STATISTICAL YEARBOOK OF BHUTAN

1997

Central Statistical Organization
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PREFACE

Statistical Yearbook of Bhutan 1997 is the sixteenth in the series of annual statistical publications issued by the Central Statistical Organization, Planning Commission.

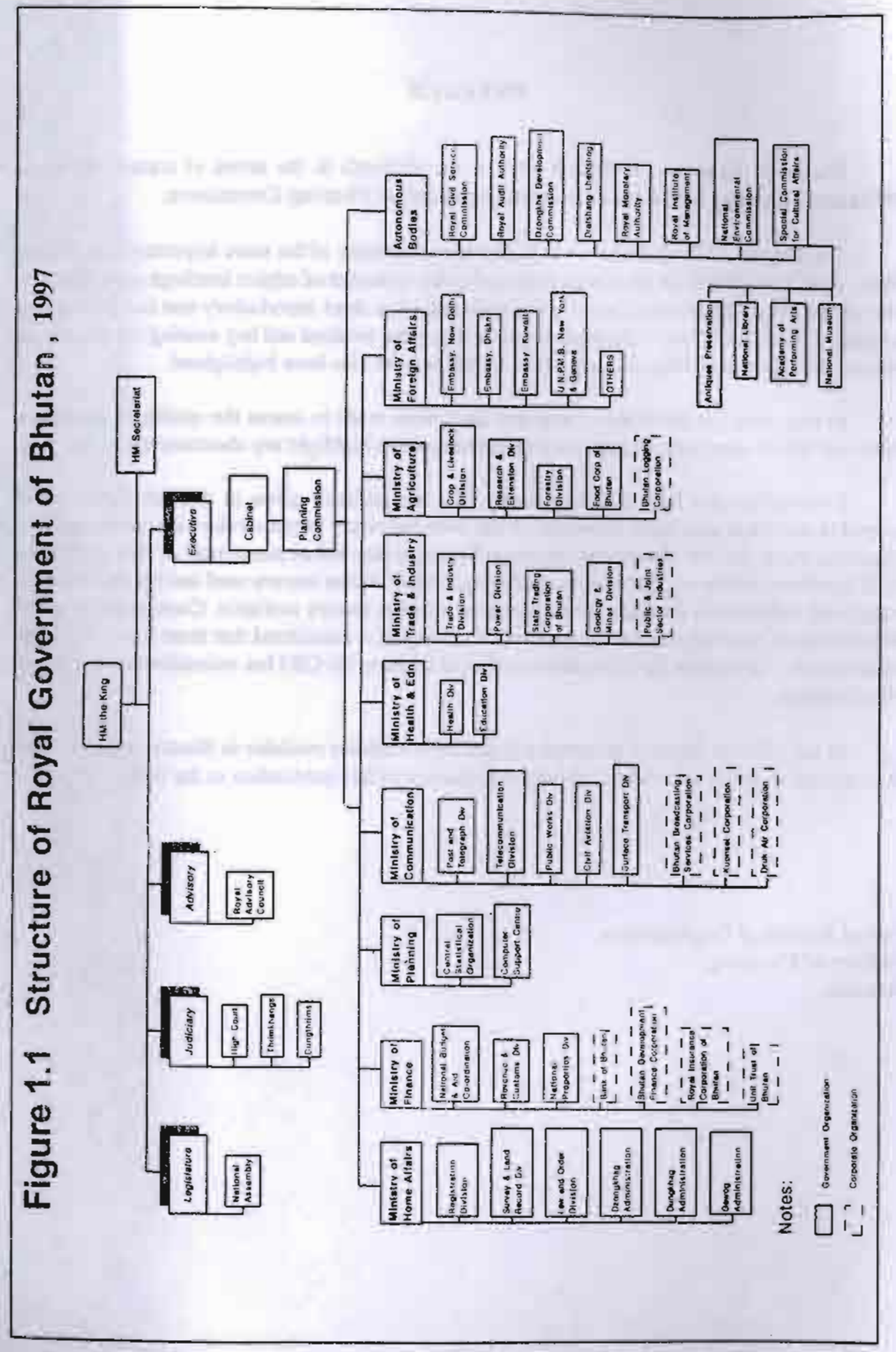
The purpose of the publication is to provide a summary of the more important statistics of Bhutan up to 1997. Statistics have been presented under a number of subject headings corresponding to the major areas of statistical interest. For each subject, a short introductory text has been given providing a brief description of the statistics, how they were obtained and any existing shortcomings. Some of the more interesting features of the Statistics have also been highlighted.

In preparing the publication, attempts have been made to assess the quality of each data source and where appropriate, tables have been footnoted to highlight any shortcomings in the data.

Every effort has been made to ensure that the statistics given in the publication meet acceptable statistical standards. However, it has been necessary to place reliance on existing data collections and it was not always possible to undertake as detailed an assessment of data sources as would have been preferred. This was due to the wide range of data sources used and because detailed background information on many data collections was not always available. Consequently, some shortcomings in the data presented are inevitable, though it is considered that these have been kept to a minimum. Throughout the compilation of the publication, the CSO has maintained close contact with all sectors.

Its our effort to improve the range and quality of statistics available in Bhutan improve over the years, and this will be reflected in further upgrading of this publication in the future.

Central Statistical Organisation
Ministry of Planning
Thimphu



BHUTAN AT A GLANCE

POPULATION		
Population 1997 (projected)	numbers	618,557
Urban population 1993 (estimate)	Percent	14.5
Area of Bhutan	sq. km.	46,500
Population density	persons/sq. km.	13
Birth rate 1994	per 1000 population	39.9
Death rate 1994	per 1000 population	9.0
Infant mortality 1994	per 1000 live birth	70.7
Life expectancy 1994		
Males	years	66.0
Females	years	66.2
Health 1997		
Population per doctor	numbers	6124
Population per hospital bed	numbers	618
Education 1997		
Number of schools		312
Number of students		92267
Number of teachers		2715
Agriculture and Forestry 1996		
Agriculture land	% of total area	7.7
Forested land	% of total area	72.5
Transport and Communication 1997		
Road length	km	3,375.65
Energy 1996/97		
Electricity generation	MU	1838.380
Electricity sale	MU	361.04
Electricity export	MU	1430.294
Balance of Payments 1996/97		
Value of exports	million Nu.	3553.77
Value of imports	million Nu.	-4697.21
Trade balance	million Nu.	-1143.44
Current account balance	million Nu.	-2018.90
Overall balance	million Nu.	971.21
International reserves		
Rupees	million Rs.	958.64
Convertible currency	million US $	145.37
National Accounts Statistics		
Agricultural share to GDP 1997	%	36.4
GDP Real growth 1997	%	7.3
Consumer Price Index		
Change Dec 1996 to Dec 1997	%	5.7
Average change 1979 to 1997	%	9.4

GENERAL DESCRIPTION OF BHUTAN

Position and area: Bhutan comprises a land area of 46,500 square kilometers. The land lies between latitudes 26°45'N and 28°10'N and between longitudes 88°45'E and 92°10'E. The country is relatively compact with a maximum latitudinal distance of 170 kilometers and the maximum longitudinal distance of 300 kilometers. Bhutan is landlocked and is bordered by India in the south, and by the Tibetan Autonomous Region of China in the north and north west.

Bhutan's borders are largely natural ones. The border with Tibet is traditional following the watershed of the Chumbi Valley in the northwest and the crest of the Himalayas in the north. The southern border with India was established by treaty with the British in the nineteenth century and basically follows the line made by the Himalayan foothills with the plains.

Landform: Bhutan is almost entirely mountainous with flat land limited to the broader river valleys. The land rises from approximately 300 meters above sea level in the south to the towering Himalayan mountains in the north of over 7,000 meters high. The densely populated central valleys are separated from the south by a 2,000meter high chain of mountains. Bhutan has three major landform features; the southern foothills, the inner Himalayas and the higher Himalayas. The southern foothills rise from the plains to heights of 1,500 meters extending to the north by about 20 kilometers. Southern Bhutan consists of a heavy network of steep hills covered with large tracks of dense forests and jungles. Central Bhutan consisting of the inner Himalayas rises gradually to about 3,000 meters. This region contains the broader river valleys of Paro, Thimphu, Punakha, Wangduephodrang and Trashigang which comprise the economic and cultural heartland of the country. An infinite variety of plants, flowers and trees including apples, peaches and plums grow in the fertile valleys. Rice is the principle crop and large tracts of forests including birch, pine, chestnut and oak cover central Bhutan. The northern region comprises the main Himalayan range of high snow capped mountains which separate Bhutan from Tibet. The Kulagangri and the Gangkar Punsum (both over 7,500 meters) and the Jomolhari (7,316 meters) are the highest peaks in the Bhutan Himalaya. The slopes of the mountains are covered with birch, magnolia and rhododendrons while for many months of the year the summits are decked with snow. Population in this zone is sparse.

Rivers: All but two of Bhutan's rivers rise in the higher Himalayas and journey south to join the Brahmaputra in India. Almost all the valleys have swift flowing rivers or streams which merge ultimately into four major river systems as they flow south viz. the Ammochu, the Wangchhu, the Sankosh and the Manas. The flows of the rivers are fed by the perennial snows or the summer monsoons and are highest in the monsoon season (June to September) and lowest in winter (December to March).

Climate: The country can be divided into three distinct climatic zones corresponding broadly to the three main geographical divisions. The southern belt has a hot humid climate with temperatures remaining fairly even throughout the year between 15 and 30 degree celsius with rainfall ranging between 2,500 to 5,000 millimeters in some areas. The central inner Himalayas has a cool temperate climate with annual rainfall averaging about 1,000 millimeters with western region receiving comparatively higher rainfall. The higher and more northern region has a severe alpine climate with annual rainfall around 400 mm. Much of the rainfall is concentrated in the summer months with the southwest monsoon accounting for 60 to 90 percent of the total rainfall. There is substantial variation within these broad ranges and the climate and rainfall characteristics change dramatically from one valley to an adjacent on with consequent sharp changes in the composition of agricultural production. Wide spread flood rainfall may occur during summer monsoon and the waters of the valleys may swell dramatically, spreading across the plains and flooding fields, bridges and houses.

Government: The monarchy: On 17 December 1907, Ugyen Wangchuck was crowned the first hereditary monarch of Bhutan by the civil and monastic representatives. It was as a result of the influence of the strength and the farsightedness of Ugyen Wangchuck that for the first time Bhutan was united under a central authority which provided the country with stability and opportunity for development. In 1926 Ugyen Wangchuck was

succeeded by his son Jigme Wangchuck, who ruled until his death in 1952. The third Druk Gyalpo, Jigme Dorji Wangchuck began a campaign of modernization and expansion of Bhutan's government and society based on the accomplishments of his two predecessors in uniting the country under a strong central authority. Hence, the National Assembly consisting of representatives of the people, the Monastic order and civil administration was reestablished in 1953. The present Druk Gyalpo, His Majesty King Jigme Singye Wangchuck acceded to the throne in 1972. His Majesty the king is the head of state and also the head of government. He is assisted by the cabinet which consists of His Majesty's representatives in various Ministries, Ministers and some senior civil servants.

The National Assembly: The Tshogdu (The National Assembly) consists of 150 members; 105 are the elected representatives of the people, 10 are from the Dratshang (Clergy) and 35 are nominated representatives of the Government. The people's representatives are directly elected by the people of their respective constituencies through secret ballot. The representatives of the clergy are elected by the Zhung Dratshang (Central Monastic Body) and the concerned Rabdeys (District Monastic Bodies). The representatives of the government are nominated by the King from among senior civil servants. All the members serve for a term of three years. The Speaker and the Deputy Speaker are elected by the National Assembly from among its members. The National Assembly meets once a year. The assembly enacts legislation and advises the government on all matters of national importance. Decisions are passed by a simple majority. A secret ballot is taken on all matters of national importance. Any Bhutanese over 25 years of age can be a candidate for membership.

The Royal Advisory Council: The Lodey Tshogdey (The Royal Advisory Council) was formally established in 1965 to advise the King and government ministers and to supervise the implementation of programs and policies laid down by the National Assembly. It consists of nine members. There are six representatives of the public (Meeser Thuepoens) who serve for a term of three years. They are elected by the National Assembly through secret ballot from among the representatives of the Dzongkhags. Each Dzongkhag (district) deputes one representative who is elected through secret ballot from among the public. Two members represent the Monastic Body, one each from the Central Monastic Body and the Rabdeys who serve a term of one year. The chairman (Zhung Kaloen) is nominated by the king.

The Monastic Body: The Monastic Body is comprised of the Central Monastic Body and the Rabdeys (District Monastic Bodies). The current strength of the Monastic Body is about 5,000 registered gelongs (monks) and is financed by an annual subsidy from the Royal Government. Punakha and Thimphu Dratshang having a strength of 1,600 constitutes the Central Monastic Body. The Monastic Body is the sole arbiter on religious matters. The Je Khempo who is chosen from among high-ranking gelongs is the head of the Body. He is assisted by four high ranking Lopens of the Central Monastic Body.

Local Government: Local administration has been strengthened to meet the requirement of decentralized administration and development. There are twenty dzongkhags or districts each under the charge of a dzongkhag administrator or dzongda responsible for civil administration and development activities. Each dzongda is assisted by a dzongrab who is responsible for planning and development and civil administration. The larger dzongkhags are sub divided into dungkhags headed by a dungpa. Groups of villages have a headman called the gup (in the north) or mandal (in the south). In each dzongkhag the dzongda is assisted in his development function by the Dzongkhag Yargye Tshogchung (District Development Committee) which consists of people's representatives and government officials.

The Judiciary: Bhutan's Legal Code is based on that laid down by Ngawang Namgyal, the first Shabdrung who arrived Bhutan in 1616. Traditional Buddhist precepts are significantly maintained in the legal processes. The High Court consists of eight judges. There is a court in each dzongkhag headed by a Thrimpoen and assisted by Ramjams but minor disputes are settled by village gups.

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GENERAL INFORMATION

EXPLANATION OF SYMBOLS USED IN THE YEARBOOK

n.a	stands for "not available"
..	stands for "not applicable"
-	stands for "nil or rounded to zero"
*	stands for "sampling error too high for accurate estimation or estimates less than one percent unless otherwise footnoted
CY	stands for calander year, period from January to December
FY	stands for fiscal year, period from April to March upto 1985/86 and from July to June since 1986/87 unless other wise specified.

EXPLANATORY NOTES

1. In some cases, minor discrepancies may occur between sums of component items and totals because of rounding.
2. Dzongkhags given in some tables differ from those given in Annex I. This is because of changes following the creation of new Dzongkhags.
3. Totals of items may not add up slightly due to rounding.

SOME UNITS OF MEASUREMENT

Numbering (UK)

Hundred	$= 10^2$
Thousand	$= 10^3$
Million	$= 10^6$
Billion	$= 10^{12}$
Trillion	$= 10^{18}$

A. Length Measurement

1. Metric equivalents

10 mm	= 1 cm	Abbreviations	
10 cm	= 1 dm	mm	= millimeter
10 dm	= 1 m	cm	= centimeter
10 m	= 1 dkm	m	= metre
10 dkm	= 1 hm	dm	= decimeter
10 hm	= 1 km	hm	= hectometer

2. British units

12 inches	= 1 foot
3 feet	= 1 yard
5.5 yards	= 1 rod, pole
4 poles	= 1 chain
10 chains	= 1 furlong
8 furlongs	= 1 mile

3. Conversion from British to metric units (lengths)

1 inch	= 2.539998 cm
1 foot	= 0.3047997 m
1 yard	= 0.9143992 m
1 mile	= 1.609343 km
1 nautical mile	= 1.853182 km
1 m	= 39.370113 inches
1 m	= 3.280843 feet
1 m	= 1.093614 yard
1 km	= 0.6213717 miles

B. Area measurements

1. British units

144 square inches	= 1 square foot
9 square feet	= 1 square yard
30 1/4 yards	= 1 square rod, pole
40 square rod	= 1 rood
4 roods	= 1 acre
640 acres	= 1 square miles

2. Metric units

100 square mm	= 1 square cm
100 square cm	= 1 square dm
100 square dm	= 1 square m
100 square m	= 1 are
100 square areas	= 1 hectare
100 hectares	= 1 square km

3. Conversion from British to Metric units (Area)

1 square yard	= 0.836 square m
1 square feet	= 0.093 square m
1 square inch	= 6.452 square cm
1 square m	= 1.196 square yard
1 square m	= 10.764
1 square cm	= 0.155 square inch
1 square mile	= 2.590 square km
1 square km	= 0.386 square mile

C. Weight measurements

1. British units

16 dram	= 1 ounce
16 ounces	= 1 pound
28 pounds	= 1 cwt
20 cwt	= 1 ton
14 pounds	= 1 stone

2. Metric units

10 mg	= 1 cg
10 cg	= 1 dg
10 dg	= 1 g
10 g	= 1 dkg
10 dkg	= 1 hg
10 hg	= 1 kg
100 kg	= 1 quintal
200 mg	= 1 carat

3. Conversion from British to metric units

1 grain	= 0.0648 g
1 ounce	= 31.103 g
1 g	= 15.432 grains
1 pound	= 0.373 kg
1 tonne	= 1.016 metric tonne

D. Conversion of air temperatures

1. Degree celsius to degree Fahrenheit

   $(9 \times T_c)/5 + 32$, where T_c is temperature in degree celsius

2. Fahrenheit to degree celsius

   $5 \times (T_f - 32)/9$, where T_f is temperature in fahrenheit

CHAPTER 1: POPULATION

INTRODUCTION

The main source of statistics on population is the population census. Population censuses are undertaken in most countries on a five or ten yearly basis aimed to provide a full count of the population according to a range of characteristics such as demography, health, education and other social aspects. Censuses are useful not only because they provide a range of current population data but also for use as a benchmark for making population estimates in non census years and for population projections. Population censuses were undertaken in Bhutan in 1969 and 1980.

The second major element of population statistics relates to the demography characteristics of the population. The most common source of information on demography is the vitals registration system (which usually covers the registration of births and deaths and sometimes marriages and divorces). In Bhutan, the vital registration system does not currently provide the full coverage of births and deaths and it has been necessary to undertake a special sample survey (in 1984) to obtain the important demographic information. Statistics presented in this chapter include estimates of current and future population together with data from 1984 demographic survey. The interpretation of demographic indicators are as follows:

Crude birth rate: Number of live births in a year per thousand population.

General fertility rate: Number of live births in a year per thousand woman in the child-bearing age (15 to 44 or 49).

Total fertility rate: Average number of children born by women during their reproductive span of life.

Gross reproduction rate: Average number of daughters born by women during their reproductive span of life.

Net reproduction rate: Measures the extent to which a cohort of newly born girls will replace their mothers under pre-determined schedules of fertility and mortality.

Life expectancy at birth: The numbers of years a newborn infant would live if prevailing patterns of mortality at the time of birth were to stay the same throught the child's life.

Crude death rate: Number of deaths in a year per thousand population.

Infant mortality rate: Number of deaths during first year of life per thousand live births.

Maternal mortality rate: The annual number of deaths of women from pregnancy-related causes

Rate of natural increase: The difference between the crude birth rate and the crude death rate.

Dependency ratio: Measures the number of dependents as a percentage of population aged 15 to 64. *Child dependency* refers to children aged 0 to 14 years, while *old age dependency* refers to persons aged 65 and over.

Index of aging: It is the number of persons aged 65 and over as a percentage of the number of

persons aged 0 to 14.

TABLE 1.1: POPULATION ESTIMATES BY AGE AND SEX, 1997

Age group	Persons			Percent		
	Total	Male	Female	Total	Male	Female
0 - 4	95,575	46,943	48,632	15.5	7.6	7.9
5 - 9	89,613	43,605	46,008	14.5	7.0	7.4
10 - 14	74,936	37,205	37,731	12.1	6.0	6.1
15 - 19	55,606	27,651	27,955	9.0	4.5	4.5
20 - 24	49,121	23,915	25,206	7.9	3.9	4.1
25 - 29	42,159	20,670	21,489	6.8	3.3	3.5
30 - 34	37,825	18,710	19,115	6.1	3.0	3.1
35 - 39	34,631	17,546	17,085	5.6	2.8	2.8
40 - 44	29,190	14,760	14,430	4.7	2.4	2.3
45 - 49	23,467	11,942	11,525	3.8	1.9	1.9
50 - 54	22,264	11,238	11,026	3.6	1.8	1.8
55 - 59	19,697	9,983	9,714	3.2	1.6	1.6
60 - 64	18,089	9,156	8,933	2.9	1.5	1.4
65 - 69	10,920	5,267	5,653	1.8	0.9	0.9
70 - 74	7,423	3,644	3,779	1.2	0.6	0.6
75 +	8,041	3,981	4,060	1.3	0.6	0.7
All ages	618,557	306,216	312,341	100.0	49.5	50.5

Note: Estimates based on the population projection report prepared by Dr. Chowdary, March 1996.

Source: CSO, Ministry of Planning

TABLE 1.2: SUMMARY OF POPULATION INDICATORS, 1991 TO 1997

Population Indicators	1991	1992	1993	1994	1995	1996	1997
Sex Ratio (males per 100 females)	102.3	102.1	102.0	104.1	104.1	102.0	98.0
Age Composition (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 - 14	38.9	38.7	38.6	39.2	39.2	42.1	42.1
15 - 49	47.7	47.9	48.0	47.3	47.3	44.0	44.0
50 - 59	6.6	6.7	6.8	6.6	6.6	6.8	6.7
60 +	6.8	6.7	6.6	6.9	6.9	7.1	7.2
Median age(years)	20.5	20.6	20.6	20.5	20.5	19.4	19.4
Dependency Ratio							
Child dependency	68.8	68.4	68.6	69.6	69.6	78.3	78.3
Old age dependency	7.7	7.6	7.5	7.8	7.8	7.9	8.0
Total dependency	76.4	76.0	76.1	77.4	77.4	86.2	86.3
Index of aging	11.1	11.0	11.0	11.3	11.3	10.1	10.1

Source: Estimates by CSO, Ministry of Planning

TABLE 1.3: PERCENTAGE OF POPULATION BY MARITAL STATUS AND AGE, 1984

(percent)

Age group	Never married		Married		Divorced/separate		Widowed		Total	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
0 - 14	99.9	99.8	-	-	-	-	-	-	100.0	100.0
15 - 19	92.1	73.4	7.7	25.5	-	-	-	-	100.0	100.0
20 - 24	54.5	30.1	43.8	64.8	1.5	4.4	-	-	100.0	100.0
25 - 29	26.8	12.4	70.0	80.5	2.4	5.7	-	1.4	100.0	100.0
30 - 34	13.1	8.4	82.8	81.3	1.9	7.3	2.3	3.1	100.0	100.0
35 - 39	10.0	5.5	85.8	84.9	1.8	5.7	2.5	3.9	100.0	100.0
40 - 44	7.6	6.3	87.9	81.4	1.7	5.3	2.8	7.0	100.0	100.0
45 - 49	6.9	6.9	86.8	78.7	1.4	5.4	5.0	9.1	100.0	100.0
50 +	6.5	4.2	75.4	58.8	2.3	4.8	15.7	32.2	100.0	100.0
All ages	57.8	52.0	38.0	39.0	1.0	2.8	3.2	6.2	100.0	100.0

Source: 1984 Demographic Sample Survey, CSO, Ministry of Planning, Thimphu

TABLE 1.4: SUMMARY OF DEMOGRAPHIC INDICATORS, BHUTAN 1984 AND 1994

Indicators	1984	1994
Fertility		
Crude birth rate	39.1	39.9
General fertility rate (Per 1000 Women, 15-49 years)	169.6	172.7
Total fertility rate (per Women of 15-49 years)	5.9	5.6
Gross reproduction rate	2.9	n.a
Net reproduction rate	1.9	n.a
Rate of natural increase (%)	2.0	3.1
Mortality		
Crude death rate	19.3	9.0
Infant mortality rate	142.0	70.7
Maternal mortality rate (per 1000 live births)	..	3.8
Under age 5 mortality rate (per 1000 live births)	..	96.9
Life expectancy at birth (years)	47.5	66.1
Males	45.8	66.0
Females	49.1	66.2

Note: For explanation of demographic indicators see introduction to this chapter

Source: 1984 Demographic Sample Survey, and 1994 National Health Survey

CHAPTER 2: HEALTH

INTRODUCTION

General health conditions in Bhutan were affected by low nutrition intake, poor sanitation and high prevalence of parasitic infections and contagious diseases. Efforts to establish modern medical facilities in Bhutan were begun in 1962. Institutional health facilities until few years back were concentrated in the urban centers, but today the emphasis has shifted to the rural areas where the majority of the population live. Basic health units (BHUs) usually serving remote districts staffed by well trained paramedical personnel are equipped to treat minor ailments and advise on preventive measures to avoid the spread of communicable diseases. These BHUs are supported by dispensaries.

There are also a number of special health programs in Bhutan administered by the Division of Health. These cover immunization, maternal and child health services, malaria eradication, leprosy and family planning. The main indicators of the health status of the population are morbidity and mortality. **Morbidity** refers to the type of illness people suffer from, while **mortality** relates to death rates and causes of death. Morbidity and mortality data are usually obtained from administrative sources. Morbidity data can often be obtained from patients records of health units, while information on mortality rates and causes of death is usually obtained from vital registration systems (that is the civil registration of births and deaths).

In Bhutan, some morbidity statistics are available based on patients treated by hospitals, basic health units and dispensaries. Little information is available, while a registration system is in place for the reporting of births and deaths, it is recognized that there is some under coverage and problems with the identification of cause of death. Over all level of mortality have been estimated from the demographic sample surveys, but cause of death data have not yet become available. Efforts are under way to improve the vital registration system.

TABLE 2.1: SUMMARY OF HEALTH FACILITIES AND PERSONNEL, BHUTAN, 1989 TO 1997

Facilities	1989	1990	1991	1992	1993	1994	1995	1996	1997
Number of hospitals	26	26	26	26	26	26	26	28	28
Number of basic health units	69	71	74	75	79	84	84	145	145
Number of dispensaries	46	44	43	43	41	42	44	n.a	n.a
Number of indigenous hospitals	1	1	1	1	1	1	1	1	1
Number of indigenous dispensaries	6	6	6	6	7	8	11	10	11
Number of doctors	157	157	109	106	88	100	112	103	101
Persons per doctor	9,100	n.a	n.a	n.a	n.a	n.a	5,196	5,825	6,124
Number of hospital beds	944	944	914	954	979	970	970	1,080	1,001
Persons per hospital bed	1,500	n.a	n.a	n.a	n.a	n.a	600	556	618
Doctors per 10,000 persons	1	n.a	n.a	n.a	n.a	n.a	1.9	1.7	1.6
Hospital bed per 10,000 persons	7	n.a	n.a	n.a	n.a	n.a	17	18	16
Population covered by health care (%)	65	65	90	70	n.a	90	90	90	90
Population access to safe drinking water (%)	38	38	54	54	n.a	35	43	45	50
Women attended by trained personnel during child birth (%)	16	21	25	25	36	25	79	78	79

Note: Includes doctors in adminstrative services, non-nationals and expatriates.

Source: Health Division, Thimphu

TABLE 2.2: TYPE OF HEALTH FACILITIES IN DZONKHAGS, 1996

(numbers)

Dzongkhag	Hospitals	Basic health unit	Outreach clinic
Bjakar	1	3	23
Chhukha	2	8	39
Dagana	0	5	16
Gasa	0	3	7
Haa	1	3	15
Lhuntse	1	7	27
Mongar	1	13	55
Paro	1	3	19
Pemagatshel	1	4	24
Punakha	1	5	12
Samtse	3	4	0
Samdrupjongkha	2	11	38
Sarpang	2	5	0
Thimphu	4	4	25
Trashigang	3	17	56
Trashiyangtse	1	3	20
Trongsa	1	4	23
Tsirang	1	1	0
Wangduephodrang	1	7	23
Zhemgang	1	13	32
Bhutan	28	123	454

Note: BHU's figure excludes those centres which are not functioning
Data not supplied from the Health Division, for the year 1997.
Source: Annual Health Report, Health Division, Ministry of Health and Education, Thimphu.

TABLE 2.3: HEALTH PERSONNEL BY CATEGORY, 1989 TO 1997

(numbers)

Health personnel	1989	1990	1991	1992	1993	1994	1995	1996	1997
Doctors	157	157	109	106	88	100	112	103	101
Health Assistants	119	117	115	116	100	99	105	99	111
Basic health workers	91	114	127	119	125	137	137	158	154
Sister and nurses	317	325	316	323	329	342	340	352	355
Other technicians	144	182	239	251	133	136	168	185	183
Indigenous physicians	12	12	14	14	19	29	19	21	19
Indigenous compounders	10	10	8	8	11	15	11	16	17
Village health workers (VHW)	..	n.a	n.a	n.a	1413	1058	1085	1275	1093

Note: Including expatriates

Source: Health Division, Thimphu

TABLE 2.4: NUMBER OF PATIENTS TREATED IN BASIC HEALTH UNITS BY DISEASE, SEX AND AGE, BHUTAN, 1997

Disease	Age below 1			Age 1 to 4			Age 5 to 14			Age 15 and above			All ages	
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons	Persons	%
Diarrhoea/Dysentery	2,239	2,535	4,774	6,440	6,077	12,517	8,715	8,518	17,233	12,783	10,212	22,995	57,519	12.2
Respiratory tract infection(RTI)	3,316	3,783	7,099	7,444	8,515	15,959	14,877	16,026	30,903	39,505	40,779	80,284	135,245	28.8
Worms	67	122	189	3,339	3,494	6,833	5,810	6,854	12,664	7,834	8,764	16,598	36,284	7.7
Skin infection	1,301	1,587	2,888	4,339	4,762	9,101	9,500	8,446	17,946	17,385	14,225	31,610	61,545	13.1
Malaria/P.U.O	75	50	125	361	335	696	1,092	872	1,964	2,285	1,692	3,977	6,762	1.4
Conjunctivitis	924	1,006	1,930	2,533	2,671	5,204	4,997	5,560	10,557	12,759	14,490	27,249	44,940	9.6
Otitis media	632	588	1,220	1,410	1,307	2,717	2,198	1,939	4,137	1,832	1,797	3,629	11,703	2.5
Nutritional deficiency	96	151	247	543	611	1,154	1,219	1,407	2,626	4,040	6,485	10,525	14,552	3.1
Peptic ulcer syndrome	7	3	10	73	139	212	964	1,271	2,235	10,940	12,724	23,664	26,121	5.6
Disease of teeth and gum	21	15	36	168	243	411	1,121	1,346	2,467	4,240	4,798	9,038	11,952	2.5
Urinary tract infection and nephritis	26	24	50	166	194	360	357	453	810	2,282	3,099	5,381	6,601	1.4
Injuries	61	99	160	797	835	1,632	2,901	2,267	5,168	8,344	4,162	12,506	19,466	4.1
Sexually transmitted diseases(STD)	..	..	..	..	..	..	15	14	29	424	249	673	702	0.1
Other childhood diseases	29	27	56	87	92	179	343	304	647	89	77	166	1,048	0.2
Diseases of female genital tract	..	2	2	..	8	8	..	45	45	..	1,326	1,326	1,381	0.3
Complication of pregnanc and child birth peuperum	..	..	..	..	..	..	..	3	3	..	826	826	829	0.2
Others	113	130	243	643	822	1,465	3,528	4,031	7,559	11,915	12,422	24,337	33,604	7.1
All diseases	8,907	10,122	47,372	58,448	146,190	175,441	370,643	451,133	666,561	1,019,822	138,127	274,784	470,254	100.0

Source: Health Division, Thimphu

TABLE 2.5: PATIENTS TREATED IN BASIC HEALTH UNITS BY DISEASE, BHUTAN, 1991 TO 1997

Disease	Persons ('000)							Percent						
	1991	1992	1993	1994	1995	1996	1997	1991	1992	1993	1994	1995	1996	1997
Diarrhoea/Dysentery	53.6	55.9	53.9	65.1	63.1	62.8	57.5	15.0	14.0	12.4	13.6	14.2	13.5	11.6
Respiratory tract infection	75.6	89.6	94.2	106.5	113.6	122.7	121.2	21.2	22.5	21.7	22.2	25.6	26.3	27.3
Worms	39.3	39.4	41.8	43.4	39.6	36.5	36.3	11.0	9.9	9.6	9.1	8.9	7.8	7.3
Skin infection	51.2	58.2	63.9	70.0	66.4	65.3	61.5	14.3	14.6	14.7	14.6	14.9	14.0	12.4
Malaria/P.U.O	25.7	29.3	37.3	39.2	9.3	9.0	6.8	7.2	7.3	8.6	8.2	2.1	1.9	1.4
Conjunctivitis	25.9	30.2	37.7	43.1	38.0	43.8	44.9	7.3	7.6	8.7	9.0	8.6	9.4	9.1
Otitis media	7.8	8.8	9.9	10.3	10.4	11.2	11.7	2.2	2.2	2.3	2.1	2.3	2.4	2.4
Nutritional deficiency	14.7	13.6	13.9	16.0	14.6	16.2	14.6	4.1	3.4	3.2	3.3	3.3	3.5	2.9
Peptic ulcer syndrome	14.6	17.0	18.7	21.1	22.5	25.8	26.1	4.1	4.3	4.3	4.4	5.1	5.5	5.3
Disease of teeth and gum	7.0	9.0	9.1	10.4	9.8	11.3	12.0	2.0	2.3	2.1	2.2	2.2	2.4	2.4
Urinary tract infection and nephretis	5.5	5.5	6.2	6.5	6.7	6.4	6.6	1.5	1.4	1.4	1.4	1.5	1.4	1.3
Injuries	13.8	16.4	17.6	18.2	17.7	18.8	19.5	3.9	4.1	4.1	3.8	4.0	4.0	3.9
Sexually transmitted Diseases (STD)	1.3	1.5	1.0	0.7	0.7	0.8	0.7	0.4	0.4	0.2	0.1	0.1	0.2	0.1
Childhood diseases	1.2	2.1	1.8	2.4	1.9	1.3	1.0	0.3	0.5	0.4	0.5	0.4	0.3	0.2
Disease of female genital tract	1.3	1.2	1.3	1.2	1.3	1.4	1.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Complication of pregnancy and childbirth peuperum	1.0	1.2	1.1	1.1	1.0	1.0	1.0	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Others	17.7	19.9	24.4	24.3	27.8	31.6	33.6	5.0	5.0	5.6	5.1	6.3	6.8	11.8
All diseases	357.3	398.8	433.7	479.5	444.4	465.9	456.4	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Health Division, Thimphu

TABLE 2.6: PATIENTS TREATED IN HOSPITALS FOR VARIOUS DISEASES BY SEX AND AGE, BHUTAN, 1997

(numbers)

Disease	Age below 1		Age 1 to 4		Age 5 to 14		Age 15 to 49		Age >= 50		All ages			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total	%
Bacterial and amoebic intestinal infections	1,490	1,362	1,906	1,903	2,302	2,280	4,624	3,448	1,611	1,164	11,933	10,157	22,090	4.99
Viral & other intestinal infection	1,699	1,730	3,102	2,878	3,883	3,647	5,810	4,329	1,857	1,567	16,351	14,151	30,502	6.89
Tuberculosis	1	1	32	46	97	125	650	549	234	151	1,014	872	1,886	0.43
Children's diseases	81	76	449	529	1,152	1,090	635	474	139	47	2,456	2,216	4,672	1.06
Tonsillitis	18	16	280	323	983	1,076	2,016	1,974	578	340	3,875	3,729	7,604	1.72
Scabies	158	204	637	789	1,418	1,269	2,357	1,789	1,091	736	5,661	4,787	10,448	2.36
Hepatitis	12	14	70	65	128	135	298	231	57	31	565	476	1,041	0.24
Malaria	73	59	243	300	602	643	1,506	1,177	691	188	3,115	2,367	5,482	1.24
Gonorrhoea	..	..	..	..	19	12	784	435	83	29	886	476	1,362	0.31
Intestinal worms	140	150	1,522	1,462	2,438	2,286	2,938	2,504	1,332	991	8,370	7,393	15,763	3.56
Other infections	37	37	221	278	690	690	1,411	1,036	582	333	2,941	2,374	5,315	1.20
Neoplasms	..	..	..	1	6	8	51	49	85	46	142	104	246	0.06
Endocrine, metabolic and nutritional diseases	188	205	778	786	1,142	1,031	1,510	1,372	894	691	4,512	4,085	8,597	1.94
Anaemia	73	62	183	363	698	1,150	1,705	3,390	869	1,009	3,528	5,974	9,502	2.15
Mental disorders	2	1	4	10	38	41	165	207	59	59	268	318	586	0.13
Diseases of the eye	549	658	1,234	1,359	2,450	2,496	4,455	4,260	2,146	1,745	10,834	10,518	21,352	4.82
Diseases of the ear	551	540	1,315	1,335	1,844	1,905	1,979	1,780	653	438	6,342	5,998	12,340	2.79
Diseases of the nervous system	77	50	110	120	304	341	840	704	395	219	1,726	1,434	3,160	0.71
Diseases of the circulatory system	22	23	50	69	203	245	2,329	2,089	2,006	1,555	4,610	3,981	8,591	1.94
Acute repiratory infections	2,740	2,901	5,748	5,701	8,815	9,128	15,626	13,671	5,101	4,161	38,030	35,562	73,592	16.62

continues...

TABLE 2.6(continuation): PATIENTS TREATED IN HOSPITALS FOR VARIOUS DISEASES BY SEX AND AGE, BHUTAN, 1997

(numbers)

Disease	Age below 1		Age 1 to 4		Age 5 to 14		Age 15 to 49		Age >= 50		All ages			
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total	%
Other diseases of the respiratory system	1,383	1,357	2,614	2,453	3,121	3,082	6,035	5,065	2,927	2,285	16,080	14,242	30,322	6.85
Disease of the teeth and gum	55	49	353	660	2,065	2,024	5,353	5,127	2,479	1,603	10,305	9,463	19,768	4.47
Peptic ulcer & gastritis	194	114	546	651	1,297	1,709	7,925	8,333	3,890	3,353	13,852	14,160	28,012	6.33
Other diseases of the digestive system	135	130	452	437	1,213	1,288	2,567	2,279	1,689	1,318	6,056	5,452	11,508	2.60
Diseases of the urinary system	15	23	123	129	421	554	1,836	2,774	1,070	796	3,465	4,276	7,741	1.75
Diseases of male genital organs	3	..	45	..	136	..	629	..	378	..	1,191	..	1,191	0.27
Diseases of breast	..	..	..	..	..	37	..	557	..	54	..	648	648	0.15
Diseases of female genital organs	..	6	..	113	..	325	..	3,422	..	641	..	4,507	4,507	1.02
Pregnancy, childbirth and the puerperium	..	..	..	..	..	9	..	2,900	..	10	..	2,919	2,919	0.66
Diseases of the skin	1,108	1,287	4,521	4,283	6,384	6,574	11,414	8,749	4,329	2,804	27,756	23,697	51,453	11.62
Diseases of the musculo-skeletal system	12	8	92	153	751	1,050	7,918	5,892	4,136	2,710	12,909	9,813	22,722	5.13
Acute abdomen	7	9	63	53	233	264	608	572	107	107	1,018	1,005	2,023	0.46
Fever of unknown origin	419	429	1,013	982	1,592	1,733	3,880	2,812	1,281	989	8,185	6,945	15,130	3.42
Headache	15	27	375	476	1,831	2,285	6,275	6,560	2,444	2,007	10,940	11,355	22,295	5.04
Other symptoms and signs	418	373	579	580	785	860	1,645	1,494	876	587	4,303	3,894	8,197	1.85
58	58	77	1,180	1,186	2,497	1,819	6,118	3,293	1,975	1,037	11,828	7,412	19,240	4.35
All diseases	11,733	11,978	29,840	30,473	51,538	53,211	113,892	105,297	48,044	35,801	255,047	236,760	491,807	111

Source: Health Division, Thimphu

TABLE 2.7: NUMBER OF PATIENTS REPORTED IN DIFFERENT HOSPITALS, 1991 TO 1997

Hospital	1991	1992	1993	1994	1995	1996	1997
Government hospitals							
Bjakar	9.4	10.4	10.0	9.1	10.7	9.7	8.1
Tsirang	73.8	38.7	18.3	15.1	12.0	11.2	14.2
Geylegphug	77.1	70.0	69.6	62.1	56.1	13.2	15.2
Pemagatshel	11.0	9.6	5.5	7.8	6.4	6.7	7.5
Paro	28.5	18.9	24.0	29.4	29.9	19.4	25.0
Phuntsholing	34.6	34.9	41.4	33.4	23.9	26.6	39.0
Samdrupjongkhar	17.7	25.6	28.0	26.2	17.7	17.4	18.4
Samtse	23.1	29.9	20.7	20.2	18.5	14.1	17.1
Sarpang	n.a	n.a	38.0	..	..	18.4	16.6
Sibsoo	9.5	8.4	6.6	5.9	6.1	5.6	9.0
Thimphu	5.5	5.1	19.0	5.8	6.8	6.7	7.0
Trashigang	17.7	20.9	19.0	17.8	17.6	23.0	15.4
Tshimalakha	24.6	20.6	21.4	24.1	20.5	21.0	18.1
Trongsa	6.9	6.4	7.1	7.7	7.2	7.3	9.9
Leprosy mission hospitals							
Gidakom	8.7	9.0	9.9	11.9	10.5	9.5	9.9
Lhuntshi	8.7	9.6	8.5	7.5	4.7	5.1	6.2
Mongar	11.8	12.1	10.6	10.2	13.1	17.8	9.4
Riserboo	5.2	7.9	6.4	8.7	9.5	9.4	9.7
Yebilaptsa(Zhemgang)	6.8	7.7	8.3	7.2	6.5	6.3	5.0
Army hospitals							
Lungtenphug	n.a	n.a	0.0	n.a	n.a	n.a	n.a
Wangdiphodrang	29.0	24.2	32.1	25.8	23.3	24.5	34.3
Yonphula	15.2	10.5	7.8	9.8	11.9	11.0	11.6
Imtrat (Haa)	23.3	30.1	23.6	25.4	20.9	19.6	19.8
Others							
Dantak (Deothang)	56.5	n.a	0.0	n.a	n.a	n.a	n.a
IBFH (Thimphu)	44.6	51.5	55.7	64.2	56.0	64.2	64.3
Project hospitals							
Gomtu	33.2	38.3	34.3	36.4	34.0	27.8	24.0
Indigenous hospital	33.4	33.5	33.1	26.3	n.a	n.a	n.a
Indigenous dispensary	71.4	77.1	40.8	41.4	n.a	n.a	n.a
All hospitals(b)	687.2	610.9	599.4	539.4	423.6	395.5	414.7

Note: Comparisons over time may be affected by different coverage in each year

Source: Health Division, Thimphu

TABLE 2.8: NUMBER OF INDIVIDUALS COVERED BY IMMUNIZATION ACTIVITIES BY DZONGKHAG, 1997

DZONGKHAGS	BCG	DPT1	DPT3	OPV1	OPV3	MEASLES	TT1	TT2
Thimphu	4,271	na	3,837	na	3,796	3,737	na	3,474
Paro	1,035	na	1,231	na	1,244	1,251	na	1,081
Haa	202	na	216	na	213	203	na	94
Punakha	465	na	477	na	473	366	na	399
Wangduphodrang	852	na	775	na	775	613	na	482
Chukha	2,255	na	2,118	na	2,001	2,230	na	1,944
Samtsi	2,194	na	2,074	na	2,074	1,877	na	1,522
Sarpang	1,652	na	1,473	na	1,456	1,532	na	1,489
Tsirang	389	na	316	na	316	318	na	229
Dagana	434	na	385	na	482	370	na	165
Trongsa	285	na	287	na	302	274	na	198
Shemgang	495	na	495	na	495	472	na	361
Bumthang	283	na	246	na	246	280	na	209
Lhuntse	404	na	459	na	470	404	na	219
Tashiyangtse	463	na	418	na	431	418	na	190
Tashigang	1,375	na	1,395	na	1,271	1,277	na	951
Pemagatshel	332	na	338	na	348	262	na	175
Samdrup Jongkh	1,972	na	1,686	na	1,851	1,684	na	1,578
Gasa	43	na	48	na	48	55	na	15
BHUTAN	19,401	0	18,274	0	18,292	17,623	0	14,775

Source: Health Division, Thimphu

TABLE 2.9: INCIDENCE OF E.P.I. DISEASES FOR CHILDREN BELOW AGE 15, BHUTAN, 1989 TO 1997

(numbers)

Year	1989	1990	1991	1992	1993	1994	1995	1996	1997
Diptheria									
Incidence	0	0	3	2	0	0	0	0	0
Deaths	0	0	0	0	0	0	0	0	0
Measles									
Incidence	554	299	441	103	505	683	148	9	169
Deaths	1	5	0	1	3	0	0	0	0
Pertussis									
Incidence	4	2	8	9	0	0	5	0	0
Deaths	0	0	0	0	0	0	0	0	0
Poliomyelitis									
Incidence	0	0	0	0	0	0	0	0	0
Deaths	0	0	0	0	0	0	0	0	0
Tetanus									
Incidence	0	0	4	0	0	0	0	0	0
Deaths	0	0	0	0	0	0	0	0	0
Neonatal tetanus									
Incidence	2	1	0	2	0	1	0	0	0
Deaths	2	1	0	1	0	1	0	0	0
Tuberculosis									
Incidence	437	22	129	140	101	311	269	3	10
Deaths	2	0	1	4	2	0	5	0	0
All EPI diseases									
Incidence	997	324	585	256	606	995	422	12	179
Deaths	5	6	1	6	5	1	5	0	0

Note: EPI stands for expanded program on Immunization

Source: Health Division, Thimphu

TABLE 2.10: DETAILS OF CHILD GROWTH MONITERING IN IMMUNIZATION CLINICS, BHUTAN, 1986 TO 1997

Details	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Children weighed (numbers)	n.a	n.a	n.a	n.a	n.a	n.a	18,499	20,501	18,229	14,800	16,467	16,473
Child malnutrition (numbers	9,030	15,502	8,334	10,804	12,115	11,093	10,746	9,248	7,136	4,751	4,525	4,201
Degree I	n.a	n.a	n.a	n.a	n.a	n.a	7,676	6,510	4,930	3,176	3,139	2,965
Degree II	n.a	n.a	n.a	n.a	n.a	n.a	2,236	2,028	1,605	1,268	924	890
Degree III	953	2,020	876	1,145	2,967	767	834	710	601	307	462	346
Child malnutrition (%)	n.a	n.a	n.a	n.a	n.a	n.a	58	45	39	32	28	26

Source: Health Division, Thimphu

TABLE 2.11: DETAILS OF MATERNAL AND CHILD HEALTH CARE SERVICES, 1987 TO 1997

(persons)

Type of care	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Maternal health care attendence(a)											
Antenatal	26,662	29,425	33,324	40,616	38,064	40,310	51,321	12,785	11,614	40,269	44,692
Postnatal	37,476	34,277	36,406	45,916	40,289	42,182	45,262	9,874	89,793	25,299	9,361
Deliveries attended											
Home	2,170	1,838	2,258	2,450	2,206	2,667	2,680	n.a	1,379	1,327	1,348
Hospital/Basic Health Units	2,491	3,086	3,588	3,513	3,287	3,392	3,371	n.a	5,244	4,825	5,083
Total deliveries	4,661	4,924	5,846	5,963	5,438	6,059	6,051	14,864	6,623	6,152	6,431
Child health care attendance											
First visit	33,240	26,090	35,784	29,450	23,954	22,081	22,962	n.a	n.a	n.a	n.a
Re-visit	163,161	136,450	151,526	180,410	147,819	159,190	165,249	n.a	n.a	n.a	n.a
Total attendance	196,401	162,540	187,310	209,860	171,773	181,271	188,211	n.a	n.a	n.a	n.a
Malnourished children (b)											
All malnourished	15,502	8,334	10,807	12,155	11,093	10,746	9,248	7,136	4,751	4,525	n.a
Third degree	2,020	876	1,145	2,967	767	834	710	601	307	462	n.a

(a) Refers to total attendance, not a count of individuals.

(b) Children attending health units are classified according to three degrees of malnourishment. Third degree malnourishment refers to the most severe cases.

Source: Health Division, Thimphu

TABLE 2.12: DETAILS OF MATERNAL HEALTH CARE ACTIVITIES BY DZONGKHAG, 1990 TO 1997

(numbers)

Dzongkhag	1990	1991	1992	1993	1994	1995	1996	1997
Bjakar								
Antenatal	1,139	894	1,302	408	345	228	866	723
Postnatal	1,608	872	1,625	n.a	118	193	491	466
Reported deliveries	58	87	255	407	424	199	270	na
Trained deliveries	10	95	109	114	75	162	255	135
Chhukha								
Antenatal	3,052	3,466	3,731	1,335	1,063	993	4,356	6,451
Postnatal	3,526	4,449	4,087	n.a	1,080	904	3,086	1,561
Reported deliveries	26	45	262	1,333	1,018	395	350	na
Trained deliveries	3	337	260	600	283	390	331	720
Dagana								
Antenatal	1,260	751	715	445	304	247	588	560
Postnatal	3,947	2,226	1,886	n.a	398	322	605	415
Reported deliveries	371	269	105	446	287	211	184	na
Trained deliveries	121	67	33	58	44	98	122	174
Gasa								
Antenatal	..	..	n.a	57	31	43	75	55
Postnatal	..	..	n.a	n.a	73	8	1	13
Reported deliveries	..	..	n.a	56	31	7	6	na
Trained deliveries	..	..	n.a	5	17	3	6	3
Haa								
Antenatal	753	790	694	235	153	125	355	410
Postnatal	401	321	221	n.a	208	47	263	199
Reported deliveries	57	15	96	235	163	29	97	na
Trained deliveries	12	4	32	275	29	29	96	13
Lhuntse								
Antenatal	1,773	1,503	1,581	465	370	355	763	677
Postnatal	1,268	1,462	1,548	n.a	429	287	983	276
Reported deliveries	369	263	193	460	404	405	375	na
Trained deliveries	22	31	21	207	39	333	375	218
Mongar								
Antenatal	3,433	2,239	3,414	981	871	870	2,159	2,087
Postnatal	1,796	2,019	2,835	n.a	845	847	2,445	858
Reported deliveries	105	396	689	988	1,172	973	1,094	
Trained deliveries	78	151	237	652	190	664	843	749

continues...

TABLE 2.12 (continuation): DETAILS OF MATERNAL HEALTH CARE ACTIVITIES BY DZONGKHAG, 1990 TO 1997
(numbers)

Dzongkhag	1990	1991	1992	1993	1994	1995	1996	1997
Paro								
Antenatal	1,590	1,616	1,128	536	520	237	1,260	1,722
Postnatal	1,788	1,826	1,780	n.a	100	223	109	274
Reported deliveries	n.a	n.a	113	540	521	194	33	na
Trained deliveries	n.a	77	110	54	121	184	16	310
Pemagatshel								
Antenatal	1,143	885	933	470	272	327	904	930
Postnatal	4,702	4,005	4,206	n.a	430	393	2,943	299
Reported deliveries	116	219	282	470	437	147	535	na
Trained deliveries	8	60	59	381	135	84	324	275
Punakha								
Antenatal	1,901	1,438	1,806	495	388	294	1,279	1,529
Postnatal	839	786	561	n.a	300	44	166	126
Reported deliveries	269	134	105	507	761	92	154	na
Trained deliveries	45	51	39	71	85	63	129	154
Samdrupjongkhar								
Antenatal	2,546	2,030	2,305	1,032	784	903	2,106	2,124
Postnatal	361	2,049	2,947	n.a	849	730	3,375	918
Reported deliveries	165	174	260	1,021	941	500	723	na
Trained deliveries	70	93	139	429	218	332	507	659
Samtse								
Antenatal	1,971	2,073	2,450	1,378	908	803	2,612	2,544
Postnatal	2,081	1,557	2,264	n.a	733	622	923	639
Reported deliveries	35	5	255	1,384	783	50	132	na
Trained deliveries	25	240	255	263	311	50	132	67
Sarpang								
Antenatal	3,821	3,264	2,469	721	734	660	3,379	3,293
Postnatal	3,102	2,662	1,556	n.a	286	363	709	536
Reported deliveries	191	n.a	234	741	753	86	133	na
Trained deliveries	114	293	234	126	90	86	94	99
Thimphu								
Antenatal	8,280	9,830	10,225	2,491	2,385	2,508	12,066	14,869
Postnatal	4,292	5,465	3,693	n.a	704	710	1,403	399
Reported deliveries	60	119	1,181	2,516	2,430	853	167	na
Trained deliveries	33	1,160	1,128	1,107	1,359	818	148	135

continues...

TABLE 2.12 (continuation): DETAILS OF MATERNAL HEALTH CARE ACTIVITIES BY DZONGKHAG, 1990 TO 1997
(numbers)

Dzongkhag	1990	1991	1992	1993	1994	1995	1996	1997
Trashigang								
Antenatal	4,751	3,834	4,852	1,379	1,136	1,053	2,837	1,825
Postnatal	1,075	4,187	5,486	n.a	1,210	1,138	2,628	747
Reported deliveries	632	941	1,475	1,385	1,507	1,266	895	na
Trained deliveries	168	251	503	457	269	883	649	393
Trashiyangtse								
Antenatal	n.a	n.a	646	696	381	227	627	504
Postnatal	n.a	n.a	511	n.a	257	228	789	144
Reported deliveries	n.a	n.a	184	700	782	290	185	na
Trained deliveries	n.a	n.a	8	196	30	282	162	34
Trongsa								
Antenatal	990	664	813	358	445	296	701	760
Postnatal	2,059	1,076	1,903	n.a	259	245	917	212
Reported deliveries	111	38	24	354	258	245	243	na
Trained deliveries	55	34	21	85	61	192	196	227
Tsirang								
Antenatal	2,656	1,545	745	345	352	372	756	759
Postnatal	2,023	996	622	n.a	492	438	767	332
Reported deliveries	205	17	47	333	589	122	42	na
Trained deliveries	135	84	47	40	58	122	42	107
Wangduephodrang								
Antenatal	1,774	3,052	2,200	1,034	880	607	1,650	1,640
Postnatal	1,170	1,188	1,248	n.a	661	635	1,214	572
Reported deliveries	246	234	153	1,041	1,051	264	284	na
Trained deliveries	46	181	108	281	272	214	222	251
Zhemgang								
Antenatal	1,548	1,257	1,510	892	463	406	930	1,230
Postnatal	2,981	2,734	2,763	n.a	442	416	1,482	375
Reported deliveries	117	70	169	882	551	295	250	na
Trained deliveries	35	78	72	335	52	254	176	360

Note: Trained delivery refer to deliveries attended by trained health personnels in hospitals/BHUs and at home

Source: Health Division, Thimphu

TABLE 2.13: DETAILS OF COMPLICATIONS DURING PREGNANCY, DELIVERY AND PUERPERIUM, BHUTAN, 1997

Complications	Numbers	Percent
Pregnancy of mothers	na	0.0
Abortions	na	70.0
Antepartum haemorrhage	na	60.0
Hypertensive diseases	na	50.0
Anaemia	na	40.0
Hepatitis	na	30.0
Malaria	na	20.0
Others	na	10.0
Labour/delivery	na	0.0
Obstructed labour	na	19.0
Transverse lie	na	12.0
Brech	na	34.0
Ruptured uterus	na	1.0
Hypertensive diseases	na	2.0
Prematurity	na	24.0
Others	na	7.0
Puerperium	na	0.0
Postpartum hamorrhage	na	38.0
Retained	na	48.0
Placenta	na	6.0
Pyxeria	na	6.0
Others	na	2.0
	na	
All complications		100.0

Source: Health Division, Thimphu

TABLE 2.14: FAMILY PLANNING ACCEPTORS BY TYPE OF METHOD, BHUTAN 1986 TO 1997

(persons)

Method	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Vasectomy	414	552	897	1,961	1,120	685	231	714	2,043	1,263	1,930	74
Minilap	428	470	379	506	301	177	68	172	355	n.a	n.a	806
Intra uterine device(IUD)	896	665	619	757	987	986	637	687	930	759	1,602	1,582
Pills	6,355	6,036	5,663	7,168	5,675	7,721	9,572	9,936	7,496	8,794	8,917	6,483
Condoms	2,846	1,099	897	1,476	2,049	6,777	7,529	6,568	4,877	5,635	7,411	6,309
Injection DMPA	81	78	48	125	50	453	6,448	6,662	7,748	9,278	12,065	12,024
All methods	11,020	8,900	8,503	11,993	10,182	16,799	24,485	24,739	23,449	25,729	31,925	27,278

Source: Health Division, Thimphu

TABLE 2.15: NUMBER OF USERS OF FAMILY PLANNING METHODS BY TYPE BY DZONGKHAG, 1997

Dzongkhag	Family planning methods					All methods
	Sterilisation	IUD	DMPA	Pills	Condom	
Bjakar	3	29	234	46	13	325
Chhukha	88	183	509	527	564	1871
Daga	32	6	267	333	100	738
Gasa	0	5	86	49	58	198
Haa	1	2	219	128	118	468
Lhuntse	36	14	318	121	151	640
Mongar	30	105	1545	478	469	2627
Paro	15	47	523	349	345	1279
Pemagatshel	0	30	278	71	108	487
Punakha	12	20	417	296	153	898
Samdrupjongkha	22	40	502	234	473	1271
Samtse	285	107	407	621	402	1822
Sarpang	18	130	1002	417	310	1877
Zhemgang	3	39	649	344	431	1466
Thimphu	65	462	1269	579	678	3053
Trashigang	105	81	1717	536	903	3342
Trashiyangtse	48	51	199	92	159	549
Trongsa	0	15	469	293	277	1054
Tsirang	0	24	546	313	126	1009
Wangduephodrang	117	192	868	656	471	2304
Bhutan	880	1,582	12,024	6,483	6,309	27,278

Source: Health Division, Thimphu

TABLE 2.16: DETAILS OF LEPROSY PATIENTS, LEPROSY CONTROL PROGRAMME, 1988 TO 1997

(persons)

Details	1988(c)	1989	1990	1991	1992	1993	1994	1995	1996	1997
Patients at beginning of year	1,018	601	405	245	201	156	127	113	117	na
New cases detected	69	57	58	54	53	45	57	32	37	33
Relapse cases	11	3	12	1	2	1	1	3	2	na
Released from control(a)	447	282	209	91	55	72	61	35	41	na
Lost to control(b)	30	14	11	9	12	10	5	3	0	na
Patients at the end of year	601	353	249	201	162	127	113	117	111	65
Deaths	20	12	7	5	5	1	4	0	0	0

Note: (a) Patients successfully treated. (b) Patients unsuccessfully treated.
(c) Some non-national patient left the course at the beginning of 1990.

Source: Health Division, Thimphu

TABLE 2.17: NUMBER OF BLOOD SLIDE EXAMINATIONS FOR MALARIA AND MALARIOMETRIC INDICES, BHUTAN, 1989 TO 1997

Details	1989	1990	1991	1992	1993	1994	1995	1996	1997
Total blood films examined (numbers)	71,653	33,973	67,699	73,986	80,980	97,425	83,899	80,777	68,153
Blood film detected negative	52,491	24,476	45,573	45,086	52,588	58,524	n.a	n.a	n.a
Blood films detected positive	19,162	9,497	22,126	28,900	28,392	38,901	23,195	17,446	9,029
Plasmodium vivax	n.a	n.a	8,988	14,808	15,337	22,427	15,655	10,601	5,044
Plasmodium falciparum	n.a	n.a	12,966	13,910	12,779	15,998	7,236	6,845	3,614
Mixed infections	n.a	n.a	172	182	276	476	304	n.a	n.a
Malariometric indices									
Annual blood slide examination rate	n.a	n.a	19.3	12.1	23.1	27.8	23.9	23.1	19.4
Slide positive rate	n.a	n.a	32.7	39.0	35.0	39.9	27.6	22.0	13.2
Annual parasite incidence	n.a	n.a	63.2	82.6	81.1	111.1	66.2	49.8	25.7
Slide falciparum rate	n.a	n.a	19.4	19.0	16.1	16.4	8.9	8.5	5.3
Positive falciparum rate (%)	n.a	n.a	59.3	49.2	45.9	41.1	32.5	39.0	40.8
Deaths due to malaria (numbers)	n.a	n.a	n.a	54	62	n.a	n.a	n.a	n.a

Source: Health Division, Thimphu

TABLE 2.18: NUMBER OF TUBERCULOSIS CASES BY TYPE, BHUTAN, 1993 TO 1997

(persons)

Year	Cases diagnosed and treated			Total deaths
	Pulmonary	Extra Pulmonary	Total cases	
1993	3,224	1,034	4,258	40
1994	1,427	393	1,820	23
1995	1,038	270	1,308	62
1996	942	329	1,271	51
1997	na	na	1,211	33

Source: Health Division, Thimphu

TABLE 2.19: WATER AND SANITATION FACILITIES BY TYPE AND BY DZONGKHAG, 1996

(numbers)

Dzongkhag	Houses	Latrines	Houses with piped water	Animal sheds	Garbage pits	Kitchen Gardens
Bjakar	1,225	993	873	1,181	1,126	1207
Chhukha	4,195	2,923	1,856	1,553	1,111	2314
Dagana	1,224	2,490	1,020	2,050	1,556	2190
Gasa	374	301	79	205	228	303
Haa	1,097	754	606	267	244	793
Lhuntse	2,407	1,836	1,171	268	622	1985
Mongar	4,865	4,562	2,759	1,696	2,227	3824
Paro	2,860	1,839	1,178	145	316	1063
Pemagatshel	2,417	1,966	1,895	1,562	207	1786
Punakha	1,748	1,559	1,222	1,191	697	1258
Samdrupjongkha	5,566	4,080	2,200	3,067	2,265	3311
Samtse	7,866	4,246	4,053	3,825	0	4764
Sarpang	3,404	2,415	437	2150	401	2965
Shemgang	2,000	1,801	1,171	672	942	1728
Thimphu	2,298	1,392	720	668	308	1663
Trashigang	5,854	7,498	2,005	1,731	1,175	6251
Trashiyangtse	3,138	2,453	1,211	1,913	758	2203
Trongsa	1,340	1,337	958	249	528	1176
Tsirang	2,645	1,782	217	1,952	1037	1790
Wangduephodrang	3,097	2,434	1,216	1,655	2,004	2529
Bhutan	59,620	48,661	26,847	28,000	17,752	45,103

Note: Data not supplied from the Health Division, for the year 1997.

Source: Annual Health Bulletin 1996, Health Division, Thimphu

TABLE 2.20: NUMBER OF PATIENT REFERRED OUTSIDE BHUTAN BY SEX AND CASUALTIES, 1989/90 TO 1997/98

(numbers)

Year	Recovered		Dead	
	Male	Female	Male	Female
1989-90	122	132	–	–
1990-91	154	118	1	–
1991-92	175	147	1	1
1992-93	132	112	–	2
1993-94	123	108	–	1
1994-95	126	114	2	1
1995-96	194	188	1	1
1996-97	215	201	2	–
1997-98	221	213	8	3
Total	1,462	1,333	15	9

Source: Ministry of Health and Education, Thimphu

CHAPTER 3: EDUCATION

INTRODUCTION

The development of a comprehensive education system in Bhutan was initiated in 1961. Prior to that time there were virtually no modern education facilities inside Bhutan, apart from the traditional education given in the monasteries. Today there is an extensive network of schools and other educational institutions spread throughout the country. Many schools contain boarding facilities for students living in areas far from the nearest school.

While the medium of instruction in schools is English, Bhutan's national language dzongkha is taught as a compulsory subject from primary to college level. School curricula also includes religious instruction, training in traditional arts and crafts and agriculture.The division of education maintain an extensive range of data on students, schools and teaching personnel, some summary data are presented in this chapter.

TABLE 3.1: NUMBER OF SCHOOLS AND INSTITUTIONS, STAFF AND STUDENTS, BHUTAN 1997

Details	Community schools	Primary schools	Junior schools	High schools	Private schools	Other institutes	Total
Number of infrastructures	107	150	25	13	7	10	312
Total staff	257	1,552	575	458	85	450	3,377
Teaching staff	250	1,312	473	316	71	293	2,715
Nationals	247	1,100	368	208	66	210	2,199
Non Nationals	3	212	105	108	5	83	516
Non teaching staff	7	240	102	142	14	157	662
Nationals	7	240	99	133	9	123	611
Non Nationals			3	9	5	34	51
Number of students	10,743	51,776	17,907	8,528	1,424	1,889	92,267
Males	6,137	28,914	9,571	4,889	740	1,417	51,668
Females	4,606	22,862	8,336	3,639	684	472	40,599
Student to teacher ratio	43	40	38	27	20	7	34

Source: Education Division, Thimphu

TABLE 3.2: NUMBER OF EDUCATIONAL INSTITUTIONS,TEACHERS AND STUDENTS, BHUTAN,1977 TO 1997

Year	Infrastructure			Teachers			Students		
	Schools	Institutes	Total	Schools	Institutes	Total	Schools	Institutes	Total
1977	114	8	122	769	103	872	19,973	465	20,438
1981	142	8	150	1,219	108	1,327	31,938	1,105	33,043
1982	158	12	170	1,263	159	1,422	40,064	2,058	42,122
1983	166	28	194	1,520	n.a	1,520	43,782	2,035	45,817
1984	171	30	201	1,655	n.a	1,655	46,328	2,439	48,767
1985	175	31	206	1,668	n.a	1,668	49,175	2,660	51,835
1986	177	n.a	177	1,934	n.a	1,934	52,452	n.a	52,452
1987	178	n.a	178	2,038	n.a	2,038	54,927	n.a	54,927
1988	180	7	187	2,208	150	2,358	58,796	1,761	60,557
1989	188	7	195	2,398	147	2,545	66,065	1,787	67,852
1990	192	8	200	2,435	190	2,625	68,013	2,341	70,354
1991	244	8	252	2,153	184	2,337	50,412	1,693	52,105
1992	261	7	268	2,146	187	2,333	55,850	1,520	57,370
1993	267	7	274	2,084	197	2,281	62,138	1,524	63,662
1994	279	7	286	2,208	210	2,418	69,154	1,732	70,886
1995	281	7	288	2,224	199	2,423	75,504	1,772	77,276
1996	292	8	300	2,314	203	2,517	82,362	1,795	84,157
1997	302	10	312	2,242	293	2,715	90,378	1,889	92,267

Source: Education Division, Thimphu

TABLE 3.3: NUMBER OF EDUCATIONAL FACILITIES BY TYPE AND DZONGKHAG, 1997

Dzongkhag	Private schools	Community schools	Primary schools	Junior schools	High schools	Other institutes	Total
Bumthang	-	3	4	-	1	-	8
Chhukha	2	10	10	2	1	1	26
Dagana	-	2	2	-	1	-	5
Gasa	-	3	1	-	-	-	4
Haa	-	-	6	-	1	-	7
Lhuntse	-	6	9	-	1	-	16
Mongar	-	16	11	2	1	-	30
Paro	-	2	8	2	1	1	14
Pemagatshel	-	7	6	2	-	-	15
Punakha	-	3	5	1	1	-	10
Samdrupjongkhar	-	8	12	1	1	1	23
Samtse	-	-	7	1	-	1	9
Sarpang	-	4	2	2	-	2	10
Thimphu	5	2	11	4	2	1	25
Trashigang	-	19	21	3	1	2	46
Trashiyangtse	-	8	6	1	-	1	16
Trongsa	-	4	5	1	-	-	10
Tsirang	-	2	2	-	-	-	4
Wangduephodrang	-	6	8	2	-	-	16
Zhemgang	-	2	14	1	1	-	18
Bhutan	7	107	150	25	13	10	312

Source: Education Division, Thimphu

TABLE 3.4: NUMBER OF TEACHERS IN EDUCATIONAL INSTITUTIONS BY NATIONALITY, BHUTAN, 1995 TO 1996

Institutions	1995			19 1996			19 1997		
	Total	National	Foreigner	Total	National	Foreigner	Total	National	Foreigner
Schools	1695	528	2223	1867	507	2314	1989	433	2422
Community School	218	10	228	222	3	225	247	3	250
Primary School	1049	307	1,356	1127	247	1374	1100	212	1312
Junior School	230	112	342	276	164	380	368	105	473
High School	153	93	246	188	86	274	208	108	316
Private School	45	6	51	54	7	61	66	5	71
Specialised/Professional Institutes	136	64	200	145	58	203	210	83	293
Sherubtse College	13	32	45	13	30	43	15	28	43
National Institute of Education	21	4	25	21	3	24	37	9	46
Teachers Training Centre	19	0	19	20	..	20	32	2	34
Royal Bhutan Polytechnic	24	14	38	30	14	44	43	31	74
Royal Technical Institute	25	14	39	28	11	39	46	13	59
National Trade Training Institute	n.a	n.a	n.a	0	..	..	3	..	3
Semtokha Rigzhung Institute	24	0	24	25	..	25	23	..	23
National Institute for the Disabled (NID)	9	0	9	6	..	6	8	..	8
Sanskrit Patshala	1	0	1	2	..	2	3	..	3
Total teachers	1831	592	2423	2012	565	2517	2199	516	2715

Source: Education Division, Thimphu

TABLE 3.5: NUMBER OF EDUCATIONAL FACILITIES, TEACHERS AND STUDENTS BY DZONGKHAG, APRIL, 1997

Dzongkhag	Educational facilities	Teachers			Students		
		Total	National	Non national	Total	Girls	Boys
Bumthang	8	69	59	10	2,925	1,414	1,511
Chhukha	26	286	228	58	8,244	3,579	4,665
Dagana	5	34	30	4	1,822	845	977
Gasa	4	8	8	-	425	179	246
Haa	7	74	64	10	2,712	1,292	1,420
Lhuntse	16	73	70	3	2,501	945	1,556
Mongar	30	160	129	31	6,019	2,505	3,514
Paro	14	198	176	22	6,584	3,200	3,384
Pemagatshel	15	79	66	13	3,476	1,415	2,061
Punakha	10	109	80	29	3,682	1,641	2,041
Samdrupjongkhar	23	227	149	78	6,637	2,484	4,153
Samtse	9	123	100	23	3,269	1,445	1,824
Sarpang	10	67	56	11	3,040	1,424	1,616
Thimphu	25	477	397	80	15,760	7,784	7,976
Trashigang	46	345	263	82	10,237	4,027	6,210
Trashiyangtse	16	78	68	10	2,892	1,132	1,760
Trongsa	10	59	52	7	2,184	1,098	1,086
Tsirang	4	23	21	2	1,162	491	671
Wangduephodrang	16	102	81	21	4,574	2,156	2,418
Zhemgang	18	124	102	22	4,122	1,543	2,579
Bhutan	312	2,715	2,199	516	92,267	40,599	51,668

Source: Education Division, Thimphu

TABLE 3.6: NUMBER OF ENROLMENT IN EDUCATIONAL INSTITUTIONS, BHUTAN, 1992 TO 1997

Institutions	1992	1993	1994	1995	1996	1997
Schools	55,793	62,138	69,133	75,483	82,362	90,378
Community school	7,239	8,350	9,425	9,655	9,257	10,743
Primary school	38,973	42,139	45,937	49,064	53,095	51,776
Junior high schools	6,503	8,138	8,870	10,469	12,491	17,907
High schools	3,078	3,511	4,185	5,296	6,271	8,528
Private schools	n.a	n.a	716	999	1,248	1,424
Other institutions	1,577	1,524	1,753	1,780	1,795	1,889
Sherubtse college	395	338	533	508	445	496
National Institute of Education	127	131	160	165	189	199
Teachers Training College	61	74	146	164	177	206
Royal Bhutan Polytechnic	142	155	191	226	239	258
Royal Technical Institute	295	280	233	226	265	289
Semtokha Rigzhung Institute	530	516	436	440	393	305
National Institute for the Disabled (NID)	27	30	33	30	27	28
Sanskrit patshala	n.a	n.a	21	21	60	87
Trashiyangtse Rigney Institute	..	..	..	..	..	21
All institutions	57,370	63,662	70,886	77,263	84,157	92,267

Source: Education Division, Thimphu.

TABLE 3.7: NUMBER OF STUDENTS IN HIGH SCHOOLS AND BELOW BY DZONGKHAG AND TYPE OF SCHOOL, 1997

Dzongkhag	Private schools			Community schools			Primary schools			Junior schools			High schools			All schools		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Bumthang	na	na	na	127	112	239	1,047	1,049	2,096	na	na	na	337	253	590	1,511	1,414	2,925
Chhukha	434	381	815	706	481	1,187	2,317	1,860	4,177	614	488	1,102	373	301	674	4,444	3,511	7,955
Dagana	na	na	na	264	228	492	366	300	666	na	na	na	347	317	664	977	845	1,822
Gasa	na	na	na	118	91	209	128	88	216	na	na	na	na	na	na	246	179	425
Haa	na	na	na	na	na	na	1,059	990	2,049	na	na	na	361	302	663	1,420	1,292	2,712
Lhuntse	na	na	na	161	142	303	1,006	679	1,685	na	na	na	389	124	513	1,556	945	2,501
Mongar	na	na	na	979	806	1,785	1,669	1,886	3,555	561	325	886	305	188	493	3,514	3,205	6,719
Paro	na	na	na	64	84	148	2,069	1,939	4,008	772	770	1,542	354	326	680	3,259	3,119	6,378
Pemagatshel	na	na	na	452	308	760	919	620	1,539	690	487	1,177	na	na	na	2,061	1,415	3,476
Punakha	na	na	na	118	105	223	1,096	883	1,979	383	360	743	444	293	737	2,041	1,641	3,682
Samtse	na	na	na	na	na	na	1,308	913	2,221	417	432	849	na	na	na	1,725	1,345	3,070
Samdrupjongkhar	na	na	na	564	388	952	2,626	1,517	4,143	437	410	847	302	135	437	3,929	2,450	6,379
Sarpang (a)	na	na	na	191	200	391	405	306	711	949	902	1,851	na	na	na	1,545	1,408	2,953
Thimphu	306	303	609	138	117	255	4,573	4,251	8,824	1,995	2,071	4,066	740	961	1,701	7,752	7,703	15,455
Trashigang	na	na	na	1,129	697	1,826	3,217	2,307	5,524	878	657	1,535	554	274	828	5,778	3,935	9,713
Trashiyangtse	na	na	na	388	304	692	873	591	1,464	478	237	715	na	na	na	1,739	1,132	2,871
Trongsa	na	na	na	96	97	193	627	623	1,250	363	378	741	na	na	na	1,086	1,098	2,184
Tsirang	na	na	na	234	118	352	437	373	810	na	na	na	na	na	na	671	491	1,162
Wangduephodrang	na	na	na	320	257	577	1,399	1,256	2,655	699	643	1,342	na	na	na	2,418	2,156	4,574
Zhemgang	na	na	na	88	71	159	1,773	1,131	2,904	335	176	511	383	165	548	2,579	1,543	4,122
Bhutan	740	684	1,424	6,137	4,606	10,743	28,914	23,562	52,476	9,571	8,336	17,907	4,889	3,639	8,528	50,251	40,827	91,078

Note: (a)Total figure excludes 60 students of Surrey Sanskrit Patsala

Source: Education Division, Thimphu

TABLE 3.8: NUMBER OF STUDENTS BY GRADE AND TYPE OF SCHOOL, BHUTAN, 1997

Grade	Private school			Community school			Primary school			Junior school			High school			All schools		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Nursery	125	139	264	-	-	-	-	-	-	-	-	-	-	-	-	125	139	264
Pre primar	278	272	550	1,752	1,419	3,171	4,994	4,281	9,275	875	809	1,684	11	23	34	7,910	6,804	14,714
I	131	98	229	1,472	1,071	2,543	4,656	3,803	8,459	929	841	1,770	20	21	41	7,208	5,834	13,042
II	80	58	138	1,155	879	2,034	4,289	3,380	7,669	772	745	1,517	22	24	46	6,318	5,086	11,404
III	58	52	110	865	642	1,507	4,179	3,221	7,400	772	677	1,449	16	21	37	5,890	4,613	10,503
IV	24	27	51	580	429	1,009	4,260	3,375	7,635	810	754	1,564	17	11	28	5,691	4,596	10,287
V	23	19	42	260	152	412	3,717	2,719	6,436	729	695	1,424	17	26	43	4,746	3,611	8,357
VI	21	19	40	53	14	67	2,819	2,083	4,902	676	640	1,316	13	21	34	3,582	2,777	6,359
VII	-	-	-	-	-	-	-	-	-	2,479	1,920	4,399	767	702	1,469	3,246	2,622	5,868
VIII	-	-	-	-	-	-	-	-	-	1,529	1,255	2,784	863	691	1,554	2,392	1,946	4,338
IX	-	-	-	-	-	-	-	-	-	-	-	-	1,642	1,064	2,706	1,642	1,064	2,706
X	-	-	-	-	-	-	-	-	-	-	-	-	1,112	716	1,828	1,112	716	1,828
XI	-	-	-	-	-	-	-	-	-	-	-	-	256	226	482	256	226	482
XII	-	-	-	-	-	-	-	-	-	-	-	-	334	123	457	334	123	457
Non formal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	740	684	1,424	6,137	4,606	10,743	28,914	22,862	51,776	9,571	8,336	17,907	5,090	3,669	8,759	50,452	40,157	90,609

Source: Education Division, Thimphu

TABLE 3.9: NUMBER OF STUDENTS BY GRADE, 1987 TO 1997

Grade	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Primary grades	51,948	55,340	61,575	63,643	46,517	51,411	56,773	60,089	64,685	69,968	74,666
Pre-primary	15,579	14,323	16,042	15,155	13,408	12,786	12,815	11,621	12,179	13,675	14,714
I	13,094	13,313	13,756	13,151	8,708	10,836	11,662	12,088	11,595	11,795	13,042
II	7,365	9,423	10,798	11,385	7,087	8,265	9,739	10,710	11,410	11,223	11,404
III	5,867	6,490	7,754	8,684	6,136	6,157	7,643	8,895	9,714	10,437	10,503
IV	4,257	5,048	5,815	6,888	4,905	5,753	5,848	7,187	8,546	9,482	10,287
V	3,158	3,728	4,046	4,527	3,467	4,148	5,034	5,262	6,404	7,551	8,357
VI	2,628	3,015	3,364	3,853	2,807	3,466	4,032	4,326	4,837	5,805	6,359
Junior high grades	2,107	2,419	2,793	3,112	2,590	3,044	3,887	5,244	6,785	8,123	16,565
VI(a)	-	-	-	-	-	-	-	-	-	-	6,359
VII	1,107	1,277	1,552	1,659	1,381	1,660	2,215	3,326	3,959	4,445	5,868
VIII	1,000	1,142	1,241	1,453	1,209	1,384	1,672	1,918	2,826	3,678	4,338
High school grades	872	1,037	1,165	1,258	1,305	1,338	1,434	2,055	2,766	3,432	4,534
IX	528	558	642	698	720	714	840	1,354	1,620	2,037	2,706
X	344	479	523	560	585	624	594	701	1,146	1,395	1,828
Total students	54,927	58,796	65,533	68,013	50,412	55,793	62,094	67,388	74,236	81,523	95,765

Note: High school excludes students of class XI and XII; excludes private schools (a) Grade VI is in junior level as well. Figures now included under primary level.

Source: Education Division, Ministry of Health and Education, Thimphu

TABLE 3.10: NUMBER OF STUDENTS ENROLED, PROMOTEES, REPEATERS AND DROPOUTS BY SEX AND GRADE, 1997

Details	PP	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
Boys												
Enrolment	7,910	7,208	6,318	5,890	5,691	4,746	3,582	3,246	2,392	1,642	1,112	49,737
Promotees	6,137	5,396	5,204	4,881	4,185	3,469	2,968	2,037	1,553	1,108	256	37,194
Repeaters	1,110	2,071	922	686	810	561	113	278	355	89	4	5,999
Dropouts	206	133	181	268	429	288	180	191	153	59	605	2,693
Girls												
Enrolment	6,804	5,834	5,086	4,613	4,596	3,611	2,777	2,622	1,946	1,064	716	39,669
Promoters	5,126	4,461	4,144	3,977	3,237	2,686	2,363	1,547	1,003	715	226	29,485
Repeaters	858	708	625	469	619	374	91	259	399	61	1	4,464
Dropouts	238	26	147	156	202	173	90	133	215	5	303	1,688
All students												
Enrolment	14,714	13,042	11,404	10,503	10,287	8,357	6,359	5,868	4,338	2,706	1,828	89,406
Promoters	11,263	9,857	9,348	8,858	7,422	6,155	5,331	3,584	2,556	1,823	482	66,679
Repeaters	1,968	1,779	1,547	1,155	1,429	935	204	537	754	150	5	10,463
Dropouts	444	159	328	424	631	461	270	324	368	64	908	4,381

Note: Promotees and dropout figures are imputations

Source: Education Division, Ministry of Health and Education, Thimphu

TABLE 3.11: MONTHLY STIPEND FOR BOARDERS IN DIFFERENT EDUCATIONAL INSTITUTIONS, 1996 AND 1997 (a)

Institutions	1996			1997		
	Boarders (persons)	Monthly stipend (Nu/person)	Total (Nu.)	Boarders (persons)	Monthly stipend (Nu/person)	Total (Nu.)
Schools						
Junior High schools						
Haa Junior High School	..	..	..	..	..	..
Daga Junior High School	150	90	135,000	357	180	642,600
Bjakar Junior High School	..	..	..	..	..	.
Trongsa Junior High School	278	90	250,200	265	180	477,000
Yebilaptsa Junior High School	397	90	357,300	358	180	644,400
Tangmachu Junior High School	338	90	304,200	451	180	811,800
Paro Junior High School	334	90	300,600	284	180	51,200
Pemagatshel Junior High School	234	90	210,600	229	180	412,200
Nganglam Junior High School	285	90	256,500	355	180	639,000
Trashigang Junior High School	264	90	237,600	287	180	516,600
Wamrong Junior high School	241	90	216,900	411	180	739,800
Dremetse Junior High School	257	90	231,300	267	180	480,600
Rangthangwoong Junior High School	267	90	240,300	359	180	646,200
Khuruthang Junior High School	601	90	540,900	330	180	594,000
High schools						
Yangchenphu High School	..	..	..	..	..	..
Chhukha High School	298	120	357,600	308	180	554,400
Drugyel High School	402	120	482,400	377	180	678,600
Punakha High School	494	120	592,800	536	180	964,800
Jigme Sherubling High School	547	120	656,400	604	180	1,087,200
Zhemgang High School	407	120	488,400	430	180	774,000
Mongar High School	303	120	363,600	280	180	504,000
Bjkar High School	280	120	336,000	419	180	754,200
Ugyen Dorji High School	339	90	305,100	488	180	878,400
Other institutions						
Sherubtse College	445	700	3,115,000	496	700	3,472,000
Semtokha Rigzhung Institute	391	120	469,200	305	180	549,000
Royal Technical Institute	265	300	795,000	289	900	2,601,000
Royal Bhutan Polytechnic	239	450	1,075,500	258	1,000	2,580,000
National Institute of Education						
Bachelors and post graduate course	99	800	792,000	99	1,000	990,000
Primary teachers training course	79	700	553,000	89	1,000	890,000
Teacher Training College	153	700	1,071,000	206	1,000	2,060,000
National Institute for the Disabled (NID)	27	120	32,400	28	180	50,400
All institutions	8,414	5,900	14,766,800	9,165	9,560	26,043,400

Note: Lhuntse Junior High School is re-named as Tangmachu Junior High School since 1995. And Haa Jr. High School was up graded to High School and re-named as Ugyen Dorji High School since 1996.

(a) Stipend is for ten months school session.

Source: Education Division, Thimphu

Table 3.12 : No of teacher in schools and Institute by educational level of teachers, 1997.

Education Level	NATIONAL				
	Nursury School	Community School	Primary School	Junior School	High School
All Teachers	74	247	1097	370	203
Trained	32	212	1038	342	195
Male	17	193	731	212	144
Female	15	19	307	130	51
Untrained	42	35	59	28	8
Male	15	30	37	14	6
Female	27	5	22	14	2
Below High school level					
Trained	8	79	495	125	54
Male	8	78	408	100	53
Female		1	87	25	1
Untrained	15	11	22	2	0
Male	5	10	12		
Female	10	1	10	2	
High school Completed					
Trained	16	126	499	121	10
Male	8	109	297	55	5
Female	8	17	202	66	5
Untrained	14	17	32	15	3
Male	5	15	23	7	3
Female	9	2	9	8	
Higher scondary Completed					
Trained	7	6	35	79	71
Male	1	5	20	49	55
Female	6	1	15	30	16
Untrained	10	7	1	2	1
Male	4	5	1	1	
Female	6	2		1	1
Graduate Completed					
Trained	1	1	9	17	56
Male		1	6	8	28
Female	1		3	9	28
Untrained	0	0	4	9	4
Male			1	6	3
Female			3	3	1
Postgraduate and above					
Trained	0	0	0	0	4
Male					3
Female					1
Untrained	3	0	0	0	0
Male	1				
Female	2				

Table 3.12 :(Cont.) No of teacher in schools and Institute by educational level of teachers, 1997.

Education Level	FOREIGNER				
	Nursury School	Community School	Primary School	Junior School	High School
All Teachers	8	5	211	109	106
Trained	0	3	74	54	83
Male	0	2	50	33	58
Female	0	1	24	21	25
Untrained	8	2	137	55	23
Male	3	1	90	39	16
Female	5	1	47	16	7
Below High school level					
Trained	0	0	2	1	6
Male	-				4
Female	-		2	1	2
Untrained	3	0	3	0	2
Male	1		1		1
Female	2		3		1
High school Completed					
Trained	0	0	10	0	1
Male			8		1
Female			2		
Untrained	4	0	4	3	1
Male	2		3	1	1
Female	2		1	2	
Higher scondary Completed					
Trained	0	2	7	9	2
Male		1	4	7	1
Female		1	3	2	1
Untrained	1				
Male	-		8	3	
Female	1		4		1
Graduate Completed					
Trained	0	0	24	31	39
Male			16	16	27
Female			8	15	12
Untrained	0	1	63	44	12
Male		1	44	31	10
Female			19	13	2
Postgraduate and above					
Trained	0	1	31	13	35
Male		1	22	10	25
Female			9	3	10
Untrained	0	1	55	5	7
Male			34	4	4
Female		1	21	1	3

Source : Education Division, Thimphu.

CHAPTER 4: HUMAN RESOURCES

INTRODUCTION

The economy of Bhutan is characterized by the predominance of people engaged in self employment, particularly those working on their own land. There is also a good deal of small cottage industry often undertaken in the home. The number of persons working for wages is relatively small. Statistics on human resources are designed to measure the involvement of people in economic activity. Economic activity refers to the production of economic goods and services and includes persons who are self employed (e.g. farmers operating their own land) as well as persons who work for wages (i.e. employees). Broadly, a statistical system for human resources or labour should cover topics such as size and characteristics of the labour force, employment, wage rates and conditions of work. Labour statistics may be obtained from three main sources:

a) Household surveys whereby information is obtained from the individual about his or her employment, earning and other aspects of their working activities.
b) Employer surveys whereby information on number of persons employed and wage levels is obtained from employers.
c) Administrative source, whereby various aspects of labour statistics are obtained from administrative sources (e.g. civil service employee data obtained from civil service employment were obtained from administrative records).

TABLE 4.1: PERCENTAGE OF POPULATION ACCORDING TO ECONOMIC ACTIVITY BY AGE AND SEX, 1984

Age group	Agriculture	Government service	Business	Others	No occupation
Male					
Less than 15	7.0	-	-	1.0	92.0
15 - 19	54.7	2.0	*	3.5	39.7
20 - 24	70.9	11.1	1.5	4.0	12.5
25 - 29	76.7	13.8	2.0	4.4	3.1
30 - 34	82.0	11.1	1.7	4.3	0.8
35 - 39	84.4	7.7	2.4	4.7	*
40 - 44	87.7	5.9	2.3	3.6	*
45 - 54	90.5	3.3	1.6	3.6	1.0
55 - 64	88.1	1.0	0.9	4.0	6.0
65 and over	71.1	1.5	*	0.9	26.0
All ages	52.5	3.9	0.9	2.8	39.9
Age 15 - 64	78.4	6.5	1.4	4.0	9.6
Female					
Less than 15	9.2	-	-	0.2	90.7
15 - 19	87.8	*	*	0.4	11.0
20 - 24	95.7	1.0	1.1	*	2.1
25 - 29	98.0	*	*	*	0.7
30 - 34	98.4	*	*	*	*
35 - 39	99.1	*	*	*	*
40 - 44	99.2	*	*	*	-
45 - 54	98.4	*	*	*	1.2
55 - 64	91.1	*	*	*	8.5
65 and over	73.2	*	*	-	26.1
All ages	61.5	0.3	0.3	0.2	37.8
Age 15-64	95.4	0.4	0.5	0.2	3.6
Total persons					
Less than 15	8.2	-	-	0.6	91.3
15 - 19	72.4	1.2	*	1.9	24.4
20 - 24	83.9	5.8	1.3	2.0	7.0
25 - 29	88.0	6.8	1.1	2.2	1.8
30 - 34	90.8	5.4	1.1	2.1	0.6
35 - 39	91.7	3.9	1.4	2.5	0.5
40 - 44	93.5	3.0	1.4	1.9	*
45 - 54	94.4	1.7	1.0	1.9	1.1
55 - 64	89.6	0.6	0.6	2.0	7.2
65 and over	72.1	1.0	*	0.5	26.0
All ages	57.2	2.0	0.6	1.4	38.8
Age 15-64	87.2	3.4	0.9	2.0	6.5

Source: Demographic Sample Survey, CSO, 1984

TABLE 4.2: EMPLOYMENT IN CIVIL SERVICE, BHUTAN, 1993 TO 1997

(numbers)

Ministry/Division	1993	1994	1995	1996	1997
Ministry of Planning	86	86	78	74	79
Ministry of Home Affairs	1,124	1,138	1,189	1,157	1,185
Home Affairs	n.a	408	442	430	433
Dzongkhags	n.a	730	747	727	752
Ministry of Finance	653	653	627	604	605
Ministry of Communications	2,397	2,534	2,631	2,171	2,134
Ministry of Health & Education	4,707	4,773	4,669	4,660	4,779
Ministry of Agriculture	2,144	2,281	2,381	2,368	2,435
Ministry of Foreign Affairs	138	122	127	122	125
Ministry of Trade & Industry	1,040	1,098	1,050	1,164	1,155
Special Commission	200	189	173	175	142
Other Non-Ministerial Organisations	528	553	641	687	761
His Majesty's Secretariat	47	51	48	48	48
Royal Civil Service Commission	69	71	49	41	47
Royal Audit Authority	93	93	107	108	122
Royal Advisory Council	9	10	13	13	14
National Assembly	14	14	14	15	14
Dratshang Lhentshog					36
National Women's Association of Bhutan	n.a	n.a	4	1	1
Judiciary	218	224	240	252	255
Bhutan Olympic Committee	22	21	22	19	21
Dzongkhag Development Commission	16	16	17	14	17
Royal Institute of Management	40	42	44	90	98
Royal Monetary Authority	n.a	n.a	64	58	58
National Enviroment Commission	n.a	11	19	20	22
Others	n.a	n.a	n.a	8	8
Total employees	13,017	13,427	13,566	13,182	13,400

Source: Royal Civil Service Commission, Thimphu

TABLE 4.3: PERCENTAGE OF POPULATION AGED 15 YEARS AND OVER BY SEX AND PRINCIPLE ECONOMIC ACTIVITY IN THIMPHU AND PHUNTSHOLING TOWNS, 1991

Economic activity	Male		Female		Persons	
	Persons	Percent	Persons	Percent	Persons	Percent
Thimphu town						
All persons 15 years and over	5350	100.0	4410	100.0	9760	100.0
All persons not employed	1250	23.4	2330	52.9	3580	36.7
All persons employed	4110	76.8	2080	47.2	6190	63.4
Agriculture	280	5.2	850	19.3	1130	11.6
Self-employed	*	*	530	19.8	530	5.4
Paid or unpaid employee	230	4.3	*	*	230	2.4
Non agro organised business	3,780	70.7	1220	27.7	5000	51.2
Self-employed	720	13.5	210	4.8	930	9.5
Paid or unpaid employee	3,070	57.4	1020	23.2	4090	41.9
Cottage activities	*	*	600	13.6	600	6.1
Phuntsholing town						
All persons 15 years and over	1970	100.0	2120	100.0	4090	100.0
All persons not employed	270	13.7	1150	54.2	1420	34.7
All persons employed	1700	86.5	970	45.8	2670	65.3
Agriculture	150	7.6	330	15.6	480	11.7
Self-employed	*	*	330	15.6	330	8.1
Paid or unpaid employee	*	*	*	*	147	3.6
Non agro organised business	1500	76.3	270	12.7	1770	43.3
Self-employed	220	11.2	*	*	220	5.4
Paid or unpaid employee	1280	65.1	220	10.4	1500	36.7
Cottage activities	*	*	380	17.9	380	9.3

Note: Preliminary estimates

Source: Household Income and Expenditure Survey, CSO, Ministry of Planning, Thimphu

CHAPTER 5: LAND USE AND AGRICULTURE

INTRODUCTION

Bhutan is predominantly an agricultural country with agriculture being the main subsistence occupation of the majority of Bhutanese people. For this reason, programs to increase and improve both the quantity and quality of agricultural products and for the country to achieve self sufficiency in food grains and to have a marketable surpluses for sale, are of paramount importance in government planning.

Animal husbandry also plays an integral part in the farming system in Bhutan. Farmers keep cattle for draught and milking purposes in addition to a few chickens and pigs for slaughter. At higher altitudes, herds of yaks and sheep are kept on pasture. Efforts are under way to improve the statistical system for agriculture. During 1988 and 1989 the CSO in conjunction with the department of Agriculture undertook a detailed sample survey to collect information on crop areas and livestock inventories in all dzongkhags. Some data from these survey (together with data from a pilot agriculture census undertaken in Wangduephodrang in 1987) are presented in this chapter. Data from other sources are also presented.

TABLE 5.1: LAND-USE AND VEGETATION TYPES AS PERCENTAGE OF TOTAL AREA OF BHUTAN, 1997

Land-use and vegetation types	Percent
Forests	72.5
Conifer forest	26.5
Fir	8.6
Mixed conifer	12.1
Blue pine	3.2
Chir pine	2.5
Broadleaf forest	37.7
Broadleaf + conifer	3.4
Broadleaf forest	34.3
Forest plantation	0.2
Conifer plantation	0.1
Broadleaf plantation	0.1
Scrub forest	8.1
Pasture	3.9
Natural pastures	3.9
Improved pastures	0.0
Agriculture	7.7
Wetland cultivation	1.0
Irrigated wetland	1.0
Rainfed wetland	0.0
Dryland cultivation	0.3
Terraced dryland	0.3
Unterraced dryland	2.2
Tseri (Shifting cultivation)	2.2
Mixed cultivated land	2.1
Horticulture	0.1
Orchards	0.1
Apple orchards	0.0
Citrus orchard	0.0
Horticulture plantations	0.1
Cardamom plantation	0.1
Arecanut plantation	0.0
Ginger plantation	0.0
Settlement	0.1
Others	15.7
Snow/glaciers	7.5
Rock outcrops	5.0
Water spreads	0.8
Marshy areas	0.1
Landslips/erosion	2.4
Total	100.0

Note: Horticulture areas might be underestimated as they were too small to be mapped at a scale 1:50,000 and because they were under forest cover.

Source: Ministry of Agriculture, Thimphu

TABLE 5.2: AREA OF DZONGKHAGS AS A PERCENTAGE OF TOTAL AREA OF BHUTAN BY TYPE OF LAND COVER, 1995

Dzongkhag	Forests	Pasture	riculture	Horticulture	Settlemen	Others	Total area
Bumthang	4.5	0.6	0.1	0.0	0.0	1.6	6.8
Chhukha	3.9	0.1	0.4	0.0	0.0	0.1	4.5
Dagana	2.8	0.0	0.4	0.0	0.0	0.1	3.5
Gasa	3.6	0.6	0.0	-	0.0	6.8	11.0
Haa	3.4	0.3	0.1	0.0	0.0	0.5	4.3
Lhuntse	5.4	0.2	0.3	-	0.0	1.2	7.2
Mongar	4.3	0.0	0.5	-	0.0	0.0	4.9
Punakha	2.2	0.0	0.1	0.0	0.0	0.1	2.4
Paro	2.1	0.2	0.2	0.0	0.0	0.7	3.2
Pemagatshel	0.7	0.0	0.6	0.0	0.0	0.0	1.3
Samdrupjongkhar	4.5	0.0	1.1	0.0	0.0	0.2	5.8
Samtse	3.2	0.0	0.6	0.0	0.0	0.1	3.9
Sarpang	4.8	0.0	0.7	0.0	0.0	0.2	5.7
Thimphu	2.7	0.8	0.1	0.0	0.0	1.2	4.8
Trashigang	4.5	0.3	0.8	-	0.0	0.1	5.7
Trashiyangtse	2.7	0.1	0.3	-	0.0	0.4	3.6
Trongsa	3.9	0.2	0.3	0.0	0.0	0.1	4.5
Tsirang	1.2	0.0	0.3	0.0	0.0	0.0	1.6
Wangduephodrang	7.4	0.4	0.2	0.0	0.0	2.1	10.1
Zhemgang	4.6	0.0	0.6	0.0	0.0	0.1	5.3
Bhutan	72.5	3.9	7.7	0.0	0.0	15.7	100.0

Note: "-" Indicates land cover which is not observed/recorded;
less than 0.05%

Source: Ministry of Agriculture, Thimphu

TABLE 5.3: ALTITUDE ZONES OF DZONGKHAGS AS PERCENTAGE OF THEIR TOTAL AREA, 1995

(percent)

Dzongkhag	Altitude at Dzongkhag centre (metres)	Altitude zones (metres)						Total
		0-600	600-1200	1200-1800	1800-2400	2400-3000	3000-3600	0-3600
Bumthang	2,690	0.0	0.0	0.0	0.4	10.6	26.2	37
Chhukha	2,220	7.7	17.2	20.8	20.4	18.7	11.8	97
Dagana	1,520	4.0	15.7	22.0	24.3	20.7	8.7	95
Gasa	3,659	0.0	0.0	0.1	0.9	2.5	4.8	8
Haa	2,712	0.0	0.8	3.6	7.3	16.1	24.0	52
Lhuntse	1,460	0.0	0.9	6.8	14.3	19.6	17.0	59
Mongar	1,620	3.1	17.9	27.1	23.3	16.0	11.2	99
Paro	2,280	0.0	0.0	0.0	6.3	25.3	24.8	56
Pemagatshel	1,200	7.9	39.0	39.7	13.2	0.2	0.0	100
Punakha	1,220	0.0	0.0	17.8	26.5	21.8	15.5	82
Samdrupjongkhar	160	25.6	27.6	23.1	14.4	6.5	2.4	100
Samtse	390	17.0	25.5	24.3	18.8	11.0	2.5	99
Sarpang	210	31.1	29.4	21.1	14.6	2.9	0.7	100
Thimphu	2,320	0.0	0.0	1.0	5.0	16.3	18.8	41
Trashigang	1,040	0.2	4.9	15.8	22.2	20.6	18.0	82
Trashiyangtse	1,830	0.0	2.3	6.7	16.5	23.4	18.8	68
Trongsa	2,180	0.0	2.9	10.4	19.5	28.8	21.2	83
Tsirang	1,620	7.3	31.4	30.1	19.8	7.6	3.2	99
Wangduephodrang	1,260	0.1	3.0	9.0	13.5	17.8	19.2	63
Zhemgang	1,916	9.5	27.1	28.0	17.9	9.7	5.1	97

continues...

TABLE 5.3 (Continuation):ALTITUDE ZONES OF DZONGKHAGS AS PERCENTAGE OF THEIR TOTAL AREA,1995

(percent)

Dzongkhag	Altitude zones (meters)							Total
	0-3600	3600-4200	4200-4800	4800-5400	5400-6000	6000-6600	> 6600	area(%)
Bumthang	37.2	25.7	18.4	16.3	2.2	0.2	0.0	100
Chhukha	96.6	3.1	0.1	0.0	0.1	0.0	0.0	100
Dagana	95.4	3.7	1.0	0.0	0.0	0.0	0.0	100
Gasa	8.3	11.2	21.9	28.6	21.1	7.4	1.4	100
Haa	51.8	27.9	17.6	2.6	0.1	0.0	0.0	100
Lhuntse	58.6	15.7	16.7	8.4	0.5	0.0	0.0	100
Mongar	98.6	1.5	0.0	0.0	0.0	0.0	0.0	100
Paro	56.4	18.6	21.3	3.5	0.1	0.0	0.0	100
Pemagatshel	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100
Punakha	81.6	12.6	5.7	0.1	0.0	0.0	0.0	100
Samdrupjongkhar	99.6	0.3	0.0	0.0	0.0	0.0	0.0	100
Samtse	99.1	0.7	0.0	0.0	0.1	0.0	0.0	100
Sarpang	99.8	0.2	0.0	0.0	0.0	0.0	0.0	100
Thimphu	41.1	18.6	27.3	10.9	1.4	0.5	0.1	100
Trashigang	81.7	16.0	2.3	0.0	0.0	0.0	0.0	100
Trashiyangtse	67.7	15.5	13.4	3.2	0.2	0.0	0.0	100
Trongsa	82.8	12.4	4.7	0.1	0.0	0.0	0.0	100
Tsirang	99.4	0.5	0.0	0.0	0.0	0.0	0.0	100
Wangduephodrang	62.6	12.7	12.5	11.1	1.1	0.0	0.0	100
Zhemgang	97.3	2.1	0.5	0.0	0.0	0.0	0.0	100

Source: Ministry of Agriculture, Thimphu

TABLE 5.4: AREA OF DZONGKHAGS AS A PERCENTAGE OF TOTAL AREA OF BHUTAN BY ALTITUDE ZONES, 1995

(percent)

Dzongkhag	Altitude zones (metres)						Total
	0-600	600-1200	1200-1800	800-24000	2400-3000	3000-3600	0-3600
Bumthang	0.0	0.0	0.0	0.0	0.7	1.8	2.5
Chhukha	0.3	0.8	0.9	0.9	0.8	0.5	4.3
Dagana	0.1	0.5	0.8	0.8	0.7	0.3	3.3
Gasa	0.0	0.0	0.0	0.1	0.3	0.5	0.9
Haa	0.0	0.0	0.2	0.3	0.7	1.0	2.2
Lhuntse	0.0	0.1	0.5	1.0	1.4	1.2	4.2
Mongar	0.2	0.9	1.3	1.1	0.8	0.5	4.8
Punakha	0.0	0.0	0.4	0.6	0.5	0.4	2.0
Paro	0.0	0.0	0.0	0.2	0.8	0.8	1.8
Pemagatshel	0.1	0.5	0.5	0.2	0.0	0.0	1.3
Samdrupjongkhar	1.5	1.6	1.3	0.8	0.4	0.1	5.7
Samtse	0.7	1.0	1.0	0.7	0.4	0.1	3.9
Sarpang	1.8	1.7	1.2	0.8	0.2	0.0	5.7
Thimphu	0.0	0.0	0.0	0.2	0.8	0.9	2.0
Trashigang	0.0	0.3	0.9	1.3	1.2	1.0	4.7
Trashiyangtse	0.0	0.1	0.2	0.6	0.8	0.7	2.4
Trongsa	0.0	0.1	0.5	0.9	1.3	1.0	3.7
Tsirang	0.1	0.5	0.5	0.3	0.1	0.1	1.6
Wangduephodrang	0.0	0.3	0.9	1.4	1.8	1.9	6.3
Zhemgang	0.5	1.4	1.5	0.9	0.5	0.3	5.2
Bhutan	5.3	9.8	12.6	13.4	14.3	13.2	68.6

continues...

TABLE 5.4(continuation): AREA OF DZONGKHAGS AS A PERCENTAGE OF TOTAL AREA OF BHUTAN BY ALTITUDE ZONES, 1995

(percent)

Dzongkhag	Altitude zones (metres)							Total area (%)
	0-3600	600-4200	200-4800	00-5400	400-6000	000-6600	>6600	
Bumthang	2.5	1.7	1.2	1.1	0.1	0.0	0.0	6.8
Chhukha	4.3	0.1	0.0	0.0	0.0	0.0	0.0	4.5
Dagana	3.3	0.1	0.0	0.0	0.0	0.0	0.0	3.4
Gasa	0.9	1.2	2.4	3.1	2.3	0.8	0.2	11.0
Haa	2.2	1.2	0.7	0.1	0.0	0.0	0.0	4.3
Lhuntse	4.2	1.1	1.2	0.6	0.0	0.0	0.0	7.2
Mongar	4.8	0.1	0.0	0.0	0.0	0.0	0.0	4.9
Punakha	2.0	0.3	0.1	0.0	0.0	0.0	0.0	2.4
Paro	1.8	0.6	0.7	0.1	0.0	0.0	0.0	3.2
Pemagatshel	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Samdrupjongkhar	5.7	0.0	0.0	0.0	0.0	0.0	0.0	5.8
Samtse	3.9	0.0	0.0	0.0	0.0	0.0	0.0	3.9
Sarpang	5.7	0.0	0.0	0.0	0.0	0.0	0.0	5.7
Thimphu	2.0	0.9	1.3	0.5	0.1	0.0	0.0	4.8
Trashigang	4.7	0.9	0.1	0.0	0.0	0.0	0.0	5.7
Trashiyangtse	2.4	0.6	0.5	0.1	0.0	0.0	0.0	3.6
Trongsa	3.7	0.6	0.2	0.0	0.0	0.0	0.0	4.5
Tsirang	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Wangduephodrang	6.3	1.3	1.3	1.1	0.1	0.0	0.0	10.1
Zhemgang	5.2	0.1	0.0	0.0	0.0	0.0	0.0	5.3
Bhutan	68.6	10.9	9.9	6.8	2.7	0.9	0.2	99.9

Note: "-" Indicates land cover which is not observed/recorded;
t less than 0.05%

Source: Ministry of Agriculture, Thimphu

TABLE 5.5: AVERAGE MONTHLY TEMPERATURE AT VARIOUS STATIONS BY DZONGKHAG, 1997

(degrees celsius)

Dzongkhag and station	Temperatur	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Thimphu													
Kawangjangsa	Maximum	14.5	13.8	19.0	20.0	22.8	25.1	26.8	25.4	25.2	22.5	20.6	13.1
	Minimum	-5.6	-2.0	3.4	2.9	8.9	12.9	14.8	17.8	13.3	6.9	1.2	-1.2
Lumitsawa	Maximum	24.0	22.8	22.6	22.9	22.5	21.6	23.0	23.2	23.2	23.0	-	-
	Minimum	14.3	15.4	15.3	15.2	18.8	15.4	15.5	15.3	14.4	18.2	-	-
Gidakom	Maximum	14.5	12.4	18.4	19.3	22.6	25.1	25.9	25.1	24.1	22.0	19.4	15.1
	Minimum	-2.6	-1.8	4.1	6.9	10.4	14.2	16.1	15.6	14.2	5.1	1.4	-0.9
Taba	Maximum	14.4	12.2	20.7	20.8	22.1	23.5	24.9	25.7	25.5	21.4	19.8	11.0
	Minimum	-3.0	-2.5	1.5	3.3	9.1	12.8	14.2	14.2	14.8	4.4	1.9	-1.9
Chhukha													
Chhukha	Maximum	10.5	12.4	13.1	14.0	16.2	18.7	21.0	21.0	19.1	16.4	14.4	6.6
	Minimum	3.5	4.5	5.6	5.8	7.6	9.8	9.7	7.9	7.4	5.4	4.5	2.7
Gedu	Maximum	11.2	11.7	14.9	17.1	21.2	19.0	21.0	21.6	18.8	17.0	-	-
	Minimum	3.8	3.9	8.8	8.7	12.5	16.1	16.8	17.0	15.9	11.2	-	-
Tala	Maximum	12.2	14.8	17.4	17.7	22.0	21.9	23.2	22.3	21.8	20.5	17.9	14.0
	Minimum	4.4	5.4	10.3	10.8	15.4	17.4	18.5	18.2	17.4	12.0	10.0	6.8
Haa													
Namjeyling	Maximum	8.2	6.8	12.2	11.6	16.6	18.2	21.0	21.2	17.7	14.3	12.2	-
	Minimum	-4.7	-2.6	0.8	4.3	8.7	13.1	13.9	12.9	11.5	3.8	-	-
Paro													
Drugyel Dzong	Maximum	10.6	12.5	17.5	18.0	21.6	24.4	25.6	24.9	22.0	18.2	16.9	13.9
	Minimum	-0.6	-2.9	0.7	4.2	8.0	12.2	14.5	13.4	11.9	3.8	-	-
Samtse													
NIE	Maximum	19.7	19.8	26.6	26.1	28.1	27.6	28.1	28.5	26.3	26.3	23.7	-
	Minimum	12.2	11.6	17.6	18.5	21.1	23.3	24.6	24.5	23.2	22.6	17.6	-
Dagana													
Drujeygang	Maximum	18.9	20.5	22.7	23.6	28.7	28.3	31.0	28.9	28.0	28.1	25.6	25.9
	Minimum	10.3	10.2	11.5	12.7	17.0	18.8	19.8	19.0	16.5	16.7	15.1	15.1
Punakha													
Punakha Dzong	Maximum	-	-	-	-	-	-	-	-	26.1	26.5	23.1	20.2
	Minimum	-	-	-	-	-	-	-	-	18.3	12.1	12.3	8.6
Shelgana	Maximum	16.3	15.3	22.1	23.6	27.3	28.0	30.1	29.4	26.9	25.3	22.8	18.6
	Minimum	2.0	3.5	7.9	9.2	12.9	15.8	17.0	16.3	15.5	8.9	6.7	2.7

(continues...)

TABLE 5.5(continuation): AVERAGE MONTHLY TEMPERATURE AT VARIOUS STATIONS BY DZONGKHAG, 1997

(degrees celsius)

Dzongkhag and station	Temperatur	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wangduephodrang													
CARD	Maximum	16.4	15.5	22.2	23.1	26.7	28.0	29.2	28.5	26.7	24.7	22.3	18.7
	Minimum	4.4	6.5	10.2	13.4	16.9	19.3	16.0	19.7	18.8	11.9	9.5	6.0
Samtengang	Maximum	14.4	14.6	15.9	24.7	26.5	26.1	28.1	29.1	25.8	23.5	20.7	17.7
	Minimum	-0.9	-0.7	1.0	9.7	11.0	14.7	15.8	15.1	14.3	6.9	3.8	3.0
Nobding	Maximum	9.2	8.8	15.8	17.3	20.6	21.8	25.4	22.7	20.5	17.5	15.1	10.9
	Minimum	1.2	1.1	3.7	5.5	10.1	13.1	14.7	14.2	12.6	6.5	4.0	0.5
Phobjekha	Maximum	8.0	4.1	12.4	13.0	17.5	18.8	20.6	21.1	18.6	16.2	12.9	9.9
	Minimum	-6.5	-4.5	1.9	1.8	10.8	9.8	10.6	11.6	10.3	0.5	-3.3	-6.3
Basochhu	Maximum	15.9	14.0	24.1	25.5	28.1	28.5	29.4	29.7	28.0	27.2	25.2	20.3
	Minimum	5.4	5.8	12.1	13.9	16.4	19.0	19.7	19.4	19.3	14.0	8.9	8.7
Zhemgang													
Yebilaptsa	Maximum	19.5	18.9	23.2	24.3	28.1	28.4	28.7	28.6	27.4	26.7	23.4	-
	Minimum	8.0	8.6	12.7	13.7	16.7	20.7	22.0	21.5	20.4	14.3	12.2	-
Trongsa													
Trongsa	Maximum	9.6	16.1	16.0	17.9	20.7	21.0	25.3	23.7	20.7	17.9	16.8	12.6
	Minimum	0.8	2.0	5.9	8.3	12.7	13.2	16.3	15.7	13.9	8.1	4.3	-0.5
Kuenga Rabten	Maximum	14.4	14.6	10.5	13.3	16.4	18.6	21.1	21.6	19.5	18.7	12.4	9.2
	Minimum	6.6	3.8	7.8	12.2	10.9	14.4	12.8	13.1	16.0	15.3	7.9	7.9
Chendebji	Maximum	-	-	-	9.4	14.2	19.0	18.8	15.3	14.1	11.6	9.4	5.7
	Minimum	-	-	-	3.4	8.7	11.2	12.9	12.9	9.6	1.2	-0.3	-3.4
Langthel	Maximum	18.8	21.6	23.6	23.9	26.3	22.5	28.5	27.9	27.6	24.7	23.4	22.3
	Minimum	11.3	9.2	17.4	16.9	18.9	13.7	23.5	21.4	21.2	13.4	13.1	10.5
Bumthang													
Ura	Maximum	6.5	11.4	14.7	16.8	18.7	18.7	20.4	20.4	16.9	14.7	13.6	14.5
	Minimum	-5.9	-4.9	-3.0	9.2	9.5	10.1	10.3	10.8	9.8	4.7	4.6	-5.2
Chhumeth	Maximum	8.2	11.4	18.4	18.8	22.2	24.0	23.4	26.1	23.1	21.3	18.8	17.2
	Minimum	-1.6	0.3	2.5	3.7	8.5	11.5	14.5	13.4	13.0	3.5	-0.8	-3.9
Chamkhar	Maximum	10.8	9.6	12.7	15.0	20.2	20.5	12.7	22.0	21.5	17.9	15.5	12.6
	Minimum	-4.8	-2.1	3.2	4.5	9.6	11.4	9.6	13.4	11.4	5.5	0.6	-2.0
Trashigang													
Khaling	Maximum	15.4	12.4	15.7	17.0	19.7	25.0	24.4	25.2	24.5	23.9	16.1	10.6
	Minimum	2.1	0.9	5.4	8.0	11.8	13.3	13.2	14.1	14.2	11.1	12.0	8.6
Wamrong	Maximum	12.7	16.0	17.7	20.6	22.1	20.2	23.0	22.9	19.0	-	-	14.7
	Minimum	4.9	4.3	5.7	6.5	9.3	9.2	12.8	13.2	12.7	-	-	8.3
Radhi	Maximum	22.7	-	22.7	24.5	26.3	26.3	28.9	27.2	25.3	25.1	24.2	21.4
	Minimum	0.0	-	10.5	11.8	16.2	17.2	18.8	18.0	16.5	13.5	10.0	7.3
Thrimshing	Maximum	16.6	16.0	21.0	22.8	26.4	27.8	28.7	28.8	28.1	25.5	23.8	19.9
	Minimum	2.3	4.4	8.2	10.3	19.0	19.3	18.7	18.8	18.4	10.2	9.0	7.6

(continues...)

TABLE 5.5(continuation): AVERAGE MONTHLY TEMPERATURE AT VARIOUS STATIONS BY DZONGKHAG, 1997

(degrees celsius)

Dzongkhag and station	Temperatur	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mongar													
Yadhi	Maximum	-	-	-	-	-	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Tsakaling	Maximum	17.7	15.1	23.4	25.7	26.5	24.5	-	-	-	-	-	-
	Minimum	6.5	6.5	13.1	14.1	15.6	16.7	-	-	-	-	-	-
Lingmethang	Maximum	21.7	21.0	27.8	26.0	31.0	31.8	33.4	34.5	30.0	30.7	29.7	30.5
	Minimum	7.2	8.8	13.3	13.8	19.1	20.7	22.6	22.0	20.5	17.3	11.7	10.7
Trashiyangtse													
Trashiyangtse	Maximum	12.4	11.6	16.9	18.2	21.3	22.4	24.8	25.1	22.6	20.1	18.1	14.1
	Minimum	2.3	3.5	8.0	9.1	13.2	16.6	18.3	17.9	16.4	9.0	7.1	4.9
Yallang	Maximum	9.6	8.0	14.5	15.8	18.5	19.2	22.4	21.7	19.5	17.7	15.3	-
	Minimum	2.1	1.6	6.2	7.3	11.7	14.1	15.8	15.8	14.0	8.9	6.6	-
Lhuntse													
Dungkhar	Maximum	-	13.6	16.4	18.3	22.1	25.7	22.5	26.0	21.4	18.5	16.7	-
	Minimum	-	1.1	4.5	8.3	11.8	16.7	15.2	16.2	14.1	8.9	7.3	-
Tangmachhu	Maximum	8.5	-	15.2	-	23.0	25.6	25.8	27.1	25.9	20.9	18.9	11.7
	Minimum	4.6	-	9.7	-	15.2	16.6	19.0	18.8	16.9	12.7	9.8	5.0
Pemagatshel													
Yurung	Maximum	15.6	17.5	18.2	19.2	-	23.0	25.4	25.4	23.7	21.8	18.8	14.1
	Minimum	9.5	10.0	7.4	8.5	-	14.5	16.2	16.0	14.6	9.0	6.4	3.8
Dungmein	Maximum	13.4	14.6	20.0	21.4	25.4	25.1	27.5	27.5	25.2	22.5	18.5	14.6
	Minimum	4.9	5.6	10.6	11.9	15.8	18.1	19.8	19.5	18.2	12.6	9.9	7.6
Samdrupjongkhar													
Airong	Maximum	14.6	15.6	21.3	21.1	-	25.3	27.1	-	25.6	24.4	22.2	-
	Minimum	5.3	6.1	9.9	11.7	-	17.6	18.3	-	17.1	13.3	10.9	-
Dechheling	Maximum	14.1	15.0	19.8	21.2	23.9	24.4	26.6	27.0	23.9	23.4	20.3	16.1
	Minimum	4.4	5.4	9.4	12.4	13.7	15.3	17.8	17.4	15.1	14.2	9.5	8.3
Nganglam	Maximum	19.7	19.9	0.0	25.2	27.3	27.0	28.9	29.9	28.8	28.0	-	-
	Minimum	8.4	9.8	0.0	15.6	18.9	20.9	22.4	21.8	20.5	15.6	-	-
Sarpang													
Sarpang	Maximum	22.4	18.7	25.5	27.3	27.9	27.5	29.8	31.0	28.3	28.7	26.2	23.2
	Minimum	12.9	12.1	17.2	17.7	22.3	22.8	24.1	24.1	22.7	19.3	17.4	13.3
Tsirang													
Sunkosh Doban	Maximum	23.0	20.7	27.4	29.0	31.2	30.0	30.9	31.4	29.5	27.7	27.1	-
	Minimum	8.1	9.1	13.0	16.2	20.4	22.3	23.4	22.9	22.1	15.7	12.7	-

end

Source: Meteorology Unit, Division of Power, Thimphu

TABLE 5.6: TOTAL MONTHLY RAINFALL AT EXISTING STATIONS IN EACH DZONGKHAG, 1997

(millimeters)

Dzongkhag and station	Month												Tot ra
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thimphu													
Gidakom	5.2	6.6	37.1	35.6	11.4	95.6	131.4	211.5	33.8	10.6	0.0	61.0	639.
Taba	0.0	0.0	0.0	74.8	11.8	153.4	180.8	100.8	41.2	6.6	0.0	25.4	594.
Kawang Jangsa	8.6	0.0	39.0	65.4	0.6	86.3	115.2	173.2	42.1	8.7	0.0	7.7	546.
Chhukha													
Chhukha	13.4	31.5	52.8	71.2	105.9	335.4	146.2	219.8	197.4	11.6	3.8	55.6	1,244.
Tala	27.4	6.0	26.6	77.5	297.5	1,131.7	346.5	79.0	238.7	28.0	8.2	73.5	2,340.
Gedu	39.5	123.7	34.1	110.5	320.2	1,405.6	358.2	366.2	336.8	79.5	0.0	0.0	3,174.
Haa													
Namjeyling	23.0	15.7	32.4	65.4	44.1	175.2	257.1	240.1	95.9	10.7	0.0	0.0	959.
Paro													
Drugyal Dzong	5.0	0.0	0.0	41.5	37.7	118.8	237.1	172.7	93.0	3.0	0.0	0.0	708.
Samtse													
NIE	35.0	18.8	35.0	358.4	285.3	1,185.8	784.0	727.2	596.3	16.0	19.2	0.0	4,061.
Dorokha	0.0	0.0	102.9	199.1	166.8	865.1	343.4	564.0	180.0	14.0	10.0	60.6	2,505.
Tsirang													
Sunkosh Dobani	3.4	11.3	33.8	46.0	81.2	344.0	255.0	266.2	185.0	3.4	0.0	0.0	1,229.
Dagana													
Dagadzong	35.5	195.5	102.0	334.0	569.5	552.0	570.0	222:5	315.1	336.5	0.0	550.0	3,782
Drujeygang	0.0	0.0	0.0	10.6	67.4	373.2	129.8	542.5	21.6	0.0	0.0	0.0	1,145
Tashithang	4.0	51.0	35.0	37.0	81.0	286.0	179.2	229.0	210.0	5.0	0.0	440.0	1,557
Punakha													
Shelgana	15.0	34.6	22.5	99.0	107.2	197.0	305.1	351.8	144.0	12.0	0.0	33.0	1,321.
Wangduephodrang													
Nobding	5.0	7.0	20.0	50.6	98.2	227.4	432.7	413.4	318.8	11.0	1.4	5.8	1,5
Phobjikha	15.0	7.0	59.6	126.0	109.0	351.0	470.4	515.0	145.0	12.0	0.0	0.0	1,810
Samtengang	9.5	26.6	25.7	39.5	63.2	116.9	178.2	125.6	93.1	79.6	36.2	11.8	8
Wangdue CARD	4.3	17.3	19.5	68.4	23.5	100.1	135.4	177.7	94.8	8.9	0.0	37.1	6
Bachhu	4.8	18.0	20.8	30.8	24.0	134.2	75.4	169.5	125.9	3.6	0.2	29.3	6
Sarpang													
Sarpang	18.1	5.3	32.7	128.5	163.7	1,167.6	649.0	822.8	640.3	73.2	24.8	0.0	3,7
Zhemgang													
Panbang	15.0	41.6	112.6	189.9	402.0	1,309.4	545.0	183.7	71.6	15.2	28.2	16.6	2,93
Yebilaptsa	0.0	4.1	22.3	18.4	19.4	88.4	70.3	32.0	51.2	0.0	0.0	0.0	3

continues...

TABLE 5.6(continuation): TOTAL MONTHLY RAINFALL AT EXISTING STATIONS IN EACH DZONGKHAG, 1997

(millimeters)

Dzongkhag and station	Month												Total rain
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Trongsa													
Kuengarabten	0.0	12.8	47.9	50.4	47.3	128.0	205.5	205.0	217.2	218.1	0.0	26.0	1,158.2
Langthel	56.0	46.0	71.0	42.5	149.5	240.0	136.8	176.0	198.0	31.6	4.0	24.0	1,175.4
Trongsa	67.8	75.0	120.3	134.9	250.6	235.0	277.4	375:0	285.3	100.5	7.0	64.2	1,993.0
Bumthang													
Chamkhar	10.7	3.5	42.9	67.0	89.7	92.1	165.8	238.4	113.9	17.2	0.0	30.5	871.7
Chhumey	0.0	0.0	116.2	74.3	105.3	214.3	287.4	193.4	86.0	7.4	11.2	0.0	1,095.5
Ura	37.0	0.0	60.0	32.0	30.0	66.0	52.0	107.0	23.0	0.0	0.0	0.0	407.0
Trashigang													
Khaling	13.0	0.0	48.0	22.0	85.7	350.0	182.0	467.0	439.0	0.0	0.0	22.0	1,628.7
Radhi	0.0	0.0	144.0	8.5	41.0	97.0	131.0	163.0	100.0	11.0	0.0	10.0	705.5
Thrimshing	6.8	14.1	79.9	41.8	110.8	498.8	123.0	197.8	161.0	0.0	0.0	13.8	1,247.8
Wamrong	20.2	52.4	149.5	105.8	130.3	459.0	328.6	393.7	342.0	0.0	0.0	24.0	2,005.5
Tashiyangtse													
Yallang	0.0	17.6	175.7	64.1	140.7	319.6	233.0	262.6	163.2	5.4	0.0	0.0	1,381.9
Tashiyangtse	8.0	29.2	110.2	71.3	125.5	213.3	287.2	298.9	176.4	30.1	2.6	10.8	1,363.5
Mongar													
Lingmethang	3.8	25.0	70.2	97.3	78.3	150.8	52.6	152.6	109.4	29.4	0.0	0.0	769.4
Yadi													
Tsakaling	6.8	19.1	70.3	295.8	232.7	231.9	0.0	0.0	0.0	0.0	0.0	0.0	856.6
Lhuntse													
Dungkhar	0.0	8.0	67.0	78.2	217.6	246.6	170.2	206.0	192.0	56.9	6,0	0.0	1,248.5
Tangmachu	21.0	0.0	46.2	0.0	135.8	139.7	218.9	24.0	55.8	23.4	0.0	0.0	664.8
Pemagatshel													
Dungmain	14.5	21.3	179.7	84.8	346.8	1,016.0	154.8	289.4	215.1	16.0	4.0	33.9	2,376.3
Yurung	9.2	30.0	146.0	77.2	0.0	726.2	130.2	243.2	194.6	13.8	0.0	28.0	1,598.4
Samdrupjongkhar													
Airong	40.0	65.8	193.6	119.0	0.0	1,413.4	388.2	0.0	287.0	13.0	0.0	0.0	2,520.0
Dechenling	9.4	37.7	128.5	120.9	245.8	1,051.5	160.8	378.6	314.2	12.6	5.8	49.5	2,515.3
Nanglam	9.0	9.0	0.0	155.3	320.4	1628.9	385.0	589.5	678.0	0.0	0.0	0.0	3,775.1

end

Source: Meteorology Unit, Division of Power, Thimphu

TABLE 5.7: NUMBER OF AGRICULTURE RESEARCH AND EXTENSION CENTRES, BHUTAN, MARCH 1997

Infrastructure	Numbers
RNR (Common services)	
RNR centres	35
National Resourse Training Institute (NRTI)	1
RNR Research Centres	4
RNR Research sub-stations	6
Soil and Plant Analytical Laboratory	1
Agriculture	
Agriculture Extension Centres	159
Agriculture Seed Production Farms	11
Plant Protection Centres	3
Farm Mechanization Centres	3
Farm Mechanization Training Centres	1
National Mashroom Centres	1
Animal Husbendry	
Veterinary Hospital (including Thimphu Hospital)	21
Livestock Extension Centres	110
Regional Veterinary Laboratories	4
Satellite Veterinary Laboratories	2
Livestock Farms	11
Fodder Seed Production Centres	1
Sub-Tropical Fodder Seed Production sub-centres	1
National Artificial Insemination programme	1
Vaccine Production Centres	1
Royal Veterinary Epidemiology Centre	1
Forestry	
Territorial Division HQs(DFO)	10
Range Offices	35
Beat Offices	53
Forest Training Institute	1
Nature Study Centre	1

Source: Ministry of Agriculture, Thimphu

TABLE 5.8: IRRIGATION SCHEMES CONSTRUCTED IN DZONGKHAGS, 1992/93 TO 1996/97

Dzongkhag	1992/93 New construction		1993/94 New construction		1994/95 New construction		1995/96 New construction		1996/97 New construction	
	Length of channel (Km)	Command area (hec.)	Length of channel (Km)	Command area (hec.)	Length of channel (Km)	Command area (hec.)	Length of channel (Km)	Command area (hec.)	Length of channel (Km)	Command area (hec.)
Thimphu	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chhukha	2.72	99.00	0.59	38.00	0.00	0.00	0.32	37.95	0.00	0.00
Paro	0.00	0.00	0.00	0.00	1.56	85.00	1.00	83.80	0.00	0.00
Haa	0.00	0.00	1.50	44.50	0:00	0.00	0.00	0.00	0.00	0.00
Samtse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tsirang	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dagana	0.00	0.00	0.00	0.00	0.00	0.00	4.00	27.06	0.00	0.00
Punakha	0.50	8.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	431.13
Wangduephodran	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bumthang	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sarpang	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zhemgang	0.00	0.00	2.97		2.22	120.52	0.61	215.17	0.00	0.00
Trongsa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lhuntse	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mongar	2.20	19.43	0.00	0.00	3.60	57.73	2.10	86.80	0.00	0.00
Pemagatshel	0.00	0.00	0.00	0.00	1.20	24.29	0.57	101.21	0.00	0.00
Samdrupjongkha	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trashigang	0.00	0.00	4.15	425.00	7.74	287.44	2.94	284.00	0.00	0.00
Trashiyangtse	0.00	0.00	5.20	65.60	0.84	10.12	3.30	32.80	0.00	0.00
Gasa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bhutan	5.42	127.33	14.41	573.10	17.16	585.10	14.84	868.79	0.00	431.13

Source: Ministry of Agriculture, Thimphu

TABLE 5.9: QUANTITY OF PESTICIDES SUPPLIED TO FARMERS, BHUTAN
1986/87 TO 1995/96

(Kilograms or litre)

Period	Insect-icide	Fungi-cide	Weedi-cide	Acari-cide	Rodent-icide	Others	Total
1986/87	11,656	2,964	228	0	18	47	14,913
1987/88	23,610	5,741	1,355	0	515	500	31,721
1988/89	33,440	5,214	271	0	347	1,128	40,400
1989/90	57,843	5,259	14,785	0	144	3,473	81,504
1990/91	30,841	2,538	58,180	95	90	140	91,884
1991/92	20,498	2,868	60,400	26	195	2,329	86,316
1992/93	16,066	1,405	57,389	50	113	48	75,071
1993/94	6,435	923	88,046	44	205	531	96,184
1994/95	6,128	563	89,554	12	63	6,846	103,166
1995/96	1,881	2,058	93,244	9	28	7,687	104,907

Note: Data not supplyed from the Ministry of Agriculture.

Source: Ministry of Agriculture, Thimphu

TABLE 5.10: LAND UNDER AGRICULTURAL USE BY DZONGKHAG, 1995

('000 Acres)

Dzongkhag	Wet land	Dry land	Tsheri pangshing	Orchard & plantation	Mixed plantation	Total area
Bumthang	0.20	13.63	0.05	0.02	0.05	13.96
Chhukha	3.80	14.05	4.50	1.04	18.97	42.36
Dagana	5.24	11.81	11.53	3.78	14.94	47.30
Gasa	0.37	0.37	0.32	-	0.82	1.88
Haa	0.25	5.51	1.95	0.27	0.20	8.18
Lhuntse	2.32	5.51	8.13	-	15.31	31.27
Mongar	1.56	17.49	14.57	-	13.36	46.98
Paro	5.80	9.04	0.07	1.28	3.14	19.34
Pemagatshel	-	7.85	49.25	0.02	0.74	57.87
Punakha	8.03	1.04	0.02	0.07	2.27	11.44
Samdrupjongkhar	5.41	33.37	47.52	0.25	17.71	104.26
Samtse	15.51	17.54	6.64	3.43	21.71	64.84
Sarpang	11.19	17.12	8.72	1.43	30.78	69.23
Thimphu	3.98	2.82	-	1.63	2.42	10.84
Trashigang	4.10	39.99	23.24	-	12.67	80.00
Trashiyangtse	4.99	11.51	2.89	-	8.35	27.74
Trongsa	4.87	4.72	9.04	0.57	7.19	26.38
Tsirang	5.66	10.65	4.62	0.17	13.41	34.51
Wangduephodrang	9.76	8.55	0.20	0.02	4.00	22.53
Zhemgang	2.74	8.47	24.87	0.07	19.54	55.70
Bhutan	95.76	241.02	218.15	14.08	207.58	776.59

Source: LUPP, Ministry of Agriculture, Thimphu.

TABLE 5.11: HOLDERS BY SIZE OF HOLDING IN EACH DZONGKHAG, 1988/89(a)

Dzongkhag	Size of land holding (hectares)							Land holders	All holders
	0.01-0.49	0.50-0.99	1.00-1.49	1.50-1.99	2.00-2.99	.00-4.99	5 & over		
Bjakar	110	160	150	*	180	180	260	1,130	1,170
Chhukha	170	230	580	350	550	600	790	3,270	3,290
Dagana	*	240	240	220	360	480	190	1,790	1,790
Gasa(b)									
Haa	120	190	170	*	110	*	220	920	930
Lhuntse	410	570	410	250	300	340	200	2,480	2,480
Mongar	570	1,220	1,020	660	450	270	100	4,300	4,300
Paro	170	400	440	360	440	360	130	2,280	2,320
Pemagatshel	230	750	680	420	260	110	*	2,490	2,500
Punakha	250	420	480	280	230	*	120	1,850	1,860
Samdrupjongkhar (c)	170	590	550	610	1,010	820	350	4,100	4,110
Samtse	390	860	1,020	920	1,790	1,590	1,060	7,640	7,640
Sarpang	200	400	710	900	1,610	1,010	730	5,570	5,580
Thimphu	490	540	320	160	150	110	*	1,800	1,830
Trashigang	1,730	3,190	2,440	1,450	1,790	990	970	12,560	12,600
Trashiyantse(d)									
Trongsa	150	240	300	120	160	170	150	1,290	1,320
Tsirang	140	750	1,040	750	1,420	1,180	440	5,710	5,710
Wangduephodrang	600	780	540	270	210	*	*	2,470	2,590
Zhemgang	*	*	180	270	400	480	400	1,830	1,830
Bhutan	5,300	10,750	10,550	7,450	10,810	8,210	5,710	59,180	59,430

(a) See footnote (a) on Table 5.7. (b) Figures included with Punakha (c) For Samdrupjongkhar, size data wer not available for an estimated 920 holders. These have been excluded from the table. (d) Figures included with Trashigang

Source: Agronomic Survey(1988,1989), CSO, Ministry of Planning, Thimphu

TABLE 5.12(continuation): HOLDERS, AREA, PRODUCTION AND YIELD OF MAJOR CROPS BY DZONGKHAG, 1988/89 (a)

Dzongkhag	Maize				Mustard			
	Holders	Area (ha.)	Production (tonnes)	Yield/ha. (Kg.)	Holders	Area (ha.)	Production (tonnes)	Yield/ha. (Kg.)
Bumthang	130	10	20	1,160	*	*	*	*
Chhukha	2,570	1,830	680	370	1,650	300	80	270
Dagana	1,500	2,360	890	380	1,180	320	100	310
Gasa	!	!	!	!	!	!	!	!
Haa	140	70	40	540	*	*	*	*
Lhuntse	2,290	1,140	2,480	2,170	380	70	30	440
Mongar	4,260	2,570	4,530	1,760	450	80	30	400
Paro	*	*	*	*	640	120	50	390
Pemagatshel	2,390	860	920	1,060	330	30	20	600
Punakha	340	80	60	770	1,050	160	50	310
Samdrupjongkhar	4,900	4,700	2,650	560	2,190	690	180	260
Samtse	7,320	7,540	2,490	330	1,670	230	80	340
Sarpang	5,150	6,990	2,650	380	1,630	560	160	280
Thimphu	240	30	10	500	530	70	20	330
Trashigang	11,460	5,810	9,230	1,590	3,780	500	280	550
Trashiyangtse	#	#	#	#	#	#	#	#
Trongsa	970	380	270	720	290	40	10	390
Tsirang	5,550	6,380	2,910	460	3,380	610	170	270
Wangduephodrang	380	60	na	na	1,030	110	na	na
Zhemgang	1,800	1,060	1,250	1,180	430	170	50	290
Bhutan	51,390	41,870	31,080	13,930	20,610	4,060	1,310	5,430

Note: "!" Figues included in Punakha Dzongkhag and "#" in Tashigang Dzongkhag.

Source: Agronomic Survey(1988,1989), CSO, Ministry of Planning, Thimphu

TABLE 5.12: HOLDERS, AREA, PRODUCTION AND YIELD OF MAJOR CROPS BY DZONGKHAG, 1988/89(a)

Dzongkhag	Paddy				Wheat			
	Holders	Area (ha.)	Production (tonnes)	Yield/ha. (Kg.)	Holders	Area (ha.)	Production (tonnes)	Yield/ha. (Kg.)
Bumthang	*	*	*	*	760	260	150	570
Chhukha	1,820	920	950	1,030	1,100	310	220	700
Dagana	1,280	790	1,070	1,360	200	80	40	500
Gasa	!	!	!	!	!	!	!	!
Haa	150	90	80	880	820	460	230	510
Lhuntse	2,010	800	1,640	2,050	580	150	170	1,090
Mongar	2,200	470	470	980	610	130	60	470
Paro	1,790	1,460	2,400	1,640	2,110	1,250	650	520
Pemagatshel	870	120	110	960	960	160	100	630
Punakha	1,680	1,600	4,290	2,670	1,540	420	230	560
Samdrupjongkhar	2,660	2,030	2,910	1,430	460	60	30	490
Samtse	5,850	4,400	5,740	1,310	1,290	250	130	500
Sarpang	4,520	4,690	7,120	1,520	1,010	390	400	1,030
Thimphu	1,240	760	1,850	2,420	1,220	400	260	660
Trashigang	8,420	2,210	4,930	2,230	2,890	490	460	940
Trashiyangtse	#	#	#	#	#	#	#	#
Trongsa	1,160	600	820	1,370	850	270	180	640
Tsirang	4,110	3,050	4,510	1,480	1,880	340	170	490
Wangduephodrang	1,740	1,250	na	na	1,980	790	na	na
Zhemgang	1,540	770	900	1,170	590	200	150	780
Bhutan	43,040	26,010	39,790	24,500	20,850	6,410	3,630	11,080

continues...

Table 5.13: ANNUAL CROPS, NUMBER OF HOLDERS HARVESTING EACH CROP AND AREA HARVESTED, BHUTAN, 1988/89

Crop	Number of holders	Percent holders	Crop area (hectares)
Cereals	62,490	96.5	93,060
Rice	43,070	66.5	26,030
Maize	51,470	79.5	41,890
Wheat	20,860	32.2	6,420
Buckwheat	27,170	41.9	7,190
Barley	12,150	18.8	2,580
Millet	27,210	42.0	7,570
Other Cereals	6,620	10.2	1,370
Legumes	17,810	27.5	3,870
Soya beans	11,060	17.1	1,960
Other bean	6,690	10.3	690
Pulses	6,200	9.6	1,220
Oil seeds	21,110	32.6	4,120
Roots and tubers	22,070	34.1	3,720
Potatoes	16,310	25.2	2,460
Ginger	3,550	5.5	360
Radishes	4,700	7.3	240
Turnips	1,950	3.0	150
Tapioca	2,980	4.6	390
Vegetables	8,610	13.3	630
Other crops	1,730	2.7	130
All annual crops	..		105,540
Holders with annual crops	62,920	97.1	..
All holders	64,770	100.0	..

Source: Agronomic Survey, CSO, Ministry of Planning, Thimphu

TABLE 5.14: QUANTITY OF SEED PLANTED AND PRODUCTION OF POTATOES BY VARIETY AND REGION, 1992/93 TO 1994/95

(metric tonnes)

Location/region	Desiree			K. Jyoti			Yusikap		
	1992/93	1993/94	1994/95	1992/93	1993/94	1994/95	1992/93	1993/94	1994/95
Quantity planted	161.05	156.39	156.09	95.2	82.47	75.37	90.7	86.33	85.98
Phujikha farm	8.15	6.74	6.74	4.40	4.72	1.27	4.70	4.78	4.78
Trashigang	18.35	20.25	20.15	34.95	34.45	33.25	45.50	35.20	35.10
Pemagatshel	4.00	4.00	4.00	14.00	14.00	13.75	10.00	10.00	10.00
Bumtha	32.60	31.70	31.70	22.00	18.85	16.95	21.35	19.95	19.95
Phubjikha	97.95	93.70	93.50	19.85	10.45	10.15	9.15	16.40	16.15
Quantity produced	414.19	414.94	447.02	216.66	188.78	156.6	238	237.9	240.74
Phujikha farm	33.54	33.54	35.97	11.38	11.38	15.75	34.00	34.00	28.29
Trashigang	15.70	15.70	41.55	42.85	42.85	67.70	95.40	95.30	93.10
Pemagatshel	10.70	10.70	8.15	28.70	28.70	30.90	22.10	22.10	20.95
Bumtha	74.05	74.05	86.05	84.93	57.05	13.25	53.15	53.15	56.55
Phubjikha	280.20	280.95	275.30	48.80	48.80	29.00	33.35	33.35	41.85
Seed to production ratio	2.57	2.65	2.86	2.28	2.29	2.08	2.62	2.76	2.80
Phujikha farm	4.12	4.98	5.34	2.59	2.41	12.40	7.23	7.11	5.92
Trashigang	0.86	0.78	2.06	1.23	1.24	2.04	2.10	2.71	2.65
Pemagatshel	2.68	2.68	2.04	2.05	2.05	2.25	2.21	2.21	2.10
Bumtha	2.27	2.34	2.71	3.86	3.03	0.78	2.49	2.66	2.83
Phubjikha	2.86	3.00	2.94	2.46	4.67	2.86	3.64	2.03	2.59

Note : Data not supplyed from the Ministry of Agriculture.
Source: Ministry of Agriculture,Thimphu

TABLE 5.15: PERENIAL CROPS BY ZONE, 1988/89

('000 trees)

Crop	Thimphu	Zone I	Zone II	Zone III	Zone IV	Total
Temperate fruits	55.3	109.2	65.2	59.9	104.0	393.6
Apples	49.7	93.6	13.4	47.0	31.8	235.5
Apricots	0.8	1.5	4.9	0.7	3.2	11.1
Peaches	2.0	7.6	29.3	5.9	32.4	77.2
Pears	1.1	2.8	13.0	3.5	7.8	28.2
Plums	0.5	0.8	3.4	0.8	5.6	11.1
Walnut	-	-	-	1.9	17.4	19.3
Mangosteen	-	-	-	-	2.4	2.4
Sub-tropical fruits	6.9	1,328.5	729.2	1,112.9	466.8	3,644.3
Oranges	4.6	1,148.3	504.8	762.1	175.4	2,595.2
Lemons	0.3	74.5	9.1	23.5	3.1	110.5
Bananas	1.1	86.7	182.8	286.6	258.2	815.4
Guavas	0.7	9.3	25.2	10.4	15.6	61.2
Mangoes	-	3.3	2.3	9.9	3.2	18.7
Jackfruit	-	3.1	3.0	4.0	2.2	12.3
Litchi	-	-	-	3.8	0.7	4.5
Papaya	-	-	-	3.1	2.1	5.2
Persimmons	-	-	-	-	1.9	1.9
Other tree crops	-	5,883.7	5,400.7	4,407.1	60.1	15,751.6
Cardamom(b)	-	5,610.4	5,318.3	4,054.5	20.5	15,003.7
Areconut	-	262.9	-	347.3	34.6	644.8
Tea	-	8.0	2.8	5.3	0.5	16.6

Source: Agronomic Survey, CSO, Ministry of Planning, Thimphu

TABLE 5.16: HOLDERS BY SIZE OF LIVESTOCK HOLDINGS, 1998/99

('000 holders)

Number of livestock	Cattle	Yak	Buffalo	Pig	Goat	Sheep	Horse/ Mule	Donkey/ mule	Chicken
Zero	9.2	62.5	[illegible]	29.6	47.7	57.7	[illegible]	60.7	[illegible]
1 - 2	8.2	*	0.6	24.9	7.5	2.4	[illegible]	[illegible]	[illegible]
3 - 4	10.9	0.2	0.3	7.0	5.7	1.2	[illegible]	[illegible]	[illegible]
5 - 9	23.1	0.1	0.3	2.2	2.6	[illegible]	[illegible]	[illegible]	[illegible]
10 - 14	8.1	*	*	0.2	0.2	[illegible]	*	*	[illegible]
15 - 19	2.4	0.2	*	*	*	*	*	*	[illegible]
20 - 29	1.5	0.1	*	*	*	[illegible]	*	*	[illegible]
30 & Over	0.5	0.5	*	*	*	0.1	*	*	0.8
Total	63.9	63.6	63.9	63.9	63.7	63.3	63.8	63.8	63.8
				(percentage of all holders)					
Zero	14.4	97.8	98.1	46.3	74.6	[illegible]	73.4	[illegible]	[illegible]
1 - 2	12.8	*	0.9	39.0	11.7	[illegible]	22.4	4.7	22.8
3 - 4	17.1	0.3	0.5	11.0	8.9	1.9	3.1	0.2	20.7
5 - 9	36.2	0.2	0.5	3.4	4.1	2.0	0.9	*	21.4
10 - 14	12.7	*	*	0.3	0.3	0.6	*	*	8.0
15 - 19	3.8	0.3	*	*	*	*	*	*	3.3
20 - 29	2.3	0.2	*	*	*	0.3	*	*	2.5
30 & Over	0.8	0.8	*	*	*	0.2	*	*	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Agronomic Survey, CSO, Ministry of Planning, Thimphu

TABLE 5.17: NUMBER OF LIVESTOCK BY TYPE AND DZONGKHAG, 1997

Dzongkhag	Cattle	Yak	Mithun	Buffalo	Sheep	Goat	Pig	Horse	Mule	Donkey	Poultry
Bumthang	9217	2500	2120	0	4691	10	0	1421	126	6	2492
Chhukha	23602	0	1696	0	24800	35220	17552	649	80	18	15350
Dagana	3323	0	0	261	1568	2896	1782	389	45	0	8043
Gasa	777	3210	123	0	14	0	251	260	192	8	649
Haa	8169	5614	220	0	56	130	1116	844	435	7	3220
Lhuntse	11519	287	4440	0	186	32	1756	1437	169	18	5595
Mongar	14576	0	10717	0	109	329	4138	1846	402	9	16328
Paro	9362	4656	1238	0	175	60	3253	1296	244	4	4757
Pemagatshel	5434	0	2420	0	0	178	2146	559	358	5	5925
Punakha	8400	0	1754	0	0	43	2311	898	22	5	5522
Samdrupjongkha	16051	0	4713	88	127	1034	3249	1862	410	15	15105
Samtse	41406	0	172	1567	6037	17586	3505	900	326	1	34448
Sarpang	16492	0	464	973	967	4809	1693	754	2	0	0
Thimphu	7965	9318	1101	0	1057	0	1414	1100	0	0	3614
Trashigang	23769	7591	9325	0	6625	75	7358	4482	839	15	19397
Trashiyangtse	10068	367	2848	0	85	68	2835	1422	224	4	6413
Trongsa	8974	0	1026	0	3343	11	197	443	60	0	2775
Tsirang	7457	0	0	355	863	3251	730	212	1	0	4463
Wangdiphodrang	19124	4239	3353	0	7364	157	4168	2312	108	14	7203
Zhemgang	11138	0	4308	0	0	431	1556	1456	278	3	188
Bhutan	256823.00	37782.00	52038.00	3244.00	58067.00	66320.00	61010.00	24542.00	4321.00	132.00	161487.00

Source: Crops & Livestock Division, Thimphu

TABLE 5.18: NUMBER OF SELECTED LIVESTOCK BY BREED, BHUTAN, 1987 TO 1997

Type of livest	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Cattle	401,446	304,750	303,742	308,273	..	240,604	..	246,293	267,022	261,970	263,699
Local	387,247	288,197	283,159	286,063	n.a	218,524	n.a	213,332	233,050	223,847	223,847
Improved (a	14,199	16,553	20,583	22,210	n.a	22,080	n.a	32,961	33,972	38,123	39,852
Horse	27,083	25,768	24,460	22,102	..	21,224	..	22,915	24,902	24,542	24,542
Local	26,112	25,768	23,838	21,069	n.a	18,575	n.a	21,337	23,421	22,717	22,717
Improved	971	n.a	622	1,033	n.a	2,649	n.a	1,578	1,481	1,825	1,825
Sheep	39,235	46,734	48,044	43,698	..	32,123	..	31,882	34,438	34,465	34,465
Local	37,121	46,734	45,003	38,291	n.a	26,963	n.a	25,539	34,438*	28,841	28,841
Improved	2,114	n.a	3,041	5,407	n.a	5,160	n.a	6,343	..	5,624	5,624
Pig	73,287	65,891	63,285	59,598	..	44,534	..	45,968	47,691	61,010	61,010
Local	69,521	65,891	60,386	55,335	n.a	41,489	n.a	41,240	47,691*	50,355	50,355
Improved	3,766	n.a	2,899	4,263	n.a	3,045	n.a	4,728	..	10,655	10,655
Poultry	229,944	237,048	218,363	218,852	..	133,752	..	157,663	177,994	169,208	161,487
Local	214,980	237,048	203,055	205,097	n.a	121,720	n.a	144,526	177,994*	146,672	138,953
Improved	14,964	n.a	15,308	13,755	n.a	12,032	n.a	13,137	..	22,536	22,534
Mithun cross	n.a	52,727	46,573	51,644	60,500	68,904	n.a	53,514	65,405	53,914	52,036
Yak	40,065	35,639	37,039	33,035	31,500	30,241	n.a	36,761	39,668	37,871	37,782
Buffalo	5,184	4,344	4,700	4,300	2,600	895	n.a	1,513	1,206	2,889	3,244
Mule	n.a	n.a	2,334	3,767	n.a	3,310	n.a	4,183	4,439	4,321	4,321
Donkey	n.a	n.a	196	220	n.a	171	n.a	111	204	132	132
Goat	48,055	36,847	32,594	36,909	25,100	14,500	20,000	26,731	35,109	66,320	66,320

Note: 1991 and 1993 figures are imputations by CSO.

* Includes both local and improved breeds and (a) includes Jersey plus Brown Swiss.

Source: Crop & Livestock Services Division, Thimphu

TABLE 5.19: IMPORTS AND DISTRIBUTION OF FOOD ITEMS BY FOOD CORPORATION OF BHUTAN, 1988/89 TO 1997

(metric tonnes)

Commodity	1988/89	1989/90	1990/91	1991/92	1992	1993	1994	1995	1996	1997
Imports										
Rice	11,599.72	9,900.00	8,775.68	10301.31	11,164.37	8,701.64	12,573.23	11,780.22	13,391.65	15,862.00
Wheat	4,989.96	2,833.55	1,450.00	1469.86	1,671.91	2,359.96	3,494.45	925.00	2,000.00	4,900.00
Sugar	3,616.20	3,040.00	3,446.50	2539.50	3,032.90	3,624.40	3,567.20	3,282.00	3,812.00	3,903.00
Salt	6,759.92	4,618.58	4,318.20	3520.93	4,257.70	3,651.96	0.00	0.00	24.00	27.00
Oil	399.90	339.93	270.44	559.90	0.00	1,971.90	0.00	489.56	493.00	101.00
Sales										
Rice	11,196.64	8,895.29	8,199.43	10504.50	10,861.95	9,414.30	11,570.66	11,270.25	8,924.99	15,715.00
Wheat	4,544.43	2,964.26	2,274.87	2998.25	3,380.22	3,186.74	2,790.03	1,453.62	1,513.25	2,377.00
Sugar	3,489.96	3,039.42	3,000.63	3143.32	3,248.40	3,617.00	3,523.74	3,415.18	3,630.16	3,986.00
Salt	4,049.57	4,887.36	4,496.58	4301.01	3,842.54	2,700.76	0.00	0.00	0.53	25.00
Oil	434.62	416.31	281.67	301.85	350.49	564.64	420.15	451.10	214.46	263.00

Note: 1988/89 to 1991/92 refers to 13 months period (June to June). Since 1992 the period refers to calander year (January to December).

Source: Food Corporation of Bhutan.

TABLE 5.20: QUANTITY OF AGRICULTURAL PRODUCE HANDLED BY FOOD CORPORATION OF BHUTAN, 1988 TO 1997

(tonnes)

Commodity	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Potatoes	14,377.00	13,881.00	9,885.61	13,196.27	12,189.87	14,847.64	17,132.07	14,603.70	16,478.60	17,031.00
Vegetables	1,243.00	960.80	994.80	1,217.38	1,029.13	1,258.91	1,736.25	1,136.76	1,970.57	1,363.00
Apples	591.80	325.20	94.06	687.95	1,406.47	498.89	393.99	519.23	252.95	281.00
Oranges	1,936.10	1,981.20	3,274.69	14,180.68	6,585.14	4,915.44	3,134.49	4,010.58	3,639.69	3,042.00
Cardamom	n.a	n.a	n.a	943.52	628.84	616.78	183.81	86.89	5.84	30.00
Ginger	n.a	n.a	102.99	930.08	766.29	611.40	515.20	719.50	1,023.28	984.00
Garlic	n.a	n.a	0.64	0.21	0.08	0.12	n.a	0.15	n.a	n.a
Arecanut	n.a	n.a	n.a	312.88	91.85	163.63	158.39	192.35	182.52	104.00
Supari(dried doma)	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.49	n.a	n.a
Dry chilli	57.10	64.40	56.75	33.70	53.53	51.58	97.72	40.82	22.64	33.00
Kidney bean(rajma)	0.00	0.00	55.09	42.68	48.77	69.42	64.79	36.32	69.54	103.00
Soya bean	197.70	295.20	74.51	172.30	210.29	215.31	290.97	90.96	92.36	143.00
Pulses	n.a	n.a	n.a	n.a	0.18	11.14	1.14	3.39	4.70	4.00
Mustard	n.a	n.a	n.a	n.a	n.a	8.20	3.41	0.63	1.31	1.00
Pipla (wild)	n.a	n.a	n.a	n.a	n.a	n.a	9.06	14.79	8.29	13.00
Chirota (wild)	n.a	n.a	n.a	n.a	n.a	n.a	n.a	6.28	1.00	2.00
Lemon	n.a	n.a	n.a	147.70	187.27	110.93	54.10	54.64	47.26	35.00
Apricot	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Peach	n.a	n.a	n.a	n.a	n.a	0.30	0.68	1.40	1.43	3.00
Plum	n.a	n.a	n.a	n.a	n.a	2.53	0.12	0.98	1.91	0.59
Pear	n.a	n.a	n.a	n.a	n.a	n.a	0.08	0.25	0.07	0.13
Dry bean	n.a	n.a	n.a	n.a	12.26	n.a	n.a	0.18	3.63	4.00

Note: 1988 refer to 15 months period (April to June) while 1990/91 refer to 13 months period (June to June)
Since 1992 FCB had followed calander year (January to December)
Conversion of units used are; 1) 1 paun orange=80 fruits = 8.50 kg 2) 1 paun lemon = 80 fruits= 4.00 kgs; and
3) 1 paun lemon = 80 fruits = 3.00 kgs

Source: Food Corporation of Bhutan

TABLE 5.21: DETAILS OF PROTECTED AREAS IN BHUTAN, BY YEAR OF ESTABLISHMENT AND AREA, 1996

Name of Area	Establishment year	Area(sq.Km)	Percent of total area
Existing Protected Areas		10,513	22.61
Torsa Strict Nature Reserve	1993	644	1.38
Jigme Dorji National Park	1974	4,200	9.03
Black Mountain National Park	1993	1,400	3.01
Thrumshingla National Park	1993	768	1.65
Royal Manas National Park	1966	1,000	2.15
Sakteng Wildlife Reserve	1993	650	1.40
Kulongchu Wildlife Reserve	1993	1,300	2.80
Phibsoo Wildlife Reserve	1974	278	0.60
Khaling/Neoli Wildlife Reserve	1974	273	0.59

Note: Data not supplyed from the Forestry Division, Ministry of Agriculture.

Source: Forest Division, Ministry of Agriculture, Thimphu

TABLE 5.22: QUANTITY AND VALUE OF FOREST PRODUCTS SUPPLIED BY TYPE AND USERS, 1992/93 TO 1995/96

User and product type	1992/93		1993/94		1994/95		1995/96	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Rural population								
Trees (numbers)	44,853	1,480.1	64,246	4,507.0	84,239	0.77	110,002	2.21
Poles (numbers)	70,924	110.7	68,526	352.1	2,969	0.23	2,743	0.30
Logged timber (cubic metre)	7,885.0	7,885.0	135,872.0	1,916.0	3,913	0.72	228	0.01
Firewood (cubic metre)	13,696.0	111.0	18,298.0	185.0	15,881	0.35	2,864	0.07
Charcoal (kg)	0	0.0	50,900	101.0	347,870	0.07	n.a	..
Bamboos (numbers)	132,826	36.8	238,053	1.2	301,736	0.02	593,839	0.07
Urban population								
Trees (numbers)	1,094	138.0	5,104	2,855.0	42,368	9.96	27,383	6.30
Poles (numbers)	13,847	55.2	8,619	52.0	1,038	0.18	1,541	0.43
Logged timber (cubic metre)	1,644.0	123.0	2,145.0	287.0	13,514	3.96	2,729	0.81
Firewood (cubic metre)	10,339.0	157.0	19,608.2	238.0	41,169	0.62	68,459	0.85
Charcoal (kg)	9,845	154.2	349,260	70.2	292,123	0.05	199,870	0.04
Bamboos (numbers)	112,983	8.5	428,404	36.2	334,567	0.42	300,636	0.09
Government agencies								
Trees (numbers)	506	252.0	1,277	423.0	..	..	..	..
Poles (numbers)	15	0.6	3,973	-	..	..	..	..
Logged timber (cubic metre)	19,541.0	765.0	1,372.0	48.0	..	..	..	..
Firewood (cubic metre)	6,105.0	54.5	13,148.0	64.7	..	..	..	..
Charcoal (kg)	0	0.0	72	-	..	..	..	..
Bamboos (numbers)	0	0.0	210,652	30.2	..	..	..	..
Bhutan								
Trees (numbers)	46,453	1,870.1	70,627	7,785.0	126,606	10.73	137,385	8.51
Poles (numbers)	84,786	166.5	81,118	404.1	4,008	0.41	4,283	0.74
Logged timber (cubic metre)	29,070.0	8,773.0	139,389.0	2,251.0	17,427	4.68	2,957	0.82
Firewood (cubic metre)	30,140.0	322.5	51,054.2	487.7	57,050	0.97	71,323	0.92
Charcoal (kg)	9,845	154.2	400,232	171.2	639,993	0.12	199,870	0.04
Bamboos (numbers)	245,809	45.3	877,109	67.6	636,303	0.45	894,475	0.16

Note: Urban population figures for 1994/95 and 1995/96 includes Govt. agencies and their values were given in million Nu. 1994/95 and 1995/96 units for trees, poles and logged timbers were measured in cft.

Data not supplied from the Forestry Division, for the year 1997.

Source: Forestry Services Division, Thimphu

TABLE 5.23: PRODUCTION OF LOGWOOD, 1985/86(a) TO 1995

('000 cubic metres)

Item	1985/86	1986/87	1987/88 (b)	1988/89	1989	1990	1991	1992	1993	1994	1995 (c)
Logwood	136.8	149.1	83.7	89.4	434.1	202.7	350.1	235.2	164.0	944.2	943.9
Commercial logwood	59.1	118.1	76.9	83.4	54.3	48.9	40.1	49.2	n.a	n.a	58.4
Construction and other uses	77.7	31.0	6.8	6.0	379.8	153.8	310.0	185.9	164.0	944.2	885.6
Rural construction	n.a	n.a	n.a	n.a	n.a	n.a	n.a	93.2	69.3	758.0	429.3
Urban construction	n.a	n.a	n.a	n.a	n.a	n.a	n.a	92.7	94.7	159.9	456.2
Government construction	n.a	n.a	n.a	n.a	n.a	n.a	n.a	-	-	26.4	!
Others	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	..
Firewood	3.4	3.5	10.5	1.6	2.2	3.0	4.2	5.3	n.a	n.a	n.a
Total	140.2	152.6	94.2	91.0	436.3	205.7	354.3	240.4	164.0	944.2	943.9

(a) Years refer to 1 April to 31 March while 1987/88 refer to fifteen months period April to June For 1988/89 is for 12 months period July to June. Figures exclude collection of firewood by individuals

(b) Production declined mainly because of road blokage during monsoon and shortage of labourers

(c) unit of measurement is in thousand of cubic feet unlike other years

"!" these figure is included with urban construction

Note: Data not supplied from the Forestry Division, for the year 1997

Source: Forestry Services Division, Thimphu

CHAPTER 6: INDUSTRIES

INTRODUCTION

The subject 'Industries covers the whole range of industrial activities carried out by businesses in all fields including mining, manufacturing, wholesale and retail trade, and other service industries. In Bhutan, the industrial sector has until recently played a relatively small role in the economy of the kingdom.

The mining industry in Bhutan is as yet relatively undeveloped. The kingdom has significant deposits of a number of mineral resources, including limestone, coal, graphite, gypsum, slate and dolomite. Most mining activities is limited to relatively small operations, mainly involved in the mining of dolomite, gypsum, limestone, slate, coal, marbles, quartzite and talc.

The manufacturing industry is dominated by a small number of major operators such as the Penden Cement Plant, the Gedu Wood Manufacturing Corporation, Bhutan Board Products Ltd.,the first chemical plant, Bhutan Carbide and Chemicals Ltd. established during 1988 etc. Besides Bhutan Agro Industries Ltd., there are a number of other small manufacturing plants concentrated in the food processing. Cottage industries also play a prominent role with its good timber resources and favourable agricultural conditions, there is ample scope for expansion of the manufacturing sector specially in these areas.

As the industrial sector grows in Bhutan, statistics on industry will become increasingly important. The CSO will be giving special attention to the development of statistical systems to meet the important needs for industrial statistics in the future.

TABLE 6.1: NUMBER OF INDUSTRIAL ESTABLISHMENTS BY SECTOR, BHUTAN, 1987 TO 1997

Sector	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Production & manufacturing	136	153	161	175	189	226	256	303	336	372	405
New registration	17	17	8	14	14	37	30	47	15	36	33
Existing establishments	119	136	153	161	175	189	226	256	321	336	372
Services	56	68	82	101	124	164	209	1,506	1,785	1,990	2,331
New registration	7	12	14	19	23	40	45	1,297	140	180	341
Existing establishments	49	56	68	82	101	124	164	209	1645	1810	1990
Contract	131	205	244	298	349	544	662	921	1,085	1,343	1,658
New registration	13	74	39	54	51	195	118	259	127	251	315
Existing establishments	118	131	205	244	298	349	544	662	958	1092	1343
All sectors	323	426	487	574	662	934	1,127	2,730	3,206	3,705	4,394

Source: Industries Division, Thimphu

TABLE 6.2: NUMBER OF LICENSED FIRMS IN MANUFACTURING AND MINING INDUSTRIES BY SECTOR, 1989, 1996 & 1997.

Industry	1989				1996				1997			
	Public	Joint	Private	Total	Public	Joint	Private	Total	Public	Joint	Private	Total
Mining	2	1	8	11	0	0	5	5	0	0	5	5
Manufacturing	16	5	136	157	7	5	355	367	7	2	296	305
Food processing/milling	7	1	30	38	4	0	80	84	4	0	92	96
Textiles and Clothing	1	0	6	7	0	0	1	1	0	0	1	1
Wood and Paper Products	5	2	75	82	3	2	193	198	3	2	203	208
								0				
Chemical Products	1	2	17	20	0	1	1	2	0	0	1	1
Mineral Products	1	0	6	7	0	1	27	28	0	2	29	31
Other	1	0	2	3	0	1	53	54	1	0	62	63
								0				0
Total mining and manufacturing	18	6	144	168	7	5	360	372	8	4	393	405

Source: Industries Division, Thimphu

TABLE 6.3: NUMBER OF INDUSTRIES BY SECTOR, SIZE AND TYPE, BHUTAN, 1989 TO 1997

Industrial establishments	1989	1990	1991	1992	1993	1994	1995	1996	1997
Sector									
Private	144	710	n.a	n.a	n.a	n.a	3,169	3,666	4,356
Joint	18	20	n.a	n.a	n.a	n.a	11	11	5
Public	6	12	n.a	n.a	n.a	n.a	26	28	33
Size									
Large scale	n.a	499	n.a	n.a	18	30	31	31	36
Medium scale	n.a	23	n.a	n.a	16	22	32	32	39
Small scale	n.a	19	n.a	n.a	148	142	177	196	328
Cottage scale	n.a	201	n.a	n.a	947	693	650	678	693
Mini scale	..	..	n.a	n.a	..	922	1,231	1,425	1,640
Other (Contract)	..	..	n.a	n.a	..	921	1,085	1,343	1,658
Type									
Production & Manufacturing	157	266	189	226	258	303	336	372	405
Agro based	n.a	64	n.a	n.a	63	72	81	84	96
Forest based	n.a	131	n.a	n.a	117	151	167	198	207
Mineral based	11	33	n.a	n.a	38	29	35	35	37
Others	n.a	38	n.a	n.a	40	51	53	55	65
Contract	n.a	395	349	544	662	921	1,085	1,343	1,658
Services	n.a	81	124	164	209	1,506	1,785	1,990	2,331
All industries	168	742	662	934	1,129	2,730	3,206	3,705	4,394

Source: Industries Division, Thimphu

TABLE 6.4: NUMBER OF CONTRACT FIRMS AND INDUSTRIES BY DZONGKHAG, 1997

Dzongkhag	Class of contract firms					Scale of industries				
	A	B	C	Petty	Total	Small	Medium	Large	Cottage	Total
Bumthang	1	3	4	44	52	3	0	0	78	81
Chhukha	6	9	9	133	157	112	18	14	303	447
Dagana	0	0	3	25	28	0	0	0	26	26
Gasa	0	0	0	3	3	0	0	0	0	0
Haa	0	1	3	31	35	2	0	0	28	30
Lhuntse	0	0	3	14	17	0	0	0	7	7
Mongar	4	0	7	44	55	6	0	0	60	66
Paro	0	1	5	63	69	13	2	1	146	162
Pemagatshel	0	1	2	13	16	0	2	0	16	18
Punakha	0	2	3	34	39	1	0	0	15	16
Samdrupjongkhar	6	3	10	57	76	21		3	242	266
Samtse	0	0	3	62	65	44	4	6	64	118
Sarpang	1	1	5	74	81	17	0	1	254	272
Thimphu	27	21	46	612	706	101	12	11	808	932
Trashigang	2	3	8	52	65	3	0	0	99	102
Trashiyangtse	0	0	2	19	21	0	0	0	11	11
Trongsa	0	0	4	24	28	1	0	0	29	30
Tsirang	0	0	0	18	18	0	0	0	59	59
Wangduephodrang	0	0	7	55	62	4	1	0	50	55
Zhemgang	0	0	3	62	65	0	0	0	38	38
Bhutan	47	45	127	1439	1658	328	39	36	2333	2,736

Note: Size of establishments are determined by their input capitals
Cottage with Nu. 0.5 millions or less, Small is Nu. 0.5 to 5.0 millions or less, medium is Nu. 5.0 to 20.0 millions, Large with Nu. 20.0 millions or more.

Source: Ministry of Trade and Industry, Thimphu

TABLE 6.5: NUMBER OF INDUSTRIES BY TYPE BY DZONGKHAG, 1997

Dzongkhag	Agro based	Forest based	Mineral based	Services	Contract	Others	All types
Bumthang	5	16	0	60	52	0	133
Chhukha	21	25	6	373	157	22	604
Dagana	0	0	0	26	28	0	54
Gasa	0	0	0	0	3	0	3
Haa	1	8	0	21	35	0	65
Lhuntse	0	1	0	6	17	0	24
Mongar	4	8	2	52	55	0	121
Paro	5	18	2	135	69	2	231
Pemagatshel	1	2	2	13	16	0	34
Punakha	0	1	0	15	39	0	55
Samdrupjongkhar	10	15	3	234	76	4	342
Samtse	11	6	10	85	65	6	183
Sarpang	16	10	2	243	81	1	353
Thimphu	14	71	9	811	706	27	1638
Trashigang	2	10	0	88	65	2	167
Trashiyangtse	1	3	0	7	21	0	32
Trongsa	0	4	0	26	28	0	58
Tsirang	2	0	0	57	18	0	77
Wangduephodrang	1	2	1	50	62	1	117
Zhemgang	2	7	0	29	65	0	103
Bhutan	96	207	37	2,331	1,658	65	4,394

Source: Ministry of Trade and Industry, Thimphu

TABLE 6.6: NUMBER OF MINING AND MANUFACTURING INDUSTRIES BY EMPLOYMENT SIZE, 1989

Industry	Employment size (persons)						Total
	1-5	6-9	10-19	20-49	50-99	100+	
Mining and quarring	2	0	0	5	0	4	11
Manufacturing	35	21	62	22	6	11	157
Food, beverage and tobacco	17	5	10	1	1	4	38
Textile, wearing apparel etc.	1	1	2	2	0	1	7
Wood, wood products and furniture	7	5	39	16	1	3	71
Pulp, paper and printing	3	3	3	1	1	0	11
Chemical, rubber and plastics	5	7	4	1	1	2	20
Non-metalic mineral products	2	0	2	0	2	1	7
Metal products and other manufacturing	0	0	2	1	0	0	3
Total mining and manufacturing	37	21	62	27	6	15	168

Note: Data not supplied for the year 1997

Source: Ministry of Trade & Industries, Thimphu

TABLE 6.7: PERCENTAGE OF EMPLOYEES BY NATIONALITY IN MINING AND MANUFACTURING INDUSTRIES, 1989

Industry	Employees		
	National	Non national	Total
Mining and quarring	30	70	100
Manufacturing	57	43	100
Food, beverage and tobacco	35	65	100
Textile, wearing apparel etc	81	19	100
Wood, wood products and furniture	59	41	100
Pulp, paper and printing	77	23	100
Chemical, rubber and plastics	50	50	100
Non-metalic mineral products	67	33	100
Metal products and other manufacturing	66	34	100

Note: Data not supplied for the year 1997Note: Data not supplied for the year 1997

Source: Ministry of Trade and Industries, Thimphu

Source: Ministry of Trade and Industries, Thimphu

TABLE 6.8: PRODUCTION OF MINES AND MINERALS, 1991 TO 1997

Minerals	1991	1992	1993	1994	1995	1996	1997
Dolomites ('000 tonnes or mt)	273.4	284.8	225.7	206.4	249.3	276.7	240.3
Lime stone ('000 tonnes or mt)	220.0	170.0	205.4	223.2	250.0	297.9	376.7
Gypsum ('000 tonnes or mt)	27.0	25.0	29.6	45.1	52.1	66.6	62.3
Slate mines ('000 square feet)	164.0	30.4	12.3	0.0	92.1	44.1	48.4
Coal mines ('000 tonnes or mt)	44.8	56.2	57.7	55.0	71.1	63.9	53.2
Marbles							
Chips ('000 tonnes or mt)	10.2	8.1	7.5	7.6	16.6	11.1	na
Slabs ('000 square feet)	10.0	34.9	19.5	28.6	42.5	35.4	8.2
Quartzite ('000 tonnes)	n.a	n.a	0.2	15.3	49.9	98.1	39.5
Talc (tonnes)	n.a	n.a	0.0	0.2	3.3	9.2	11.4
Iron Ore ('000 mt)	n.a	n.a	n.a	n.a	2.1	4.0	5.0
Pink Shale ('000 mt)	n.a	n.a	n.a	n.a	n.a	1.4	2.7

Note: 1994 figures are preliminary; for 1991 to 1992 unit used is metric tonnes and 1993 & 1994 in tonnes

Source: Geology and Mines Division, Thimphu

TABLE 6.9: PRODUCTION AND USE OF MINES AND MINERALS, BHUTAN, 1994 TO 1997

Minerals	1994			1995			1996			1997		
	Total	Exports	Domestic use	Total	Exports	Domestic use	Total	Exports	Domestic use	Total	Exports	Domestic use
Dolomites ('000 tonnes)	206.4	206.4	0.0	249.3	249.3	0.0	276.7	216.6	60.1	240.3	240.3	0.0
Lime stone ('000 tonnes	223.2	0.0	223.2	250.0	0.0	250.0	297.9	0.0	297.9	376.7	15.6	361.1
Gypsum ('000 tonnes)	45.1	40.1	5.0	52.1	48.1	4.0	66.6	57.1	9.6	62.3	14.1	48.2
Slate mines ('000 sq. f	0.0	0.0	0.0	92.1	0.0	92.1	98.1	39.1	59.0	39.5	0.0	39.5
Coal mines ('000 tonnes	55.0	55.0	0.0	71.1	56.9	14.2	63.9	55.3	8.5	53.2	21.8	31.4
Marbles												
Chips ('000 tonnes)	7.6	7.6	0.0	16.6	16.6	0.0	11.1	11.1	0.0	na	na	na
Slabs ('000 sq. ft.)	28.6	n.a	n.a	42.5	42.5	0.0	35.4	3.7	31.7	8.2	0.0	8.2
Quartzite ('000 tonnes)	15.3	0.0	15.3	49.9	20.0	29.9	98.1	39.1	59.0	39.5	0.0	39.5
Talc (tonnes)	0.2	0.2	0.0	3.3	3.3	0.0	9.2	9.2	0.0	11.4	11.4	0.0
Iron Ore ('000 mt)	n.a	n.a	n.a	2.1	0.0	2.1	4.0	0.0	4.0	5.0	0.0	5.0
Pink Shale ('000 mt)	n.a	n.a	n.a	n.a	n.a	n.a	1.4	1.4	0.0	2.7	2.7	0.0

Note: 1994 figures are preliminary

Source: Geology and Mines Division, Thimphu

CHAPTER 7: TRANSPORT AND COMMUNICATION

INTRODUCTION

Traditionally the principal means of transport in Bhutan has been foot paths and mules tracks and these will continue to play an important role into the future. The development of the motor roads network was initiated in 1961 with the commencement of work on the construction of the first road from Phuentsholing to Paro and Thimphu. The importance of road transport has grown with the expansion of the road network, and there are now extensive bus services between the most centers in the kingdom. Civil aviation arrived in Bhutan with the establishment of Druk Air Corporation and its commencement of operations in 1983 on the Paro to Calcutta sector. Services were extended to cover the Paro to Dhaka sector in 1986; Paro to Delhi in 1988; Paro to Bangkok and Paro to Kathmandu in 1989.

Postal and other communication facilities were limited prior to 1962. Since then an extensive postal service has been developed so that the majority of the population now have reasonable access to mail services. Telephone services have also been considerably expanded and telex exchanges installed in Thimphu and Phuntsholing. An extensive civil wireless system also exist servicing many remote centers.

TABLE 7.1: LENGTH OF ROADS BY TYPE, BHUTAN, DECEMBER 1997

(length km)

Type of road	National highway	District road	Feeder road	Urban road	All roads
Black topped	1562.44	293.00	289.71	78.00	2223.15
Non-black topped	24.00	122.00	1006.50	..	1152.50
Total	1586.44	415.00	1296.21	78.00	3375.65

Source: Public Work Divison, Thimphu

TABLE 7.2: LENGTH OF ROADS BY TYPE AND DZONGKHAG, BHUTAN, 1997

(kilometres)

Dzongkhag	National highway	District road	Feeder road	Urban road	All roads
Bumthang	122.00	-	91.47	-	213.47
Chhukha	213.00	-	158.67	12.00	383.67
Dagana	-	87.00	13.00	-	100.00
Gasa	-	-	1.50	-	1.50
Haa	16.00	25.60	47.67	-	89.27
Lhuntse	-	43.00	10.00	-	53.00
Mongar	177.00	21.00	51.70	-	249.70
Paro	103.00	36.40	88.26	-	227.66
Pemagatshel	-	23.00	39.68	-	62.68
Punakha	9.00	-	100.72	-	109.72
Samdrupjongkhar	59.00	50.00	52.70	-	161.70
Samtse	-	84.00	39.80	-	123.80
Sarpang	120.44	-	129.10	-	249.54
Thimphu	111.00	-	152.65	66.00	329.65
Trashigang	141.00	5.00	96.65	-	242.65
Trashiyangtse	-	40.00	12.00	-	52.00
Trongsa	167.00	-	16.00	-	183.00
Tsirang	62.00	-	30.00	-	92.00
Wangduephodrang	142.00	-	108.24	-	250.24
Zhemgang	144.00	-	56.40	-	200.40
Bhutan	1,586.44	415.00	1,296.21	78.00	3,375.65

Source: Public Works Divison, Thimphu

TABLE 7.3: NUMBER AND LENGTH OF BRIDGES BY TYPE, BHUTAN,1997

Type of bridges	Numbers	Length (metres)
Reinforced concrete	59	1318
Prestressed concrete	3	248
Bailey bridge	53	1833
Suspension	7	687
Hemilton and steel	7	687
Composite	25	476
Wooden	20	376
Submersible	7	194
All bridges	181	5818

Source: Public Works Division, Thimphu

TABLE 7.4: NUMBER OF SUPENSION BRIDGES COMPLETED DURING I TO VII FIVE YEAR PLAN PERIODS BY DZONGKHAG.

Dzongkhag	Plan periods				All plan periods
	I - IV	Vth	VI	VII	(I - VII)
Bjakar	1	7	3	4	15
Chhukha	3	5	1	3	12
Dagana	2	2	2	3	9
Gasa	0	0	2	2	4
Haa	3	6	1	3	13
Lhuntse	3	4	2	3	12
Monggar	9	5	2	5	21
Paro	3	8	3	2	16
Pemagatshel	2	7	2	3	14
Punakha	3	4	1	0	8
Samdrupjongkha	10	13	6	2	31
Samtse	9	15	2	1	27
Sarpang	9	8	5	0	22
Thimphu	0	1	3	3	7
Trashigang	7	12	2	3	24
Trashiyangtse	3	6	4	3	16
Trongsa	4	6	3	3	16
Tsirang	6	4	1	2	13
Wangduephodrang	2	10	5	3	20
Zhemgang	1	5	4	4	14
Bhutan	80	128	54	52	314

Source: Division of Roads, Thimphu

TABLE 7.5: NUMBER OF REGISTERED VEHICLES BY TYPE AND REGION, 1991 TO 1997

Region	Heavy	Light	2-whellers	Taxi	Others	All Types
1991 total	3,259	4,857	4,681	447	..	13,244
Thimphu	1,671	3,471	4,100	378	..	9,620
Gaylegphug	143	598	0	14	..	755
Phuentsholing	1,386	780	520	55	..	2,761
Samdrupjongkhar	39	8	61	0	..	108
1992 total	3,424	5,282	5,028	534	..	14,268
Thimphu	1,726	3,829	4,345	428	..	10,328
Gaylegphug	143	598	0	14	..	755
Phuentsholing	1,516	847	622	92	..	3,077
Samdrupjongkhar	39	8	61	0	..	108
1993 total (a)	1,557	3,082	4,046	289	..	8,974
Thimphu	470	2,006	2,490	190	..	5,156
Gaylegphug	214	180	345	n.a	..	739
Phuentsholing	718	748	884	98	..	2,448
Samdrupjongkhar	155	148	327	1	..	631
1994 total	1,421	3,059	3,927	282	80	6,154
Thimphu	480	2,056	2,573	171	80	5,360
Gaylegphug	150	142	313	-	..	605
Phuentsholing	766	813	926	110	n.a	..
Samdrupjongkhar	25	48	115	1	..	189
1995 total	1,512	3,316	4,300	340	38	9,506
Thimphu	539	2,291	2,896	221	34	5,981
Gaylegphug	135	172	349	..	3	659
Phuentsholing	801	826	1,014	119	..	2,760
Samdrupjongkhar	37	27	41	..	1	106
1996 total	1,884	4,856	6,349	432	48	13,569
Thimphu	604	2,691	3,229	287	48	6,859
Gaylegphug	275	364	730	..	..	1,369
Phuentsholing	907	1,720	2,274	145	..	5,046
Samdrupjongkhar	98	81	116	..	..	295
1997 total	442	764	1,170	183	0	2,559
Thimphu	95	497	653	125	0	1,370
Gaylegphug	10	17	103	0	0	130
Phuentsholing	305	189	298	58	0	850
Samdrupjongkhar	32	61	116	0	0	209

Note: The decrease since 1993 is due to change in definitions of registration system since the year. Unlike previous years the figures reflect only vehicles in running condition. The 1996 figures for 2-Wheelers and light vehicles for Phuentsholing region includes the period from 1994 to 19/06/1997

(a) Includes figures from first few months of 1994

Source: Road Safety & Transport Authority, Thimphu

TABLE 7.6: NUMBER OF NEW MOTOR VEHICLE DRIVING LICENCES ISSUED (a) BY TYPE OF VEHICLE, 1987 TO 1997

(numbers)

Licence for	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Two Wheeler	324	163	465	103	523	159	328	371	225	538	788
Light	507	373	691	606	665	316	586	461	281	840	1,090
Medium	39	41	57	52	51	19	45	48	67	68	101
Heavy	187	65	63	50	77	21	74	45	19	63	77
Other(b)	34	82	132	161	76	n.a	n.a	66	27	91	73
All vehicles	1,091	724	1,408	972	1,392	515	1,033	991	619	1,600	2,129

Note: (a) The figures refer to new licences issued during the year (not including renewals). The figures do not refer to the total number of licensed drivers.(b) Includes road rollers, tractors, bulldozers, power tillers, payloaders, excavators, well loaders, and cranes.

Source: Road Safety & Transport Authority, Thimphu

TABLE 7.7: DETAILS OF PUBLIC ROAD TRANSPORT SERVICES, 1991 TO 1997

Details	1991	1992	1993	1994	1995	1996	1997
Number of operators	15	15	15	14	15	18	19
Number of service routes (a)	66	67	72	65	67	65	56
Distance run ('000 kms)	4,668	4,484	4,581	4,180	3,107	4,350	3,359
Passengers carried ('000 passengers)	1,178	1,336	1,388	995	1,021	1,812	863
Direct	820	880	901	729	786	1,077	806
Local	358	456	488	265	235	735	57
Loads carried ('000 kgs)	1,154	1,155	1,275	4,314	119	4,626	na
Services suspended (route days)	1,196	1,467	2,278	1,427	1,038	1,230	168

Note: (a) Service route imply bus services one round trip station to station. for e.g. Phuentsholing to Thimphu - Thimphu to Phuentsholing

Source: Surface Transport Division, Ministry of Communications, Thimphu

TABLE 7.8: NUMBER OF MOTOR VEHICLE ACCIDENTS BY TRAFFIC DIVISION, 1989 TO 1997.

Traffic division	1989	1990	1991	1992	1993	1994	1995	1996	199
Thimphu	154	105	107	127	176	207	133	156	12
Punakha Division No.I	14	20	26	11	22	20	26	18	1
Phuentsholing	38	40	19	30	13	16	46	48	5
Samtse	7	8	5	3	2	6	10	3	
Gelephu	19	23	9	12	16	8	5	10	1
Tsirang	9	5	5	9	5	4	7	3	
Trongsa	19	27	14	23	21	20	6	7	
Samdrupjongkha	21	14	15	21	17	21	21	16	1
Trashigang	10	6	13	11	5	7	6	8	
Monggar	8	4	6	8	6	3	9	6	1
Bhutan	299	252	219	255	283	312	269	275	26

Note: Chimakothi division is replaced by Punakha Division No.II since 1995

Source: Royal Bhutan Police, Thimphu

TABLE 7.9: MOTOR VEHICLE ACCIDENTS BY CAUSE BY TRAFFIC DIVISION, BHUTAN, 1997.

(numbers)

Traffic divisi / Type of Vehicl	Mechanical fault	Drunk driving	Bad weather	Without licence	Unknown causes	Other causes	All causes
Thimphu							
Trucks	1				2		3
Buses							0
Light Vehicle	2	2		1	4		9
Two Wheeler		2		1	2		5
Punakha							
Trucks					5		6
Buses							0
Light Vehicle	1			1	4		6
Two Wheeler							0
Phuntsholing							
Trucks	1	3	1		4		9
Buses							0
Light Vehicle	1		1		8		10
Two Wheeler				1			1
Samtsi							
Trucks		1	2	1	1		5
Buses							0
Light Vehicle					2		2
Two Wheeler							0
Geylegphu							
Trucks	1						1
Buses							0
Light Vehicle	3	1			3		7
Two Wheeler					1		1
Tsirang							
Trucks			1				1
Buses							0
Light Vehicle	1						1
Two Wheeler							0
Trongsa							
Trucks	3			1	1		5
Buses							0
Light Vehicle							0
Two Wheeler							0
Samdrupjongkhar							
Trucks	2	1			1		4
Buses							0
Light Vehicle	1				1		2
Two Wheeler							0
Trashigang							
Trucks							0
Buses							0
Light Vehicle							0
Two Wheeler							0
Mongar							
Trucks	1		2		2		5
Buses							0
Light Vehicle			2				2
Two Wheeler	1				1		2
Bhutan	20	10	9	6	42	0	87

Source: Royal Bhutan Police, Thimphu.

TABLE 7.10: MOTOR VEHICLE ACCIDENTS BY TRAFFIC DIVISION BY MONTH, BHUTAN, 1997

(numbers)

Traffic divisio	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Thimphu	8	13	9	12	10	9	16	11	13	3	13	5	122
Punakha	2	2	n.a	1	1	3	1	2	2	2	n.a	2	18
Phuentsholing	7	4	8	4	8	2	5	6	3	3	3	5	58
Samtse	n.a	n.a	n.a	n.a	1	3	1	n.a	n.a	n.a	1	n.a	6
Gelephu	2	1	2	1	4	n.a	1	2	2	n.a	1	n.a	16
Tsirang	n.a	n.a	1	n.a	1	n.a	n.a	n.a	n.a	n.a	n.a	n.a	2
Trongsa	1	1	2	n.a	1	n.a	1	n.a	1	n.a	n.a		7
Samdrupjongkha	2	1	2	1	1	2	n.a	1	1	3	2	2	18
Trashigang	1	1	n.a	n.a	1	1	n.a	n.a	n.a	n.a	n.a	n.a	4
Mongar	3	2	1	2	1	1	1	n.a	n.a	n.a	2	1	14
Bhutan	26	25	25	21	29	21	26	22	22	11	22	15	265

Source: Royal Bhutan Police, Thimphu

TABLE 7.11: NUMBERS OF PASSENGERS CARRIED AND REVENUE EARNED BY DRUK AIR FLIGHTS BY SECTOR, 1990 TO 1997

Sector	1990	1991	1992	1993	1994	1995	1996	1997
Paro to Calcutta	1,715	1,390	977	1,140	1,335	1,826	2,290	2,486
Calcutta to Paro	1,376	1,212	934	1,033	1,170	1,533	1,878	2,179
Paro to Bangkok	1,558	2,431	2,689	2,666	3,634	3,937	4,371	5,012
Bangkok to Paro	1,763	2,568	2,980	2,920	3,677	3,879	4,423	5,201
Paro to Dhaka	398	627	726	795	829	596	699	1,086
Dhaka to Paro	484	671	722	734	803	563	638	1,022
Paro to Delhi	3,189	2,710	2,843	2,852	2,779	3,042	3,614	3,884
Delhi to Paro	3,324	3,021	2,859	2,857	2,737	3,122	3,656	3,745
Paro to Kathmandu	1,064	1,846	2,181	2,271	2,151	1,998	2,649	2,718
Kathmandu to Paro	947	1,635	2,132	2,158	2,000	1,790	2,588	2,652
Paro to Yangon	..	..	..	..	..	..	..	56
Yangon to Paro	..	..	..	..	..	..	..	67
Total passengers (a)	15,818	18,111	19,043	19,426	21,115	22,286	26,806	30,108
Revenue (Nu.in millions) during fiscal year	62.85 1989/90	70.97 1990/91	112.10 1991/92	241.47 1992/93(	188.34 1993/94	213.78 1994/95	252.94 1995/96	280.63 1996/97

Note: (a) Number of passangers include only paying passangers
(b) Revenue earned for 18 months (July 1992 to December 1993)

Source: Druk Air Corporation, Thimphu

TABLE 7.12: NUMBER OF FLIGHTS MADE BY DRUK AIR BY SECTOR, 1990 TO 1997

Sector	1990	1991	1992	1993	1994	1995	1996	1997
Paro to Calcutta	62	53	57	72	105	111	120	186
Calcutta to Paro	63	53	56	71	104	108	114	186
Paro to Bangkok	56	98	101	113	157	158	169	221
Bangkok to Paro	56	98	101	113	153	156	167	221
Paro to Dhaka	55	91	62	53	52	52	52	20
Dhaka to Paro	55	91	66	53	59	52	51	20
Paro to Delhi	98	102	111	106	102	109	112	143
Delhi to Paro	99	102	111	106	102	112	111	143
Paro to Kathmandu	54	102	119	107	102	71	97	115
Kathmandu to Paro	55	102	118	104	102	64	99	115
Paro to Yangon	-	-	-	-	-	-	-	20
Yangon to Paro	-	-	-	-	-	-	-	20
All sectors	653	892	902	898	1,038	993	1,092	1,370

Source: Druk Air Corporation, Thimphu

TABLE 7.13: TELEPHONE CONNECTION CAPACITY BY EXCHANGE, 1990 TO 1997

(numbers)

Exchange (Switch ty	1990	1991	1992	1993	1994	1995	1996	1997	Existing Lines till 1997
Tsimakothi(SxS)	50	50	50	50	50	50	50	50	37
Gelephu(LS)	100	100	100	100	480	328	584	584	198
Haa(SxS)	50	50	50	50	50	50	50	50	38
Paro(SxS)	100	100	100	200	200	200	200	200	200
Phuentsholing(SxS)	400	900	900	900	900	900	900	900	858
Punakha(LS)	20	20	50	50	50	50	80	80	77
Samdrupjongkha(LS)	100	100	100	100	816	664	664	664	250
Samtse(SxS)	100	100	100	100	100	100	100	100	86
Sarpang(DRMASS)	50	50	50	50	128	109	109	109	74
Thimphu LS/INTS/MS)	3,000	3,000	3,000	3,000	3,000	3,896	3,896	3896	3,645
Trashigang (TS/LS)	35	35	35	35	784	528	528	528	129
Trongsa (TS/LS)	35	35	35	35	616	336	336	336	99
Wangduephodrang(SxS	50	50	50	100	100	100	100	100	79
Jakar(RLU)	-	-	-	-	216	132	200	200	166
Zhemgang(RLU)	-	-	-	-	216	200	200	200	68
Damphu(RLU)	-	-	-	-	656	632	376	376	49
Dagana(DRMASS)	-	-	-	-	64	62	64	62	52
Mongar(RLU)	-	-	-	-	420	420	420	420	99
Lhuntse(DRMASS)	-	-	-	-	64	46	64	64	47
Kanglung(DRMASS)	-	-	-	-	64	58	93	93	57
Trashiyangtse(DRMAS	-	-	-	-	64	42	64	64	46
Pemagatshel(RLU)	-	-	-	-	116	116	116	116	60
Total capacity	4,090	4,590	4,620	4,770	9,154	9,019	9,194	9,192	6,414

Note: LS stands for local switch, TS for toll switch, MS for tandem switch, INTS for international switch, RLU for remote line unit, DRMASS for digital radio multiple access system and SxS for step by step switch.

Source: Telecommunication Division, Thimphu

TABLE 7.14: NUMBER OF TELEPHONE TRUNK CIRCUITS, BHUTAN, 1997

Sector	Type of connection	Existing circuits
Thimphu - London (BT)	Satellite	14
Thimphu - Singapore (ST)	Satellite	8
Thimphu - Japan (KDD)	Satellite	6
Thimphu - India	Analogue Microwave	45
Ihimphu - Phuentsholing	Analogue Microwave	30
Thimphu - Trongsa	Digital Microwave	60
Thimphu - Gelephu	Digital Microwave	60
Thimphu - Trashigang	Digital Microwave	60
Thimphu - Samdrupjongkha	Digital Microwave	30
Thimphu - Paro	DRCS	..
Thimphu - Paro Airport	DRCS	..
Thimphu - Tsimakothi	DRCS	..
Thimphu - Wangduephodrang	DRCS	..
Thimphu - Lobesa	DRCS	..
Thimphu - Punakha	DRCS	..
Trongsa - Trashigang	Digital Microwave	60
Trongsa - Gelephu	Digital Microwave	60
Trongsa - Samdrupjongkha	Digital Microwave	60
Gelephu - Trashigang	Digital Microwave	30
Trashigang - Samdrupjongkha	Digital Microwave	60
Paro - Haa	Physical Line	2
Samtse - Banarhat (India)	Physical Line	2
Phuentsholing - India (via Thimphu)	Analogue Micorwave	3
Phuentsholing - India (via Hasimara)	Analogue Micorwave	4
All sectors	..	594

Note: Circuits from Thimphu to Paro, Tsimalakha, Wangduephodrang, and Punakha jointly shares 15 circuits and these circuits are not reflected in the above figures. DRCS stands for Digital Radio Concentrator System.

Source: Division of Telecommunication, Thimphu

TABLE 7.15: NUMBER OF TRUNK LINES, CONNECTION CAPACITIES AND SETS IN USE, 1987 TO 1997

Details	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Trunk lines											
Satellite	n.a	n.a	n.a	6	3	6	3	19	23	22	28
Microwave	n.a	n.a	n.a	39	12	30	39	565	331	562	562
Analogue	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	101	82	82
Digital	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	105	480	480
Digital radio concentrator system	n.a	n.a	n.a	..	16	14	10	11	73	15	n.a
DRMASS	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	224	394	n.a
Physical lines											
Number of lines	n.a	n.a	n.a	15	12	12	12	4	4	4	n.a
Distance (km)	943	754	754	559	442	442	442	45	n.a	n.a	n.a
Connection capacity	1,945	1,990	2,105	4,090	4,590	4,620	4,770	9,154	9,019	9,194	9,256
Telephone sets in use	n.a	n.a	n.a	n.a	n.a	n.a	n.a	4,609	5,606	6,041	6,440

Note: DRMASS stands for digital radio multiple access system

Source: Division of Telecommunication, Thimphu

TABLE 7.16: NUMBER OF TELEPHONE TRUNK CALLS BY TYPE, 1989 TO 1997

(thousands)

Type of call	1989	1990	1991	1992	1993	1994	1995	1996	1997
Domestic calls	146	218	362	365	371	n.a	n.a	1,777	7,092
International calls	147	176	228	372	432	n.a	n.a	508	2,683
India	97	116	147	232	281	n.a	n.a	333	1,067
Other	51	60	82	141	151	n.a	n.a	174	1,840
All calls	293	394	590	737	802	n.a	n.a	2,285	9,775

Source: Division of Telecommunication, Thimphu

TABLE 7.17: TELECOMMUNICATION TRAFFIC IN MINUTES AND REVENUE EARNINGS, BHUTAN, 1993 TO 1997

Details	1993	1994	1995	1996	1997
Type of call					
Domestic calls (minutes)	1,850,000	1,970,000	2,100,000	5,369,556	13,593,000
International calls (minutes	392,653	430,000	444,180	1,288,620	5,561,000
India	300,000	430,000	444,180	1,288,620	4,061,000
Other countries	92,653	n.a	n.a	n.a	1,500,000
Total calls	2,635,306	2,830,000	2,988,360	7,946,796	24,715,000
Revenue earnings (millions Nu	56.19	60.00	96.00	123.17	n.a

Source: Division of Telecommunications, Thimphu

TABLE 7.18: NUMBER OF COMMUNICATION FACILITIES, 1980 TO 1997

Postal infrastructure	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
General Post Offices	2	2	2	2	2	2	2	2	2	2
Post Offices	52	53	59	59	59	59	56	55	21	18
Branch Post Offices	27	29	25	25	22	22	23	21	64	69
Agency Post Offices	..	..	..	..	..	17	20	25	18	17
Telegraph or Fax Offices	8	9	8	8	8	8	17	17	17	
Wireless Stations(a)	28	36	39	39	47	47	52	..	n.a	n.a
Hydromet Stations(b)	5	8	27	27	27	28	11	n.a	n.a	n.a

Note: WT. Stations are merged with Telecommunication Division with effect from July 1995
(a) Includes 3 stations installed at New Delhi, Dhaka and Kalimpong
(b) includes 17 part time observations between 1990 and 1993

Source: Bhutan Post, Thimphu

TABLE 7.19: VOLUME OF POSTAL MAIL TRAFFIC BY DESTINATION, 1980 TO 1997

('000 items)

Type of service	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997
Domestic	2,865	5,934	2,190	2,299	1,483	855	1,426	1,414	1,035	10,208
International	1,284	3,821	1,709	1,801	356	314	462	482	437	800
Dispatch	n.a	n.a	n.a	n.a	148	159	219	228	197	299
Receipt	n.a	n.a	n.a	n.a	207	155	243	255	240	501
Total mail items	4,149	9,755	3,899	4,099	1,839	1,169	1,888	1,896	1,471	11,008

Source: Bhutan Post, Thimphu

TABLE 7.20: VOLUME OF MAIL HANDLED BY TYPE OF ARTICLE AND DESTINATION, 1997

('000 numbers)

Type of mail	Total	Domestic	International		
			Total	Inward	Outward
Letters					
Ordinary letter	10537.00	10026.00	511.00	260.00	251.00
Registered items	146.00	80.00	66.00	44.00	22.00
Postcards	0.00	n.a	0.00	n.a	n.a
Printed matter/packets	306.00	92.00	214.00	191.00	23.00
Parcels	9.50	3.00	6.50	4.50	2.00
Monetary items	0.00	n.a	0.00	n.a	n.a
Express mail service (EMS)	10.00	7.00	3.00	2.00	1.00
Messages					
Telegraphic message	n.a	n.a	n.a	n.a	n.a
Facsimile message	n.a	n.a	n.a	n.a	n.a
Wireless transmission	n.a	n.a	n.a	n.a	n.a
All mail items	11008.50	10208.00	800.50	501.50	299.00

Source: Bhutan Post, Thimphu

TABLE 7.21: NUMBER AND VALUE OF MONEY ORDER BY TYPE, 1990 TO 1997

Type	1990	1991	1992	1993	1994	1995	1996	1997
Total money orders								
Number of orders ('000)	15.7	16.0	17.1	13.5	15.1	17.0	25.6	24.0
Amount of orders ('000 Nu.)	8,480.5	9,856.4	11,267.3	9,571.2	13,588.7	15,124.1	15,316.1	15,270.0
Domestic money order								
Number of orders ('000)	15.1	9.0	8.3	6.7	8.1	9.4	18.2	13.0
Amount of orders ('000 Nu.)	8,311.4	6,057.0	6,282.5	5,895.0	7,763.6	8,020.3	9,731.0	10,221.0
International money order								
Dispatched								
Number of orders ('000)	0.6	6.4	8.5	6.7	6.8	7.4	7.2	7.0
Amount of orders ('000 Nu.	164.1	3,398.2	4,920.7	3,502.6	5,457.3	7,032.2	5,488.5	4,798.0
Receipts								
Number of orders ('000)	-	0.6	0.3	0.1	0.2	0.2	0.2	4.0
Amount of orders ('000 Nu.	5.0	401.2	64.0	173.6	367.8	71.6	96.6	251.0

Note: (-) stands for numbers less than tenth of a thousand

Source: Division of Posts and Telegraph, Thimphu

CHAPTER 8: ENERGY

INTRODUCTION

The major source of energy in Bhutan has traditionally been firewood which is available in abundant quantities from the country's extensive forests. Firewood still represents a majority of energy consumption. Electricity generation, though still relatively small in comparison with the rest of the world is growing in importance. Up until recently, electricity generation was based on small diesel generating and micro hydro stations, providing limited supply of electricity which was supplemented by imports from India. With the commissioning of the first two units of Chhukha Hydel Projects in 1986, and the other two units in 1988 Bhutan substantially increased its electricity generation and became a significant exporter of electricity to India.

TABLE 8.1: ELECTRICITY GENERATING STATIONS AND THEIR CAPACITIES, FY 1996/97

Generating stations (Dzongkha	Installed capacity (No. X MW)	Generating capacity (MW)	Peak generation (MW)	Energy generated (MU)
Hydro stations (a)				
Chhukha	4 x 84.00	336.000	363.000	1,828.062
Chumey (Bumthang)	3 x 00.50	1.000	0.435	2.368
Gidakom (Thimphu)	5 x 00.25	0.500	0.000	0.000
Jushina (Thimphu)	4 x 00.09	0.090	0.000	0.000
Rangjung (Trashigang)	2 x 01.10	2.200	0.790	3.832
Chenari (Trashigang)	3 x 00.25	0.250	0.000	0.000
Khaling (Trashigang)	3 x 00.20	0.400	0.215	0.523
Khalangzi (Mongar)	3 x 00.13	0.260	0.256	1.040
Wangduephodrang	3 x 00.10	0.200	0.115	0.263
Micro hydels	..	..	..	..
Lhuntse (Lhuntse)	1 x 0.020	..	..	..
Thinleygang (Thimphu)	1 x 0.030	..	..	..
Rukubji (Wangduephodrang)	1 x 0.040	..	..	..
Tangsibi (Trongsa)	1 x 0.030	..	..	..
		..	..	..
Trongsa (Trongsa)	1 x 0.050	..	..	..
Bubja (Trongsa)	1 x 0.030	..	..	..
Tamshing (Bjakar)	1 x 0.050	..	..	..
Ura (Bjakar)	1 x 0.030	..	..	..
Yadi (Mongar)	1 x 0.020	..	..	..
		..	..	..
Kekhar (Zhemgang)	1 x 0.070	..	..	..
Surey (Sarpang)	2 x 0.010	..	..	..
Damphu (Tsirang)	2 x 0.010	0.200	..	0.664
Tingtibi (Zhemgang)	2 x 0.010	0.200	..	1.373
Dagana (Dagana)	2 x 0.010	0.200	..	0.181

continues...

TABLE 8.1(continuation): ELECTRICITY GENERATING STATIONS AND THEIR CAPACITIES, FY 1996/97 (b)

Generating stations (Dzongkha	Numer of machines	Generating capacity (MW)	Peak generation (MW)	Energy generated (MU)
Diesel generation stations	..	..	..	..
Thimphu	9	..	..	..
Paro	1	..	..	..
Phuentsholing	4	..	..	..
Damphu	2	..	..	..
Trongsa	1	..	..	
Gelephu	2	..	..	0.004
Sarpang	1	..	..	0:024
Kalikhola	1	..	..	0.045
Zhemgang	1	..	..	..
Dagana	1	..	..	..
Trashigang	1	..	..	..
Bjakar	1	..	..	..
Other diesel stations				
Penden Cement Authority	4	..	..	0.028
Bhutan Board Products Lt	2	..	..	..
Chhukha Hydro Power Corp	5	..	..	0.013
Bhutan Chemical & Carbid	2	..	..	0.031
Bhutan Ferro Alloys Ltd.	1	..	..	0.017

Note: The energy generated by micro hydels is the cumulated generation till date

Source: Division of Power, Thimphu

TABLE 8.2: TOTAL ELECTRICITY GENERATION AND SUPPLY, 1989/90 TO 1996/97

Details	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Installed capacity (MW)	348.85	347.01	347.56	347.57	347.94	347.94	350.14	350.14
Chhukha hydro power	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00
Other hydro power	5.56	5.56	6.06	6.06	6.15	6.15	8.35	8.35
All diesel generators	5.13	5.45	5.50	5.51	5.79	5.79	5.79	5.79
Electricity generation (MU)	1,556.90	1,549.90	1,563.88	1,683.89	1,685.81	1,629.98	1,972.18	1,838.38
Chhukha hydro power	1,554.30	1,542.41	1,554.37	1,677.81	1,679.24	1,623.91	1,964.63	1,828.06
Other hydro power	2.58	7.45	8.20	5.05	5.49	5.89	7.50	10.25
All diesel generators	0.02	0.04	1.31	1.04	1.09	0.18	0.06	0.07
Exports (MU)	1,395.59	1,374.62	1,336.87	1,464.96	1,456.34	1,311.84	1,564.04	1,430.29
Imports (MU)	3.31	4.44	4.98	5.10	4.62	5.34	7.24	7.03
Total energy requirement (MU	142.30	161.62	186.70	195.26	198.50	298.16	390.43	378.02
Total energy sales (MU)	127.57	144.67	159.71	173.82	176.51	275.95	342.79	361.04
Energy losses (MU)	14.77	16.95	26.99	21.43	21.99	22.21	47.64	16.98
Percentage losses (%)	10.38	10.49	14.45	10.98	11.08	7.45	12.20	4.49
Peak system demand (MW)	22.00	22.80	19.22	23.00	33.00	70.42	70.42	72.00
Length of HT lines (33/11 KV)								
Overhead lines (km)	624.58	751.04	765.14	764.78	820.14	841.22	872.26	923.82
Underground lines (km)	8.60	8.60	8.60	8.60	8.60	9.01	9.01	9.01
Length of LT lines								
Overhead lines (km)	560.66	730.31	732.44	733.87	736.89	736.89	809.70	863.11
Underground lines (km)	28.00	28.00	28.00	28.00	28.00	29.05	29.05	29.05

Note: Diesel generators excludes those owned by private organisations. HT= High tension, LT= Low tension

Source: Division of Power, Thimphu

TABLE 8.1(continuation): ELECTRICITY GENERATING STATIONS AND THEIR CAPACITIES, FY 1996/97 (b)

Generating stations (Dzongkha	Numer of machines	Generating capacity (MW)	Peak generation (MW)	Energy generated (MU)
Diesel generation stations	..	..	..	..
Thimphu	9	..	..	..
Paro	1	..	..	..
Phuentsholing	4	..	..	..
Damphu	2	..	..	..
Trongsa	1	..	..	
Gelephu	2	..	..	0.004
Sarpang	1	..	..	0.024
Kalikhola	1	..	..	0.045
Zhemgang	1	..	..	..
Dagana	1	..	..	..
Trashigang	1	..	..	..
Bjakar	1	..	..	..
Other diesel stations				
Penden Cement Authority	4	..	..	0.028
Bhutan Board Products Lt	2	..	..	..
Chhukha Hydro Power Corp	5	..	..	0.013
Bhutan Chemical & Carbid	2	..	..	0.031
Bhutan Ferro Alloys Ltd.	1	..	..	0.017

Note: The energy generated by micro hydels is the cumulated generation till date

Source: Division of Power, Thimphu

TABLE 8.2: TOTAL ELECTRICITY GENERATION AND SUPPLY, 1989/90 TO 1996/97

Details	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Installed capacity (MW)	348.85	347.01	347.56	347.57	347.94	347.94	350.14	350.14
Chhukha hydro power	336.00	336.00	336.00	336.00	336.00	336.00	336.00	336.00
Other hydro power	5.56	5.56	6.06	6.06	6.15	6.15	8.35	8.35
All diesel generators	5.13	5.45	5.50	5.51	5.79	5.79	5.79	5.79
Electricity generation (MU)	1,556.90	1,549.90	1,563.88	1,683.89	1,685.81	1,629.98	1,972.18	1,838.38
Chhukha hydro power	1,554.30	1,542.41	1,554.37	1,677.81	1,679.24	1,623.91	1,964.63	1,828.06
Other hydro power	2.58	7.45	8.20	5.05	5.49	5.89	7.50	10.25
All diesel generators	0.02	0.04	1.31	1.04	1.09	0.18	0.06	0.07
Exports (MU)	1,395.59	1,374.62	1,336.87	1,464.96	1,456.34	1,311.84	1,564.04	1,430.29
Imports (MU)	3.31	4.44	4.98	5.10	4.62	5.34	7.24	7.03
Total energy requirement (MU	142.30	161.62	186.70	195.26	198.50	298.16	390.43	378.02
Total energy sales (MU)	127.57	144.67	159.71	173.82	176.51	275.95	342.79	361.04
Energy losses (MU)	14.77	16.95	26.99	21.43	21.99	22.21	47.64	16.98
Percentage losses (%)	10.38	10.49	14.45	10.98	11.08	7.45	12.20	4.49
Peak system demand (MW)	22.00	22.80	19.22	23.00	33.00	70.42	70.42	72.00
Length of HT lines (33/11 KV)								
Overhead lines (km)	624.58	751.04	765.14	764.78	820.14	841.22	872.26	923.82
Underground lines (km)	8.60	8.60	8.60	8.60	8.60	9.01	9.01	9.01
Length of LT lines								
Overhead lines (km)	560.66	730.31	732.44	733.87	736.89	736.89	809.70	863.11
Underground lines (km)	28.00	28.00	28.00	28.00	28.00	29.05	29.05	29.05

Note: Diesel generators excludes those owned by private organisations. HT= High tension, LT= Low tension

Source: Division of Power, Thimphu

TABLE 8.3: MAJOR TRANSMISSION LINES FOR EVACUATING HYDRO POWER FROM CHHUKHA POWER PLANT, 1995 TO 1997

Stations		1995		1996		1997	
		220 KV line (Km)	66 KV line (Km)	220 KV line (Km)	66 KV line (Km)	220 KV line (Km)	66 KV line (Km)
Chhukha	- Birpara	71.000 (d/c)	..	71.000 (d/c)	..	71.000 (d/c)	..
Chhukha	- Singhigoan	31.9	..	31.9	..	31.9	..
Chhukha	- Simtokha	54.9	..	54.9	..	54.9	..
Chhukha	- Gedu	..	20.1	..	20.1	..	20.1
Gedu	- Phuntsholing	..	17.700	..	17.700	..	17.700
Chhukha	- Confluence	..	36.700	..	36.700	..	36.700
Confluence	- Simtokha	..	18.300	..	18.300	..	18.300
Confluence	- Haa	..	33.522	..	33.522	..	33.522
Confluence	- Paro	..	24.022	..	24.022	..	24.022
Simtokha	- Wangduephodrang	..	26.023	..	26.023	..	26.023
Phuntsholing	- Gomtu	..	27.002	..	27.002	..	27.002
Phuntsholing	- Singhigoan	..	8.380	..	8.380	..	8.380
Phuntsholing	- Birpara	..	30.000	..	..	..	..
Total		d/c)::86.8(s/c)	241.749	c)::86 9(s/c)	211.749	/c)::86.8(s/c)	211.749

Note: d/c stands for double circuit and s/c for single circuit

Source: Division of Power, Thimphu

TABLE 8.4: DETAILS OF DOMESTIC ELECTRICAL ENERGY CONSUMPTION, 1988/89 TO 1996/97

Details	1988/89	1989/90	990/91	1991/92	1992/93	1993/94	994/95	995/96	1996/97
Towns electrified (numbers)	20	28	30	36	37	37	38	39	39
Villages electrified (numbers)	171	221	254	270	277	282	297	331	363
Consumers ('000)	14.1	15.2	18.2	19.6	19.9	19.9	21.8	22.0	23.0
Sales of energy (million Nu.)	34.5	37.3	36.9	41.8	50.2	69.6	108.0	184.3	179.0
Per capita energy consumption (Units	90.0	212.7	235.9	256.1	271.8	323.3	466.3	604.4	599.4

Source: Division of Power, Thimphu

TABLE 8.5: MONTHLY REVENUE FROM SALE OF ENERGY FROM CHHUKHA HYDROPOWER, 1993 TO 1997

Month	1993			1994			1995			1996			1997		
	Export	nternal	Total	Export	nternal	Total	Export	nternal	Total	Export	nternal	Total	Export	nternal	Total
January	12.49	1.51	14.00	18.32	1.83	20.15	12.09	7.61	19.70	26.74	10.34	37.08	15.75	10.05	25.80
February	10.49	1.85	12.34	14.75	1.66	16.41	8.92	7.85	16.77	18.27	9.74	28.01	9.95	9.68	19.63
March	10.00	1.71	11.71	22.09	1.75	23.84	18.34	8.64	26.98	28.10	10.14	38.24	15.17	10.66	25.83
April	21.30	1.62	22.92	30.13	3.44	33.57	31.96	8.55	40.51	42.91	9.43	52.34	53.39	9.94	63.33
May	55.98	1.57	57.55	44.02	1.61	45.63	57.56	8.74	66.30	61.31	9.44	70.75	116.06	9.57	125.63
June	67.18	1.45	68.63	69.67	1.51	71.18	72.88	8.77	81.65	73.99	9.08	83.07	164.05	9.06	173.11
July	59.69	1.41	61.10	71.37	4.46	75.83	105.08	8.03	113.11	114.55	4.45	119.00	225.20	9.39	234.59
August	77.70	1.32	79.02	76.02	4.56	80.58	107.80	9.17	116.97	111.18	7.51	118.69	221.86	9.45	231.31
September	82.49	1.48	83.97	76.55	4.46	81.01	104.24	8.91	113.15	101.56	9.34	110.90	193.92	9.07	202.99
October	75.49	1.49	76.98	56.12	5.98	62.10	97.19	9.47	106.66	95.19	9.84	105.03	154.15	9.86	164.01
November	41.63	1.64	43.27	25.57	7.98	33.55	65.18	9.44	74.62	47.79	10.27	58.06	70.61	9.75	80.36
December	22.86	1.79	24.65	14.41	9.54	23.95	39.84	1.70	41.54	25.97	10.42	36.39	47.83	10.19	58.02
Total	537.3	18.8	556.14	519.02	48.78	567.81	721.08	96.88	817.96	747.56	110.00	857.56	1287.94	116.67	1404.61

Source: Selected economic indicators, Royal Monetary Authority of Bhutan, Thimphu

TABLE 8.6: CONSUMPTION OF ELECTRICITY BY TYPE OF CONSUMER, 1990/91 TO 1996/97

Type of consumer	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Total consumption (MU)	144.665	159.713	173.823	176.509	275.951	342.791	366.363
Domestic	18.327	18.293	21.500	17.037	16.790	25.723	40.715
Commercial & Government Offices	10.713	9.871	12.896	17.912	23.600	18.190	20.050
Industries	110.628	123.928	31.675	136.281	228.200	291.887	299.799
Bulk supply	4.914	7.397	107.309	4.861	7.021	6.517	4.473
Public lighting	0.083	0.224	0.443	0.418	0.340	0.474	1.328
Consumption as percentage							
Domestic	12.669	11.454	12.369	9.652	6.080	7.500	11.110
Commercial & Government Offices	7.405	6.180	7.419	10.148	8.552	5.306	5.470
Industries	76.472	77.594	18.223	77.209	82.696	85.150	81.830
Bulk supply	3.397	4.631	61.735	2.754	2.544	1.901	1.200
Public lighting	0.057	0.140	0.255	0.237	0.123	0.138	0.360

Source: Division of Power, Thimphu

CHAPTER 9: TOURISM

INTRODUCTION

The tourism industry has been an important source of hard currency to Bhutan since the country was first opened to tourists in 1974. The potential as far as foreign exchange earnings are concerned are very high, though a strategy regulating the number of tourists coming into Bhutan has been followed by the Government.

The main statistics of interest in the field of tourism relate to the characteristics of visitors and the details of existing tourist facilities, Interest centres on visitor arrivals, where they come from, when they come and the purpose of their visit. Earnings of foreign exchange from overseas visitors is another important aspect.

TABLE 9.1: NUMBER OF ANNUAL TOURIST ARRIVALS TO BHUTAN BY COUNTRY OF RESIDENCE, 1990 TO 1997

Country	1990	1991	1992	1993	1994	1995	1996	1997
Americas	377	544	616	751	734	968	1,039	1,010
Canada	377	24	45	42	45	55	57	89
USA	n.a	509	571	709	689	865	963	910
Brazil	n.a	11	0	0	0	48	19	11
Asia/Pacific	459	755	728	791	1,193	1,529	1,639	1,712
India	0	4	0	4	0	n.a	1	0
Nepal	0	4	0	7	16	6	15	32
Other south Asia	0	25	0	55	n.a	70	112	197
Japan	445	631	646	643	1,029	1,192	1,211	1,173
Korea Republic	0	0	26	7	7	25	41	31
Thailand	0	0	9	7	44	57	181	140
Australia	14	91	35	63	91	142	71	121
New Zealand	0	0	12	5	6	37	7	18
Europe	614	807	1,229	1,323	1,884	2,227	2,391	2,590
Ireland	0	3	0	0	0	6	6	10
Sweden	0	11	18	15	26	45	7	18
United Kingdom	n.a	156	269	266	304	418	385	642
Italy	9	113	135	127	..	202	242	186
Spain	0	22	43	25	44	22	49	33
Austria	0	21	105	167	80	200	156	156
Belgium	0	19	66	23	85	79	77	75
France	27	109	115	129	219	338	331	229
Germany	161	269	281	370	566	500	722	533
Netherlands	0	18	64	58	165	100	131	234
Switzerland	417	57	73	69	116	218	161	186
Europeans unspecifie	0	9	60	74	279	99	124	288
Others not specified	88	0	190	119	160	41	69	51
Total tourists	1,538	2,106	2,763	2,984	3,971	4,765	5,138	5,363

Source: Tourism Authority of Bhutan, Thimphu

TABLE 9.3: TOURIST ARRIVALS BY COUNTRY OF RESIDENCE AND TOURISM REVENUE RECEIPTS, 1989 TO 1997

Region	1989	1990	1991	1992	1993	1994	1995	1996	1997
Americas	479	377	544	616	751	734	1,003	1,039	1,010
Asia and Pacific	335	459	755	728	791	1,193	1,529	1,639	1,712
Europe	621	614	807	1,229	1,323	1,884	2,227	2,391	2,590
Others	45	88	-	190	119	160	6	69	51
All regions (persons)	1,480	1,538	2,106	2,763	2,984	3,971	4,765	5,138	5,363
Tourism revenue receipts									
Ngultrums (million)	25.18	46.20	52.31	77.49	100.62	124.52	n.a	231.41	n.a
Or									
US Dollars (million)	-	-	2.30	2.99	3.30	3.97	6.00	6.51	6.50

Source: Tourism Authority of Bhutan, Thi

TABLE 9.3: NUMBER OF TOURIST ARRIVALS BY SEASON AND MONTH, 1989 TO 1997

Season and month	1989	1990	1991	1992	1993	1994	1995	1996	1997
Winter	248	343	404	485	374	739	914	852	902
November	179	205	268	300	168	418	599	508	640
December	44	103	111	144	67	220	195	211	154
January	25	35	25	41	139	101	120	133	108
Spring	412	445	504	729	943	1,092	1,497	1,598	1,978
February	41	34	92	118	232	175	134	304	254
March	256	146	260	346	587	643	341	605	1,062
April	115	265	152	265	124	274	1,022	689	662
Summer	163	155	189	376	272	587	537	466	488
May	91	99	110	140	60	373	337	215	275
June	38	12	32	118	51	115	81	91	90
July	34	44	47	118	161	99	119	160	123
Autumn	657	595	1,009	1,173	1,395	1,553	1,817	2,222	1,995
August	133	84	181	117	494	301	183	306	231
September	154	262	402	355	426	465	466	788	276
October	370	249	426	701	475	787	1,168	1,128	1,488
Total tourists	1,480	1,538	2,106	2,763	2,984	3,971	4,765	5,138	5,363

Source: Tourism Authority of Bhutan, Thimphu

TABLE 9.4: NUMBER OF TOURIST ARRIVALS BY PURPOSE OF VISIT, 1989 TO 1997

Purpose	1989	1990	1991	1992	1993	1994	1995	1996	1997
Tour, holidays and recreation	1,227	1,288	1,527	2,175	2,706	3,452	3,217	3,245	4,517
Trekking & mountaineering	253	250	579	588	278	519	1,548	1,893	846
Total tourists	1,480	1,538	2,106	2,763	2,984	3,971	4,765	5,138	5,363

Source: Tourism Authority of Bhutan, Thimphu

TABLE 9.5: NUMBER OF TOURIST ARRIVALS BY MODE OF TRANSPORT, 1989 TO 1997

Mode of transport	1989	1990	1991	1992	1993	1994	1995	1996	1997
Air	900	n.a	1,895	2,487	2,686	n.a	n.a	n.a	4,826
Other	580	n.a	211	276	298	n.a	n.a	n.a	537
Total tourists	1,480	1,538	2,106	2,763	2,984	3,971	4,765	5,138	5,363

Source: Tourism Authority of Bhutan, Thimphu.

CHAPTER 10: FOREIGN TRADE AND BALANCE OF PAYMENTS

INTRODUCTION

Bhutan's economy is closely linked with India, though efforts towards diversification of products and markets are actively pursued.While economy links with other countries are limited, significant amount of aid have been received in recent years and this has enabled substantial increases in imports from third countries. Exports to third countries continue to be very low against a higher imports, so reliance has to be placed on inflows of aid for the financing of imports.

Balance of Payments statistics are designed to show the difference between the total payments made to foreign countries and the total receipts from foreign countries. Payments and receipts include imports and exports of merchandise; services and transfers (such as freight and insurance charges); expenditure by travellers; and capital movements (such as loans and investments). The balance between imports and exports is measured by the trade balance. A more comprehensive picture of the balance of payments situations is obtained by including services and transfers to provide a measure of the current account balance.

The balance of payments statements also show how any negative current account balance is financed. In the case of Bhutan this is achieved through foreign aid. Any surplus of foreign aid over and above current account deficits means an increase in the foreign currency reserves of the country. Balance of payments statistics in Bhutan are compiled by the Royal Monetary Authority based on information from its own accounts and those of the Bank Of Bhutan, together with information on imports and exports. Efforts are under way to improve the data on a number of areas.

TABLE 10.1: BALANCE OF PAYMENTS ESTIMATES, FY 1989/90 TO 1996/97

(millions Nu.)

Item	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Exports,fob	1,132.33	1,308.49	1,631.95	1,837.25	1,990.33	2,196.68	3,349.13	3,553.77
India	985.93	1,129.57	1,465.13	1,522.18	1,785.98	2,059.81	3,078.95	3,226.98
Other	146.40	178.92	166.82	315.07	204.35	136.87	270.18	326.79
Imports,cif	(1,613.94)	(1,525.45)	(2,148.53)	(3,470.86)	(2,914.20)	(3,053.00)	(3,802.34)	(4,697.21)
India	(1,318.81)	(1,254.92)	(1,814.14)	(2,086.26)	(2,065.90)	(2,228.00)	(2,790.52)	(3,068.17)
Other	(295.13)	(270.53)	(334.39)	(1,384.60)	(848.30)	(825.00)	(1,011.82)	(1,629.04)
Trade balance	(481.61)	(216.96)	(516.58)	(1,633.61)	(923.87)	(756.50)	(453.21)	(1,143.44)
India	(332.88)	(125.35)	(349.01)	(564.08)	(279.92)	(168.28)	288.43	158.81
Other	(148.73)	(91.61)	(167.57)	(1,069.53)	(643.95)	(588.22)	(741.64)	(1,302.25)
Services & transfer receipts	478.46	464.85	583.48	705.00	845.47	886.45	995.70	995.05
India	231.63	228.68	235.12	201.37	224.93	215.83	282.26	293.21
Other	246.83	236.17	348.36	504.16	620.54	670.62	713.44	701.84
Services & transfer payments	(472.26)	(561.16)	(706.44)	(1,025.07)	(1,129.71)	(1,101.49)	(1,814.94)	(1,870.51)
India	(265.09)	(342.16)	(402.50)	(495.85)	(634.42)	(497.96)	(776.14)	(920.14)
Other	(207.17)	(219.00)	(303.94)	(529.22)	(495.29)	(603.53)	(1,038.80)	(950.37)
Current account balance	(475.41)	(313.27)	(639.54)	(1,953.15)	(1,208.11)	(1,071.54)	(1,272.45)	(2,018.90)
India	(366.34)	(238.83)	(516.39)	(858.56)	(689.41)	(450.01)	(205.45)	(468.12)
Other	(109.07)	(74.44)	(123.15)	(1,094.59)	(518.70)	(621.53)	(1,067.00)	(1 550.78)
Foreign aid	763.61	1,037.36	990.19	1,586.73	1,538.25	1,692.71	2,396.50	3,013.84
India	548.06	730.43	554.64	700.03	849.24	805.65	682.09	1,510.64
Other	215.55	306.93	435.55	886.70	690.01	887.06	1,714.41	1,503.20
Other loans	(42.14)	(51.98)	213.70	465.94	158.78	(70.98)	(77.50)	(10.76)
India	-		286.00	347.83	229.68	0.00	0.00	71.82
Other	(42.14)	(51.98)	(72.30)	118.11	(70.90)	(70.98)	(77.50)	(82.58)
Foreign Direct Investment	-	7.68	22.32	-	-	-	-	-
India	-	-	-	-	-	-	-	-
Other	-	7.68	22.32	-	-	-	-	-
Errors and omissions	(298.09)	(317.38)	80.23	280.66	(97.21)	(109.31)	(190.77)	(12.97)
India	(540.16)	(664.09)	(472.40)	(207.29)	(344.07)	(409.84)	(397.05)	(306.24)
Other	242.07	346.71	552.63	487.95	246.86	300.53	206.28	293.27
Overall balance	(52.03)	362.41	666.90	380.18	392.71	440.88	855.78	971.21
India	(358.44)	(172.49)	(148.15)	(17.99)	45.44	(54.30)	79.59	808.10
Other	306.41	534.90	815.05	398.17	347.27	495.18	776.19	163.11

Note: Figures in the brackets refers to negative sign.

Source: Royal Monetary Authority, Thimphu

TABLE 10.2: VALUE OF EXPORTS AND IMPORTS, BHUTAN, CALENDAR YEAR FROM 1988 TO 1997

(Nu in millions)

Trade	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Exports	1,042.0	1,132.3	1,192.4	1,478.9	1,738.2	1,990.4	2,082.7	3,349.1	3,553.8	4,274.1
India	989.8	985.9	1,011.3	1,338.0	1,455.8	1,786.0	1,945.8	3,078.9	3,227.0	4,041.9
Third Countries	52.2	146.4	181.1	140.9	282.4	204.4	136.9	270.2	326.8	232.2
Imports	1,772.7	1,464.7	1,368.0	2,197.2	3,317.1	2,745.3	2,876.4	3,641.9	4,525.2	4,978.0
India	1,108.9	1,214.8	1,143.0	1,651.5	1,745.4	1,930.3	2,051.3	2,630.2	2,896.2	3,453.6
Third Countries	663.8	249.9	225.0	545.7	1,571.7	815.0	825.1	1,011.7	1,629.0	1,524.4
Balance of trade	(730.7)	(332.4)	(175.6)	(718.3)	(1,578.9)	(754.9)	(793.7)	(292.8)	(971.4)	(703.9)
India	(119.1)	(228.9)	(131.7)	(313.5)	(289.6)	(144.3)	(105.5)	448.7	330.8	588.3
Third Countries	(611.6)	(103.5)	(43.9)	(404.8)	(1,289.3)	(610.6)	(688.2)	(741.5)	(1,302.2)	(1,292.2)

Note: Figures within bracket in the Trade balance rows indicate deficit (-).

Source: CSO, Ministry of Planning and Division of Revenue and Customs, Thimphu.

TABLE 10.3: TEN MAJOR COMMODITIES OF EXPORT AND IMPORT TO AND FROM INDIA, CALENDAR YEAR FROM 1993 TO 1997

Commodity	1993			1994			1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
Exports															
Electric energy	537.3	30.1	1	519.23	26.7	1	721.09	23.4	1	747.58	23.2	1	1,287.93	31.9	1
Calcium carbide	355.8	19.9	2	413.8	21.3	2	497.90	16.2	2	533.04	16.5	2	546.36	13.5	2
Cement	..	..	..	268.21	13.8	3	..	..	..	..	..	..	370.66	9.2	4
Particle boards	165.86	9.3	4	81.07	4.2	5	329.46	10.7	4	286.00	8.9	4	329.06	8.1	5
Cardamom	41.89	2.3	8	67.75	3.5	6	73.81	2.4	6	68.16	2.1	9	78.17	1.9	6
Saw logs hard,	..	..	..	55.32	2.8	7	71.76	2.3	7	79.07	2.5	7			
Block board	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mixture of fruit and vegetable juices	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Atta and maida	..	..	..	..	..	..	..	..	..	57.98	1.8	..	70.81	1.8	8
Sawn timber	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plywood	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cement, Portland	212.86	11.9	3	..	..	..	278.35	9.0	5	252.95	7.8	5	..	0.0	..
Saw logs soft, coniferous	52.95	3.0	5	..	..	..	60.65	2.0	10	..	..	..	..	0.0	..
Mixture of juices	49.07	2.7	6	47.72	2.5	9	..	..	..	79.67	2.5	6	..	..	..
Rum	47.73	2.7	7	132.91	6.8	4	65.90	2.1	8	65.02	2.0	10	58.79	1.5	10
Potato	36.58	2.0	9	..	..	..	61.59	2.0	9	69.60	2.2	8	..	0.0	..
Fuel wood	35.38	2.0	10	..	..	..	..	..	..	..	..	..	..	..	..
Wood sawn hard, coniferous	..	..	..	52.01	2.7	8	..	..	..	27.11	0.8	..	76.40	1.9	7
Orange juice	..	..	..	27.14	1.4	10	..	..	..	..	..	..	59.16	1.5	9
Ferro-silicon	..	..	..	..	..	..	339.04	11.0	3	497.14	15.4	3	489.93	12.1	3

continues...

TABLE 10.3(continuation): TEN MAJOR COMMODITIES OF EXPORT AND IMPORT TO AND FROM INDIA, CALENDAR YEAR FROM 1993 TO 1997

Commodity	1993			1994			1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
Imports															
Rice	125.38	6.5	1	190.83	9.3	1	..	..	..	208.84	7.2	1	215.29	6.2	1
Diesel	90.68	4.7	2	100.85	4.9	2	136.14	5.2	2	138.84	4.8	2	163.17	4.7	2
Wheat	44.07	2.3	7	..	..	..	..	..	..	88.99	3.1	5	100.08	2.9	7
Petrol	50.89	2.6	4	51.38	2.5	4	64.04	2.4	4	67.35	2.3	8	72.96	2.1	10
Industrial plants machinery, spares	49.32	2.6	5	38.24	1.9	8	142.00	5.4	1	77.46	2.7	7	..	..	..
Tyres for buses and trucks	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
M.S. rod/TOR steel	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cotton fabrics	..	..	..	32.83	1.6	10	41.88	1.6	10	..	..	..	..	..	..
CG and GI sheet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other vegetable oils n.e.s	34.66	1.8	10	46.03	2.2	5	61.40	2.3	5	..	..	..	..	..	..
Truck chassis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Beer	..	..	..	36.36	1.8	9	47.41	1.8	7	66.55	2.3	9	86.30	2.5	8
Sugar	..	..	..	..	..	..	..	..	..	60.77	2.1	10	..	..	..
Motor cycles and scooters	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spirit for distiller	57.04	3.0	3	60.42	2.9	3	75.30	2.9	3	..	..	..	..	..	..
Bodies for motor vehicle, cabs	45.52	2.4	6	..	..	..	..	..	..	..	..	..	..	..	..
Coal	38.45	2.0	8	..	..	..	..	..	..	..	..	..	103.27	3	6
Bottle and jars	35.01	1.8	9	41.99	2.0	7	..	..	..	..	..	..	..	..	..
Tyres and tubes	..	..	..	45.62	2.2	6	..	..	..	..	..	..	..	..	..
Mustard oil, refined	..	..	..	..	..	..	57.90	2.2	6	77.76	2.7	6	82.87	2.4	9
Trucks diesel	..	..	..	..	..	..	46.61	1.8	8	122.25	4.2	3	122.48	3.5	4
Wood charcoal	..	..	..	..	..	..	45.81	1.7	9	109.65	3.8	4	139.64	4	3
Iron and steel															

Source: CSO, Ministry of Planning and Division of Revenue & Customs, Thimphu.

TABLE 10.4: TEN MAJOR COMMODITIES OF EXPORT AND IMPORT TO AND FROM THIRD COUNTRIES (a), CALENDAR YEAR FROM 1993 TO 1997

Commodity	1993			1994			1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
Exports															
Oranges	148.92	72.9	1	58.77	42.9	1	99.21	36.7	1	109.23	33.4	1	119.77	51.6	1
Apples	32.09	15.7	2	51.67	37.8	2	49.54	18.3	2	71.80	22.0	2	34.16	14.7	2
Cardamom	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dolomite powd chips and lumps	0.59	0.3	10	..	..	..	..	..	..	..	..	..	..	..	..
Portland ceme	4.01	2.0	5	1.82	1.3	8	4.33	1.6	10	..	..	..	..	..	..
Boulders	..	..	..	5.80	4.2	4	..	..		9.42	2.90	7	..	..	..
Coal	..	..	..	..	..	..	17.47	6.5	4	19.91	6.1	4	25.59	11.0	3
Fruit product	..	..	..	..	..	..	..	..	..	..	..	..			
Limestone chi	..	..	..	2.07	1.5	7	6.52	2.4	6	4.48	1.4	10	7.27	3.1	5
Gingers	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sawn timber	1.10	0.5	8	..	..	..	..	..	..	..	..	..	..	..	..
Philatilic st	7.79	3.8	3	6.76	4.9	3	..	..	..	..	..	..	5.54	2.4	6
Stone ballast	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mixed fruit j	4.13	2.0	4	4.25	3.1	5	6.09	2.3	8	7.76	2.4	9	2.62	1.1	9
Broom handles	1.26	0.6	6	..	..	..	..	..	..	..	..	..	..	..	..
Mushroom, fre	0.99	0.5	9	..	..	..	6.16	2.3	7	8.66	2.7	8	12.66	5.5	4
Calcium carbi	..	..	..	2.71	2.0	6	..	..	..	..	..	..	..	..	..
Handicrafts	..	..	..	1.58	1.2	9	..	..	..	12.12	3.7	5	..	..	..
Stone chips	..	..	..	0.66	0.5	10	..	..	..	..	..	..	..	..	..
Ferro-silicon	..	..	..	..	..	..	30.83	11.4	3	..	..	..	..	..	..
Quartzite	..	..	..	..	..	..	15.36	5.7	5	46.70	14.3	3	2.32	1.0	10
Saw logs, har (Non-coniferous)	..	..	..	..	..	..	5.00	1.9	9	..	..	..	3.10	1.3	8
Handmade paper										9.87	3	6	..	..	..

continues...

TABLE 10.4(continuation): TEN MAJOR COMMODITIES OF EXPORT AND IMPORT TO AND FROM THIRD COUNTRIES (a), CALENDAR YEAR FROM 1993 TO 1997

Commodity	1993			1994			1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
Imports															
Agriculture e	13.76	1.7	10	104.12	12.6	3	..	..	..	..	..	..	..	..	..
Passanger mot	56.01	6.9	3	125.25	15.2	2	55.16	5.5	3	186.83	11.5	2	187.22	12.3	2
Power project	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cold rolled e sheet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Soyabean oil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dry fish	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Equipment for manufacture project	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Vegetable oil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spare parts f vehicle	22.12	2.7	4	17.65	2.1	10	25.24	2.5	10	43.60	2.7	6	82.59	5.4	3
Hydro meteoro equipments	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aircraft	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Equipments an	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Equipment for communication	214.46	26.3	1	135.82	16.5	1	286.53	28.3	1	302.15	18.5	1	491.02	32.2	1
Spare parts f	..	..	..	..	..	..	..	..	..	38.24	2.3	9	..	..	..
MVA Elken fes equipment	178.26	21.9	2	..	..	..	..	..	..	..	..	..	..	..	..
Laboratory eq	..	..	..	..	..	..	88.02	8.7	2	126.64	7.8	3	..	..	..
Laxfire extin	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fertilizers	54.57	6.7	4	..	..	..	..	..	..	..	..	..	..	..	..
Aircraft engi	33.82	4.1	5	..	..	..	..	..	..	..	..	..	..	..	..
Personal effe	23.06	2.8	6	..	..	..	..	..	..	..	..	..	..	..	..
Palm	16.54	2.0	8	..	..	..	..	..	..	..	..	..	..	..	..
Decorative pa	14.03	1.7	9	..	..	..	..	..	..	..	..	..	..	..	..

continues...

TABLE 10.4(continuation): TEN MAJOR COMMODITIES OF EXPORT AND IMPORT TO AND FROM THIRD COUNTRIES (a), CALENDAR YEAR FROM 1993 TO 1997

Commodity	1993			1994			1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
Imports															
Aircraft tool parts	..	..	..	63.85	7.7	4	35.95	3.6	8	..	..	..	..	..	..
Machhinery fo wood	..	..	..	50.09	6.1	5	..	..	..	..	..	..	..	..	..
Parts of bull dozer	..	..	..	31.66	3.8	6	..	..	..	..	..	..	22.65	1.5	10
Household goo	..	..	..	27.57	3.3	7	..	..	..	..	..	..	..	..	..
Advertising m	..	..	..	24.02	2.9	8	..	..	..	..	..	..	..	..	..
Coinsn new is	..	..	..	19.25	2.3	9	..	..	..	..	..	..	..	..	..
Spare parts	..	..	..	..	..	..	..	..	..	..	..	..	82.59	5.4	3
Parts of com	..	..	..	..	..	..	51.86	5.1	4	103.60	6.4	4	33.64	2.2	5
Photocopying	..	..	..	..	..	..	48.12	4.8	5	57.75	3.5	5	..	..	..
Computer CD	..	..	..	..	..	..	40.04	4.0	6	41.74	2.6	7	..	..	..
Laptop computers										38.32	2.4	8	..	..	..
Packing pape	..	..	..	..	..	..	38.28	3.8	7	..	..	..	..	..	..
Spare parts	..	..	..	..	..	..	35.95	3.6	8	..	..	..	..	..	..
Flat rolled product,iron										35.89	2.2	10	..	..	..
Type writers	..	..	..	..	..	..	32.59	3.2	9	..	..	..	29.99	2.0	7

end

Source: CSO, Ministry of Planning and Division of Revenue and Customs, Thimphu.

TABLE 10.5: VALUE AND ITS PERCENTAGE SHARE OF EXPORTS TO SIX SELECTED COUNTRIES EACH YEAR, CALENDAR YEAR FROM 1993 TO 1997

Country	1993			1994			1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
India	1,785.98	89.73	1	1,945.79	93.43	1	3,078.95	91.93	1	3,226.98	90.80	1	4,041.94	94.6	1
Bangladesh	191.68	9.63	2	127.64	6.13	2	201.12	6.01	2	261.68	7.40	2	179.37	4.2	2
Singapore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Netherland	1.26	0.06	4	..	..	..	..	..	..	4.49	0.10	5	..	..	..
Austria	..	..	..	..	.	..	2.75	0.08	6	19.88	0.60	4	..	..	..
Germany	0.37	0.02	6	..	..	..	4.09	0.12	5	..	..	..	4.05	0.1	6
Thailand	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nepal	1.24	0.06	5	0.89	0.04	4	19.55	0.58	4	20.19	0.60	3	25.69	0.6	3
Japan	1.42	0.07	3	0.01	0.00	5	34.64	1.03	3	7.23	0.20	6	11.76	0.3	4
U.S.A	..	..	..	1.38	0.07	3	..	..	..	..	..	..	4.66	0.1	5
Spain	..	..	..	0.01	0.00	6	..	..	..	..	..	..	..	..	..
Other countries	8.38	0.42	..	6.95	0.33	..	8.02	0.24	..	..	..	..	4.19	0.1	..
All countries	1,990.33	100.00	..	2,082.67	100.00	..	3,349.13	100.00	..	3,540.45	99.70	..	4,271.66	100.00	..

Source: CSO, Ministry of Planning and Division of Revenue & Customs, Thimphu.

TABLE 10.6: VALUE AND ITS PERCENTAGE SHARE OF IMPORTS TO TEN SELECTED COUNTRIES EACH YEAR, CALENDAR YEAR FROM 1993 TO 1997

Country	1993			1994			1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
India	1,930.35	70.31	1	2,051.26	71.31	1	2,630.22	72.22	1	2,896.16	64.00	1	3,453.59	69.4	1
Japan	360.63	13.14	2	396.92	13.80	2	412.01	11.31	2	602.09	13.30	2	841.62	16.9	2
Germany	43.35	1.58	5	61.32	2.13	5	70.76	1.94	5	67.13	1.50	6	45.43	0.9	5
Canada	..	..	..	..	..	..	..	..	..						
Bangladesh	..	..	..	..	..	..	..	..	..	19.76	0.80	9	34.58	..	..
Denmark	21.90	0.80	7	84.73	2.95	3	111.87	3.07	4	139.83	3.10	5	41.70	0.8	6
Norway	183.96	6.70	3	13.02	0.45	10	..	..	..						
Singapore	35.01	1.28	6	38.83	1.35	6	194.00	5.33	3	344.13	7.60	3	139.97	2.8	3
U.S.A	..	..	..	36.78	1.28	7	12.69	0.35	8	..	..	..	30.23	0.6	10
Hongkong	..	..	..	..	..	..	10.85	0.30	10	..	..	..	..	..	..
Korea, south	..	..	..	..	..	..	..	..	..	39.14	0.90	8	..	..	..
Australia	..	..	..	..	..	..	..	..	..	..	..	..	31.32	0.6	9
U.K	72.51	2.64	4	77.64	2.70	4	57.50	1.58	7	40.61	0.90	7			
Malaysia	16.54	0.60	8	..	..	..	..	..	..	..	..	..	..	..	..
China	..	..	..	..	..	..	11.29	0.31	9	30.76	0.70	10	37.11	0.7	7
Netherland	15.84	0.58	9	18.74	0.65	9	..	..	..	..	..	..	..	..	..
Austria	13.81	0.50	10	23.61	0.82	8	..	..	..	..	..	..	..	..	..
Thailand	..	..	..	..	..	..	60.84	1.67	6	153.26	3.40	4	131.58	2.6	4
Other countries	51.42	1.87	..	73.50	2.56	..	69.88	1.92	..	109.00	..	..	142.96	2.9	..
All countries	2,745.32	100.00	..	2,876.35	100.00	..	3,641.92	100.00	..	4,441.87	96.20	..	4,930.09	98.20	..

Source: CSO, Ministry of Planning and Division of Revenue and Customs, Thimphu.

TABLE 10.7: GROSS INTERNATIONAL RESERVES, 1989/90 TO 1996/1997

Money reserves	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Rupee reserves (million)	418.40	246.00	97.80	79.81	125.25	70.95	1351.90	952.97
Royal Monetary Authority	14.85	25.77	10.86	30.07	33.45	33.38	25.10	39.15
Bank of Bhutan	403.59	220.18	86.94	49.74	91.80	37.57	1326.80	913.82
Convertible currency (million US $)	65.00	78.78	95.96	91.86	102.93	123.35	152.51	144.54
Royal Monetary Authority (a)	62.46	76.66	93.32	87.48	98.69	119.07	146.39	137.82
Royal Government	-	-	-	-	-	-	-	-
Bank of Bhutan	2.53	2.11	2.64	4.37	4.23	4.27	6.08	6.71
Royal Insurance Corporation	0.01	0.01	0.00	0.01	0.01	0.01	0.04	0.01
All reserves (million US $)	88.98	90.39	99.74	94.40	106.92	125.61	152.51	171.44

(a) Including reserve tranche position in the Fund

Source: Royal Monetary Authority, Thimphu

TABLE 10.8: MONTHLY AVERAGE EXCHANGE RATES, NGULTRUMS PER US DOLLAR, 1986 TO 1997

Month	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
January	12.28	13.04	13.06	15.11	16.97	18.83	25.92	26.16	31.37	31.37	35.77	35.87
February	12.37	13.07	13.07	15.25	17.00	18.85	25.93	26.20	31.37	31.38	36.61	35.89
March	12.29	12.94	13.00	15.48	17.12	19.24	25.89	31.26	31.37	31.65	34.45	35.87
April	12.40	12.81	13.20	15.73	17.28	19.94	25.89	31.31	31.37	31.41	34.24	35.82
May	12.48	12.69	13.31	16.12	17.32	20.58	25.89	31.33	31.37	31.42	34.99	35.81
June	12.61	12.84	13.77	16.46	17.43	21.06	25.89	31.40	31.37	31.40	34.99	35.81
July	12.51	13.03	14.09	16.44	17.42	25.58	25.89	31.37	31.37	31.38	35.52	35.74
August	12.58	13.10	14.25	16.61	17.38	25.81	25.89	31.37	31.37	31.59	35.69	35.93
September	12.69	13.02	14.49	16.76	17.87	25.88	25.89	31.37	31.37	33.26	35.73	36.42
October	12.85	13.06	14.74	16.86	18.05	25.87	25.89	31.37	31.37	34.56	35.64	36.23
November	13.09	12.99	14.98	16.94	18.09	25.89	25.89	31.37	31.39	34.75	35.74	37.15
December	13.17	12.95	15.05	16.94	18.12	25.88	26.16	31.37	31.39	34.95	35.84	39.22
Calendar year average	12.61	12.96	13.92	16.23	17.50	22.74	25.92	30.49	31.37	32.43	35.43	36.31
Fiscal year average	12.24	12.79	12.97	15.15	16.97	18.74	25.86	27.77	31.37	31.41	34.29	35.77
	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97

Source: Royal Monetary Authority, Thimphu

CHAPTER 11: MONEY, BANKING AND FINANCE

INTRODUCTION

Until recent times most economic transactions in Bhutan were carried out on the basis of barter arrangements. The widespread use of money commenced during the 1960s with the expansion of trade with India and the inflow of development assistance. The Indian Rupee was most commonly used until 1974 when the government first issued Ngultrum notes, Bhutan's official currency, the monetary sector has grown since then with increasing economic development, improvement in transport and communication facilities and greater urbanization, though the barter economy continues to be important. The monetary sector in Bhutan comprises the Royal Monetary Authority, Bhutan's Central Bank; and the Bank of Bhutan, the country's only commercial bank. The non bank financial institutions are the Royal Insurance Corporation of Bhutan and the Units Trust of Bhutan. In addition, a new non bank financial institution, the Bhutan Development Finance Corporation was established during 1988 to provide long term loans for development purposes.

A statistical system for the money, banking and finance sector has been developed by the Royal Monetary Authority. The main element of the system is the monetary survey which is a consolidation of the accounts of the Royal Monetary Authority and the Bank of Bhutan showing the financial relationship between the two institutions and other sectors of the economy. Items covered include foreign assets and domestic credit, together with information on the money supply. In addition, financial statements are also available for the two non bank financial institution.

TABLE 11.1: MONETARY SURVEY (a), ROYAL MONETARY AUTHORITY AND BANK OF BHUTAN, 1988 TO 1997

(million Nu.)

Item	End of year									
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Total assets	1,133.8	1,449.6	1,630.6	2,563.8	3,031.5	3,839.2	4,369.8	5,397.8	7,129.4	9,286.6
Foreign assets (net)	1,384.4	1,446.2	1,487.5	2,480.0	1,882.5	2,811.2	3,194.9	4,428.5	6,580.1	7,341.8
Rupee	658.4	575.5	307.7	179.1	-313	-379.2	-507.3	-98	1,101.9	1,006.8
Convertible Foreign Currency	726.0	870.7	1,179.9	2,300.9	2,195.5	3,190.4	3,702.2	4,526.6	5,478.2	6,155.9
Domestic credit	-250.5	3.4	143.1	83.8	1,149.0	1,028.0	1,174.9	969.2	549.3	1,944.8
Claims on Government (net)	-398.8	-216.5	-125.9	-287.1	-46.9	-256.4	164.7	-321.1	-692.5	-14.7
Claims on Government corporations	32.4	27.6	53.2	64.8	770.1	795.6	560.8	534.6	484.7	449.1
Claims on joint Corporations	..	..	..	..	..	..	238.9	229.2	187.7	223.8
Claims on private sector	115.9	192.2	215.9	306.1	425.8	488.8	485.0	521.5	564.4	1,252.3
Claims on NMFIs	..	..	..	..	..	..	55.0	5.0	5.0	5.0
Total liabilities	1,133.8	1,449.6	1,630.6	2,563.7	3,031.5	3,839.3	4,369.7	5,397.8	7,129.5	9,286.6
Liquidity-Broad money (M2)	723.7	976.6	1,078.8	1,397.9	1,587.0	1,953.3	2,395.0	3,257.8	3,563.8	5,652.2
Money supply-Narrow money (M1)	412.0	546.3	539.6	749.7	840.9	833.1	1,044.0	1,331.5	2,098.3	2,196.5
Currency outside banks	149.1	188.1	194.1	246.0	345.0	346.0	347.5	432.4	422.5	720.9
Demand deposits	263.0	358.2	345.4	503.7	495.9	487.1	696.5	889.9	1,651.6	1,447.2
Quasi-money	311.6	430.2	539.3	648.2	746.1	1,120.2	1,351.0	1,926.4	1,465.5	3,455.7
Money Market Instrument(RMA Bill)	..	..	..	..	..	..	600.0	550.0	1,000.0	10.6
Other items (net)	410.2	473.0	551.8	1,165.8	1,444.6	1,886.0	1,374.7	1,589.9	2,565.7	3,623.8

(a) Revised data, excluding rupees in circulation

Source: Royal Monetary Authority and Bank of Bhutan, Thimphu.

TABLE 11.2: FINANCIAL DETAILS OF ROYAL INSURANCE CORPORATION OF BHUTAN, 1987 TO 1997

Item	End of year										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Assets total	354.5	467.8	610.5	769.6	983.8	675.3	791.3	868.1	1,012.2	1169.3	1426.9
Reserves	0.8	6.1	2.8	2.6	-16.2	1.9	18.2	9.6	24.5	61.7	20.0
Foreign Assets	..	..	..	..	..	..	..	0.4	0.6	1.4	0.6
Rupee	..	..	..	..	..	..	..	..	..	..	..
Others	..	..	..	..	..	..	..	0.4	0.6	1.4	0.6
Investment total (a)	353.8	461.7	607.7	767.0	1,000.0	674.7	773.1	..	..	..	..
Claims on Government enterprises	14.9	28.6	23.3	24.7	20.9	20.1	21.7	22.4	41.5	41.5	30.1
Claims on private sector	233.2	319.2	392.3	514.4	672.5	498.6	614.5	667.1	670.4	728.4	720.7
Claims on deposit money banks	75.2	83.6	151.7	190.0	272.6	115.5	94.6	150.3	262.0	321.8	655.5
Claims on NFIs	7.0	7.0	8.8	2.5	0.0	0.0	0.0	18.3	13.1	14.3	..
Real estate	23.4	23.4	31.6	35.4	34.0	40.5	42.3	..	..	..	..
Liabilities total	354.5	467.8	610.5	769.6	983.9	675.3	792.0	868.1	1,012.2	1169.3	1426.9
General Insurance reserve funds	6.9	10.1	15.9	21.7	58.1	61.2	73.6	72.4	41.6	43.6	12.3
Life fund	9.2	12.2	15.1	19.0	21.0	23.8	70.0	23.8	0.0	0.0	33.5
Government employee providen fund	210.8	254.2	312.8	368.0	402.5	505.8	589.0	690.0	765.1	886.8	1112.1
Group Insurance Fund	..	..	..	..	..	..	..	60.7	71.0	80.7	94.1
Credit from DMB	..	..	..	..	..	..	..	0.0	0.0	0.0	0.0
Unit Trust of Bhutan fund	145.4	209.9	247.6	318.3	407.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital accounts	12.0	12.0	12.0	12.0	12.0	12.0	12.0	43.8	45.1	63.0	79.9
Other items (net)	(29.7)	(30.5)	7.1	30.6	83.3	72.5	47.4	(23.4)	89.3	95.2	95.0

Note: NFIS stands for Non monetary financial institutes. (a) Including Bhutan National bank

Source: Royal Monetary Authority of Bhutan, Thimphu

TABLE 11.3: FINANCIAL DETAILS OF BHUTAN NATIONAL BANK, 1987 TO 1997

(millions Nu.)

Item	End of year										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Assets total	150.2	215.3	297.2	378.9	549.1	729.0	632.0	683.8	599.3	810.7	914.5
Reserves	-	0.2	0.2	0.3	0.4	0.5	7.8	14.7	13.8	142.5	104.8
Invesments through RICB	145.4	209.9	247.6	318.3	438.9	0.0	0.0	0.0	0.0	0.0	0.0
Claims on private sector	4.7	5.2	49.4	60.3	109.8	728.4	624.2	538.6	486.1	601.4	663.6
Claims on joint sector	..	..	..	..	..	..	..	8.8	0.9	6.7	10.4
Claims on deposit money banks (Fixed deposits)	..	..	..	..	..	..	..	121.6	98.6	57.5	0.0
Claims on other NBFIs	..	..	..	..	..	..	..	..	0.0	2.5	0.0
Liabilities total	150.2	215.2	297.2	378.9	549.1	729.0	632.0	683.8	599.3	810.6	..
Deposits under unit shares	125.3	187.8	253.8	321.5	472.8	572.8	474.7	402.8	366.9	298.7	..
Deposits under fixed term units	..	..	..	..	..	..	..	67.9	94.6	235.8	..
Recurring deposits	..	..	..	..	..	..	..	19.3	0.0	0.0	..
Provident fund	..	..	..	..	..	..	..	0.0	6.3	9.3	..
Credit from deposit money banks	..	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	..
Credit from RMA	..	..	..	..	..	..	..	0.0	0.0	0.0	0.0
Capital accounts	5.3	6.7	10.8	13.8	2.8	2.5	42.5	55.4	86.1	130.4	139.7
Other items(net)	13.1	20.7	32.7	43.6	73.5	153.7	114.8	138.4	45.5	136.4	59.9
Call loans	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	..	..	..

(a) RICB stands for Royal Insurance Corporation of Bhutan

Source: Royal Monetary Authority of Bhutan, Thimphu

TABLE 11.4: MONEY AND BANKING DETAILS OF BHUTAN DEVELOPMENT FINANCE CORPORATION, 1992 TO 1997

(millions Nu.)

Item	1992	1993	1994	1995	1996	1997
Assets total	124.8	175.3	297.3	349.9	425.8	470.5
Reserves	3.3	3.8	22.7	19.0	25.0	28.2
Foreign assets	0.0	0.0	0.0	0.0	0.0	0.0
Rupees	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0	0.0
Claims on Government	0.0	0.0	0.0	0.0	0.0	0.0
Claims on Government Corporations	0.0	0.0	4.9	4.8	2.0	1.8
Claims on joint corporations	2.3	2.8	0.0	0.0	0.0	0.0
Claims on private sector	103.6	147.5	230.0	301.5	377.6	406.1
Claims on DMBs(a)	0.0	0.0	0.0	9.0	21.2	34.4
Claims on other NBFIs(b)	15.6	21.2	39.7	15.5	0.0	0.0
Liabilities total	129.6	175.3	300.5	349.9	425.8	470.5
Foreign liabilities	37.3	75.3	94.9	104.7	141.9	165.2
Credit from RMA	50.0	20.7	50.0	0.0	0.0	0.0
Credit from DMB	0.0	24.3	0.0	0.0	0.0	0.0
Credit from other NBFIs	0.0	0.0	0.0	0.0	0.0	0.0
Grants	7.9	14.3	0.0	0.0	0.0	0.0
Capital account	34.4	39.9	155.6	169.0	230.3	233.2
Other items net	-4.8	0.8	-3.26	76.3	53.5	72.1

Note: The summary exclude Agriculture Credit Program

(a) Deposits other than demand deposit

(b) represents purchase of unit shares of UTB

Source: Royal Monetary Authority, Thimphu

TABLE 11.5: MONEY AND BANKING OF ROYAL MONETARY AUTHORITY OF BHUTAN (RMA), 1987 TO 1997

(million Nu.)

Item	End of year										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Assets total	506.5	720.5	930.6	1,418.9	2,457.0	2,241.9	3,126.2	3,595.1	4,395.0	5,602.5	6,126.7
Foreign assets	482.7	696.6	840.7	1,144.8	2,268.1	2,027.2	2,944.7	3,533.2	4,337.2	5,284.8	6,064.6
Indian rupee	15.7	15.6	33.2	16.0	28.6	21.7	59.3	24.6	27.6	25.1	25.5
Convertible Foreign Currency	467.0	681.0	807.5	1,128.8	2,239.5	2,005.5	2,885.4	3,508.6	4,309.5	5,259.7	5,859.9
Claims on deposit money banks	23.8	23.9	29.5	38.6	47.7	43.7	107.8	309.0	2.8	307.8	2.5
Claims on Government	0.0	0.0	60.4	235.5	141.2	171.0	73.7	0.0	50.0	5.0	5.0
Claims on NMFIs	..	..	..	..	..	..	..	55.0	5.0	4.9	3.7
Liabilities total	506.5	720.5	930.6	1,419.0	2,457.0	2,241.9	3,126.3	3,595.1	4,395.0	5,602.6	6,126.7
Reserve money	432.6	384.3	691.2	1,259.6	1,592.7	1,256.5	1,364.9	1,286.8	2,149.7	2,328.5	2,545.5
With RMA	329.1	235.2	503.5	1,065.5	1,346.7	911.5	1,018.9	..	..	..	
Currency outside banks	103.5	149.1	187.7	194.1	246.0	345.0	346.0	347.5	432.4	422.5	720.9
Foreign Liabilities	..	..	..	..	..	..	..	616.8	161.1	250.0	250.0
Rupee	..	..	..	..	..	..	..	616.8	161.1	250.0	250.0
Others	..	..	..	..	..	..	..	0.0	0.0	0.0	0.0
Government deposits	9.4	180.3	77.5	65.0	116.4	20.2	25.4	29.8	28.6	333.7	27.9
RMA Bills Outstanding	..	..	..	..	..	..	..	600.0	550.0	1,000.0	681.1
Capital Account	..	..	..	..	..	..	..	40.2	88.1	78.9	48.1
Other items (net)	64.6	155.8	161.9	94.4	747.9	965.2	1,736.0	1,021.5	1,417.6	1,611.5	2,574.2

Source: Royal Monetary Authority, Thimphu

TABLE 11.6: MONEY AND BANKING, BANK OF BHUTAN, 1987 TO 1997

(million Nu.)

Item	End of year										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Assets total	1,054.9	1,129.2	1,416.9	1,741.8	1,975.2	2,238.9	2,726.4	2,984.1	3,921.7	4,962.5	5,743.1
Reserve with RMA	310.4	244.2	501.7	1,009.4	1,252.8	827.9	1,001.2	1,416.4	2,382.4	2,085.3	2,903.5
Foreign assets	637.0	733.8	692.9	460.8	348.8	212.5	434.3	278.5	252.5	1,545.4	1,391.5
Rupee	606.0	688.8	629.7	409.7	287.3	22.6	129.3	84.9	35.4	1,326.8	1,153.7
Other	30.9	45.0	63.2	51.1	61.5	190.0	305.0	193.6	217.4	218.5	237.9
Claims on Government	11.8	2.9	2.5	2.6	2.6	2.5	6.5	4.6	1.5	100.0	200.0
Claims on Government Corporations	13.5	35.4	27.6	53.2	64.8	770.1	795.6	560.8	534.6	483.7	449.1
Claims on joint Corporations	..	..	..	..	..	..	..	238.9	229.2	187.7	213.3
Claims on private sector	82.3	115.9	192.2	215.9	306.1	425.8	488.8	485.0	521.5	560.5	585.0
Liabilities total	1,054.9	1,129.2	1,416.9	1,741.8	1,975.2	2,238.9	2,726.4	2,984.1	3,921.7	4,962.5	5,743.1
Demand deposit (a)	213.3	263.0	358.2	345.4	503.7	495.9	487.1	696.5	889.9	1,651.6	1,329.8
Time deposit	223.4	289.1	415.1	515.2	622.2	691.1	1,054.9	1,266.8	1,822.1	1,370.5	2,787.1
Foreign currency deposits	12.3	22.5	15.1	24.0	26.0	55.0	65.2	84.2	104.3	95.0	96.4
											0.0
Foreign liabilities	42.7	46.0	87.4	118.0	137.0	357.2	567.8	0.0	0.0	0.0	0.0
Rupee	42.7	46.0	87.4	118.0	136.9	357.2	567.8	0.0	0.0	0.0	0.0
Other	..	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Government deposits	307.1	221.4	201.8	299.1	314.5	200.3	311.3	139.5	344.0	458.8	183.6
Credit from RMA	..	..	..	..	..	..	..	..	..	..	..
Capital accounts	175.9	176.9	229.2	240.1	236.0	533.9	329.6	323.6	371.0	371.1	399.3
Other items (net)	80.3	110.3	110.0	199.9	169.0	-94.4	-89.5	473.4	390.4	1,015.5	946.8

Note: In 1997 the Bhutan National Bank included with Bank of Bhutan. (a) savings deposits included in demand deposits

TABLE 11.7: INVESTMENTS OF FINANCIAL INSTITUTIONS BY INDUSTRY(a), AMOUNTS OUTSTANDING, 1988 TO JUNE 1997

(millions Nu.)

Industry	End of year								
	1988	1989	1990	1991	1992	1993	1994	1995	1996
Agriculture	21.3	26.5	35.9	55.4	86.4	92.2	80.9	106.1	6.1
Bank of Bhutan	3.8	4.9	5.4	4.0	6.1	6.0	5.0	0.0	0.0
Royal Insurance Corporation of Bhutan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bhutan Development Finance Corporation	17.5	21.6	30.5	51.4	80.2	86.1	75.8	106.1	6.1
Unit Trust of Bhutan	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
Industry, Manufacturing	119.5	147.7	220.4	307.1	452.1	585.0	663.0	880.7	1,069.2
Bank of Bhutan	49.2	53.7	78.4	105.5	163.1	222.6	221.3	340.4	326.2
Royal Insurance Corporation of Bhutan	69.5	85.3	124.3	167.8	124.6	151.7	227.9	197.2	366.1
Bhutan Development Finance Corporation	0.8	8.7	17.7	33.8	57.1	91.4	20.0	134.1	152.4
Unit Trust of Bhutan	0.0	0.0	0.0	0.0	107.4	119.3	193.8	209.0	224.5
Building and construction	240.1	272.3	294.9	344.3	473.6	518.4	540.1	635.5	497.6
Bank of Bhutan	15.6	16.2	18.7	24.7	79.3	92.0	92.6	148.8	80.5
Royal Insurance Corporation of Bhutan	224.5	256.1	276.2	319.6	246.9	272.4	287.8	273.4	269.2
Bhutan Development Finance Corporation	0.0	0.0	0.0	0.0	0.8	0.8	2.6	60.4	0.0
Unit Trust of Bhutan	0.0	0.0	0.0	0.0	146.5	153.2	157.1	153.0	148.0
Trade and commerce	78.0	127.8	181.7	254.9	328.1	356.8	406.8	332.4	864.5
Bank of Bhutan	38.5	61.6	76.0	108.2	155.1	168.4	203.7	205.1	737.7
Royal Insurance Corporation of Bhutan	38.8	66.2	105.7	146.7	112.9	137.6	117.4	80.2	87.3
Bhutan Development Finance Corporation	0.7	0.0	0.0	0.0	2.1	4.3	41.3	0.0	0.1
Unit Trust of Bhutan	0.0	0.0	0.0	0.0	58.0	46.5	44.4	47.0	39.5
Transport	41.3	56.0	96.6	126.8	751.0	736.0	693.5	575.3	68.9
Bank of Bhutan	10.2	22.8	39.2	57.7	665.8	646.7	612.2	515.2	0.0
Royal Insurance Corporation of Bhutan	31.1	33.2	57.4	69.1	50.2	55.6	50.7	45.0	53.8
Bhutan Development Finance Corporation	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Unit Trust of Bhutan	0.0	0.0	0.0	0.0	35.1	33.7	30.2	15.1	15.2
Personal and other loans	93.0	167.2	166.8	249.7	281.9	252.5	316.1	222.8	324.8
Bank of Bhutan	73.7	102.6	93.0	117.7	184.0	144.8	183.7	94.3	183.4
Royal Insurance Corporation of Bhutan	14.1	15.2	13.5	22.5	18.5	15.6	22.3	50.8	66.4
Bhutan Development Finance Corporation	5.2	49.4	60.3	109.8	17.4	20.7	21.8	1.0	3.8
Unit Trust of Bhutan	0.0	0.0	0.0	0.0	61.9	71.4	88.3	76.8	71.2
Total	593.2	797.5	996.3	1,338.2	2,373.0	2,540.9	2,700.4	2,752.8	2,831.2

Note: (a) Includes Royal Monetary Authority, Bank of Bhutan, Royal Insurance Corporation of Bhutan, Unit Trust of Bhutan and the Agricultural Credit Programme (b) Personal loans, public welfare loans and others

Source: Royal Monetary Authority, Thimphu

TABLE 11.8: INTEREST RATES FOR DEPOSITS IN FINANCIAL INSTITUTIONS, 1987 TO 1997

(percent per annum)

Type of deposit	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Savings	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	7.0
Fixed deposits for											
3 to 6 months	6.5	6.5	6.5	6.5	6.5	8.0	8.0	8.0	8.0	8.0	8.0
6 to 9 months	8.0	8.0	8.0	8.0	8.0	9.0	9.0	8.0	8.0	8.0	8.0
9 to 12 months	8.0	8.0	8.0	8.0	8.0	9.0	9.0	8.0	8.0	8.0	8.0
12 to 24 months	9.0	9.0	9.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0
24 to 36 months	10.0	10.0	10.0	10.0	10.0	11.0	11.0	10.0	10.0	10.0	10.0
Over 36 months	11.0	11.0	11.0	11.0	11.0	13.0	13.0	11.0	11.0	11.0	11.0
UTB fixed term deposits											
3 to 12 months	n.a	n.a	n.a	n.a	n.a	n.a	n.a	8.5	8.5	8.5	8.5
12 to 36 months	n.a	n.a	n.a	n.a	n.a	n.a	n.a	10.5	10.5	10.5	10.5
Over 36 months	n.a	n.a	n.a	n.a	n.a	n.a	n.a	11.5	11.5	11.5	11.5
UTB Unit shares (a)	n.a	n.a	n.a	n.a	n.a	n.a	n.a	11.7	10.0	10.0	10.0

(a) withdrawals within 1 year are subject to service charge of 2 % on the principal

Source: Bank of Bhutan

TABLE 11.9: INTEREST RATES AND REPAYMENT PERIOD BY SECTOR AND TYPE OF LOAN, FINANCIAL INSTITUTIONS (a), 1997

Sector	Interest Rate (% p.a)	Repayment period (years)
Export finance (convertible currency areas)	13	1
General trade	16	3
Buses and trucks	13	5
Other passanger vehicles	16	5
Agriculture and Livestock	13	10
Manufacturing Industry	13	10
Housing	14	20
Service Industries (includes tourism, contract services, and other service activities)	13	5
Personal loans	16	5
Equity finance	14	5
Working capital	15	1

(a) Rates applicable since August 22, 1994

Source: Royal Monetary Authority, Thimphu

TABLE 11.10: VOLUME AND VALUE OF STOCKS TRADING AT THE SECURITIES EXCHANGE OF BHUTAN, 1993/94

Period	Volume (numbers)	Value (million Nu.)
1993		
October	100	0.20
Novemver	250	0.50
December	3,000	5.40
1994		
March	5	0.01
April	2,000	3.40
May	100	0.01
June	4,000	6.80
July	122,500	1.23
August	3,200	0.51
September	100	0.05
Total turn over	135,255	18.10

Source: Royal Securities Exchange of Bhutan, Thimphu

TABLE 11.11: MONTHLY PRICE PER SHARE OF STOCKS FOR MAJOR COMPANIES, 1996

(Ngultrums per share)

Security	1996						
	Mar	Apr	May	Jun	Jul	Aug	Sep
Bhutan Chemicals & Carbide Ltd.	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Bhutan Board Products Ltd.	100	100	100	100	100	100	100
Bhutan Dairy Ltd.	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Royal Insurance Corporation of Bhutan	1,000	n.a	n.a	n.a	n.a	n.a	n.a
Bhutan Tourism Corporation Ltd.	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Bhutan National Bank	..	..	..	..	..	165	225
Penden Cement Authority	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Druk Stones and Minerals export Corporation Ltd.	..	..	..	..	..	100	100
Bhutan Ferro Alloys Ltd.	120	120	120	120	120	120	120

Source: Royal Securities Exchange of Bhutan, Thimphu

CHAPTER 12: PUBLIC FINANCE

INTRODUCTION

The system of modern public finance in Bhutan is of very recent origin. Traditionally taxes were being collected in kind; the levy on agricultural produce being on an average one fourth of the production of each farming family and labour contribution amounting to about two months labour for every adult. By 1960, as the government began to grow institutionalization of public finance became a necessity.

In 1963, the position of a finance secretary was created in the Royal secretariat and in 1968 the Ministry of Finance, one of the first few Ministries was formed. In 1970 the system of payment of taxes in kind was largely dispensed with to be taken up by the system of cash taxes based on the type of land holding.

The first budget on modern lines was presented by the Ministry of Finance in 1971. It was called the Civil Budget as it covered the needs of the Ministry of Finance, Home Affairs and Foreign Affairs. The requirements of development oriented Ministries like Communication and Tourism, Trade and Industry, Forest and Development were provided under a separate development budget administered first by the development secretariat and then by its successor, the Planning Commission. With the commencement of the Fifth Five Year Plan the classification of the government budget into civil and development was replaced by the concept of Maintenance and Development expenditures. Maintenance or current expenditures reflected mostly the current or consumption expenditures of the government while development expenditures were identified largely with the expenditures of the government on fixed capital formation.

TABLE 12.1: CURRENT BUDGETARY EXPENDITURE OF THE GOVERNMENT BY MINISTRY/AGENCY, 1991/92 TO 1996/97.

(millions Nu.)

Ministry/Non-ministerial Organisation	1991/92 (actual)	1992/93 (actual)	1993/94 (Revised)	1994/95 (actual)	1995/96 (actual)	1996/97 (actual)
Ministries	801.06	839.60	846.14	1,017.64	1,228.11	1,440.47
Home Affairs	80.80	90.85	103.18	115.78	146.59	242.1
Finance	78.16	76.03	79.36	82.37	88.10	109.1
Communication & Tourism	141.60	143.82	142.47	165.29	183.74	232.2
Planning	9.44	7.08	8.09	13.23	9.55	10.6
Social Services	224.05	215.03	196.99	248.67	290.20	336.0
Agriculture	111.62	130.81	153.76	168.29	207.46	213.1
Foreign Affairs	72.70	74.54	84.34	85.08	113.73	112.9
Trade and Industries	82.70	101.44	77.93	138.94	188.75	184.4
Non Ministerial organisations	74.61	81.62	81.68	89.14	108.65	135.84
Special Commission	7.92	7.39	7.36	9.66	12.00	15.7
Central Monastic Secretariat	28.11	30.47	32.95	35.15	44.20	51.5
Royal Monetary Authority	-	-	-	-	-	-
Social and Cultural Division	-	-	-	-	-	-
His Majesty's Secretariat	4.77	5.66	3.96	4.47	4.84	5.5
Science and Technology	-	-	-	-	-	-
Royal Civil Service Commission	3.75	4.15	4.75	4.73	4.57	8.7
Royal Audit Authority	6.43	6.49	6.43	7.84	10.35	12.7
Royal Advisory Council	2.04	2.39	2.26	2.67	2.96	3.5
National Assembly	2.53	3.24	3.72	2.41	4.52	5.6
Urban Development Corporation	-	-	-	-	-	-
National Women's Association	2.18	1.98	-	-	-	-
Judiciary	12.49	13.10	13.88	16.54	19.14	25.5
Bhutan Olympic Committee	2.74	3.69	2.63	3.31	3.24	4.5
Druk Air Corporation	-	..	-	-	-	-
Tourism Corporation	-	..	-	-	-	-
Bhutan Govt. Transport Service	-	..	-	-	-	-
Dzongkhag Development Commissio	1.67	3.08	3.75	2.37	2.84	2.5
Zonal Administration, Chhukha	-	..	-	-	-	-
Zonal Administration, Tsirang	-	..	-	-	-	-
Zonal Administration, Yongphula	17.57	6.66	-	-	-	-
Zonal Administration, Gelephu	-	..	-	-	-	-
Dzongkhags	170.35	186.31	228.44	307.76	334.14	440.2
Dzongkhag Administration, Thimphu	-	-	-	32.96	34.31	
Common public expenditure	88.86	126.50	334.40	492.18	292.68	320.4
Total current expenditure	1,152.44	1,240.69	1,490.66	1,906.70	1,963.58	2,336.88

Source: National Budget and Aid Coordination Division, Thimphu.

TABLE 12.2: BUDGETARY DEVELOPMENT EXPENDITURE OF THE GOVERNMENT BY MINISTRY, 1990/91 TO 1996/97

(millions Nu.)

Ministerial/non ministerial organizations	1990/91 (actual)	1991/92 (actual)	1992/93 (actual)	1993/94 evised)	1994/95 (actual)	1995/96 (actual)	1996/97 (actual)
Ministries	593.21	787.96	1,083.36	,151.01	1,533.98	1,956.95	1,720.28
Home Affairs	19.77	27.17	90.63	63.39	34.63	36.96	96.7
Finance	21.08	34.49	13.15	24.36	23.41	43.15	39.3
Communication & Tourism	123.39	172.53	564.01	253.10	540.31	349.82	681.5
Planning	4.93	2.49	6.67	3.34	3.20	3.33	2.1
Social Services	133.37	275.49	83.86	186.02	217.52	264.83	298.6
Agriculture	213.78	260.11	274.88	453.10	509.89	519.87	419.5
Foreign Affairs	1.68	1.80	0.86	0.95	4.31	2.37	3.1
Trade and Industries	75.19	33.87	49.30	166.75	200.72	736.62	179.5
Non ministerial organizations	12.73	7.50	9.14	39.52	44.18	90.38	120.31
Special Commission	3.30	3.73	3.19	4.33	5.16	11.09	16.0
Central Monastic Secretariat	5.16	2.88	3.31	5.90	5.05	4.25	3.5
Royal Monetary Authority	-	-	-	-	-	-	
Social And Culture Division		-	-		-	-	
Royal Secretariat (HM)	0.39	0.04	0.00	0.06	0.15	0.87	2.0
Science and Technology	-	-	-	-	-	-	
Royal Civil Service Commission	0.81	0.11	0.73	10.38	0.91	29.93	29.98
Royal Audit Authority	0.33	0.03	0.04	0.33	2.71	0.49	0.6
Royal Advisory Council	0.03	0.07	-	-	0.16	0.27	0.0
National Assembly	0.04	0.04	0.04	0.63	1.36	0.23	1.0
Urban Dev. Corp.	-	-	-	-	-	-	
Nat. Women's Association	0.78	0.13	0.19	-	-	-	
Judiciary	1.72	0.24	1.11	0.66	1.49	2.22	3.5
Bhutan Olympic Committee	0.11	0.00	0.00	0.44	0.49	0.42	0.0
Dzongkhag Dev.Commission	0.07	0.21	0.53	0.68	0.19	1.68	0.7
SAARC Conference complex	-	-	-	-	-	-	
Punakha Dz. Renovation Service				16.11	26.52	34.87	59.4
National Environment Commission				-	-	4.07	3.7
Dzongkhags	78.30	191.12	63.91	149.59	170.72	137.07	449.83
Other Dzongkhags	32.99	106.79	48.49	47.91	91.78	98.81	
Thimphu Dzongkhag	-	-	..	..	4.96	6.25	182.4
Common public expenses	45.31	84.34	15.42	101.68	73.98	32.01	267.4
Total development expenses (c)	684.23	986.57	1,156.41	1,356.23	1,775.40	2,223.34	2,353.48

Note: Total development expense excludes Zonal Administration figure which existed earlier.
Source: National Budget and Aid Coordination Division, Thimphu.

TABLE 12.3 : BUDGETARY RECEIPTS OF THE GOVERNMENT BY SOURCE, 1987/88 TO 1996/97

Source of revenue	1988/89 (actual)	1989/90 (actual)	1990/91 (actual)	1991/92 (actual)	1992/93 (actual)	1993/94 (actual)	1994/95 (actual)	1995/96 (actual)	1996/97 (actual)
Tax revenue	231.04	234.45	281.55	330.39	416.48	618.94	649.77	844.23	868.87
Direct tax	77.45	74.92	78.88	89.94	56.83	174.38	269.23	431.66	500.4
Tax on income & profits	71.86	70.24	70.57	82.32	51.02	168.31	263.46	426.08	492.0
Corporate taxes	55.85	54.13	52.58	63.98	12.17	114.53	203.17	357.03	400.6
Individual & trading units	16.01	16.12	17.99	18.34	38.85	53.78	60.29	69.04	91.4
Rural tax	5.59	4.68	8.31	7.61	5.81	6.07	5.77	5.59	8.4
Indirect tax	153.59	159.52	202.67	240.46	359.65	444.56	380.54	412.57	368.5
Tax on goods & services	141.29	149.41	188.34	219.19	273.84	295.26	332.31	374.44	311.1
Sales tax	34.26	33.31	43.21	52.40	96.23	88.82	117.14	140.29	182.0
Excise duty	92.77	105.97	134.16	152.17	154.67	185.21	194.04	211.59	101.8
Motor vehicle tax	14.27	10.14	10.95	14.62	22.94	21.23	21.13	22.56	27.3
Import duty	5.85	4.01	6.48	10.54	11.53	22.62	29.96	19.15	21.9
Business & Prof. licences	-	-	-	-	4.59	4.15	5.30	5.72	22.8
Royalties	-	-	-	-	60.02	115.43	120.40	127.65	-
Other taxes	6.44	6.10	7.86	10.73	9.67	7.10	11.79	9.62	12.7
Non tax revenue	615.99	722.07	712.20	655.29	976.98	955.10	1,032.12	1,086.91	1,548.47
Net transfer of profits from public enterprises	330.58	423.38	494.97	357.90	555.88	529.25	313.37	390.47	511.6
Royalties	71.02	28.41	27.77	31.53	-	-	119.81	126.76	153.3
Dividends	31.28	52.43	41.30	37.40	87.83	62.78	43.75	56.37	49.5
Administrative fees & charges	48.40	36.30	32.41	35.01	36.09	45.87	44.55	54.35	84.4
Sale of government properties	10.83	53.48	22.75	46.81	131.17	104.16	86.23	81.03	63.3
Receipts from govt. departments	120.19	122.78	90.27	140.77	162.44	209.86	279.85	375.93	335.0
Other non revenue receipts	2.35	4.59	2.08	2.55	3.57	3.18	144.57	2.01	351.4
Total revenue	847.03	956.51	993.75	985.68	1,393.46	1,574.04	1,681.89	1,931.14	2,417.34

Source: National Budget and Aid Coordination Division and DRC, Thimphu.

TABLE 12.4: SUMMARY OF BUDGETARY OPERATIONS, 1985/86 TO 1996/97 (a)

(million Nu.)

Item	1987/88 (actual)	1988/89 (actual)	1989/90 (actual)	1990/91 (actual)	1991/92 (actual)	1992/93 (actual)	1993/94 (Revised)	1994/95 (actual)	1995/96 (actual)	1996/97 (actual)
Revenue	842.00	828.00	945.80	996.31	1,155.61	1,650.85	1,565.70	1,877.42	2,127.79	2,424.34
Tax revenue	236.00	232.00	231.80	281.41	328.31	447.13	503.20	649.77	844.23	868.9
Non-tax revenue	492.00	558.00	661.10	694.70	780.70	1,046.33	1,070.60	1,032.12	1,086.91	1,204.1
Other	114.00	38.00	52.90	20.20	46.60	157.39	-8.10	195.53	196.64	351.4
Grants	929.90	791.00	523.00	752.71	785.88	1,230.12	1,430.00	1,773.16	2,363.61	2,232.13
India	708.90	564.00	290.20	452.58	232.17	363.31	609.30	727.98	1,168.86	947.6
Other	221.00	227.00	232.80	300.13	553.72	866.82	820.70	1,045.19	1,194.75	1,284.5
Expenditure	1,739.70	2,021.10	1,737.50	1,814.40	2,240.89	2,568.74	4,085.04	3,642.73	4,252.71	4,957.22
Current	774.60	952.80	1,068.50	1,082.28	1,152.43	1,240.69	1,606.32	1,906.70	1,968.20	2,341.2
Capital.	965.10	1,068.30	669.00	688.70	986.61	1,156.58	2,216.32	1,748.88	2,184.40	2,289.4
Lending(net)	-	-	-	43.42	101.84	171.47	262.40	-12.86	100.12	326.6
Overall surplus/ deficit	-56.70	-607.70	-269.10	-47 20	-247.55	312.23	-396.24	7.86	238.68	-300.75

(a) Years refer to period 1 April to 31 March. 1987/88 refers to fifteen month period 1 April 1987 to 30 June 1988 while 1988/89 onwards refer to 1 July to 30 June

Source: National Budget & Aid Cordination Division, Ministry of finance, Thimphu.

CHAPTER 13: PLAN OUTLAYS

INTRODUCTION

Development planning in Bhutan can be traced back to the year 1961 when the first Five Year Plan.(1961/62 to 1965/66) was drawn up. Initially, a self contained development secretariat was established to implement the plan. At the time of preparation of the third plan in 1971, the Planning Commission was established headed by the His Majesty the King. In the absence of basic economic information and skilled manpower, the formulation of the third plan, like earlier ones was relatively simple. Major developments in regard to the consolidation of the planning process took place in the fourth plan period, when the Dzongkhags were involved in the development process.

Until 1981 to 1982 the responsibility for making plan allocations, rising internal resources, and negotiations, foreign assistance etc. lay with the Planning Commission. In 1981 to 1982, a large part of the financial responsibilities of the Commission was transferred to the Ministry of Finance. The Commission was however, invested with responsibilities for the formulation of development plans and allocations of investment resources.

A substantial infrastructure for development of the economy had been built up in the first four plans so that by the end of the fourth plan, the planning process had gained a good deal of comprehensiveness and sophistication. These two factors enabled the economy to develop the capacity of absorbing much higher volumes of investment resources for development in the later five year plans.

The Sixth Five Year Plan was successfully completed in 1991/92. The Sixth Five Year Plan (1987/88 to 1991/92) will lay emphasis towards attaining the objective of economic self reliance with progressively higher rates of growth and greater distributional equity among various sectors and regions. At the same time, it will lay renewed emphasis on the preservation and promotion of traditional values and ideals.

TABLE 13.1: OUTLAYS OF DEVELOPMENT PLANS, FIRST PLAN TO SEVENTH PLAN

(millions Nu.)

Sector	First Plan (actual)	Second Plan (actual)	Third Plan (actual)	Fourth Plan (actual)	Fifth Plan(a) (revised)	Sixth Plan (revised)	Seventh Plan (budget)
Agriculture	1.9	21.6	58.3	259.0	419.4	880.5	709.0
Food Corporation of Bhutan	-	-	-	-	135.5	106.5	-
Animal Husbandry	1.5	5.8	24.2	61.5	162.4	331.0	327.9
Forestry	3.2	6.9	28.4	110.3	229.9	418.2	479.0
Power	1.5	9.1	30.1	50.5	340.5	1,247.9	390.0
Trade and Industries	1.1	1.0	25.2	175.0	323.3	1,276.1	838.9
Geological Survey	-	-	-	-	-	35.3	153.8
Public Works Department	62.9	70.5	84.6	128.3	787.5	887.2	1,213.7
Road Transport/Aviation	7.5	12.0	9.5	-	26.3	48.8	95.3
Post & Telegraph	0.5	5.9	11.4	16.9	65.8	68.1	163.8
Telecommunications		-	14.8	37.3	33.7	133.8	1,088.9
Tourism		-	14.1	12.5	29.1	-	-
Druk Air	-	-	-	-	-	391.0	-
Education	9.4	35.7	90.0	134.6	519.1	778.8	1,738.0
Health	3.1	16.7	38.1	54.6	237.5	399.1	1,035.5
Information and Broadcasting	0.1	1.4	4.0	11.0	36.1	95.9	96.0
Urban Development	-	-	-	-	187.3	248.7	709.4
General Government	-	-	-	-	1,114.9	1,973.8	6,196.1
Dzongkhags	-	-	-	-	-	238.5	355.4
Other	14.4	15.6	42.5	54.7	-	-	-
Total outlay	107.2	202.2	475.2	1,106.2	4,648.3	9,559.2	15,590.7

Note: Small differences exist between outlays shown in this table & budgetary expenditures shown in tables 12.1 and 12.2 because some expenditures will not be reflected in development plans 1st to 5th (Statistical Year Book 1985) and reviews of the sixth plan
(a) Figures exclude Chhukha Hydel Project (Fifth Plan outlay Nu. 2,430 million)

Source: Ministry of Planning, Thimphu.

TABLE 13.2: OUTLAYS OF DEVELOPMENT PLANS, PERCENTAGE BY CATEGORY, FIRST PLAN TO SEVENTH PLAN

(percent)

Sector	First Plan	Second Plan	Third Plan	Fourth Plan	Fifth Plan(a)	Sixth Plan	Seventh Plan
Agriculture	1.8	10.7	12.3	23.4	9.0	9.2	4.5
Food Corporation of Bhutan	-	-	-	-	2.9	1.1	-
Animal Husbandry	1.4	2.9	5.1	5.6	3.5	3.5	2.1
Forestry	3.0	3.4	6.0	10.0	4.9	4.4	3.1
Power	1.4	4.5	6.3	4.6	7.3	13.1	2.5
Trade and Industries	1.0	0.5	5.3	15.8	7.0	13.3	5.4
Geological Survey	-	-	-	-	-	0.4	1.0
Public Works Department	58.7	34.9	17.8	11.6	16.9	9.3	7.8
Road Transport/Aviation	7.0	5.9	2.0		0.6	0.5	0.6
Post & Telegraph	0.5	2.9	2.4	1.5	1.4	0.7	1.1
Telecommunications	-	-	3.1	3.4	0.7	1.4	7.0
Tourism	-	-	3.0	1.1	0.6	-	-
Druk Air	-	-	-	-	-	4.1	-
Education	8.8	17.7	18.9	12.2	11.2	8.1	11.1
Health	2.9	8.3	8.0	4.9	5.1	4.2	6.6
Information and Broadcastin	0.1	0.7	0.8	1.0	0.8	1.0	0.6
Urban Development	-	-	-	-	4.0	2.6	4.6
General Government	-	-	-		24.0	20.6	39.7
Dzongkhags	-	-	-	-	-	2.5	23.0
Other	13.4	7.7	8.9	4.9	-	-	-
Total outlay	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) See footnotes to Table 13.1.

Source: Ministry of Planning, Thimphu

TABLE 13.3: FINANCIAL OUTLAYS DURING SEVENTH PLAN BY SECTOR, 1992 TO 1997

(million Nu.)

Sector	Current	Capital	Total	% of total outlay
Agriculture Ministry	1,158.1	1,275.6	2,433.6	15.6
Secretariat	318.5	599.2	917.7	5.9
Agriculture	375.7	333.3	709.0	4.5
Animal Husbandry	230.3	97.6	327.9	2.1
Forestry	233.5	245.5	479.0	3.1
Ministry of Trade & Industries	722.4	680.0	1,402.4	9.0
Secretariat	19.6	0.0	19.6	0.1
Power	390.0	0.0	390.0	2.5
Trade and Industries Division	258.9	580.0	838.9	5.4
Geological and Mines Division	53.8	100.0	153.8	1.0
Ministry of Communication	1,008.6	1,675.7	2,684.3	17.2
Secretariat	26.7	0.0	26.7	0.2
Public Works Department	522.8	690.9	1,213.7	7.8
Civil Aviation	19.3	76.0	95.3	0.6
Post and Telegraph	143.6	20.2	163.8	1.1
Telecommunications	231.3	857.6	1,088.9	7.0
Information and Broadcasting	65.0	31.0	96.0	0.6
Ministry of Health & Education	1,867.3	1,658.9	3,526.2	22.6
Secretariat	43.3	0.0	43.3	0.3
Education	1,055.0	683.0	1,738.0	11.1
Health	559.6	475.9	1,035.5	6.6
Works & Housing Division	209.4	500.0	709.4	4.6
Ministry of Home affairs	190.9	119.8	310.7	2.0
Secretariat	77.4	27.0	104.4	0.7
Survey of Bhutan	113.5	92.8	206.3	1.3
Ministry of Foreign Affairs	400.5	0.0	400.5	2.6
Ministry of Planning	75.1	30.7	105.8	0.7
Secretariat	52.7	0.0	52.7	0.3
Central Statistical Organisation	2.0	27.6	29.6	0.2
National Enviroment Secretariat	20.4	3.1	23.5	0.2
Ministry of Finance	1,978.6	0.0	1,978.6	12.7
Secretariat and Division	756.6	0.0	756.6	4.9
Debt servicing	1,221.9	0.0	1,221.9	7.8
Royal Civil Service Commission	23.3	1,300.0	1,323.3	8.5
Secretariat	23.3	0.0	23.3	0.1
HRD Programme	0.0	1,300.0	1,300.0	8.3
Other Organisations	880.1	189.8	1,069.9	6.9
Dzongkhag administration	305.4	50.0	355.4	2.3
All sectors	8,610.3	6,980.4	15,590.6	100.0

Source: Ministry of Planning, Thimphu.

TABLE 13.4: DZONGKHAG WISE SIXTH FIVE YEAR PLAN OUTLAY, 1987 TO 1992

(Nu. in million)

Dzongkhags	Current	Capital	Total
Bumthang	7.129	4.750	11.879
Chirang	12.592	1.270	13.862
Chhukha	13.702	1.800	15.502
Dagana	6.800	2.775	9.575
Gaylegphug	15.570	1.410	16.980
Haa	6.786	0.350	7.136
Lhuntse	6.882	2.400	9.282
Mongar	8.401	1.750	10.151
Paro	8.869	3.620	12.489
Punakha	13.226	7.838	21.064
Pemagatshel	7.123	1.230	8.353
Samtse	16.370	1.733	18.103
Samdrup Jongkhar	14.869	1.945	16.814
Zhemgang	9.801	2.015	11.816
Trashigang	16.027	4.055	20.082
Thimphu	10.943	0.600	11.543
Trongsa	8.808	4.480	13.288
Wangdue Phodrang	8.253	2.350	10.603
Total	192.151	46.371	238.522

Source: Ministry of Planning, Thimphu

TABLE 13.5: DZONGKHAG WISE SEVENTH FIVE YEAR PLAN OUTLAY, 1992 TO 1997

(Nu. in million)

Dzongkhag	Current	Capital	Total
Bumthang	214.117	196.095	410.212
Chirang	133.228	414.285	547.513
Chhukha	229.979	2,174.821	2,404.800
Dagana	83.491	86.043	169.534
Gasa	0.000	0.000	0.000
Haa	59.974	99.253	159.227
Lhuentse	86.094	123.435	209.529
Mongar	244.134	2,009.736	2,253.870
Paro	258.431	301.648	560.079
Pemagatshel	81.546	233.729	315.275
Punakha	98.401	107.435	205.836
Samtse	205.204	204.710	409.914
Samdrup Jongkhar	218.169	1,954.123	2,172.292
Sarpang	266.112	341.965	608.077
Zhemgang	348.400	193.250	541.650
Trashigang	372.445	546.567	919.012
Trashiyangtse	76.133	98.845	174.978
Thimphu	771.568	779.479	1,551.047
Trongsa	153.051	199.546	352.597
Wangdue Phodrang	167.670	1,554.576	1,722.246
Total	4,068.147	11,619.541	15,687.688

Note: Budget allocation for central programmes have been included under current expenditure in case of Agriculture and Livestock sector.

Source: Ministry of Planning, Thimphu

CHAPTER 14: GROSS DOMESTIC PRODUCT

INTRODUCTION

Human activities can be classified broadly into economic activities and non economic activities. Economic activities are those which are devoted to making use of the scarce resources (including time and labour) in the production and distribution of economic goods i.e. goods and services (needed to satisfy human wants) which are scarce in relation to demand and are transferable. Economic goods command a price on the market for their being scarce and transferable.

The end result of all the economic activities that has taken place in an economy during an accounting period is reflected in gross domestic product (GDP). GDP represents the money value of all the goods and services that have been produced within the territorial limits of the country and are available for final uses like consumption, gross capital formation and net exports.

GDP can be measured both at current and constant prices. When expressed at current prices it reflects the money value of the goods and services produced in an accounting year measured in the prices of that year. On the other hand GDP expressed at constant prices reflects the money value of such goods and services for all the years measured in one year's (base year) prices. In this case the base year prices are kept constant for evaluation purposes for all the year under review, for measuring the performance of the economy with regard to the production of the goods and services in real terms over a period constant price estimates of GDP have to be taken into account. Current price estimate of GDP give a view of the levels of production performances of the economy for all the years under review at changing current prices.

TABLE 14.1: GROSS DOMESTIC PRODUCT AT FACTOR COST IN CURRENT PRICES BY KIND OF ACTIVITY, 1989 TO 1997.

(millions Nu.)

Activity	1989	1990	1991	1992	1993	1994	1995	1996	1997
Agriculture, livestock, forestry and fishing	1,924.3	2,094.9	2,305.1	2,460.5	2,801.9	3,427.1	3,897.6	4,538.0	5,276.0
Agriculture	937.7	1,057.6	1,180.8	1,363.0	1,526.6	1,814.6	2,043.2	2,253.7	2,485.8
Livestock	441.2	474.8	528.6	487.4	545.9	703.5	805.5	910.2	1,237.5
Forestry and logging	545.4	562.5	595.7	610.1	729.4	909.0	1,048.9	1,374.1	1,552.7
Fishing	-	-	-	-	-	-	-	-	-
Mining and quarrying	41.8	44.8	90.0	98.8	102.3	172.4	193.1	467.3	308.7
Manufacturing	302.5	396.7	499.5	647.4	752.3	875.2	1,088.8	1,393.4	1,588.5
Electricity and gas	391.0	384.7	384.4	445.3	560.9	574.2	1,058.7	1,101.6	1,729.5
Construction	365.4	398.7	359.7	595.1	616.8	787.2	930.7	1,040.0	1,466.4
Wholesale, retail trade, hotels and restaurants	282.3	321.6	382.9	479.7	551.2	647.2	730.7	903.5	1,014.4
Transport, storage and communications	235.6	346.7	398.5	471.2	587.4	638.0	687.6	855.8	1,022.6
Finance, insurance and real estate	306.9	378.0	409.4	438.8	457.7	468.2	503.0	441.9	729.2
Community, social services (government)	525.1	540.5	564.4	608.9	645.0	709.2	751.4	1,013.7	1,362.7
Less: Imputed bank service charges	-67.0	-58.4	-51.8	-68.1	-68.0	-148.2	-231.0	-350.0	-526.9
Gross domestic product	4,307.9	4,848.2	5,342.1	6,177.9	7,007.4	8,150.5	9,610.7	11,405.2	13,971.1
Annual growth rate (%)	11.9	12.5	10.2	15.6	13.4	16.3	17.9	18.7	23.0

Source: CSO, Ministry of Planning, Thimphu.

TABLE 14.2: GROSS DOMESTIC PRODUCT AT FACTOR COST IN 1980 PRICES BY KIND OF ACTIVITY, 1989 TO 1997

(millions Nu.)

Activity	1989	1990	1991	1992	1993	1994	1995	1996	1997
Agriculture, livestock, forestry and fishery	962.9	992.8	1,024.6	1,004.0	1,040.2	1,081.2	1,108.2	1,196.2	1,233.3
Agriculture	514.7	530.9	544.8	555.6	563.9	578.7	585.1	599.7	619.5
Livestock	201.7	212.2	221.3	201.6	226.1	227.6	234.4	256.0	259.7
Forestry and logging	246.5	249.7	258.5	246.8	250.2	274.9	288.7	340.5	354.1
Fishing	-	-	-	-	-	-	-	-	
Mining and quarrying	21.7	19.3	27.4	23.5	26.2	32.7	34.8	46.2	43.7
Manufacturing	129.2	158.1	186.7	208.8	218.9	233.0	269.7	314.0	325.3
Electricity and gas	222.3	204.1	200.4	210.0	232.0	258.8	365.6	342.6	353.6
Construction	136.2	136.8	116.2	168.5	178.0	221.5	243.0	243.1	259.2
Wholesale and retail trade, hotels and restaurants	133.6	134.7	145.1	160.7	163.8	170.2	178.0	203.1	218.2
Transport, storage and communications	142.4	172.1	182.0	192.3	234.6	241.5	242.6	274.5	313.0
Finance, insurance and real estate	162.9	212.2	208.8	215.4	238.1	245.4	263.2	256.2	319.9
Community, social and persona services(government)	217.0	223.3	233.2	251.6	266.5	293.0	310.5	334.5	360.5
Less: Imputed bank service charges	-41.1	-28.8	-21.0	-28.1	-45.0	-61.2	-95.4	-115.8	-106.0
Gross domestic product	2,087.1	2,224.6	2,303.4	2,406.6	2,553.3	2,716.1	2,920.1	3,094.6	3,320.7
Annual growth rate (%)	4.7	6.6	3.5	4.5	6.1	6.4	7.5	6.1	7.3

Source: CSO, Ministry of Planning,Thimphu.

TABLE 14.3: COMPOUND GROWTH RATE OF GROSS DOMESTIC PRODUCT DURING FIFTH AND SEVENTH PLAN BY KIND OF ACTIVITY.

(percent)

Activity	Growth rate in current prices			Growth rate in 1980 prices		
	Vth Plan (1980-87)	VIth Plan (1987-91)	VIIth Plan (1992-97)	Vth Plan (1980-87)	VIth Plan (1987-91)	VIIth Plan (1992-97)
Agriculture, livestock and forestry and fishing	17.6	9.2	16.5	6.7	2.6	4.5
Agriculture proper	15.8	13.4	13.4	6.9	4.4	1.9
Livestock production	18.3	9.2	16.9	4.2	5.6	6.2
Forestry and logging	20.2	2.7	22.5	8.3	-0.3	8.4
Fishing	-	-	-	-	-	-
Mining and quarrying	40.6	24.9	28.5	20.1	6.1	18.4
Manufacturing	30.8	25.0	21.1	3.7	15.5	10.7
Electricity and gas	107.7	0.5	25.4	86.2	-3.3	13.0
Construction	24.8	0.7	15.0	1.6	-6.5	9.6
Wholesale, retail trade, hotels and restaurants	14.0	11.4	17.1	0.4	0.5	6.0
Transport, storage and communicaations	19.0	33.4	16.1	8.9	18.8	9.3
Finance, insurance and real estate	19.4	18.4	0.2	9.5	11.4	4.4
Community, social and personal services	23.8	7.9	13.6	6.8	3.9	7.4
Gross domestic product	20.3	10.9	16.4	6.8	3.9	6.5

Source: CSO, Ministry of Planning, Thimphu.

TABLE 14.4: PERCENTAGE COMPOSITION OF GROSS DOMESTIC PRODUCT BY VARIOUS ACTIVITIES, 1989 TO 1997

(percent)

Activity	1989	1991	1992	1993	1994	1995	1996	1997
Agriculture sector	42.7	42.7	39.4	39.6	41.3	39.6	38.6	36.4
Agriculture proper	21.6	21.9	21.8	21.6	21.9	20.8	19.2	17.1
Livestock production	9.7	9.8	7.8	7.7	8.5	8.2	7.7	8.5
Forestry and logging	11.5	11.0	9.8	10.3	11.0	10.7	11.7	10.7
Fishing	-	-	-	-	-	-	-	-
Mining and quarrying	0.9	1.7	1.6	1.4	2.1	2.0	4.0	2.1
Manufacturing	8.1	9.3	10.4	10.6	10.5	11.1	11.9	11.0
Electricity and gas	7.8	7.1	7.1	7.9	6.9	10.8	9.4	11.9
Construction	8.1	6.7	9.5	8.7	9.5	9.5	8.8	10.1
Wholesale, retail trade, hotels & restaurants	6.6	7.1	7.7	7.8	7.8	7.4	7.7	7.0
Transport, storage and communications	7.1	7.4	7.5	8.3	7.7	7.0	7.3	7.1
Finance, insurance and real estate	7.7	7.6	7.0	6.5	5.6	5.1	3.8	5.0
Community, social and personal services	11.0	10.4	9.7	9.1	8.5	7.6	8.6	9.4
Gross domestic product	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: CSO, Ministry of Planning, Thimphu.

TABLE 14.5: GROSS DOMESTIC CAPITAL FORMATION BY MAJOR COMPONENTS, 1989 TO 1997

(million Nu)

Components	1989	1990	1991	1992	1993	1994	1995	1996	1997
In current prices									
Construction	830.4	916.6	855.6	1214.0	1311.6	1556.2	1913.3	2,404.0	4,214.3
Machinery and equipment (a)	743.1	769.0	926.0	1348.7	2087.0	2314.8	2468.1	2,642.4	2,449.0
Gross fixed capital formation	1573.5	1685.6	1781.6	2562.7	3398.6	3871.0	4399.4	5,046.4	6,663.3
Increase in stock (a)	-121.1	-33.9	-71.3	351.0	-102.0	229.3	155.7	157.3	306.4
Gross domestic capital formation	1573.5	1685.6	1781.6	2913.7	3296.6	4100.3	4555.1	5,203.6	6,969.7
In 1980 prices									
Construction	298.0	306.6	278.7	360.2	392.7	461.8	465.4	579.3	665.8
Machinery and equipment	426.4	419.7	463.5	674.4	640.7	723.0	626.4	670.2	492.0
Gross fixed capital formation	724.4	726.3	742.2	1034.6	1033.4	1184.8	1091.8	1,249.5	1,157.9
Increase in stock (b)	-53.8	-9.2	-17.2	113.3	-30.2	74.0	50.2	43.9	72.8
Gross domestic capital formation	670.6	717.1	725.0	1147.9	1003.2	1258.8	1142.0	1,293.4	1,230.7

Note: (a) Includes additions to livestock treated as fixed capital
(b) Excludes addition to livestock treated as fixed capital

Source: CSO, Ministry of Planning, Thimphu.

TABLE 14.6: SHARE OF GROSS DOMESTIC CAPITAL FORMATION IN GDP AT MARKET PRICES, 1989 TO 1997

(million Nu)

Components	1989	1990	1991	1992	1993	1994	1995	1996	1997
Gross domestic product at market prices	4381.6	4961.0	5501.5	6353.9	7192.2	8501.1	9958.1	11,714.0	14,477.0
Gross domestic fixed capital formation	1573.5	1685.6	1781.6	2562.7	3398.6	3871.2	4399.1	5,046.0	6,663.3
Gross domestic capital formation	1452.4	1651.7	1710.3	2913.7	3296.6	4100.1	4555.1	5,204.0	6,969.7
Share in Gross domestic product (percent)									
Gross domestic fixed capital formation	68.9	34.0	32.4	47.3	47.3	45.5	44.1	43.1	46.0
Gross domestic capital formation	33.1	33.3	31.1	45.9	45.8	48.2	45.7	44.4	48.1

Source: CSO, Ministry of Planning, Thimphu.

TABLE 14.7: GROSS AND NET CAPITAL FORMATION, 1989 TO 1997

(million nu)

Components	1989	1990	1991	1992	1993	1994	1995	1996	1997
In current prices									
Gross domestic capital formation	1452.4	1651.6	1710.6	2913.7	3296.6	4100.1	4555.1	5,204.0	6,969.7
Consumption of fixed capital (depreciation)	399.0	451.0	503.6	590.7	670.0	846.0	1126.0	1,329.0	1,188.0
Net domestic capital formation	1053.4	1200.6	1207.0	2323.0	2626.6	3254.1	3429.1	3,875.0	5,781.7
Im 1980 prices									
Gross domestic capital formation	670.6	727.1	724.7	1034.7	1033.4	1184.8	1091.8	1,310.0	1,231.4
Consumption of fixed capital (depreciation)	215.0	217.7	225.0	237.0	249.9	268.2	293.0	312.0	281.9
Net domestic capital formation	455.6	509.4	499.7	797.7	783.5	916.6	798.8	998.0	949.5

Source: CSO, Ministry of Planning, Thimphu

TABLE 14.8: GROSS AND NET DOMESTIC PRODUCT AND RELATED AGGREGATES, 1988 TO 1997

(million nu)

Aggregates	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
In current prices										
Net domestic product at factor cost	3,489	3,909	4,397	4,839	5,587	6,337	7,305	8,485	10,077	12,783
Add: Consumption of fixed capital	362	399	451	504	591	670	846	1,126	1,329	1,188
Gross domestic product at factor cost	3,851	4,308	4,848	5,342	6,178	7,007	8,151	9,611	11,405	13,971
Add: Indirect taxes, less of subsidies (a)	83	74	134	159	176	185	351	358	308	506
Gross domestic product at market prices	6,934	4,382	4,983	5,502	6,355	7,192	8,501	9,968	11,714	14,477
Add: Net factor income from abroad	-344.3	-171.6	-326	-491	-734	-875	-914	-1198	-1396	-1141
Gross national product at market prices	3,589	4,210	4,657	5,011	5,621	6,317	7,587	8,770	10,318	13,336
In 1980 prices										
Net domestic product at factor cost	1,792	1,872	2,007	2,078	2,161	2,300	2,448	2,627	2,783	3,039
Add: Consumption of fixed capital	202	215	218	225	237	250	268	293	312	282
Gross domestic product at factor cost	1,994	2,087	2,225	2,303	2,398	2,549	2,716	2,920	3,095	3,321

Note: (a) Excludes excise refunds from Government of India

Source: CSO, Ministry of Planning, Thimphu.

TABLE 14.9: ESTIMATES OF FINAL CONSUMPTION EXPENDITURE, GROSS DOMESTIC SAVINGS AND SAVINGS IN CURRENT PRICES, 1990 TO 1997

Details	1990	1991	1992	1993	1994	1995	1996	1997
Revenue receipts	1,020.0	985.7	1,493.0	1,567.9	1,685.5	1,850.7	2,290.0	2,993.3
Consumption expenditure	3,532.7	4,244.1	4,996.2	4,800.3	5,679.1	6,301.1	7,669.0	9,815.0
Government	948.7	1,015.1	1,215.2	1,241.0	1,426.1	1,745.1	3,445.0	3,688.1
Private	2,584.0	3,229.0	3,781.0	3,559.3	4,253.0	4,556.0	4,224.0	6,126.9
Savings	1,360.7	1,070.6	960.8	1,876.1	2,312.4	2,885.1	3,086.7	5,063.5
Government	71.3	(29.4)	277.8	(333.3)	259.6	106.0	(1,155.0)	(694.8)
Private	1,289.4	1,100.0	683.0	2,209.4	2,052.8	2,779.1	4,241.7	5,758.3
Gross domestic savings	1,360.7	1,070.6	960.8	1,876.1	2,312.4	2,885.1	3,086.7	5,063.5
Gross domestic capital formation	1,651.7	1,710.6	2,913.8	3,296.6	4,100.4	4,555.1	5,204.0	6,969.7
Net capital inflow	291.0	640.0	1,953.0	1,420.5	1,788.0	1,670.0	2,117.3	1,906.2

Note: figures in the bracket refers to negative sign.

Source: CSO, Ministry of Planning, Thimphu.

CHAPTER 15: PRICES

INTRODUCTION

The only price statistics currently compiled in Bhutan relate to the Consumer Price Indexes, often referred to as the CPI. The CPI has been produced by the CSO twice a year since December 1979. In addition, a food price index for Thimphu has been produced each quarter since September 1987.

The purpose of the CPI is to provide a general indicator of the rate of price change for consumer goods and services. The CPI is important in monitoring overall price development and assessing changes in the living standard of the population.

The CPI is formed by measuring the change in the cost of purchasing a basket of consumer goods and services where items in the basket are weighted according to their relative importance in the total spending of consumers. The basket include food items (i.e. rice, other cereals, vegetables, oils and fats, and spices) together with non food items such as clothing, fuel, furniture and other personal items. Items such as cereals are weighted more heavily than say furniture, because they represent a larger proportion of consumer expenditure. A price change in cereals will therefore have a greater effect on the CPI than a price change for furniture.

The CPI is presented as Index Numbers, where the indexes are measured relative to the base of June 1979 = 100.0 price change is estimated by measuring change in the Index numbers.

TABLE 15.1: CONSUMER PRICE INDICES FOR FOOD AND NON-FOOD COMPONENTS, BHUTAN, 1992 TO 1997.

(December 1979 = 100)

Item	Weight	1992		1993		1994		1995		1996		1997		Average growth (%)	
	(%)	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun 80-97	Dec 79-97
Index															
Food	72.31	301.2	316.0	335.4	336.0	342.5	347.9	367.7	392.2	407.8	422.9	423.1	438.1	..	..
Non-foo	27.69	360.1	387.2	426.6	443.3	484.8	519.1	532.2	556.6	566.3	607.8	646.2	666.2	..	..
Total	100.00	317.5	355.7	360.6	365.7	381.9	395.3	413.2	437.7	451.7	474.1	484.9	501.2	..	..
Percentage change on the previous year															
Food	72.31	19.7	16.3	11.4	6.3	2.1	3.5	7.3	12.7	10.9	7.8	3.8	3.6	8.8	8.6
Non-foo	27.69	8.6	15.2	18.5	14.5	13.7	17.1	9.8	7.2	6.4	9.2	14.1	9.6	10.0	11.1
Total	100.00	16.0	16.0	13.6	8.9	5.9	8.1	8.2	10.7	9.3	8.3	7.4	5.7	9.5	9.4
Percentage change on the previous period															
Food	72.31	10.9	4.9	6.1	0.2	1.9	1.7	5.7	6.7	4.0	3.7	0.1	3.5	4.2	..
Non-foo	27.69	7.1	7.5	10.2	3.9	9.4	7.1	2.5	4.6	1.7	7.3	6.3	3.1	5.4	..
Total	100.00	9.7	5.7	7.4	1.4	4.4	3.5	4.5	5.9	3.2	5.0	2.3	3.4	4.6	..

Source: CSO, Ministry of Planning, Thimphu.

TABLE 15.2: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, 1992 TO 1997.

(December 1979 = 100)

Item	Weight	1992		1993		1994		1995		1996		1997	
	(%)	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec
Cereals	37.77	278.9	291.0	304.4	308.1	322.9	326.9	341.3	358.8	375.8	375.9	380.6	380.7
Pulses	0.67	313.7	307.0	328.5	255.8	355.7	410.7	441.1	511.5	525.6	595.4	588.8	572.5
Vegetables	2.43	291.0	290.7	358.1	392.4	344.7	403.9	454.2	477.6	487.5	456.2	367.1	497.0
Fruits	0.04	313.5	473.6	551.9	433.5	643.6	478.8	641.1	506.6	508.9	552.2	632.0	613.6
Edible oil and fats	2.87	337.4	323.4	314.1	316.7	310.6	309.8	329.0	332.2	330.7	321.3	312.8	311.6
Spices	5.10	456.2	550.0	520.8	579.5	518.6	476.5	536.4	596.8	579.5	630.4	611.2	659.3
Milk and its products	7.07	352.6	338.4	336.1	350.1	339.3	362.3	372.2	447.5	470.1	490.3	488.2	507.5
Other food and intoxicants	16.36	288.3	293.7	349.2	328.2	338.5	345.5	364.5	374.2	397.7	443.0	455.2	479.1
Fuel and lighting	3.65	216.7	216.7	222.2	222.2	225.6	225.6	235.1	235.1	235.1	257.0	259.3	273.7
Clothing and footwear	21.20	378.3	411.4	453.6	143.0	532.6	575.2	586.5	616.8	627.2	672.4	719.9	739.5
Stationary & personal effects	0.62	299.8	364.5	363.1	358.6	384.1	407.2	416.7	441.0	442.5	460.2	467.0	478.1
Miscellaneous goods & services	1.57	428.0	404.6	460.7	475.9	469.6	486.8	503.6	508.3	534.4	585.6	605.6	629.8
Furniture and utensils	0.65	462.9	530.8	666.5	619.2	511.4	521.5	604.4	621.9	628.5	657.7	677.0	742.9
Total	100.00	317.5	335.7	360.6	365.7	381.9	395.3	413.2	437.7	451.7	474.1	484.9	501.2

Source: CSO, Ministry of Planning, Thimphu.

TABLE 15.3: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, 1992 TO 1997

(percentage change on the previous period)

Item	Weight (%)	1992		1993		1994		1995		1996		1997		Average growth(%)
		Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	1979-97
Cereals	37.77	15.9	4.3	4.6	1.2	4.8	1.3	4.4	5.1	4.7	0.0	1.2	0.0	3.8
Pulses	0.67	-2.6	-2.1	7.0	2.2	5.9	15.5	7.4	16.0	2.8	13.3	-1.1	-2.8	5.0
Vegetables	2.43	-12.1	-0.1	23.2	9.6	-12.2	17.2	12.5	5.2	2.1	-6.4	-19.5	35.4	4.6
Fruits	0.04	-5.4	51.1	16.5	-21.5	48.5	-25.6	33.9	-21.0	0.5	8.5	14.5	-2.9	5.2
Edible oil and fats	2.87	1.2	-4.1	-2.9	0.8	-1.9	-0.2	6.2	1.0	-0.5	-2.8	-2.6	-0.4	3.2
Spices	5.10	21.8	20.6	-5.3	2.2	-2.5	-8.1	12.6	11.3	-2.9	8.8	-3.0	7.9	5.4
Milk and its products	7.07	5.2	3.9	-0.7	4.2	-3.1	6.8	2.7	20.2	5.1	4.3	-0.4	3.9	4.6
Other food and intoxicants	16.36	5.7	1.9	18.9	-6.0	3.1	2.1	5.5	2.7	6.3	11.4	2.7	5.3	4.4
Fuel and lighting	3.65	0.0	0.0	2.5	0.0	1.5	0.0	4.2	0.0	0.0	9.3	0.9	5.5	2.8
Clothing and footwear	21.20	6.7	8.8	10.3	4.9	11.9	8.0	2.0	5.2	1.7	7.2	7.1	2.7	5.7
Stationary & personal effects	0.62	1.9	21.6	-0.4	-1.2	7.1	6.0	2.3	5.8	0.3	4.0	1.5	2.4	4.4
Miscellaneous goods and services	1.57	22.1	-5.5	13.9	3.3	-1.3	3.7	3.5	0.9	5.1	9.6	3.4	4.0	5.2
Furniture and utensils	0.65	13.7	14.7	25.6	-7.1	-17.4	2.0	15.9	2.9	1.1	4.6	2.9	9.7	5.7
Total	100.00	9.7	5.7	7.4	1.4	4.4	3.5	4.5	5.9	3.2	5.0	2.3	3.4	4.6

Source: CSO, Ministry of Planning, Thimphu.

TABLE 15.4: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, 1992 TO 1997

(percentage change over the previous year)

Item	Weight (%)	1992		1993		1994		1995		1996		1997		Average growth(%)	
		Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun 80-97	Dec 79-97
Cereals	37.77	23.2	20.9	9.1	5.9	6.1	6.1	5.7	9.7	10.1	4.8	1.3	1.3	8.3	7.7
Pulses	0.67	5.9	-4.7	4.7	9.4	8.3	22.3	24.0	24.5	19.2	16.4	12.0	-3.8	10.2	10.2
Vegetables	2.43	4.6	-12.2	23.1	35.0	-3.8	2.9	31.8	18.3	7.3	-4.5	-24.7	8.9	8.4	9.3
Fruits	0.04	3.3	42.9	76.1	-8.5	16.6	10.5	-0.4	5.8	-20.6	9.0	24.2	11.1	11.5	10.6
Edible oil and fats	2.87	8.3	-3.0	-6.9	-2.1	-1.1	-2.2	5.9	7.2	0.5	-3.3	-5.4	-3.0	6.5	6.5
Spices	5.10	50.7	46.8	14.2	3.3	-0.4	-10.4	3.4	25.3	8.0	5.6	5.5	4.6	10.9	11.0
Milk and its products	7.07	13.2	9.4	3.2	3.4	0.9	3.5	9.7	23.5	26.3	9.5	3.9	3.5	9.7	9.4
Other food and intoxicants	16.36	10.1	7.7	21.1	11.7	-3.1	5.3	7.7	8.3	9.1	18.4	14.4	8.1	8.9	9.1
Fuel and lighting	3.65	0.0	0.0	2.5	2.5	1.5	1.5	4.2	4.2	0.0	9.3	10.3	6.5	7.0	5.8
Clothing and footwear	21.20	8.1	16.0	19.9	15.7	17.4	20.8	10.1	7.2	6.9	9.0	14.8	10.0	11.3	11.8
Stationary & personal effects	0.62	1.0	23.9	21.1	-1.6	5.8	13.5	8.5	8.3	6.2	4.4	5.5	3.9	9.0	9.1
Miscellaneous goods and services	1.57	22.5	15.4	7.6	17.6	1.9	2.3	7.2	4.4	6.1	15.2	13.3	7.6	11.6	10.8
Furniture and utensils	0.65	26.6	30.4	44.0	16.7	-23.3	-15.8	18.2	19.3	4.0	5.8	7.7	13.0	11.8	11.8
Total	100.00	16.0	16.0	13.6	8.9	5.9	8.1	8.2	10.7	9.3	8.3	7.4	5.7	9.5	9.4

Source: CSO, Ministry of Planning, Thimphu.

TABLE 15.5: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, 1990 TO 1997.

(December 1979=100)

Item	Weight	1991		1992		1993		1994		1995		1996		1997	
	(%)	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec
Cereals	37.77	226.4	240.7	278.9	291.0	304.4	308.1	322.9	326.9	341.3	358.8	375.8	375.9	380.6	380.7
Pulses	0.67	296.3	322.0	313.7	307.0	328.5	335.8	355.7	410.7	441.1	511.5	525.6	595.4	588.8	572.5
Vetetables	2.43	278.2	311.0	291.0	290.7	358.1	392.4	344.7	403.9	454.2	477.6	487.5	456.2	367.1	497.0
Fruits	0.04	303.4	311.4	313.5	473.6	551.9	433.5	643.6	478.8	641.1	506.6	508.9	552.2	632.0	613.6
Edible oil and fats	2.87	311.4	333.5	337.4	323.4	314.1	316.7	310.6	309.8	329.0	332.2	330.7	321.3	312.8	311.6
Spices	5.10	302.7	374.5	456.2	550.0	520.8	532.1	518.6	476.5	536.4	596.9	579.5	630.4	611.2	659.3
Milk and its product	7.07	287.6	309.4	325.6	338.4	366.1	350.1	339.3	362.3	372.2	447.5	470.1	490.3	488.2	507.5
Sugar	1.03	251.7	253.9	272.8	272.6	279.0	313.3	396.5	367.3	387.6	387.9	399.1	396.0	398.9	432.9
Beverages	1.34	340.0	395.5	432.9	395.9	426.2	432.2	447.7	461.4	495.0	494.7	504.4	517.9	556.0	587.7
Meat and fish	9.10	297.2	301.8	317.8	325.5	416.3	364.1	369.8	376.9	402.2	416.3	451.4	505.2	514.4	524.4
Eggs	0.19	244.7	274.0	260.8	305.7	305.0	322.9	333.3	325.8	330.7	351.4	330.2	383.1	388.8	394.1
Intoxicants	3.38	172.8	179.6	188.8	201.6	206.4	223.6	236.0	249.2	252.8	256.4	260.4	260.0	276.8	302.0
Tobacco	1.32	176.9	200.5	207.3	219.8	233.0	254.0	227.6	241.5	243.6	254.7	277.8	449.8	452.4	555.5
Total	72.31	251.6	271.6	301.2	316.0	335.4	336.0	342.5	347.9	367.7	392.2	407.8	422.9	423.1	438.1

Source: CSO, Ministry of Planning, Thimphu.

TABLE 15.6: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, 1992 TO 1997.

(percent change over the preceeding year)

Item	Weight	1992		1993		1994		1995		1996		1997		Average growth(%)	
	(%)	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	June 80-97	December 79-97
Cereals	37.77	23.2	20.9	9.1	5.9	6.1	6.1	5.7	9.7	10.1	4.8	1.3	1.3	8.3	7.7
Pulses	0.67	5.9	-4.7	4.7	9.4	8.3	22.3	24.0	24.5	19.2	16.4	12.0	-3.8	10.2	10.2
Vegetables	2.43	4.6	-12.2	23.1	35.0	-3.8	2.9	31.8	18.3	7.3	-4.5	-24.7	8.9	8.4	9.3
Fruits	0.04	3.3	42.9	76.1	-8.5	16.6	10.5	-0.4	5.8	-20.6	9.0	24.2	11.1	11.5	10.6
Edible oil and fa	2.87	8.3	-3.0	-6.9	-2.1	-1.1	-2.2	5.9	7.2	0.5	-3.3	-5.4	-3.0	6.5	6.5
Spices	5.10	50.7	46.8	14.2	-3.3	-0.4	-10.4	3.4	25.3	8.0	5.6	5.5	4.6	10.9	11.0
Milk and its prod	7.07	13.2	9.4	3.2	3.4	0.9	3.5	9.7	23.5	26.3	9.5	3.9	3.5	9.7	9.4
Sugar	1.03	8.4	7.4	2.3	15.0	42.1	17.2	-2.2	5.6	3.0	2.1	-0.1	9.3	5.8	8.5
Beverages	1.34	27.3	0.1	-1.5	9.2	5.1	6.8	10.6	7.2	1.9	4.7	10.2	13.5	10.2	10.3
Meat and fish	9.10	6.9	7.9	31.0	11.8	-11.2	3.5	8.7	10.5	12.2	21.4	14.0	3.8	10.0	9.6
Eggs	0.19	6.6	11.6	17.0	5.7	9.3	0.9	-0.8	7.9	-0.2	9.0	17.8	2.9	7.4	7.9
Intoxicants	3.38	9.3	12.2	9.3	10.9	14.3	11.4	7.1	2.9	3.0	1.4	6.3	16.2	5.0	6.3
Tobacco	1.32	17.2	9.6	12.4	15.5	-2.3	-4.9	7.0	5.4	14.1	76.6	62.8	23.5	10.9	10.0
Total	72.31	19.7	16.3	11.4	6.3	2.1	3.5	7.3	12.7	10.9	7.8	3.8	3.6	8.8	8.6

Source: CSO, Ministry of Planning, Thimphu.

TABLE 15.7: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, 1992 TO 1997

(percent change over the preceeding period)

Item	Weight (%)	1992		1993		1994		1995		1996		1997		Average growth(%) 1979-97
		Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	
Cereals	37.77	15.9	4.3	4.6	1.2	4.8	1.3	4.4	5.1	4.7	0.0	1.2	0.0	3.8
Pulses	0.67	-2.6	-2.1	7.0	2.2	5.9	15.5	7.4	16.0	2.8	13.3	-1.1	-2.8	5.0
Vegetables	2.43	-12.1	-0.1	23.2	9.6	-12.2	17.2	12.5	5.2	2.1	-6.4	-19.5	35.4	4.6
Fruits	0.04	-5.4	51.1	16.5	-21.5	48.5	-25.6	33.9	-21.0	0.5	8.5	14.5	-2.9	5.2
Edible oil and fats	2.87	1.2	-4.1	-2.9	0.8	-1.9	-0.2	6.2	1.0	-0.5	-2.8	-2.6	-0.4	3.2
Spices	5.10	21.8	20.6	-5.3	2.2	-2.5	-8.1	12.6	11.3	-2.9	8.8	-3.0	7.9	5.4
Milk and its produc	7.07	5.2	3.9	-0.7	4.2	-3.1	6.8	2.7	20.2	5.1	4.3	-0.4	3.9	4.6
Sugar	1.03	7.5	-0.1	2.4	12.3	26.5	-7.4	5.5	0.1	2.9	-0.8	0.7	8.5	4.2
Beverages	1.34	9.5	-8.5	7.7	1.4	3.6	3.1	7.3	-0.1	2.0	2.7	7.3	5.7	5.0
Meat and fish	9.10	5.3	2.4	27.9	-12.5	1.6	1.9	6.7	3.5	8.4	11.9	1.8	2.0	4.7
Eggs	0.19	-4.8	17.2	-0.2	5.9	3.2	-2.2	1.5	6.2	-6.0	16.0	1.5	1.4	3.9
Intoxicants	3.38	5.1	6.8	2.4	8.3	5.5	5.6	1.4	1.4	1.6	-0.2	6.5	9.1	3.1
Tobacco	1.32	3.4	6.1	6.0	9.0	-10.4	6.1	0.8	4.6	9.1	61.9	0.6	22.8	4.9
Total	72.31	10.9	4.9	6.1	0.2	1.9	1.6	5.7	6.7	4.0	3.7	0.1	3.5	4.2

Source: CSO, Ministry of Planning, Thimphu.

TABLE 15.8: QUARTERLY PRICE INDICES FOR FOOD ITEMS, THIMPHU TOWN, 1989 TO 1997

(December 1979 = 100)

Period	Cereals and pulses	Vegetables and fruits	Other food items	Total food items
Quarter ending:				
1989				
March	172.8	261.8	228.3	198.0
June	178.0	290.0	235.1	204.6
September	180.3	292.8	239.3	207.7
December	182.5	284.9	245.9	211.3
1990				
March	189.8	267.7	254.6	218.2
June	198.4	286.6	275.8	232.2
September	201.7	263.2	261.7	227.6
December	202.9	316.4	280.6	237.7
1991				
March	210.8	375.1	294.1	249.7
June	213.6	473.4	297.3	256.1
September	227.7	447.8	300.6	264.5
December	235.7	527.4	313.6	277.1
1992				
March	258.4	534.4	316.7	291.5
June	280.5	548.1	337.6	312.8
September	285.1	550.8	344.9	318.4
December	285.1	607.3	383.6	335.8
1993				
March	300.9	814.7	395.1	356.9
June	304.9	819.0	402.0	362.0
September	312.0	760.9	404.1	364.8
December	320.4	925.0	411.8	379.2
1994				
March	325.5	762.3	412.2	375.7
June	335.8	857.0	441.5	396.6
September	350.7	827.2	435.1	401.5
December	357.9	1,007.3	452.8	419.1
1995				
March	359.6	1,203.7	465.6	432.3
June	383.0	1,427.1	481.1	459.9
September	414.5	1,775.6	507.0	500.9
December	452.7	1,680.1	517.7	527.4
1996				
March	459.5	1537.0	537.0	529.5
June	462.2	1803.6	538.6	541.4
September	501.7	1497.7	563.9	562.6
December	507.8	1859.1	586.4	588.2
1997				
March	492.8	2000.2	572.7	579.7
June	496.3	2191.1	595.2	597.2
September	495.8	2231.8	594.0	598.0
December	497.4	2343.2	605.8	607.6

Source: CSO, Ministry of Planning, Thimphu

TABLE 15.9: QUARTERLY PRICE INDICES FOR FOOD ITEMS, THIMPHU TOWN, 1989 TO 1997

(percentage change over the preceeding quarter)

Period	Cereals and pulses	Vegetables and fruits	Other food item	Total food item
Quarter ending:				
1989				
March	1.5	0.5	0.7	1.1
June	3.0	10.8	3.0	3.3
September	1.3	1.0	1.8	1.5
December	1.2	-2.7	2.8	1.7
1990				
March	4.0	-6.0	3.5	3.3
June	4.5	7.1	8.3	6.4
September	1.7	-8.2	-5.1	-2.0
December	0.6	20.2	7.2	4.4
1991				
March	3.9	18.6	4.8	5.0
June	1.3	26.2	1.1	2.6
September	6.6	-5.4	1.1	3.3
December	3.5	17.8	4.3	4.8
1992				
March	9.6	1.3	1.0	5.2
June	8.6	2.6	6.6	7.3
September	1.6	0.5	2.2	1.8
December	0.0	10.3	11.2	5.5
1993				
March	5.5	34.2	3.0	6.3
June	1.3	0.5	1.7	1.4
September	2.3	-7.1	0.5	0.8
December	2.7	21.6	1.9	3.9
1994				
March	1.6	-17.6	0.1	-0.8
June	3.2	12.4	7.1	5.6
September	4.4	-3.5	-1.5	1.2
December	2.0	21.8	4.1	4.4
1995				
March	0.5	19.5	2.8	3.1
June	6.5	18.6	3.3	6.4
September	8.2	24.4	5.4	8.9
December	9.2	-5.4	2.1	5.3
1996				
March	1.5	-8.5	3.7	0.4
June	0.6	17.3	0.3	2.3
September	8.5	-17.0	4.7	3.9
December	1.2	24.1	4.0	4.6
1997				
March	-3.0	7.6	-2.3	-1.5
June	0.7	9.5	3.9	3.0
September	-0.1	1.9	-0.2	0.1
December	0.3	5.0	2.0	1.6

Source: CSO, Ministry of Planning, Thimphu

CHAPTER 16. CRIME

INTRODUCTION

Bhutan had been a very peaceful country in the past and incidence of crime was rare. But in the recent past, crimes have become noticeable. This chapter presents the crime statistics including other offenses recorded with the Royal Bhutan Police. The nature and type of crime reported here reflects on the peace and security of the community. The content and coverage of this chapter should improve in our subsequent issues.

TABLE 16.1: CRIME REPORTS BY NATURE OF CRIME, BHUTAN, 1988 TO 1997.

(numbers)

Nature of crime	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Crime against human body	627	726	711	461	533	556	556	542	552	498
Sexual offence	26	34	39	35	41	35	47	52	33	42
Crime against property	667	811	802	737	1,008	956	893	785	747	675
Motor vehicle accident	387	475	383	276	310	354	335	334	333	319
Forest offence	21	30	13	11	11	17	13	7	8	7
Antiques	4	2	26	49	113	128	104	90	193	176
Fire incidents	58	60	63	60	44	44	48	59	48	47
Others	175	177	190	141	128	122	118	154	132	127
All crimes	1,965	2,315	2,227	1,770	2,188	2,212	2,114	2,023	2,046	1,891

Source: Royal Bhutan Police, Thimphu.

TABLE 16.2: DETAILS OF CRIME AGAINST HUMAN BODY, BHUTAN, 1986 TO 1997.

(numbers)

Details	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Murder	8	7	12	14	20	12	27	19	20	16	12	7
Attempted murder	11	11	14	10	11	9	12	15	19	10	15	6
Dacoity with murder	-	-	-	-	4	1	2	-	3	1	-	-
Robbery with murder	-	-	-	-	-	1	1	1	-	-	-	-
Suspect homicide	-	-	-	1	-	-	-	-	-	-	-	-
Homicide murder	-	-	-	1	1	-	-	-	-	2	1	3
Suspect murder	-	1	1	-	2	-	1	-	-	2	-	-
Infanticide	-	-	-	1	1	-	-	-	-	-	-	-
Unnatural death	4	18	39	41	42	23	10	31	24	24	19	22
Accidental death	43	29	15	31	30	18	46	32	23	42	40	41
Natural death	-	-	-	-	-	1	-	-	-	3	2	2
Drowning	16	11	21	18	20	23	12	18	22	29	14	31
Suicide	23	33	27	29	34	28	19	24	29	26	35	34
Attempted suicide	2	9	8	19	6	5	12	8	13	7	6	3
Assault	356	481	470	540	494	312	355	385	373	367	387	319
Abduction	13	15	14	9	14	9	2	-	2	2	3	_
Kidnapping	7	2	-	1	14	6	5	3	2	1	2	_
Poisoning	8	5	2	4	3	1	14	4	4	1	2	3
Drugs(Nurcotics)	-	-	-	-	-	-	-	-	-	-	-	11
Contempt of lawful author	-	1	-	1	3	1	-	6	8	1	2	5
Wrongful confinement	-	2	-	-	-	-	1	1	-	-	1	-
Affray	-	1	-	3	3	3	3	-	7	3	3	4
Accidental injury	-	1	-	-	-	-	-	-	-	1	3	2
Querreling	-	1	-	-	-	-	1	-	-	-	-	-
Black magic	-	4	4	1	1	-	1	1	1	1	1	1
Defamation	-	-	-	-	1	2	4	1	-	1	3	2
Grevious hurt	-	-	-	-	2	-	-	-	-	2	1	2
Wronful restraint	-	-	-	-	-	-	-	2	-	-	-	-
All crimes against human	491	632	627	724	706	455	528	551	550	542	552	498

Source: Royal Bhutan Police, Bhutan.

TABLE 16.3: DETAILS OF SEXUAL OFFENCES, BHUTAN, 1986 TO 1997.

Details	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Rape	14	6	8	7	4	19	11	9	14	10	12	4
Attempted rape	-	5	6	7	10	6	8	8	5	9	3	10
Adultry	11	19	10	8	10	6	7	8	5	8	4	4
Incest	-	-	-	3	2	-	-	1	1	-	2	1
Molestation	-	-	-	-	-	-	-	1	-	2	-	3
Elopment	6	3	-	9	11	4	12	6	15	15	11	19
Eve teasing	-	-	2	-	2	-	-	-	2	2	-	-
Unnatural offence	-	1	-	-	-	-	2	-	1	-	-	-
Prostitution	-	-	-	-	-	-	1	1	2	6	1	1
Robbery cum rape	-	-	-	-	-	-	-	1	-	-	-	-
Dacoity cum rape	-	-	-	-	-	-	-	-	2	-	-	-
All sexual offences	31	34	26	34	39	35	41	35	47	52	33	42

Source: Royal Bhutan Police, Thimphu.

TABLE 16.4: DETAILS OF CRIME AGAINST PROPERTY, BHUTAN, 1986 TO 1997.

(numbers)

Details	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Theft	442	539	441	501	501	354	534	427	383	383	356	325
Burglary	8	17	28	118	110	93	86	109	126	126	156	94
House breaking	8	11	30	13	18	11	6	7	4	4	3	4
Robbery	11	8	13	16	15	48	73	60	45	28	27	14
Dacoity	-	6	9	15	21	74	128	139	108	58	25	32
Pick pocketing	7	11	6	19	9	3	5	13	12	6	8	12
Cheating	28	27	36	33	31	26	38	22	29	18	19	38
Loss of property	12	16	32	16	25	26	33	52	40	36	31	38
Forgery	6	1	12	5	2	3	5	8	6	3	5	3
Criminal breach of trust	1	17	6	3	7	1	10	18	8	14	9	7
Embezzlement	4	4	2	4	2	4	-	4	2	5	5	2
Counterfeit of coin/notes	1	1	-	-	2	-	-	1	5	1	6	2
Misappropriation	5	5	-	2	-	-	3	1	1	6	6	1
Cattle lifting	2	12	14	24	16	50	25	28	41	29	24	25
Mischief	8	15	22	28	27	24	36	28	26	45	46	44
Extortion	2	4	-	2	2	1	3	4	7	7	3	4
Scooter theft	-	-	1	1	-	-	-	-	6	2	-	-
Theft of vehicle	-	-	-	-	6	4	2	12	8	-	-	-
Hijacking	-	-	-	-	-	7	11	9	12	4	2	2
Food adulteration	-	-	1	1	-	-	-	-	-	-	-	-
Attemted to robbery	-	-	1	-	-	2	1	3	5	2	2	5
Illegal tresspass	1	6	5	2	-	-	-	1	1	-	3	2
Attempted to theft	2	7	1	4	1	1	-	-	4	-	-	-
Monetary	-	8	-	-	3	1	4	-	-	-	-	1
Suspect theft	-	1	-	-	-	1	1	-	4	-	-	-
House tresspass	-	-	-	-	2	2	3	2	1	2	2	-
Trafficking in fair sex	-	-	-	2	-	-	-	-	-	-	-	-
Attempted to dacoity	-	-	2	-	1	-	1	4	3	-	-	-
Criminal tresspass	-	-	4	1	1	-	-	3	6	1	2	1
Smuggling	-	-	1	-	-	-	-	-	-	4	6	18
Conspiracy	-	-	-	1	-	1	-	-	-	1	-	1
Weight and measurers	-	-	-	-	-	-	-	1	-	-	1	-
All crimes against property	548	716	667	811	802	737	#####	956	893	785	747	675

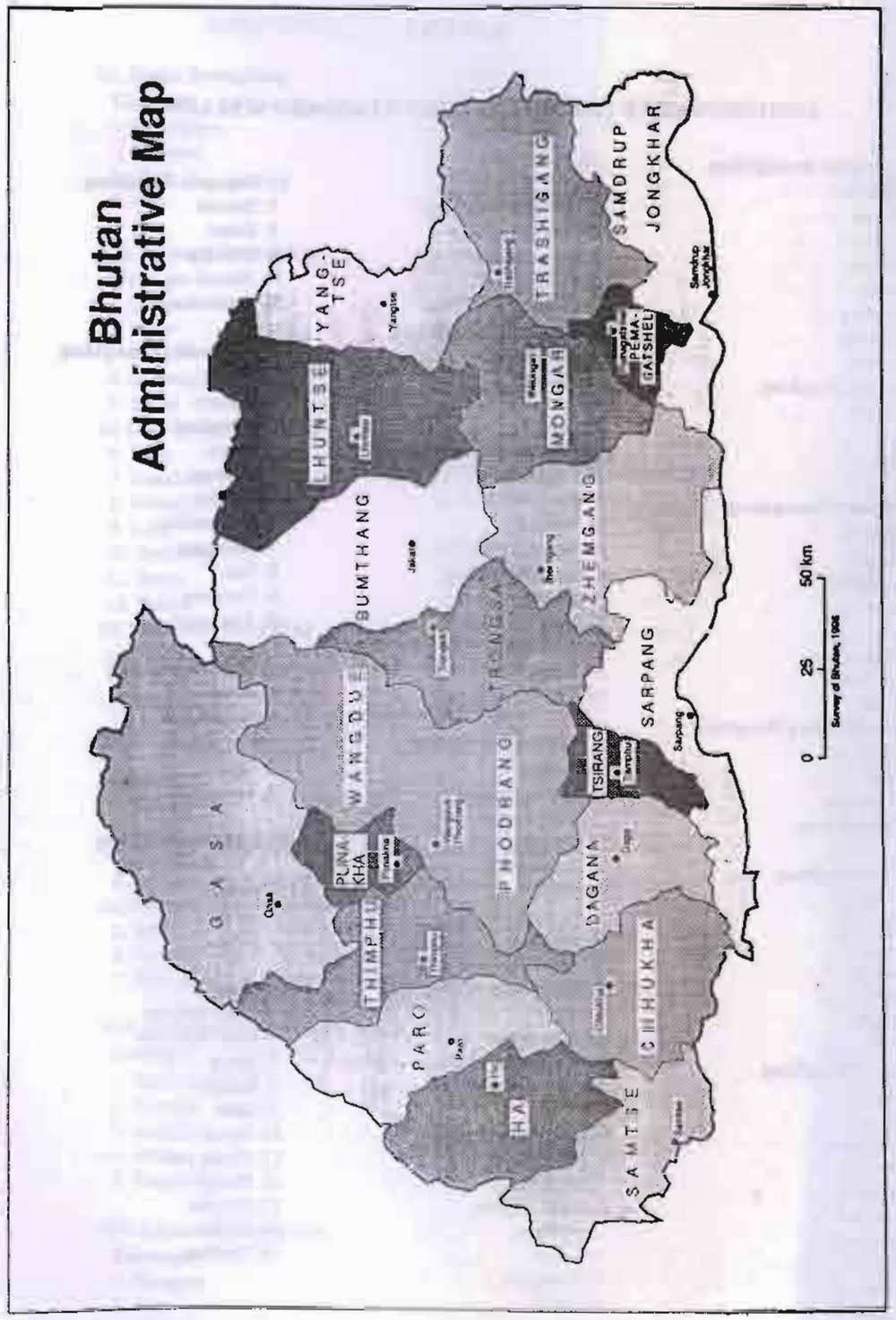
Source: Royal Bhutan Police, Thimphu.

TABLE 16.5:DETAILS OF MOTOR VEHICLE, ANTIQUES, FOREST OFFENCES AND FIRE INCIDENTS, BHUTAN, 1986 to 1997

(numbers)

Details	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Motor vehicle offences	244	313	387	475	383	276	310	354	335	334	333	319
Cycle accidents	-	-	2	-	-	3	1	-	-	1	-	2
Traffic voilation	20	21	115	144	104	37	25	62	23	48	35	35
Hit and run	3	25	16	31	20	15	29	9	25	16	23	17
Motor vehicle accident	221	267	254	299	258	220	255	283	283	261	260	259
Motor vehicle accident (fatal)	-	-	-	1	-	-	-	-	4	8	15	6
Accident pay loader	-	-	-	-	1	1	-	-	-	-	-	-
Forest offences	19	27	21	30	13	11	11	17	13	7	8	7
Hunting	-	3	-	2	1	2	1	2	1	-	-	-
Poaching	11	9	8	8	5	5	1	9	4	2	3	5
Illegal fishing	8	12	8	19	4	1	1	2	5	1	4	1
Theft of forest product	-	3	3	1	3	3	8	4	3	4	1	1
Smuggling of forest product	-	-	2	-	-	-	-	-	-	-	-	-
Antiques	2	1	4	2	26	49	113	128	104	90	193	176
Theft of antique	2	1	4	1	20	36	24	32	17	10	9	10
Chhoeten vandalism	-	-	-	-	4	9	87	92	83	77	179	151
Smuggling of antique	-	-	-	-	1	-	1	1	3	1	3	10
Smuggling of musk	-	-	-	1	-	1	-	1	1	2	2	-
Musk antique	-	-	-	-	-	1	-	-	-	-	-	-
Musk trapping	-	-	-	-	1	1	-	-	-	-	-	-
Antique	-	-	-	-	-	1	1	2	-	-	-	5
Fire accident	43	65	58	60	63	60	44	44	48	59	48	47
Fire accident	43	65	58	60	52	52	37	33	40	52	44	40
Arson	-	-	-	-	11	8	7	11	8	7	4	7

Source: Royal Bhutan Police, Thimphu.



ANNEX I

ADMINISTRATIVE UNITS WITH THEIR STANDARD SPELLINGS.

I. Thimphu Dzongkhag
Gewogs:
1. Bapisa
2. Chang
3. Dagala
4. Genye
5. Kawang
6. Mewang
7. Teopisa

(a) **Lingshi Dungkhag**
8. Lingzhi
9. Naro
10. Soe

II. Chhukha Dzongkhag
Gewogs:
1. Bongo
2. Chapchha
3. Dungna
4. Getana
5. Geyle
6. Bjachho
7. Metab

(a) **Phuentsholing Dungkhag**
8. Balujora
9. Dala
10. Logchina
11. Phuntsholing

III. Ha Dzongkhag
Gewogs:
1. Bji
2. Uesu
3. Katsho
4. Sama
5. Sangbe

IV. Paro Dzongkhag
Gewogs:
1. Dogar
2. Dopshari
3. Doeteng
4. Hungrey
5. Lango
6. Lungnyi
7. Naji
8. Shaba
9. Tsento
10. Wangchang

V. Samtse Dzongkhag
Gewogs:
1. Pagli
2. Samtse
3. Tading

(a) **Chengmari Dungkhag**
4. Charghare
5. Chengmari
6. Gumaune
7. Nainital

(b) **Dorokha Dungkhag**
8. Denchhukha
9. Dorokha
10. Dumtoe
11. Mayona

(c) **Sipsu Dungkhag**
12. Bangra
13. Biru
14. Lahireni
15. Sipsu
16. Tendru

VI. Tsirang Dzongkhag
Gewogs:
1. Tsirangdrangra
2. Dunglegang
3. Gozeling
4. Kikhothang
5. Patale
6. Phuentenchhu
7. Semjong
8. Tshokhana

(a) **Lamidangra Dungkhag**
9. Beteni
10. Chaunautre
11. Gairigang
12. Lamidrangra

VII. Daga Dzongkhag
Gewogs:
1. Drugegang
2. Kalidzingkha
3. Khilpisa
4. Lajap
5. Tsangkha
6. Tseza

(a) **Dagapela Dungkhag**
7. Dorona
8. Emeri
9. Gozhing
10. Suntali
11. Trashiding

VIII. Punakha Dzongkhag
Gewogs:
1. Chhubu
2. Goenshari
3. Guma
4. Bjimena
5. Kabjisa
6. Lingmukha
7. Shengana
8. Talo
9. Teowang
10. Dzomma

IX. Gasa Dzongkhag
Gewogs:
1. Goenkhame
2. Goenkhatoe
3. Laya
4. Lungnana

X. Wangduephodrang Dzongkhag
Gewogs:
1. Athang
2. Daga
3. Dangchhu
4. Gangte
5. Gase Tsogom
6. Gase Tsho om
7. Bjena
8. Kazhi
9. Nahi
10. Nyisho
11. Phang yue
12. Phobji
13. Ruepisa
14. Sephu
15. Thedtso

ADMINISTRATIVE UNITS WITH THEIR STANDARD SPELLINGS, (Continuation)

XI. Bjaka Dzongkhag
Gewogs:
1. Chhoekho
2. Chhume
3. Tang
4. Ura

XII. Sarpang Dzongkhag
Gewogs:
1. Doban
2. Hiley
3. Leopani
4. Sarpangtar
5. Senge

(a) **Geylephug Dungkhag**
6. Bhur
7. Danabari
8. Gelephu
9. Lalai
10. Serzhong
11. Surey
12. Taklai

(b) **Kalikhola Dungkhag**
13. Deorali
14. Kalikhola
10. Nichula

XIII. Zhemgang Dzongkhag
Gewogs:
1. Bardo
2. Nangkor
3. Shingkhar
4. Trong

(a) **Panbang Dungkhag**
5. Bjoka
6. Ngangla
7. Phangkhar

XIV. Trongsa Dzongkhag
Gewogs:
1. Bjakteng
2. Korphu
3. Langthi
4. Nubi
5. Tangsibji

XV. Lhuntshi Dzongkhag
Gewogs:
1. Gangzur
2. Jare
3. Khoma
4. Kurteo
5. Menbi
6. Minji
7. Metsho
8. Tsenkhar

XVI. Monggar Dzongkhag
Gewogs:
1. Chaskhar
2. Drametse
3. Gungdue
4. Kengkhar
5. Monggar
6. Ngatshang
7. Saleng
8. Silambi
9. Thangrong
10. Tsakaling
11. Tsamang

XVII. Pemagatsel Dzongkhag
Gewogs:
1. Chongshing
2. Dungme
3. Chhimung
4. Khar
5. Shumar
6. Yurung
7. Zobe

XVIII. Samdrup Jongkha Dzongkhag
Gewogs:
1. Orong
2. Gomdar

(a) **Dechhenling Dungkhag**
3. Dechhenling
4. Norbugang

(b) **Bangtar Dungkhag**
5. Bakuli
6. Dalim
7. Martshala
8. Samrang

(c) **Daifam Dungkhag**
9. Hastinapur
10. Shingkharlauri
11. Serthig

XIX. Trashigang Dzongkhag
Gewogs:
1. Bartsham
2. Bidung
3. Kanglung
4. Phongme
5. Radi
6. Samkhar
7. Shongphu
8. Udzorong
9. Yangnyer

(a) **Sakteng Dungkhag**
10. Mera
11. Sakteng

(b) **Thrimshing Dungkhag**
12. Kangpara
13. Thrimshing

(c) **Wamrong Dungkhag**
14. Khaling
15. Lumang
16. Nanong

XX. Yangtse Dzongkhag
Gewogs:
1. Khamdang
2. Tomzhangtshen
3. Teotsho
4. Yalang
5. Yangtse
6. Ramjar
7. Bumdeling
8. Jamkhar

Total dzongkhags = 20
Total gewogs = 197

Source: Ministry of Home Affairs, Thimphu

STATISTICAL YEARBOOK OF BHUTAN

1997

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