



BHUTAN



SAARC DEVELOPMENT GOALS

Country Report
2015

Gross National Happiness Commission
Royal Government of Bhutan



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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
AFS	Annual Financial Statements
BMIS	Bhutan Multiple Indicator Survey
BLSS	Bhutan Living Standard Survey
CFCs	Chloro-Fluoro-Carbons
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
HDI	Human Development Index
HDR	Human Development Report
HIV	Human Immunodeficiency Virus
ICT	Information & Communication Technology
IDD	Iodine Deficiency Disorders
IMR	Infant Mortality Rate
ISACPA	Independent South Asian Commission on Poverty Alleviation
LFS	Labour Force Survey
MDGs	Millennium Development Goals
MoAF	Ministry of Agriculture and Forests
MMR	Maternal Mortality Ratio
NEC	National Environment Commission
NFE	Non Formal Education
NER	Net Enrolment Ratio
ODS	Ozone Depleting Substance

PAR	Poverty Analysis Report
PHCB	Population and Housing Census of Bhutan
SDGs	SAARC Development Goals
STD	Sexually Transmitted Disease
SYB	Statistical Year Book
TB	Tuberculosis
U5MR	Under-Five Mortality Rate
UN	United Nations
UNDP	United Nations Development Programme

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Executive Summary

Livelihood SDGs

- Poverty reduction has always been an important objective of Bhutan's development policies and plans. Bhutan adopted poverty reduction as the overall objective of the 10th Five-Year Plan (2008-2013). The commitment to reduce poverty has continued into the 11th Five Plan (11th FYP, 2013-2018).
- Proportion of population living under poverty line was reduced to 12% in 2012 from 23.2 percent in 2007. About 95% percent of the poor population lived in rural areas. Among the extremely poor, 97% of them live in rural areas. Therefore, poverty in Bhutan continues to be a rural phenomenon.
- The proportion of population living below minimum level of dietary energy consumption increased from 3.8 % in 2003 to 5.9 % in 2007. Similar increase was also seen at the rural level from 4.7 % in 2003 to 8 % in 2007. According to PAR 2012 subsistence headcount has decreased to 2.8% showing improvement in bringing the proportion of population living below minimum level of dietary consumption. However, studies in 2003, 2007 and 2012 showed that a very negligible proportion of urban population lived below minimum level of dietary energy consumption and has increased slightly in 2012 to 0.3% from 0.2% in 2007.
- The Gini coefficient at national level decreased from 0.416 in 2003 to 0.352 in 2007, and 0.36 in 2012, which reflected the decrease in inequality from 2003 to 2007 and the inequality has remained almost same in 2007 and 2012.
- Malnutrition in children under five years of age was reduced from 17 % in 1999 to 9 % in 2015. In case of stunting, it was reduced from 40 % in 1999 to 21.2 % in 2015. With regard to wasting, it increased from 2.6 % in 1999 to 4.3 % in 2015.
- The school feeding programme benefitted, 41,003 students (21.5% of total) in 2007, 36,160 students (21.4% of total) in 2009 and 51,886 students (25.5% of total) in 2014.
- In terms of Iodine deficiency disorders, Bhutan effectively brought down goitre occurrence from 65.4% in 1983 down to less than 5% in 2005. Bhutan was the first country in South East Asia to have eliminated Iodine Deficiency Disorders as Public Health Problem in 2003.

- The early initiation of breastfeeding in 2010 was 59 percent. In case of exclusive breast feeding for 6 months, BMIS reported it to be 48.7 % in 2010.
- Unemployment rate steadily rose over the years. In 2001, unemployment rate was only 1.9 %. However, according to the Labour Force Survey 2014, the unemployment rate increased to 2.6 % with female unemployment higher at 3.5 % as compared to male unemployment at 1.9 %. Rural unemployment had risen from only 0.6 % in 2001 to 1.2 % in 2014. Similarly urban unemployment increased from 4.1 % in 2001 to 6.7 % in 2014. In addition, in 2014 youth unemployment was high at 9.4 % with female youth (20-24 age group) unemployment at 10 %.
- Local government expenditure as percentage of total government expenditure steadily increased with increasing capacity of the local governments. It increased from 17.9 % in 2001 to 22.9 % in 2010 and 27.7% in 2011. In addition to the local government expenditure, most of the expenditure of central sectors and agencies were incurred for programmes that directly benefited districts and the rural population such as agriculture, education, health, and roads.
- The Government placed the highest priority on road connectivity among other development activities in addressing concerns of the rural poor. Before 2008 there were 1658.4 km of farm road which increased to 6564.91 km in 2015.
- Since electricity was one of the most important elements that contributed to better livelihood of the rural population, the government pledged to electrify all households by 2013 under rural electrification project. The overall rural electrification till date rose to 95.54% which includes both on-grid and off-grid..
- In addition to fixed telephone connectivity, Bhutan achieved 100 % mobile connectivity to rural areas by the end of September 2011.
- Bhutan is signatory to the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) since 1981 and is also signatory to the Convention on the Rights of the Child (CRC) since 1990. The National Commission for Women and Children (NCWC) was established in 2004 as an agency to monitor and coordinate all policies and activities related to protection of rights of women and children.
- According to BMIS 2010, about 18.4 % of children aged 5-14 were working as per the definition of child labour used by UNICEF. It was also reported that child labour was more common in rural areas at 22.2 percent as compared to 8.7 % of children in urban areas.

- According to Labour Force Survey Report (LFSR) 2014, there was no gender disparity in terms of overall employment with 98.1 % for males and 96.5 % for females.
- According to Bi-Annual Civil Service Statistics Reports, there was steady increase in the number of females in the civil service from 21.23 % in September 2000 to 32.61 % in December 2014. However, the number of females at decision making levels is still very low.
- BMIS 2010 reported that 30.8 % of the women aged 15-49 years were married before they attained 18 years of age. It was also revealed that 6.7 % of the women married before the age of 15 years.
- The establishment of courts in all the 20 districts and the 15 sub-districts made access to Justice easier and affordable to the people.
- There was a steady increase in the number of cases decided in less than 108 days from 3753 cases in 2000 to 20249 cases in 2014. Percentage of cases pending in all levels of court was negligible at only 6.57 %.

Health SDGs

- With increased births attended by skilled personnel, institutional delivery and other ante natal care services, there was significant achievement in reducing maternal mortality ratio from 560 per 100,000 live births in 1990 to 86 per 100,000 live births in 2012.
- With constant advocacy and campaigning, percentage of births attended by skilled personnel increased from 24 % in 2000 to 74.6 % in 2012.
- With sustained targeted advocacy campaigns on family planning, total fertility rate remarkably reduced from 4.7 in 2000 to 2.3 in 2012.
- The immunization coverage increased from 85 % in 2000 to 95.1% in 2012.
- Under-5 mortality rate significantly declined from 84 per 1000 live births in 2000 to 37.3 per 1000 live births in 2012. Similarly, infant mortality rate decreased from 60.5 in 2000 to 30 per 1000 live births in 2012.
- According to Bhutan National Health Accounts 2009-2010, household expenditure on health services accounted for 11 % of the total household expenditure. Similarly, government

expenditure on providing health services accounted for 3.68 % of GDP. Major portion of the budget for health was allocated to primary health care with 58 % in 2010.

- There was a marginal increase in the ratio of doctors per 1000 people from 0.13 in 2005 to 0.27 in 2012.
- Access to improved sanitation increased from 88 % in 2000 to 93 % in 2010. However, The BLSS report, 2012, shows that access to improved sanitation facilities is about 81 and National Health Survey Report, 2012 shows it is 66.3%. The low coverage of sanitation is due to the definition of improved sanitation coverage. NHS 2012 has followed the definition of WHO/UNICEF Joint Monitoring Programme, which segregates pit latrines with slab and without slab. It categorizes pit latrine without slab as unimproved sanitation facility.
- The number of HIV cases detected gradually increased from only 38 in 2000 to an alarming figure of 321 in 2013.
- The notification rate of all forms of tuberculosis decreased from 190 per 100,000 in 2010 to 158 per 100,000 in 2012 with treatment success rate of 91%
- Malaria cases significantly declined from about 87 cases per 10,000 in the year 2000 to only 1 case per 10,000 in the year 2012. Similarly, the number of deaths caused by malaria was also contained with only 1 death in the year 2012 as compared to 15 deaths in the year 2000.

Education SDGs

- Bhutan achieved universal gross primary enrolment ratio in 2007 with 106 %. In 2015, gross primary enrolment ratio further rose to 112 %. In terms of Net Primary Enrolment Ratio, Bhutan progressed well from 62 % in 2000 to 95.2 % in 2015.
- Gender parity at both primary and secondary levels has significantly improved. The ratio of girls to boys at primary level increased from 82 % in 2000 to 106% in 2015. The ratio of girls to boys at secondary level increased from 78 % in 2000, to 104% % in 2015.
- Primary completion rate (Pre-Primary to class VI) significantly progressed from 75.8 % in 2007 to 111 % in 2015.
- The adult literacy rate increased from 52.8 % in 2005 to 55% in 2012. However, male adult literacy was higher at 66 % than female adult literacy at 45 % in 2012.

Environment SDGs

- With strong environmental conservation policies and institutions in place, 80.90 % of the land area is reported to be under forest cover.
- As of 2014, Bhutan had 600 community forests covering an area of 66,934 ha and involving 25,663 households.
- The quality of water resources at the macro level was very high. However, there were localized water pollution problems due to contamination along the banks of streams and rivers.
- Government policies support the protection and conservation of soil quality in the country.
- The analysis of the recorded data from June 2004 and May 2007 showed an average respirable particulate matter (PM10) concentration of 20 µg/m³, which was considerably lower than international (PM10) concentration levels.
- The total Green House Gas (GHG) emission excluding Land Use Change and Forestry (LUCF) increased by about 10%, from 1,413 Gg CO₂ equivalent in 1994 (revised estimates) to 1,560 Gg CO₂ equivalent in 2000. This increase was mainly due to increase in industrialization and rapid urbanization;
- In 2000 agriculture was the largest source of GHG with emissions estimated at 1005.30 Gg CO₂-equivalent, followed by energy, and the industrial process respectively
- Total GHG emissions in 2000, including LUCF, were estimated to be -4,750.04 Gg CO₂-equivalent, making Bhutan a net sink for GHG emissions.
- According to Population and Housing Census of Bhutan (PHCB) 2005, 37.3 % of the total households in Bhutan used firewood as the primary source of energy for cooking.
- 51.44% of the land area is under protected areas and biological corridors.
- The Forest and Nature Conservation Act of Bhutan 1995 lists a total of 30 species of wild animals and plants in Schedule I as totally protected species.
- Thimphu and Phuentsholing have accumulated 36.7 and 24.7 tons of municipal solid waste respectively in a day at the landfill sites in 2005 (RSPN 2005). In terms of per capita solid waste accumulation at the landfill per annum, it was estimated to be 168 kg for Thimphu and 438 kg for Phuentsholing.
- Recognizing the emerging problem of municipal solid waste generation, Bhutan enacted Waste Prevention and Management Act of Bhutan, 2009

Introduction

The SAARC Leaders during the Thirteenth Summit (Dhaka, 12-13 November 2005) endorsed the SAARC Development Goals (SDGs) as recommended by the Independent South Asian Commission on Poverty Alleviation (ISACPA). SDGs have 22 goals, which are divided into four themes of livelihood, health, education and environment.

The Twenty-seventh session of the Council (Dhaka, 1 – 2 August 2006) agreed that the SDGs would be achieved in next five years starting from the year 2007, and a mid-term review on the attainment of SDGs would be undertaken towards the end of the third year and subsequently the final country SDG report by 2013 taking stock of achievements and challenges ahead. The meeting on the 'Inter-Governmental Mechanism for Mid-Term Review on the Achievement of the SDGs and Plan of Action on Poverty Alleviation' was held at Kathmandu on 28-29 September 2010. During the meeting, draft framework for the SDGs report prepared by India was approved and agreed to prepare the report as per the framework. Subsequently during the 3rd Meeting of the SAARC Ministers on Poverty Alleviation held on 5th April 2013 in Kathmandu, Nepal, it was recommended that the first cycle of SDGs should be extended from 2012 till 2015 coinciding with the completion of MDGs in 2015. The Meeting also recommended replacing Regional Poverty Profile (RPP) with SDR (SAARC Development Report) from 2014 onwards and SDR will be published biennially.

In addition to SDGs, Bhutan is also a signatory to the UN Millennium Declaration in 2000 committing to achieve Millennium Development Goals (MDGs) by 2015.

In realizing the above commitments, Bhutan declared the overall goal of the 10th Five-Year Plan (FYP) (2008-2013) to alleviate poverty and contribute towards achieving SDGs and MDGs. As a result, the SDGs and MDGs were mainstreamed in all the sector plans and programmes of the 10 FYP. With the completion of 10 FYP by June 2013, the achievements and challenges were reviewed and updated the SDG Mid-Term review report to finalize the SDG country report in August 2013. Further, 4th Meeting of the Ministers held on 29th July 2015 recommended to update the SDG report with data up to December 2014.

The report highlights the progress made thus far and identifies notable issues and concerns in each of the 22 goals. The report will help raise awareness among the decision makers and renew political commitments in achieving SDGs. While we have tried to go by the indicators as laid down by ISACPA, some of the indicators had to be localized in terms of national context and availability of the information.

The report is organized into sections based on the four themes of livelihood, health, education and environment.

SDGs Framework: Goals and Indicators

Livelihood SDGs

Goal 1	Eradication of Hunger Poverty
Indicator 1	Percentage of underweight children under 5 yrs
Indicator 2	Proportion of population below minimum level of dietary energy consumption
Goal 2	Halve proportion of people in poverty by 2012
Indicator 1	Head Count poverty ratio based on nationally determined poverty line
Goal 3	Ensure adequate nutrition and dietary improvement for the poor
Indicator 1	Number of beneficiaries of school feeding programme (WFP)
Indicator 2	Iodine Deficiency Disorders (Goiter Occurrence)
Indicator 3	Exclusive breastfeeding for 6 months
Goal 4	Ensure a robust pro-poor growth process
Indicator 1	Budgetary expenditures of the local governments as % of total govt. expenditures
Indicator 2	Reduction of income/consumption inequality (Gini Coefficient)
Indicator 3	Unemployment rate
Goal 5	Strengthen connectivity of poorer regions and of poor as social group
Indicator 1	Transport connectivity for the poor in rural areas
Indicator 2	Mobile connectivity
Indicator 3	Percentage of rural population having access to electricity
Goal 6	Reduce social and institutional vulnerability of the poor, women and children
Indicator 1	Percentage of children (age 5-14) who are working
Indicator 2	Employment rate of women
Indicator 3	Early Marriage
Indicator 5	Birth registration

Indicator 6 Sex ratio at birth

Goal 7 Ensure access to affordable justice

Indicator 1 Average time required in disposal of legal disputes

Indicator 2 Access to alternate disputes resolution

Indicator 3 Access to free legal aid for the poor

Goal 8 Ensure effective participation of poor and of women in anti-poverty policies and programmes

Indicator 1 Percentage of women in civil services

Indicator 2 Gender Responsive Budgeting

Health SDGs

Goal 9 Maternal health

Indicator 1 Maternal Mortality Ratio (per 100, 000 live births)

Indicator 2 Percentage of births covered by skilled attendants

Indicator 3 Total fertility rate

Goal 10 Child health

Indicator 1 Immunization coverage

Indicator 2 Under 5 mortality rate (U5MR)

Indicator 3 Infant Mortality Rate

Goal 11 Affordable health care

Indicator 1 Percentage of total household expenditure

Indicator 2 Total government expenditure on health as a % of GDP

Indicator 3 Proportion of budget allocated to primary health care vis-à-vis total health budget

Indicator 4 Number of doctors per 1000 population

Goal 12	Improved hygiene and public health
Indicator 1	Percentage of population with access to safe drinking water
Indicator 2	Percentage of population having access to sanitation
Indicator 3	HIV cases detected
Indicator 4	TB cases per 100,000
Indicator 5	Malaria incidences per 10,000

Education SDGs

Goal 13	Access to primary/community schools for all children, boys and girls
Indicator 1	Gross primary enrolment ratio
Indicator 2	Net primary enrolment ratio
Indicator 3	Gender parity at primary level
Indicator 4	Gender parity at secondary level
Goal 14	Completion of primary education cycle
Indicator 1	Primary completion rate (pre-primary to class VI)
Goal 15	Universal functional literacy
Indicator 1	Adult literacy rate
Goal 16	Quality education at primary, secondary and vocational levels
Indicator 1	Percentage of trained teachers
Indicator 2	Students teacher ratio

Environment SDGs	
Goal 17	Acceptable level of forest cover
Indicator 1	Percentage of forest cover
Indicator 2	Number of community forests
Goal 18	Acceptable level of water and soil quality
Indicator 1	Chemical fertilizers/ pesticides consumption per ha of arable land
Indicator 2	Percentage of contaminated wells/water sources
Goal 19	Acceptable level of air quality
Indicator 1	Carbon dioxide emissions (million kg)
Indicator 2	Particulate matter (PM ₁₀) in the major metropolitan centers
Indicator 3	Percentage of total households using firewood for cooking
Goal 20	Conservation of bio-diversity
Indicator 1	Number of protected areas out of the total land area (with management plan)
Indicator 2	Percentage of protected areas out of the total land (with management plan)
Indicator 3	Number of protected species
Goal 21	Wetland conservation
Indicator 1	Area of paddy harvested (wetland) in acres
Goal 22	Ban on dumping of hazardous waste, including radio-active waste
Indicator 1	Solid waste generation per capita (kg p.a.) in Thimphu
Indicator 2	Regulatory framework for hazardous waste treatment in place

LIVELIHOOD SDGs

Goal 1: Eradication of Hunger Poverty

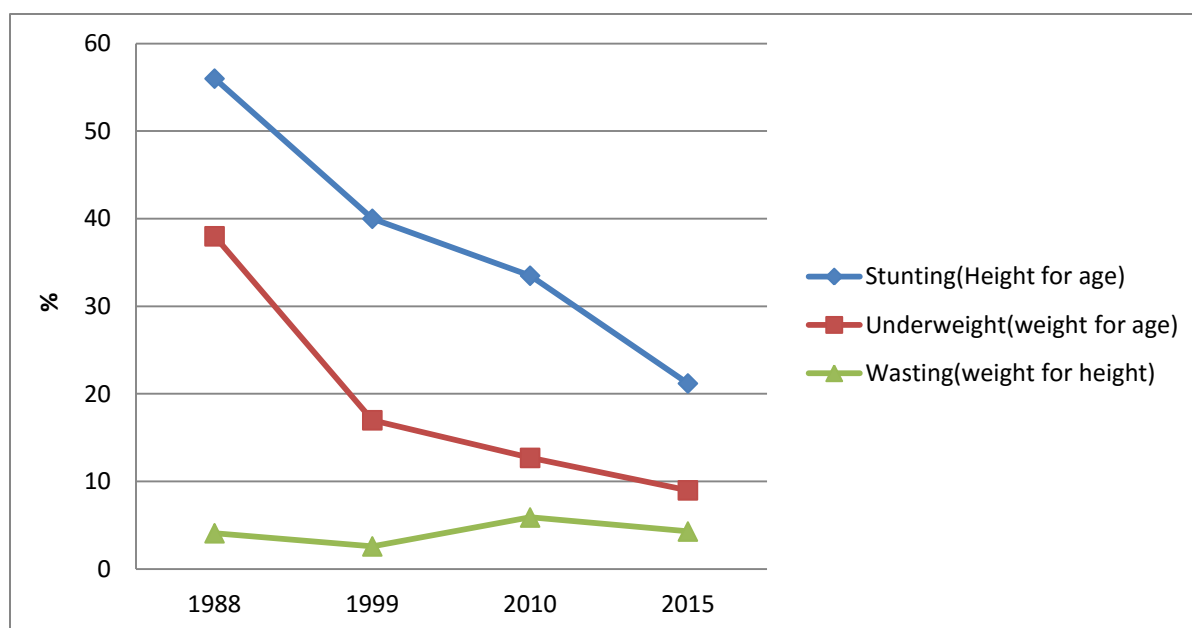
Indicators	2000	2007	2010	2015
1. Percentage of underweight children under 5 yrs	17 % ('99)	-	12.7%	9%
2. Proportion of population below minimum level of dietary energy consumption	3.8 % (03)	5.90 %	-	2.80 %(2012)

Source: Annual Health Bulletin 2002, PAR 2004, PAR 2007, PAR 2012, BMIS 2010

Underweight, stunting and wasting

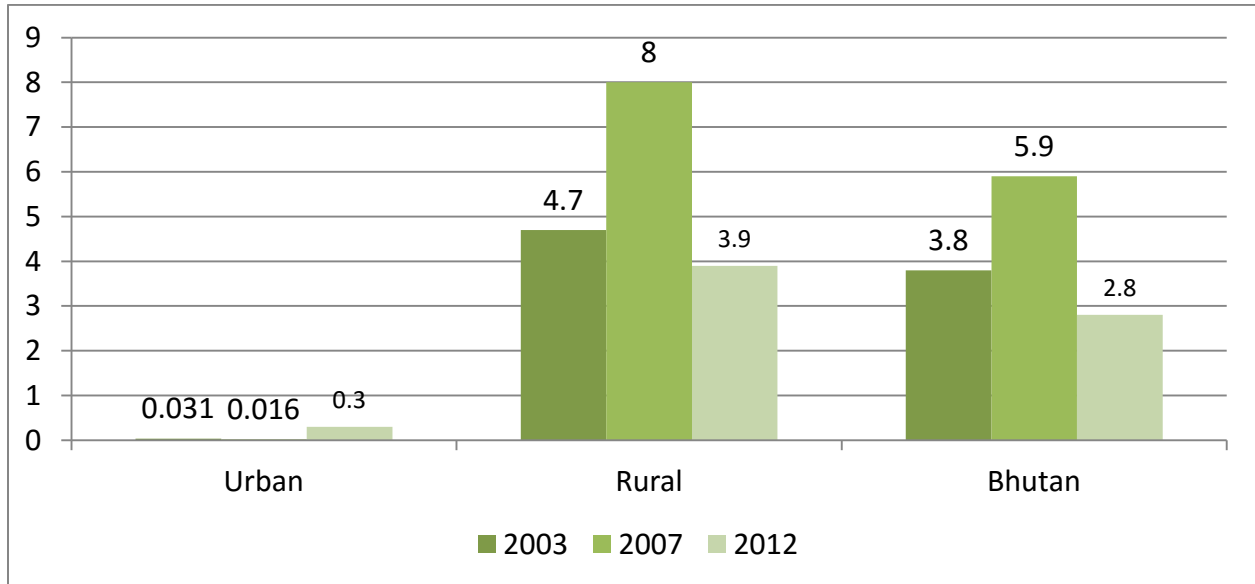
Malnutrition in children under five years of age was reduced from 17 % in 1999 (Ministry of Health 2002) to 12.7 % in 2010 (BMIS 2010) and further decreased to 9% in 2015. In case of stunting, it was reduced from 40 % in 1999 to 21.2 % in 2015. With regard to wasting, it increased from 2.6 % in 1999 to 5.9 % in 2010 and further reduced to 4.3% in 2015. However, it should be noted that since methodologies used during 1999 and 2010 were different, the figures may not be directly comparable in terms of trend.

Figure 1: Percentage of under five children who are under weight, stunted and wasted



Source: Annual Health Bulletin 2002, BMIS 2010, NHS, 2015

Figure 2: (Percent of Population) Subsistence headcount ratios in 2003, 2007 and 2012



Source: PAR 2004, PAR 2007 and PAR 2012

Dietary energy consumption

The proportion of population living below minimum level of dietary energy consumption at the national level increased from 3.8 % in 2003 (PAR 2004) to 5.9 % in 2007 (PAR 2007) however, it improved to 2.8% in 2012. A similar pattern was also seen at the rural level where it improved to 3.9% in 2012 from 8% in 2007.

Both studies in 2003 and 2007 have shown that a very negligible proportion of urban population live below the minimum level of dietary energy consumption. However, in 2012 the proportion of urban population living below the minimum level of dietary energy consumption increased to 0.3%.

Goal 2: Halve Proportion of People in Poverty by 2012

Indicators	2003	2007	2010	2012
1. Head Count poverty ratio based on nationally determined poverty line	31.70%	23.2%	-	12%

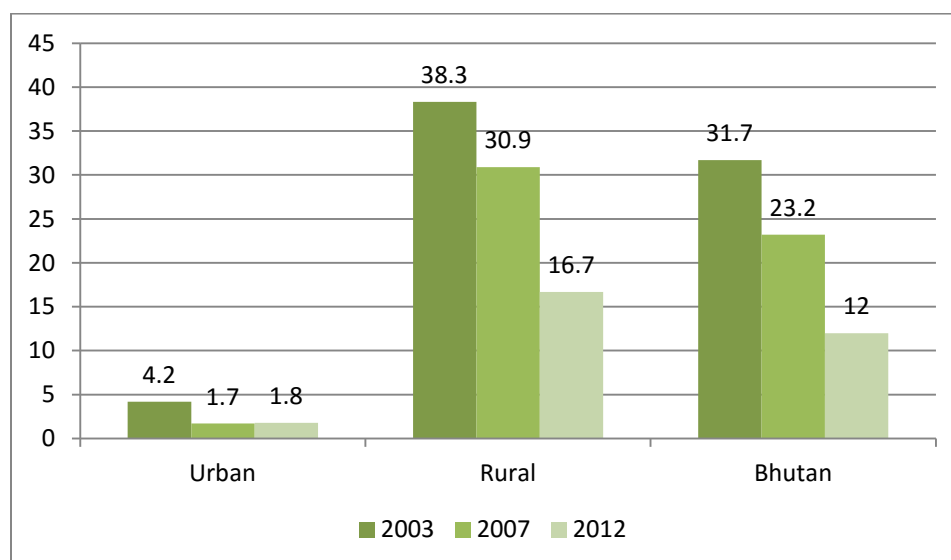
Source: PAR 2004, PAR 2007 and PAR 2012

Incidence of poverty

Poverty line in Bhutan was formed by setting a food poverty line and a non-food poverty allowance. The total poverty line in 2003 was established at Nu. 740.36 per person per month. Based on this poverty line, it was estimated that 31.70 percent of the population lived under poverty in 2003.

In 2007, Bhutan revised total poverty line to Nu. 1096.94 per person per month, according to which, 23.2 percent of the population are found to live under poverty. Bhutan further increased its poverty line in 2012 at Nu. 1704.84 per person per month, which yielded a poverty rate of 12 %. This means that one out of eight persons belong to households whose per capita real consumption is below the total poverty line of Nu. 1704.84 per person per month.

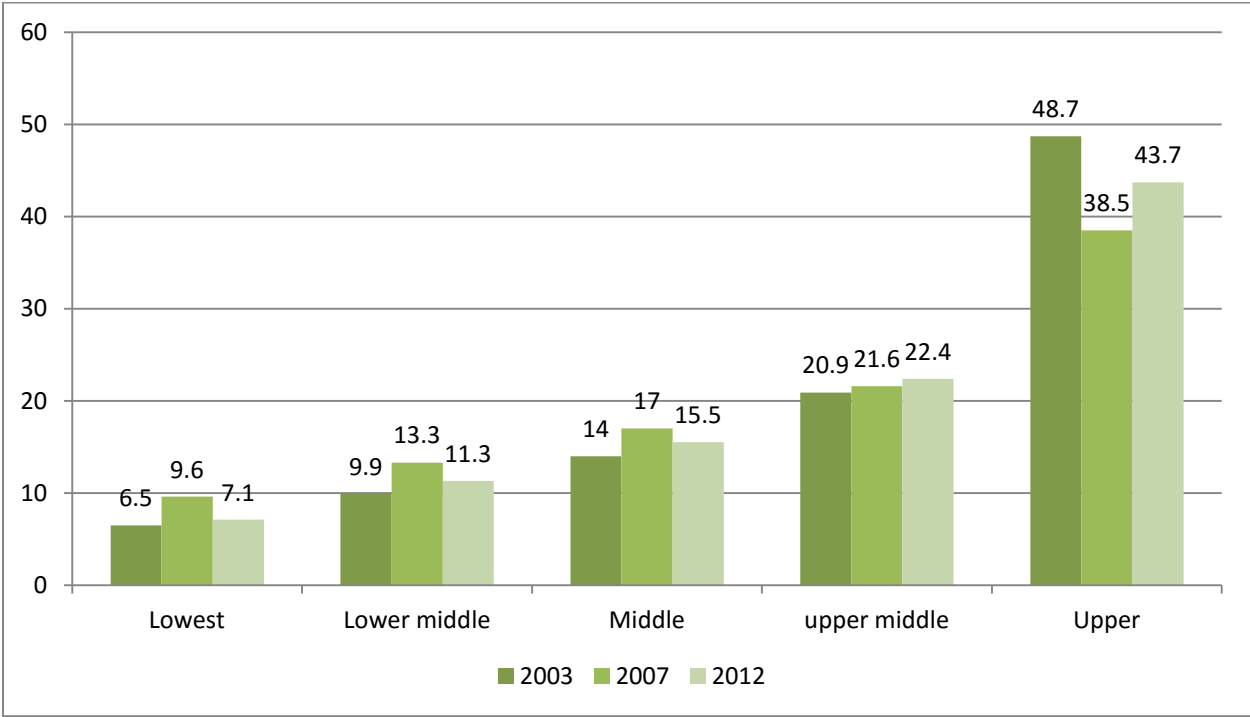
Figure 3: (Percent of Population) Poverty headcount incidences in 2003, 2007 and 2012



Source: PAR 2004, PAR 2007 and PAR 2012

From the above figure 3, it can be noted that poverty headcount incidences significantly declined in both rural and urban areas. However, it may also be noted that there were higher incidences of poverty in rural areas with 38.3 percent in 2003, 30.9 percent in 2007 and 16.7 percent in 2012, while only 4.2 percent, 1.7 percent and 1.8 percent urban population were poor in 2003, 2007 and 2012 respectively. According to PAR 2012, about 17 percent of the rural population is poor as against only about 2 percent in urban areas. Furthermore, it was seen that 95% of the poor persons live in rural areas while the proportion is higher among extremely poor persons with 97 % residing in rural areas. Therefore, poverty in Bhutan continues to be a rural phenomenon.

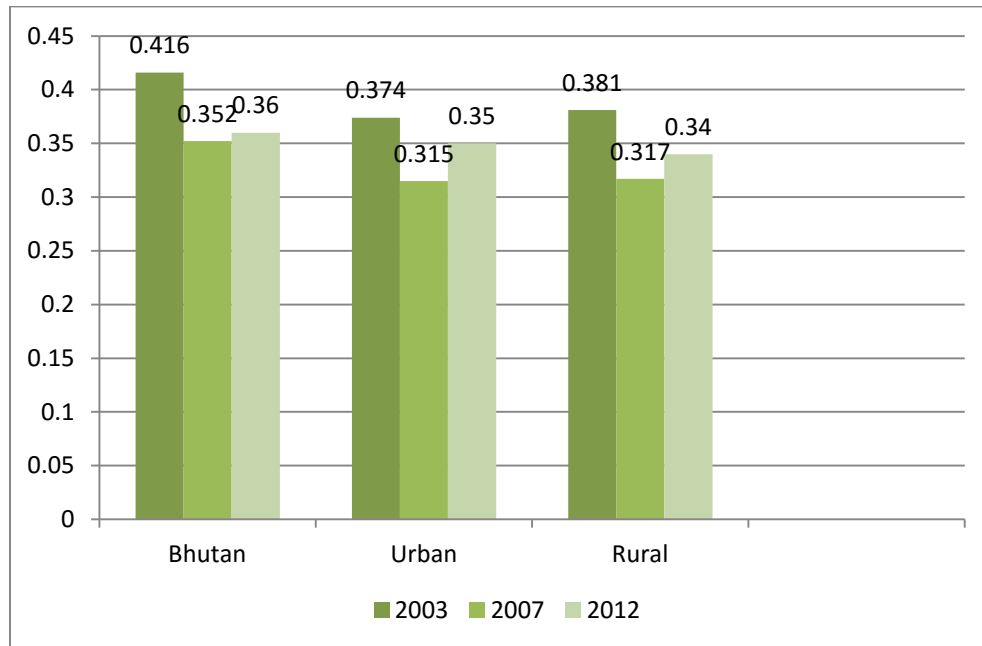
Figure 4: Shares of national consumption by population per capita consumption quintiles in 2003, 2007 and 2012



Source: PAR 2004, PAR 2007, and PAR 2012

The figure 4 above shows the shares of national consumption by population per capita consumption quintiles in 2003, 2007 and 2012. In 2012, the share (7.1%) of the national consumption of the poorest quintile is only one sixth that of the share of the richest quintile of the population compared to the share (9.6%) of the national consumption of the poorest quintile in 2007 which is one fourth that of the share of the richest quintile of the population.

Figure 5: Gini Coefficients in 2003, 2007 and 2012



Source: PAR 2004, PAR 2007 and PAR 2012

As can be seen from the figure 5 above, the Gini coefficient at national level decreased from 0.416 in 2003 to 0.352 in 2007, which reflects the decrease in inequality. Similar improvement was also seen at both urban and rural levels.

However, the Gini coefficient at the national level saw a slight increase from 0.352 in 2007 to 0.36 in 2012. The Gini coefficient at the national level (0.36) is observed to be almost equal to that of urban (0.35) and rural areas (0.34).

Goal 3: Ensure Adequate Nutrition and Dietary Improvement for the Poor

Indicators	2000	2007	2010	2014
1. Number of beneficiaries of school feeding programme (WFP)	-	41003(21.5%)	36160 ('09) (21.4%)	51,886(25.5%)
2. Iodine Deficiency Disorders (Goiter Occurrence)	65 % (83)	5 % ('05)		
3. Exclusive breastfeeding for 6 months	-	10.4 % ('08)	48.7 %	

Source: Annual Education Statistics 2009, 2012, MDG 2005, BMIS 2010

School feeding programme

Under the school feeding programme, the World Food Programme (WFP) supports the programme by providing two meals a day to students in both primary and secondary schools up to grade VIII with boarding facilities. The Royal Government provides the stipend to cover the third meal for students at this level and all three meals at the Middle and Higher Secondary level. This programme has helped improve access to education particularly to those from poor and food insecure families in remote areas. In addition to its effect of increasing enrolment and attendance rates and reducing the dropout rates, the school feeding programme has also helped improve the short term nutritional status of school going children. As given above in the table, 41,003 students (21.5% of all students) in 2007, 36,160 students (21.4% of all students) in 2010 and 51886 students (25.5% of all students) in 2015 benefitted from the school feeding programme.

Micronutrient supplements

Recognizing the importance of nutritional wellbeing, Bhutan adopted World Declaration and Plan of Action for Nutrition in 1992 (MoH 2000). A community based nutrition programme was also initiated to improve nutritional status of the Bhutanese. Since then, Bhutan has been successful in combating micronutrient deficiency. In terms of Iodine deficiency disorders, Bhutan has effectively brought down goiter occurrence from 65.4% in 1983 down to less than 5% in 2005 (MDG 2005). Bhutan has successfully eliminated Iodine Deficiency Disorders as Public Health Problem in 2003.

This huge success can be attributed to the health regulation, whereby all table salts imported or produced in Bhutan are required to be iodized.

Breast feeding

The national nutrition survey 2008 conducted by Ministry of Health showed that the early initiation of breast feeding was 81%. However, BMIS 2010 showed a decline in the early initiation of breastfeeding in 2010 with only 59 percent. BMIS 2010 also showed that 92.9 % of the newborns were breastfed within one day of birth in 2010, which is a remarkable progress. In case of exclusive breast feeding for 6 months, national nutrition survey 2008 reported it to be 10.4 % and BMIS 2010 reported it to be 48.7 % in 2010. The study conducted by Ministry of Health showed that early initiation of breast feeding and exclusive breastfeeding reduced infant mortality rate by 13% and optimal complementary feeding would reduce child mortality by another 6%. BMIS 2010 also found out that 92.7 % of children aged 12-15 months were still being breast fed and 65.7 % of the children aged 20-23 months were being continued to breastfed.

Goal 4: Ensure a Robust Pro-Poor Growth Process

Indicators	2000	2007	2010	2012
1. Budgetary expenditures of the local governments as % of total government expenditures	17.9 % ('01)	19 % ('08)	22.9 %	27.7
2. Reduction of consumption Inequality (Gini coefficient)	0.416 (04)	0.35	-	0.36
3. Unemployment rate	1.9 % ('01)	3.7 %	3.1 % ('11)	2.6(LFS, 2014))

Source: PAR 2004, PAR 2007, LFS (2001, 2007, 2010, 2011, 2012), AFS (2002, 2008, 2010)

Five- year plan and targeted poverty programmes

Poverty reduction has always been an important objective of all development policies and plans. Bhutan adopted poverty reduction as the overall objective of the 10th Five-Year Plan (2008-2013), wherein all sector and local plans are geared towards alleviating poverty. The commitment to reduce poverty has continued into the 11th Five Plan (11th FYP, 2013-2018). The primary objective of the 11th FYP is the “**Self-reliance and Inclusive Green Socio-Economic Development**” with inclusive socio economic development defined to include the reduction of poverty and inequality by enhancing the standard of living and quality of life of the most vulnerable sections of our society. Poverty reduction has been identified as one of the sixteen National Key Result Areas for the 11th FYP with a targets to reduce the income poverty to less than 5 % and multi-dimensional rates to less than 10 percent by 2018.

Poverty in Bhutan is being addressed by two broad strategies. The first strategy is by way of broad based mainstream five-year development plans. The overall objective of 10th Five Year Plan is to alleviate poverty, wherein all sector and local government plans are geared towards alleviating poverty. About 16 percent of the total capital outlay during the 10th FYP was allocated to the local governments. The resource allocation between the local governments was based on a formula (resource allocation formula) that included population, poverty, and

geographic size as the determinants. Poverty carried a weight of 25 percent, whereas population and geographic size carry a weight of 70 percent and 5 percent respectively. This is expected to help direct more resources to the poorer and more vulnerable areas and communities in the country. In addition, programmes of international organizations are also mostly in line with poverty alleviation.

The second strategy is by way of targeted poverty alleviation programmes. Under these programmes, there are several targeted poverty initiatives such as the Rural Economy Advancement Programme (REAP), the Land Rehabilitation Programme and poverty programmes of NGOs. The targeted approach deliberately attempts to provide benefits directly to the poor based on a good understanding of localized poverty and development conditions in the various Dzongkhags and Gewogs. Approximately 1.4 percent of the total capital outlay in the tenth five year plan (10th FYP) was allocated for the targeted poverty reduction programme.

Rural Economy Advancement Programme (REAP)

The Rural Economy Advancement Programme (REAP) seeks to target extreme poverty that may not be adequately addressed through mainstream development in the 10th FYP. Under REAP phase I, poverty interventions are being carried out in 10 poorest villages and completed by July 2012. Under REAP II, about 116 poorest villages are selected from across the country using objective selection criteria based on multi-dimension poverty index (MPI) taking into account other important aspects of poverty. Interventions under REAP II has commenced in the 11 FYP (2013-2018).

Key Features of REAP II

- ✓ Objective village selection Criteria
- ✓ Multi-Dimension Poverty Index (MPI)
- ✓ Logic Model
- ✓ Identification of areas of interventions based on MPI
- ✓ Evaluation of Programme
- ✓ Village Participatory Planning Process
- ✓ Innovative interventions

Key Features of Land Rehabilitation Programme

- ✓ Land grant to landless and socio-economically disadvantaged on free hold
- ✓ Land size granted based on criteria
- ✓ Housing support
- ✓ Agriculture, education, health, water and electricity services
- ✓ Income generating interventions
- ✓ Voluntary

Unemployment

Unemployment rate rose steadily over the years. In 2001, unemployment rate was only 1.9 %. However, unemployment rate increased to 2.6 % in 2014. According to Labour Force Survey Report (LFSR) 2014, there was no gender disparity in terms of overall employment with 98.1 % for males and 96.5 % for females.

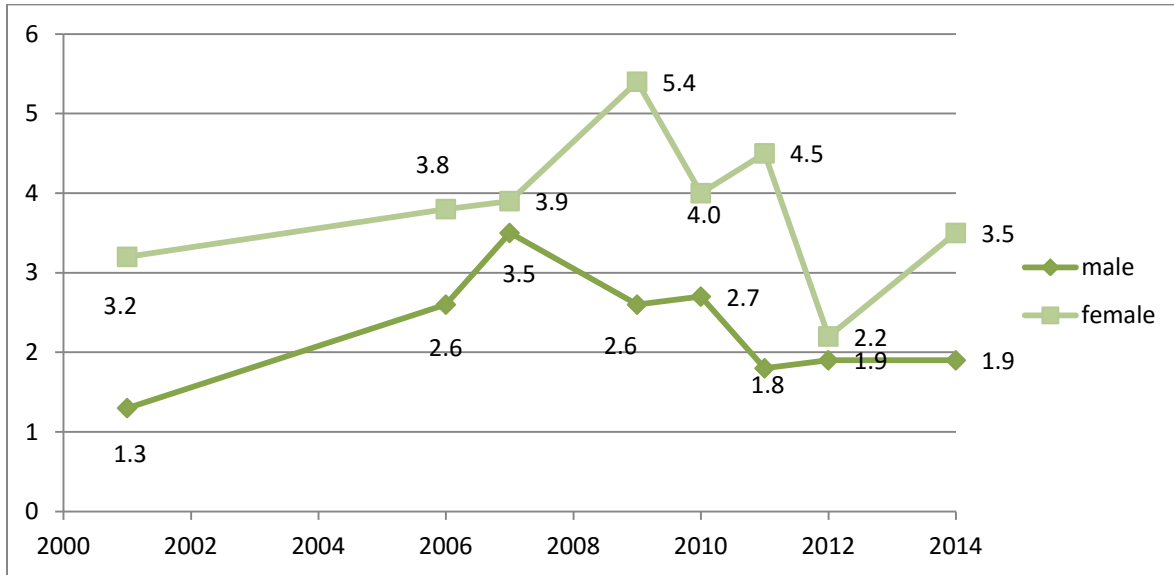
Rural unemployment rate rose from only 0.6 % in 2001 to 1.2 % in 2014. Similarly, urban unemployment rate also increased from 4.1 % in 2001 to 6.7 % in 2014. However, in 2014, urban unemployment has increased to 6.7%. In addition, youth unemployment has become an emerging issue. It increased from just 2.6 % in 1998 to 9.4 % in 2014. However, looking at the trend given in the figures below, it shows that there was increasing trend from 2001 till 2009 and it declined from the year 2009.

Table 1: Unemployment rates

Indicators	2001	2006	2007	2009	2010	2011	2012	2014
Unemployment rate by gender								
Male	1.3	2.6	3.5	2.6	2.7	1.8	1.9	1.9
Females	3.2	3.8	3.9	5.4	4.0	4.5	2.2	3.5
Total	1.9	3.2	3.7	4.0	3.3	3.1	2.1	2.6
Unemployment rate by residential sector								
Urban	4.1	4.9	6.8	7.5	5.1	5.9	3.5	6.7
Rural	0.6	2.5	2.8	3	2.6	2.1	1.5	1.2
Youth Unemployment rate by sex								
Male	4.3	9.1	10.6	10.7	7.1	6.8	7.3	8.6
Female	6.4	10.2	9.3	14.7	11	10.9	7.2	10
Total	5.4	9.7	9.9	12.9	9.2	9.2	7.3	9.4

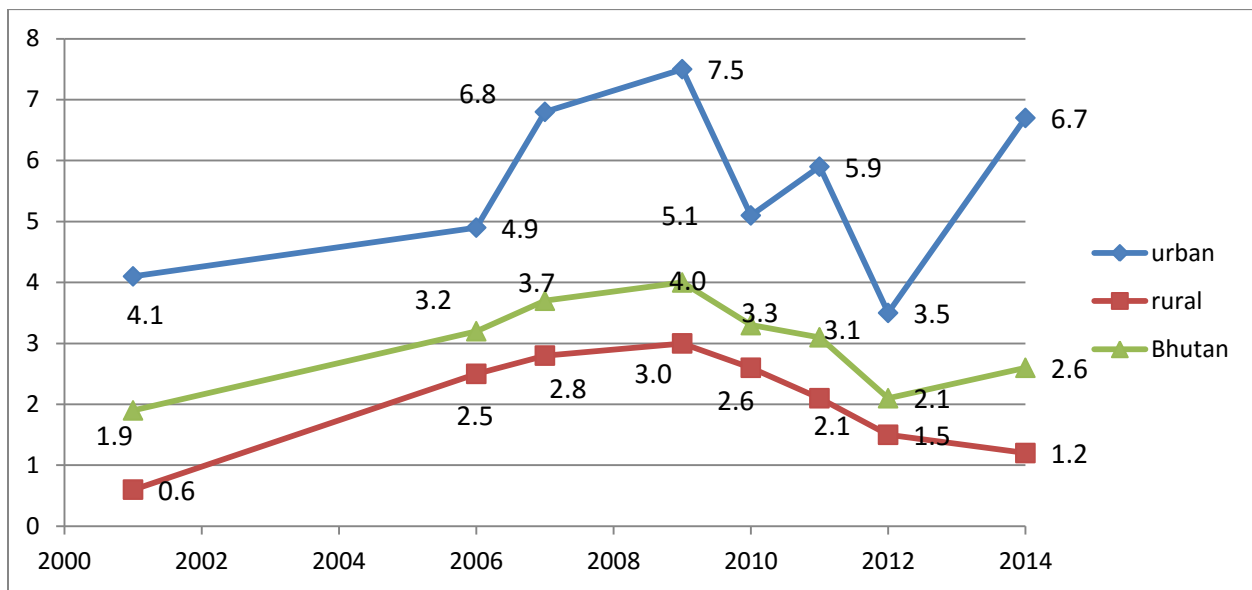
Source: LFS (2001, 2009, 2010, 2011, 2012, 2014), BLSS 2007

Figure 6: Unemployment rate by gender



Source: LFS (2001, 2009, 2010, 2011, 2012, 2014), BLSS 2007

Figure 7: Unemployment rate by residential sector and Bhutan



Source: LFS (2001, 2009, 2010, 2011, 2012), BLSS 2007, 2012

Local Government Expenditure

Local government expenditure as percentage of total government expenditure steadily increased with increasing capacity of the local governments. During the fiscal year 2001-2002, the local government expenditure as percentage of total government expenditure was 17.9 % and it increased to 19 % during the fiscal year 2007-2008. With more decentralization of fiscal power to the local governments, the local government expenditure as percentage of total government expenditure increased to 27.7 % during the fiscal year 2010-2011(Annual Financial Statements, 2011). In the 11 FYP, 30% of the total capital resources is allocated to the local governments.

In addition to the local government expenditure, most of the expenditure of the sectors and agencies were incurred for the programmes that directly benefited districts and the rural population.

Goal 5: Strengthen Connectivity of Poorer Regions and of Poor as Social Group

Indicators	2000	2007	2010	2012	2014
1. Transport Connectivity for the Poor in Rural areas (*feeder(dzongkhag) and **farm road)	*529.5 km ('04) **251.5 km ('04)	*812.7 km **716.9 km	*910.8 km ('09) **1980.3 km	*1050.9 km ** 4380.9 km	*1178.29 Km **5255.19 km
2. Mobile Connectivity – Percentage of gewogs (sub-districts) connected with mobile services	-	47.8 ('08)	100 % ('11)	100%	100%
3. Percentage of rural population having access to electricity	-	54 %	73 % ('11)	87% (Rural) 92% (urban)	95.54% (2015)

Source: 10th FYP, MTR 2011, MoIC Annual Report 2010-2011, SYB (2007, 2010,2012and 2015), BLSS 2012

Transport Connectivity to rural areas

Both the Government and rural population have acknowledged that road connectivity is vital in improving access to market and services. Given the mountainous terrain, construction of road infrastructure is difficult and expensive. However, the Government places highest priority to road connectivity among other development activities in addressing concerns of the rural poor. While farm roads are constructed to connect remote villages, feeder roads are constructed to link farm roads. In addition, power tiller tracks are also constructed in villages to help mechanize farming and as an alternate to farm roads.

According to statistical yearbook of Bhutan 2007, there were 529.5 kms of feeder roads(now dzongkhag roads) and 251.5 kms of farm roads in 2004. With vigorous implementation of development plans, there were 1178.29 kms of feeder roads(dzongkhag roads) and 5255.19 kms of farm roads in 2014. A remarkable achievement was made in terms of construction of farm roads, which benefited rural population in boosting their socio-economic activities.

As shown in the table 2, it can be noted that the increase in length of roads, which includes highways, dzongkhag , urban roads, farm roads, forest roads, power tiller tracks and access roads. It shows decline in the number of poor people by almost half in most of the dzongkhags except in Tsirang dzongkhas showing increase in poor people by 209 and dzongkhags like Pemagatshel and Trashigang saw slight decrease in poor people.

Table 2: Road infrastructure development by Dzongkhags and level of poverty

Dzongkhag	Poor	Total Roads (2006)	Total Roads	Net Increase in kms	Poor
	(PAR 2007)		2014		(PAR 2012)
Samtse	26100	129.6	396.15	266.55	12192
Monggar	17000	289.3	1081.06	791.76	4036
Trashigang	14000	321.8	984.97	663.17	5034
Chukkha	13700	439.7	925.25	485.55	6169
Samdrup Jongkhar	13300	195.4	446.13	250.73	6393
Zhemgang	10400	230.1	568.35	338.25	5006
Sarpang	7800	216.9	496.48	279.58	1436
Lhuentse	6700	133.5	508.28	374.78	4545
Pemagatshel	6200	80.6	551.51	470.91	6004
Dagana	5900	143.6	441.64	298.04	4857
Wangdue	5700	277.3	746.89	469.59	3716
Punakha	4000	135.4	535.68	400.28	2191
Trongsa	3200	222.7	391.86	169.16	1995
Tsirang	2600	114.9	293.46	178.56	2809
Trashhi Yangtse	2600	99.6	292.83	193.23	2165
Thimphu	2100	220.1	560.12	340.02	464
Bumthang	1800	227.3	441.21	213.91	437
Haa	1700	81.6	246.18	164.58	555
Paro	1400	250.9	600.36	349.46	<100
Gasa	200	29.6	69.84	40.24	<100
Total	146400	3839.9	12592.25	6738.35	

Source: Annual Information Bulletin 2006 and 20, MoWHS, PAR, 2012

Mobile Connectivity

In addition to fixed telephone connectivity, government recognized the importance of mobile connectivity to empower rural people in terms of socio-economic development. Therefore, government invested huge amount of resources to ensure 100 % connectivity of rural areas by end of 2011. By end of September 2011, Bhutan achieved 100 % mobile connectivity to rural areas, which is a significant increase from only 47.8 % in 2008. Currently, there are two mobile service providers. In addition to increasing access to mobile services, several innovative ways were explored in increasing the affordability and utilization of mobile services, which included reduction of service charges.

Access to Electricity

Since electricity is the most important element that contributed to better livelihood of the rural population, government pledged to electrify all households by 2013 under rural electrification project. By the end of 10th Five-Year Plan, 91.01% of the households in rural areas were electrified, which was a significant increase from only 54 % in 2007.

According to BLSS, 2012, 92% of the urban households have access to electricity while only 87% of the rural households have access to electricity. The overall rural electrification achieved till date (on-grid and off-grid) is 95.54%.

Goal 6: Reduce Social and Institutional Vulnerability of Poor, Women and Children

Indicators	2000	2007	2010	2014
1. Percentage of children (age 5-14) who are working	-	-	18.4 %	-
2. Employment rate of women	96.8 %	96.1 %	96.0 %	96.5
4. Early marriage (% of girls married before legal age)	-	-	30.8% (BMIS 2010)	-
5. Birth registration (% of children registered)	-	-	99.9% (BMIS 2010)	-
6. Sex ratio at birth (males per 100 females)	106.6	111 ('05)	-	100.4(2012)

Source: BMIS 2010, LFS 201 and 2012, Annual Health Bulletins 2006 & 2007, BLSS 2012

Institutions protecting women and children

1. National Commission for Women and Children (NCWC):

Bhutan is signatory to Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) since 1981 and is also a signatory to Convention on the Rights of the Child (CRC) since 1990. The National Commission for Women and Children (NCWC) was established in 2004 as an agency to monitor and coordinate all policies and activities related to protection and promotion of rights of women and children.

2. National Plan of Action for Gender:

To identify the specific gender interventions, the National Plan of Action on Gender (NPAG) was developed for the period 2008-2013 in consultation with National Gender Focal Points (GFPs) and other key stakeholders. The NPAG aims to promote and achieve gender equality in areas such as good governance; economic development with a focus on employment; education and training; health; ageing, mental health and disabilities; violence against women; and prejudices and stereotypes.

3. Gender Focal Points

All ministries, government agencies and the private sector have Gender Focal Points (GFPs). The GFP has a terms of reference (TOR) endorsed by the Royal Civil Service Commission, based on which they function. The main objective of having GFP is to ensure that gender concerns are mainstreamed in sectoral plans and policies. The progress, issues, constraints and challenges are discussed during annual and biannual meetings of GFPs.

4. Constitutional rights of women and children:

The protection of women and children are enshrined in the Constitution of the Kingdom of Bhutan 2008 as the fundamental rights of the Bhutanese citizens. Article 8 (5) of the Constitution states that a person shall not tolerate or participate in acts of injury, torture or killing of another person, terrorism, abuse of women, children, or any other person and shall take necessary steps to prevent such acts. More specifically, Article 8 (18) of the Constitution states that the State shall endeavor to take appropriate

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

5. Penal Code 2004:

Child-related provisions on the child abuse offences and specific procedures for dealing with juvenile delinquency are included in the Penal Code 2004. Under Chapter 9 of Penal Code 2004, juveniles are not convicted by law who are ten years and below, while juveniles above 10 years of age are sentenced to only half of the prescribed offence. It also specifies that juveniles shall be kept in other appropriate facilities and correctional institutions in lieu of imprisonment.

The Chapter 14 of Penal Code 2004 provides for dealing with sexual offences, which includes sexual abuse of a child. Sexual abuse of a child is severely dealt by law and can be charged up to felony of the first degree. Rape is also categorized in different forms and penalties assigned as per the severity of the crime.

6. Labour and Employment Act 2007:

Child labour of any form is prohibited by Labour and Employment Act 2007. It establishes the minimum age for employment at 18 years of age. Chapter II of Labour and Employment Act 2007 specifically prohibits child labour for prostitution, recruitment in arm forces, trafficking, and unsafe work places.

7. Woman and Child Protection Unit

In collaboration with the National Commission for Women and Children, Royal Bhutan Police established a Woman and Child Protection Division in 2007 with the mission to enforce laws protecting the rights of women and children. In addition to law enforcement, Woman and Child Protection Division collaborates with civil society and other agencies in educating on rights and providing support to women and children in need. The Division also maintains database on violence against women and children. The Division is now expanding itself by establishing units in other Dzongkhags depending on frequency of cases.

8. RENEW

A non-governmental organization, RENEW (Respect, Educate, Nurture, and Empower Women) was founded by Her Majesty the Queen Mother Ashi Sangay Choden Wangchuck in 2004 to empower women and girls in Bhutan, especially the victims and survivors of domestic violence. As a NGO, it is actively involved in preventing domestic violence and helping the abused get back to the communities as independent and productive members of the society. In addition, services such as counseling, temporary shelter, legal assistance, and skills development trainings are provided to the victims of the domestic violence.

Child Labour

According to BMIS 2010, about 18.4 % of children aged 5-14 were working based on the definition of child labour used by UNICEF. It was also reported that child labour is more common in rural areas at 22.2 percent as compared to 8.7 % of children in urban areas. BMIS 2010 found that child labour depended on wealth of the family with 28.7 % for poorest wealth index quintile and 5.3 % for richest wealth index quintile.

Share of Women in Employment

According to Labour Force Survey Report (LFSR) 2014, there was no gender disparity in terms of overall employment with 98.1 % for male and 96.5 % for females. In terms of economic activity, there is a decrease in women who had dominance in agriculture and forestry economic activities from 65.3 % in 2010 to 29.9% along with declining trend of males from 54.0 % in 2010 to 26.8% in 2014. In terms of major occupation, most of the women were employed in service and sales occupation next to agriculture decreased from 9.3 % in 2010 to 5.1% in 2014.

There is very low female participation in governance and decision-making roles with women making up only 8.3% of the parliament. Similarly, the female labour force participation is low at 54.8% compared to that of men at 71%. In the rural areas women comprise 53% of those employed in the agriculture and

farming enterprises. 81% of rural women are employed in agricultural farming as compared to 69% of men (LFS, 2014).

Early Marriage

BMIS 2010 reported that 30.8 % of the women aged 15-49 years were married before they attained 18 years of age despite the legal age for marriage being 18 years for women. It was also revealed that 6.7 % of the women married before the age of 15 years. However, BMIS 2010 reports that there was a decreasing trend of early marriages, particularly in urban areas.

Goal 7: Ensure Access to Affordable Justice

Indicators	2000	2007	2010	2012
1. Access to alternate dispute resolution.	In Court settlement in civil cases	In Court settlement in civil cases	In Court settlement in civil cases	In Court settlement in civil cases
2. Access to free legal aid for the poor	Provided	Provided	Provided	Provided

Source: Case Statistics, Royal Court of Justice

Access to Justice

The establishment of courts in all the 20 districts and the 15 sub-districts made access to Justice easier and affordable to the people. Appeals to decisions from the districts and sub-districts are reviewed by the High Court and the Supreme Court. The Supreme Court of Bhutan was established on 21st February 2010 and is the highest appellate authority to review appeals.

Judicial Forms

To ensure quality and exhaustiveness of hearings and to enhance transparency and accountability in the judicial mechanism, judicial forms were introduced. Forms perform simple and repetitive tasks with more speed and accuracy at a lower cost. In addition, the standardized forms avoid omissions of relevant facts and facilitate faster processing of cases.

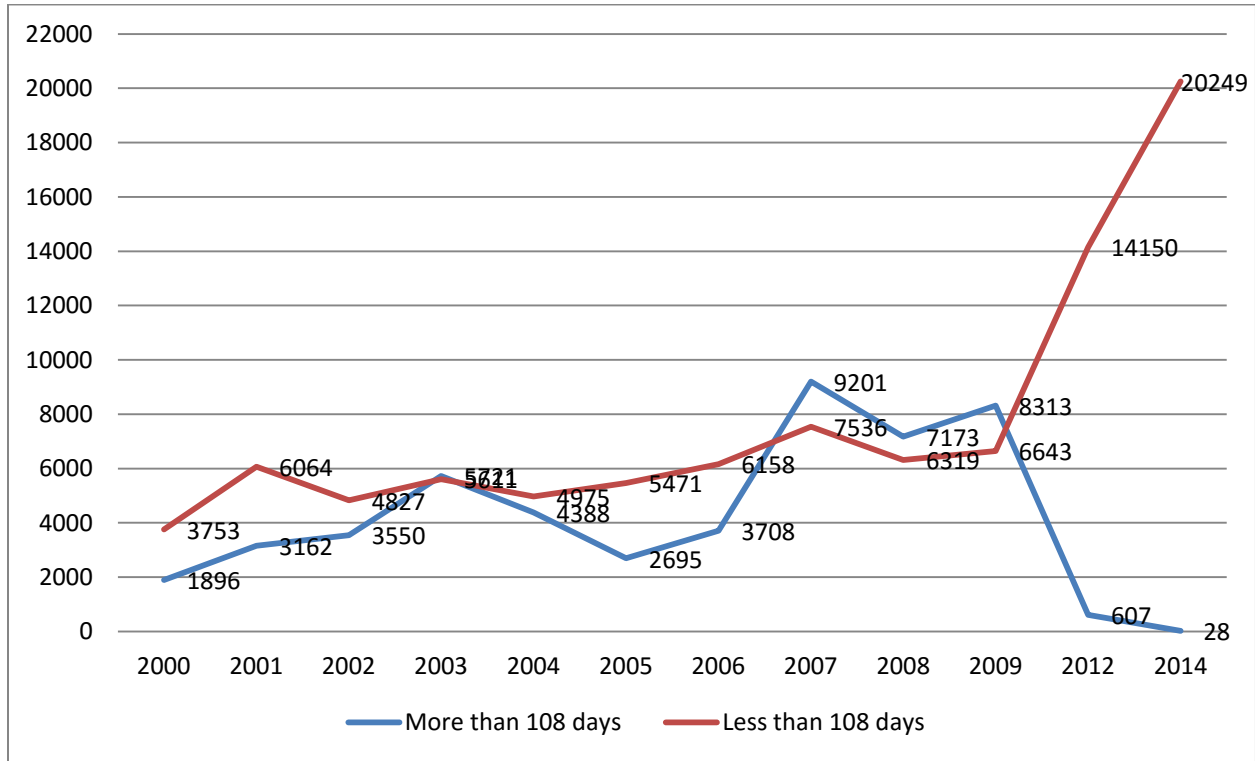
Legal disputes disposal

Article 21 (1) of the Constitution of the Kingdom of Bhutan requires the Judiciary to uphold and administer Justice fairly and independently without fear, favour or undue delay in accordance with the Rule of Law to inspire trust and confidence and to enhance access to Justice. In addition, the guiding policy of Royal Court of Justice is to make judicial process responsive, effective, faster, better and easier.

Annual evaluation is conducted on the statistics of yearly cases, duration and timeliness of the cases, stages of hearings, etc. In criminal cases, the courts are mandated to convene the preliminary hearing within 10 days of registration and within 108 days in civil cases. Individual bench clerk is responsible for processing the cases, so that the cases are decided within 12 months as per the resolution of 18th National Judicial Conference, 2007. The case information report segregates the decided cases into two parts; cases that are decided within 108 days and beyond 108 days. The pending cases beyond 12 months are monitored by the Chief Justice of Bhutan.

As given in the figure below, there was a steady increase in number of cases decided in less than 108 days from 3753 cases in 2000 to 20249 cases in 2014. With regard to number of cases decided in more than 108 days, it increased from the year 2000 with 1896 cases decided and dropped sharply from the year 2003 until year 2005 and continued to rise till 2007. It dropped to only 28 cases in 2014. However, looking at the latest statistics of 2014, percentage of cases pending in all level of courts was negligible at only 6.7 %. In absolute numbers, out of 20,202 new registered cases and 1402 cases brought forward at all levels of courts in the year 2014, a total of 20249 cases were decided and only 1355 cases were left pending.

Figure 8: Number of cases decided in less than 108 days and in more than 108 days



Source: Case Statistics, Royal Court of Justice

Alternate dispute resolution

Article 21 (16) of the Constitution of Kingdom of Bhutan provides for establishing impartial and independent Administrative Tribunals as well as Alternative Dispute Resolution Centres. However, these formal systems are yet to be established.

In absence of formal alternate dispute resolution system, many disputes are resolved privately or through local mediators such as heads of the villages or sub-districts in rural areas and *Jabmis* in urban areas.

The option of resolving a dispute through mediation is incorporated in section 150 of the Civil and Criminal Procedure Code, 2001. While mediation on all disputes of civil nature are legally accepted,

mediations on divorce cases where parties do not have marriage certificates and without the leave of the court and criminal cases involving non-compoundable offenses are not legally accepted . In cases of compoundable offenses, parties may mediate on the issue of compensatory damage but parties cannot mediate on the issues of sentencing.

Legal aid for the poor

The guiding policy of Royal Court of Justice is to administer justice impartially and fairly irrespective of language, religion, race or social class and to make courts user friendly.

To ensure effective access to justice, legal aid is made available to those who do not have sufficient resource in the interest of justice in accordance with section 34 of the Civil and Criminal Procedure Code, 2001. An indigent accused is guaranteed with legal aid from the State.

Court Fees

In an effort to provide equal access to Justice, a minimal court fee of Nu. 100 is charged at the Supreme Court and the High Court, and Nu. 50 is charged at the District and Sub-District Courts.

Goal 8: Ensure effective participation of poor and of women in anti-poverty policies and programmes

Indicators	2000	2007	2010	2014
1. Percentage of women in Civil Service	21.23 %	29.01 %	31.62 %	34.16%
2. Gender Responsive Budgeting	-	-	-	-

Source: Civil Service Statistics Report (2000, 2007 and 2011)

Women in Civil Service and Parliament

According to Bi-Annual Civil Service Statistics Reports, there was steady increase in the number of females in the civil service. Percentage of females in the civil service has increased from 21.23 % in September 2000 to 34.16 % in December 2014. Although the overall gender parity in the civil service has been improving over the years, the number of females at decision making levels is still very low. As of December 2014, only 9.77 % are females at executive level in the civil service. At professional and management level, there are equal number of females (50.45 %) . In the Parliament, women representation remains low with only 8 % in the National Assembly and 24 % in the National Council.

Gender Responsive Budgeting

Recognizing the importance to ensure that public resources are allocated in an effective manner to advance gender equality and women’s empowerment, Bhutan is currently drafting strategic framework and action plan for gender mainstreaming and gender responsive budgeting. The strategic framework will be implemented in two phases, wherein the phase I will mainly look to expedite the implementation of activities of the National Plan of Action on Gender (NPAG) and launch gender responsive budgeting (GRB) as an effective tool for this.

Under phase II, a gender and development plan will be formulated through consultative process to provide strategic direction for GRB and gender mainstreaming. Through this two phase approach, it is expected to be able to initiate and institutionalize the GRB mechanism into the planning and budgeting processes.

HEALTH SDGs

Goal 9: Maternal Health

Indicators	2000	2007	2010	2012
1. Maternal Mortality Ratio (per 100, 000 live births)	255	-		86
2. Percentage of births covered by the skilled attendants	24%	55.9%	64.5% (BMIS 2010)	74.6%
3. Total fertility rate	4.7	3.6 ('05)	3.1	2.3

Source: National Health Survey 2000, PHCB 2005, BMIS 2010, Annual Health Bulletin, 2012

Maternal mortality

With increased births attended by skilled personnel, institutional delivery and other ante natal care services, there was significant achievement in reducing maternal mortality ratio from 560 in 1990 to 255 in 2000. Since 2000, information on maternal mortality ratio is not available owing to complexity in calculating accurate mortality ratio. However, Ministry of health has been keeping track of actual number of maternal deaths to monitor maternal health programmes and recorded 86 maternal deaths per 100,000 population in 2012(NHS,2012)

Skilled Birth Attendants

Given the difficult geographic terrain and scattered nature of settlements, it remains a challenge for institutional delivery and skilled attendant at delivery in homes. However, with constant advocacy and campaigning, percentage of births attended by skilled personnel increased from 24 % in 2000 to 74.6 % in 2012.

Total Fertility rate

With sustained targeted advocacy campaigns on family planning, total fertility rate remarkably reduced from 4.7 in 2000 to 2.3 in 2012. In addition, this can also be attributed to rise in living standards, improved health care system, increased level of education and literacy rate, and increased prevalence of contraception.

Goal 10: Child Health

Indicators	2000	2007	2010	2012
1. Immunization coverage	85%	90%	94.5 % ('08) (MoH)	95.1%
2. Under 5 mortality Rate (Per 1000 live births)	84	62	69 (BMIS)	37.3
3. Infant Mortality Rate (Per 1000 live births)	60.5	40 ('05)	47 (BMIS)	30

Source: PHCB 2005, MDGR 2007, Annual Health Bulletin (2008, 2011), NHS, 2012 & BMIS 2010

Immunization

Immunization programme has significantly contributed in reducing the infant mortality in the country. Since the introduction of expanded programme for immunization in 1979, Bhutan witnessed significant decline in child mortality rate. The country's achievement of Universal Child Immunization (UCI) in 1991 was marked by national immunization levels focused on wide vaccination coverage for major diseases like BCG, diphtheria, tetanus, pertussis, poliomyelitis, measles and hepatitis B.

The coverage for these antigens for children with proper immunization cards showed that 90% of all children were fully vaccinated while 10% remained partially vaccinated. Rubella vaccine was successfully introduced in the year 2006 with mass national rubella vaccination campaign. Looking at the overall coverage trend, immunization coverage increased from 85 % in 2000 to 95.1 % in 2012. It has sustained over 90% since 1990.

Child Mortality

According to National health Survey 2012, under-5 mortality rate significantly declined from 84 in 2000 to 37.3 per 1000 live births in 2012. Similarly, infant mortality rate reduced from 60.5 in 2000 to 30 per 1000 live births in 2012. According to Bhutan Multiple Indicator Survey 2010, infant and under-5 mortality rates were higher in eastern Bhutan than in Central Bhutan. The study also showed that child mortality was significantly different in terms of educational levels and wealth, wherein a child born to the poorest family in rural areas and with uneducated mother was more likely to die by the age of five as compared to a child born to a rich and educated family in an urban area.

Goal 11: Affordable Health Care

Indicators	2000	2007	2010	2012
1. Percentage of total household expenditure	-	-	11	-
2. Total government expenditure on health as a % of GDP	-	-	3.68	-
3. Percentage of budget allocated to primary health care vis a vis total health budget	-	-	58	-
4. No. of doctors (per 1000 of population)	0.13 ('05)	0.24	0.26	0.27

Source: Bhutan National Health Accounts 2009-10, Annual Health Bulletin 2010, SYB (2005, 2010)

Health budget

Major portion of health care system in Bhutan is financed from the revenues of the Royal Government of Bhutan. Public financing of health care system accounts for nearly 90 percent of the total health expenditures in the country.

The Royal Government expenditure on providing health services accounts for 3.68 % of GDP. 88% of the resources were financed by the Royal Government and 11% of the total resources were contributed by households. Nearly 30 % of the total resources were allocated to districts under the decentralized system. In addition, Bhutan national health accounts 2009-2010 reported that 58 % of total health budget was allocated to primary health care system. External assistance played a considerable role in financing the health care system in the country, which accounted to about 18% of the total government spending on health.

Ratio of Doctor per 1000 people

Ratio of doctors per 1000 people did not increase much from 0.13 in 2005 to only 0.27 in 2012. However, the Government's commitment to provide at least three doctors in all district hospitals was partially achieved. At present, 10 districts have at least 3 doctors each, 6 districts have 2 doctors each and the remaining 4 have 1 doctor each. The progress on this front was slow due to difficulty in new recruitment coupled with a number of existing doctors undergoing specialization training programme

abroad. The Ministry also instituted a mechanism to send gynecologists once a month to those hospitals with no gynecologists in order to facilitate wider coverage of these services.

Goal 12: Improved Hygiene and Public health

Indicators	2000	2007	2010	2012
1. Percentage of population with access to safe drinking water	68 ('01)	81 ('06)	96.1 (BMIS)	98
2. Percentage of population having access to improved sanitation facilities	88	90 ('06)	93 % (MoH) 58.4 (BMIS)	66.3%(NHS, 2012) 81% (BLSS, '12)
3.HIV cases detected	38	144 ('08)	246	321(2013)
4.TB case per 100,000	168	150	190	158('11)
5. Malaria incidences per 10,000	87	11	7	1

Source: SYB 2005, MDGR 2005, Annual Health Bulletin 2007, 2011, 2012, BMIS 2010, BLSS,2012

Safe Drinking Water

Royal Government places highest importance in ensuring access to safe drinking water. As a result, Bhutan has seen remarkable achievement in providing safe drinking water especially to the people in rural areas. The proportion of population with access to drinking water increased from 78 % in 2000 to 98 % in 2012 (BLSS, 2012). According to BLSS 2012, there was slight variation in access to safe drinking water by rural and urban with 97.5 % in rural areas and 99.3 % in urban areas.

BMIS 2010 showed that use of safe drinking water depended on education level of the household head and wealth index of the household, wherein richest quintile was more than three times likely to use safe drinking water than the poorest quintile.

Sanitation

Access to improved sanitation, one of the health indicators in MDGs was reported to be achieved in 2005 as per MDG Report 2005. Access to improved sanitation increased from 88 % in 2000 to 94.5 % in 2011. The BLSS report, 2012, shows that access to improved sanitation facilities is about 81 and National Health Survey Report, 2012 shows it is 66.3%. The low coverage of sanitation is due to the definition of improved sanitation coverage. NHS 2012 has followed the definition of WHO/UNICEF Joint Monitoring

Programme, which segregates pit latrines with slab and without slab. It categorizes pit latrine without slab as unimproved sanitation facility

HIV/AIDS

The number of HIV cases detected gradually increased from only 38 in 2000 to an alarming figure of 321 in 2013. Most infected are between 25 to 39 years of age, who are the most economically productive age groups. According to a study, almost 90 % of infections were through unsafe sex with multiple partner and increased casual sex.

Recognizing the importance of preventive measures in combating HIV/AIDS, Royal Government took various initiatives to reach out and communicate to all sections of Bhutanese society. A multi-sectoral task forces comprising of all stakeholders were created in all 20 districts to coordinate and implement HIV/AIDS prevention and control activities at the community level. As for treatment, free anti retro viral (ARV) treatment is provided to HIV/AIDS patients.

Nevertheless, according to BMIS 2010, 16.3 % of women aged 15-49 years did not hear about HIV/AIDS. It was also reported that 34 % of women aged 15-49 did not know that HIV/Transmission could be prevented by using condom. BMIS 2010 also reported that less than half of rural women received counseling on HIV/AIDS compared to two third of women in urban areas. Therefore, women in rural areas are more vulnerable to HIV infections.

Tuberculosis

With successful integration of tuberculosis (TB) programme with the general health services and intensive implementation of advocacy and campaigning programmes, Bhutan had been able to keep incidence of TB under control. The incidence of TB was only 168 per 100,000 in 2000 and 157 per 100,000 in 2013 with treatment success rate of 91%. Although the incidence of TB appears to be low, it is a serious public health concern given its infectious nature and vulnerability to HIV/AIDS. The incidence of deaths caused by TB was also reduced with introduction of early diagnosis system and Directly Observed Treatment Short course (DOTS).

Malaria

Malaria cases significantly declined from about 87 cases per 10,000 in the year 2000 to only 1 case per 10,000 in the year 2012. Similarly, the number of deaths caused by malaria had also been remarkably contained with only 1 death in the year 2011 as compared to 15 deaths in the year 2000. These significant results could be attributed to various preventive measures such as information dissemination, increasing use of insecticide treated bed nets, early diagnosis system and effective treatment.

However, according to Annual Health Bulletin 2010, it reports that Bhutan experienced abnormal outbreak of malaria in the year 2009 with 972 positive cases. This was mainly attributed to abnormal rainfall patterns coupled with high infection rates across the border in India.

EDUCATION SDGs

Goal 13: Access to Primary/Community Schools for all Children, Boys and Girls

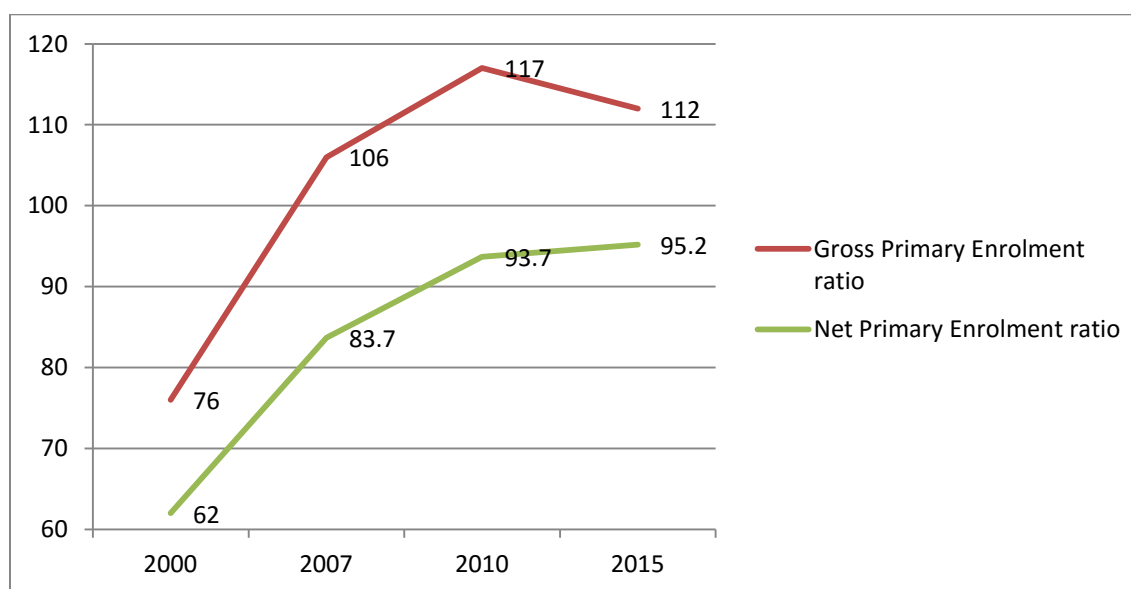
Indicators	2000	2007	2010	2015
1. Gross Primary Enrollment Rate	72 %	106 %	117 %	112 %
2. Net Primary Enrollment Rate	62 %	83.70 %	93.7 %	95.2 %
3. Gender parity at primary level	82%	99.50 %	99.40 % (MoE) 102 % (BMIS)	100 %
4. Gender parity at secondary level	78 %	97.20 %	103.50 % (MoE) 103 % (BMIS)	100 %

Source: Annual Education Statistics (2007, 2010), MDG Report (2005, 2010), BMIS 2010

Enrolment rates

Bhutan's gross primary enrolment rate exceeded 100% for the first time in 2007 with 106%. In 2015, gross primary enrolment rate further increased to 112 % (Annual Education Statistics 2015). In terms of net primary enrolment rate, Bhutan progressed well from 62 % in 2000 to 95.2 % in 2015.

Figure 9: Gross Primary Enrolment Ratio and Net Primary Enrolment Ratio



Source: Annual Education Statistics (2007, 2010, 2015), MDG Report (2005, 2010)

Gender Parity in Education

Gender parity at both primary and secondary levels has significantly improved. The ratio of girls to boys at primary level increased from 82 % in 2000 to 1.06 in 2015 (Annual Education Statistics 2015). According to BMIS 2010, the gender parity index at primary school was 1.02 (ratio).

Comparatively, gender parity at secondary level has made better progress. According to BMIS 2010 the gender parity index at secondary school was 1.03. The ratio of girls to boys at secondary level was only 78 % in 2000, while it already surpassed the target with 1.04 in 2012 (Annual Education Statistics 2015).

At the national level, GPI stands at 1.06 as per Annual Education Statistics, 2015. This indicates that on the whole, the correct proportions of females in relation to males are enrolled in the education system there is no 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.

Goal 14: Completion of Primary Education Cycle

Indicators	2000	2007	2010	2015
1. Primary completion rate (Pre Primary – Class 6)	-	75.8 %	98 % (MoE) 90.1% (BMIS)	111 %

Source: General Statistics 2007 (MoE), Annual Education Statistics 2010,2015 BMIS 2010

Primary Completion Rate

Primary completion rate (pre-primary to class VI) significantly progressed from 75.8 % in 2007 to 98 % in 2010 and 111 % in 2015(Annual Education Statistics 2010, 2015). However, BMIS 2010 reported it to be 90.1%. The difference in the data for 2010 could be attributed to the difference in methodology used. Nevertheless, both the sources showed a remarkable achievement in terms of primary completion rate.

Dropout rate

The figure below shows the dropout rates in class PP to class VI for the year 2008-2009 and 2011-2012. There was no drop out in class PP, while the dropout rate was highest in class V with 3.50 % in 2008-2009 while the highest dropout rate in 2011-2012 was observed in class IV. The average dropout from class PP to Class VI was 1.70 % in 2008-2009 while that in 2011-2012 was 0.5%. There was significant dropout reduction in 2011-2012.

Figure 10: Dropout rates in 2008-2009 and 2011-2012



Source: Annual Education Statistics 2010, 2012

According to AES, 2015, the average dropout rate declined from 3.1 % in 2013 to 2.3% in 2015. In 2015, the highest dropout rate was observed in class V at 5.14% followed by class IV at 2.85%.

Goal 15: Universal Functional Literacy

Indicators	2000	2007	2010	2012
1. Adult literacy rate	-	52.8 % ('05)	-	55 %

Source: PHCB 2005, 10th Five Year Plan, BLSS 2012

Adult Literacy Rate

According to Population and Housing Census of Bhutan (PHCB) 2005, the adult literacy rate in 2005 was 52.8 %. There was gender disparity in adult literacy, wherein male adult literacy was 65 % and female adult literacy was only 38.7 % in 2005.

No information on adult literacy is available prior to 2005 and post 2005 to study its trend. However, Bhutan Living Standard Survey of 2012 showed that adult literacy stands at 55%, an increase of 2.2% between 2005 and 2012. In 2012, the literacy rate is 66% for male adults and 45% for female adults. More adults literate are in urban areas for both the sexes. About 84% of male adults live in urban areas compared to only 65.3% of adult females indicating that higher proportion of adult literate live in urban areas.

Non Formal Education

Given the difficult terrain and limited resources, it is difficult and expensive for the government to establish formal schools in every community. This led to some section of the society with no education. In addressing this issue, government introduced non formal education (NFE) programme in the country. The NFE programme was first introduced by National Women Association of Bhutan (NWAB) in 1992 and it was taken over by Ministry of Education in mid 1994. The NFE programme provides basic education with the objectives to provide functional and skill-based literacy training in Dzongkha, promote national language, increase literacy rate, and provide post literacy and continuing education programme. NFE programme is undertaken at three levels, which being basic literacy programme, post literacy programme and self learning programme.

As of March 2015, there were about 721 NFE centres across the country with 7618 learners enrolled in the NFE programme. 74.7 % of the learners were females. There are 949 instructors teaching the programme currently.

Goal 16: Quality Education at Primary, Secondary and Vocational Levels

Indicators	2000	2007	2010	2015
1. Percentage of trained teachers	94.5 ('05)	94 %	88.5 %	83 %
2. Students teacher ratio (STR)	30.7 ('05)	28.3	24	20

Source: Statistics 2005 (MoE), General Statistics 2007, Annual Education Statistics 2010, 2012

Trained teachers

The quality of education has always been an important priority for the Royal Government. There are two colleges of education, which offer training programs for teachers in education.

In an effort to enhance the quality of teachers, the entry qualification is raised from class X to class XII. Moreover, the two-year primary teaching certificate programme (PTC) was phased out in 2003 and replaced by a three year Bachelor's of Education, which was subsequently enhanced to a four-year course in 2009.

In addition, in-service teachers with primary teachers certificate (PTC) are being provided with opportunities to upgrade both their academic and professional qualification through a continuing education programme and a distance education programme. Teachers have the opportunity to upgrade their academic qualification and get a higher secondary school certificate through the continuing education programme, which was initiated in 2006. The distance education programme, introduced in 1995, is offered by both the Colleges of Education and enables teachers to upgrade their professional qualification to the Bachelor in Education and Master in Education levels. With such institutions in place, percentages of trained teachers remained high with 94.5 % in 2005 and 83 % in 2015. With regard to student teacher ratio, it has declined over the years from 30.7 in 2005 to 20 in 2015.

The table 3 given below details the number and percentage of trained teachers by degree as of March 2012. The table shows that more than half of the teachers have qualification with bachelor degree and very small number of teachers have qualification with PhD.

Table 3: Number and Percentage of trained teachers by degree, 2015

Academic Degree	Trained as Teacher		Not Trained as Teacher		Total Teacher	
	Number	Percentage	Number	Percentage	Number	Percentage
PhD	0	0	7	0.1	7	0.1
Masters	177	2.7	519	7.9	696	8.8
PG Diploma	606	9.2	72	1.1	678	8.5
Bachelors	3,636	55.2	600	9.1	4236	53.4
Higher Secondary/Matriculation			150	2.3	150	1.9
ZTC/PTC	2165	32.9			2165	27.3
Total	6584	83	1348	17	7932	100%

Source: Annual Education Statistics 2015

ENVIRONMENT SDGs

Goal 17: Acceptable Level of Forest Cover

Indicators	2000	2007	2011	2014
1. Percentage of forest area	72.5 %	72.5 %	72.5 %	80.90 %
2. Number of community forests	1	57	313	600

Source: MoAF (2002, 2010), Bhutan RNR Statistics 2012

Forest Coverage

Environmental conservation always received highest priority from the government. The Constitution of the Kingdom of Bhutan states that, “Every Bhutanese is a trustee of the Kingdom’s natural resources and environment” The Constitution further charges the Government to ensure that a minimum of 60 % of country’s land area should be maintained under forest cover for all time.

In addition, conservation of environment is recognized as one of the four pillars of Bhutan’s development philosophy, Gross National Happiness (GNH). Following this, all policies and development programmes are cautiously aligned with the concept of conserving environment and striving to cause minimal damage to the environment during the development activities.

In an effort to reinforce government’s commitment to conserve forest, ‘National Forest Policy of Bhutan 2011’ is drafted. With strong environmental conservation policy and institutions in place, 80.90 % of the land area is covered with forest according to the current record.

Community Forests

The draft National Forest Policy of Bhutan 2011 has included a section on ‘community forest’ with the objective of empowering rural communities to manage forests sustainably for socio-economic and environmental benefits, poverty reduction and to contribute to overall sustainable forest management at national level. It also estimates that 4 % of the forest land will be designated as community forest by the end of 2013 and about 20 % by 2020.

As of 2014-2015 fiscal year, there are 600 Community Forest registered with the forest department covering about 66,934 hectares of the forest areas with 25,663 member households. At the national level, the existing Community Forest area represents 1.7% of the country area and 2.5% of the forest area. About 28.3% of the total rural households are members of Community Forest Management Groups(CFMG). This is a remarkable achievement, wherein number of community forests increased from merely one in the year 2000 to 485 by March 2013.

One of the purpose of the Community Forest is to create employment opportunities. As of 2014-2015 fiscal year, over 2,400 people have been recorded as employed in the Community Forest across the country, of which female represents 17.6% and male constitutes 82.4% of the total employed.

Goal 18: Acceptable Level of Water and Soil Quality

Indicators	2000	2007	2010	2012
1. Chemical Fertilizers /pesticides consumption per ha of arable land	NA	NA	NA	-
2. Percentage of contaminated wells/water sources	NA	NA	NA	-

Water Quality

In 1997, National Environment Commission Secretariat (NECS) conducted baseline water quality survey and monitoring along major rivers and tributaries. The study showed that quality of water resources at the macro level was very high. However, there were localized water pollution problems due to contamination along the banks of streams and rivers. The bio assessment of rivers in Bhutan was done under a project called the ASSESS-HKH (Assessment of Ecological Status of streams/rivers in Hindu Kush Himalayan region). The assessment of rivers led to the discovery of a relict species of dragon fly larvae, *epiophlebia laidlawi*. The presence of this species indicates that the quality of water is pristine with no anthropogenic impact. This species was found in the headwaters of DreyChhu stream above Dechencholing, Thimphu and in LamchelaChhu stream in Chendebji, Trongsa. Various species of stoneflies which are also indicator of good quality of water were detected in several streams in Bhutan.

Soil Quality

Government policies and legal instruments support the protection and conservation of soil quality in the country. Chapter VI (21 A) of Forest and Nature Conservation Act of Bhutan, 1995 provides that the Royal Government may declare any land in the country to be a national park, wildlife sanctuary, wildlife reserve, nature reserve, and strict nature reserve for the preservation of areas of natural beauty of national importance, protection of biological diversity, management of wildlife, conservation of soil and water and related purposes. In addition, Chapter VIII (30 B) of Forest and Nature Conservation Act of Bhutan, 1995 provides that where the head of the department of forest determines that land located in the Government Reserve Forests is suffering from soil erosion or other environmental degradation, he may, after consultation with the appropriate local authority, order that grazing on such land be stopped for a specified time or be permitted only under specified conditions.

Goal 19: Acceptable Level of Air Quality

Indicators	2000	2007	2010	2012
1. Carbon dioxide emissions (million kg)	228.46 ('94)	-	-	-
2. Particulate matter (PM ₁₀) in the major metropolitan centres (Thimphu)	20 µg/m ³	20 µg/m ³	23 µg/m ³ ('11)	20 µg/m ³
3. Percentage of total households using firewood for cooking	-	37.3 % ('05)	-	20 %

Source: State of Environment Report (2004, 2005) (NEC)

Ambient Air Quality/Particulate matter

Although air quality in Bhutan is regarded as relatively clean in most part of the country, the recent rapid developmental activities in the major urban cities like Thimphu and Phuentsholing could deteriorate the quality of air.

With growing concern over the quality of air, National Environment Commission first initiated in 2004 to measure PM₁₀ in Thimphu. Data on ambient air quality is, however, very limited at the present. The analysis of the recorded data from June 2004 and May 2007 showed an average respirable particulate matter (PM₁₀) concentration of 20 µg/m³, which was considerably lower than international (PM₁₀) concentration levels. The United States Environmental Protection Agency's (US-EPA) guideline has set the PM₁₀ concentration level at 50 µg/m³ while the European Union's (EU) guideline has set it at 40 µg/m³ for 24 hours concentration. The recent analysis of the recorded data in 2011 showed a slight increase in particulate matter concentration to about 23 µg/m³.

Recorded ambient air quality data for Thimphu show that the concentration of oxides of sulphur and nitrogen are presently below detectable level. On the basis of analysis of ambient air quality data for Thimphu, it can be said that ambient air quality in most other places will be even more pristine because of smaller population, fewer vehicles, and less industrial activities, with exceptions to few industrial towns.

Carbon Dioxide Emissions

A first greenhouse gas emission inventory for Bhutan was prepared in 2000 for the year 1994 by National Environment Commission (NEC), which was followed by the Second National Communication report submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in 2011. According to the report total Green House Gas (GHG) emission excluding Land Use Change and Forestry (LUCF) increased by about 10%, from 1,413 Gg CO₂ equivalent in 1994 to 1,560 Gg CO₂ equivalent in 2000. This increase was mainly due to increase in industrialization and rapid urbanization. Agriculture was the largest source of GHG with emissions estimated at 1005.30 Gg CO₂-equivalent, followed by energy with emissions estimated 270.23 Gg CO₂-equivalent; and the industrial process with emissions estimated at 237.76 Gg CO₂-equivalent. Bhutan remained a net sink for GHG emissions, with total emission including LUCF estimated at (-)4,750.04 Gg CO₂ equivalent.

Firewood consumption

According to PHCB 2005, 37.3 % of the total households in Bhutan used firewood as the primary source of energy for cooking. Use of firewood for cooking was more in rural areas with 56.4 % of the households using firewood, while only 4.3 % of the households were using firewood for cooking in the year 2005.

However, use of firewood as source of lighting was very minimal with only 2.6 % of the total households using firewood. This could be attributed to the usage of other forms of energy such as solar power and kerosene. According to BLSS Survey 2012, about half of rural households (49%) use wood for cooking. In the rural areas, the bukhari is the usual space heating device. A high proportion of households, 90%, use firewood. As households go up the consumption ladder, they use more electricity for lighting, and also electric heaters and (to a lesser extent) kerosene heaters. Nevertheless, with government's policy to provide electricity for all households by 2013, and the free 100 unit electricity provided to rural households, the usage of firewood for cooking and heating will be significantly reduced.

Goal 20: Conservation of Bio-Diversity

Indicators	2000	2007	2010	2012
1. Number of protected areas out of the total land area (with management plan)	5	5	10	12
2. Percentage of protected areas out of the total land (with management plan)	26 %	29 %	51.32 %	51.44%
2. No. of protected species	30	30	30	30

Source: MoAF 2010 and 2012, Forest and Nature Conservation Act of Bhutan 1995, State of the Nation Report, 2013

Protected Area of Forests

A total of 42.71 % of its land area is designated as protected areas, covering an area of 16,396.43 square kilometers. In addition, 8.61 % of land area is designated as biological corridors and 0.12% of land area as conservation areas. In total, 51.44% of the land area is under protected areas and biological corridors.

Protected Species

The Forest and Nature Conservation Act of Bhutan 1995 lists a total of 30 species of wild animals and plants in Schedule I as totally protected species. These include 5 species of bird, 1 species of fish, 17 species of mammal, and 7 species of plant. While in general, the law restricts any form of wildlife killing, injury, destruction or capture/ collection, the totally protected species are accorded a higher level of protection than other species by means of more severe penalties and stricter legal provisions.

Table 4: Totally Protected Bird Species of Bhutan

	Common Name	Scientific Name
1	Black-necked Crane	<i>Grus nigrocollis</i>
2	Monal Pheasant	<i>Lophophorus impejanus</i>
3	Peacock Pheasant	<i>Polyplectron bicalcaratum</i>
4	Raven	<i>Corvus corax</i>
5	Rufous-necked Hornbill	<i>Aceros nipalensis</i>

Table 5: Totally Protected Mammal Species of Bhutan

	Common Name	Scientific Name
1	Asian Elephant	<i>Elephas maximus</i>
2	Clouded Leopard	<i>Neofelis nebulosa</i>
3	Golden Langur	<i>Trachypithecus geei</i>
4	Musk Deer	<i>Moschus chrysogaster</i>
5	Pangolin	<i>Manis crassicaudata</i>
6	Pygmy Hog	<i>Sus salvanius</i>
7	Snow Leopard	<i>Uncia uncia</i>
8	Takin	<i>Budorcas taxicolor</i>
9	Tiger	<i>Panthera tigris</i>
10	Wild Buffalo	<i>Bubalus bubalis</i>
11	Spotted Deer	<i>Axis axis</i>
12	Gaur	<i>Bos gaurus</i>
13	Leopard	<i>Panthera pardus</i>

14	Leopard Cat	<i>Prionailurus bengalensis</i>
15	Himalayan Black Bear	<i>Ursus thibetanus</i>
16	Red Panda	<i>Ailurus fulgens</i>
17	Serow	<i>Capricornis sumatraensis</i>

Source: Forest and Nature Conservation Act of Bhutan 1995

Table 6: Totally Protected Fish Species of Bhutan

Common Name	Scientific Name
Golden Mahseer	<i>Tor tor</i>

Source: Forest and Nature Conservation Act of Bhutan 1995

Table 7: Totally Protected Plant Species of Bhutan

Common Name	Scientific Name
Agar wood	<i>Aquilaria malaccensis</i>
Chinese Caterpillar fungus	<i>Cordecybs sinensis</i>
Gentiana	<i>Gentiana crassuloides</i>
Snow-down Lily	<i>Lloydia yunnanensis</i>
Blue Poppy	<i>Meconopsis grandis</i>
Himalayan Yew	<i>Taxus baccata</i>
Ginseng	<i>Panax pseudoginseng</i>

Source: Forest and Nature Conservation Act of Bhutan 1995

Goal 21: Wetland Conservation

Indicators	2000	2007	2010	2012
1. Area of paddy harvested (wetland) in acres	46,585 ('04)	67,564	58,609	59,609('11)

Source: Agriculture Statistics 2004, Agriculture Statistics 2007, 2010, Bhutan RNR Statistics, 2012 Draft National Land Policy 2010

Wetland Act and Policy

Given its rugged terrain, Bhutan has very limited area of wetland. In addition, developments of urban infrastructures pose serious threats to conservation of wetland.

To contain the increasing encroachment of wetland by infrastructure development, the Land Act 1979 was amended in 2007. It places various responsibilities relating to land administration on the National Land Commission. It also protects wetland for sustained production of food with the allowance of 50-decimal wetland for construction of house if the landowner has no other land category. In view of the need to identify and protect wetland, the Land Act 2007 provides for zoning of land for different purposes.

The Land Act 2007 of Bhutan has mandates to carry out cadastral, topographic and validation of national reference datum. However, the Act or the Rules and Regulations of 2009 is short of process, linkage and dissemination of Geographic Information (GI). In this view, Geographic Information Policy is being drafted to provide an overall consistent guiding policy framework for sustainable use of limited land and land-based resources for fulfilling long term aspirations and needs of all Bhutanese people while conserving the natural environment.

In 2004, 46,585 acres of wetland were harvested and it increased to 67,564 acres in 2007. However, in 2013, RNR statistics show that paddy harvest decreased to 48,364 acres in 2010. The decrease in paddy harvest could be attributed to many factors such as land conversion, infrastructure development and rural-urban migration.

Goal 22: Ban on Dumping of Hazardous Waste, including Radioactive Waste

Indicators	2000	2007	2010	2012
1. Solid waste generation per capita (kg p.a) in Thimphu	-	168 ('05)	-	-
2. Regulatory framework for hazardous waste treatment in place.	-	-	2	2

Source: Bhutan Environment Outlook 2008, National Health Policy 2011

Solid waste generation

With rapid urbanization, solid waste generation and disposal emerges to be a major environmental problem in Bhutan, particularly in the urban areas. Thimphu and Phuentsholing have accumulated 36.7 and 24.7 tons of municipal solid waste respectively in a day at the landfill sites in 2005 (RSPN 2005). In terms of per capita solid waste accumulation at the landfill per annum, it was estimated to be 168 kg for Thimphu and 438 kg for Phuentsholing. The figure estimated above was not inclusive of solid waste generations which are not disposed at the landfill.

Municipal solid waste generation increased exponentially in Thimphu. In 1994, daily solid waste generation was estimated to be only 8 tons, which increased to 22 tons by 2003, which translates to rate of increase at 8 % between 1994 and 2003. It was even worse between 2003 and 2005, where rate of increase was 33 %.

Apart from municipal solid waste, there is also the concern of health care waste and industrial solid waste. As for health care waste, the health care waste management plan produced by the Ministry of Health in 2004 provides an estimated figure of 73.2 tons of infectious waste per year. Electronic wastes are also a major emerging concern.

Regulatory Framework

Recognizing the emerging problem of municipal solid waste generation, Bhutan enacted Waste Prevention and Management Act of Bhutan, 2009 to protect and sustain human health through protection of the environment by reducing the generation of waste at source; promoting the segregation, reuse and recycling of wastes; disposal of waste in an environmentally sound manner; and effective functioning and coordination among implementing agencies.

The Waste Prevention and Management Act of Bhutan 2009 and Waste Prevention and Management Regulation 2012 extends to all forms of waste whether solid, liquid, or gaseous, hazardous or non-hazardous, organic or inorganic, from residential, agricultural, commercial, medical or industrial sources, produced by any person, including materials being stored for recycling or in the process of recycling, including the transportation of waste in any form, and import and export of waste in Bhutan.

In addressing the problem of health care waste disposal, Bhutan adopted National Health Policy 2011, which provides for adopting safe and appropriate method of hazardous waste disposal to minimize the potential health risks.

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