ol style="list-style-type: none"> 1. Development of health facilities (extension of Gidagom Hospital, Maintenance of BHU) 2. Targeted capacity and awareness programmes
	Enhance rural income and food sufficiency	<ol style="list-style-type: none"> 1. Increased vegetable production <ol style="list-style-type: none"> a Chilli Production (In MT/yr) b Cabbage Production (In MT/yr) c Cauliflower production(In MT/yr) 2. Cereal crop production increase <ol style="list-style-type: none"> a Paddy Production (In MT/yr) b Wheat Production (In MT/yr) c Barley Production (In MT/yr) 3. Cash crop production increased <ol style="list-style-type: none"> a Apple Production (MT/yr) b Potato Production (MT/yr) 4. Livestock production increased <ol style="list-style-type: none"> a. Milk production (MT/yr) b. Formation of Dairy farmers group(no) 5. Proportion of farm roads that are all-weather motorable and EFRC compliant (km/no) 6. No of functional Road user groups 7. Mean annual household income (in Nu.) 8. Poverty incidence 9. Proportion of farm roads that are all-weather motorable and EFRC compliant (km/no) 10. No of functional Road user groups 	<ol style="list-style-type: none"> 1.a. 197(2010) b. 31(2010) c. 20 (2010) 2. a. 1499(2010) b. 121(2010) c. 5(2010) 3. a. 219(2010) b. 3481(2010) 4. a. 1079(2010) b. 12 (2010) 5. n/a 6. n/a 7. 199606 (2010) 8. 0.5 (2012) 9. n/a 10. n/a 	<ol style="list-style-type: none"> 1.a. 216.7 b. 37 c. 24 2. a. 1757 b. 157 c. 6 3. a. 240.9 b. 3829.1 4. a. 1284 b. 15 5. Track 6. Track 7. >200000 8. < 0.5 9. track 10. track 	<ol style="list-style-type: none"> 1. Development of RNR infrastructure/facilities (RNR Centers, Farm mechanization, Storage facilities, commercial farms) 2. Targeted Extension and support services (supply of HVV seeds and seedling, breed improvement, feed and fodder, group formation, Capacity development) 3. Improve Marketing facilities (farm roads, marketing sheds, value addition and packaging, information and data management)

	<p>Improved quality of urban life</p>	<p>1. Develop Urban amenities to extended <i>Thromde</i> area. a. Hhs connected to sewerage network (%) b. Waste collection done by municipality per week (no) c. Proportion of Hhs with water meter connection (%) d. Proportion of streetlight coverage(%)</p>	<p>1.a. n/a b.n/a c.n/a d. n/a</p>	<p>1. a. Track b. Track c. Track</p>	<p>1. Development of urban infrastructure/facilities (Debsi LAP) 2. Capacity development (training and awareness campaign, water and waste management)</p>
<p>Preservation and promotion of culture and traditions</p>	<p>Preservation and Promotion of tangible and intangible Culture and Tradition</p>	<p>1. Proportion of population that ‘always’ take part in local festivals in the community 2. Proportion of population that have ‘very strong’ sense of belonging to the community [49(2010), > 70] 3. Proportion of population who give unpaid volunteer help [33 (2010), >53] 4. Proportion of population that have ‘very good’ knowledge & understanding i.of ‘local festivals’ [8.8 (2010), > 50] ii.of ‘masked & other dances’ [5.5 (2010), > 50] ii.of ‘traditional Bhutanese songs’ [5 (2010), > 50]</p>	<p>1. 19.9(2010) 2. 49 (2010) 3. 33 (2010) 4. i.8.8 (2010) ii. 5.5(2010) iii. 5 (2010)</p>	<p>1. >55 2.>75 3. >53 4. i.>50 ii. >50 iii. >50</p>	<p>1. Support construction of eco-efficient, disaster resilient, differently-abled friendly historical/ cultural/ religious infrastructures & property 2.Facilitation and promotion of annual cultural / traditional programme in the <i>Gewog</i> 3. Research, Documentation & training (Audio visual and written) different ethnic groups and culture 4. Construction of Buddhist lakhang & Hindu Mandir</p>

<p>Conservation and sustainable management and utilization of natural resources</p>	<p>Sustainable management and utilization of natural resources enhanced</p>	<p>1. Percentage of Dzongkhag forest cover 2. Proportion of population that feel 'highly responsible' for conservation of the natural environment 3. Area under CFMG (acre) 4. Area under protected water catchment area (acre) 5. Area under afforestation/ plantation (acre) 6. Survival rate for afforestation/ plantation</p>	<p>1. 66.24% (2010) 2. 84 (2010) 3. 2106.59(2011) 4. n/a 5. n/a 6. n/a</p>	<p>1. >=70 2. >95 3. >2200 4. track 5. track 6. track</p>	<p>1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFP (Cordyceps, Sustainable harvest of herbs, incense plants and mushitake mushroom) 3. Promotion of eco-tourism</p>
<p>Promotion of Good Governance</p>	<p>Enhanced transparency, effectiveness and efficiency in public service delivery</p>	<p>1. Percentage of annual capital grant utilized 2. No of functional disaster response team 3. No of people availing services from CCs</p>	<p>1. 34.19(2011) 2. n/a 3. n/a</p>	<p>1. > 95 2. track 3. track</p>	<p>1. Development of disaster resilient, env. friendly and differently-abled people friendly civil infrastructure 2. Capacity development (trainings and awareness programmes)</p>

6.2.19 Wangduephodrang *Dzongkhag*

Wangduephodrang *Dzongkhag* is the second largest *Dzongkhag*. It is situated at an elevation ranging from 800 to 5800 meters above sea level and about 70.28 percent of its total land area is under forest cover. It is bordered by the *Dzongkhags* of Trongsa in the East, Dagana and Tsirang in the South, and Thimphu and Punakha in the West.

Administratively it is made up of fifteen *Gewogs* namely Athang, Bjena, Daga, Dangchhu, Gangtey, Gasetshogom, Gasetshowom, Kazhi, Nahi, Nyisho, Phangyul, Phobjikha, Ruepaia, Sephu and Thedtsho. Phobjikha *Gewog* is famous as the winter roosting place of the black necked cranes. The Jigme Dorji Wangchuck National Park (JDWNP) extends into the northern part of the *Dzongkhag* covering four *Gewogs*.

6.2.19.1 Current Situation

Table 6.20.1 – Key Indicators

Population (BLSS 2012)	33,967	Mean annual household income Nu. (BLSS 2012)	137,076 (164,829)
Number of <i>Dungkhags</i>	0	Poverty incidence % (PAR 2012)	10.9 (12)
Number of <i>Gewogs</i>	15	Multidimensional Poverty (BMIS 2010) %	28.9 (25.8)
Number of Households (BLSS 2012)	6966 (127,942)	GNH Index (GNH 2010)	0.737 (0.743)
Area (sq.kms) (RNR 2012)	3,920	Unemployment (LFS 2012) %	1.6 (2.1)
Forest cover (%) (RNR 2012)	65.29	General literacy (BLSS 2012)	51.3 % (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	7.3 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	85.9 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	16.7 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	26 (26)
(Figures in the bracket represent National average/total.)			

Although the mean annual household income and the general literacy rate in the *Dzongkhag* is lower than the national average, poverty and unemployment rates are above the average. The 2010 GNH Index reports Wangduephodrang to be in medium happiness category with a value of 0.737.

Rice farming or *Chuzhing* (irrigated paddy field) is the predominant agricultural

activity in the *Gewogs* of lower altitude, followed by Kamzhing (dry land), and mixed farming and a few patches of Tseri (slash and burn) cultivation are also practiced. For the *Gewogs* in the higher altitudes, livestock farming is the predominant occupation.

Paddy fields are mostly along the Dangchhu and Punatsangchhu, with double cropping of rice as an important agricultural feature. Potato is an important cash crop for the *Gewogs* of Phobji, Gangtey and Sephu and there is increasing citrus production in the *Gewogs* of Daga, Bjena, Phangyul and Rubeisa and ginger production in Daga and Athang *Gewogs* as a source of income generation. The lower valley towards the southern belt is best suited for sub-tropical horticulture crops such as oranges, mangoes, pineapples, guavas etc.

The one key priority for the government and the *Dzongkhag* in the Eleventh Plan will be to reconstruct the historic 374 years old Wangduephodrang *Dzong*, founded by Zhabdrung Ngawang Namgyal in 1638 and which was destroyed by fire on 24th June 2012.

6.2.19.2 Key Opportunities/Challenges

Its location as well as the existence of many historical monuments and heritage structures such as Lhakhangs, Goenpas and other religious sites, the popular annual black neck crane festival, and other local events provide great opportunities for tourism development. Its scenic valley and pleasant climate in the spring, autumn and winter are added attractions.

With rich agricultural land and favorable climatic conditions, most *Gewogs* have potential for increased and diversified agriculture production. It has good internal road network with all of its *Gewogs* connected by farm and feeder roads which provide relatively easy accessibility to the markets.

The construction of the 1200 MW Punatsangchhu-I Hydroelectricity Project & 1020 MW Punatsangchhu-II Hydroelectricity Project has contributed not only to employment generation but also served as market for livestock and agricultural produce for the farmers of the *Dzongkhag* and well as for the service industry of hotels, restaurants, mechanical workshops and recreation, etc. The commissioning of these projects in 2017-18 will enhance electricity supply reliability in the *Dzongkhag* providing additional opportunities for establishment of small and medium industries.

While agricultural opportunities exists, the *Dzongkhag* is also confronted with the challenge of human wild life conflict, loss of agricultural land to urbanization, and small and fragmented land holdings. Addressing these challenges in the Eleventh

Plan will be critical.

Moreover, despite the developments that have taken place, some pockets of poverty exist in the *Dzongkhag* such as Athang *Gewog*. Under REAP I support was provided to Lopokha village under Athang *Gewog* in the Tenth Plan.

6.2.19.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) enhancing agricultural and livestock productivity, ii) development of tourism and small and medium industries, and iii) targeted poverty intervention programme.

Enhancing agriculture and livestock productivity - Given the *Dzongkhag's* high potential for increased and diversified agricultural production, agriculture will be promoted by addressing issues of human wildlife conflict, farm labour shortages, water shortages, and storage and marketing facilities. Production of cash crop will also be increased through training of farmers, encouraging the establishment of rural agro-based enterprises and cooperatives, and promoting better farming techniques and practices. Livestock productivity will be further expanded by introduction of improved and increased access to programmes on breeding, feed and fodder, and animal health. Sustainable utilization of pasture resources will be encouraged and supported. Trainings and education activities will be implemented for farmers, and farmers' groups will be initiated, encouraged and supported in all aspects of livestock production, processing and marketing.

Promoting Tourism - The *Dzongkhag* with its scenic valleys, varied flora and fauna with winter roosting place for endangered black-necked cranes has potential for increased product diversification in the tourism industry. Various trekking routes will be promoted as well as support initiated for reviving local festivals in the villages. Eco-tourism related activities in the *Gewogs* which fall within the JDWNP will be explored. In addition to cultural tourism, adventure tourism such as bicycling, kayaking and rafting will also be explored to diversify tourism activities in the *Dzongkhag*.

Under the **targeted poverty reduction interventions**, six villages namely Beldro, Sili, Lamga, Thaphu, Lawa and Dahi will be supported under REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

6.2.19.4 Dzongkhag Key Result Area					
GNH Pillar	KRA	KPI	Baseline (year)	Target	KI
Sustainable and equitable socio Economic development	Enhanced rural household income and food sufficiency	1. Mean annual household income [Nu] 2. Poverty incidence 3. Cash crop production i. Potato production (MT) ii. Chili production (In MT/yr) iii. Beans production (in MT/yr) 4. Cereal crop production i. Paddy Production (MT) ii. Wheat Production (MT) 5. Average land left uncultivated due to wild life threats (in acres) 6. Proportion of people who “NEVER” feel “food insecurity 7. Livestock production i. Milk production (MT) ii. Egg production (million no.) iii. Pork Production (MT) iv. Chicken Production (MT) v. Fish production (MT)	1.137,076 (2012) 2.10.9% (2012) 3.i.9285 (2011) ii.552 (2011) iii.307 (2011) 4.i.7645 (2011) ii.5.717 (2011) 5.30.24% (2010) 6.98.4% (2010) 7.i.> 500 ii.>1 iii.>10 iv.>5 v.> 3.5	1.>150,000 2.<=5% 3.i.> 11420 ii.>965 iii.>475 4.i.> 8619 ii.>869 5.<20 6.> 99% 7.i.> 500 ii.>1 iii.>10 iv.>5 v.> 3.5	1.Development of RNR infrastructure/facilities 2.Targeted Extension and support services 3.Improve Marketing facilities
	Improved health status of the communities	1. Mean walking time to the nearest health centre (in minutes) 2. Proportion of hhs with safe drinking water 3. Proportion of hhs with proper sanitation facilities 4.Track IM, MM, U5M	129.7 (2010) 90 (2010) 74 (2010)	<60 100 90	1. Capacity development (training and awareness programs) 2. Health infrastructure development 3. Improve quality and efficiency of health care services

	Improved quality of urban life	<ol style="list-style-type: none"> 1. Proportion of hhs having access to safe water supply 2. Proportion of hhs connected to proper sewerage system 3. Proportion of hhs connected with proper footpath and road 4. Frequency of waste collection done by municipality per week 	<p>90 (2010) na (2012) na (2012) 2 (2012)</p>	<p>100 >90 >90 > 3</p>	<ol style="list-style-type: none"> 1. Development of urban infrastructure/facilities 2. Capacity development (training and awareness campaign, waste management)
Preservation and Conservation of Environment	Enhanced sustainable management and utilization of natural resources for income generation	<ol style="list-style-type: none"> 1. Proportion of population that feel 'highly responsible' for conservation of the natural environment 2. Area under CFMG (acre) 3. NWFP (Products) 4. No. of functional Community Forestry Groups 	<p>84 (2011) 1000 (2011) 2(2011) 32 (2011)</p>	<p>>95 >2000 ,>5 >40</p>	<ol style="list-style-type: none"> 1. Reforestation/water source protection and CF management Initiatives 2. Promotion of NWFP 3. Promotion of eco-tourism
Preservation and Promotion of tradition and culture	Traditional and cultural heritage of the Dzongkhag preserved and promoted	<ol style="list-style-type: none"> 1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very good' knowledge & understanding of 'local festivals' ii.of 'masked & other dances' iii.of 'traditional Bhutanese songs' 	<p>85 (2010) 46 (2010) 13.6 (2010) 6.7 (2010) 6.8 (2010)</p>	<p>> 120 > 70 > 50 > 30 > 30</p>	<ol style="list-style-type: none"> 1. Infrastructure development 2. Enhancement of knowledge on culture and tradition
Good Governance	Institution and local capacity enhanced to ensure Good Governance	<ol style="list-style-type: none"> 1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people availing services from CCs 	<p>6.3 (2010) 80.2 (2012) n.a (2012) n.a (2012)</p>	<p>>7 > 95 5 Track</p>	<ol style="list-style-type: none"> 1. Capacity development (trainings and awareness programmes) 2. Development of Infrastructure/facilities

6.2.20 Zhemgang Dzongkhag

Zhemgang *Dzongkhag* lies in the south-central region of the country and is bordered by the districts of Bumthang, Trongsa, Monggar, Sarpang and Trashigang to the North, West and East and the Indian State of Assam in the South. The *Dzongkhag* is a part of the wildlife corridor constituting the famous Royal Manas National Park, the Jigme Singye Wangchuck National Park, and Thrumshingla National Park.

The *Dzongkhag* is supported by a *Dungkhag* in Panbang and eight *Gewogs* namely Bardo, Bjoka, Goshing, Nangkor, Ngangla, Phangkhar, Shingkhar and Trong. Zhemgang is considered as one of the most inaccessible *Dzongkhags* in the country. The *Dzongkhag* is divided into three agro-ecological zones-upper Kheng covering Bardo and Shingkhar with high altitude areas, middle Kheng covering Nangkhor and Trong with middle altitude areas and lower Kheng covering Phangkhar, Goshing, Nangla and Bjoka with mid-low altitude areas.

6.2.20.1 Current Situation

Table 6.21.1 – Key Indicators

Population (BLSS 2012)	19,053	Mean annual household income Nu. (BLSS 2012)	92,618 (164,829)
Number of <i>Dungkhags</i>	1	Poverty incidence % (PAR 2012)	26.3 (12)
Number of <i>Gewogs</i>	8	Multidimensional Poverty (BMIS 2010) %	38.6 (25.8)
Number of Households (BLSS 2012)	3,485 (127,942)	GNH Index (GNH 2010)	0.753 (0.743)
Area (sq.kms) (RNR 2012)	2,416	Unemployment (LFS 2012) %	2.6 (2.1)
Forest cover (%) (RNR 2012)	87.71	General literacy (BLSS 2012)	62.4 % (63)
Crude Death Rate (number of deaths in a year per 1,000 population) (BLSS 2012)	7.6 (8.5)	Adjusted Net Primary Attendance Rate (AES 2012) %	90.1 (91.9)
Crude Birth Rate ((number of live births in a year per 1,000 population) (BLSS 2012)	26.9 (18.5)	Mean healthy days in a month (GNH Index 2010) 0 day worst and 30 days best	27 (26)
(Figures in the bracket represent National average/total.)			

The *Dzongkhag* remains one of the most inaccessible and remote regions in the country. It has one of the highest levels of poverty incidence in the country and remains among the most vulnerable districts in terms of food security due to geo-

physical constraints, poor physical infrastructure and weak road access. However, the district enjoys reasonably moderate levels of human development linked to the acceptable levels of education and health facilities. The 2010 GNH Index reports Zhemgang to be in medium happiness category with a value of 0.753.

Agriculture, horticulture, livestock, weaving and handicrafts, particularly bamboo products, are the main source of livelihood. Paddy, maize, mandarin and vegetables are some of the major crops grown in the *Dzongkhag*.

Works related to the construction of 56 kms Panbang-Nganglam highway, 44 kms Gomphu – Panbang highway, 18 kms Manmung – Digala highway and improvement of the Tingtibi- Praling highway are ongoing. Upon completion of these roads in the Eleventh Plan, accessibility and remoteness will be addressed to a large extent.

6.2.20.2 Key Opportunities/Challenges

The planned development of 770 MW Chamkharchhu Hydroelectric project during the Eleventh Plan have potential to create new economic opportunities in terms of market for farmers to supply their agricultural and livestock products, local business, employment opportunities etc which will contribute towards improving the livelihood of the people. It gives the *Dzongkhag* Administration, the project authorities and the concerned central agencies an opportunity to collaborate and facilitate in harnessing new business and income generation opportunities from the mega projects. The enhanced electricity supply reliability will be used to develop small and medium industries in the *Dzongkhag*, particularly agro based and cane and bamboo products.

Zhemgang also has the potential to become Bhutan's centre for bird watching and to offer special bird watching treks, e.g. Yebilapcha – Tshangla *Dzong* – Subrang – Zhurphe - Gongphu road head; 5 days with Rufous necked hornbill, Blythe kingfisher, Green cochooa, Purple cochooa, Chestnut breasted partridge and many other common species found along the route. Other great treks could lead from Zhemgang to Manas (8 days), or from Gonphu via Bjoku back to Gonphu (16 days); both with high bird watching potential as well as potential for a lot of other animals and beautiful waterfalls. There is also good potential for handicraft tourism as people of Kheng Zurphel are skilled artisans who make earthen wares for cooking food and distilling alcohol. Besides, Zhemgang also has high potential for adventure sports such as rafting, fly fishing, trekking, etc. Further, with the completion of the construction of some of the ongoing roads, accessibility will no longer be an issue.

Zhemgang is also well known for production of bamboo and cane handicraft products (approximately 30 items) and many of the rural communities depend on the craft for their livelihood. Therefore, in an effort to facilitate integrated and organized production of bamboo and cane products, the Agency for Promotion of Indigenous Craft (APIC) in collaboration with relevant stakeholders will pilot a cane and bamboo cluster in remote Kheng, Bjokha. This will provide opportunity for upscaling production for possible exports in the future.

With the completion of new roads and highways, access to the *Dzongkhag* will be improved thereby creating potential for enhancing agriculture, horticulture and livestock. However, issues such as water shortage/irrigation, human wildlife conflict, storage and marketing facilities are some of the challenges that must be addressed.

6.2.20.3 Strategies

In keeping with the Plan objective of “Self-reliance and Inclusive Green Socio-economic Development”, the key strategies the *Dzongkhag* will focus on, are i) targeted poverty intervention programme, ii) development of tourism and small and medium industries, and iii) enhancing agricultural and livestock productivity.

Under the **targeted poverty reduction interventions**, eight villages namely Dali, Ponchula, Namergang, Bangsikhar, Barpong, Zarkabla, Chapdhempaa and Khushibi will be supported through REAP Phase II. Income generating sustainable livelihood activities, capacity development and establishment of self-help groups/cooperatives will be some of the interventions at village level and additional support at household levels will be provided to the poorest households within the village. The funds for this programme will be directly provided from the centre.

Given the potential for tourism development in the *Dzongkhag*, the *Dzongkhag* Administration in collaboration with the Tourism Council of Bhutan and the communities will accelerate **development of new tourism** products unique to the *Dzongkhag* and facilitate establishment of appropriate tourism infrastructure and facilities. Eco and community based tourism, particularly in terms of community lodges, farm houses, camp sites etc, will be encouraged and developed to ensure that the benefits of tourism trickle down to the communities.

The *Dzongkhag* will work closely with Agency for Promotion of Indigenous Products (APIC) to develop bamboo and cane products on a sustainable basis in the *Dzongkhag* through training, new product development, quality assurance,

raw material availability and exploring markets. The *Dzongkhag* will also explore possibilities of establishing small and medium industries based on these products to enhance household income and generate employment.

Enhancing Agriculture and Livestock productivity – with the construction of 770 MW Chamkharchhu Hydroelectric project is scheduled to start during the Eleventh Plan for which, institutional arrangements will be made to facilitate supply of agricultural and livestock products to the project by the local farmers and communities. In collaboration with the Ministry of Agriculture and Forest, the *Dzongkhag* Administration will address issues of water shortage/irrigation, human wildlife conflict, storage and marketing facilities, to enhance agriculture and livestock production in the *Dzongkhag*.

6.2.20.4 Dzongkhag Key Result Areas					
GNH Pillars	Dzongkhag Key Result Areas	Key Performance Indicators	Baseline (year)	11 FYP Target	Key Interventions
Sustainable and Equitable Socio-Economic Development		<ol style="list-style-type: none"> 1. Mean annual household income 2. Cash crop production <ol style="list-style-type: none"> i. Mandarin (MT) ii. Cardamom (MT) iii. Areca nut (MT) iv. Ginger (MT) 3. Cereal crop production <ol style="list-style-type: none"> i. rice (MT) ii. maize (MT) iii. wheat (MT) 4. Average land left uncultivated due to wild life threats (in acres) 5. Proportion of people who “NEVER” feel “food insecurity” 6. Livestock production <ol style="list-style-type: none"> i. Milk (Tons) ii. Butter (Tons) iii. Pork (Tons) iv. Chicken (Tons) 	<ol style="list-style-type: none"> 1. 92168 (2012) 2. i. 3936.59 (2011) <ol style="list-style-type: none"> ii. 0.1 (2010) iii. 39.82(2011) iv. 56 (2011), 3. i. 3667 (2011) ii. 6620 (2011) iii. 407 (2011) 4. 49 (2010) 5. 97(2010) 6. i. 692 (2012) ii. 27.30 (2012) iii.49.40 (2012) iv. 1.15 (2012) 	<ol style="list-style-type: none"> 1. >93000 2.i.>11826 <ol style="list-style-type: none"> ii. >4 iii. >89 iv. >142 3 i. >4474 ii. >9069 iii. >501 4. <30 5. >97 6. i. >1180 ii. >45 iii. >80 iv. >2 	<ol style="list-style-type: none"> 1.Development of RNR infrastructure/facilities 2.Targeted Extension and support services 3.Improve Marketing facilities
		Enhanced rural household income and food sufficiency			

<p>Sustainable and Equitable Socio-Economic Development</p>	<p>Enhanced health care facilities and quality services</p>	<p>1. Sustained Immunization coverage 2. Incidence of MMR 3. Incidence of IMR 4. Incidence of U5MR 5. Mean healthy days by Gewog (scale 0-30 days) 6. Proportion of household "composting" household waste 7. Proportion of pop. with improved water source 8. Proportion of pop with proper sanitation facilities 9. Mean walking time to the nearest health care centre by Gewog (minutes)</p>	<p>1. 100 (2010) 2. 5 (2011) 3. 4 (2011) 4. 3 (2011) 5. 27.07 (2010) 6. 60 (2010) 7. 98.2(2012) 8. 79.8(2012) 9. 75 (2010)</p>	<p>1. 100 2. <2 3. <2 4. <2 5. >28 6. >70 7. >99 8. >90 9. <60</p>	<p>1. Capacity development (training and awareness programs) 2. Health infrastructure development 3. Improve quality and efficiency of health care services</p>
	<p>Improved urban living with provision of basic infrastructure and services</p>	<p>1. Proportion of urban hhs satisfied with urban services and facilities 2. No. of community pick-up bins provided 3. Frequency of waste collection done by municipality per week 4. No. of landfill sites 5. Water supply per day (hrs) 6. Sewerage network (m) 7. Proportion of farmers living more than 3 hrs walking distance from the nearest road point</p>	<p>1. 80 (2011) 2. na 3. na 4. na 5. na 6. na 7. 22 (2010)</p>	<p>1. > 95 2. >5 3. >1 4. >1 5. 10 6. >10 7. <10</p>	<p>i. Development of Dzongkhag and Yenlag Throm ii. Development of Gewog Centre Roads</p>

<p>Preservation and Conservation of Environment</p>	<p>Enhanced sustainable management and utilization of natural resources for income generation</p>	<p>1. Percentage of forest cover 2. Proportion of population that feel 'highly responsible' for conservation of the natural environment 3. No of eco-tourism initiatives 4. NWFPP production (MT) 5. Area under CFMG (acre) 6. Area under protected water catchment area (acre) 7. Area under afforestation/ plantation (acre)</p>	<p>1. 71 (2010) 2. 90.3 (2010) 3. na (2012) 4. na (2012) 5. 1205 (2011) 6. na (2012) 7. na (2012)</p>	<p>1. >=71 2. >95 3. >3 4. >0.5 5. >2000 6. >200 7. >200</p>	<p>i. Promotion of eco-tourism ii. Promotion of NWFPP production iii. Reforestation and CF/PF management initiatives</p>
<p>Preservation and Promotion of tradition and culture</p>	<p>Traditional and cultural heritage of the Dzongkhag preserved and promoted</p>	<p>1. Mean time spent on socio-cultural activities (mins/day) 2. Proportion of population that 'always' take part in local festivals in the community 3. Proportion of population that have 'very strong' sense of belonging to the community 4. Proportion of population that have 'very good' knowledge & understanding of i. 'local festivals' ii. 'masked & other dances' iii. 'traditional Bhutanese songs'</p>	<p>1. 112 (2010) 2. 69 (2010) 3. 76 (2010) 4. i. 24 (2010) ii. 34.5 (2010) iii. 18 (2010)</p>	<p>1. > 200 2. > 80 3. > 90 4. i > 50 ii. > 50 iii. > 50</p>	<p>i. Enhancement of knowledge on culture and tradition ii. Development Religious Infrastructure iii. Procurement and supplies</p>

<p>Good Governance</p>	<p>Institution and local capacity enhanced to ensure Good Governance</p>	<p>1. Mean happiness of the people (scale 0-10) 2. Percentage of annual capital grant utilized 3. No of functional disaster response team 4. No of people availing services from CCs</p>	<p>1. 5.91 (2010), 2. 90 3. na 4. n.a (2012)</p>	<p>1. >6.5 2. >95 3. 8 4. Track</p>	<p>i. Infrastructure Development ii. Procurement and supplies iii. Capacity development for LG functionaries iv. Awareness programs for public</p>
-------------------------------	---	---	---	--	---

6.3.1 Gelephu *Thromde*

Gelephu *Thromde* is located in the south central foothills of the country bordering the Indian state of Assam. It has six *demkhongs* with a population of 13,615 and an area of 11.52 sq km. Gelephu is a fast growing town with annual growth rate of 5.5 percent. It is the gateway to the Indian markets for the six central *Dzongkhags*. Gelephu is accessible both by road and air, though air connectivity at present is limited to charter flights only.

In line with the Local Government Act 2009, Gelephu *Thromde* is a self-governing municipality with an elected Mayor, *Thromde Thuemis* and a *Thromde Council* in place since January 2011

6.3.1.1 Current Situation

Population	13,615	Access to improved sanitation facility (BLSS 2012)	97.6 (95.5)
Area (sq.km)	11.52	Child survival rate (BLSS 2012)	97.6 (96.9)
Number of Demkhongs	6	Adult literacy rate (AES)	51.7 (55.3)
Access to improved water source (BLSS 2012)	97.6 (99.3)	ANER (Pry)-m/f (BLSS 2012)	94.7 (95.2)
ANER (basic)-m/f (BLSS 2012)	89.9 (88)		
(Figures in the bracket represent National average/total.)			

Gelephu has the third highest population among the four *Thromdes*. It is the main commercial hub for the six central *Dzongkhags*. The Central Regional Referral Hospital is located at Gelephu.

6.3.1.2 Key Opportunities/Challenges

The vast amount of flat land, accessibility by land and air, development of Jigmeling industrial estate, proposal to establish railway links and dry port in Gelephu provides opportunities to develop the town as one of the major industrial hubs of the country.

Gelephu is also rich in agricultural production of rice, mandarin, areca nuts, cardamom, tropical fruits and vegetable, some of which are exported to Bangladesh and India. Besides, mineral reserves such as high grade limestone, tungsten ore and dolomite are found in Gelephu. Other opportunities include proximity to the Manas

Wildlife National Park, fishing particularly mashee and the popular hot spring.

Gelephu therefore has lot of economic opportunities as a result of which the town is growing at a rapid rate. The increasing rate of population is putting tremendous lot of pressure on existing urban infrastructure facilities. The issues of shortage of drinking water supply, solid waste management, unplanned development of periphery areas and safety are major challenges. In addition, instances of flash floods during the monsoon occur frequently causing extensive damage to both public and private properties.

6.3.1.3 Strategies

In keeping with the Eleventh Plan objective of ‘Self-reliance and Inclusive Green Socio-Economic Development’, Gelephu *Thromde* will aim to develop an economically vibrant, ecologically sustainable and energy efficient town, the objective of the *Thromde* is to make Gelephu Town a ‘Clean, Green and Livable Town’.

The strategies towards this are:

- Gelephu *Thromde* will prepare and finalize four local area plans to prevent unplanned development of the town.
- To address the perennial problem of water shortage, Gelephu *Thromde* will construct bore wells and water reservoir. To avoid wastage and maximize utilization, existing water supply schemes will be improved.
- The problem of flash flood will be addressed through river training works at Shetikhari/Aipole.
- *Thromde* will construct *Thromde* office, and develop recreational facilities such as sports field, parks and community centres to enhance good governance and community vitality.
- The *Thromde* will construct urban roads, footpaths, parking, waste and sewerage management system, bus terminal, storm water drainage etc.
- To improve safety and security, street lights and CCTVs will be installed and maintained.
- To improve quality, adequacy and effectiveness of education and learning and improve students’ intake, existing school infrastructures, facilities and capacity will be improved and new infrastructures and additional capacity will be built and strengthened.

6.3.1.4 Thromde Key Result Areas					
GNH Pillars	KRA	KPI	Baseline	Target	Key Interventions (KI)
Sustainable and Equitable Socio-Economic Development	Improved quality of urban infrastructure facilities and services	% of urban population with access to safe, clean and reliable drinking water and sanitation.	60	100	Safe drinking water mgt. program
		Average parking space per car in %	68	80	Control of communicable diseases
		% of functional street light	70	100	Youth engagement program
		Length of footpath for the pedestrians in Kms	1	5	Road and parking improvement Introduction of public transport Infrastructure development
Preservation of Environment	Environment friendly human settlement developed.	% of HH connected to sewerage system	60	100	Municipal waste management
		% of HH access to solid waste management system	50	100	Plantation and greening of <i>Thromde</i>
Preservation and Promotion of Culture	Bhutanese identity and culture strengthened	% of construction with traditional architecture and design	60	100	Community vitality program
		No. of programs taken up under volunteerism	0	10	Enforcement of national architect regulations
Good Governance	Effective and efficient public service delivery Sustainability enhanced through municipal financing	Turnaround time (TAT) for core public services in hours	24	8	Improve capacity of the <i>Thromde</i> staff
		Disaster response time in minutes	NA	30	
		% operating expenditures covered by municipal revenues.	60	100	Improve data base management system Prepare <i>Thromde</i> plan

6.3.2 Phuentsholing Thromde

Phuentsholing, under Chukha Dzongkhag, is the main gateway to Bhutan and as a result, it has become the biggest commercial and industrial hub of the country. It is located at the south western foothills of the country bordering the Indian state of West Bengal. The town is located near the Amochu and Omchhu river banks. Phuentsholing Thromde has six demkhongs with a population of 24,000 and an area of 19.68 sq km.

In line with the Local Government Act 2009, Phuentsholing Thromde is a self-governing municipality with an elected Mayor, Thromde Thuemis and a Thromde Council in place since January 2011.

6.3.2.1 Current Situation

Population	24,000	Access to improved sanitation facility (BLSS 2012)	97.6 (95.5)
Area (sqkm)	19.6	Child survival rate (BLSS 2012)	97.00 (96.9)
Number of Demkhongs	6	Adult Literacy Rate (BLSS 2012)	63.3 (55.3)
Access to improved water source (BLSS 2012)	99.6 (99.3)	ANER (Pry)-m/f (BLSS 2012) 94.1 (95.2)	
ANER (basic)-m/f (BLSS 2012)	84.4 (88)		
(Figures in the bracket represent National average/total.)			

With some of the large mineral, metal and wood based industries located in Pasakha, Phuentsholing is one of the major industrial hubs of the country. It is also a major trading hub due to its close proximity to the Indian towns of Siliguri and Jaigoan. The town also has a well established network of financial and social institutions, business enterprises, whole sale traders, training institutions and college of science and technology attracting people, goods and services.

There are two industrial estates in Phuentsholing. The Phuentsholing Industrial Estate has an area of 61 acres, including one acre near Doti khola, and houses more than 15 industrial sheds. The Pasakha Industrial Estate is located 16 km east of Phuentsholing in an area of 267 acres. The industrial estate is connected with all facilities like road network, water supply, power and transmission lines, drainage systems, telecommunication facilities and estate management office.

6.3.2.2 Key Opportunities/Challenges

Phuentsholing is a major industrial and trading hub of the country. The opportunities offered by Phuentsholing are expected to be further enhanced with a number of new activities planned in the coming years. The major activities include the completion of Samtse-Phuentsholing highway; establishment of a mini Dry Port, Warehousing & Distribution Complex in Phuntsholing; construction of three new mega hydroelectricity projects viz. 180 MW Bunakha Hydroelectric project, 540 MW Ammochhu Hydroelectric project, and 570 MW Wangchu Hydroelectric project, and Amochu land reclamation project.

While such developments are received positively, the major challenge for the Thromde is the capacity and the resources to provide basic planned urban facilities and services to the rapidly growing urban population. After Thimphu, Phuentsholing receives the highest number of inward migration as a result of which the town is growing at the rate of 3 percent per annum. Already, the existing urban infrastructure facilities and services are under tremendous pressure. The issues of housing shortage, lack of clean and reliable drinking water, solid waste management problems, traffic congestion, environmental issues, security and safety issues, and poor urban infrastructure are major concerns. Some of the Phuentsholing residents are forced to live across the border due to housing shortages.

6.3.2.3 Strategies

In keeping with the Eleventh Plan objective of 'Self-reliance and Inclusive Green Socio-Economic Development', Phuentsholing Thromde will aim to develop an economically vibrant, ecologically sustainable and energy efficient town, the objective of the *Thromde* is to make Phuentsholing Town a 'Clean, Green and Livable Town'.

The strategies towards this are:

- Phuentsholing Thromde will prepare and finalize local area plans for Pekarshing, Malbasy and Gurungdara to ensure planned and sustainable development of these areas.
- The shortage of drinking water will be addressed by exploring and constructing bore wells, ground-water, and reservoir schemes. Sewerage and waste management system will be constructed and improved.

- Thromde will construct Thromde office, and construct new urban roads in Kabreytar, Pasakha, Pekarshing, Damdara, Core area, implement Rinchending LAPs, and motor able bridge over Omchhu.
- To enhance safety, promote community vitality and make Phuentsholing a highly livable town, street lights, CCTVs, bicycle paths, footpaths, recreational parks and sports facilities will be constructed.
- To address the issues of housing shortage, National Housing Development Corporation in close collaboration with the Dzongkhag and Thromde will construct an additional 250-300 housing units over the next five years.
- To improve quality, adequacy and effectiveness of education and learning and improve students' intake, existing school infrastructures, facilities and capacity will be improved and new infrastructures and additional capacity will be built and strengthened.

6.3.2.4 Thromde Key Result Areas

GNH Pillars	Sector Key Result Areas	Key Performance Indicators (Outcome)	Baseline	Target	Key Interventions
Key Objective:- Clean, efficient and sustainable commercial hub in the country					
Sustainable and Equitable Socio-Economic Development	Socio-economic infrastructure and facilities are improved and adequate, enhancing the service capability, safety and aesthetic beauty of the city	1) Livability Index of Class A Thromdes 2) Disability, elderly, children and gender responsive infrastructure 3) Pedestrian pathway (Km) 4) Incidences of water logging/flooding (no)	1) NA 2) NA 3) NA 4) 0	1) Track 2) 70 3) 5 4) 8	1. Provision of safe and adequate socio-economic infrastructure 2. Provision of infrastructure for clean, safe and reliable drinking water and sanitation 3. Explore alternate source of water - groundwater, rainwater harvesting etc. 4. Development/identification of service facilities based on constituencies (suburb ideas) 5. Provision of better, green, affordable, reliable and safe public transport systems
	A sustainable, safe, reliable, affordable and green public transport in the city	1. Frequency of public transport (in hours) 2. Ridership of public transport (%) 3. % of population living within 500 metres of public transport route 4. No. of public transport services with facilities for senior citizens, women, children and those with special needs	1) 4 2) NA 3) 50 4) 0	1) <1 2) 70 3) 100 4) 4	
	Increased access to affordable and quality education	1. Primary enrolment rate (% ANER/F) 2. Teacher : pupil ratio	1) 94.1 (M/F) 2) 1:24 (2012 AES)	1) 100 (M/F) 2) 1:24	Provision of affordable and quality education infrastructure and services

Preservation and Promotion of Culture	Bhutanese identity and culture strengthened.	1) % of buildings, infrastructure with traditional designs 2) Community vitality index	1) 90 2) NA	1) 100 2) High	1. Incorporate Bhutanese architect etc into municipal infrastructure.
	Conservation & Sustainable Utilization and Management of Environment	1. Awareness and knowledge of segregation 3Rs. (%) 2. Amount of solid waste generated (MT/day) 3. Extent of solid waste recycled (%) 4. % of households connected to sewerage system 5. No of functional and gender friendly public toilets 6. % of green <i>Thromde</i> Areas	1) 30 2) 15 3) 20 4) 60 5) 6 6) 40	1) 80 2) <15 3) 70 4) 90 5) All 6) 45	1. Provision for bicycle paths/ pedestrian walkways, children's park/recreational/sports facilities etc. 2. Eco-efficient infrastructure (street lights, water and sanitation, special needs, etc.)
Strengthening Good Governance	Effective and efficient public service delivery	1. TAT reduced for core public services in minutes 2. Efficiency in addressing customer complaints (%) 3. Disaster response time (Hours)	1) 45 2) 50 3) 2	1) <35 2) 90 3) < 1	1. Automate G2C, G2B, G2G services. 2. Implementation of GPMS/ Agencification. 3. Outsourcing/cost sharing of some functions.
	Public safety, peace and order assured at all times	1. Crime incidence against persons and properties (no) 2. Perception of safety by city dwellers 3. No. of abuse of drugs and vices	1) 23 2) NA 3) 12	1) < 10 2) Very safe 3) < 5	

6.3.3 Samdrup Jongkhar Thromde

Samdrup Jongkhar Thromde is located in the south-eastern foothills of the country bordering the Indian state of Assam. It has six demkhongs with an area of 4.47 sq km and a population of 10,545. It is the smallest Thromde 'A' in terms of area and population.

In line with the Local Government Act 2009, Samdrup Jongkhar Thromde is a self-governing municipality with an elected Mayor, Thromde Thuemis and a Thromde Council in place since January 2011.

6.3.3.1 Current Situation

Population	10545	Access to improved sanitation facility (BLSS 2012)	94.00 (95.5)
Area (sq. km)	4.47	Adult literacy Rate (AES)	52.4 (55.3)
Number of Demkhongs	6	Child survival rate (BLSS 2012)	92.9 (96.9)
Access to improved water source (BLSS 2012)	99.00 (99.3)	ANER (Pry)-m/f (BLSS 2012)	95.2 (95.2)
ANER (basic)-m/f (BLSS 2012)	92.3 (88)		
(Figures in the bracket represent National average/total.)			

Samdrup Jongkhar town is the gateway to the Indian and Bangladeshi markets for the five eastern *Dzongkhags* and is also the main trading hub in east.

The town has a service centre with an area of 8.07 acres located about a kilometer from the main town. There are 15 industries operating from the service centre. The town also has an industrial estate of about 3.2 acres with four industries operating.

Coal, limestone, and dolomite reserves are found in Samdrup Jongkhar.

6.3.3.2 Key Opportunities/Challenges

Being the main trading hub for the five eastern *Dzongkhags* and the gateway to the Indian and Bangladeshi markets, Samdrup Jongkhar town is growing rapidly. The growth of the town is expected to be accelerated with number of new activities scheduled in the coming years.

- Development of a second 170.79 acres industrial estate at Motanga;
- Construction of 600 MW Kholongchhu Hydroelectricity Project in

Trashiyangtse which will make Samdrup Jongkhar town the main transit for project goods and services;

- Construction of Dewathang-Nganglam (74.50km), Samdrupcholing-Samrang (24 km), Samrang-Jomotshangkha (85.20Km) and the upgradation of Samdrup-Jongkhar-Tashigang highway will further improve access and connectivity to Samdrup Jongkhar.
- Future plans of establishing railway links, dry port and an eastern gateway for tourist coming to Bhutan.

Already, the existing urban infrastructure facilities and services are under tremendous pressure with the growing population. The challenges faced by the Thromde are unplanned growth in the periphery areas, issues of affordable housing, lack of clean and reliable drinking water supply, solid waste management problems, safety and other insufficient urban infrastructures.

6.3.3.3 Strategies

In keeping with the Eleventh Plan objective of 'Self-reliance and Inclusive Green Socio-Economic Development', Samdrup Jongkhar Thromde will aim to develop an economically vibrant, ecologically sustainable and energy efficient town, the objective of the *Thromde* is to make Samdrup Jongkhar Town a 'Clean, Green and Livable Town'.

The strategies towards this are:

- The structural plan for Samdrup Jongkhar will be reviewed and preparation of structural plan for Dewathang initiated. The Thromde will also prepare Local Area Plans for LAP 3 & 4 for S/Jongkhar & LAP for Dewathang core area.
- The shortage of drinking water will be addressed by exploring and constructing bore wells, ground-water, and reservoir schemes. Sewerage and waste management system will be constructed and improved.
- To address the problem of frequent floods during the monsoon, Thromde will invest in the construction of 1.3 kilometers of flood protection walls along Dungsamchhu from Charkilo till the border outpost.
- Thromde will construct Thromde office, and upgrade 10 kilometers of new roads (Dungsamchhu drive, bye-pass for Motanga Industrial road and Dewathang Throm) and urban roads. RCC bridge at Service Center area and pedestrian bridge near the vegetable market will be constructed.

- To enhance safety, promote community vitality and make Samdrup Jongkhar town a highly livable town, street lights, CCTVs, bicycle paths, footpaths, recreational parks and sports facilities will be constructed.
- To improve quality, adequacy and effectiveness of education and learning and improve students' intake, existing school infrastructures, facilities and capacity will be improved and new infrastructures and additional capacity will be built and strengthened.

To address the issues of housing shortage, National Housing Development Corporation in close collaboration with the *Dzongkhag* and *Thromde* will construct an additional 50-75 housing units over the next five years.

6.3.3.4 Thromde Key Result Areas

RA	KPI	Baseline	Target	Key Interventions
Improved quality of urban infrastructure facilities and services	% of urban population with access to safe, clean and reliable drinking water and sanitation	68.12	100	1. Provision of safe and adequate socio-economic infrastructure 2. Provision of infrastructure for clean, safe and reliable drinking water and sanitation
	Frequency of public transport (in minutes)	Nil	30	3. Explore alternate source of water - groundwater, rainwater harvesting etc.
	Ridership of public transport (%)	Nil	20	4. Development/identification of service facilities based on constituencies (suburb ideas)
	% of population living within 500 meters of public transport route	50	70	Provision for bicycle paths/pedestrian walkways, children's park/recreational /sports facilities etc.
Environment friendly human settlement developed.	Awareness and knowledge of segregation 3Rs. (in %)	5	70	2. Eco-efficient infrastructure (street lights, water and sanitation, special needs, etc.)
	Reduction of solid waste generated per day (In MT/Day)	3	1.5	
	No. of waste water treatment plants	0	4	
	Extent of solid waste recycled (%)	Nil	80	
	% of households connected to sewerage system	Nil	60	
	No of improper dumping site	13	0	
	No of functional and gender friendly public toilets	2	6	
	% of households with access to solid waste management system	30	60	
	% of open recreational area	25	30	

Bhutanese identity and culture strengthened	% of buildings, infrastructure with traditional designs	13	25	Incorporate Bhutanese architect etc into municipal infrastructure.
	Community vitality index	Low	Medium	
Effective and efficient public service delivery	No. of voluntary activities undertaken	0	5	1. Automate G2C, G2B, G2G services. 2. Implementation of GPMS/Agencification. 3. Outsourcing/cost sharing of some functions.
	TAT reduced for core public services(in days)	14	7	
	Efficiency in addressing customer complaints (%)	40	100	
	Disaster response time (in hours)	5	< 2	
	Crime incidence against persons and properties (no)	50	20	
	Perception of safety by city dwellers	NA	Safe	
	No. of abuse of drugs and vices	10	5	

6.3.4 Thimphu Thromde

Thimphu Thromde is the capital city of Bhutan. It has seven Demkhongs with a total area of 26.13 square kilometers. As per Bhutan National Urbanization Strategy 2008 (BNUS), the total population of Thimphu Thromde is estimated to be about 120,000 as of 2011 based on growth rate of 7.3 percent per annum. The city is spread in the valley on either sides of the Wangchu River.

In line with the Local Government Act 2009, Thimphu Thromde is a self-governing municipality with an elected Mayor, Thromde Thuemis and a Thromde Council in place since January 2011

6.3.4.1 Current Situation

Population	120,000	Access to improved sanitation facility (BLSS 2012)	97.1% (95.5)
Area (sq km)	26	Child survival rate (BLSS 2012)	98.4% (96.9)
Number of Demkhongs	7	Adult literacy rate (BLSS 2012)	75.8% (55.3)
Access to improved water source (BLSS 2012)	99.6% (99.3)	ANER (Pry)-m/f (BLSS 2012)	97.6% (95.2)
ANER (basic)-m/f (BLSS 2012)	91% (88)		
(Figures in the bracket represent National average/total.)			

Thimphu is the headquarters for the central government administration and also for number of corporate bodies. It also hosts the national referral hospital and a number of educational institutions, including the only private college. As a result, Thimphu Throm attracts lot of people from other *Dzongkhags* for number of reasons such as business, health and education services, family and many come in search of better life and jobs. Bhutan National Urbanization Strategy estimates that Thimphu grew at a rate of 12.6 percent during 2000-2005.

6.3.4.2 Key Opportunities/Challenges

Being the capital city, Thimphu has better urban infrastructure facilities and services compared to the other *Thromdes*. However, the existing infrastructure facilities and services have not been able to keep pace with the rapid growth of the city. This has resulted in unplanned development in peripheral areas, chronic shortage of housing, lack of clean and reliable drinking water, issues of solid waste management, traffic congestion and pollution, and increasing issues of crime and safety.

Improving the existing infrastructures and facilities, and expanding and building additional and quality infrastructures and service facilities have become important and urgent.

6.3.4.3 Strategies

In keeping with the Eleventh Plan objective of 'Self-reliance and Inclusive Green Socio-Economic Development', Thimphu Thromde will aim to develop an economically vibrant, ecologically sustainable and energy efficient city, the objective of the *Thromde* is to make Thimphu City a 'Clean, Green and Livable City'.

The strategies towards this are:

- Preparation and implementation of local area plans will be a priority. Accordingly, local area plans for Simtokha E4 area and Traditional Village will be prepared and local area plans for Taba, Jongshina, Samtenling, E4 area and neighborhood node for Lungtenphu & Dechencholing will be implemented.
- In an effort to promote "Green Thimphu", bicycle lanes will be constructed, eco-friendly Rapid Bus Transits System will be introduced, jogging path will be developed within the Thromde and trees/flowers will be planted.
- Thromde will construct Thromde office, and address water shortage by constructing new water treatment plants, water reservoir, strengthening water utilization and management practices.
- To enhance livability and safety, urban infrastructure facilities such as roads, waste management and sewerage system, drainage, landfill, bicycle paths, footpaths, street lights etc will be constructed and improved. Recreational and learning facilities such as parks, public library, wi-fi internet in hot spots will be developed.
- To improve quality, adequacy and effectiveness of education and learning and improve students' intake, existing school infrastructures, facilities and capacity will be improved and new infrastructures and additional capacity will be built and strengthened.

6.3.4.4 Thromde Key Result Areas

GNH Pillars	KRA	KPI	Baseline	Target	Key Initiatives
Sustainable and Equitable Socio-Economic Development	Improved health status, safety and quality of urban life	1. Livability Index	NA	Track	1) Planning and implementation of LAPs and service facilities 2) Development of infrastructure for clean, safe and reliable drinking water and sanitation(groundwater, rainwater harvesting, water supply, treatment plant)
		2. Community vitality index	NA	Track	
	Improved health status, safety and quality of urban life	3. Perception of safety by city dwellers	Unsafe	Very safe	3) Provision and development of disabled, elderly, children, youth, gender, and environment friendly infrastructure /facilities(services, sports, recreational) 4) Installation of CCTV and Wi-fi in hot spots and strategic locations
		% of population with access to clean, safe and reliable drinking water and sanitation for 24 hrs	30	80	
	Enhanced opportunities for lifelong learning	No. of functional gender friendly public toilets	13	23	1. Provision and development of public library and related facilities/services 2. Awareness and promotion of reading habits and learning, capacity building of librarians 3. Provision of free Wi-Fi in hotspot areas
		State of art public library and facilities/services	0	1	
	Enhanced opportunities for lifelong learning	No. of Wi-Fi in hotspot areas	0	5	

Preservation of Environment	Improved waste management and greening of the city	Amount(MT) of waste(solid) reduced, reused & recycled monthly	15	36	1) Provision and development of waste management system and drainage system(waste collecting vehicles, sewerage, compost, landfill, leacheate, treatment, drainage) 2) Awareness and sensitization on 3Rs and environmental issues 3) Provision and development of infrastructures/ facilities(bridges, roads, streetlights, bicycle paths, pedestrian paths/walkways, pavements, parks, gardens)
		% of households with access to waste management system	70	90	
		% of green areas	30	30	
Preservation and Promotion of Culture	Bhutanese identity and culture strengthened	Facilities for pedestrian path	NA	1.5	Provision and development of culture, traditional and spiritual related infra-structures/facilities(pavilion, squares, crematorium)
		Incidences of water logging and flooding	5	0	
		Facilities available for cultural and spiritual pursuits	10	15	
Good Governance	Enhanced transparency, efficiency and effective public service delivery	No. of voluntary activities undertaken(cleaning campaign)	6	10	1) Institutional strengthening 2) Provision and development of E-governance 3) Provision and development of Town hall and its services 4) Outsourcing/cost sharing of some functions 5) Provision and development of disaster management plan, training and awareness on disaster
		Perception in change in deterioration of traditional architectural designs in houses	Low	Low	
		No of days -TAT reduced for core public services	14	7	
		Efficiency in addressing customer complaints	70	>90	
		Disaster response time	NA	Track	
		Percentage of recurrent expenditure met from internal revenue	80	> 90	
Percentage of capital grants utilization	80	100			
Mean zomdue attendance	40	70			

"Self-reliance, green and inclusive socio-economic development"

