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PREFACE

Statistical Yearbook of Bhutan 1998 is the seventeenth 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 1998. 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.

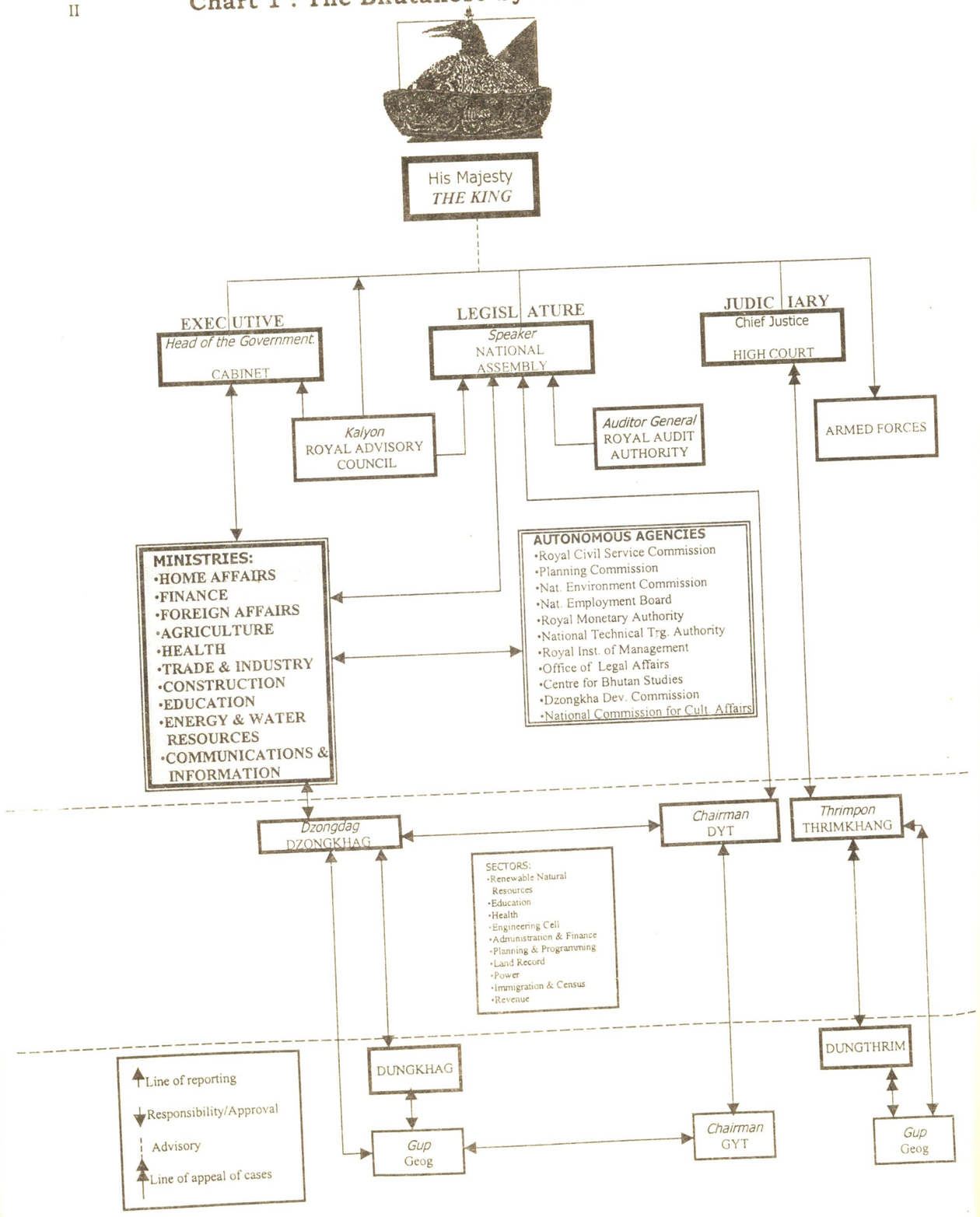
In preparing the publication, attempts have been made to assess the quality of each data source and where appropriate, tables have been footnoted to highlight any shortcomings in the data.

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 over the years, and this will be reflected in further upgrading of this publication in the future.

Central Statistical Organisation
Planning Commission
Thimphu

Chart 1 : The Bhutanese System of Governance



BHUTAN AT A GLANCE

POPULATION		
Population 1998 (projected)	numbers	637,777
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 1998		
Population per doctor	numbers	6510
Population per hospital bed	numbers	637
Education 1998		
Number of schools		322
Number of students		100355
Number of teachers		2785
Agriculture and Forestry 1996		
Agriculture land	% of total area	7.7
Forested land	% of total area	72.5
Transport and Communication 1998		
Road length	km	3,376
Energy 1997/98		
Electricity generation	MU	1801.017
Electricity sale	MU	375.242
Electricity export	MU	1357.202
Balance of Payments 1997/98		
Value of exports	million Nu.	4274.18
Value of imports	million Nu.	-5226.10
Trade balance	million Nu.	(-)951.92
Current account balance	million Nu.	(-)1787.51
Overall balance	million Nu.	1741.97
International reserves		
Rupees	million Rs.	1629.14
Convertible currency	million US $	177.17
National Accounts Statistics		
Agricultural share to GDP 1998	%	36.7
GDP Real growth 1998	%	5.8
Consumer Price Index		
Change Dec 1997 to Dec 1998	%	9.5
Average change 1979 to 1998	%	9.5

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 northwest.

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: 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 his son Jigme Wangchuck, who ruled until his death in 1952, succeeded Ugyen Wangchuck. 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. The head of government is nominated from among the Cabinet Ministers. There has been steady decentralization of decision-making and institute building since His Majesty the King was enthroned. The most momentous change in the structure of the government came in 1998 after the devolution of the executive power by His Majesty the King to the Council of Ministers. The change set off a process of adaptation in the relationship between the various branches of the government, as shown in **chart 1** it reflects the logical delineation in the separation of powers along with the establishment of elected Council of Ministers with full executive powers. It shows the apparatus of all the important aspects of the Bhutanese system of governance like the executive, legislative and judiciary going down from the central to the district levels.
Under the unity and farsighted leadership provided by His Majesty the King, the nation will be governed primarily through the Cabinet. The Cabinet Ministers are the heads of ministries, who will oversee that policies are formulated and programmes are carried out. The autonomous bodies have interactions primarily with the ministers, and this is denoted as such in the organogram.

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 National Assembly as the legislative body, is an independent institute, which elect Cabinet Ministers, approve annual budget and legislate acts governing the country, and discuss national issues. 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 twice 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. The Royal Advisory Council will continue to be consultative and advisory body. The Royal Advisory Council, as stipulated in its chatrim, will ensure the observance of the decisions made during the National Assembly and the Cabinet

meetings. Therefore, it will have links with both the Cabinet and 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. A Group of villages, from a gewog, the lowest administrative unit each gewog has 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. As the final arbiter of law, the judiciary has been independent from other branches of the government since its inception.

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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 calendar year, period from January to December
FY	stands for fiscal year, period from April to March up to 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
10 cm	= 1 dm
10 dm	= 1 m
10 m	= 1 dkm
10 dkm	= 1 hm
10 hm	= 1 km

Abbreviations
mm = millimeter
cm = centimeter
m = meter
dm = decimeter
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 ares	= 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 ratio: The annual number of deaths of women from pregnancy-related causes, per 100 live births.

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, 1998

Age group	Persons			Percent		
	Total	Male	Female	Total	Male	Female
0 - 4	98,539	49,379	49,160	15.5	7.7	7.7
5 - 9	92,377	45,869	46,508	14.5	7.2	7.3
10 - 14	77,276	39,136	38,140	12.1	6.1	6.0
15 - 19	57,345	29,087	28,258	9.0	4.6	4.4
20 - 24	50,636	25,157	25,479	7.9	3.9	4.0
25 - 29	43,465	21,742	21,723	6.8	3.4	3.4
30 - 34	39,004	19,681	19,323	6.1	3.1	3.0
35 - 39	35,729	18,458	17,271	5.6	2.9	2.7
40 - 44	30,113	15,526	14,587	4.7	2.4	2.3
45 - 49	24,212	12,562	11,650	3.8	2.0	1.8
50 - 54	22,966	11,821	11,145	3.6	1.9	1.7
55 - 59	20,321	10,501	9,820	3.2	1.6	1.5
60 - 64	18,661	9,631	9,030	2.9	1.5	1.4
65 - 69	11,254	5,540	5,714	1.8	0.9	0.9
70 - 74	7,653	3,833	3,820	1.2	0.6	0.6
75 +	8,226	4,122	4,104	1.3	0.6	0.6
All ages	637,777	322,045	315,732	100.0	50.5	49.5

Note: Estimates based on 3.1% growth rate (National Health Survey 1994)

Source: CSO, Planning Commission.

TABLE 1.2: SUMMARY OF POPULATION INDICATORS, 1991 TO 1998

Population Indicators	1991	1992	1993	1994	1995	1996	1997	1998
Sex Ratio (males per 100 females	102.3	102.1	102.0	104.1	104.1	102.0	98.0	102.0
Age Composition (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.1
0 - 14	38.9	38.7	38.6	39.2	39.2	42.1	42.1	42.1
15 - 49	47.7	47.9	48.0	47.3	47.3	44.0	44.0	44.0
50 - 59	6.6	6.7	6.8	6.6	6.6	6.8	6.7	6.8
60 +	6.8	6.7	6.6	6.9	6.9	7.1	7.2	7.2
Median age(years)	20.5	20.6	20.6	20.5	20.5	19.4	19.4	19.4
Dependency Ratio								
Child dependency	68.8	68.4	68.6	69.6	69.6	78.3	78.3	78.3
Old age dependency	7.7	7.6	7.5	7.8	7.8	7.9	8.0	8.0
Total dependency	76.4	76.0	76.1	77.4	77.4	86.2	86.3	86.3
Index of aging	11.1	11.0	11.0	11.3	11.3	10.1	10.1	10.1

Source: Estimates by CSO, Planning Commission, Thimphu

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

(percent)

Age gro	Never marrie		Married		Divorced/sepa		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 age	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)		
Males	47.5	66.1
Females	45.8	66.0
	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 extended Health Centre.

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 1998

Facilities	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Number of hospitals	26	26	26	26	26	26	26	28	28	28
Number of basic health units	69	71	74	75	79	84	84	145	145	145
Number of dispensaries	46	44	43	43	41	42	44	n.a	n.a	n.a
Number of indigenous hospitals	1	1	1	1	1	1	1	1	1	1
Number of indigenous dispensaries	6	6	6	6	7	8	11	10	11	11
Number of doctors	157	157	109	106	88	100	112	103	101	98
Persons per doctor	9,100	n.a	n.a	n.a	n.a	n.a	5,196	5,825	6,124	6,510
Number of hospital beds	944	944	914	954	979	970	970	1,080	1,001	1,001
Persons per hospital bed	1,500	n.a	n.a	n.a	n.a	n.a	600	556	618	599
Doctors per 10,000 persons	1	n.a	n.a	n.a	n.a	n.a	1.9	1.7	1.6	1.5
Hospital bed per 10,000 persons	7	n.a	n.a	n.a	n.a	n.a	17	18	16	17
Population covered by health care (%)	65	65	90	70	n.a	90	90	90	90	90
Population access to safe drinking water (%)	38	38	54	54	n.a	35	43	45	50	58
Women attended by trained personnel during child birth (%)	16	21	25	25	36	25	79	78	79	34

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

Source: Health Division, Thimphu

TABLE 2.2: TYPE OF HEALTH FACILITIES IN DZONKHAGS, 1998

(numbers)

Dzongkhag	Hospitals	Basic health unit	Outreach clinic
Bjakar	1	3	23
Chhukha	2	9	39
Dagana	0	7	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	10	0
Samdrupjongkha	2	13	38
Sarpang	2	12	0
Thimphu	4	4	25
Trashigang	3	17	56
Trashiyangtse	1	3	20
Trongsa	1	4	23
Tsirang	1	5	0
Wangduephodrang	1	7	23
Zhemgang	1	13	32
Bhutan	28	145	454

Note: BHU's figure excludes those centres which are not function

Source: Annual Health Report,Health Division,Ministry of Health Education, Thimphu.

TABLE 2.3: HEALTH PERSONNEL BY CATEGORY, 1989 TO 1998

(numbers)

Health personnel	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Doctors	157	157	109	106	88	100	112	103	101	98
Health Assistants	119	117	115	116	100	99	105	99	111	115
Basic health workers	91	114	127	119	125	137	137	158	154	152
Sister and nurses	317	325	316	323	329	342	340	352	355	386
Other technicians *	144	182	239	251	133	136	168	185	183	211
Indigenous physicians	12	12	14	14	19	29	19	21	19	28
Indigenous compounders	10	10	8	8	11	15	11	16	17	17
Village health workers (VHW)	..	n.a	n.a	n.a	1413	1058	1085	1275	1093	1245

Note: * Including compounders

TABLE 2.4: NUMBER OF PATIENTS TREATED IN BASIC HEALTH UNITS BY DISEASE, SEX AND AGE, BHUTAN, 1998

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	2,329	2,556	4,885	7,117	7,007	14,124	10,206	9,800	20,006	15,243	12,565	27,808	66,823	12.7
Respiratory tract infection(RTI)	3,563	3,803	7,366	7,831	8,846	16,677	15,696	17,217	32,913	39,021	39,310	78,331	135,287	26
Worms	48	129	177	3,189	3,364	6,553	5,574	5,933	11,507	7,527	8,033	15,560	33,797	6.5
Skin infection	1,147	1,376	2,523	4,174	4,351	8,525	8,801	8,254	17,055	17,228	14,406	31,634	59,737	11.4
Malaria	40	37	77	252	253	505	744	627	1,371	1,705	1,246	2,951	4,904	0.9
Fever of Unknown orgin	368	411	779	1,048	1,163	2,211	2,306	2,529	4,835	7,874	7,811	15,685	23,510	4.5
Conjunctivitis	706	882	1,588	1,981	2,153	4,134	3,938	4,146	8,084	9,385	10,837	20,222	34,028	6.5
Otitis media	551	587	1,138	1,285	1,206	2,491	2,069	1,892	3,961	1,960	1,847	3,807	11,397	2.2
Nutritional deficiency	150	178	328	608	691	1,299	1,203	1,358	2,561	4,438	6,992	11,430	15,618	3.0
Peptic ulcer syndrome	3	5	8	66	113	179	1,109	1,355	2,464	11,836	13,509	25,345	27,996	5.3
Disease of teeth & gum	7	15	22	173	214	387	1,104	1,326	2,430	4,445	4,704	9,149	11,988	2.3
UTI & Nephritis	13	19	32	160	191	351	340	378	718	2,292	3,449	5,741	6,842	1.3
Injuries	42	55	97	678	711	1,389	3,060	1,939	4,999	9,634	3,825	13,459	19,944	3.8
Sexually transmitted diseases(STD)	..	..	..	..	..	..	20	27	47	642	433	1,075	1,122	0.2
Childhood diseases	22	29	51	191	231	422	784	689	1,473	336	241	577	2,523	0.5
Diseases of female genital tract	..	1	1	..	14	14	..	109	109	..	1,525	1,525	1,649	0.3
Headache	39	33	72	313	452	765	3,130	3,364	6,494	12,189	13,742	25,931	33,262	6.3
Others	280	337	617	1,021	1,240	2,261	2,692	2,725	5,417	12,870	12,736	25,606	33,901	6.5
All diseases	9,308	10,453	19,761	30,087	32,200	62,287	62,776	63,668	126,444	158,625	157,211	315,836	524,328	100

Source: Health Division, Thimphu

Morbidity reported in BHU's 1998(Details see table 2.4)

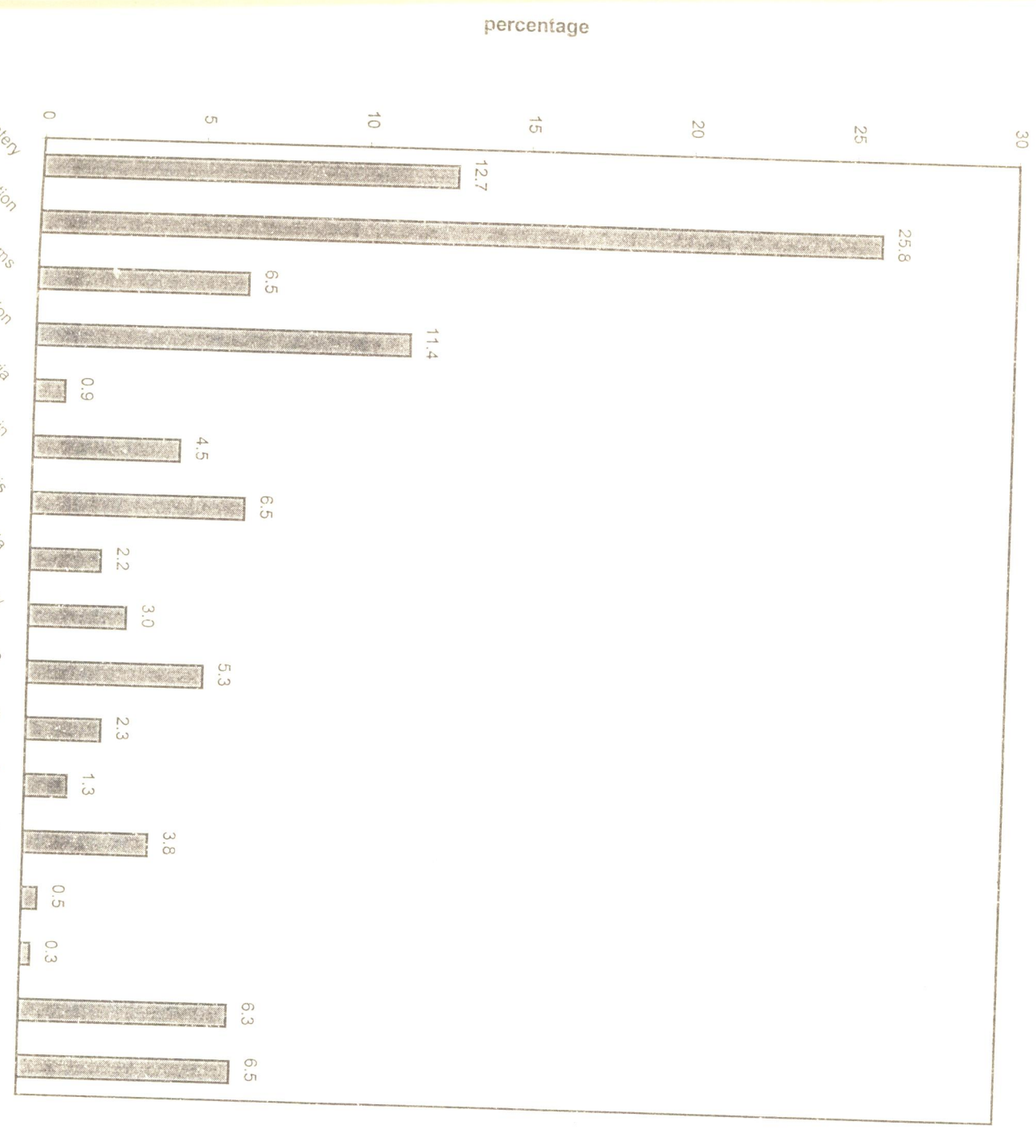


TABLE 2.5: PATIENTS TREATED IN BASIC HEALTH UNITS BY DISEASE, BHUTAN, 1992 TO 1998

Disease	1992	1993	1994	1995	1996	1997	1998	1992	1993	1994	1995	1996	1997	1998
Diarrhoea/Dysentery	55.9	53.9	65.1	63.1	62.8	57.5	66.8	14.0	12.4	13.6	14.2	13.5	11.6	12.7
Respiratory tract infection	89.6	94.2	106.5	113.6	122.7	121.2	135.3	22.5	21.7	22.2	25.6	26.3	27.3	25.8
Worms	39.4	41.8	43.4	39.6	36.5	36.3	33.8	9.9	9.6	9.1	8.9	7.8	7.3	6.5
Skin infection	58.2	63.9	70.0	66.4	65.3	61.5	59.7	14.6	14.7	14.6	14.9	14.0	12.4	11.4
Malaria/P.U.O	29.3	37.3	39.2	9.3	9.0	6.8	4.9	7.3	8.6	8.2	2.1	1.9	1.4	0.9
Conjunctivitis	30.2	37.7	43.1	38.0	43.8	44.9	34.0	7.6	8.7	9.0	8.6	9.4	9.1	6.5
Otitis media	8.8	9.9	10.3	10.4	11.2	11.7	11.4	2.2	2.3	2.1	2.3	2.4	2.4	2.2
Nutritional deficiency	13.6	13.9	16.0	14.6	16.2	14.6	15.6	3.4	3.2	3.3	3.3	3.5	2.9	3.0
Peptic ulcer syndrome	17.0	18.7	21.1	22.5	25.8	26.1	28.0	4.3	4.3	4.4	5.1	5.5	5.3	5.3
Disease of teeth and gum	9.0	9.1	10.4	9.8	11.3	12.0	12.0	2.3	2.1	2.2	2.2	2.4	2.4	2.3
Urinary tract infection and nephretis	5.5	6.2	6.5	6.7	6.4	6.6	6.8	1.4	1.4	1.4	1.5	1.4	1.3	1.3
Injuries	16.4	17.6	18.2	17.7	18.8	19.5	19.9	4.1	4.1	3.8	4.0	4.0	3.9	3.8
Sexually transmitted Diseases (STD)	1.5	1.0	0.7	0.7	0.8	0.7	1.1	0.4	0.2	0.1	0.1	0.2	0.1	0.2
Childhood diseases	2.1	1.8	2.4	1.9	1.3	1.0	2.5	0.5	0.4	0.5	0.4	0.3	0.2	0.5
Disease of female genital tract	1.2	1.3	1.2	1.3	1.4	1.4	1.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Complication of pregnancy and childbirth peuperum	1.2	1.1	1.1	1.0	1.0	1.0	na	0.3	0.3	0.2	0.2	0.2	0.2	na
Others	19.9	24.4	24.3	27.8	31.6	33.6	33.9	5.0	5.6	5.1	6.3	6.8	11.8	6.5
All diseases	398.8	433.7	479.5	444.4	465.9	456.4	524.3	100.0	100.0	100.0	100.0	100.0	100.0	89.2

Source: Health Division, Thimphu

Trend of 8 diseases, 1992 to 1998 (see table 2.5)

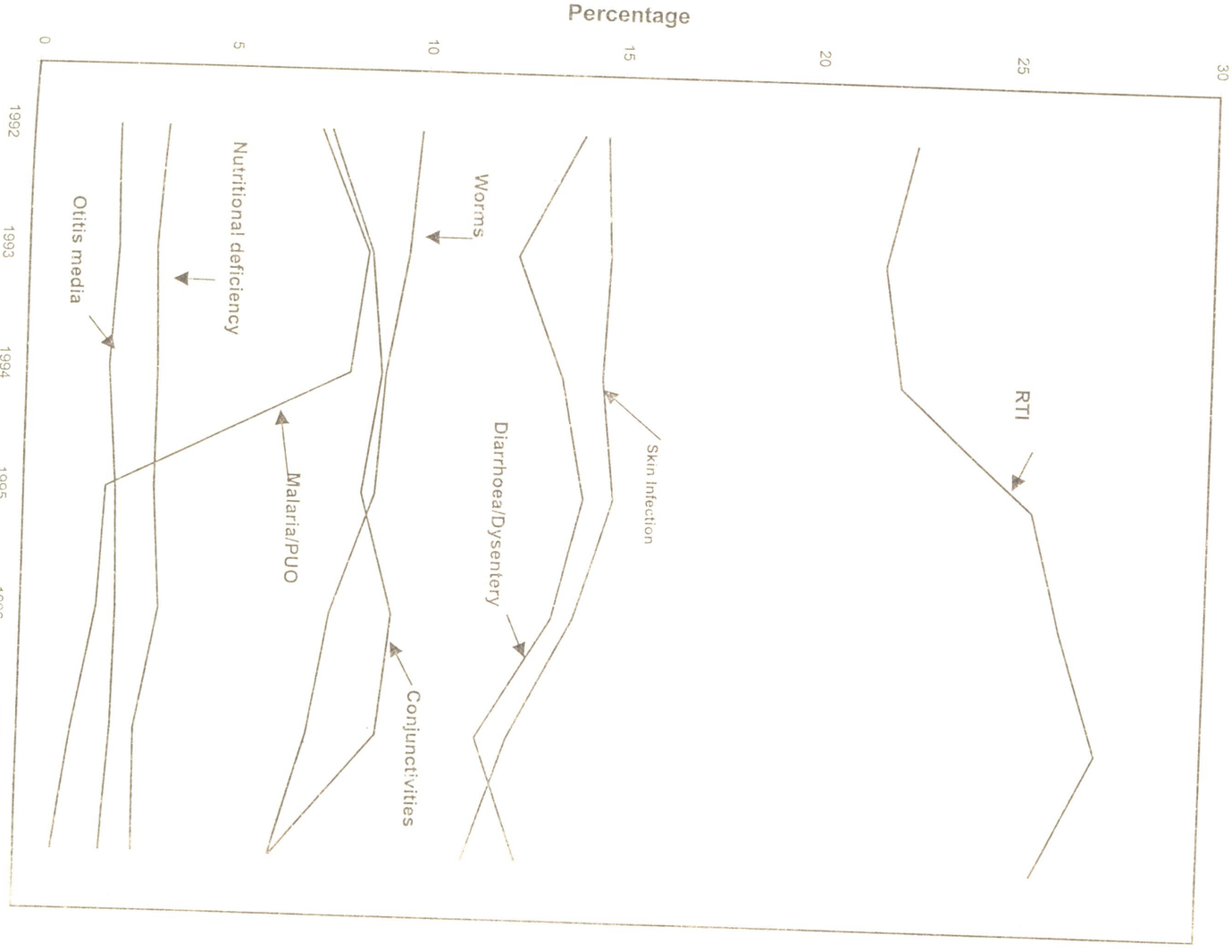


TABLE 2.6: PATIENTS TREATED IN HOSPITALS FOR VARIOUS DISEASES BY SEX AND AGE, BHUTAN, 1998

(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	991	1,081	2,163	2,302	2,656	2,957	5,310	4,645	2,042	1,564	13,162	12,549	25,711	4.84
Viral & other intestina infection	1,725	1,782	3,217	3,301	4,418	4,358	6,815	5,096	2,296	1,721	18,471	16,258	34,729	6.54
Tuberculosis	-	2	20	39	116	158	437	372	227	157	800	728	1,528	0.29
Children's diseases	16	44	293	359	684	723	445	328	127	73	1,565	1,527	3,092	0.58
Tonsillitis	6	16	198	324	1,192	1,392	2,508	2,427	747	572	4,651	4,731	9,382	1.77
Scabies	197	236	697	833	1,515	1,491	2,157	1,958	997	830	5,563	5,348	10,911	2.06
Hepatitis	10	13	61	67	131	137	254	198	78	42	534	457	991	0.19
Malaria	30	37	193	289	460	462	1,071	911	619	271	2,373	1,970	4,343	0.83
Gonorrhoea	..	..	..	..	20	40	926	418	71	32	1,017	490	1,507	0.28
Intestinal worms	45	71	1,411	1,625	2,425	2,562	3,071	3,000	1,248	1,171	8,200	8,429	16,629	3.13
Other infections	34	101	476	673	934	1,080	1,717	1,561	838	472	3,999	3,887	7,886	1.49
Neoplasms	-	-	4	27	51	49	99	126	127	84	281	286	567	0.11
Endocrine, metabolic an nutritional diseases	201	276	731	822	1,249	1,379	1,994	1,821	1,101	907	5,276	5,205	10,481	1.97
Anaemia	72	77	279	300	570	773	1,446	2,855	826	838	3,193	4,843	8,036	1.51
Mental disorders	2	1	13	11	15	22	137	123	47	39	214	196	410	0.08
Diseases of the eye	583	712	1,217	1,498	2,220	2,691	5,198	5,193	3,117	2,336	12,335	12,430	24,765	4.67
Diseases of the ear	388	417	904	1,051	1,685	1,788	2,019	2,085	816	560	5,812	5,901	11,713	2.21
Diseases of the nervous system	33	31	61	92	269	346	846	803	310	177	1,519	1,449	2,968	0.56
Diseases of the circulatory system	22	24	53	71	195	309	2,834	2,661	2,110	1,739	5,214	4,804	10,018	1.89
Acute repiratory infections	3,039	3,159	4,984	5,455	7,036	8,195	15,737	15,768	5,945	5,082	36,741	37,659	74,400	14.02

continues...

TABLE 2.6(continuation): PATIENTS TREATED IN HOSPITALS FOR VARIOUS DISEASES BY SEX AND AGE, BHUTAN, 1998

(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	1,504	1,592	2,756	3,048	3,677	4,131	7,179	6,714	3,099	2,524	18,215	18,009	36,224	6.83
Disease of the teeth and gum	20	29	323	443	1,945	2,353	5,505	5,660	2,716	2,073	10,509	10,558	21,067	3.97
Peptic ulcer & gastritis	132	118	490	709	1,308	1,826	8,377	9,327	3,938	3,394	14,245	15,374	29,619	5.58
Other diseases of the digestive system	97	98	340	380	1,048	1,262	2,781	2,863	1,566	1,207	5,832	5,810	11,642	2.19
Diseases of the urinary system	23	8	152	213	581	808	2,710	4,179	1,252	977	4,718	6,185	10,903	2.05
Diseases of male genital organs	4	..	51	..	162	..	739	..	326	..	1,282	..	1,282	0.24
Diseases of breast	..	..	..	..	..	39	..	807	..	77	..	923	923	0.17
Diseases of female genital organs	..	6	..	47	..	256	..	3,753	..	326	..	4,388	4,388	0.83
Pregnancy, childbirth and the puerperium	..	..	..	..	..	24	..	3,545	..	20	..	3,589	3,589	0.68
Diseases of the skin	1,111	1,369	3,465	3,934	6,243	6,633	13,029	10,969	4,752	3,590	28,600	26,495	55,095	10.38
Diseases of the musculo-skeletal system	7	13	116	164	825	910	7,538	6,596	3,619	3,120	12,105	10,803	22,908	4.32
Acute abdomen	11	7	63	115	300	377	915	1,034	299	267	1,588	1,800	3,388	0.64
Fever of unknown origin	294	353	741	755	1,619	1,584	3,499	2,747	1,164	975	7,317	6,414	13,731	2.59
Headache	2	5	163	347	2,037	2,458	6,808	7,849	3,474	2,896	12,484	13,555	26,039	4.91
Other symptoms and signs	199	253	531	616	955	1,132	2,150	2,266	1,409	1,042	5,244	5,309	10,553	1.99
Injuries	169	203	962	1,023	2,312	1,981	6,496	3,271	1,769	1,054	11,708	7,532	19,240	3.63
All diseases	10,967	12,134	27,128	30,933	50,853	56,686	122,747	123,929	53,072	42,209	264,767	265,891	530,658	100

Source: Health Division, Thimphu

TABLE 2.7: NUMBER OF PATIENTS REPORTED IN DIFFERENT HOSPITALS, 1991 TO 1998

Hospital	1991	1992	1993	1994	1995	1996	1997	1998
Government hospitals								
Bjakar	9.4	10.4	10.0	9.1	10.7	9.7	8.1	6.7
Tsirang	73.8	38.7	18.3	15.1	12.0	11.2	14.2	11.7
Geylegphug	77.1	70.0	69.6	62.1	56.1	13.2	15.2	18.6
Pemagatshel	11.0	9.6	5.5	7.8	6.4	6.7	7.5	8.2
Paro	28.5	18.9	24.0	29.4	29.9	19.4	25.0	24.0
Phuntsholing	34.6	34.9	41.4	33.4	23.9	26.6	39.0	79.2
Samdrupjongkhar	17.7	25.6	28.0	26.2	17.7	17.4	18.4	15.7
Samtse	23.1	29.9	20.7	20.2	18.5	14.1	17.1	15.9
Sarpang	n.a	n.a	38.0	..	..	18.4	16.6	12.9
Sibsoo	9.5	8.4	6.6	5.9	6.1	5.6	9.0	9.1
Thimphu	5.5	5.1	19.0	5.8	6.8	6.7	7.0	8.6
Trashigang	17.7	20.9	19.0	17.8	17.6	23.0	15.4	16.1
Tshimalakha	24.6	20.6	21.4	24.1	20.5	21.0	18.1	19.4
Trongsa	6.9	6.4	7.1	7.7	7.2	7.3	9.9	6.5
Leprosy mission hospitals								
Gidakom	8.7	9.0	9.9	11.9	10.5	9.5	9.9	9.4
Lhuntshi	8.7	9.6	8.5	7.5	4.7	5.1	6.2	6.3
Mongar	11.8	12.1	10.6	10.2	13.1	17.8	9.4	18.1
Riserboo	5.2	7.9	6.4	8.7	9.5	9.4	9.7	7.8
Yebilaptsa(Zhemgan	6.8	7.7	8.3	7.2	6.5	6.3	5.0	6.2
Army hospitals								
Lungtenphug	n.a	n.a	0.0	n.a	n.a	n.a	n.a	n.a
Wangdiphodrang	29.0	24.2	32.1	25.8	23.3	24.5	34.3	40.1
Yonphula	15.2	10.5	7.8	9.8	11.9	11.0	11.6	13.1
Imtrat (Haa)	23.3	30.1	23.6	25.4	20.9	19.6	19.8	20.4
Others								
Dantak (Deothang)	56.5	n.a	0.0	n.a	n.a	n.a	n.a	17.6
IBFH (Thimphu)	44.6	51.5	55.7	64.2	56.0	64.2	64.3	46.7
Project hospitals								
Gomtu	33.2	38.3	34.3	36.4	34.0	27.8	24.0	25.0
Indigenous hospital	33.4	33.5	33.1	26.3	n.a	n.a	48.3	48.1
Indigenous dispensary	71.4	77.1	40.8	41.4	n.a	n.a	n.a	46.6
All hospitals(b)	687.2	610.9	599.4	539.4	423.6	395.5	463.0	557.8

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, 1998

DZONGKHAGS	BCG	DPT1	DPT3	OPV1	OPV3	MEASLES	TT1	TT2
Thimphu	99	na	73	na	74	60	na	na
Paro	84	na	94	na	94	76	na	na
Haa	67	na	84	na	84	53	na	na
Punakha	94	na	89	na	87	51	na	na
Wangduphodrang	93	na	88	na	88	72	na	na
Chukha	96	na	88	na	88	77	na	na
Samtsi	99	na	92	na	92	84	na	na
Sarpang	95	na	86	na	86	71	na	na
Tsirang	96	na	77	na	77	64	na	na
Dagana	100	na	89	na	89	95	na	na
Trongsa	99	na	94	na	94	80	na	na
Shemgang	95	na	89	na	90	77	na	na
Bumthang	91	na	97	na	97	85	na	na
Lhuntse	82	na	86	na	86	63	na	na
Tashiyangtse	93	na	86	na	94	70	na	na
Tashigang	95	na	98	na	87	77	na	na
Pemagatshel	99	na	95	na	95	88	na	na
Samdrup Jongkhar	95	na	85	na	85	75	na	na
Gasa	90	na	61	na	61	46	na	na
Mongar	91	na	70	na	69	48	na	na
BHUTAN	1,853	0	1,721	0	1,717	1,412	0	0

Source: Health Division, Thimphu

TABLE 2.9: INCIDENCE OF E.P.I. DISEASES FOR CHILDREN BELOW AGE 15, BHUTAN, 1989 TO 1998

(numbers)

Year	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Diptheria										
Incidence	0	0	3	2	0	0	0	0	0	0
Deaths	0	0	0	0	0	0	0	0	0	0
Measles										
Incidence	554	299	441	103	505	683	148	9	169	205
Deaths	1	5	0	1	3	0	0	0	0	0
Pertussis										
Incidence	4	2	8	9	0	0	5	0	0	7
Deaths	0	0	0	0	0	0	0	0	0	0
Poliomyelitis										
Incidence	0	0	0	0	0	0	0	0	0	0
Deaths	0	0	0	0	0	0	0	0	0	0
Tetanus										
Incidence	0	0	4	0	0	0	0	0	0	0
Deaths	0	0	0	0	0	0	0	0	0	0
Neonatal tetanus										
Incidence	2	1	0	2	0	1	0	0	0	0
Deaths	2	1	0	1	0	1	0	0	0	0
Tuberculosis										
Incidence	437	22	129	140	101	311	269	3	10	337
Deaths	2	0	1	4	2	0	5	0	0	5
All EPI diseases										
Incidence	997	324	585	256	606	995	422	12	179	549
Deaths	5	6	1	6	5	1	5	0	0	5

Note: EPI stands for expanded program on Immunization

Source: Health Division, Thimphu

TABLE 2.10: DETAILS OF CHILD GROWTH MONITORING IN IMMUNIZATION CLINICS, BHUTAN, 1986 TO 1998

Details	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Children weighed(nos)	n.a	n.a	n.a	n.a	n.a	n.a	18,499	20,501	18,229	14,800	16,467	16,473	16,528
Child malnutrition(nos)	9,030	15,502	8,334	10,804	12,115	11,093	10,746	9,248	7,136	4,751	4,525	4,201	4,001
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	2,940
Degree II	n.a	n.a	n.a	n.a	n.a	n.a	2,236	2,028	1,605	1,268	924	890	800
Degree III	953	2,020	876	1,145	2,967	767	834	710	601	307	462	346	261
Child malnutrition(%)	n.a	n.a	n.a	n.a	n.a	n.a	58	45	39	32	28	26	24

Source: Health Division, Thimphu

Child growth monitoring by degree, 1992 to 1998(see table 2.10)

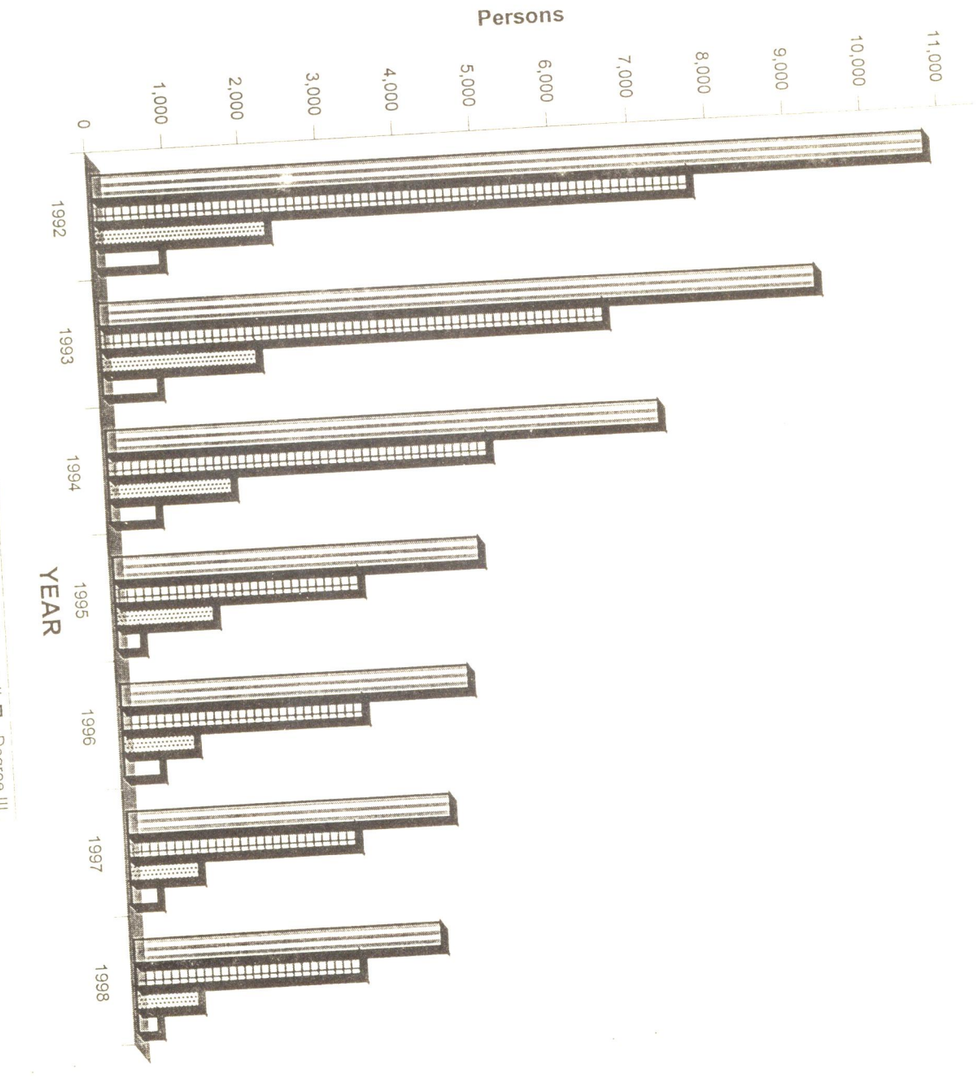


TABLE 2.11: DETAILS OF MATERNAL AND CHILD HEALTH CARE SERVICES, 1987 TO 1998

(persons)

Type of care	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
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	10,516
Postnatal	37,476	34,277	36,406	45,916	40,289	42,182	45,262	9,874	89,793	25,299	9,361	9,344
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	1,140
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	3,777
Total deliveries	4,661	4,924	5,846	5,963	5,438	6,059	6,051	14,864	6,623	6,152	6,431	4,917
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	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	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	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	4,001
Third degree	2,020	876	1,145	2,967	767	834	710	601	307	462	n.a	261

(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 1998

(numbers)

Dzongkhag	1990	1991	1992	1993	1994	1995	1996	1997	1998
Bjakar									
Antenatal	1,139	894	1,302	408	345	228	866	723	244
Postnatal	1,608	872	1,625	n.a	118	193	491	466	225
Reported delive	58	87	255	407	424	199	270	na	116
Trained deliver	10	95	109	114	75	162	255	135	51
Chhukha									
Antenatal	3,052	3,466	3,731	1,335	1,063	993	4,356	6,451	1,617
Postnatal	3,526	4,449	4,087	n.a	1,080	904	3,086	1,561	1,496
Reported delive	26	45	262	1,333	1,018	395	350	na	690
Trained deliver	3	337	260	600	283	390	331	720	643
Dagana									
Antenatal	1,260	751	715	445	304	247	588	560	281
Postnatal	3,947	2,226	1,886	n.a	398	322	605	415	315
Reported delive	371	269	105	446	287	211	184	na	118
Trained deliver	121	67	33	58	44	98	122	174	61
Gasa									
Antenatal	..	..	n.a	57	31	43	75	55	47
Postnatal	..	..	n.a	n.a	73	8	1	13	19
Reported delive	..	..	n.a	56	31	7	6	na	15
Trained deliver	..	..	n.a	5	17	3	6	3	11
Haa									
Antenatal	753	790	694	235	153	125	355	410	184
Postnatal	401	321	221	n.a	208	47	263	199	165
Reported delive	57	15	96	235	163	29	97	na	152
Trained deliver	12	4	32	275	29	29	96	13	119
Lhuntse									
Antenatal	1,773	1,503	1,581	465	370	355	763	677	382
Postnatal	1,268	1,462	1,548	n.a	429	287	983	276	421
Reported delive	369	263	193	460	404	405	375	na	165
Trained deliver	22	31	21	207	39	333	375	218	147
Mongar									
Antenatal	3,433	2,239	3,414	981	871	870	2,159	2,087	975
Postnatal	1,796	2,019	2,835	n.a	845	847	2,445	858	2,142
Reported delive	105	396	689	988	1,172	973	1,094	na	365
Trained deliver	78	151	237	652	190	664	843	749	278

continues...

TABLE 2.12 (continuation): DETAILS OF MATERNAL HEALTH CARE ACTIVITIES BY DZONGKHAG, 1990 TO 1998

(numbers)

Dzongkhag	1990	1991	1992	1993	1994	1995	1996	1997	1998
Paro									
Antenatal	1,590	1,616	1,128	536	520	237	1,260	1,722	486
Postnatal	1,788	1,826	1,780	n.a	100	223	109	274	113
Reported delive	n.a	n.a	113	540	521	194	33	na	328
Trained deliver	n.a	77	110	54	121	184	16	310	212
Pemagatshel									
Antenatal	1,143	885	933	470	272	327	904	930	209
Postnatal	4,702	4,005	4,206	n.a	430	393	2,943	299	302
Reported delive	116	219	282	470	437	147	535	na	77
Trained deliver	8	60	59	381	135	84	324	275	36
Punakha									
Antenatal	1,901	1,438	1,806	495	388	294	1,279	1,529	426
Postnatal	839	786	561	n.a	300	44	166	126	226
Reported delive	269	134	105	507	761	92	154	na	322
Trained deliver	45	51	39	71	85	63	129	154	288
Samdrupjongkhar									
Antenatal	2,546	2,030	2,305	1,032	784	903	2,106	2,124	765
Postnatal	361	2,049	2,947	n.a	849	730	3,375	918	626
Reported delive	165	174	260	1,021	941	500	723	na	383
Trained deliver	70	93	139	429	218	332	507	659	249
Samtse									
Antenatal	1,971	2,073	2,450	1,378	908	803	2,612	2,544	914
Postnatal	2,081	1,557	2,264	n.a	733	622	923	639	634
Reported delive	35	5	255	1,384	783	50	132	na	494
Trained deliver	25	240	255	263	311	50	132	67	404
Sarpang									
Antenatal	3,821	3,264	2,469	721	734	660	3,379	3,293	827
Postnatal	3,102	2,662	1,556	n.a	286	363	709	536	561
Reported delive	191	n.a	234	741	753	86	133	na	155
Trained deliver	114	293	234	126	90	86	94	99	121
Thimphu									
Antenatal	8,280	9,830	10,225	2,491	2,385	2,508	12,066	14,869	234
Postnatal	4,292	5,465	3,693	n.a	704	710	1,403	399	162
Reported delive	60	119	1,181	2,516	2,430	853	167	na	126
Trained deliver	33	1,160	1,128	1,107	1,359	818	148	135	91

continues...

TABLE 2.12 (continuation): DETAILS OF MATERNAL HEALTH CARE ACTIVITIES BY DZONGKHAG, 1990 TO 1998

(numbers)

Dzongkhag	1990	1991	1992	1993	1994	1995	1996	1997	1998
Trashigang									
Antenatal	4,751	3,834	4,852	1,379	1,136	1,053	2,837	1,825	1,026
Postnatal	1,075	4,187	5,486	n.a	1,210	1,138	2,628	747	705
Reported delive	632	941	1,475	1,385	1,507	1,266	895	na	642
Trained deliver	168	251	503	457	269	883	649	393	506
Trashiyangtse									
Antenatal	n.a	n.a	646	696	381	227	627	504	260
Postnatal	n.a	n.a	511	n.a	257	228	789	144	108
Reported delive	n.a	n.a	184	700	782	290	185	na	69
Trained deliver	n.a	n.a	8	196	30	282	162	34	57
Trongsa									
Antenatal	990	664	813	358	445	296	701	760	88
Postnatal	2,059	1,076	1,903	n.a	259	245	917	212	65
Reported delive	111	38	24	354	258	245	243	na	117
Trained deliver	55	34	21	85	61	192	196	227	56
Tsirang									
Antenatal	2,656	1,545	745	345	352	372	756	759	315
Postnatal	2,023	996	622	n.a	492	438	767	332	368
Reported delive	205	17	47	333	589	122	42	na	69
Trained deliver	135	84	47	40	58	122	42	107	69
Wangduephodrang									
Antenatal	1,774	3,052	2,200	1,034	880	607	1,650	1,640	706
Postnatal	1,170	1,188	1,248	n.a	661	635	1,214	572	578
Reported delive	246	234	153	1,041	1,051	264	284	na	347
Trained deliver	46	181	108	281	272	214	222	251	251
Zhemgang									
Antenatal	1,548	1,257	1,510	892	463	406	930	1,230	530
Postnatal	2,981	2,734	2,763	n.a	442	416	1,482	375	113
Reported delive	117	70	169	882	551	295	250	na	167
Trained deliver	35	78	72	335	52	254	176	360	127

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		
Abortions	na	0.0
Antepartum haemorrhage	na	70.0
Hypertensive diseases	na	60.0
Anaemia	na	50.0
Hepatitis	na	40.0
Malaria	na	30.0
Others	na	20.0
	na	10.0
Labour/delivery		
Obstructed labour	na	0.0
Transverse lie	na	19.0
Brech	na	12.0
Ruptured uterus	na	34.0
Hypertensive diseases	na	1.0
Prematurity	na	2.0
Others	na	24.0
	na	7.0
Puerperium		
Postpartum hamorrhage	na	0.0
Retained	na	38.0
Placenta	na	48.0
Pyxeria	na	6.0
Others	na	6.0
	na	2.0
All complications	na	100

Source: Health Division, Thimphu

TABLE 2.14: FAMILY PLANNING ACCEPTORS BY TYPE OF METHOD, BHUTAN 1986 TO 1998

(persons)

Method	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Vasectomy	414	552	897	1,961	1,120	685	231	714	2,043	1,263	1,930	806	4,451
Minilap	428	470	379	506	301	177	68	172	355	n.a	n.a	74	478
Intra uterine device(IUD)	896	665	619	757	987	986	637	687	930	759	1,602	1,582	1,977
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	7,104
Condoms	2,846	1,099	897	1,476	2,049	6,777	7,529	6,568	4,877	5,635	7,411	6,309	7,599
Injection DMPA	81	78	48	125	50	453	6,448	6,662	7,748	9,278	12,065	12,024	15,746
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	37,355

Source: Health Division, Thimphu

Family planning method acceptors by type, 1993 to 1998 (see table 2.14)

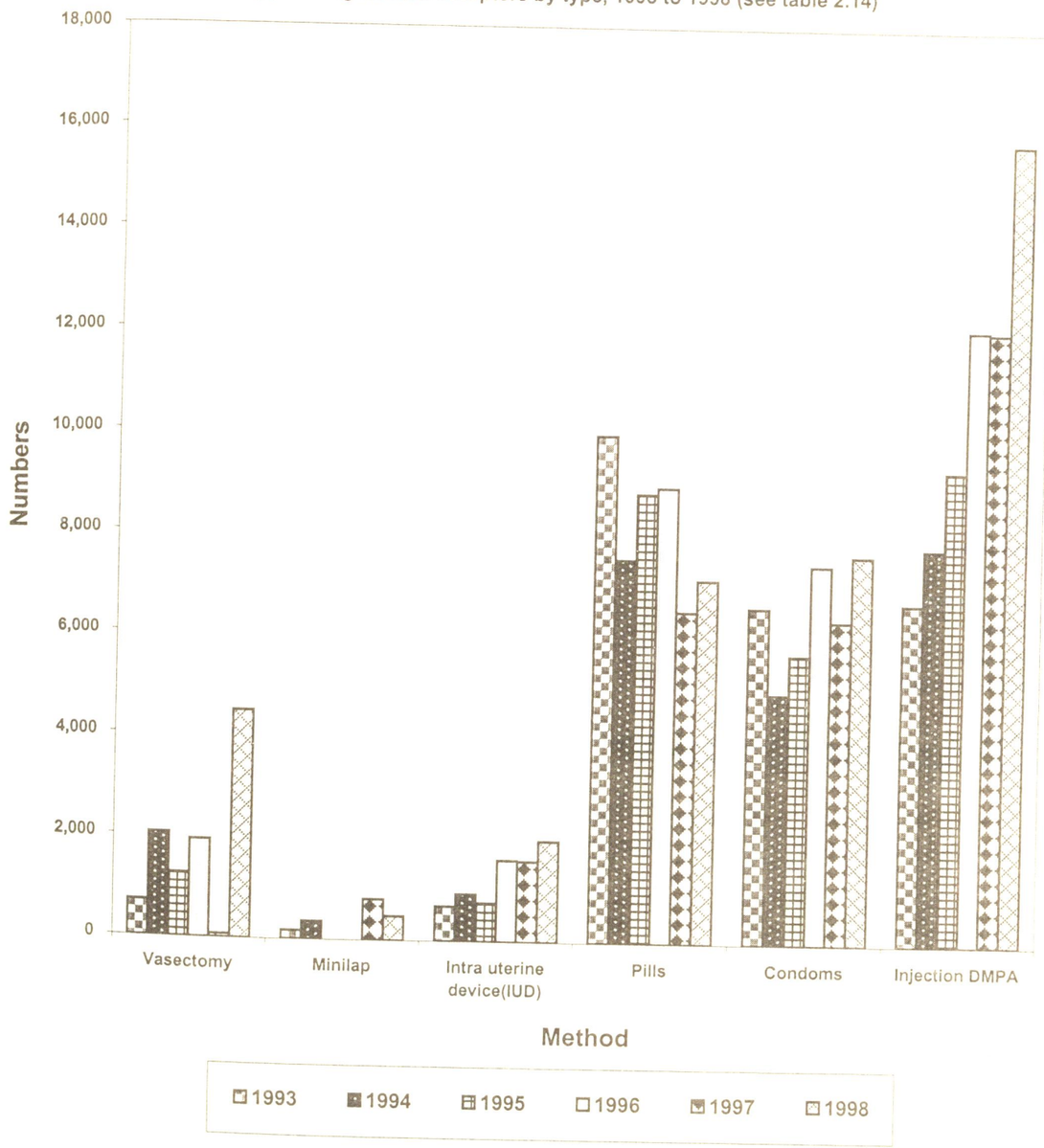


TABLE 2.15: NUMBER OF USERS OF FAMILY PLANNING METHODS BY TYPE BY DZONGKHAG, 1998

Dzongkhag	Family planning methods					All methods
	Sterilisation	IUD	DMPA	Pills	Condom	
Bjakar	45	43	1772	416	305	2581
Chhukha	331	119	1808	1352	989	4599
Daga	37	16	291	317	199	860
Gasa	9	0	31	17	10	67
Haa	28	43	254	77	239	641
Lhuntse	64	23	723	326	234	1370
Mongar	112	175	848	162	269	1566
Paro	190	64	969	305	466	1994
Pemagatshel	150	85	576	129	125	1065
Punakha	245	43	599	246	67	1200
Samdrupjongkha	878	73	473	154	160	1738
Samtse	756	11	414	351	299	1831
Sarpang	79	295	827	456	239	1896
Zhemgang	322	174	481	233	56	1266
Thimphu	417	114	406	166	451	1554
Trashigang	94	373	2841	1278	1975	6561
Trashiyangtse	355	154	100	18	30	657
Trongsa	361	93	343	104	87	988
Tsirang	248	28	618	175	799	1868
Wangduephodrang	208	51	1372	822	600	3053
Bhutan	4,929	1,977	15,746	7,104	7,599	37,355

Source: Health Division, Thimphu

TABLE 2.16: DETAILS OF LEPROSY PATIENTS, LEPROSY CONTROL PROGRAMME, 1988 TO 1998

(persons)

Details	1988(c)	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Patients at beginning of year	1,018	601	405	245	201	156	127	113	117	na	65
New cases detected	69	57	58	54	53	45	57	32	37	33	24
Relapse cases	11	3	12	1	2	1	1	3	2	na	0
Released from control(a)	447	282	209	91	55	72	61	35	41	na	na
Lost to control(b)	30	14	11	9	12	10	5	3	0	na	na
Patients at the end of year	601	353	249	201	162	127	113	117	111	65	63
Deaths	20	12	7	5	5	1	4	0	0	0	na

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 1998

Details	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total blood films examined (numb	71,653	33,973	67,699	73,986	80,980	97,425	83,899	80,777	68,153	58,086
Blood film detected negative	52,491	24,476	45,573	45,086	52,588	58,524	n.a	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	6,995
Plasmodium vivax	n.a	n.a	8,988	14,808	15,337	22,427	15,655	10,601	5,044	n.a
Plasmodium falciparum	n.a	n.a	12,966	13,910	12,779	15,998	7,236	6,845	3,614	n.a
Mixed infections	n.a	n.a	172	182	276	476	304	n.a	n.a	n.a
Malariometric indices										
Annual blood slide examinatio	n.a	n.a	19.3	12.1	23.1	27.8	23.9	23.1	19.4	n.a
Slide positive rate	n.a	n.a	32.7	39.0	35.0	39.9	27.6	22.0	13.2	12.0
Annual parasite incidence	n.a	n.a	63.2	82.6	81.1	111.1	66.2	49.8	25.7	n.a
Slide falciparum rate	n.a	n.a	19.4	19.0	16.1	16.4	8.9	8.5	5.3	n.a
Positive falciparum rate (%	n.a	n.a	59.3	49.2	45.9	41.1	32.5	39.0	40.8	n.a
Deaths due to malaria (numbers)	n.a	n.a	n.a	54	62	n.a	n.a	n.a	n.a	n.a

Source: Health Division, Thimphu

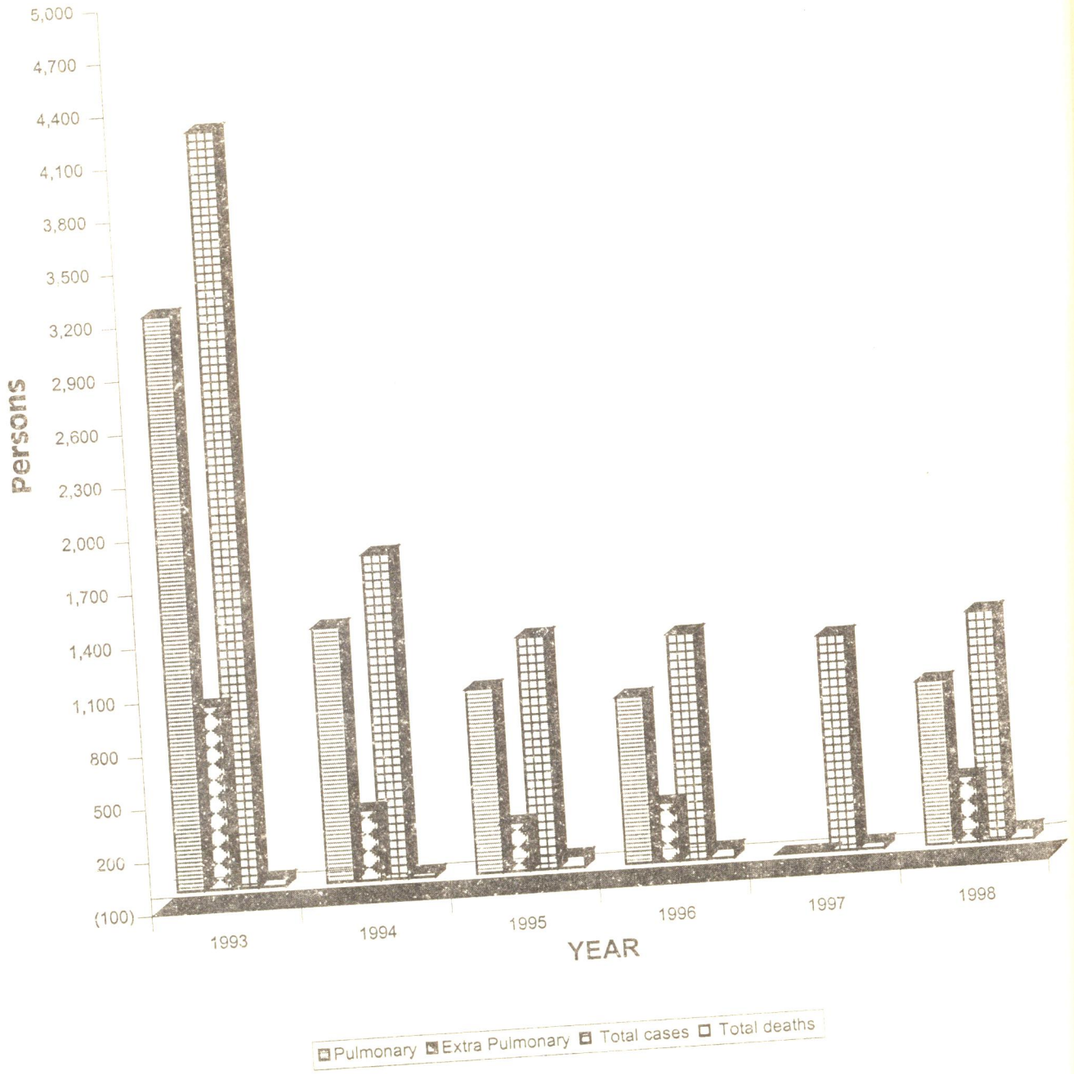
TABLE 2.18: NUMBER OF TUBERCULOSIS CASES BY TYPE, BHUTAN, 1993 TO 1998

(persons)

Year	Cases diagnosed and treated			
	Pulmonary	Extra Pulmonary	Total cases	Total deaths
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
1998	924	368	1,292	55

Source: Health Division, Thimphu

Tuberculosis case by type 1993 to 1998(see table 2.18)



FAMILY PLANNING METHODS BY TYPE BY SELECTED DZONGKHAG, 1998 (SEE TABLE 2.15)

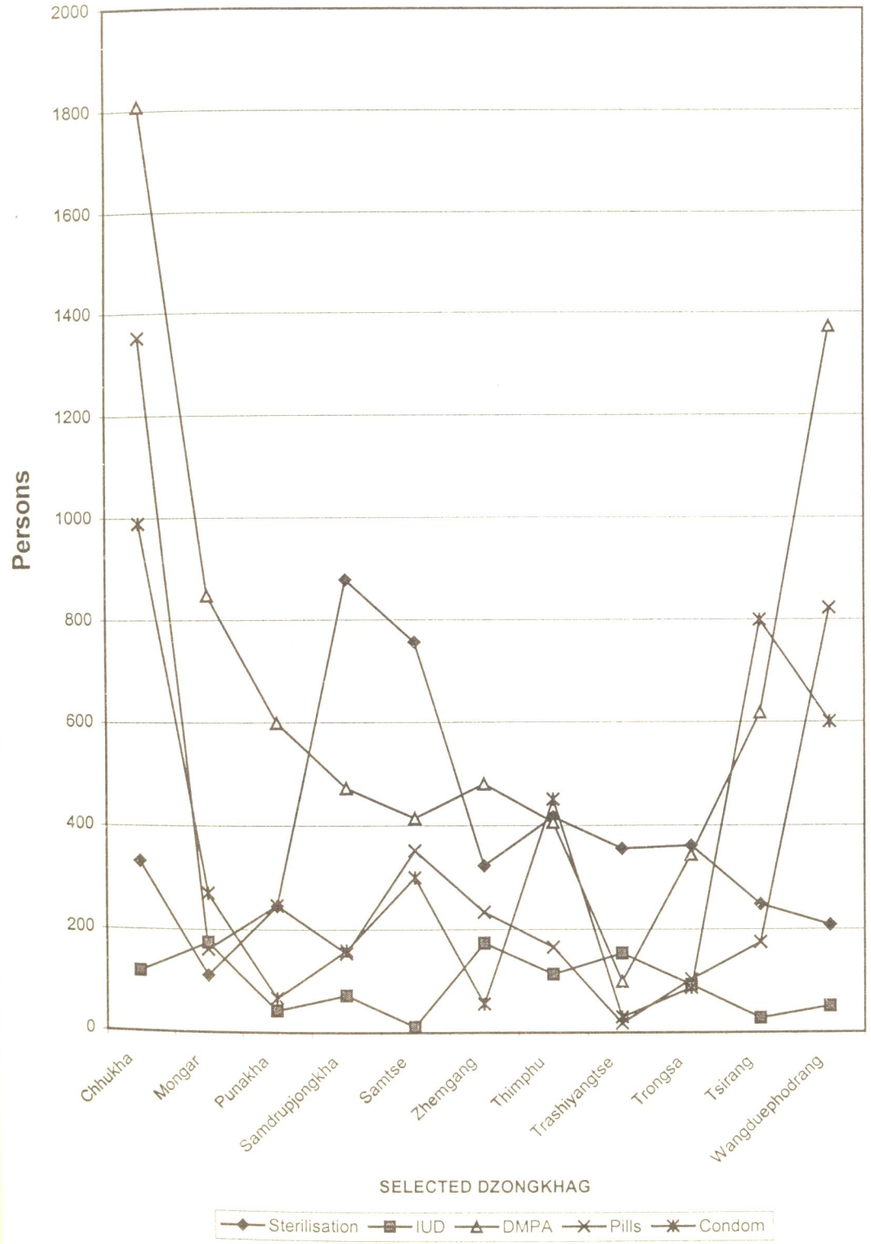


TABLE 2.19: WATER AND SANITATION FACILITIES BY TYPE AND BY DZONGKHAG, 1998

(numbers)

Dzongkhag	Houses	Latrines	Houses with piped water	Animal sheds	Garbage pits	Kitchen Gardens
Bjakar	1,688	1,638	1,443	1,222	1,659	na
Chhukha	4,802	3,999	2,619	2,882	2,580	na
Dagana	2,598	2,497	1,039	2,176	2,042	na
Gasa	413	390	89	62	300	na
Haa	880	803	630	320	310	na
Lhuntse	2,393	2,020	1,417	1,551	833	na
Mongar	5,043	4,448	3,017	3,227	2,150	na
Paro	3,077	2,023	1,766	401	606	na
Pemagatshel	2,182	1,863	1,852	1,091	281	na
Punakha	2,126	1,855	1,154	1,297	1,107	na
Samdrupjongkha	5,440	4,693	2,583	3,026	2,477	na
Samtse	6,890	4,438	4,557	4,092	82	na
Sarpang	3,432	3,252	2,342	1807	1,493	na
Shemgang	2,514	1,491	1,384	1,248	1078	na
Thimphu	2,027	1,690	1,081	978	963	na
Trashigang	8,098	6,403	2,562	4,353	2,572	na
Trashiyangtse	3,283	2,581	1,677	1,773	183	na
Trongsa	1,762	1,530	1,218	1,074	261	na
Tsirang	2,303	1,805	1,064	2,059	862	na
Wangduephodrang	2,796	2,713	1,748	2,207	2,287	na
Bhutan	63,747	52,132	35,242	36,846	24,126	na

Source: Health Division, Thimphu

Water & sanitration coverage,1998 (see table 2.19)

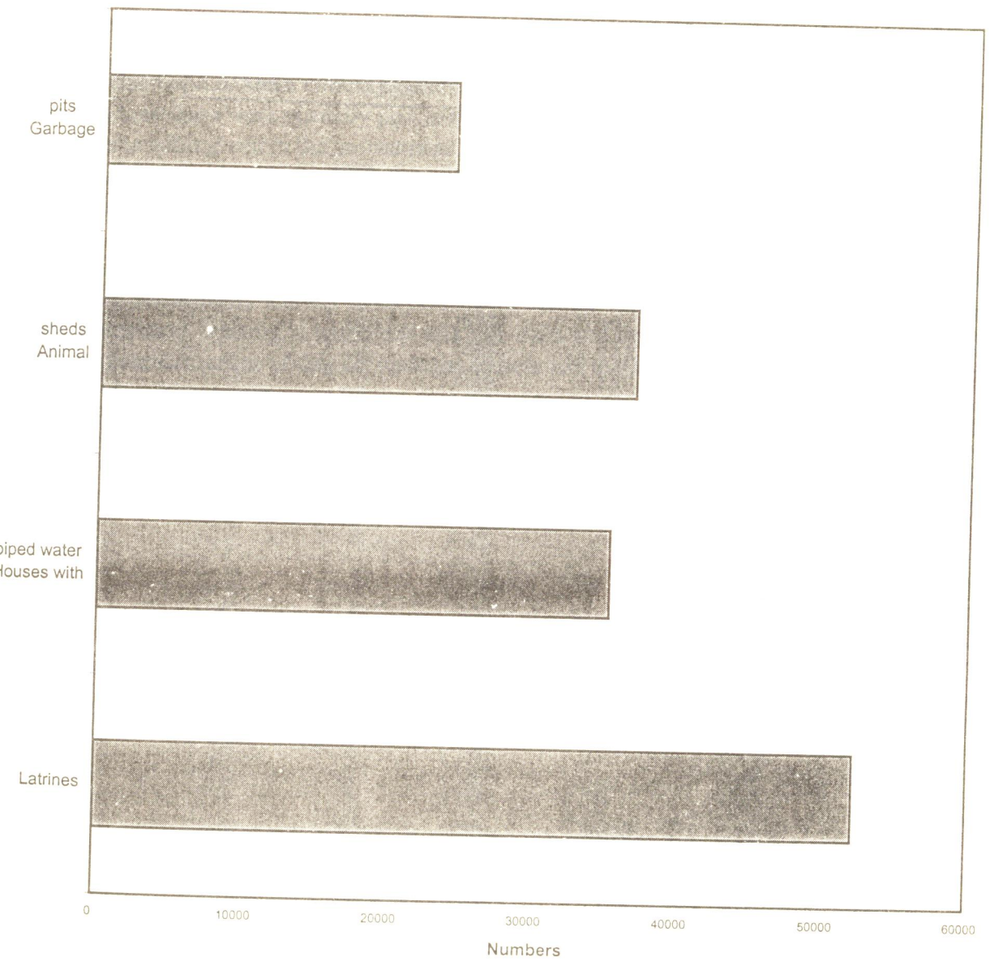


TABLE 2.20: NUMBER OF PATIENT REFERRED OUTSIDE BHUTAN BY SEX AND CASUALTIES, 1989/90 TO 1998/99

(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
1998-99	292	238	8	7
Total	1,754	1,571	23	16

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 1998

Details	Community schools	Primary schools	Junior schools	High schools	Private schools	Other institutes	Total
Number of infrastructures	115	128	44	18	7	10	322
Total staff	317	1,248	885	561	79	376	3,466
Teaching staff	305	1,058	751	386	70	215	2,785
Nationals	301	936	578	238	64	158	2,275
Non Nationals	4	122	173	148	6	57	510
Non teaching staff	12	190	134	175	9	161	681
Nationals	10	189	132	167	9	142	649
Non Nationals	2	1	2	8	0	19	32
Number of students	12,695	41,733	29,502	11,035	1,544	2,004	98,513
Males	7,172	23,204	15,709	6,405	813	1,370	54,673
Females	5,523	18,529	13,793	4,630	731	634	43,840
Student to teacher ratio	42	39	39	29	22	9	35

Source: Education Division, Thimphu

Number of students in different type of schools,1992 to 1998

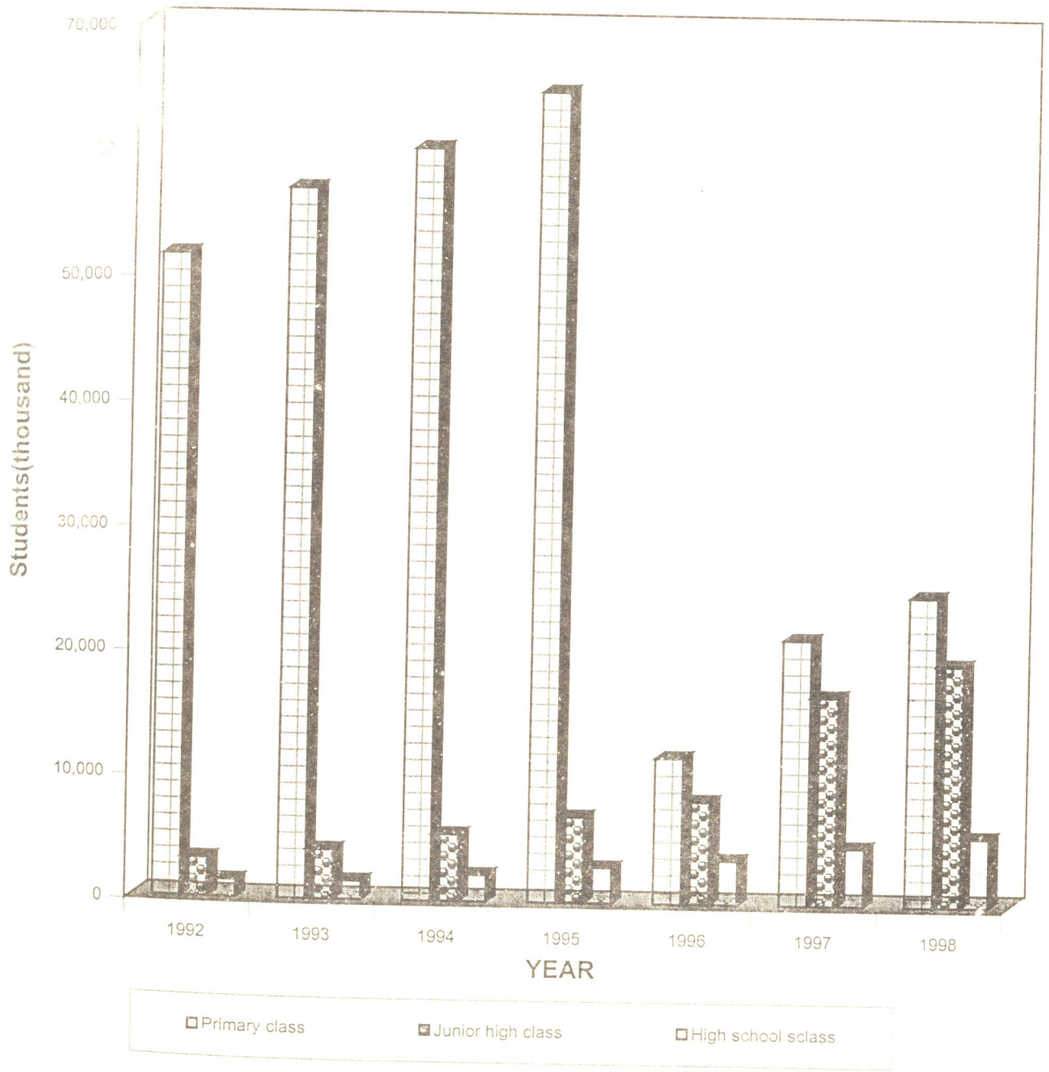


TABLE 3.2: NUMBER OF EDUCATIONAL INSTITUTIONS, TEACHERS AND STUDENTS, BHUTAN, 1977 TO 199

Year	Infrastructure			Teachers			Students		Tota
	Schools	Institutes	Total	Schools	Institutes	Total	Schools	Institutes	
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
1998	312	10	322	2,570	215	2,785	96,509	2,004	98,513

Source: Education Division, Thimphu

TABLE 3.3: NUMBER OF EDUCATIONAL FACILITIES BY TYPE AND DZONGKHAG, 1998

Dzongkhag	Private schools	Community schools	Primary schools	Junior schools	High schools	Other institutes	Total
Bumthang	-	5	1	3	1	-	10
Chhukha	2	10	8	4	1	1	26
Dagana	-	2	2	1	1	-	6
Gasa	-	3	1	-	-	-	4
Haa	-		5	1	1	-	7
Lhuntse	-	6	8	1	1	-	16
Mongar	-	17	10	2	2	-	31
Paro	-	2	8	1	2	1	14
Pemagatshel	-	7	6	2	-	-	15
Punakha	-	3	5	1	1	-	10
Samdrupjongkhar	-	8	8	5	1	1	23
Samtse	-	-	5	3	-	1	9
Sarpang	-	8	2	2	-	2	14
Thimphu	5	2	9	6	2	1	25
Trashigang	-	19	17	7	1	2	46
Trashiyangtse	-	8	5	1	1	1	16
Trongsa	-	4	5	1	-	-	10
Tsirang	-	3	2	-	1	-	6
Wangduephodrang	-	6	7	2	1	-	16
Zhemgang	-	2	14	1	1	-	18
Bhutan	7	115	128	44	18	10	322

Source: Education Division, Thimphu

TABLE 3.4: NUMBER OF TEACHERS IN EDUCATIONAL INSTITUTIONS BY NATIONALITY, BHUTAN, 1995 TO 1998

Institutions	1995			1996			1997			1998		
	National	Foreigner	Total	National	Foreigner	Total	National	Foreigne	Total	National	Foreigner	Total
Schools	1695	528	2223	1867	507	2314	1989	433	2422	2117	453	2570
Community School	218	10	228	223	3	225	247	3	250	301	4	305
Primary School	1049	307	1,356	1127	247	1374	1100	212	1312	936	122	1058
	230	112	342	276	164	380	368	105	473	578	173	751
Junior School	153	93	246	188	86	274	208	108	316	238	148	386
High School	45	6	51	54	7	61	66	5	71	64	6	70
Private School	136	64	200	145	58	203	210	83	293	155	57	212
Specialised/Professional Institute	13	32	45	13	30	43	15	28	43	15	31	46
Sherubtse College	21	4	25	21	3	24	37	9	46	21	5	26
National Institute of Education	19	0	19	20	..	20	32	2	34	18	1	19
Teachers Training Centre												
	24	14	38	25	14	39	43	31	74	34	11	74
Royal Bhutan Polytechnic	25	14	39	30	14	44	46	13	59	33	9	42
Royal Technical Institute	n.a	n.a	n.a	28	11	39	3	..	3		..	0
National Trade Training Institut				0	..	..						
	24	0	24	25	..	25	23	..	23	23	..	23
Semtokha Rigzhung Institute	9	0	9	6	..	6	8	..	8	8	..	8
National Institute for Disabled(	1	0	1	2	..	2	3	..	3	3	..	3
Sanskrit Patshala												
	1831	592	2423	2012	565	2517	2199	516	2715	2272	510	2782

Total teachers

Source: Education Division, Thimphu

TABLE 3.5: NUMBER OF EDUCATIONAL FACILITIES, TEACHERS AND STUDENTS BY DZONGKHAG APRIL, 1998

Dzongkhag	Educational facilities	Teachers			Students		
		Total	National	Non national	Total	Girls	Boys
Bumthang	10	76	64	12	3,034	1,482	1,552
Chhukha	25	237	190	47	8,951	3,937	5,014
Dagana	6	40	34	6	1,940	896	1,044
Gasa	4	11	11		398	171	227
Haa	7	83	69	14	2,861	1,393	1,468
Lhuntse	16	82	75	7	2,574	1,026	1,548
Mongar	31	164	132	32	6,474	2,725	3,749
Paro	13	177	151	26	6,760	3,272	3,488
Pemagatshel	15	84	68	16	3,451	1,396	2,055
Punakha	10	103	77	26	3,760	1,737	2,023
Samdrupjongkh	22	173	125	48	6,837	2,616	4,221
Samtse	8	76	65	11	3,329	1,422	1,907
Sarpang	12	89	73	16	3,783	1,804	1,979
Thimphu	24	465	385	80	16,345	8,152	8,193
Trashigang	44	291	244	47	10,173	4,243	5,930
Trashiyangtse	15	78	67	11	2,981	1,188	1,793
Trongsa	10	59	54	5	2,142	1,083	1,059
Tsirang	6	42	34	8	1,544	627	917
Wangduephodra	16	115	96	19	5,043	2,417	2,626
Zhemgang	18	125	103	22	4,129	1,619	2,510
Bhutan	312	2,570	2,117	453	96,509	43,206	53,303

Source: Education Division, Thimphu

TABLE 3.6: NUMBER OF ENROLMENT IN EDUCATIONAL INSTITUTIONS, BHUTAN, 1992 TO 1998

Institutions	1992	1993	1994	1995	1996	1997	1998
Schools	55,793	62,138	69,133	75,483	82,362	90,378	96,509
Community school	7,239	8,350	9,425	9,655	9,257	10,743	12,695
Primary school	38,973	42,139	45,937	49,064	53,095	51,776	41,733
Junior high schools	6,503	8,138	8,870	10,469	12,491	17,907	29,502
High schools	3,078	3,511	4,185	5,296	6,271	8,528	11,035
Private schools	n.a	n.a	716	999	1,248	1,424	1,544
Other institutions	1,577	1,524	1,753	1,793	1,795	1,878	1,934
Sherubtse college	395	338	533	508	445	496	571
National Institute of Education	127	131	160	165	189	199	207
Teachers Training College	61	74	146	164	177	206	280
Royal Bhutan Polytechnic	142	155	191	226	239	258	277
Royal Technical Institute	295	280	233	226	265	264	296
Semtokha Rigzhung Institute	530	516	436	440	393	305	219
National Institute for the Disabled (NID)	27	30	33	30	27	28	30
Sanskrit patshala	n.a	n.a	21	21	60	97	54
Natioanl trade training institute	..	..	..	13	..	25	
All institutions	57,370	63,662	70,886	77,276	84,157	92,256	98,443

Source: Education Division, Thimphu.

TABLE 3.7: NUMBER OF STUDENTS IN HIGH SCHOOLS AND BELOW BY DZONGKHAG AND TYPE OF SCHOOL, 1998

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	240	277	517	148	105	253	850	885	1,735	314	215	529	1,552	1,482	3,034
Chhukha	473	414	887	813	580	1,393	2,035	1,610	3,645	1,285	1,023	2,308	408	310	718	5,014	3,937	8,951
Dagana	na	na	na	294	262	556	230	216	446	291	240	531	229	178	407	1,044	896	1,940
Gasa	na	na	na	128	96	224	99	75	174	na	na	0	na	na	na	227	171	398
Haa	na	na	na	na	na	na	773	769	1,542	326	302	628	369	322	691	1,468	1,393	2,861
Lhuntse	na	na	na	190	157	347	853	616	1,469	154	128	282	351	125	476	1,548	1,026	2,574
Mongar	na	na	na	1,147	978	2,125	1,315	909	2,224	715	536	1,251	572	302	874	3,749	2,725	6,474
Paro	na	na	na	71	81	152	2,201	2,091	4,292	283	273	556	933	827	1,760	3,488	3,272	6,760
Pemagatshel	na	na	na	480	331	811	880	601	1,481	695	464	1,159	na	na	na	2,055	1,396	3,451
Punakha	na	na	na	113	114	227	1,038	955	1,993	425	407	832	447	261	708	2,023	1,737	3,760
Samtse	na	na	na	na	na	na	841	545	1,386	1,066	877	1,943	na	na	na	1,907	1,422	3,329
Samdrupjongkhar	na	na	na	622	400	1,022	1,575	857	2,432	1,727	1,233	2,960	297	126	423	4,221	2,616	6,837
Sarpang (a)	na	na	na	493	452	945	467	362	829	1,019	990	2,009	na	na	na	1,979	1,804	3,783
Thimphu	340	317	657	163	131	294	3,694	3,512	7,206	3,203	3,268	6,471	793	924	1,717	8,193	8,152	16,345
Trashigang	na	na	na	1,220	802	2,022	2,345	1,568	3,913	1,849	1,566	3,415	516	307	823	5,930	4,243	10,173
Trashiyangtse	na	na	na	418	305	723	605	383	988	438	235	673	332	265	na	1,793	1,188	2,981
Trongsa	na	na	na	113	97	210	630	626	1,256	316	360	676	na	na	na	1,059	1,083	2,142
Tsirang	na	na	na	286	147	433	479	415	894	na	na	0	152	65	na	917	627	1,544
Wangduephodrang	na	na	na	283	246	529	1,275	1,101	2,376	778	807	1,585	290	263	na	2,626	2,417	5,043
Zhemgang	na	na	na	98	67	165	1,721	1,213	2,934	289	199	488	402	140	542	2,510	1,619	4,129
Bhutan	813	731	1,544	7,172	5,523	12,695	23,204	18,529	41,733	15,709	13,793	29,502	6,405	4,630	9,668	53,303	43,206	96,509

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, 1998

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	185	172	357	-	-	-	-	-	-	-	-	-	-	-	-	185	172	357
Pre primary	264	238	502	1,809	1,430	3,239	3,793	3,140	6,933	1,561	1,483	3,044	161	132	293	7,588	6,423	14,011
I	119	104	223	1,636	1,308	2,944	3,915	3,238	7,153	1,757	1,659	3,416	124	105	229	7,551	6,414	13,965
II	96	88	184	1,379	1,067	2,446	3,554	2,921	6,475	1,743	1,504	3,247	95	70	165	6,867	5,650	12,517
III	68	59	127	1,077	834	1,911	3,202	2,406	5,608	1,520	1,344	2,864	82	91	173	5,949	4,734	10,683
IV	28	25	53	710	504	1,214	3,367	2,616	5,983	1,586	1,388	2,974	93	80	173	5,784	4,613	10,397
V	29	26	55	391	288	679	2,990	2,415	5,405	1,529	1,363	2,892	81	94	175	5,020	4,186	9,206
VI	24	19	43	170	92	262	2,383	1,793	4,176	1,347	1,205	2,552	104	91	195	4,028	3,200	7,228
VII	-	-	-	-	-	-	-	-	-	2,815	2,384	5,199	695	615	1,310	3,510	2,999	6,509
VIII	-	-	-	-	-	-	-	-	-	1,851	1,463	3,314	1,154	962	2,116	3,005	2,425	5,430
IX	-	-	-	-	-	-	-	-	-	-	-	-	1,865	1,267	3,132	1,865	1,267	3,132
X	-	-	-	-	-	-	-	-	-	-	-	-	1,424	879	2,303	1,424	879	2,303
XI	-	-	-	-	-	-	-	-	-	-	-	-	348	137	485	348	137	485
XII	-	-	-	-	-	-	-	-	-	-	-	-	325	150	475	325	150	475
Non formal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	556	1,286	1,842
Total	813	731	1,544	7,172	5,523	12,695	23,204	18,529	41,733	15,709	13,793	29,502	6,551	4,673	11,224	53,449	43,249	96,698

Source: Education Division, Thimphu

TABLE 3.9: NUMBER OF STUDENTS BY GRADE, 1987 TO 1998

Grade	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Primary grades	51,948	55,340	61,575	63,643	46,517	51,411	56,773	60,089	64,685	69,968	74,666	78,007
Pre-primary	15,579	14,323	16,042	15,155	13,408	12,786	12,815	11,621	12,179	13,675	14,714	14,011
I	13,094	13,313	13,756	13,151	8,708	10,836	11,662	12,088	11,595	11,795	13,042	13,965
II	7,365	9,423	10,798	11,385	7,087	8,265	9,739	10,710	11,410	11,223	11,404	12,517
III	5,867	6,490	7,754	8,684	6,136	6,157	7,643	8,895	9,714	10,437	10,503	10,683
IV	4,257	5,048	5,815	6,888	4,905	5,753	5,848	7,187	8,546	9,482	10,287	10,397
V	3,158	3,728	4,046	4,527	3,467	4,148	5,034	5,262	6,404	7,551	8,357	9,206
VI	2,628	3,015	3,364	3,853	2,807	3,466	4,032	4,326	4,837	5,805	6,359	7,228
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	19,167
VI(a)	-	-	-	-	-	-	-	-	-	-	6,359	7,228
VII	1,107	1,277	1,552	1,659	1,381	1,660	2,215	3,326	3,959	4,445	5,868	6,509
VIII	1,000	1,142	1,241	1,453	1,209	1,384	1,672	1,918	2,826	3,678	4,338	5,430
High school grades	872	1,037	1,165	1,258	1,305	1,338	1,434	2,055	2,766	3,432	4,534	5,435
IX	528	558	642	698	720	714	840	1,354	1,620	2,037	2,706	3,132
X	344	479	523	560	585	624	594	701	1,146	1,395	1,828	2,303
Total students	54,927	58,796	65,533	68,013	50,412	55,793	62,094	67,388	74,236	81,523	95,765	102,609

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, 1998

Details	PP	I	II	III	IV	V	VI	VII	VII	IX	X	Total
Boys												
Enrolment	7,588	7,551	6,867	5,949	5,784	5,020	4,028	3,510	3,005	1,965	1,424	52,691
Promotees	6,488	5,942	5,126	4,811	4,405	3,770	3,097	2,564	1,729	1,420	348	39,700
Repeaters	1,263	1,063	925	823	973	615	258	413	441	136	4	6,914
Dropouts	159	203	267	256	313	361	227	269	222	86	760	3,123
Girls												
Enrolment	6,423	6,414	5,650	4,734	4,613	4,186	3,200	2,999	2,425	1,267	879	42,790
Promoters	5,650	4,978	4,176	3,967	3,729	2,989	2,495	1,954	1,158	878	137	32,111
Repeaters	942	764	672	558	646	457	211	504	471	109	1	5,335
Dropouts	212	92	238	88	221	165	71	164	317	77	578	2,223
All students												
Enrolment	14,011	13,965	12,517	10,683	10,397	9,206	7,228	6,509	5,430	3,232	2,303	95,481
Promoters	12,138	10,920	9,302	8,778	8,134	6,759	5,592	4,518	2,887	2,298	485	71,811
Repeaters	2,205	1,827	1,597	1,381	1,619	1,072	469	917	912	245	5	12,249
Dropouts	371	295	505	344	534	526	298	433	539	163	1,338	5,346

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 1998 (a)

Institutions	1996			1997			1998		
	Boarders (persons)	Monthly stipend (Nu/person)	Total (Nu.)	Boarders persons)	Monthly stipend (Nu/person)	Total (Nu.)	Boarders (persons)	Monthly stipend Nu/person	Total (Nu.)
Schools									
Junior High schools									
Bidung Junior High School	-	-	-	-	-	-	205	180	369,000
Daga Junior High School	150	90	135,000	357	180	642,600	-	-	-
Bajothang Junior High School	-	-	-	-	-	-	380	180	684,000
Trongsa Junior High School	278	90	250,200	265	180	477,000	209	180	376,200
Yebilaptsa Junior High School	397	90	357,300	358	180	644,400	381	180	685,800
Tangmachu Junior High School	338	90	304,200	451	180	811,800	462	180	831,600
Paro Junior High School	334	90	300,600	284	180	51,200	287	180	516,600
Chapcha Junior High School	-	-	-	-	-	-	129	180	232,200
Pemagatshel Junior High School	234	90	210,600	229	180	412,200	243	180	437,400
Nganglam Junior High School	285	90	256,500	355	180	639,000	-	-	-
Trashigang Junior High School	264	90	237,600	287	180	516,600	272	180	489,600
Wamrong Junior high School	241	90	216,900	411	180	739,800	430	180	774,000
Dremetse Junior High School	257	90	231,300	267	180	480,600	259	180	466,200
Rangthangwoong Jr. High School	267	90	240,300	359	180	646,200	331	180	595,800
Khuruthang Junior High School	601	90	540,900	330	180	594,000	394	180	709,200
Chhumey Junior High School	-	-	-	-	-	-	163	180	293,400
Drujeygang Junior High School	-	-	-	-	-	-	36	180	64,800
Martshala Junior High School	-	-	-	-	-	-	329	180	592,200
Nangkor Junior High School	-	-	-	-	-	-	306	180	550,800
Samtengang Junior High School	-	-	-	-	-	-	108	180	194,400

continues..

TABLE 3.11: (Continuation) MONTHLY STIPEND FOR BOARDERS IN DIFFERENT EDUCATIONAL INSTITUTIONS, 1996 AND 1998 (a)

Institutions	1996			1997			1998		
	Boarders (persons)	Monthly stipend (Nu/person)	Total (Nu.)	Boarders (persons)	Monthly stipend (Nu/person)	Total (Nu.)	Boarders (persons)	Monthly stipend (Nu/person)	Total (Nu.)
High schools	-	-	-	-	-	-	-	-	-
Yangchenphu High School	-	-	-	-	-	-	-	-	-
Chhukha High School	298	120	357,600	308	180	554,400	306	180	550,800
Drugyel High School	402	120	482,400	377	180	678,600	451	180	811,800
Punakha High School	494	120	592,800	536	180	964,800	565	180	1,017,000
Jigme Sherubling High School	547	120	656,400	604	180	1,087,200	674	180	1,213,200
Zhemgang High School	407	120	488,400	430	180	774,000	438	180	788,400
Mongar High School	303	120	363,600	280	180	504,000	306	180	550,800
Bjkar High School	280	120	336,000	419	180	754,200	379	180	682,200
Ugyen Dorji High School	339	90	305,100	488	180	878,400	523	180	941,400
Daga High School	-	-	-	-	-	-	349	180	628,200
Damphu High School	-	-	-	-	-	-	172	180	309,600
Gyelpozhing High School	-	-	-	-	-	-	403	180	725,400
Nganglam High School	-	-	-	-	-	-	-	-	-
Other institutions	-	-	-	-	-	-	-	-	-
Sherubtse College	445	700	3,115,000	496	700	3,472,000	571	700	3,997,000
Semtokha Rigzhung Institute	391	120	469,200	305	180	549,000	218	180	392,400
Royal Technical Institute	265	300	795,000	289	900	2,601,000	296	900	2,664,000
Royal Bhutan Polytechnic	239	450	1 075,500	258	1,000	2,580,000	277	1,000	2,770,000
National Institute of Education	99	800	792,000	99	1,000	990,000	69	1,500	1,035,000
Bachelors & post graduate cours	79	700	553,000	89	1,000	890,000	94	1,500	1,410,000
Primary teachers training cours	153	700	1,071,000	206	1,000	2,060,000	90	1,500	1,350,000
Teacher Training College	27	120	32,400	28	180	50,400	30	180	54,000
National Institute for the Disabled (NID)	-	-	-	-	-	-	-	-	-
All institutions	8,414	5,900	14,766,800	9,165	9,560	26,043,400	11,135	12,680	30,754,400

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, 1998

Education Level	NATIONAL				
	Nursury School	Community School	Primary School	Junior School	High School
All Teachers	65	199	704	435	167
Trained	51	190	698	417	162
Male	13	160	454	179	101
Female	38	30	244	238	61
Untrained	6	9	6	18	5
Male	0	6	3	7	4
Female	6	3	3	11	1
DLT level not specified					
Trained	8	93	227	144	59
Male	8	93	227	143	59
Female	0	0	0	1	0
Untrained	0	0	0	0	0
Male	0	0	0	0	0
Female	0	0	0	0	0
Below High school level					
Trained	8	54	140	50	7
Male	1	44	90	18	4
Female	7	10	50	32	3
Untrained	3	0	2	2	0
Male	-	-	1	1	-
Female	3	-	1	1	-
High school Completed					
Trained	30	130	520	239	9
Male	10	110	340	87	5
Female	20	20	180	152	4
Untrained	1	6	3	8	1
Male	-	3	2	2	1
Female	1	3	1	6	-
Higher scondary Completed					
Trained	13	6	31	101	86
Male	2	6	21	61	59
Female	11	-	10	40	27
Untrained	2	3	0	4	1
Male	-	3	-	3	1
Female	2	-	-	1	-
Graduate Completed					
Trained	0	0	7	26	51
Male	-	-	3	13	27
Female	-	-	4	13	24
Untrained	0	0	1	4	2
Male	-	-	-	1	1
Female	-	-	1	3	1
Postgraduate and above					
Trained	0	0	0	1	9
Male	-	-	-	-	6
Female	-	-	-	1	3
Untrained	0	0	0	0	1
Male	-	-	-	-	1
Female	-	-	-	0	-

cont…

Table 3.12 :(Cont.) No of teacher in schools and Institute by educational level of teachers, 1998

Education Level	FOREIGNER				
	Nursury School	Community School	Primary School	Junior School	Hig Scho
All Teachers	4	13	120	170	14
Trained	3	6	56	80	11
Male	2	6	36	57	9
Female	1	0	20	23	2
Untrained	1	7	64	90	3
Male	0	6	48	58	2
Female	1	1	16	32	
Below High school level					
Trained	0	0	0	0	
Male	-	-	-	-	
Female	-	-	-	-	
Untrained	0	0	0	0	
Male	-	-	-	-	
Female	-	-	-	-	
High school Completed					
Trained	2	0	2	1	
Male	2	-	-	1	
Female	-	-	-	-	
Untrained	1	0	-	1	
Male	-	-	-	-	
Female	1	-	-	1	
Higher scondary Completed					
Trained	0	4	11	7	
Male	-	4	8	6	
Female	-	-	3	1	
Untrained	0	4	7	12	
Male	-	4	5	9	
Female	-	-	2	2	
Graduate Completed					
Trained	1	2	38	56	
Male	-	2	21	38	
Female	1	-	14	18	
Untrained	0	3	56	64	
Male	-	2	41	47	
Female	-	1	15	21	
Postgraduate and above					
Trained	0	0	8	16	
Male	-	-	6	13	
Female	-	-	2	3	
Untrained	0	0	5	10	
Male	-	-	3	5	
Female	-	-	2	5	

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 1998

(numbers)

Ministry/Division	1993	1994	1995	1996	1997	1998
Ministry of Planning	86	86	78	74	79	77
Ministry of Home Affairs	1,124	1,138	1,189	1,157	1,185	1,195
Home Affairs	n.a	408	442	430	433	436
Dzongkhags	n.a	730	747	727	752	759
Ministry of Finance	653	653	627	604	605	661
Ministry of Communications	2,397	2,534	2,631	2,171	2,134	2,037
Ministry of Health & Education	4,707	4,773	4,669	4,660	4,779	5,055
Ministry of Agriculture	2,144	2,281	2,381	2,368	2,435	2,498
Ministry of Foreign Affairs	138	122	127	122	125	130
Ministry of Trade & Industry	1,040	1,098	1,050	1,164	1,155	1,051
Special Commission	200	189	173	175	142	146
Other Non-Ministerial Organisations	528	553	641	687	761	872
His Majesty's Secretariat	47	51	48	48	48	47
Royal Civil Service Commission	69	71	49	41	47	49
Royal Audit Authority	93	93	107	108	122	123
Royal Advisory Council	9	10	13	13	14	15
National Assembly	14	14	14	15	14	15
Dratshang Lhentshog	n.a	n.a	n.a	n.a	36	34
National Women's Association of Bhutan	n.a	n.a	4	1	1	1
Judiciary	218	224	240	252	255	252
Bhutan Olympic Committee	22	21	22	19	21	23
Dzongkhag Development Commission	16	16	17	14	17	18
Royal Institute of Management	40	42	44	90	98	88
Royal Monetary Authority	n.a	n.a	64	58	58	180
National Enviroment Commission	n.a	11	19	20	22	22
Others	n.a	n.a	n.a	8	8	5
All Civil Servants	13,017	13,427	13,566	13,182	13,400	15,789

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	Perce
Thimphu town						
All persons 15 years and over	5350	100.0	4410	100.0	9760	100.
All persons not employed	1250	23.4	2330	52.9	3580	36.
All persons employed	4110	76.8	2080	47.2	6190	63.
Agriculture	280	5.2	850	19.3	1130	11.
Self-employed	*	*	530	19.8	530	5.
Paid or unpaid employee	230	4.3	*	*	230	2.
Non agro organised business	3,780	70.7	1220	27.7	5000	51.
Self-employed	720	13.5	210	4.8	930	9.
Paid or unpaid employee	3,070	57.4	1020	23.2	4090	41.
Cottage activities	*	*	600	13.6	600	6.
Phuntsholing town						
All persons 15 years and over	1970	100.0	2120	100.0	4090	100.
All persons not employed	270	13.7	1150	54.2	1420	34.
All persons employed	1700	86.5	970	45.8	2670	65
Agriculture	150	7.6	330	15.6	480	11
Self-employed	*	*	330	15.6	330	8
Paid or unpaid employee	*	*	*	*	147	3
Non agro organised business	1500	76.3	270	12.7	1770	43
Self-employed	220	11.2	*	*	220	5
Paid or unpaid employee	1280	65.1	220	10.4	1500	36
Cottage activities	*	*	380	17.9	380	9

Note: Preliminary estimates

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

CHAPTER 5: LAND USE AND AGRICULTURE

INTRODUCTION

The Ministry of Agriculture over the last nearly four decades was concerned about "how to grow" by establishing various agricultural infrastructures to produce and distribute the inputs. Currently the Ministry of Agriculture established 4 main RNR research centers, 5 RNR research sub centers, 344 extension centers, 11 seed and plant protection farms, 3 farm machinery centers and 2 machinery training centers. The Ministry of Agriculture with the accumulated experience having accomplished one five year plan after the other maintains the three basic objectives that is to conserve the environment, enhance the rural income and attain the self reliance in the in cereals and oil crops. In 1998 estimation of the GDP agriculture contributed 36.7% which is the single largest sector and also provides livelihood to more than 85% of the population.

Over the years the agricultural practice has changed tremendously. Till a decade before, agriculture was practiced on a subsistence basis. What ever is produced on the farm is consumed having no marketable surplus. The farm production is supplemented by keeping different kinds of domestic animals- cattle for draught and milking purpose, chicken and pigs. At higher altitudes, herds of yaks and sheep are also kept for draught and milk purpose. Due to the improved communication facilities in the country, there is an increasing tendency to go for cash crops like apples in the north, orange, arecanut and cardamom in the south. Break through has been made both in the livestock and the cereal production by introducing double cropping in the paddy production and distributing high yield varieties. In the livestock sector the artificial insemination covers not only for the jersey but also for the production of jatsha and jatsam. Since the last few years, the farm income has increased many folds. As a result, today many farms are mechanized with sizable investment on the machinery and other inputs.

The issue is not only to formulate well-balanced agricultural policies and the response shown by the farmers to the designed policies but also to monitor the progress. To do this a good statistical database giving the trends or time series is required. Back in 1988/89 a national agronomic survey was carried out in collaboration with the then Department of Agriculture. Since then no systematic survey was conducted. This year, Ministry of Agriculture is conducting nation wide sample survey and will be followed by agricultural census which will thus lead to building of reliable agricultural data base.

TABLE 5.1: LAND-USE AND VEGETATION TYPES AS PERCENTAGE OF TOTAL AREA OF BHUTAN, 1996

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	2.4
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 the small to be mapped at a scale 1:50,000 and becau were under forest cover.

Source: Ministry of Agriculture, Thimphu

Type of land cover as percent of total area of Bhutan, 1996 (see table 5.1)

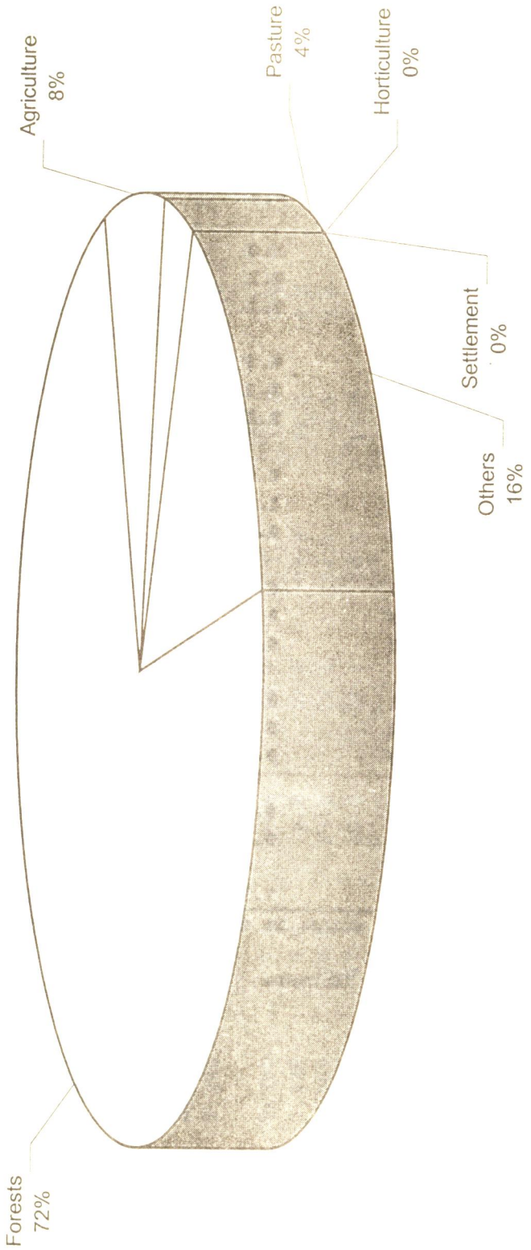


TABLE 5.2: AREA OF DZONGKHAGS AS A PERCENTAGE OF TOTAL AREA OF BHUTAN BY TYPE OF LAND COVER, 1995

Dzongkhag	Forests	Pasture	Agriculture	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; but less then 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) 0-600	600-1200	1200-1800	1800-2400	2400-3000	3000-3600	Total 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
Samdrupjongkh	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
Wangduephodra	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
Samdrupjongkh	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
Wangduephodra	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)						
	0-600	600-1200	1200-1800	1800-24000	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	3600-4200	4200-4800	4800-5400	5400-6000	6000-6600	>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; but less then 0.05%

Source: Ministry of Agriculture, Thimphu

TABLE 5.5: AVERAGE MONTHLY TEMPERATURE AT VARIOUS STATIONS BY DZONGKHAG, 1998

(degrees celsius)

Dzongkhag and station	Temperature	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Thimphu													
Kawangjangsa	Maximum	13.0	14.6	14.8	21.1	25.8	24.8	23.4	24.5	24.3	20.7	18.3	16.8
	Minimum	-2.0	-1.9	2.2	7.4	11.2	16.7	16.7	16.6	14.0	10.5	2.9	-3.6
Lumitsawa	Maximum	-	-	-	-	-	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Gidakom	Maximum	15.5	17.2	16.5	22.0	25.5	27.3	25.5	25.7	26.0	25.0	23.0	19.6
	Minimum	-2.5	-0.4	2.9	7.4	11.8	16.4	16.5	16.3	13.3	11.2	3.1	-2.4
Taba	Maximum	12.8	15.3	16.1	19.7	20.5	23.7	21.8	20.5	19.9	19.6	14.0	14.3
	Minimum	-2.7	-0.6	1.3	5.5	6.9	8.6	15.4	16.1	13.8	11.6	3.6	-2.3
Chhukha													
Chhukha	Maximum	9.5	10.3	6.9	9.9	15.5	15.5	15.8	14.8	20.4	12.2	14.2	8.4
	Minimum	2.8	3.9	3.5	5.8	8.6	8.8	8.4	8.1	7.5	6.2	5.8	4.1
Gedu	Maximum	10.5	-	-	-	-	-	-	-	-	-	17.0	13.8
	Minimum	7.6	-	-	-	-	-	-	-	-	-	11.3	8.4
Tala	Maximum	12.5	14.9	16.3	16.2	23.1	22.6	22.1	22.3	22.7	22.7	20.4	17.1
	Minimum	5.5	7.1	8.7	10.1	16.3	18.3	18.0	17.8	17.0	15.7	11.0	7.2
Haa													
Namjeyling	Maximum	10.4	10.0	11.3	15.0	19.0	20.0	19.0	18.6	19.6	17.4	15.9	12.8
	Minimum	-3.4	-1.0	1.0	5.1	9.8	14.4	15.2	14.4	11.1	8.4	1.4	-3.2
Paro													
Drugyel Dzong	Maximum	16.2	15.1	17.2	-	23.7	24.1	23.6	23.3	-	21.5	19.9	15.9
	Minimum	-5.5	-1.8	0.8	-	10.4	14.2	15.2	14.5	-	9.0	0.2	-4.3
Samtse													
NIE	Maximum	17.9	22.3	24.0	27.8	29.5	27.8	26.9	27.1	27.7	27.1	24.8	22.9
	Minimum	13.2	16.0	16.6	19.9	23.5	24.4	24.6	24.5	23.8	22.5	19.0	15.3
Dagana													
Drujeygang	Maximum	26.2	-	29.3	30.0	29.3	28.4	27.9	28.6	-	-	-	-
	Minimum	15.0	-	12.4	14.4	18.0	20.6	20.6	19.2	-	-	-	-
Punakha													
Punakha Dzong	Maximum	18.8	18.1	19.8	26.3	29.2	28.4	27.6	26.7	26.9	27.8	22.8	14.0
	Minimum	8.1	8.9	9.2	13.1	19.9	21.3	21.8	20.7	19.2	17.2	19.0	-
Shelgana	Maximum	18.0	20.4	20.8	25.9	30.0	30.4	-	27.7	28.5	26.7	24.8	21.6
	Minimum	2.9	5.1	5.8	10.4	14.7	17.7	-	17.5	15.9	13.9	6.4	1.9

(continues...)

TABLE 5.5(continuation): AVERAGE MONTHLY TEMPERATURE AT VARIOUS STATIONS BY DZONGKHAG, 1998

(degrees celsius)

Dzongkhag and station	Temperature	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wangduephodrang													
CARD	Maximum	17.4	20.0	20.5	25.8	29.1	29.3	25.7	25.7	26.0	26.1	23.6	20.1
	Minimum	5.6	9.1	9.6	13.9	17.6	19.9	20.8	20.5	19.8	17.9	10.8	4.8
Samtengang	Maximum	16.1	-	20.3	23.3	26.7	28.3	27.1	26.8	26.3	24.2	23.0	19.3
	Minimum	2.3	-	6.2	8.9	12.8	16.2	16.2	16.7	14.8	12.5	7.0	3.7
Nobding	Maximum	10.9	13.2	13.5	19.5	24.2	24.1	22.1	21.6	23.0	20.4	15.3	10.8
	Minimum	0.7	3.6	1.8	2.8	10.5	14.4	15.2	15.6	14.0	11.7	6.7	2.7
Phobjekha	Maximum	9.5	12.1	11.1	16.0	19.8	22.1	20.9	19.5	19.4	18.6	16.9	12.3
	Minimum	-6.5	-4.8	0.8	3.0	6.0	3.9	13.9	13.7	10.2	8.2	3.6	-5.9
Basochhu	Maximum	19.1	22.0	23.5	27.9	31.0	30.1	26.3	25.8	28.2	27.7	26.1	21.5
	Minimum	8.0	10.4	11.5	15.0	17.9	19.9	19.9	19.8	19.8	17.5	12.1	8.0
Zhemgang													
Yebilaptsa	Maximum	19.4	22.3	22.6	26.6	31.2	28.4	29.0	29.4	28.9	27.8	25.4	23.1
	Minimum	11.1	11.6	11.0	15.6	18.6	22.1	22.0	21.6	20.5	18.9	12.3	8.0
Trongsa													
Trongsa	Maximum	14.0	14.4	18.4	22.2	23.0	19.5	24.4	24.5	22.5	18.1	16.4	16.6
	Minimum	-1.9	-2.4	0.3	13.1	13.1	12.0	14.3	14.1	13.3	10.8	5.4	3.3
Kuenga Rabten	Maximum	12.3	11.2	17.5	16.0	16.4	18.6	21.1	18.3	19.3	18.1	21.2	-
	Minimum	7.4	4.3	9.1	9.9	10.9	14.4	12.8	14.4	16.4	16.4	10.7	-
Chendebji	Maximum	-	-	6.9	13.0	15.9	16.0	16.0	18.4	14.0	14.8	13.9	14.1
	Minimum	-	-	0.9	1.5	5.7	10.9	11.4	11.2	11.0	10.2	11.2	12.8
Langthel	Maximum	16.7	-	-	-	-	-	-	-	-	-	23.6	21.8
	Minimum	11.1	-	-	-	-	-	-	-	-	-	15.4	11.4
Bumthang													
Ura	Maximum	10.1	-	14.1	16.5	18.9	18.7	21.4	20.5	16.1	-	-	-
	Minimum	-	-	-3.0	8.9	8.8	10.1	9.4	10.7	9.7	-	-	-
Chhumeth	Maximum	-	-	14.5	18.5	-	26.3	26.4	25.2	25.5	24.7	22.1	-
	Minimum	-	-	3.0	5.0	-	13.5	15.7	15.3	10.4	9.3	3.2	-
Chamkhar	Maximum	11.4	13.6	13.5	17.9	20.0	-	20.8	20.2	20.7	18.3	16.9	14.2
	Minimum	-2.2	-1.0	1.9	5.7	8.0	-	15.5	15.3	13.2	10.4	1.5	-4.9
Trashigang													
Khaling	Maximum	7.0	8.2	13.7	17.4	22.9	23.9	18.4	-	-	23.0	-	-
	Minimum	2.6	2.0	7.9	11.0	11.9	11.7	11.4	-	-	12.1	-	-
Wamrong	Maximum	17.8	20.2	20.7	23.5	26.8	27.0	27.6	27.7	-	24.5	20.8	17.0
	Minimum	11.3	9.3	7.8	11.4	12.4	12.8	11.9	11.1	-	10.1	7.7	7.7
Radhi	Maximum	-	-	22.6	26.1	28.4	27.4	26.7	26.1	27.4	26.1	25.5	-
	Minimum	-	-	9.3	13.9	17.7	18.8	19.7	19.9	17.8	16.1	11.6	-
Thrimshing	Maximum	16.5	18.6	21.6	26.9	28.6	26.1	26.0	26.7	33.4	30.3	24.4	21.8
	Minimum	7.0	8.2	8.0	11.2	17.3	18.0	17.9	16.7	14.6	12.9	9.7	7.1

TABLE 5.5(continuation): AVERAGE MONTHLY TEMPERATURE AT VARIOUS STATIONS BY DZONGKHAG, 1998

(degrees celsius)

Dzongkhag and station	Temperature	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mongar													
Yadhi	Maximum	-	-	-	-	25.7	23.8	24.0	23.8	24.6	22.6	19.3	16.0
	Minimum	-	-	-	-	15.6	18.4	18.8	18.3	16.7	14.3	10.0	6.0
Tsakaling	Maximum	-	-	-	-	-	24.1	-	-	-	-	-	-
	Minimum	-	-	-	-	-	16.7	-	-	-	-	-	-
Lingmethang	Maximum	23.3	26.5	27.1	29.8	34.6	31.9	31.5	30.8	33.5	31.8	29.7	26.8
	Minimum	9.3	10.7	12.2	16.4	20.4	23.0	22.6	22.6	21.5	20.2	12.8	8.9
Trashiyangtse													
Trashiyangtse	Maximum	12.9	14.9	15.5	19.3	23.1	22.4	22.7	22.8	23.7	21.9	19.2	16.2
	Minimum	4.0	5.3	9.1	9.7	13.9	18.1	20.0	18.5	16.9	14.0	8.8	4.7
Yallang	Maximum	-	-	13.0	18.8	21.4	21.8	21.1	19.9	21.5		18.0	14.5
	Minimum	-	-	6.0	9.4	13.4	16.0	16.0	16.1	14.5		8.2	4.8
Lhuntse													
Dungkhar	Maximum	-	-	-	21.1	24.5	23.3	22.9	22.8	-	22.5	19.8	-
	Minimum	-	-	-	9.4	11.8	16.3	17.4	16.3	-	14.0	8.3	-
Tangmachhu	Maximum	-	6.4	15.2	-	23.0	25.6	25.6	27.1	25.9	20.9	18.9	11.7
	Minimum	-	4.8	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	16.5	21.2	24.0	23.2	23.3	23.4	24.5	22.4	20.1	17.0
	Minimum	9.5	10.0	6.0	10.3	13.7	16.1	16.4	16.0	15.1	13.0	9.8	4.5
Dungmein	Maximum	14.4	15.1	18.6	23.5	27.2	27.1	28.8	26.0	27.3	24.8	22.5	17.5
	Minimum	6.2	7.6	9.3	13.2	17.2	19.9	20.5	20.3	19.6	15.9	10.9	7.6
Samdrupjongkhar													
Airong	Maximum	14.7	17.5	20.0	23.9	26.5	25.9	25.9	26.3	27.0	25.6	22.7	19.2
	Minimum	5.9	6.3	10.2	13.5	16.4	18.9	19.6	18.9	18.4	15.8	11.9	9.5
Dechheling	Maximum	15.8	17.5	18.7	22.9	25.8	24.2	24.9	24.8	25.2	24.7	21.7	19.5
	Minimum	7.3	9.0	11.3	13.8	16.3	16.0	16.7	21.7	16.0	15.2	12.3	9.5
Nganglam	Maximum	-	-	-	-	-	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Sarpang													
Sarpang	Maximum	-	23.6	24.4	28.6	-	-	-	-	-	-	-	-
	Minimum	-	14.8	15.8	18.9	-	-	-	-	-	-	-	-
Tsirang													
Sunkosh Dobani	Maximum	23.0	24.6	25.9	30.3	32.6	30.9	29.7	29.4	30.2	-	-	26.1
	Minimum	8.7	10.8	12.6	16.8	20.9	24.2	23.4	22.8	22.0	-	-	9.8

Source: Meteorology Unit, Division of Power, Thimphu

TABLE 5.6: TOTAL MONTHLY RAINFALL AT EXISTING STATIONS IN EACH DZONGKHAG, 1998

(millimeters)

Dzongkhag and station	Month												Total rain fall
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thimphu													
Gidakom	0.0	2.0	75.0	6.0	20.2	70.6	166.0	105.2	76.2	10.8	0.6	0.0	532.6
Taba	0.0	1.0	53.0	27.0	52.4	60.5	303.0	217.4	102.6	21.9	1.8	0.0	840.6
Kawang Jangsa	0.0	0.0	54.7	25.1	62.1	79.8	202.9	112.8	114.4	11.2	0.4	0.0	663.4
Chhukha													
Chhukha	0.0	11.2	169.9	80.5	162.2	433.4	469.3	336.8	141.0	70.9	0.6	0.0	1,875.8
Tala	0.0	0.0	90.9	0.0	395.0	637.4	777.8	517.0	94.0	0.0	0.0	0.0	2,512.1
Gedu	18.4	-	-	-	-	-	-	-	-	-	10.2	3.0	31.6
Haa													
Namjeyling	23.0	6.3	67.4	71.5	48.9	126.9	208.9	132.5	88.0	28.0	3.2	0.0	804.6
Paro													
Drugyal Dzong	0.0	3.0	3.8	-	4.5	26.0	313.0	392.8	-	35.5	0.0	0.0	778.6
Samtse													
NIE	5.4	31.0	120.6	256.5	138.8	2,041.0	1,411.0	1,235.0	612.2	223.0	0.0	0.0	6,074.5
Dorokha	17.0	-	-	35.0	-	-	-	-	-	-	-	-	52.0
Tsirang													
Damphu	2.2	0.5	149.8	48.6	79.9	399.9	815.3	787.5	189.0	56.2	2.0	1.8	2,532.7
Sunkosh Doban	0.0	0.2	111.6	22.2	20.4	260.0	855.0	723.2	126.0	-	-	0.0	2,118.6
Dagana													
Dagadzong	10.0	17.1	54.0	37.0	17.5	-	66.3	11.5	39.0	14.0	0.0	2.0	268.4
Drujeygang	0.0	-	92.5	29.9	38.2	443.6	1,070.0	700.5	-	-	-	-	2,374.7
Tashithang	2.0	4.0	77.0	41.0	42.0	311.4	674.0	457.0	180.0	19.0	0.0	0.0	1,807.4
Punakha													
Punakha	0.0	0.0	67.1	56.1	16.0	118.2	182.6	210.2	113.6	48.4	2.3	0.0	814.5
Shelgana	0.0	0.0	70.2	90.0	50.2	210.0	-	321.0	151.0	119.0	8.0	0.0	1,019.4
Wangdue													
Nobding	0.0	0.0	7.2	91.0	96.0	308.0	415.0	463.0	160.0	94.0	5.0	0.0	1,639.2
Phobjikha	0.0	0.0	74.9	139.2	96.0	105.8	461.0	479.7	193.9	31.9	0.0	0.0	1,582.4
Samtengang	0.0		45.0	47.0	26.0	84.0	154.9	199.8	127.3	64.0	7.0	0.0	755.0
Wangdue CARD	0.0	1.0	70.0	51.3	53.0	64.6	153.7	192.6	38.9	28.0	0.4	0.0	653.5
Basochhu	0.0	2.0	75.7	12.4	26.3	160.0	307.2	381.7	58.4	46.5	0.0	2.6	1,072.8
Sarpang													
Sarpang	-	37.8	191.2	137.2	415.6	1,202.6	1,346.8	1,981.0	383.2	289.8	0.0	0.0	5,985.2
Bhur	0.5	11.2	35.4	167.1	611.8	1,453.4	1,488.6	1,881.8	434.0	317.7	0.0	0.0	6,401.5
Zhemgang													
Panbang	2.8	87.0	151.8	54.8	279.0	2,343.6	2,251.8	1,292.9	550.8	172.0	2.2	0.0	7,188.7
Yebilaptsa	5.0	0.0	157.6	34.0	23.6	414.0	822.2	601.5	134.8	16.8	0.0	0.0	2,209.5

TABLE 5.6 (continuation): TOTAL MONTHLY RAINFALL AT EXISTING STATIONS IN EACH DZONGKHAG, 1998

(millimeters)

Dzongkhag and station	Month												Total rain fall
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Trongsa													
Kuengarabten	0.0	0.0	34.0	0.0	47.3	128.0	205.5	552.5	0.0	0.0	0.0	-	967.3
Langthel	34.0	-	-	-	-	-	-	-	-	-	2.9	0.1	37.0
Trongsa	2.5	22.5	136.8	73.5	196.0	170.0	232.0	270.0	123.2	19.5	8.7	0.0	1,254.7
Bumthang													
Chamkhar	0.0	8.2	81.5	37.3	47.8	-	277.3	114.0	60.3	30.8	1.5	0.0	658.7
Chhumey	-	-	55.0	24.2	-	97.6	603.9	225.6	44.8	26.6	0.0	-	1,077.7
Ura	0.0	-	60.0	44.0	36.0	68.0	142.0	176.0	43.0	-	-	-	569.0
Trashigang													
Khaling	0.0	0.0	172.0	76.2	96.0	528.7	10.0	-	-	86.0	-	-	968.9
Radhi	-	-	24.0	9.0	24.0	111.0	197.0	138.0	14.2	10.0	0.0	-	527.2
Thrimshing	0.0	18.4	94.0	65.0	26.0	413.4	-	-	-	-	-	-	616.8
Wamrong	2.0	28.6	189.8	115.2	73.9	682.0	717.6	618.2	-	46.2	0.0	0.0	2,473.5
Tashiyangtse													
Yallang	-	-	116.2	113.2	38.1	193.9	298.2	200.0	156.5	-	0.0	0.0	1,116.1
Tashiyangtse	5.0	24.4	66.9	40.0	71.1	238.6	269.1	310.0	105.0	95.8	5.4	2.6	1,233.9
Mongar													
Lingmethang	1.0	6.3	34.7	33.6	19.7	231.6	499.0	304.8	156.8	40.2	0.0	0.0	1,327.7
Yadi	-	-	-	-	45.6	227.0	355.9	219.4	64.4	57.5	0.0	0.0	969.8
Tsakaling	-	-	-	-	-	231.9	-	-	-	-	-	-	231.9
Lhuntse													
Dungkhar	0.0	45.0	212.5	62.6	42.0	1,040.3	1,009.3	720.7	100.7	126.4	0.0	0.0	3,359.5
Tangmachu	-	9.0	46.2	-	135.8	139.7	218.9	24.0	55.8	23.4	0.0	0.0	652.8
Pemagatshel													
Dungmain	-	-	-	96.2	172.8	310.4	314.6	387.2		141.4	0.0	-	1,422.6
Yurung	2.6	64.6	291.6	58.2	58.6	930.2	1,051.8	684.6	112.6	77.3	0.0	0.0	3,332.1
Samdrupjongkhar													
Airong	0.0	105.9	305.0	206.0	258.0	211.5	883.0	361.8	137.0	164.0	0.0	0.0	3,132.2
Dechenling	1.2	79.4	143.2	209.8	314.8	431.1	726.0	355.8	269.6	120.5	79.0	47.0	2,777.4
Nanglam	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Meteorology Unit, Division of Power, Thimphu

TABLE 5.7: NUMBER OF AGRICULTURE RESEARCH AND EXTENSION CENTRES, BHUTAN, MARCH 1998

Infrastructure	Numbers
RNR (Common services)	38
RNR centres	na
National Resourse Training Institute (NRTI)	6
RNR Research Centres	na
RNR Research sub-stations	na
Soil and Plant Analytical Laboratory	
Agriculture	155
Agriculture Extension Centres	na
Agriculture Seed Production Farms	na
plant Protection Centres	na
Farm Mechanization Centres	na
Farm Mechanization Training Centres	na
National Mashroom Centres	
Animal Husbendry	na
Veterinary Hospital (including Thimphu Hospital)	108
Livestock Extension Centres	na
Regional Veterinary Laboratories	na
Satellite Veterinary Laboratories	na
Livestock Farms	na
Fodder Seed Production Centres	na
Sub-Tropical Fodder Seed Production sub-centres	na
National Artificial Insemination programme	na
Vaccine Production Centres	na
Royal Veterinary Epidemiology Centre	
Forestry	na
Territorial Division HQs (DFO)	33
Range Offices	59
Beat Offices	na
Forest Training Institute	na
Nature Study Centre	

Source: Ministry of Agriculture, Thimphu

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

Dzongkhag	1992/93		1993/94		1994/95		1995/96		1996/97	
	New construction Length of channel (Km)	Command area (hec.)	New construction Length of channel (Km)	Command area (hec.)	New construction Length of channel (Km)	Command area (hec.)	New constructio Length of channel (Km)	Command area (hec.)	New construction 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
Wangduephodrang	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
Samdrupjongkhar	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 1997/98

(Kilograms or litre)

Period	Insecticide	Fungicide	Weedicide	Acaricide	Rodenticide	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
1996/97	10,883	236	90,730	50	-	10,490	112,389
1997/98	3,493	1,196	117,040	-	-	1,400	123,129

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	3.00-4.99	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 were 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: HOLDERS, AREA, PRODUCTION AND YIELD OF MAJOR CROPS BY DZONGKHAG, 1988/89(a)

Dzongkhag	Paddy				Wheat			
	Holders	Area	Production	Yield/ha.	Holders	Area	Production	Yield/ha.
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 5.12(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 5.13: 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	2.29	2.29	2.08	2.62	2.76	2.80
Phujikha farm	4.12	4.98	5.34	2.59	2.41	12.48	7.33	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	2.89

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 HOLDING, 1988/89

('000 holders)

Number of livestock	Cattle	Yak	Buffalo	Pig	Goat	Sheep	Horse	Donkey/ mule	Chicken
Zero	9.2	62.5	62.7	29.6	47.7	57.7	46.9	60.7	12.7
1 - 2	8.2	*	0.6	24.9	7.5	2.4	14.3	3.0	14.6
3 - 4	10.9	0.2	0.3	7.0	5.7	1.2	2.0	0.1	13.2
5 - 9	23.1	0.1	0.3	2.2	2.6	1.3	0.6	*	13.7
10 - 14	8.1	*	*	0.2	0.2	0.4	*	*	5.1
15 - 19	2.4	0.2	*	*	*	*	*	*	2.1
20 - 29	1.5	0.1	*	*	*	0.2	*	*	1.6
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	90.3	73.4	95.0	19.9
1 - 2	12.8	*	0.9	39.0	11.7	3.8	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

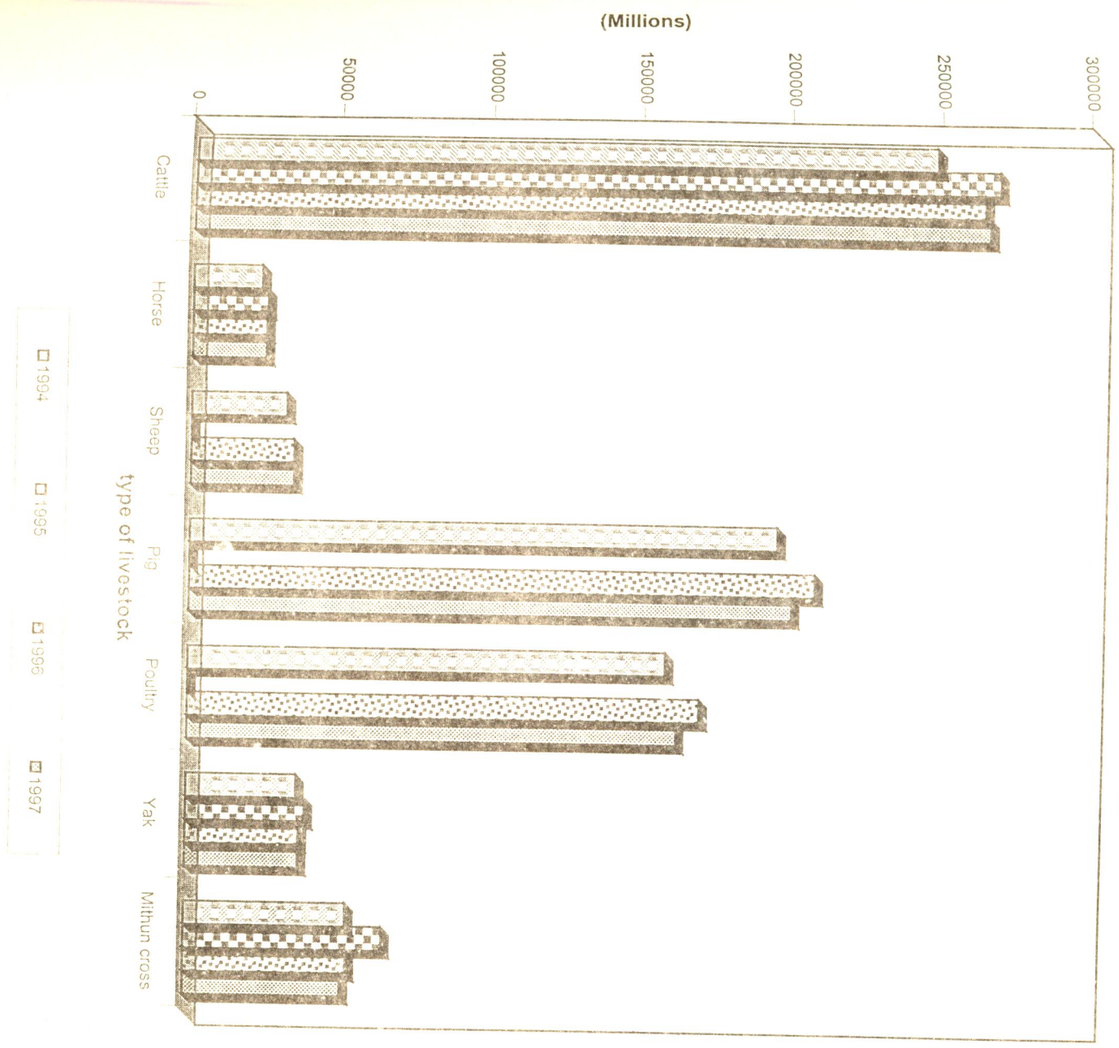
Source: Crops & Livestock Division, Thimphu

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

Type of livestock	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



Number of selected livestock,1994 to 1997(see table 5.18)

TABLE 5.19: IMPORTS AND DISTRIBUTION OF FOOD ITEMS BY FOOD CORPORATION OF BHUTAN, 1983/84 to 1998

	(tonnes)			(metric tonnes)		(metric tonnes)	
Commodity	1983/84	1984/85	1985/86	1986/87	1988/89	1989/90	1990/91
Imports							
Rice	6,033.00	5,388.00	7,211.00	11,282.00	11,599.72	9,900.00	8,775.68
Wheat	2,123.00	2,599.00	2,450.00	3,350.00	4,989.96	2,833.55	1,450.00
Sugar	1,800.00	1,824.00	2,749.00	3,574.00	3,616.20	3,040.00	3,446.50
Salt	2,326.00	3,598.00	5,689.00	3,516.00	6,759.92	4,618.58	4,318.20
Oil	240.00	306.00	557.00	874.00	399.90	339.93	270.44
Sales							
Rice	4,537.00	4,863.00	6,956.00	11,761.00	11,196.64	8,895.29	8,199.43
Wheat	2,230.00	2,280.00	2,534.00	3,346.00	4,544.43	2,964.26	2,274.87
Sugar	1,575.00	1,996.00	2,579.00	3,731.00	3,489.96	3,039.42	3,000.63
Salt	179.00	617.00	3,603.00	3,513.00	4,049.57	4,887.36	4,496.58
Oil	214.00	213.00	472.00	516.00	434.62	416.31	281.67

TABLE 5.19: (CONT..) IMPORTS AND DISTRIBUTION OF FOOD ITEMS BY FOOD CORPORATION OF BHUTAN, 1983/84 to 1998

1991/92	1992	1993	1994	1995	1996	1997	1998
10301.31	11,164.37	8,701.64	12,573.23	11,780.22	13,391.65	15,862.00	9,005.00
1469.86	1,671.91	2,359.96	3,494.45	925.00	2,000.00	4,900.00	1,240.00
2539.50	3,032.90	3,624.40	3,567.20	3,282.00	3,812.00	3,903.00	3,780.00
3520.93	4,257.70	3,651.96	0.00	0.00	24.00	27.00	37.00
559.90	0.00	1,971.90	0.00	489.56	493.00	101.00	34.00
10504.50	10,861.95	9,414.30	11,570.66	11,270.25	8,924.99	15,715.00	8,640.00
2998.25	3,380.22	3,186.74	2,790.03	1,453.62	1,513.25	2,377.00	538.00
3143.32	3,248.40	3,617.00	3,523.74	3,415.18	3,630.16	3,986.00	3,605.00
4301.01	3,842.54	2,700.76	0.00	0.00	0.53	25.00	37.00
301.85	350.49	564.64	420.15	451.10	214.46	263.00	215.00

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.

Imports of food items by FCB,1992 to 1998

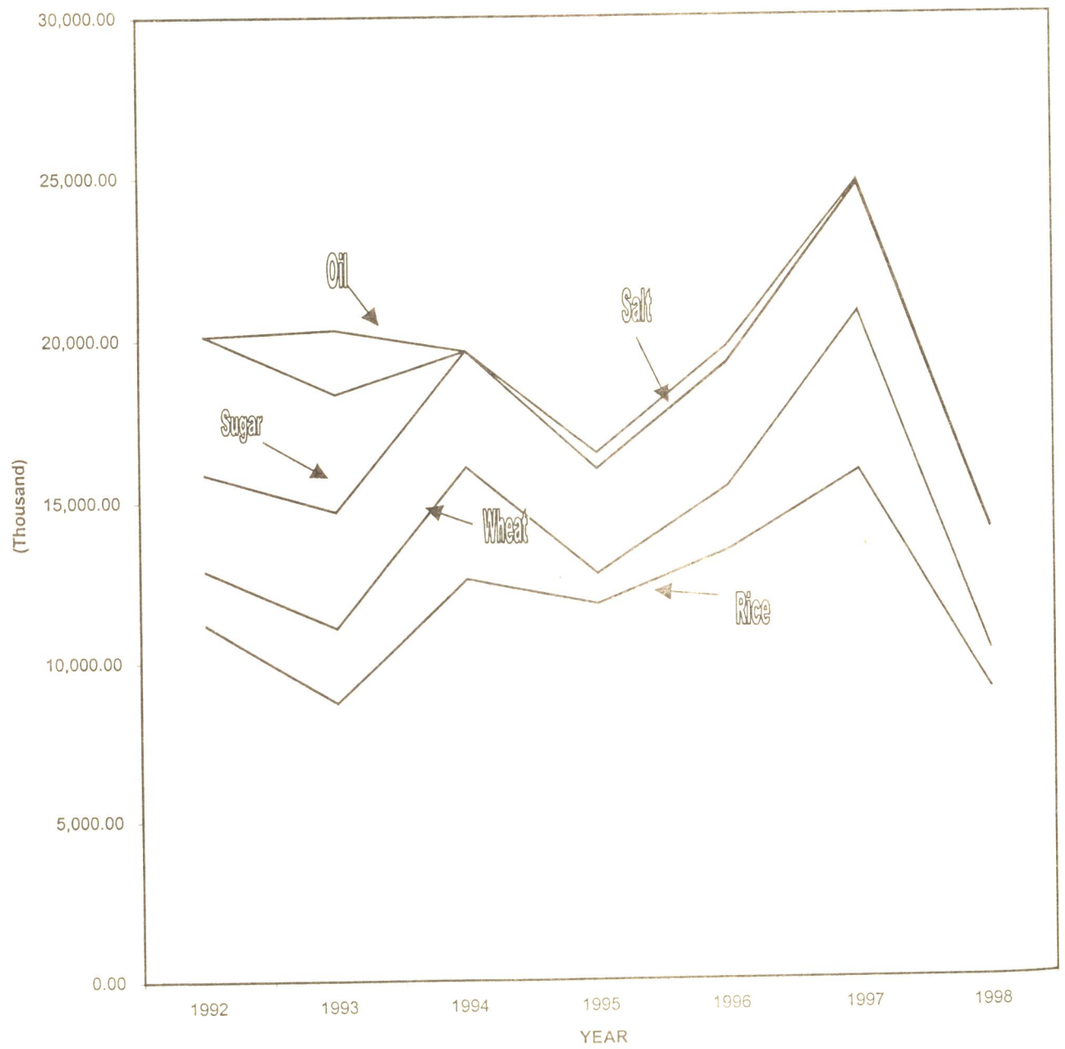


TABLE 5.20: QUANTITY OF AGRICULTURAL PRODUCE HANDLED BY FOOD CORPORATION OF BHUTAN, 1983/84 TO 1998

	(tonnes)				(tonnes)	
Commodity	1983/84	1984/85	1986	1988	1989	1990
Potatoes	6,178.90	7,571.90	8,987.80	14,377.00	13,881.00	9,885.61
Vegetables	n.a	n.a	n.a	1,243.00	960.80	994.80
Apples	671.90	889.60	648.00	591.80	325.20	94.06
Oranges	588.60	690.00	769.50	1,936.10	1,981.20	3,274.69
Cardamom	n.a	n.a	n.a	n.a	n.a	n.a
Ginger	n.a	n.a	n.a	n.a	n.a	102.99
Garlic	n.a	n.a	n.a	n.a	n.a	0.64
Arecanut	n.a	n.a	n.a	n.a	n.a	n.a
Supari(dried doma)	n.a	n.a	n.a	n.a	n.a	n.a
Dry chilli	n.a	n.a	n.a	57.10	64.40	56.75
Kidney bean(rajma)	n.a	n.a	n.a	0.00	0.00	55.09
Soya bean	n.a	n.a	n.a	197.70	295.20	74.51
Pulses	n.a	n.a	n.a	n.a	n.a	n.a
Mustard	n.a	n.a	n.a	n.a	n.a	n.a
Pipla (wild)	n.a	n.a	n.a	n.a	n.a	n.a
Chirota (wild)	n.a	n.a	n.a	n.a	n.a	n.a
Lemon	n.a	n.a	n.a	n.a	n.a	n.a
Apricot	n.a	n.a	n.a	n.a	n.a	n.a
Peach	n.a	n.a	n.a	n.a	n.a	n.a
Plum	n.a	n.a	n.a	n.a	n.a	n.a
Pear	n.a	n.a	n.a	n.a	n.a	n.a
Dry bean	n.a	n.a	n.a	n.a	n.a	n.a

TABLE 5.20: (CONT..) QUANTITY OF AGRICULTURAL PRODUCE HANDLED BY FOOD CORPORATION OF BHUTAN, 1983/84 TO 1998

1991	1992	1993	1994	1995	1996	1997	1998
13,196.27	12,189.87	14,847.64	17,132.07	14,603.70	16,478.60	17,031.00	18,194.00
1,217.38	1,029.13	1,258.91	1,736.25	1,136.76	1,970.57	1,363.00	1,367.00
687.95	1,406.47	498.89	393.99	519.23	252.95	281.00	973.00
14,180.68	6,585.14	4,915.44	3,134.49	4,010.58	3,639.69	3,042.00	4,327.00
943.52	628.84	616.78	183.81	86.89	5.84	30.00	1.00
930.08	766.29	611.40	515.20	719.50	1,023.28	984.00	640.00
0.21	0.08	0.12	n.a	0.15	n.a	n.a	0.83
312.88	91.85	163.63	158.39	192.35	182.52	104.00	0.76
n.a	n.a	n.a	n.a	0.49	n.a	n.a	n.a
33.70	53.53	51.58	97.72	40.82	22.64	33.00	36.00
42.68	48.77	69.42	64.79	36.32	69.54	103.00	39.00
172.30	210.29	215.31	290.97	90.96	92.36	143.00	67.00
n.a	0.18	11.14	1.14	3.39	4.70	4.00	2.00
n.a	n.a	8.20	3.41	0.63	1.31	1.00	2.00
n.a	n.a	n.a	9.06	14.79	8.29	13.00	16.00
n.a	n.a	n.a	n.a	6.28	1.00	2.00	7.00
147.70	187.27	110.93	54.10	54.64	47.26	35.00	2.00
n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
n.a	n.a	0.30	0.68	1.40	1.43	3.00	0.85
n.a	n.a	2.53	0.12	0.98	1.91	0.59	1.00
n.a	n.a	n.a	0.08	0.25	0.07	0.13	0.23
n.a	12.26	n.a	n.a	0.18	3.63	4.00	0.06

Note: 1988 refer to 15 months period (April to June) while 1990/91 refer to 13 month 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 = 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		10,890	23.42
Torsa Strict Nature Reserve	1993	644	1.38
Jigme Dorji National Park	1993	4,349	9.35
Black Mountain National Park	1993	1,723	3.71
Thrumshingla National Park	1998	768	1.65
Royal Manas National Park	1993	1,023	2.20
Sakteng Wildlife Sanctuary	1993	650	1.40
Bomdeling Wildlife Sanctuary	1993	1,182	2.54
Phibsoo Wildlife Sanctuary	1974	278	0.60
Khaling Wildlife Sanctuary	1974	273	0.59

Note: Data not supplyed from the Forestry

Source: Forest Division, Ministry of Agriculture, Thimphu

TABLE 5.22: QUANTITY AND VALUE OF FOREST PRODUCTS SUPPLIED BY TYPE AND USERS, 1991/92 TO 1997/98

User and product type	1991/92		1992/93		1993/94	
	Quantity	Value	Quantity	Value	Quantity	Value
Rural population						
Trees (numbers)	56,780	1,468.0	44,853	1,480.1	64,246	4,507.0
Poles (numbers)	47,728	428.0	70,924	110.7	68,526	352.1
Logged timber (cubic metre)	19,069.0	69.0	7,885.0	7,885.0	135,872.0	1,916.0
Firewood (cubic metre)	3,865.0	44.0	13,696.0	111.0	18,298.0	185.0
Charcoal (kg)	35,675	n.a	0	0.0	50,900	101.0
Bamboos (numbers)	283,537	22.7	132,826	36.8	238,053	1.2
Urban population						
Trees (numbers)	377	276.0	1,094	138.0	5,104	2,855.0
Poles (numbers)	20,193	550.0	13,847	55.2	8,619	52.0
Logged timber (cubic metre)	2,463.0	7,287.0	1,644.0	123.0	2,145.0	287.0
Firewood (cubic metre)	11,330.0	81.0	10,339.0	157.0	19,608.2	238.0
Charcoal (kg)	151,933	53.0	9,845	154.2	349,260	70.2
Bamboos (numbers)	168,432	11.4	112,983	8.5	428,404	36.2
Government agencies						
Trees (numbers)	330	107.0	506	252.0	1,277	423.0
Poles (numbers)	5,085	-	15	0.6	3,973	-
Logged timber (cubic metre)	451.0	-	19,541.0	765.0	1,372.0	48.0
Firewood (cubic metre)	4,448.0	1.0	6,105.0	54.5	13,148.0	64.7
Charcoal (kg)	0	0.0	0	0.0	72	-
Bamboos (numbers)	9,000	-	0	0.0	210,652	30.2
Bhutan						
Trees (numbers)	57,487	1,851.0	46,453	1,870.1	70,627	7,785.0
Poles (numbers)	73,006	978.0	84,786	166.5	81,118	404.1
Logged timber (cubic metre)	21,983.0	7,356.0	29,070.0	8,773.0	139,389.0	2,251.0
Firewood (cubic metre)	19,643.0	126.0	30,140.0	322.5	51,054.2	487.7
Charcoal (kg)	187,608	53.0	9,845	154.2	400,232	171.2
Bamboos (numbers)	460,969	34.1	245,809	45.3	877,109	67.6
Free of Royalty						
Trees (numbers)	n.a	n.a	n.a	n.a	n.a	n.a
Poles (numbers)	n.a	n.a	n.a	n.a	n.a	n.a
Logged timber (cubic metre)	n.a	n.a	n.a	n.a	n.a	n.a
Firewood (cubic metre)	n.a	n.a	n.a	n.a	n.a	n.a
Charcoal (kg)						
Bamboos (numbers)	n.a	n.a	n.a	n.a	n.a	n.a

TABLE 5.22: (CONT..)QUANTITY AND VALUE OF FOREST PRODUCTS SUPPLIED BY TYPE AND USERS, 1991/92 TO 1997/98

1994/95		1995/96		1996/97		1997/98	
Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
84,239	0.77	110,002	2.21	41,121	0.46	63,593	0.69
2,969	0.23	2,743	0.30	50,702	0.08	124,549	0.24
3,913	0.72	228	0.01	228	0.01	1,581	0.02
15,881	0.35	2,864	0.07	2,864	0.07	336	0.01
347,870	0.07	n.a	..	347,870		n.a	n.a
301,736	0.02	593,839	0.07	301,736	0.07	347,755	0.03
42,368	9.96	27,383	6.30	42,368	6.30	51,634	1.76
1,038	0.18	1,541	0.43	1,038	0.43	51,296	0.55
13,514	3.96	2,729	0.81	13,514	0.81	214,021	3.20
41,169	0.62	68,459	0.85	41,169	0.85	9,274	0.24
292,123	0.05	199,870	0.04	292,123	0.04	1,544,521	0.24
334,567	0.42	300,636	0.09	334,567	0.09	601,553	0.13
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..
126,606	10.73	137,385	8.51	83,489	..	115,227	n.a
4,008	0.41	4,283	0.74	51,740	..	175,845	n.a
17,427	4.68	2,957	0.82	13,742	..	215,602	n.a
57,050	0.97	71,323	0.92	44,033	..	9,610	n.a
639,993	0.12	199,870	0.04	639,993	..	1,544,521	n.a
636,303	0.45	894,475	0.16	636,303	..	949,308	n.a
n.a	n.a	n.a	n.a	4,956	..	1,335	n.a
n.a	n.a	n.a	n.a	479	..	26,537	n.a
n.a	n.a	n.a	n.a	6,319	..	50	n.a
n.a	n.a	n.a	n.a	48,951	..	5,618	n.a
					..	20,000	n.a
n.a	n.a	n.a	n.a	285,068	..	554,934	n.a

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
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 Bhutan Board Products Ltd., the first chemical plant, Bhutan Carbide and Chemicals Ltd. established during 1988, and Bhutan Agro Industries Ltd. Besides these 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 favorable agricultural conditions.
There is lot of 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, 1982 TO 1997

Sector	1982	1983	1984	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Production & manufacturing	60	75	94	136	153	161	175	189	226	256	303	336	372	405
New registration	18	15	19	17	17	8	14	14	37	30	47	15	36	33
Existing establishments	42	60	75	119	136	153	161	175	189	226	256	321	336	372
Services	34	39	43	56	68	82	101	124	164	209	1,506	1,785	1,990	2,331
New registration	6	5	4	7	12	14	19	23	40	45	1,297	140	180	341
Existing establishments	28	34	39	49	56	68	82	101	124	164	209	1645	1810	1990
Contract	103	104	105	131	205	244	298	349	544	662	921	1,085	1,343	1,658
New registration	5	1	1	13	74	39	54	51	195	118	259	127	251	315
Existing establishments	98	103	104	118	131	205	244	298	349	544	662	958	1092	1343
All sectors	197	218	242	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
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
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

Source: Ministry of Trade & Industries, Thimphu

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

Industry	Employees		
	National	Foriegner	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 since year 1990.

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 use	Exports	Domestic use	Total use	Exports	Domestic use	Total use	Exports	Domestic use	Total use	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. ft.)	0.0	0.0	0.0	92.1	0.0	92.1	44.1	0.0	44.1	48.4	0.0	48.4
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: TRASNPORT AND COMMUNICATION

INTRODUCTION

About two and half decade's back, Bhutan had fragmented transport and communication network. An efficient road system for a landlocked country assumes paramount importance as it plays a crucial role in supporting all development activities and in stimulating domestic and international trade. The first appearance of the motor vehicle was in 1962 and surface transport continues to be the main means of transport. The Bhutan Government Transport service (BGTS) originally entrusted with goods transportation was restructured to concentrate on passenger transport. In 1985 the gradual privatization of the public transport commenced and full privatization of the public transport services was achieved in 1990 with 21 operators managing a fleet of more than 100 buses on 73 routes. The Government in order to promote and see the development of surface transport with emphasis on safety formulated Roads Safety and Transport Act, which became operational since October 1997. In the last 25 years tremendous achievements were made in establishing 3375 kilometers of roads and 97motorable bridges. In the difficult areas where the construction of motorable road has not yet begun, 337 suspension bridges provide the vital transport links. Today the Division of Roads is responsible for the design and planning of roads and in setting standards for quality.

Druk Air, the national airline commenced providing services in February 1983 and commercialized services in 1985. Bhutan established its international air link with Calcutta and today it flies to five destinations in the region. The Division of Civil Aviation was established in 1986 to provide infrastructure and services and to regulate the airline industry. The Civil Aviation Act was enacted in 1990 and the Division of Civil Aviation became the member of ICAO (International Civil Aviation Organization) which adheres to internationally accepted standards and practices. The Paro International Airport was inaugurated recently on 10 April 1999 and has taken the air transport sector further ahead in providing the reliable, safe and comfortable travel services.

Within the last two and half decades, telecommunication network has changed from physical wire network to a national digital network. Telecommunication has been accorded priority in Bhutan's development plans. Bhutan's first satellite international link was established in 1990 with the installation of Earth satellite station and an international gateway switch in Thimphu. In September 1993 the telecommunication link between Thimphu and Tshirang was established and in March 1999 all the 20 district headquarters had access to telecommunication services. Within a short period 1992-1999 the number of telephones per 100 people increased from 0.08 to 1.12.

Following the formulation and implementation of Bhutan Postal Act of 1996, Division of Post was incorporated under Bhutan Companies Act. There are 106 post offices where one post office caters to 5,800 Bhutanese people. In 1993, Bhutan post introduced International Express Mail Service and after a year Domestic Express Mail Services and Fax Mail services were introduced. Fax money order service was started in 1996 followed by Post Overnight Courier and Bhutan Post Express Passenger Services in 1997. Within a short period Bhutan Post increased the types of services from 4 to 13.

The recently completed national telecommunication network opened the path to global information network. On 2nd June 1999, the country established the first television network and also started the Internet services. Information and communication technology such as internet provides access to global information and the days are not far when the services like tele-medicine, distance education, trade and electronic commerce become associated with our every day affairs.

TABLE 7.1: LENGTH OF ROADS BY TYPE, BHUTAN, DECEMBER 1998

(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, 1998

(kilometres)

Dzongkhag	National highway	District road	Feeder road	Urban road	All roads
Bumthang	122.00	0.00	91.47	0.00	213.47
Chhukha	219.00	0.00	158.67	12.00	383.67
Dagana	0.00	87.00	13.00	0.00	100.00
Gasa	0.00	0.00	1.50	0.00	1.50
Haa	16.00	25.60	47.67	0.00	89.27
Lhuntse	0.00	43.00	10.00	0.00	53.00
Mongar	177.00	21.00	51.70	0.00	249.70
Paro	103.00	36.40	88.26	0.00	227.66
Pemagatshel		23.00	39.68	0.00	62.68
Punakha	9.00	0.00	100.72	0.00	109.72
Samdrupjongkhar	53.00	50.00	52.70	0.00	161.70
Samtse	0.00	84.00	39.80	0.00	123.80
Sarpang	120.44	0.00	129.10	0.00	249.54
Thimphu	111.00	0.00	152.65	66.00	329.65
Trashigang	141.00	5.00	96.65	0.00	242.65
Trashiyangtse	0.00	40.00	12.00	0.00	52.00
Trongsa	167.00	0.00	16.00	0.00	183.00
Tsirang	62.00	0.00	30.00	0.00	92.00
Wangduephodrang	142.00	0.00	108.24	0.00	250.24
Zhemgang	144.00	0.00	56.40	0.00	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,1998

Type of bridges	Numbers	Length (metres)
Reinforced concrete	59	1317.57
Prestressed concrete	3	248.00
Bailey bridge	53	1833.33
Suspension	7	687.00
Hemilton and steel	7	214.00
Composite	25	476.00
Wooden	20	375.70
Submersible	7	193.50
All bridges	181	5345.10

Note: The total number of bridges given Dzongkhag wise include only the motorable bridges.

Source: Public Works Division, Thimphu

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

Dzongkhag	Plan periods					All plan periods
	I - IV	Vth	VI	VII	VIII	(I - VIII)
Bjakar	1	7	3	4	1	16
Chhukha	3	5	1	3	..	12
Dagana	2	2	2	3	1	10
Gasa	0	0	2	2	..	4
Haa	3	6	1	3	1	14
Lhuntse	3	4	2	3	3	15
Monggar	9	5	2	5	3	24
Paro	3	8	3	2	..	16
Pemagatshel	2	7	2	3	1	15
Punakha	3	4	1	0	1	9
Samdrupjongkha	10	13	6	2	1	32
Samtse	9	15	2	1	1	28
Sarpang	9	8	5	0	..	22
Thimphu	0	1	3	3	1	8
Trashigang	7	12	2	3	3	27
Trashiyangtse	3	6	4	3	..	16
Trongsa	4	6	3	3	4	20
Tsirang	6	4	1	2	1	14
Wangduephodrang	2	10	5	3	2	22
Zhemgang	1	5	4	4	..	14
Bhutan	80	128	54	52	24	338

Note: The total number of bridges include motorable and footpath bridges

Source: Division of Roads, Thimphu

TABLE 7.5: NUMBER OF REGISTERED VEHICLES BY TYPE AND REGION, 1997 TO 1998

Region	Heavy	Light	2-Wheeler	Taxi	Others	All Types
1997 Total	2131	4769	6286	340	58	13584
Thimphu	693	3413	3949	243	58	8356
Gelephu	122	196	479	0	0	797
Phuntsholing	1098	946	1316	97	0	3457
SamdrupJongkhar	218	214	542	0	0	974
1998 Total	289	763	776	195	22	2045
Thimphu	110	467	479	137	15	1208
Gelephu	9	28	43	0	7	87
Phuntsholing	150	233	205	58	0	646
SamdrupJongkhar	20	35	49	0	0	104
Grand Total	2420	5532	7062	535	80	15629

Note: Prior to 1997 the records on the number of registered vehicles were maintained by the Dept. of Revenue and Customs.

Source: Road Safety Transport Authority, Thimphu

TABLE 7.6: NUMBER OF NEW MOTOR VEHICLE DRIVING LICENCES ISSUED (a) BY TYPE OF VEHICLE, 1987 TO 1998

(numbers)

Licence for	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Two Wheelers	324	163	465	103	523	159	328	371	225	538	788	561
Light	507	373	691	606	665	316	586	461	281	840	1,090	596
Medium	39	41	57	52	51	19	45	48	67	68	101	36
Heavy	187	65	63	50	77	21	74	45	19	63	77	18
Other(b)	34	82	132	161	76	n.a	n.a	66	27	91	73	170
All vehicles	1,091	724	1,408	972	1,392	515	1,033	991	619	1,600	2,129	1,381

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 1998

Details	1991	1992	1993	1994	1995	1996	1997	1998
Number of operators	15	15	15	14	15	18	19	21
Number of service routes (a)	66	67	72	65	67	65	56	59
Distance run ('000 kms)	4,668	4,484	4,581	4,180	3,107	4,350	3,359	3,527
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	886
Local	358	456	488	265	235	735	57	64
Loads carried ('000 kgs)	1,154	1,155	1,275	4,314	119	4,626	na	NA
Services suspended (route days)	1,196	1,467	2,278	1,427	1,038	1,230	168	NA

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 1998

Traffic division	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Thimphu	154	105	107	127	176	207	133	156	122	99
Paro Division I	-	-	-	-	-	-	-	-	-	9
Punakha Division No.II	14	20	26	11	22	20	26	18	18	29
Phuentsholing	38	40	19	30	13	16	46	48	58	32
Samtse	7	8	5	3	2	6	10	3	6	1
Gelephu	19	23	9	12	16	8	5	10	16	8
Tsirang	9	5	5	9	5	4	7	3	2	1
Trongsa	19	27	14	23	21	20	6	7	7	11
Samdrupjongkha	21	14	15	21	17	21	21	16	18	14
Trashigang	10	6	13	11	5	7	6	8	4	3
Monggar	8	4	6	8	6	3	9	6	14	11
Bhutan	299	252	219	255	283	312	269	275	265	218

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, 1998

(numbers)

Traffic division/ Type of Vehicle	Mechanical fault	Drunk driving	Bad weather	Without licence	Unknown causes	Other cause	All causes
Thimphu	4	10	3	25	0	57	99
Trucks	-	2	3	2	-	12	19
Buses	-	-	-	-	-	2	2
Light Vehicle	4	7	-	20	-	42	73
Two Wheeler	-	1	-	3	-	1	5
Paro	2	1	0	1	0	5	9
Trucks	-	-	-	1	-	2	3
Buses	-	-	-	-	-	-	-
Light Vehicle	2	1	-	-	-	3	6
Two Wheeler	-	-	-	-	-	-	-
Punakha	8	0	2	6	0	13	29
Trucks	3	-	-	3	-	4	10
Buses	1	-	-	-	-	1	2
Light Vehicle	4	-	2	3	-	7	16
Two Wheeler	-	-	-	-	-	1	1
Phuntsholing	9	3	5	3	0	12	32
Trucks	6	3	4	3	-	8	24
Buses	1	-	-	-	-	-	1
Light Vehicle	2	-	1	-	-	1	4
Two Wheeler	-	-	-	-	-	3	3
Samtsi	0	1	0	0	0	0	1
Trucks	-	1	-	-	-	-	1
Buses	-	-	-	-	-	-	-
Light Vehicle	-	-	-	-	-	-	-
Two Wheeler	-	-	-	-	-	-	-
Geylegphu	4	0	0	2	0	2	8
Trucks	2	-	-	-	-	-	2
Buses	-	-	-	1	-	1	2
Light Vehicle	1	-	-	1	-	-	2
Two Wheeler	1	-	-	-	-	1	2
Tsirang	1	0	0	0	0	0	1
Trucks	-	-	-	-	-	-	-
Buses	-	-	-	-	-	-	-
Light Vehicle	1	-	-	-	-	-	1
Two Wheeler	-	-	-	-	-	-	-
Trongsa	3	0	1	0	0	7	11
Trucks	1	-	1	-	-	3	5
Buses	-	-	-	-	-	1	1
Light Vehicle	2	-	-	-	-	3	5
Two Wheeler	-	-	-	-	-	-	-
Samdrupjongkhar	3	1	2	2	0	6	14
Trucks	2	-	-	2	-	3	7
Buses	-	-	-	-	-	-	-
Light Vehicle	1	1	2	-	-	2	6
Two Wheeler	-	-	-	-	-	1	1
Trashigang	1	0	1	0	0	1	3
Trucks	-	-	-	-	-	1	1
Buses	-	-	1	-	-	-	1
Light Vehicle	1	-	-	-	-	-	1
Two Wheeler	-	-	-	-	-	-	-
Mongar	8	0	3	0	0	0	11
Trucks	4	-	3	-	-	-	7
Buses	-	-	-	-	-	-	-
Light Vehicle	4	-	-	-	-	-	4
Two Wheeler	-	-	-	-	-	-	-
Bhutan	43	16	17	39	0	103	218

Source: Royal Bhutan Police, Thimphu.

TABLE 7.10: MOTOR VEHICLE ACCIDENTS BY TRAFFIC DIVISION BY MONTH, BHUTAN, 1998

(numbers)

Traffic division	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Thimphu	7	4	2	11	10	4	9	9	7	16	12	8	99
Punakha		3	5	1	2	6	2	2	4	1	1	2	29
Paro	-	-	1	-	-	1	-	2	2	2	1	-	9
Phuentsholing	7	4	6	1	-	3	1	5	-	2	2	1	32
Samtse	-	-	1	-	-	-	-	-	-	-	-	-	1
Gelephu	1	2	-	2	-	1	-	-	1	-	1	-	8
Tsirang	-	-	1	-	-	-	-	-	-	-	-	-	1
Trongsa	1	-	-	1	3	1	-	1	1	1	1	1	11
Samdrupjongkha	5	2	1	1	1	1	-	-	1	1	-	1	14
Trashigang	1	-	-	1	1	-	-	-	-	-	-	-	3
Mongar	2	2	-	-	-	1	3	1	-	1	-	1	11
Bhutan	24	17	17	18	17	18	15	20	16	24	18	14	218

Source: Royal Bhutan Police, Thimphu

TABLE 7.11: NUMBERS OF PASSENGERS CARRIED AND REVENUE EARNED BY DRUK AIR FLIGHTS BY SECTOR, 1990 TO 1998

Sector	1990	1991	1992	1993	1994	1995	1996	1997	1998
Paro to Calcutta	1,715	1,390	977	1,140	1,335	1,826	2,290	2,486	3,261
Calcutta to Paro	1,376	1,212	934	1,033	1,170	1,533	1,878	2,179	2,805
Paro to Bangkok	1,558	2,431	2,689	2,666	3,634	3,937	4,371	5,012	5,877
Bangkok to Paro	1,763	2,568	2,980	2,920	3,677	3,879	4,423	5,201	5,911
Paro to Dhaka	398	627	726	795	829	596	699	1,086	204
Dhaka to Paro	484	671	722	734	803	563	638	1,022	307
Paro to Delhi	3,189	2,710	2,843	2,852	2,779	3,042	3,614	3,884	3,889
Delhi to Paro	3,324	3,021	2,859	2,857	2,737	3,122	3,656	3,745	3,827
Paro to Kathmandu	1,064	1,846	2,181	2,271	2,151	1,998	2,649	2,718	2,989
Kathmandu to Paro	947	1,635	2,132	2,158	2,000	1,790	2,588	2,652	2,633
Paro to Yangon	..	..	..	..	..	..	..	56	34
Yangon to Paro	..	..	..	..	..	..	..	67	42
Total passengers (a)	15,818	18,111	19,043	19,426	21,115	22,286	26,806	30,108	31,799
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	326.70 1997/98

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 1998

Sector	1990	1991	1992	1993	1994	1995	1996	1997	1998
Paro to Calcutta	62	53	57	72	105	111	120	186	167
Calcutta to Paro	63	53	56	71	104	108	114	186	164
Paro to Bangkok	56	98	101	113	157	158	169	221	193
Bangkok to Paro	56	98	101	113	153	156	167	221	190
Paro to Dhaka	55	91	62	53	52	52	52	20	17
Dhaka to Paro	55	91	66	53	59	52	51	20	20
Paro to Delhi	98	102	111	106	102	109	112	143	108
Delhi to Paro	99	102	111	106	102	112	111	143	108
Paro to Kathmand	54	102	119	107	102	71	97	115	105
Kathmandu to Par	55	102	118	104	102	64	99	115	100
Paro to Yangon	-	-	-	-	-	-	-	20	16
Yangon to Paro	-	-	-	-	-	-	-	20	15
All sectors	653	892	902	898	1,038	993	1,092	1,370	1,203

Source: Druk Air Corporation, Thimphu

Number of flights made by Druk Air, 1990 to 1998 (see table 7.12)

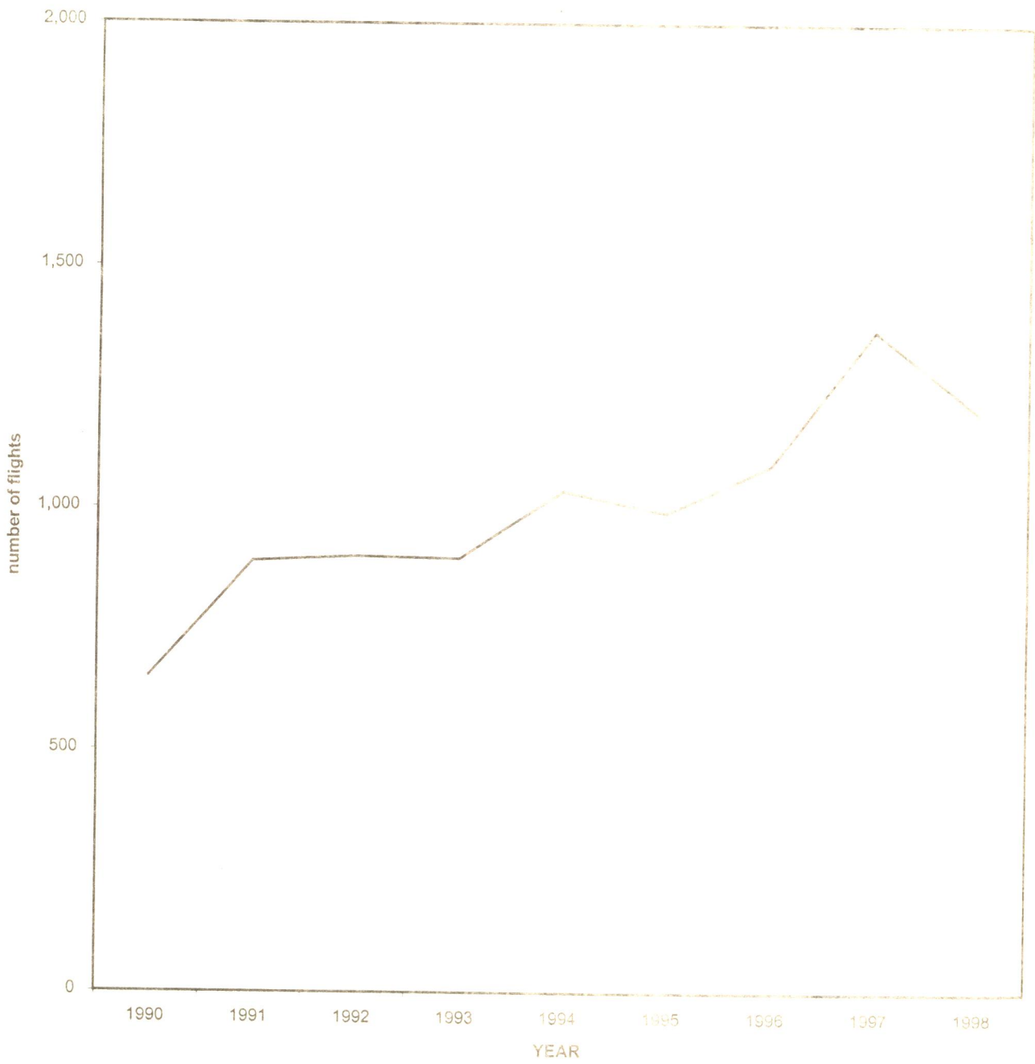


TABLE 7.13: TELEPHONE CONNECTION CAPACITY BY EXCHANGE, 1990 TO 1998

(numbers)

Exchange (Switch	1990	1991	1992	1993	1994	1995	1996	1997	1998
Tsimakothi (SxS)	50	50	50	50	50	50	50	50	228
Gelephu (LS)	100	100	100	100	480	328	584	584	568
Haa (SxS)	50	50	50	50	50	50	50	50	176
Paro (SxS)	100	100	100	200	200	200	200	200	1344
Phuentsholing (SxS	400	900	900	900	900	900	900	900	2216
Punakha (LS)	20	20	50	50	50	50	80	80	306
Samdrupjongkha (LS	100	100	100	100	816	664	664	664	656
Samtse (SxS)	100	100	100	100	100	100	100	100	436
Sarpang (DRMASS)	50	50	50	50	128	109	109	109	104
Thimphu LS/INTS/M	3,000	3,000	3,000	3,000	3,000	3,896	3,896	3896	6128
Trashigang (TS/LS	35	35	35	35	784	528	528	528	512
Trongsa (TS/LS)	35	35	35	35	616	336	336	336	280
Wangduephodrang (S	50	50	50	100	100	100	100	100	312
Jakar (RLU)	_	_	_	_	216	132	200	200	280
Zhemgang (RLU)	_	_	_	_	216	200	200	200	200
Damphu (RLU)	_	_	_	_	656	632	376	376	328
Dagana (DRMASS)	_	_	_	_	64	62	64	62	64
Mongar (RLU)	_	_	_	_	420	420	420	64	420
Lhuntse (DRMASS)	_	_	_	_	64	46	64	420	58
Kanglung (DRMASS)	_	_	_	_	64	58	93	93	64
Trashiyangtse (DRM	_	_	_	_	64	42	64	64	64
Pemagatshel (RLU)	_	_	_	_	116	116	116	116	116
Total capacity	4,090	4,590	4,620	4,770	9,154	9,019	9,194	9,192	14,860

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 switch.

Source: Telecommunication Division, Thimphu

TABLE 7.14: NUMBER OF TELEPHONE TRUNK CIRCUITS BHUTAN, 1998

Sector	Type of connection	Existing circuits
Thimphu - London (BT)	Satellite	16
Thimphu - Singapore (ST)	Satellite	7
Thimphu - Japan (KDD)	Satellite	6
Thimphu - India	Analogue Microwave	
Thimphu - Phuentsholing	Analogue Microwave	90
Thimphu - Trongsa	Digital Microwave	30
Thimphu - Gelephu	Digital Microwave	30
Thimphu - Trashigang	Digital Microwave	30
Thimphu - Samdrupjongkha	Digital Microwave	30
Thimphu - Paro	DRCS	60
Thimphu - Paro Airport	DRCS	
Thimphu - Tsimakothi	DRCS	
Thimphu - Wangduephodrang	DRCS	60
Thimphu - Lobesa	DRCS	
Thimphu - Punakha	DRCS	60
Trongsa - Trashigang	Digital Microwave	60
Trongsa - Gelephu	Digital Microwave	60
Trongsa - Samdrupjongkha	Digital Microwave	30
Gelephu - Trashigang	Digital Microwave	30
Trashigang - Samdrupjongkha	Digital Microwave	60
Paro - Haa	Physical Line	
Samtse - Banarhat (India)	Physical Line	
Phuentsholing - India (via Thimphu)	Analogue Micorwave	
Phuentsholing - India (via Hasimara)	Analogue Micorwave	90
All sectors	..	749

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 1998

Details	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Trunk lines												
Satellite	n.a	n.a	n.a	6	3	6	3	19	23	22	28	na
Microwave	n.a	n.a	n.a	39	12	30	39	565	331	562	562	na
Analogue	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	101	82	82	na
Digital	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	105	480	480	na
Digital radio concentrator system	n.a	n.a	n.a	..	16	14	10	11	73	15	n.a	na
DRMASS	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	224	394	n.a	na
Physical lines												
Number of lines	n.a	n.a	n.a	15	12	12	12	4	4	4	n.a	na
Distance (km)	943	754	754	559	442	442	442	45	n.a	n.a	n.a	na
Connection capacity	1,945	1,990	2,105	4,090	4,590	4,620	4,770	9,154	9,019	9,194	9,256	na
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	na

Note: DRMASS stands for digital radio multiple access system

Source: Division of Telecommunication, Thimphu

Telephone connection capacity,1990 to 1997
(see table 7.15)

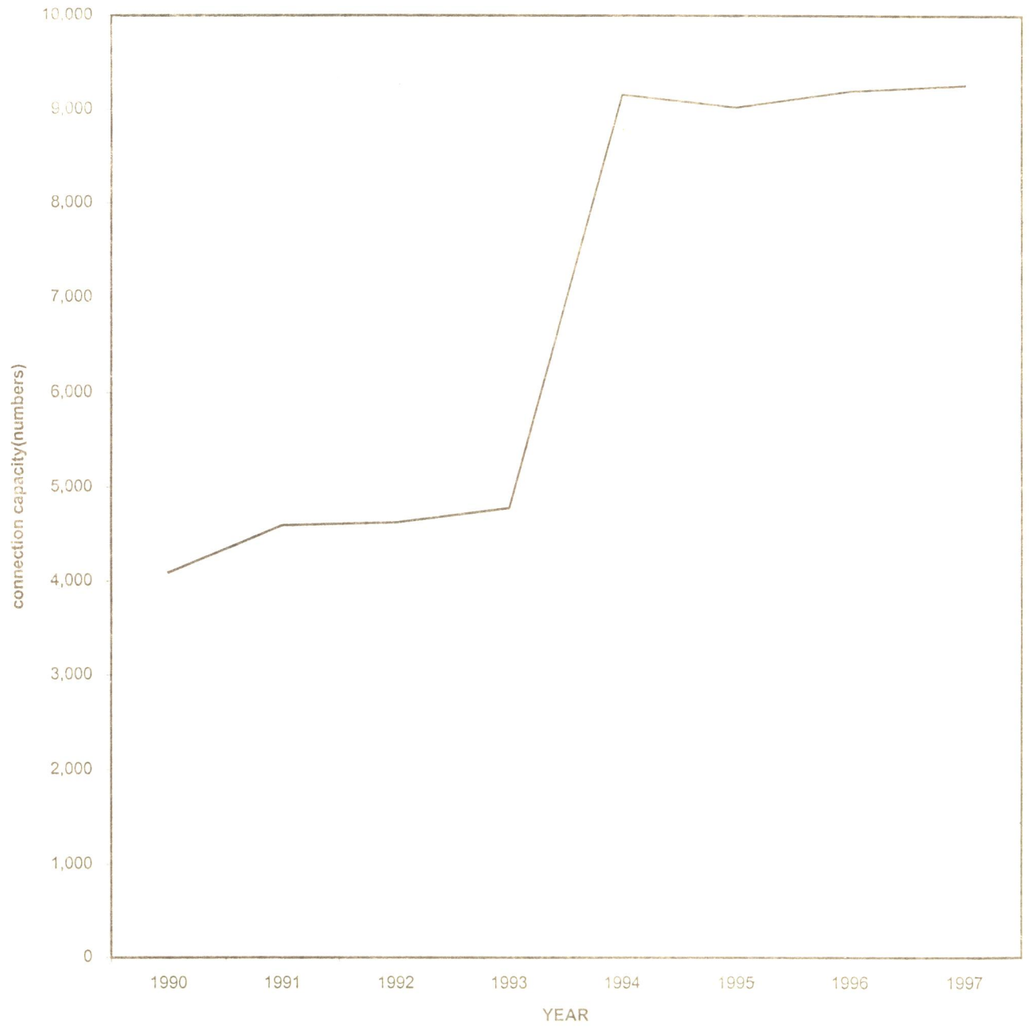


TABLE 7.16: NUMBER OF TELEPHONE TRUNK CALLS BY TYPE, 1989 TO 1998

(thousands

Type of call	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Domestic calls	146	218	362	365	371	n.a	n.a	1,777	7,092	9,441
International calls	147	176	228	372	432	n.a	n.a	508	2,907	2,032
India	97	116	147	232	281	n.a	n.a	333	1,067	1,224
Other	51	60	82	141	151	n.a	n.a	174	1,840	808
All calls	293	394	590	737	802	n.a	n.a	2,285	9,999	11,473

Source: Division of Telecommunication, Thimphu

TABLE 7.17: TELECOMMUNICATION TRAFFIC IN MINUTES AND REVENUE EARNINGS, BHUTAN, 1993 TO 1998

Details	1993	1994	1995	1996	1997	1998
Type of call						
Domestic calls (minutes)	1,850,000	1,970,000	2,100,000	5,369,556	13,593,000	19,833,152
International calls (minutes)	392,653	430,000	444,180	1,288,620	5,561,000	4,063,871
India	300,000	430,000	444,180	1,288,620	4,061,000	3,502,495
Other countries	92,653	n.a	n.a	n.a	1,500,000	561,376
Total calls	2,242,653	2,400,000	2,544,180	6,658,176	19,154,000	23,897,023
Revenue earnings (millions Nu.)	56.19	60.00	96.00	123.17	n.a	186.00

Source: Division of Telecommunications, Thimphu

TABLE 7.18: NUMBER OF COMMUNICATION FACILITIES, 1980 TO 1998

Postal infrastructure	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
General Post Offices	2	2	2	2	2	2	2	2	2	2	2
Post Offices	52	53	59	59	59	59	56	55	21	18	19
Branch Post Offices	27	29	25	25	22	22	23	21	64	69	
Agency Post Offices	..	..	..	..	..	17	20	25	18	17	17
Telegraph or Fax Offices	8	9	8	8	8	8	17	17	17	17	17
Wireless Stations(a)	28	36	39	39	47	47	52	..	n.a	n.a	n.a
Hydromet Stations(b)	5	8	27	27	27	28	11	n.a	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 1998

('000 items)

Type of service	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
Domestic	2,865	5,934	2,190	2,299	1,483	855	1,426	1,414	1,035	10,208	1,316
International	1,284	3,821	1,709	1,801	356	314	462	482	437	800	1,046
Dispatch	n.a	n.a	n.a	n.a	148	159	219	228	197	299	443
Receipt	n.a	n.a	n.a	n.a	207	155	243	255	240	501	603
Total mail items	4,149	9,755	3,899	4,099	1,839	1,169	1,888	1,896	1,471	11,008	2,362

Source: Bhutan Post, Thimphu

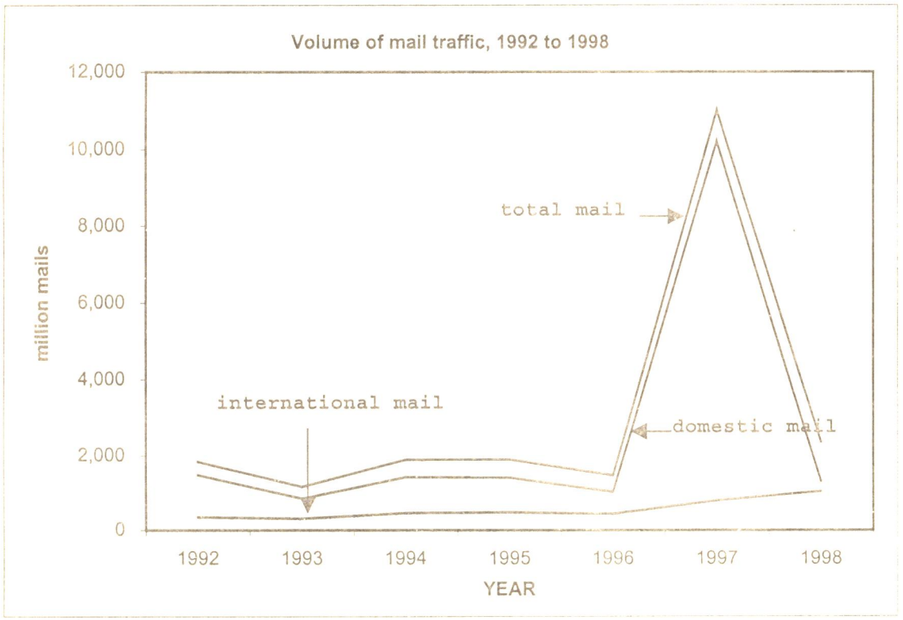


TABLE 7.20: VOLUME OF MAIL HANDLED BY TYPE OF ARTICLE AND DESTINATION, 1998

('000 numbers)

Type of mail	Total Domestic	International		
		Total	Inward	Outward
Letters				
Ordinary letter	1,007	752	427	325
Registered items	86	-	45	41
Postcards	-	-	-	-
Printed matter/packets	211	200	126	74
Parcels	5	5	3	2
Monetary items	-	-	-	-
Express mail service (EMS)	9	6	4	2
Messages				
Telegraphic message	-	-	-	-
Facsimile message	-	-	-	-
Wireless transmission	-	-	-	-
All mail items	1318	963	605	444

Source: Bhutan Post, Thimphu

TABLE 7.21: NUMBER AND VALUE OF MONEY ORDER BY TYPE, 1990 TO 1998

Type	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total money orders									
Number of orders ('000)	15.7	16.0	17.1	13.5	15.1	17.0	25.6	24.0	21
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	26,099
Domestic money order									
Number of orders ('000)	15.1	9.0	8.3	6.7	8.1	9.4	18.2	13.0	13
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	15,957
International money order									
Dispatched									
Number of orders ('000)	0.6	6.4	8.5	6.7	6.8	7.4	7.2	7.0	8
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	9,821
Receipts									
Number of orders ('000)	-	0.6	0.3	0.1	0.2	0.2	0.2	4.0	0.2
Amount of orders ('000 Nu.	5.0	401.2	64.0	173.6	367.8	71.6	96.6	251.0	322

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 (Dzongkhag)	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 (Dzongkhag)	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 Lt	4	..	..	0.028
Bhutan Board Products Ltd.	2	..	..	..
Chhukha Hydro Power Corpor	5	..	..	0.013
Bhutan Chemical & Carbide	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 1997/98

Details	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
Installed capacity (MW)	348.85	347.01	347.56	347.57	347.94	347.94	350.14	350.14	350.17
Chhukha hydro power	336.00	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	8.35
All diesel generators	5.13	5.45	5.50	5.51	5.79	5.79	5.79	5.79	5.82
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	1,801.02
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	1,789.98
Other hydro power	2.58	7.45	8.20	5.05	5.49	5.89	7.50	10.25	10.97
All diesel generators	0.02	0.04	1.31	1.04	1.09	0.18	0.06	0.07	0.06
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	1,357.20
Imports (MU)	3.31	4.44	4.98	5.10	4.62	5.34	7.24	7.03	7.54
Total energy requirement (MU)	142.30	161.62	186.70	195.26	198.50	298.16	390.43	378.02	389.90
Total energy sales (MU)	127.57	144.67	159.71	173.82	176.51	275.95	342.79	361.04	375.24
Energy losses (MU)	14.77	16.95	26.99	21.43	21.99	22.21	47.64	16.98	14.66
Percentage losses (%)	10.38	10.49	14.45	10.98	11.08	7.45	12.20	4.49	3.76
Peak system demand (MW)	22.00	22.80	19.22	23.00	33.00	70.42	70.42	72.00	77.00
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	954.41
Underground lines (km)	8.60	8.60	8.60	8.60	8.60	9.01	9.01	9.01	12.27
Length of LT lines									
Overhead lines (km)	560.66	730.31	732.44	733.87	736.89	736.89	809.70	863.11	885.74
Underground lines (km)	28.00	28.00	28.00	28.00	28.00	29.05	29.05	29.05	37.63

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 1998

Stations	1995		1996		1997		1998	
	220 KV line(Km)	66 KV line(Km)	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)	..	1.000(d/c)	..	1.000(d/c)	..	71.000(d/c)	
Chhukha - Singhigoan	31.9	..	31.9	..	31.9	..	33.3	
Chhukha - Simtokha	54.9	..	54.9	..	54.9	..	54.4	
Chhukha - Gedu	..	20.1	..	20.1	..	20.1		20.100
Gedu - Phuntsholing	..	17.700	..	17.700	..	17.700		17.700
Chhukha - Confluence	..	36.700	..	36.700	..	36.700		36.700
Confluence - Simtokha	..	18.300	..	18.300	..	18.300		18.300
Confluence - Haa	..	33.522	..	33.522	..	33.522		33.522
Confluence - Paro	..	24.022	..	24.022	..	24.022		24.022
Simtokha - Wangduephodra	..	26.023	..	26.023	..	26.023		26.023
Phuntsholing - Gomtu	..	27.002	..	27.002	..	27.002		27.002
Phuntsholing - Singhigoan	..	8.380	..	8.380	..	8.380		8.380
Phuntsholing - Birpara	..	30.000	..	..	..	..		Redumdan
Total	::86.8(s/c)	241.749	:86.8(s/c)	211.749	:86.8(s/c)	211.749		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 1997/98

Details	88/89	89/90	1990/91	91/92	992/93	1993/94	94/95	95/96	1996/97	97/98
Towns electrified (numbers)	20	28	30	36	37	37	38	39	39	39
Villages electrified (numbers)	171	221	254	270	277	282	297	331	363	370
Consumers ('000)	14.1	15.2	18.2	19.6	19.9	19.9	21.8	22.0	23.0	31.6
Sales of energy (million Nu.)	34.5	37.3	36.9	41.8	50.2	69.6	108.0	184.3	179.0	229.5
Per capita energy consumption (Units)	90.0	212.7	235.9	256.1	271.8	323.3	466.3	604.4	599.4	609.8

Source: Division of Power, Thimphu

TABLE 8.5: MONTHLY REVENUE FROM SALE OF ENERGY FROM CHHUKHA HYDROPOWER, 1991 TO 1998

	1991			1992			1993			1994		
Month	Export	Internal	Total	Export	Internal	Total	Export	Internal	Total	Export	Internal	Total
January	16.40	1.48	17.88	12.99	1.72	14.71	12.49	1.51	14.00	18.32	1.83	20.15
February	12.07	1.33	13.40	9.62	1.59	11.21	10.49	1.85	12.34	14.75	1.66	16.41
March	16.93	1.41	18.34	12.08	1.65	13.73	10.00	1.71	11.71	22.09	1.75	23.84
April	19.45	1.45	20.90	13.05	1.49	14.54	21.30	1.62	22.92	30.13	3.44	33.57
May	30.00	1.44	31.44	24.01	1.54	25.55	55.98	1.57	57.55	44.02	1.61	45.63
June	47.74	1.35	49.09	34.54	1.42	35.96	67.18	1.45	68.63	69.67	1.51	71.18
July	54.16	1.40	55.56	54.99	1.35	56.34	59.69	1.41	61.10	71.37	4.46	75.83
August	55.33	1.49	56.82	57.94	1.45	59.39	77.70	1.32	79.02	76.02	4.56	80.58
September	50.95	1.42	52.37	55.08	1.51	56.59	82.49	1.48	83.97	76.55	4.46	81.01
October	49.54	1.82	51.36	44.55	1.58	46.13	75.49	1.49	76.98	56.12	5.98	62.10
November	26.69	1.59	28.28	22.03	1.70	23.73	41.63	1.64	43.27	25.57	7.98	33.55
December	17.99	1.71	19.70	14.26	1.77	16.03	22.86	1.79	24.65	14.41	9.54	23.95
Total	397.3	17.9	415.14	355.1	18.8	373.91	537.3	18.8	556.14	519.02	48.78	567.81

Cont…..

TABLE 8.5: (CONT..) MONTHLY REVENUE FROM SALE OF ENERGY FROM CHHUKHA HYDROPOWER, 1991 TO 1998

1995			1996			1997			1998		
Export	nternal	Total	Export	Internal	Total	Export	Internal	Total	Export	Internal	Total
12.09	7.61	19.70	26.74	10.34	37.08	15.75	10.05	25.80	25.83	9.89	35.72
8.92	7.85	16.77	18.27	9.74	28.01	9.95	9.68	19.63	17.52	8.68	26.21
18.34	8.64	26.98	28.10	10.14	38.24	15.17	10.66	25.83	21.03	10.57	31.60
31.96	8.55	40.51	42.91	9.43	52.34	53.39	9.94	63.33	81.93	9.46	91.39
57.56	8.74	66.30	61.31	9.44	70.75	116.06	9.57	125.63	118.68	10.02	128.70
72.88	8.77	81.65	73.99	9.08	83.07	164.05	9.06	173.11	172.50	6.71	179.21
105.08	8.03	113.11	114.55	4.45	119.00	225.20	9.39	234.59	203.64	8.98	212.61
107.80	9.17	116.97	111.18	7.51	118.69	221.86	9.45	231.31	215.29	9.56	224.85
104.24	8.91	113.15	101.56	9.34	110.90	193.92	9.07	202.99	187.20	8.24	195.44
97.19	9.47	106.66	95.19	9.84	105.03	154.15	9.86	164.01	177.34	9.76	187.11
65.18	9.44	74.62	47.79	10.27	58.06	70.61	9.75	80.36	77.38	10.53	87.92
39.84	1.70	41.54	25.97	10.42	36.39	47.83	10.19	58.02	40.39	11.74	52.13
721.08	96.88	817.96	747.56	110.00	857.56	1287.94	116.67	1404.61	1338.74	114.15	1452.89

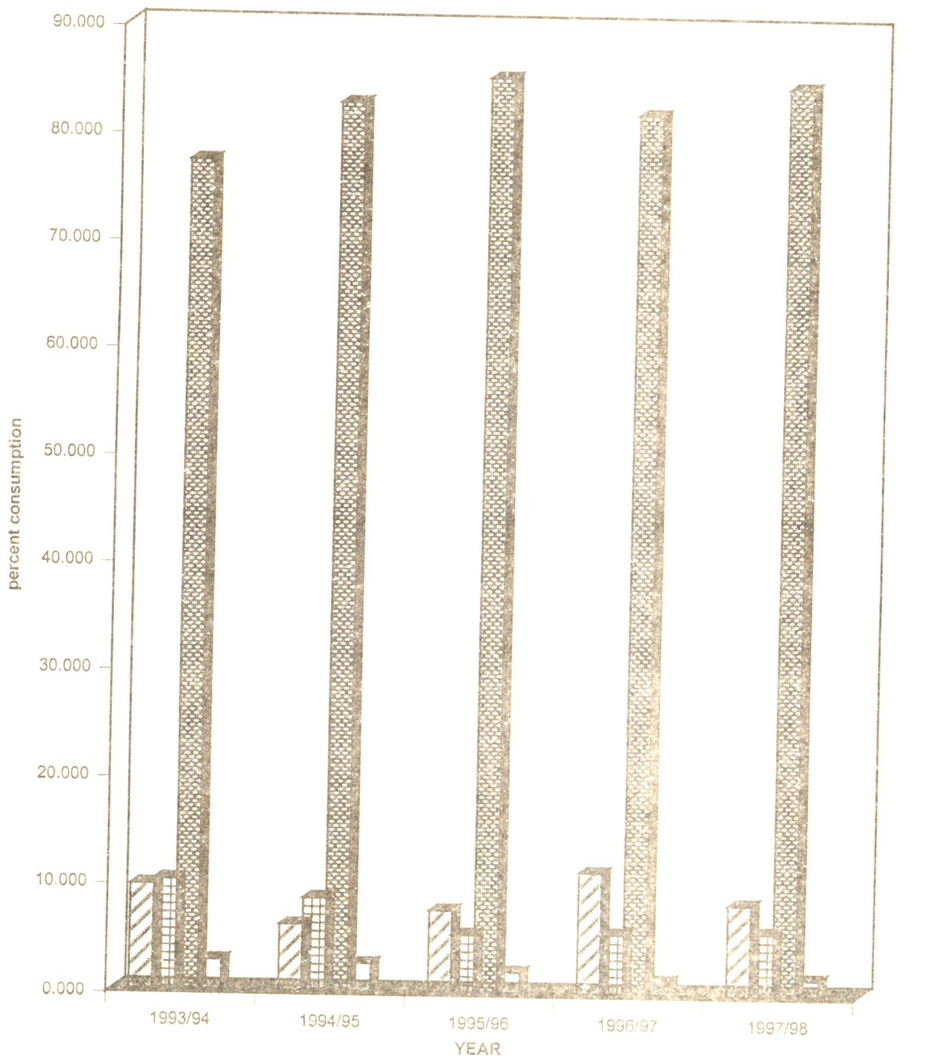
Source: Selected economic indicators, Royal Monetary Authority of Bhutan, Thimphu

TABLE 8.6: CONSUMPTION OF ELECTRICITY BY TYPE OF CONSUMER, 1990/91 TO 1997/98

Type of consumer	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
Total consumption (MU)	144.665	159.713	173.823	176.509	275.951	342.791	366.363	357.241
Domestic	18.327	18.293	21.500	17.037	16.790	25.723	40.715	31.000
Commercial & Government Offices	10.713	9.871	12.896	17.912	23.600	18.190	20.050	21.407
Industries	110.628	123.928	31.675	136.281	228.200	291.887	299.799	317.016
Bulk supply	4.914	7.397	107.309	4.861	7.021	6.517	4.473	5.492
Public lighting	0.083	0.224	0.443	0.418	0.340	0.474	1.328	0.326
								100.000
Consumption as percentage								
Domestic	12.669	11.454	12.369	9.652	6.080	7.500	11.110	8.261
Commercial & Government Offices	7.405	6.180	7.419	10.148	8.552	5.306	5.470	5.705
Industries	76.472	77.594	18.223	77.209	82.696	85.150	81.830	84.483
Bulk supply	3.397	4.631	61.735	2.754	2.544	1.901	1.200	1.464
Public lighting	0.057	0.140	0.255	0.237	0.123	0.138	0.360	0.087

Source: Division of Power, Thimphu

Electricity consumption by type of consumer,1993/94 to 1997/98



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 unspecified	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

Tourist arrivals by region, 1990 to 1998(see table 9.1)

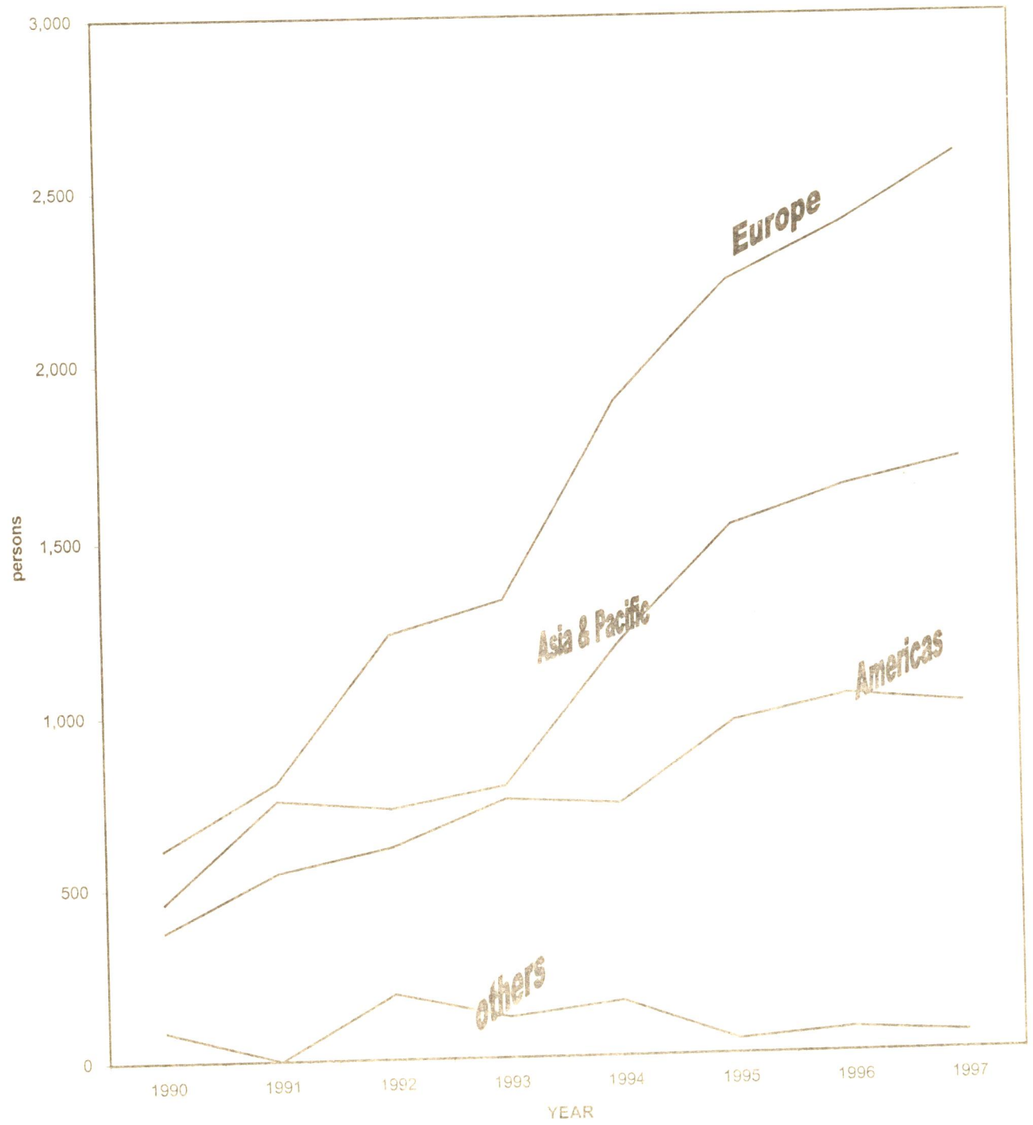


TABLE 9.2: TOURIST ARRIVALS BY COUNTRY OF RESIDENCE AND TOURISM REVENUE RECEIPTS, 1989 TO 1998

Region	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Americas	479	377	544	616	751	734	1,003	1,039	1,010	1,714
Asia and Pacific	335	459	755	728	791	1,193	1,529	1,639	1,712	1,418
Europe	621	614	807	1,229	1,323	1,884	2,227	2,391	2,590	3,062
Others	45	88	-	190	119	160	6	69	51	9
All regions (persons)	1,480	1,538	2,106	2,763	2,984	3,971	4,765	5,138	5,363	6,203
Tourism revenue receipts										
Ngultrums (million)	25.10	48.20	52.31	77.49	100.62	124.52	n.a	231.41	n.a	n.a
Or										
US Dollars (million)	-	-	2.30	2.99	3.30	3.97	6.00	6.51	6.50	7.98

Source: Tourism Authority of Bhutan, Thimphu

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

Season and mon	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

Tourist arrivals by season, 1990 to 1998 (see table 9.3)

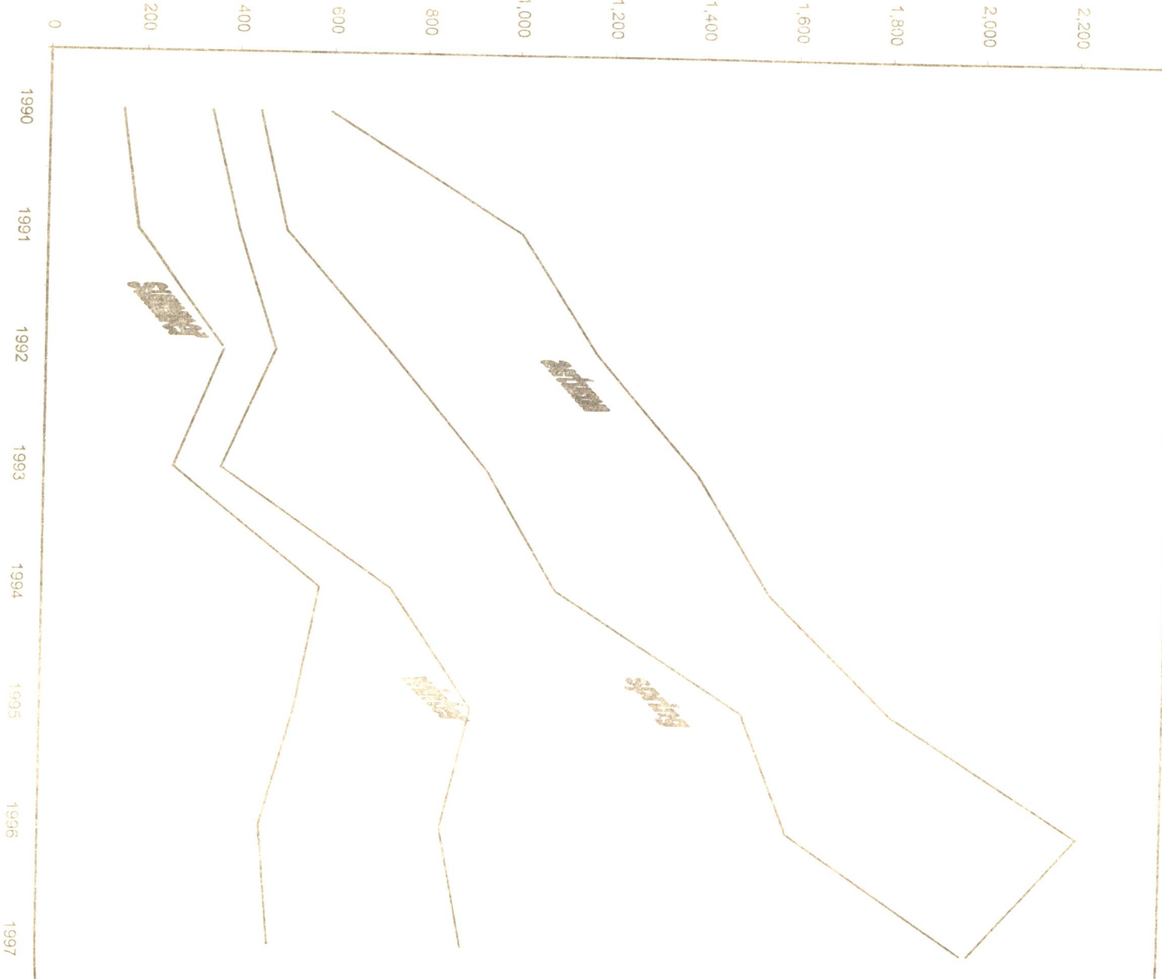


TABLE 9.4: NUMBER OF TOURIST ARRIVALS BY PURPOSE OF VISIT, 1989 TO 1998

Purpose	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Tour, holidays and recreation	1,227	1,288	1,527	2,175	2,706	3,452	3,217	3,245	4,517	4,860
Trekking & mountaineering	253	250	579	588	278	519	1,548	1,893	846	1,343
Total tourists	1,480	1,538	2,106	2,763	2,984	3,971	4,765	5,138	5,363	6,203

Source: Tourism Authority of Bhutan, Thimphu

Tourist arrivals by purpose, 1990 to 1998(see table 9.4)

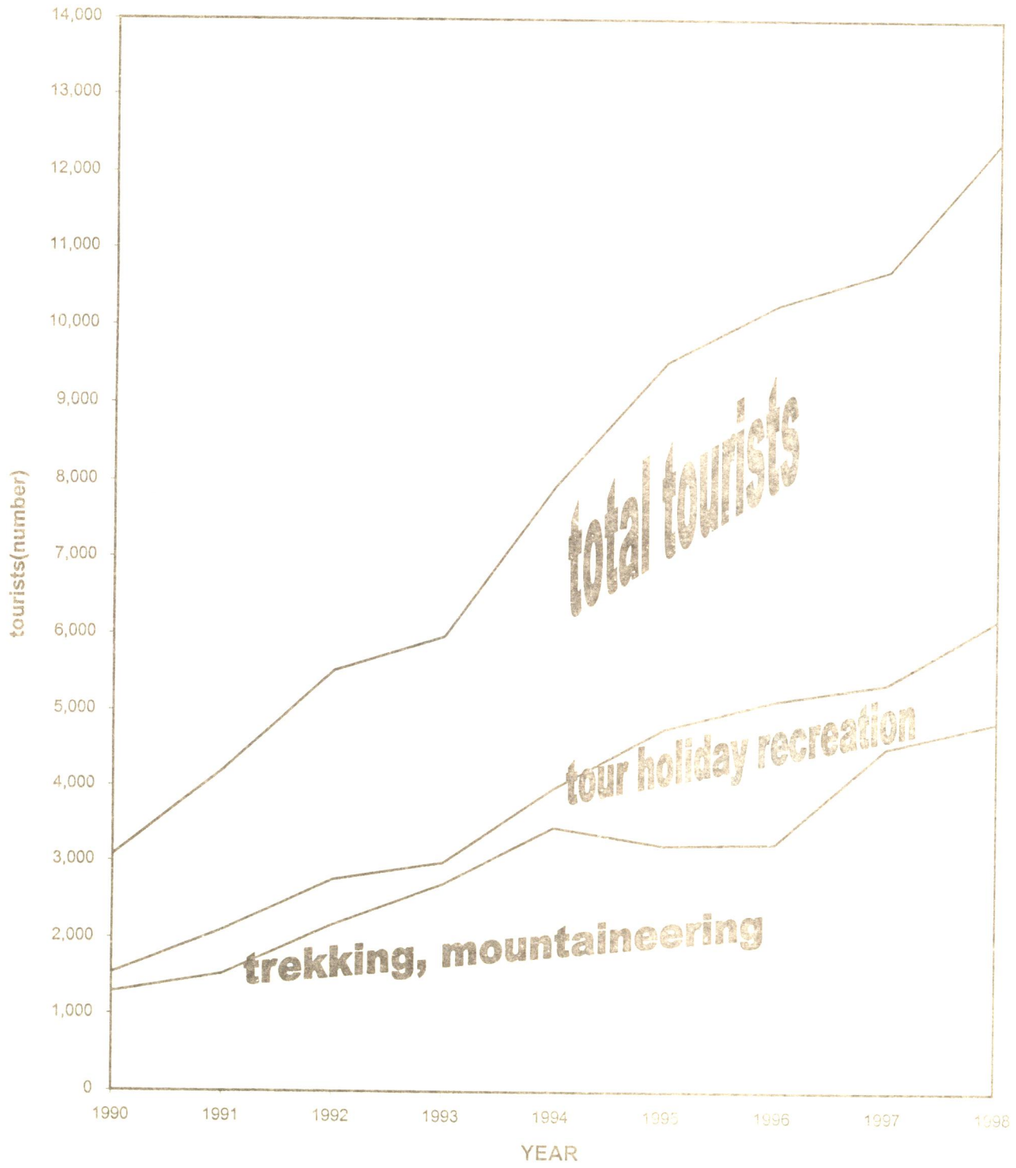


TABLE 9.5: NUMBER OF TOURIST ARRIVALS BY MODE OF TRANSPORT, 1989 TO 1998

Mode of transp	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Air	900	n.a	1,895	2,487	2,686	n.a	n.a	n.a	4,826	5,583
Other	580	n.a	211	276	298	n.a	n.a	n.a	537	620
Total tourists	1,480	1,538	2,106	2,763	2,984	3,971	4,765	5,138	5,363	6,203

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 payment 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 1997/98

(millions Nu.)

Item	1989/90	1990/91	1993/94	1994/95	1995/96	1996/97	1997/98*
Exports,fob	1,132.33	1,308.49	1,990.33	2,196.68	3,349.13	3,553.77	4,274.18
India	985.93	1,129.57	1,785.98	2,059.81	3,078.95	3,226.98	4,041.94
Other	146.40	178.92	204.35	136.87	270.18	326.79	232.24
Imports,cif	(1,613.94)	(1,525.45)	(2,914.20)	(3,053.00)	(3,802.34)	(4,697.21)	(5,226.10)
India	(1,318.81)	(1,254.92)	(2,065.90)	(2,228.00)	(2,790.52)	(3,068.17)	(3,684.74)
Other	(295.13)	(270.53)	(848.30)	(825.00)	(1,011.82)	(1,629.04)	(1,541.36)
Trade balance	(481.61)	(216.96)	(923.87)	(756.50)	(453.21)	(1,143.44)	(951.92)
India	(332.88)	(125.35)	(279.92)	(168.28)	288.43	158.81	357.20
Other	(148.73)	(91.61)	(643.95)	(588.22)	(741.64)	(1,302.25)	(1,309.12)
Services & transfer receipts	478.46	464.85	845.47	886.45	995.70	995.05	1,734.60
India	231.63	228.68	224.93	215.83	282.26	293.21	481.73
Other	246.83	236.17	620.54	670.62	713.44	701.84	1,252.87
Services & transfer payments	(472.26)	(561.16)	(1,129.71)	(1,101.49)	(1,814.94)	(1,870.51)	(2,570.19)
India	(265.09)	(342.16)	(634.42)	(497.96)	(776.14)	(920.14)	(1,819.93)
Other	(207.17)	(219.00)	(495.29)	(603.53)	(1,038.80)	(950.37)	(750.26)
Current account balance	(475.41)	(313.27)	(1,208.11)	(1,071.54)	(1,272.45)	(2,018.90)	(1,787.51)
India	(366.34)	(238.83)	(689.41)	(450.01)	(205.45)	(468.12)	(981.00)
Other	(109.07)	(74.44)	(518.70)	(621.53)	(1,067.00)	(1,550.78)	(806.51)
Foreign aid	763.61	1,037.36	1,538.25	1,692.71	2,396.50	3,013.84	3,538.21
India	548.06	730.43	849.24	805.65	682.09	1,510.64	2,366.11
Other	215.55	306.93	690.01	887.06	1,714.41	1,503.20	1,172.10
Other loans	(42.14)	(51.98)	158.78	(70.98)	(77.50)	(10.76)	(90.55)
India	-		229.68	0.00	0.00	71.82	0.00
Other	(42.14)	(51.98)	(70.90)	(70.98)	(77.50)	(82.58)	(90.55)
Foreign Direct Investment	-	7.68	-	-	-	-	-
India	-	-	-	-	-	-	-
Other	-	7.68	-	-	-	-	-
Errors and omissions	(298.09)	(317.38)	(97.21)	(109.31)	(190.77)	(50.61)	81.82
India	(540.16)	(664.09)	(344.07)	(409.84)	(397.05)	(343.88)	(714.61)
Other	242.07	346.71	246.86	300.53	206.28	293.27	796.43
Overall balance	(52.03)	362.41	392.71	440.88	855.78	794.11	1,741.97
India	(358.44)	(172.49)	45.44	(54.30)	79.59	631.00	670.50
Other	306.41	534.90	347.27	495.18	776.19	163.11	1,071.47

Note: Figures in the brackets refers to negative sign.
* Preliminary estimates

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		
	Millio Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	ank	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: TEN MAJOR COMMODITIES IMPORT FROM INDIA, CALENDAR YEAR FROM 1993 TO 1997

Commodity	1993			1994			1995			1996			1997		
	Millio Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	ank	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 distillery	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 pow chips and lumps	0.59	0.3	10	..	..	..	..	..	..	..	..	..	..	..	..
Portland cem	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 produc	..	..	..	..	..	..	..	..	..	..	..	..			
Limestone ch	..	..	..	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 s	7.79	3.8	3	6.76	4.9	3	..	..	..	..	..	..	5.54	2.4	6
Stone ballas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mixed fruit	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 handle	1.26	0.6	6	..	..	..	..	..	..	..	..	..	..	..	..
Mushroom, fr	0.99	0.5	9	..	..	..	6.16	2.3	7	8.66	2.7	8	12.66	5.5	4
Calcium carb	..	..	..	2.71	2.0	6	..	..	..	..	..	..	..	..	..
Handicrafts	..	..	..	1.58	1.2	9	..	..	..	12.12	3.7	5	..	..	..
Stone chips	..	..	..	0.66	0.5	10	..	..	..	..	..	..	..	..	..
Ferro-silico	..	..	..	..	..	..	30.83	11.4	3	..	..	..	..	..	..
Quartzite	..	..	..	..	..	..	15.36	5.7	5	46.70	14.3	3	2.32	1.0	10
Saw logs, ha (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	13.76	1.7	10	104.12	12.6	3	..	..	..	..	..	..	..	..	..
Passanger mo	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 projec	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cold rolled sheet	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Soyabean oil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dry fish	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Equipment fo manufacture project	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Vegetable oi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Spare parts 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 meteor equipments	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Aircraft	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Equipments e	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Equipment fo communication	214.10	26.3	1	136.82	16.5	1	286.53	28.3	1	307.15	18.5	1	491.02	32.2	1
Spare parts	..	..	..	..	..	..	..	..	..	38.24	2.3	9	..	..	..
MVA Elken fe equipment	178.26	21.9	2	..	..	..	..	..	..	..	..	..	..	..	..
Laboratory e	..	..	..	..	..	..	88.02	8.7	2	126.64	7.8	3	..	..	..
Laxfire exti	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fertilizers	54.57	6.7	4	..	..	..	..	..	..	..	..	..	..	..	..
Aircraft eng	33.62	4.1	5	..	..	..	..	..	..	..	..	..	..	..	..
Personal eff	23.06	2.8	6	..	..	..	..	..	..	..	..	..	..	..	..
Palm	16.54	2.0	8	..	..	..	..	..	..	..	..	..	..	..	..
Decorative p	14.02	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 too parts	..	..	..	63.85	7.7	4	35.95	3.6	8	..	..	..	..	..	..
Machhinery f wood	..	..	..	50.09	6.1	5	..	..	..	..	..	..	22.65	1.5	10
Parts of bul dozer	..	..	..	31.66	3.8	6	..	..	..	..	..	..	..	..	..
Household go	..	..	..	27.57	3.3	7	..	..	..	..	..	..	..	..	..
Advertising	..	..	..	24.02	2.9	8	..	..	..	..	..	..	..	..	..
Coinsn new i	..	..	..	19.25	2.3	9	..	..	..	..	..	..	82.59	5.4	3
Spare parts	..	..	..	..	..	..	51.86	5.1	4	103.60	6.4	4	33.64	2.2	5
Parts of co	..	..	..	..	..	..	48.12	4.8	5	57.75	3.5	5	..	..	..
Photocopyin	..	..	..	..	..	..	40.04	4.0	6	41.74	2.6	7	..	..	..
Computer CD	..	..	..	..	..	..				38.32	2.4	8	..	..	..
Laptop computers							38.28	3.8	7	..	..	..	..	..	..
Packing pap	..	..	..	..	..	..	35.95	3.6	8	..	..	..	..	..	..
Spare parts	..	..	..	..	..	..				35.89	2.2	10	..	..	..
Flat rolled product,iron							32.59	3.2	9	..	..	..	29.99	2.0	7
Type writer	..	..	..	..	..	..									

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 (%)	ank	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 (%)	ank	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 1997/1998

Money reserves	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
Rupee reserves (million)	418.40	246.00	97.80	79.81	125.25	70.95	1351.90	958.64	1629.14
Royal Monetary Authority	14.85	25.77	10.86	30.07	33.45	33.38	25.10	39.15	152.76
Bank of Bhutan	403.59	220.18	86.94	49.74	91.80	37.57	1326.80	913.82	1404.39
Bank National Bhutan								5.67	71.99
Convertible currency (million US $)	65.00	78.78	95.96	91.86	102.93	123.35	152.51	149.26	177.17
Royal Monetary Authority (a)	62.46	76.66	93.32	87.48	98.69	119.07	146.39	141.48	171.02
Royal Government	-	-	-	-	-	-	-	-	-
Bank of Bhutan	2.53	2.11	2.64	4.37	4.23	4.27	6.08	6.89	3.97
Bank National Bhutan								0.86	2.15
Royal Insurance Corporation	0.01	0.01	0.00	0.01	0.01	0.01	0.04	0.03	0.03
All reserves (million US $)	88.98	90.39	99.74	94.40	106.92	125.61	152.51	176.02	215.53

(a) Including reserve tranche position in the Fund

Source: Royal Monetary Authority, Thimphu

Gross international reserves, 1993/94 to 1997/98 (see table 10.7)

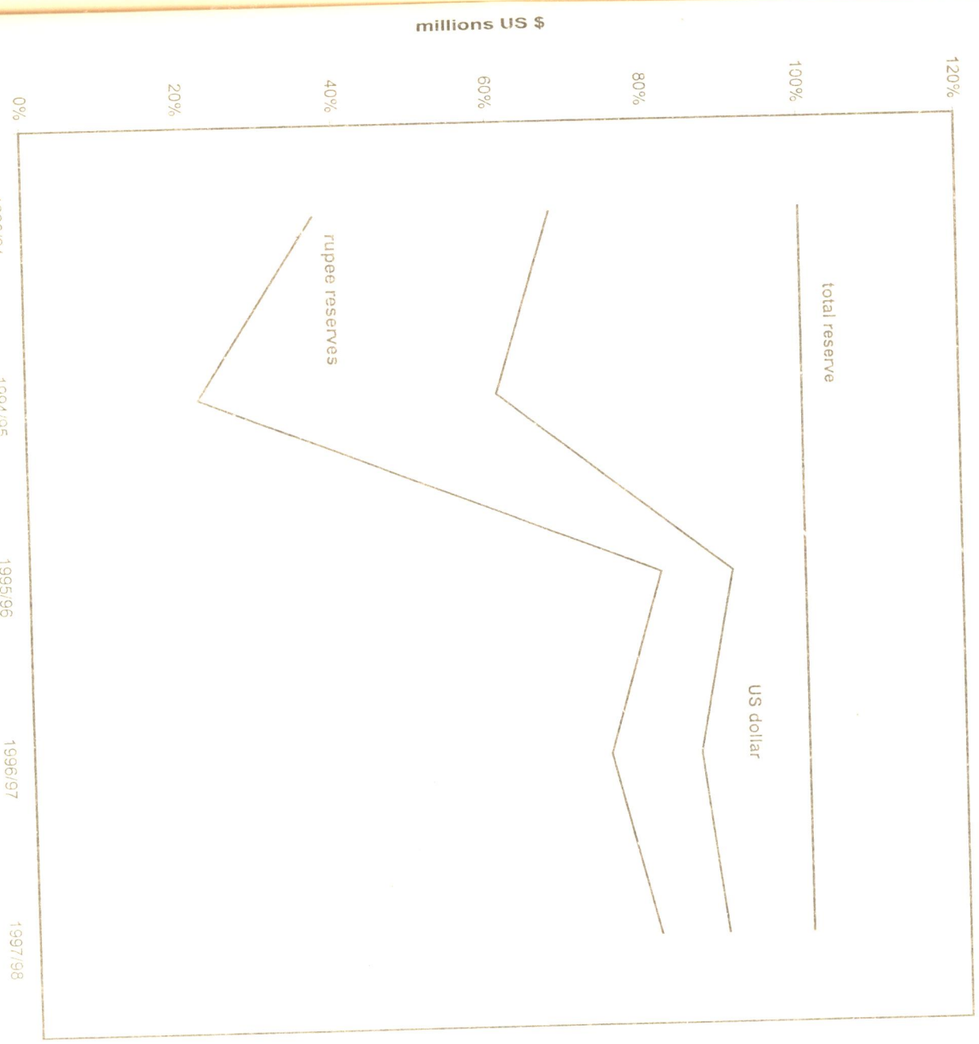


TABLE 10.8: MONTHLY AVERAGE EXCHANGE RATES, NGULTRUMS PER US DOLLAR, 1986 TO 1998

Month	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
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	39.36
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	38.91
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	39.50
April	12.40	12.81	T3.20	15.73	17.28	19.94	25.89	31.31	31.37	31.41	34.24	35.82	39.65
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	40.37
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	42.25
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	42.51
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	42.76
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	42.52
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	42.35
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	42.38
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	42.55
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	41.26
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	38.39
	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	994/95	1995/96	1996/97	997/98

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 used till 1974 when the Royal Government issued its first currency notes Ngultrum. Since then the monetary section has grown rapidly resulting in the dramatic economic development improvement in transport and communication, planned urbanization inspite of the fact that barter economy still remains in some part of the country. 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 1998

(million Nu.)

Item	1988	1989	1990	1991	1992	1993	1995	1996	1997	1998
Total assets	1,133.8	1,449.6	1,630.6	2,563.8	3,031.5	3,839.2	5,397.8	7,129.4	9,286.6	11,250.9
Foreign assets (net)	1,384.4	1,446.2	1,487.5	2,480.0	1,882.5	2,811.2	4,428.5	6,580.1	7,341.8	10,840.4
Rupee	658.4	575.5	307.7	179.1	-313.0	-379.2	-98.0	1,101.9	1,006.8	2,540.3
Convertible Foreign Currency	726.0	870.7	1,179.9	2,300.9	2,195.5	3,190.4	4,526.6	5,478.2	6,155.9	8,118.7
Domestic credit	-250.5	3.4	143.1	83.8	1,149.0	1,028.0	969.2	549.3	1,944.9	410.5
Claims on Government (net)	-398.8	-216.5	-125.9	-287.1	-46.9	-256.4	-321.1	-692.5	14.7	-1479.4
Claims on Government corporations	32.4	27.6	53.2	64.8	770.1	795.6	534.6	484.7	449.1	411.4
Claims on joint Corporations	..	..	..	..	..	..	229.2	187.7	223.8	174.0
Claims on private sector	115.9	192.2	215.9	306.1	425.8	488.8	521.5	564.4	1,252.3	1,301.4
Claims on NMFIs	..	..	..	..	..	..	5.0	5.0	5.0	3.0
Total liabilities	1,133.8	1,449.6	1,630.6	2,563.7	3,031.5	3,839.3	5,397.8	7,129.5	9,286.6	12,443.9
Liquidity-Broad money (M2)	723.7	976.6	1,078.8	1,397.9	1,587.0	1,953.3	3,257.8	3,563.8	5,652.2	6,578.3
Money supply-Narrow money (M1)	412.0	546.3	539.6	749.7	840.9	833.1	1,331.5	2,098.3	2,196.5	2,792.0
Currency outside banks	149.1	188.1	194.1	246.3	345.0	346.0	432.4	422.5	720.9	768.8
Demand deposits	263.0	358.2	345.4	503.7	495.9	487.1	889.9	1,651.6	1,447.2	1,860.4
Quasi-money	311.6	430.2	539.3	648.2	746.1	1,120.2	1,926.4	1,465.5	3,455.7	3,786.3
Money Market Instrument(RMA Bill)	..	..	..	..	..	..	550.0	1,000.0	10.6	134.1
Other items (net)	410.2	473.0	551.8	1,165.8	1,444.6	1,886.0	1,589.9	2,565.7	3,623.8	5,731.5

(a) Revised data, excluding rupees in circulation

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

Assets of RMA & BOB, 1991 to 1998 (see table 11.1)

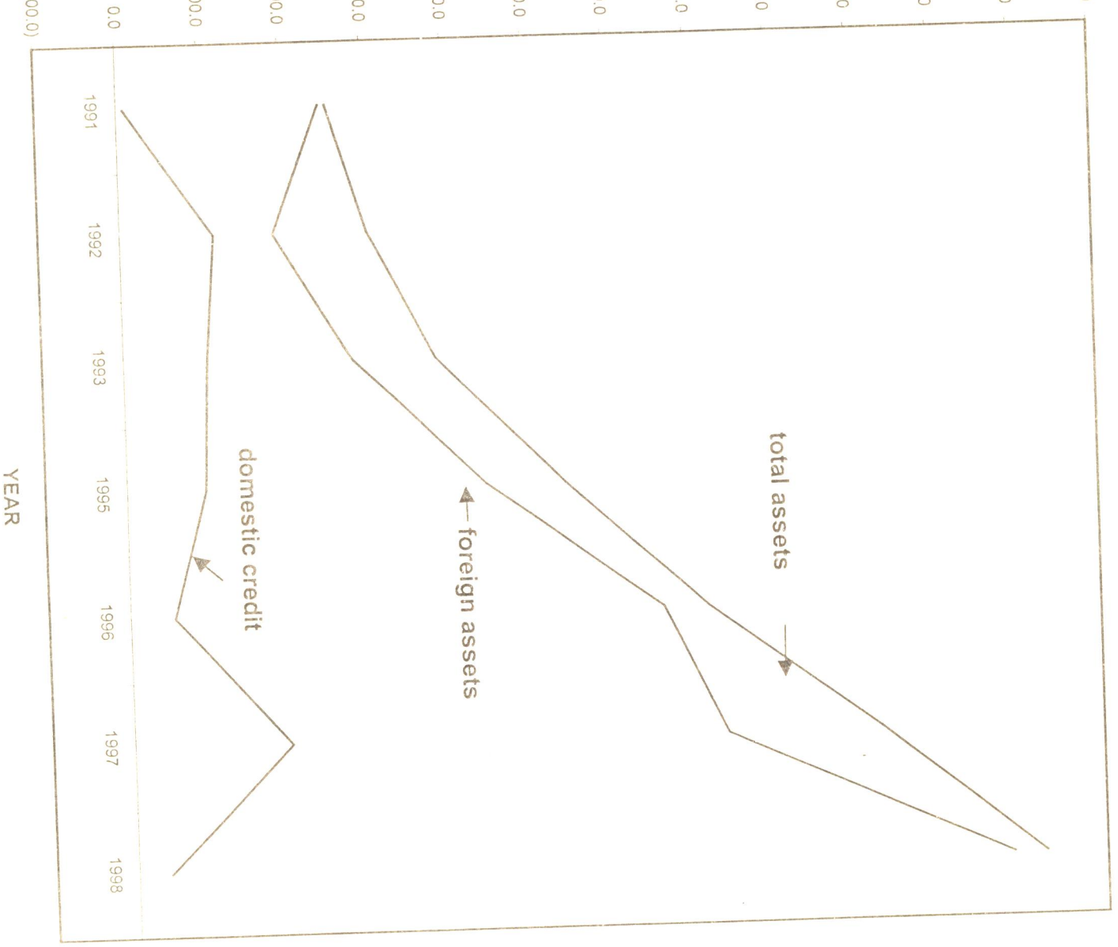


TABLE 11.2: FINANCIAL DETAILS OF ROYAL INSURANCE CORPORATION OF BHUTAN, 1987 TO 1998

Item	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
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	1701.0
Reserves	0.8	6.1	2.8	2.6	-16.2	1.9	18.2	9.6	24.5	61.7	20.0	167.9
Foreign Assets	..	..	..	..	..	..	..	0.4	0.6	1.4	0.6	2.1
Rupee	..	..	..	..	..	..	..	..	..	..	..	0.0
Others	..	..	..	..	..	..	..	0.4	0.6	1.4	0.6	2.1
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	14.9
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	680.6
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	835.5
Claims on NFIs	7.0	7.0	8.8	2.5	0.0	0.0	0.0	18.3	13.1	14.3	..	0.0
Real estate	23.4	23.4	31.6	35.4	34.0	40.5	42.3	..	..	..	..	0.0
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	1701.0
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	14.6
Life fund	9.2	12.2	15.1	19.0	21.0	23.8	70.0	23.8	0.0	0.0	33.5	48.5
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	1363.5
Group Insurance Fund	..	..	..	..	..	..	..	60.7	71.0	80.7	94.1	106.4
Credit from DMB	..	..	..	..	..	..	..	0.0	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	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	82.6
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	85.3

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 1998

(millions Nu.)

Item	1987	1988	1989	1990	1995	1996	1997	1998
Assets total	150.2	215.3	297.2	378.9	599.3	810.7	914.5	1292.2
Reserves	-	0.2	0.2	0.3	13.8	142.5	104.8	228.7
Invesments through RICB	145.4	209.9	247.6	318.3	0.0	0.0	0.0	335.9
Claims on private sector	4.7	5.2	49.4	60.3	486.1	601.4	663.6	717.1
Claims on joint sector	..	..	..	..	0.9	6.7	10.4	7.5
Claims on deposit money banks (Fixed deposits)	..	..	..	..	98.6	57.5	0.0	0.0
Claims on other NBFIs	..	..	..	..	0.0	2.5	0.0	0.0
Liabilities total	150.2	215.2	297.2	378.9	599.3	810.6	..	1292.2
Deposits under unit shares	125.3	187.8	253.8	321.5	366.9	298.7	..	222.1
Deposits under fixed term units	..	..	..	..	94.6	235.8	..	755.7
Recurring deposits	..	..	..	..	0.0	0.0	..	..
Provident fund	..	..	..	..	6.3	9.3	..	..
Credit from deposit money banks	..	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	86.1	130.4	139.7	164.5
Other items(net)	13.1	20.7	32.7	43.6	45.5	136.4	59.9	123.2
Call loans	6.5	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 1998

(millions Nu.)

Item	1992	1993	1994	1995	1996	1997	1998
Assets total	124.8	175.3	297.3	349.9	425.8	470.5	513.3
Reserves	3.3	3.8	22.7	19.0	25.0	28.2	28.3
Foreign assets	0.0	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	0.0
Others	0.0	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	0.0
Claims on Government Corpor	0.0	0.0	4.9	4.8	2.0	1.8	1.8
Claims on joimt corporation	2.3	2.8	0.0	0.0	0.0	0.0	0.0
Claims on private sector	103.6	147.5	230.0	301.5	377.6	406.1	422.1
Claims on DMBs(a)	0.0	0.0	0.0	9.0	21.2	34.4	61.1
Claims on other NBFIs(b)	15.6	21.2	39.7	15.5	0.0	0.0	0.0
Liabilities total	129.6	175.3	300.5	349.9	425.8	470.5	513.3
Foreign liabilities	37.3	75.3	94.9	104.7	141.9	165.2	168.9
Credit from RMA	50.0	20.7	50.0	0.0	0.0	0.0	0.0
Credit from DMB	0.0	24.3	0.0	0.0	0.0	0.0	0.0
Credit from other NBFIs	0.0	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	0.0
Capital account	34.4	39.9	155.6	169.0	230.3	233.2	242.5
Other items net	-4.8	0.8	-3.26	76.3	53.5	72.1	51.9

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 1998

(million Nu.)

Item	1987	1988	1989	1990	1991	1992	End of year 1993	1994	1995	1997	1998
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	6,126.7	9,218.6
Foreign assets	482.7	696.6	840.7	1,144.8	2,268.1	2,027.2	2,944.7	2,533.2	4,337.2	6,064.6	9,022.4
Indian rupee	15.7	15.6	33.2	16.0	28.6	21.7	59.3	24.6	27.6	25.5	26.9	
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	5,859.9	7,814.1	
Claims on deposit money banks	23.8	23.9	29.5	38.6	47.7	43.7	107.8	309.0	2.8	2.5	1,193.0	
Claims on Government	0.0	0.0	60.4	235.5	141.2	171.0	73.7	0.0	50.0	5.0	0.0	
Claims on NMFIs	..	..	..	..	..	..	..	55.0	5.0	3.7	3.1	
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	6,126.7	9,218.6	
Reserve money	432.6	384.3	691.2	1,259.6	1,593.7	1,256.5	1,364.9	1,286.8	2,149.7	2,545.5	3,954.1	
With RMA	329.1	235.2	503.5	1,065.5	1,346.7	911.5	1,018.9	..	..	..	..	
Currency outside bank	103.5	149.1	187.7	194.1	246.0	345.0	346.0	347.5	432.4	720.9	768.8	
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	27.9	1,207.3	
RMA Bills Outstanding	..	..	..	..	..	..	..	600.0	550.0	681.1	560.0	
Capital Account	..	..	..	..	..	..	..	40.2	88.1	48.1	150.1	
Other items (net)	64.6	155.8	161.9	94.4	747.9	965.2	1,736.0	1,021.5	1,417.6	2,574.2	3,097.2	

Source: Royal Monetary Authority, Thimphu

TABLE 11.6: MONEY AND BANKING, BANK OF BHUTAN, 1988 TO 1998

Item	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Assets total	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	6,613.3
Reserve with RMA	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	2,672.1
Foreign assets	733.8	692.9	460.8	348.8	212.5	434.3	278.5	252.5	1,545.4	1,391.5	2,732.1
Rupee	688.8	629.7	409.7	287.3	22.6	129.3	84.9	35.4	1,326.8	1,153.7	2,549.8
Other	45.0	63.2	51.1	61.5	190.0	305.0	193.6	217.4	218.5	237.9	182.3
Claims on Government	2.9	2.5	2.6	2.6	2.5	6.5	4.6	1.5	100.0	200.6	50.0
Claims on Government Corporations	35.4	27.6	53.2	64.8	770.1	795.6	560.8	534.6	483.7	449.1	411.4
Claims on joint Corporations	..	..	..	..	..	..	238.9	229.2	187.7	213.3	166.6
Claims on private sector	115.9	192.2	215.9	306.1	425.8	488.8	485.0	521.5	560.5	585.0	581.1
Liabilities total	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	6,613.3
Demand deposit (a)	263.0	358.2	345.4	503.7	495.9	487.1	696.5	889.9	1,651.6	1,329.8	1,638.3
Time deposit	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	2,842.8
Foreign currency deposits	22.5	15.1	24.0	26.0	55.0	65.2	84.2	104.3	95.0	96.4	183.2
Foreign liabilities	46.0	87.4	118.0	137.0	357.2	567.8	0.0	0.0	0.0	0.0	0.0
Rupee	46.0	87.4	118.0	136.9	357.2	567.8	0.0	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	0.0
Government deposits	221.4	201.8	299.1	314.5	200.3	311.3	139.5	344.0	458.8	183.6	257.3
Credit from RMA	..	..	..	..	..	..	..	..	..	..	..
Capital accounts	176.9	229.2	240.1	236.0	533.9	329.6	323.6	371.0	371.1	399.3	410.7
Other items (net)	110.3	110.0	199.9	169.0	-94.4	-89.5	473.4	390.4	1,015.5	946.8	1,281.1

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

Source: Royal Monetary Authority, Thimphu

TABLE 11.7: INVESTMENTS OF FINANCIAL INSTITUTIONS BY INDUSTRY(a), AMOUNTS OUTSTANDING, 1988 TO JUNE 1996

Industry	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	115.5	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	197.3	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	98.0	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 1998

(percent per annum)

Type of deposit	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Savings	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	7.0	5-7
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	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	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	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	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	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	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	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	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	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	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), 1998

Sector	Interest Rate (% p.a)	Repayment period(Years)
Export finance (convertible currenc	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
Service Industries (includes touris services, and other service activities)	13	5
Personal loans	16	5
Equity finance	14	5
Working capital	15	1
Housing	14	20

(a) Rates applicable since August 22, 1994

Source: Royal Monetary Authority, Thimphu

Table 11.10:ROYAL SECURITY EXCHANGE OF BHUTAN LIMITED NUMBER OF SHAREHOLDERS
1994 TO 1998

Company	1998	1997	1996	1995	1994
Penden Cement Aaauthority Ltd.	835	901	901	851	602
Bhutan Chemical Crbide Ltd.	267	268	272	277	277
Royal Insurance Corp. of Bhutan	200	205	205	205	205
Bhutan Board Products Ltd	475	474	474	602	602
Bhutan Tourism Corpn. Ltd	87	87	88	84	84
Bhutan Frro-Alloys Ltd.	48	56	56	56	58
Druk Petroleum Chemical Ltd.	80	79	77	77	na
Bhutan Dairy Ltd.	96	89	89	89	na
Bhutan National Bank	406	411	429	na	na
Druk Stone & Minerals Ltd.	59	59	59	na	na
State Trading Corp. of Bhutan	132	132	na	na	na
Bhutan Polimer Company Ltd.	54	54	na	na	na
Druk Satair Corp. Ltd.	1,201	na	na	na	na
Total	3,940	2,815	2,650	2,241	1,828

Source: Royal Securities Exchange of Bhutan, Thimphu

Table 11.11 ROYAL SECURITY EXCHANGE OF BHUTAN LIMITED MARKET INFORMATION, 1993 TO 1998.

Company	1993			1994			1995		
	Price	Paid-up Shares	Market capitalization	Price	Paid-up Shares	Market capitalization	Price	Paid-up Shares	Market capitalization
Penden Cement Authority Ltd.	1000	100000	100000000	1000	200000	200000000	2000	226667	453334000
Bhutan Chemical Carbide Ltd.	1800	100000	180000000	2000	100000	200000000	2000	100000	200000000
Royal Insurance Corp.of Bhutan	1000	12000	12000000	1000	12000	12000000	1000	12000	12000000
Bhutan Board Products Ltd	100	1,013,970	101,397,000	100	1013970	101397000	100	1013970	101397000
Bhutan Tourism Corpn. Ltd	na			1060	20,940	22,196,400	1,000	20940	20940000
Bhutan Frro-Alloys Ltd.	na			na		na	120	15000	1800000
Druk Petroleum Chemical Ltd.	na			na		na	100	38421	3842100
Bhutan Dairy Ltd.	na			100	25000	2500000	100	25000	2500000
Bhutan National Bank	na			na		na	na	na	na
Druk Stone & Minerals Ltd.	na			na		na	na	na	na
State Trading Corp.of Bhutan	na			na		na	na	na	na
Bhutan Polimer Company Ltd.	na			na		na	na	na	na
Druk Satair Corp. Ltd.	na			na		na	na	na	na
Total	3,900	1,225,970	393,397,000	5,260	1,371,910	538,093,400	6,420	1,451,998	

Cont...

Table 11.11 (CONT..) ROYAL SECURITY EXCHANGE OF BHUTAN LIMITED MARKET INFORMATION, 1993 TO 1998.

	1996			1997			1998		
Market apitalization	Price	Paid-up Shares	Market apitalization	Price	Paid-up Shares	Market apitalization	Price	Paid-up Shares	Market apitalization
453334000	2000	226667	453334000	2500	226667	566667500	3000	226667	680001000
200000000	2500	100000	250000000	3000	100000	300000000	3750	100000	37500000
12000000	2500	24000	60000000	2500	24000	60000000	3700	24000	88800000
101397000	100	1013970	101397000	100	1013970	101397000	106	1013970	107480280
20940000	1000	20940	20940000	1050	20940	21987000	1000	20940	20940000
180000000	120	15000	180000000	120	15000	180000000	120	15000	180000000
3842100	100	38421	3842100	100	42873	4287300	100	42873	4287300
2500000	100	25000	2500000	100	25000	2500000	100	25000	2500000
na	220	595040	130908800	225	595040	133884000	240	595040	142809600
na	100	33372	3337200	100	33372	3337200	100	37702	373770200
na	na	na	na	100	200000	20000000	100	200000	20000000
na	na	na	na	100	108	10800000	100	108	10800000
na	na	na	na	na	na	na	100	67500	6750000
974,013,100	8740	2092410	1206259100	9995	2296970	1404860000	12516	2368800	1675638380

Source: Royal Securities Exchange of Bhutan, Thimphu

Table 11.12 ROYAL SECURITY EXCHANGE OF BHUTAN LIMITED VOLUME TRADED PRICE TAKEN AT END OF YEAR, 1994 TO 1998.

Company	1994		1995		1996		1997		1998	
	Price	Traded Volume	Price	Traded Volume	Price	Traded Volume	Price	Traded Volume	Price	Traded Volume
Penden Cement Authority Ltd.	na	na	2000	27033	2000	302	2500	751	3000	777
Bhutan Chemical Carbide Ltd.	2000	6055	2000	127	2500	1112	3000	85	3750	22
Royal Insurance Corp.of Bhutan	1000	5	1000	na	2500	165	2500	50	3700	88
Bhutan Board Products Ltd	100	5160	100	100	100	14290	100	100	106	8000
Bhutan Tourism Corpn. Ltd	1060	1375	1060	na	1000	22	1050	614	1000	2287
Bhutan Frro-Alloys Ltd.	na	na	120	5000	120	na	120	na	120	19850
Druk Petroleum Chemical Ltd.	na	na	100	9000	100	na	100	4452	100	na
Bhutan Dairy Ltd.	100	12250	100	na	100	na	100	na	100	na
Bhutan National Bank	na	na	na	na	220	170964	225	12064	240	9019
Druk Stone & Minerals Ltd.	na	na	na	na	100	2972	100	na	100	na
State Trading Corp.of Bhutan	na	na	na	na	na	na	100	98300	100	na
Bhutan Polimer Company Ltd.	na	na	na	na	na	na	100	37800	100	na
Druk Satair Corp. Ltd.	na	na	na	na	na	na	na	na	na	na
Total	4260	24845	6480	41260	8740	189827	9995	154216	12416	40043

Source: Royal Securities Exchange of Bhutan, Thimphu

Table 11.13 ROYAL SECURITY EXCHANGE OF BHUTAN LIMITED TRADED VALUES (NGULTRUMS) 1994 TO 1998.

Company		1994	1995	1996	1997	1998	Total
Penden Cement Aaauthority Ltd.	Primary	na	40000500	na	na	na	40000500
	Secondary	na	646200	604060	1830000	2282400	5362660
Bhutan Chemical Carbide Ltd.	Primary	na	na	na	na	na	na
	Secondary	10309000	234000	2277500	255000	75150	13150650
Royal Insurance Corp. of Bhutan	Primary	na	na	na	na	na	na
	Secondary	5000	na	412500	125000	260800	803300
Bhutan Board Products Ltd	Primary	na	na	na	na	na	na
	Secondary	516000	10000	1429000	10000	800600	2765600
Bhutan Tourism Corpn. Ltd	Primary	na	na	na	na	na	na
	Secondary	1455100	na	22000	644700	2287000	4408800
Bhutan Ferro-Alloys Ltd.	Primary	na	na	na	na	na	na
	Secondary	na	600000	na	na	2382000	2982000
Druk Petroleum Chemical Ltd.	Primary	na	900000	na	445200	na	1345200
	Secondary	na	na	na	na	na	na
Bhutan Dairy Ltd.	Primary	1225000	na	na	na	na	1225000
	Secondary	na	na	na	na	na	na
Bhutan National Bank	Primary	na	na	28056600	na	na	28056600
	Secondary	na	na	204780	2653216	2066025	4924021
Druk Stone & Minerals Ltd.	Primary	na	na	297200	na	na	297200
	Secondary	na	na	na	na	na	na
State Trading Corp. of Bhutan	Primary	na	na	na	9800000	na	9800000
	Secondary	na	na	na	30000	na	30000
Bhutan Polimer Company Ltd.	Primary	na	na	na	3780000	na	3780000
	Secondary	na	na	na	na	na	na
Druk Satair Corp. Ltd.	Primary	na	na	na	na	na	na
	Secondary	na	na	na	na	na	na
Total		13,510,100	42,390,700	33,303,640	19,573,116	10153975	118931531

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, 1981/82 TO 1996/97

(millions Nu.)

Ministry/Non-ministerial Organisation	1981/82 (actual)	1985/86 (actual)	1991/92 (actual)	1992/93 (actual)	1993/94 (Revised)	1994/95 (actual)	1995/96 (actual)	1996/97 (actual)
Ministries	135.60	350.30	801.06	839.60	846.14	1,017.64	1,228.11	1,440.47
Home Affairs	12.60	24.10	80.80	90.85	103.18	115.78	146.59	242.1
Finance	19.40	82.30	78.16	76.03	79.36	82.37	88.10	109.1
Communication & Tourism	9.50	18.10	141.60	143.82	142.47	165.29	183.74	232.2
Planning	1.00	2.60	9.44	7.08	8.09	13.23	9.55	10.6
Social Services	51.80	137.60	224.05	215.03	196.99	248.67	290.20	336.0
Agriculture	26.40	50.70	111.62	130.81	153.76	168.29	207.46	213.1
Foreign Affairs	7.90	21.90	72.70	74.54	84.34	85.08	113.73	112.9
Trade and Industries	7.00	13.00	82.70	101.44	77.93	138.94	188.75	184.4
Non Ministerial organisations	27.60	29.20	74.61	81.62	81.68	89.14	108.65	135.84
Special Commission	1.20	9.80	7.92	7.39	7.36	9.66	12.00	15.7
Central Monastic Secretariat	-	0.60	28.11	30.47	32.95	35.15	44.20	51.5
Social and Cultural Division	0.30	0.40	-	-	-	-	-	-
His Majesty's Secretariat	1.10	4.70	4.77	5.66	3.96	4.47	4.84	5.5
Science and Technology	-	0.30	-	-	-	-	-	-
Royal Civil Service Commission	0.50	1.10	3.75	4.15	4.75	4.73	4.57	8.7
Royal Audit Authority	1.00	2.20	6.43	6.49	6.43	7.84	10.35	12.7
Royal Advisory Council	1.00	1.80	2.04	2.39	2.26	2.67	2.96	3.5
National Assembly	0.60	1.60	2.53	3.24	3.72	2.41	4.52	5.6
Urban Development Corporation	1.20	1.00	-	-	-	-	-	-
National Women's Association	-	0.30	2.18	1.98	-	-	-	-
Judiciary	1.70	5.10	12.49	13.10	13.88	16.54	19.14	25.5
Bhutan Olympic Committee	-	0.30	2.74	3.69	2.63	3.31	3.24	4.5
Druk Air Corporation	0.20	-	-	..	-	-	-	-
Tourism Corporation	7.40	-	-	..	-	-	-	-
Bhutan Govt. Transport Service	11.40	-	-	..	-	-	-	-
Dzongkhag Development Commission	-	-	1.67	3.08	3.75	2.37	2.84	2.5
Dzongkhags	6.60	61.70	170.35	186.31	228.44	307.76	334.14	440.2
Dzongkhag Administration, Thimphu	-	-	-	-	-	32.96	34.31	
Common public expenditure	n.a	n.a	88.86	126.50	334.40	492.18	292.68	320.4
Total current expenditure	6.60	61.70	259.21	312.81	562.84	832.89	661.13	760.57

Source: National Budget and Aid Coordination Division, Thimphu.

Development expenditure, 1993/94 to 1996/97

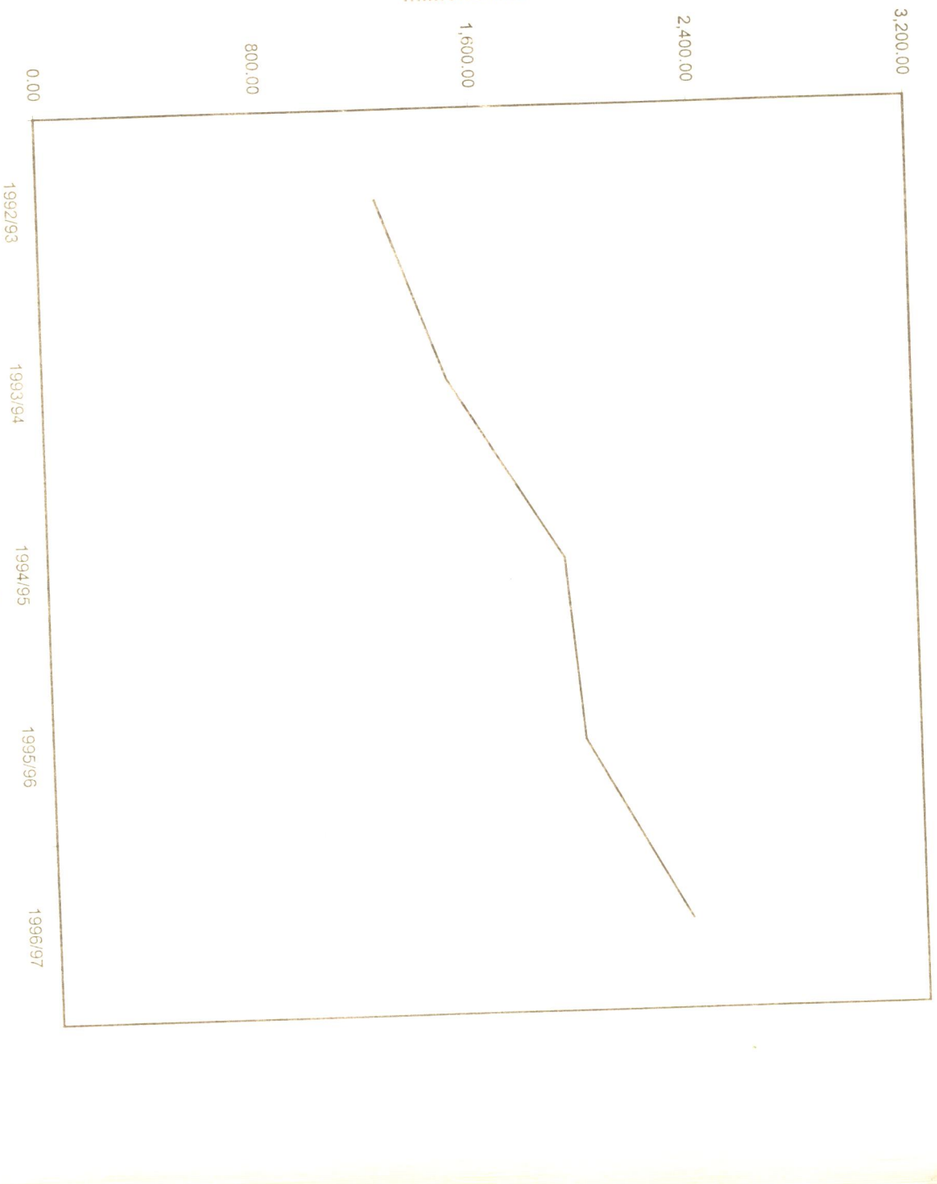


TABLE 12.2: BUDGETARY DEVELOPMENT EXPENDITURE OF THE GOVERNMENT BY MINISTRY, 1990/91 TO 1996/97

(millions Nu.)

Ministerial/non ministerial organizations	1990/91 actual)	1991/92 actual)	1992/93 (actual)	1993/94 (Revised)	1994/95 (actual)	1995/96 (actual)	1996/97 (actual)
Ministries	593.21	787.96	1,083.36	1,151.01	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	14.49	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 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
Nat. Women's Association	0.76	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
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, 1988/89 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. department	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.

Revenue receipts, 1990/91 to 1996/97

TABLE 12.4: SUMMARY OF BUDGETARY OPERATIONS, 1987/88 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	290.30	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) laid 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, equal importance was given on the preservation and promotion of traditional values and ideals.

TABLE 13.1: OUTLAYS OF DEVELOPMENT PLANS, FIRST PLAN TO EIGHTTH 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)	Eighth Plan (budget)
Agriculture	1.9	21.6	58.3	259.0	419.4	880.5	709.0	1,099.9
Food Corporation of Bhutan	-	-	-	-	135.5	106.5	-	0.0
Animal Husbandry	1.5	5.8	-	-	162.4	331.0	327.9	647.0
Area Development	-	-	-	61.5	-	-	-	1,481.31
Forestry	3.2	6.9	24.2	110.3	229.9	418.2	479.0	1,070.69
Secretariat	-	-	-	-	-	-	-	398.82
Registration	-	-	-	-	-	-	-	36.32
Land Record & Survey	-	-	-	-	-	-	-	139.60
Power	1.5	9.1	30.1	50.5	340.5	1,247.9	390.0	4,294.0
Trade and Industries	1.1	1.0	25.2	175.0	323.3	1,276.1	838.9	233.8
Geological Survey	-	-	-	-	-	35.3	153.8	110.9
Public Works Department	62.9	70.5	84.6	128.3	787.5	887.2	1,213.7	1,328.2
Surface Transport	-	-	-	-	-	-	-	58.5
Secretariat	-	-	-	-	-	-	-	72.2
Road Transport/Aviation	7.5	12.0	9.5	-	26.3	48.8	95.3	3,928.5
Post & Telegraph	0.5	5.9	11.4	16.9	65.8	68.1	163.8	240.0
Telecommunications	-	-	14.8	37.3	33.7	133.8	1,088.9	1,422.7
Tourism	-	-	14.1	12.5	29.1	391.0	-	76.8
Druk Air	-	-	-	-	-	-	-	-
Secretariat	-	-	-	-	-	-	-	50.2
Education	9.4	35.7	90.0	134.6	519.1	778.8	1,738.0	3,292.7
Health	3.1	16.7	38.1	54.6	237.5	399.1	1,035.5	2,927.5
Information and Broadcasting	0.1	1.4	4.0	11.0	36.1	95.9	96.0	-
Royal Instt.of Management	-	-	-	-	-	-	-	187.5
Urban Development	-	-	-	-	187.3	248.7	709.4	65.0
General Government	-	-	-	-	1,114.9	1,973.8	6,196.1	11,138.3
Planning Commission	-	-	-	-	-	-	-	117.3
Dzongkhags	-	-	-	-	-	238.5	355.4	751.5
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	35,169.2

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 revisions of the sixth plan

(a) Figures exclude Chhukha Hydel Project (Fifth Plan outlay Nu. 2,430 million)

Source: Planning Commission, Thimphu.

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

(percent)

Sector	First Plan	Second Plan	Third Plan	Fourth Plan	Fifth Plan(a)	Sixth Plan	eventh Plan	Eightt Pla
Agriculture	1.8	10.7	12.3	23.4	9.0	9.2	4.5	3.1
Food Corporation of Bhutan	-	-	-	-	2.9	1.1	-	
Animal Husbandry	1.4	2.9	5.1	5.6	3.5	3.5	2.1	1.8
Area Dvelopment								4.2
Forestry	3.0	3.4	6.0	10.0	4.9	4.4	3.1	3.0
Secretariat	-	-	-	-	-	-	-	1.1
Registration	-	-	-	-	-	-	-	0.1
Land Record & Survey	-	-	-	-	-	-	-	0.4
Power	1.4	4.5	6.3	4.6	7.3	13.1	2.5	12.2
Trade and Industries	1.0	0.5	5.3	15.8	7.0	13.3	5.4	0.7
Geological Survey	-	-	-	-	-	0.4	1.0	0.3
Secretariat								0.2
Public Works Department	58.7	34.9	17.8	11.6	16.9	9.3	7.8	3.8
Surface Transport								0.2
Road Transport/Aviation	7.0	5.9	2.0		0.6	0.5	0.6	11.2
Post & Telegraph	0.5	2.9	2.4	1.5	1.4	0.7	1.1	0.7
Telecommunications	-	-	3.1	3.4	0.7	1.4	7.0	4.1
Tourism	-	-	3.0	1.1	0.6	-	-	0.2
Druk Air	-	-	-	-	-	4.1	-	
Secretariat								0.1
Education	8.8	17.7	18.9	12.2	11.2	8.1	11.1	9.4
Health	2.9	8.3	8.0	4.9	5.1	4.2	6.6	8.3
Information and Broadcastin	0.1	0.7	0.8	1.0	0.8	1.0	0.6	
Royal Instt. of Management								0.5
Urban Development	-	-	-	-	4.0	2.6	4.6	0.2
Planning Commission								0.3
General Government	-	-	-		24.0	20.6	39.7	31.7
Dzongkhags	-	-	-	-	-	2.5	23.0	2.1
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	100.0

(a) See footnotes to Table 13.1.

Source: Planning Commission, Thimphu

TABLE 13.3: FINANCIAL OUTLAYS DURING EIGHTTH PLAN BY SECTOR, 1997 TO 2002

(million Nu.)

Sector	Recurrent	Capital	Total	% of total outlay
His Majesty's Secretariat	35.17	1.47	36.64	0.10
National Assembly of Bhutan	31.28	3.06	34.34	0.10
Royal Advisory Council	21.39	0.53	21.92	0.06
Council of Ecclesiasticl Affairs	259.98	32.49	292.47	0.83
Special Commission for Cultural Affairs	81.63	207.99	289.62	0.82
Judiciary	123.16	118.19	241.35	0.69
Royal Audit Authority	61.78	21.02	82.80	0.24
Royal Civil Service Commisssion	40.79	2,035.18	2,075.97	5.90
Bhutan Olympic Committee	26.49	43.72	70.21	0.20
Dzonkhag Development Commission	13.96	3.11	17.07	0.05
National Envirnment Commission	5.25	120.17	125.42	0.36
Policce,Jail & Fire Service	688.29	355.01	1,043.30	2.97
Ministry of Home affairs	208.09	366.65	574.74	1.63
Secretariat	63.17	335.65	398.82	1.13
Survey of Bhutan	36.32	0.00	36.32	0.10
Survey of Bhutan	108.60	31.00	139.60	0.40
Ministry of Finance	5,498.69	552.10	6,050.79	17.20
Secretariat and Division	693.10	236.20	929.30	2.64
Debt servicing	2,149.53	0.00	2,149.53	6.11
Common Public Sservices	406.06	315.90	721.96	2.05
Resserve for Pay Revision	2,250.00	0.00	2,250.00	6.40
Ministry of Foreign Affairs	734.01	22.42	756.43	2.15
Ministry of Health & Education	3,662.79	2,607.49	6,270.28	17.83
Secretariat	49.70	0.45	50.15	0.14
Education	2,089.00	1,203.39	3,292.39	9.36
Health Services	1,524.09	1,403.39	2,927.48	8.32
Royal Instt. of Management	50.41	137.08	187.49	0.53
Agriculture Ministry	1,453.98	2,844.95	4,298.93	12.22
Secretariat	163.39	137.05	300.44	0.85
Research,Extension & Irrigation	263.66	535.80	799.46	2.27
Crops & Livestock Division	226.16	420.87	647.03	1.84
Forestry	275.70	794.99	1,070.69	3.04
Area Devlopment Projects	525.07	956.24	1,481.31	4.21
Ministry of Trade & Industries	1,077.40	3,638.12	4,715.52	13.41
Secretariat	30.65	9.38	40.03	0.11
Tourism Authority of Bhutan	12.29	24.50	36.79	0.10
Trade Division	67.66	39.93	107.59	0.31
Geology & Mines Division	70.37	40.49	110.86	0.32
Power Services	896.43	3,397.59	4,294.02	12.21
Industries Division		126.23	126.23	0.36
Ministry of Communication	1,451.09	5,664.04	7,115.13	20.23
Secretariat	55.34	16.84	72.18	0.21
Post Services	203.89	36.08	239.97	0.68
Telecommunications Services	273.14	1,149.58	1,422.72	4.05
Department of Roads	650.40	3,218.26	3,868.72	11.00
Works & Housing Division	228.38	1,099.78	1,328.16	3.78
Civil Aviation	24.29	35.54	59.83	0.17
Sarface Transport	15.59	42.93	58.52	0.17
Thimphu City Corporation		65.02	65.02	0.18
Ministry of Planning	55.47	61.86	117.33	0.33
Dzonkhag Administrations(Civil)	495.84	255.69	751.53	2.14
All Sector	16,076.94	19,092.34	35,169.28	100.00

Source: Planning Commission, Thimphu.

TABLE 13.4: DZONGKHAG WISE 8TH FIVE YEAR PLAN OUTLAY, 1997 TO 2002

(Nu. in million)

Dzongkhags	Current	Capital	Total
Bumthang	251.132	495.163	746.295
Chirang	130.354	338.467	468.821
Chhukha	391.300	2148.703	2540.003
Dagana	115.863	200.607	316.470
Sarpang	278.204	381.247	659.451
Haa	99.349	157.082	256.431
Lhuntse	167.037	399.031	566.068
Mongar	369.258	884.129	1253.387
Paro	306.810	336.496	643.306
Punakha	219.695	225.735	445.430
Pemagatshel	154.451	275.778	430.229
Samtse	293.632	276.709	570.341
Samdrup Jongkhar	428.757	616.337	1045.094
Zhemgang	232.382	537.957	770.339
Trashigang	579.561	759.528	1339.089
Thimphu	995.481	1787.797	2783.278
Trongsa	141.365	387.168	528.533
Wangdue Phodrang	283.406	529.159	812.565
Tashi Yangtse	161.599	234.908	396.507
Gasa	56.951	169.296	226.247
Total	5438.037	10737.093	16175.130

Source: Planning Commission, Thimphu

TABLE 13.5: DZONGKHAG WISE EIGHT FIVE YEAR PLAN OUTLAY, 1997 TO 2002

(Nu. in million)

Dzongkhag	Current	Capital	Total
Bumthang	251.132	465.963	746.295
Chirang	391.301	2148.703	2540.004
Chhukha	391.301	2148.703	2540.004
Dagana	115.863	200.607	316.470
Gasa	56.951	169.296	338.592
Haa	99.351	157.080	256.431
Lhuentse	167.037	399.031	566.068
Mongar	369.258	884.129	1253.387
Paro	99.351	157.080	256.431
Pemagatshel	154.451	275.778	430.229
Punakha	219.695	225.735	445.43
Samtse	293.632	276.709	570.341
Samdrup Jongkhar	428.757	616.337	1045.093
Sarpang	278.204	381.267	659.451
Zhemgang	232.382	537.957	770.339
Trashigang	604.648	734.441	1339.089
Trashiyangtse	170.09	234.908	396.507
Thimphu	995.481	1787.797	2783.278
Trongsa	141.365	387.168	528.533
Wangdue Phodrang	283.32	529.159	812.565
Total	5743.57	12,717.848	18,461.418

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

Source: Planning Commission, Thimphu

TABLE 14.6: SHARE OF GROSS DOMESTIC CAPITAL FORMATION IN GDP AT MARKET PRICES, 1980 TO 1998

Components	(million Nu.) 1980	1985	1989	(million Nu) 1990	1991	1992	1993	1994	1995	1996	1997	1998*
Gross domestic product at market prices	1112.9	2391.4	4381.6	4961.0	5501.5	6353.9	7192.2	8501.1	9968.1	11,714.0	14,477.0	16,420.0
Gross domestic fixed capital formation	330.4	1002.9	1573.5	1685.6	1781.6	2562.7	3398.6	3871.2	4399.1	5,046.0	6,663.3	7,359.9
Gross domestic capital formation	345.1	1084.5	1452.4	1651.7	1710.3	2913.7	3296.6	4100.1	4555.1	5,204.0	6,969.7	7,774.8
Share in Gross domestic product (percent)	na	na	na	na	na	na	na	na	na	na	na	na
Gross domestic fixed capital formation	29.7	41.9	68.9	34.0	32.4	47.3	47.3	45.5	44.1	43.1	46.0	44.8
Gross domestic capital formation	31.0	45.4	33.1	33.3	31.1	45.9	45.8	48.2	45.7	44.4	48.1	47.3

Note: * Provisional

Source: CSO, Planning Commission, Thimphu.

TABLE 14.7: GROSS AND NET CAPITAL FORMATION, 1980 TO 1998

Components	(million Nu.) 1980	1985	1989	(million nu) 1990	1991	1992	1993	1994	1995	1996	1997	1998*
In current prices												
Gross domestic capital formation	345.1	1084.5	1452.4	1651.6	1710.6	2913.7	3296.6	4100.1	4555.1	5,204.0	6,969.7	7,774.8
Consumption of fixed capital (depreciation)	61.2	137.6	399.0	451.0	503.6	590.7	670.0	846.0	1126.0	1,329.0	1,188.0	1,346.6
Net domestic capital formation	283.9	946.9	1053.4	1200.6	1207.0	2323.0	2626.6	3254.1	3429.1	3,875.0	5,781.7	6,428.2
Im 1980 prices												
Gross domestic capital formation	345.1	677.8	670.6	727.1	724.7	1034.7	1033.4	1184.8	1091.8	1,310.0	1,231.4	1,323.1
Consumption of fixed capital (depreciation)	61.2	93.6	215.0	217.7	225.0	237.0	249.9	268.2	293.0	312.0	281.9	308.1
Net domestic capital formation	283.9	584.2	455.6	509.4	499.7	797.7	783.5	916.6	798.8	998.0	949.5	1,015.0

Note: * Provisional

Source: CSO, Planning Commission, Thimphu

TABLE 14.8: GROSS AND NET DOMESTIC PRODUCT AND RELATED AGGREGATES, 1987 TO 1998

Aggregates	(million Nu.) 1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998*
							(million nu)					
In current prices												
Net domestic product at factor cost	3,200	3,489	3,909	4,397	4,839	5,587	6,337	7,305	8,485	10,077	12,783	14,314
Add: Consumption of fixed capital	331	362	399	451	504	591	670	846	1,126	1,329	1,188	1,347
Gross domestic product at factor cost	3,531	3,851	4,308	4,848	5,342	6,178	7,007	8,151	9,611	11,405	13,971	15,661
Add: Indirect taxes, less of subsidies (a)	77	83	74	134	159	176	185	351	358	308	506	759
Gross domestic product at market prices	3,608	6,934	4,382	4,983	5,502	6,355	7,192	8,501	9,968	11,714	14,477	16,420
Add: Net factor income from abroad	-349.5	-344.3	-171.6	-326	-491	-734	-875	-914	-1198	-1396	-1141	-1050
Gross national product at market prices	3,258	3,589	4,210	4,657	5,011	5,621	6,317	7,587	8,770	10,318	13,336	15,370
In 1980 prices												
Net domestic product at factor cost	1,776	1,792	1,872	2,007	2,078	2,161	2,300	2,448	2,627	2,783	3,039	3,209
Add: Consumption of fixed capital	197	202	215	218	225	237	250	268	293	312	282	305
Gross domestic product at factor cost	1,973	1,994	2,087	2,225	2,303	2,398	2,549	2,716	2,920	3,095	3,321	3,514

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

Source: CSO, Planning Commission, Thimphu.

TABLE 14.9: ESTIMATES OF FINAL CONSUMPTION EXPENDITURE, GROSS DOMESTIC SAVINGS AND SAVINGS IN CURRENT PRICES, 1985 TO 1998

Details	(million Nu.) 1985	1986	1990	1991	1992	1993	1994	1995	1996	1997	1998*
						(million nu)					
Revenue receipts	257.5	340.1	1,020.0	985.7	1,493.0	1,567.9	1,685.5	1,850.7	2,290.0	2,993.3	3,397.4
Consumption expenditure	2,067.6	2,550.3	3,532.7	4,244.1	4,996.2	4,800.3	5,679.1	6,301.1	7,669.0	9,815.0	10,341.3
Government	560.9	576.3	948.7	1,015.1	1,215.2	1,241.0	1,426.1	1,745.1	3,445.0	3,688.1	4,388.8
Private	1,506.7	1,974.0	2,584.0	3,229.0	3,781.0	3,559.3	4,253.0	4,556.0	4,224.0	6,126.9	5,952.5
Savings	6.5	(63.9)	1,360.7	1,070.6	960.8	1,876.1	2,312.4	2,885.1	3,086.7	5,063.5	5,986.5
Government	(303.4)	(236.2)	71.3	(29.4)	277.8	(333.3)	259.6	106.0	(1,155.0)	(694.8)	(991.4)
Private	309.9	172.3	1,289.4	1,100.0	683.0	2,209.4	2,052.8	2,779.1	4,241.7	5,758.3	6,977.9
Gross domestic savings	6.5	(63.9)	1,360.7	1,070.6	960.8	1,876.1	2,312.4	2,885.1	3,086.7	5,063.5	5,986.5
Gross domestic capita formation	1,084.5	1,135.1	1,651.7	1,710.6	2,913.8	3,296.6	4,100.4	4,555.1	5,204.0	6,969.7	7,774.0
Net capital inflow	1,078.0	1,199.0	291.0	640.0	1,953.0	1,420.5	1,788.0	1,670.0	2,117.3	1,906.2	1,787.5

Note: figures in the bracket refers to negative sign. * Provisional.

Source: CSO, Planning Commission, 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, oil, 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. 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 1998

(December 1979 = 100)

Item	Weight	1992		1993		1994		1995		1996		1997		1998		Average growth %	
	(%)	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun 80-98	Dec 79-98
Index																	
Food	72.31	301.1	316.0	335.4	336.0	342.5	347.9	367.7	392.2	407.8	422.9	423.1	438.1	465.3	494.5	..	..
Non-fo	27.69	380.1	387.2	426.6	443.3	484.8	519.1	532.2	556.6	566.3	607.8	646.2	666.2	694.4	737.1	..	..
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	528.7	561.7	..	..
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	10.0	12.9	8.9	8.8
Non-fo	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	7.5	10.6	10.8	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	9.0	12.1	9.5	9.5
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	6.2	6.3	4.3	..
Non-fo	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	4.2	6.2	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	5.5	6.2	4.6	..

Source: CSO, Planning Commission, Thimphu.

TABLE 15.2: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, 1992 TO 1998

(December 1979 = 100)

Item	Weight (%)	1992 Jun	1992 Dec	1993 Jun	1993 Dec	1994 Jun	1994 Dec	1995 Jun	1995 Dec	1996 Jun	1996 Dec	1997 Jun	1997 Dec	1998 Jun	1998 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	395.3	414.5
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	587.6	627.8
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	721.9	825.5
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	734.2	656.7
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	353.2	454.8
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	674.0	771.9
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	518.3	519.3
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	515.2	534.3
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	276.1	315 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	773.5	817.0
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	510.2	524.2
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	640.6	668.3
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	763.3	861.3
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	528.7	561.7

Source: CSO, Planning Commission, Thimphu.

TABLE 15.3: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, 1992 TO 1998

(percentage change on the previous period)

Item	Weight (%)	1992 Jun	1992 Dec	1993 Jun	1993 Dec	1994 Jun	1994 Dec	1995 Jun	1995 Dec	1996 Jun	1996 Dec	1997 Jun	1997 Dec	1998 Jun	1998 Dec	Average growth (% 1979-98
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	4.9	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	2.6	6.8	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	45.3	14.4	5.7
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	19.6	-10.5	5.1
Edible oil & 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	13.4	28.8	4.1
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	2.2	14.5	5.5
Milk & 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	2.1	0.2	4.4
Other food & 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	7.5	3.7	4.5
Fuel & 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	0.9	14.3	3.1
Clothing & 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	4.6	5.6	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	6.7	2.7	4.5
Miscellaneous goods & 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	1.7	4.3	5.1
Furniture & 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	2.7	12.8	5.8
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	5.5	6.2	4.6

Source: CSO, Planning Commission, Thimphu.

TABLE 15.4: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, 1992 TO 1998

(percentage change over the previous year)

Item	Weight	1992		1993		1994		1995		1996		1997		1998		growth(%)	
	(%)	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec
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	3.9	8.9	8.1	7.8
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	-0.2	9.7	9.6	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	96.6	66.1	12.0	11.7
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	16.2	7	11.7	10.4
Edible oil & 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	12.9	46	6.9	8.3
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	10.3	17.1	10.9	11.4
Milk & 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	6.2	2.3	9.5	9.1
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	13.2	11.5	9.1	9.2
Fuel & 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	6.5	15.3	7.0	6.2
Clothing & 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	7.4	10.5	11.1	11.7
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	9.2	9.6	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	5.8	6.1	11.3	10.5
Furniture & 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	12.7	15.9	11.8	12.0
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	12.1	9.5	9.5

Source: CSO, Planning Commission, Thimphu.

TABLE 15.5: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, 1992 TO 1998

(December 1979=100)

Item	Weight	1992		1993		1994		1995		1996		1997		1998	
	(%)	Jun	Dec	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	395.3	414.5
Pulses	0.67	313.7	307.0	328.5	335.8	355.7	410.7	441.1	511.5	525.6	595.4	588.8	572.5	587.6	627.8
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	721.9	825.5
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	734.2	656.7
Edible oil & 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	353.2	454.8
Spices	5.10	456.2	550.0	520.8	532.1	518.6	476.5	536.4	596.9	579.5	630.4	611.2	659.3	674.0	771.9
Milk & its products	7.07	325.6	338.4	366.1	350.1	339.3	362.3	372.2	447.5	470.1	490.3	488.2	507.5	518.3	519.3
Sugar	1.03	272.8	272.6	279.0	313.3	396.5	367.3	387.6	387.9	399.1	396.0	398.9	432.9	439.7	450.9
Beverages	1.34	432.9	395.9	426.2	432.2	447.7	461.4	495.0	494.7	504.4	517.9	556.0	587.7	674.8	710.3
Meat and fish	9.10	317.8	325.5	416.3	364.1	369.8	376.9	402.2	416.3	451.4	505.2	514.4	524.4	569.5	580.8
Eggs	0.19	260.8	305.7	305.0	322.9	333.3	325.8	330.7	351.4	330.2	383.1	388.8	394.1	394.4	426.3
Intoxicants	3.38	188.8	201.6	206.4	223.6	236.0	249.2	252.8	256.4	260.4	260.0	276.8	302.0	318.8	322.0
Tobacco	1.32	207.3	219.8	233.0	254.0	227.6	241.5	243.6	254.7	277.8	449.8	452.4	555.5	555.5	656.4
Total	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	465.3	494.5

Source: CSO, Planning Commission, Thimphu.

TABLE 15.6: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, 1992 TO 1998

(percent change over the preceeding year)

Item	Weight (%)	1992 Jun	1992 Dec	1993 Jun	1993 Dec	1994 Jun	1994 Dec	1995 Jun	1995 Dec	1996 Jun	1996 Dec	1997 Jun	1997 Dec	1998 Jun	1998 Dec	growth(% Jun 80-98	growth(% Dec 79-98
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	3.9	8.9	8.1	7.8
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	-0.2	9.7	9.6	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	96.6	66.1	12.0	11.7
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	16.2	7	11.7	10.4
Edible oil & 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	12.9	46	6.9	8.3
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	10.3	17.1	10.9	11.4
Milk & 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	6.2	2.3	9.5	9.1
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	10.2	4.2	6.1	8.2
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	21.4	20.9	10.8	10.9
Meat & 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	10.7	10.8	10.1	9.7
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	1.4	8.2	7.1	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	15.2	6.6	5.6	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	22.8	18.2	11.5	10.4
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	10	12.9	8.9	8.8

Source: CSO, Planning Commission, Thimphu.

TABLE 15.7: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, 1992 TO 1998

(percent change over the preceeding period)

Item	Weight (%)	1992 Jun	1992 Dec	1993 Jun	1993 Dec	1994 Jun	1994 Dec	1995 Jun	1995 Dec	1996 Jun	1996 Dec	1997 Jun	1997 Dec	1998 Jun	1998 Dec	Average growth(% 1979-98
Cereals	37.77	15.9	4.2	4.6	1.2	4.6	1.3	4.4	5.1	4.7	0.0	1.2	0.0	3.8	4.9	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	2.6	6.8	5.6
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	45.3	14.4	5.7
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	19.6	-10.5	5.1
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	13.4	28.8	4.1
Spices	5.10	21.8	20.6	-5.1	2.2	-2.5	-8.1	12.6	11.3	-2.9	8.8	-3.0	7.9	2.2	14.5	5.5
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	2.1	0.2	4.4
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	1.6	2.6	4.0
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	14.8	5.3	5.3
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	8.6	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	0.1	8.1	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	5.6	1.0	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	0.0	18.2	5.1
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	6.2	6.3	4.3

Source: CSO, Planning Commission, Thimphu.

TABLE 15.8: QUARTERLY PRICE INDICES FOR FOOD ITEMS, THIMPHU TOWN, 1989 TO 1998

(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
1998				
March	506.5	2669.7	611.3	626.9
June	528.2	4113.1	658.3	710.6
September	623.5	4190.6	703.8	785.5
December	630.3	3788.1	696.7	771.9

Source: CSO, Ministry of Planning, Thimphu

TABLE 15.9: QUARTERLY PRICE INDICES FOR FOOD ITEMS, THIMPHU TOWN, 1989 TO 1998

(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
1998				
March	1.8	13.9	0.9	3.2
June	4.3	54.1	7.7	13.3
September	18.0	1.9	6.9	10.5
December	1.1	-9.6	-1.0	-1.7

Source: CSO, Planning Commission, 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 with changes brought about on development, crimes have become noticeable. Although Bhutan is known to have perpetual peace due to the blessings of numerous deities yet the occurrence of crime can not be ruled out. Comparatively the crime rate was lesser in the past. Today with the increase in the population and diversified economic activities crime rate seems to have increased. 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, 1987 TO 1998.

(numbers)

Nature of crime	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Crime against human body	654	627	726	711	461	533	556	556	542	552	498	390
Sexual offence	35	26	34	39	35	41	35	47	52	33	42	45
Crime against propeity	716	667	811	802	737	1,008	956	893	785	747	675	609
Motor vehicle accident	313	387	475	383	276	310	354	335	334	333	319	233
Forest offence	27	21	30	13	11	11	17	13	7	8	7	3
Antiques	1	4	2	26	49	113	128	104	90	193	176	144
Fire incidents	65	58	60	63	60	44	44	48	59	48	47	28
Others	123	175	177	190	141	128	122	118	154	132	127	81
All crimes	1,934	1,965	2,315	2,227	1,770	2,188	2,212	2,114	2,023	2,046	1,891	1,533

Source: Royal Bhutan Police, Thimphu.

TABLE 16.2: DETAILS OF CRIME AGAINST HUMAN BODY, BHUTAN, 1986 TO 1998.

(numbers)

Details	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Murder	8	7	12	14	20	12	27	19	20	16	12	7	11
Attempted murder	11	11	14	10	11	9	12	15	19	10	15	6	5
Dacoity with murder	-	-	-	-	4	1	2	-	3	1	-	-	-
Robbery with murder	-	-	-	-	-	1	1	1	-	-	-	-	-
Infanticide	-	-	-	1	1	-	-	-	-	-	-	-	-
Unnatural death	4	18	39	41	42	23	10	31	24	24	19	22	20
Accidental death	43	29	15	31	30	18	46	32	23	42	40	41	30
Drowning	16	11	21	18	20	23	12	18	22	29	14	31	22
Suicide	23	33	27	29	34	28	19	24	29	26	35	34	26
Attempted suicide	2	9	8	19	6	5	12	8	13	7	6	3	11
Assault	356	481	470	540	494	312	355	385	373	367	387	319	241
Abduction	13	15	14	9	14	9	2	-	2	2	3	_	1
Kidnapping	7	2	-	1	14	6	5	3	2	1	2	_	1
Poisoning	8	5	2	4	3	1	14	4	4	1	2	3	_
Drugs(Nurcotics)	-	-	-	-	-	-	-	-	-	-	-	11	9
Contempt of lawful authority	-	1	-	1	3	1	-	6	8	1	2	5	3
Wrongful confinement	-	2	-	-	-	-	1	1	-	-	1	-	1
Affray	-	1	-	3	3	3	3	-	7	3	3	4	1
Accidental injury	-	1	-	-	-	-	-	-	-	1	3	2	1
Black magic	-	4	4	1	1	-	1	1	1	1	1	1	2
Defamation	-	-	-	-	1	2	4	1	-	1	3	2	2
Grevious hurt	-	-	-	-	2	-	-	-	-	2	1	2	3
Wronful restraint	-	-	-	-	-	-	-	2	-	-	-	-	-
All crimes against human body	491	630	626	722	703	454	526	551	550	535	549	493	390

Source: Royal Bhutan Police, Bhutan.

TABLE 16.3: DETAILS OF SEXUAL OFFENCES, BHUTAN, 1986 TO 1998.

Details	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Rape	14	6	8	7	4	19	11	9	14	10	12	4	15
Attempted rape	-	5	6	7	10	6	8	8	5	9	3	10	3
Adultry	11	19	10	8	10	6	7	8	5	8	4	4	7
Incest	-	-	-	3	2	-	-	1	1	-	2	1	1
Molestation	-	-	-	-	-	-	-	1	-	2	-	3	1
Elopment	6	3	-	9	11	4	12	6	15	15	11	19	13
Eve teasing	-	-	2	-	2	-	-	-	2	2	-	-	1
Unnatural offence	-	1	-	-	-	-	2	-	1	-	-	-	-
Prostitution	-	-	-	-	-	-	1	1	2	6	1	1	2
Robbery cum rape	-	-	-	-	-	-	-	1	-	-	-	-	-
Dacoity cum rape	-	-	-	-	-	-	-	-	2	-	-	-	1
Beastility	-	-	-	-	-	-	-	-	-	-	-	-	1
All sexual offences	31	34	26	34	39	35	41	35	47	52	33	42	45

Source: Royal Bhutan Police, Thimphu.

Number of sexual offences, 1990 to 1998 (see table 16.3)

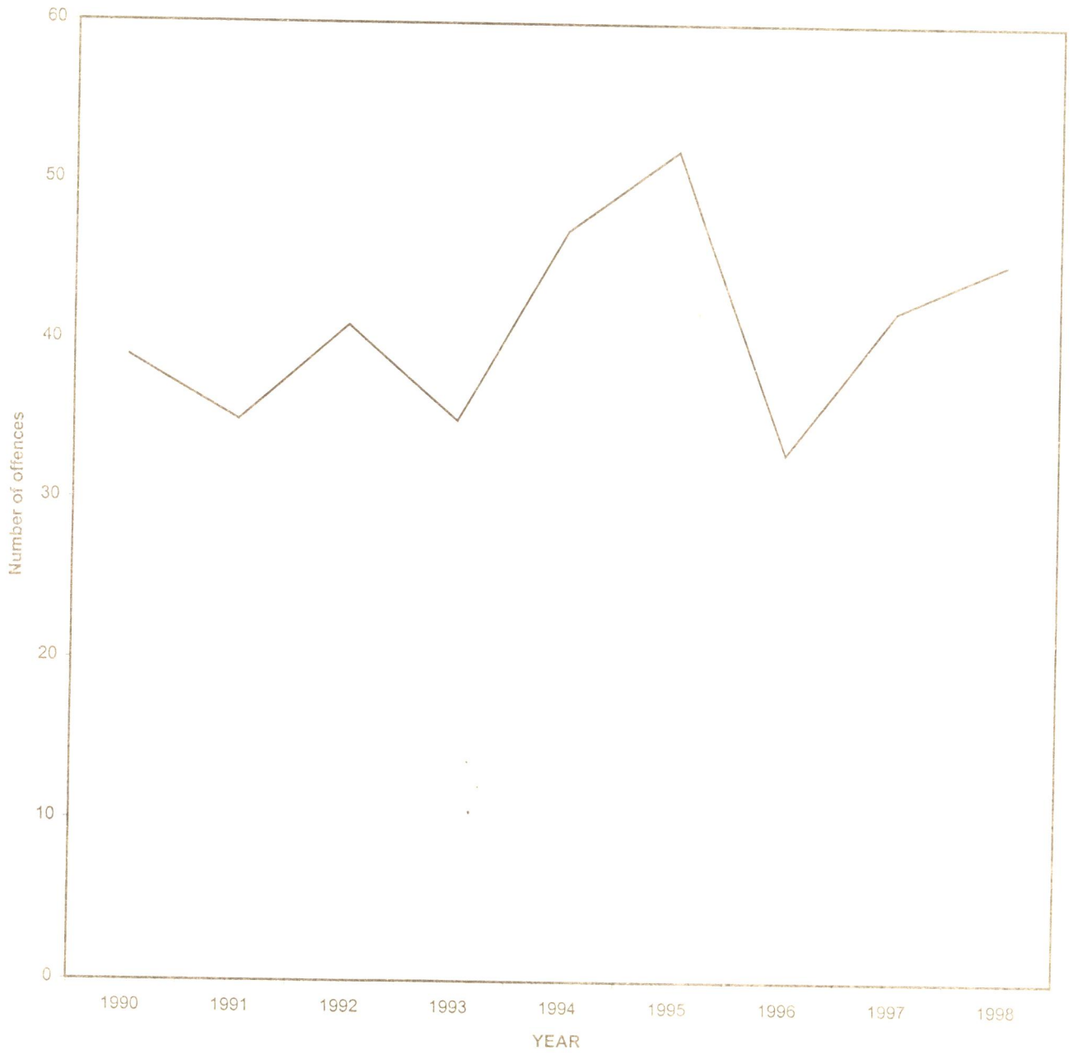


TABLE 16.4: DETAILS OF CRIME AGAINST PROPERTY, BHUTAN, 1986 TO 1998.

(numbers)

Details	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Theft	442	539	441	501	501	354	534	427	383	383	356	325	288
Burglary	8	17	28	118	110	93	86	109	126	126	156	94	142
House breaking	8	11	30	13	18	11	6	7	4	4	3	4	3
Robbery	11	8	13	16	15	48	73	60	45	28	27	14	18
Dacoity	-	6	9	15	21	74	128	139	108	58	25	32	12
Pick pocketing	7	11	6	19	9	3	5	13	12	6	8	12	9
Cheating	28	27	36	33	31	26	38	22	29	18	19	38	22
Loss of property	12	16	32	16	25	26	33	52	40	36	31	38	23
Forgery	6	1	12	5	2	3	5	8	6	3	5	3	6
Criminal breach of trust	1	17	6	3	7	1	10	18	8	14	9	7	7
Embezzlement	4	4	2	4	2	4	-	4	2	5	5	2	2
Counterfeit of coin/notes	1	1	-	-	2	-	-	1	5	1	6	2	1
Misappropriation	5	5	-	2	-	-	3	1	1	6	6	1	2
Cattle lifting	2	12	14	24	16	50	25	28	41	29	24	25	23
Mischief	8	15	22	28	27	24	36	28	26	45	46	44	33
Extortion	2	4	-	2	2	1	3	4	7	7	3	4	1
Hijacking	-	-	-	-	-	7	11	9	12	4	2	2	-
Food adulteration	-	-	1	1	-	-	-	-	-	-	-	-	-
Attemted to robbery	-	-	1	-	-	2	1	3	5	2	2	5	1
Illegal tresspass	1	6	5	2	-	-	-	1	1	-	3	2	2
Attempted to theft	2	7	1	4	1	1	-	-	4	-	-	-	-
Snatching	-	-	-	-	-	-	-	-	-	-	-	-	1
House tresspass	-	-	-	-	2	2	3	2	1	2	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	9
Conspiracy	-	-	-	1	-	1	-	-	-	1	-	1	1
Weight and measurers	-	-	-	-	-	-	-	1	-	-	1	-	1
All crimes against proper	548	707	666	810	793	731	#####	944	875	783	747	674	609

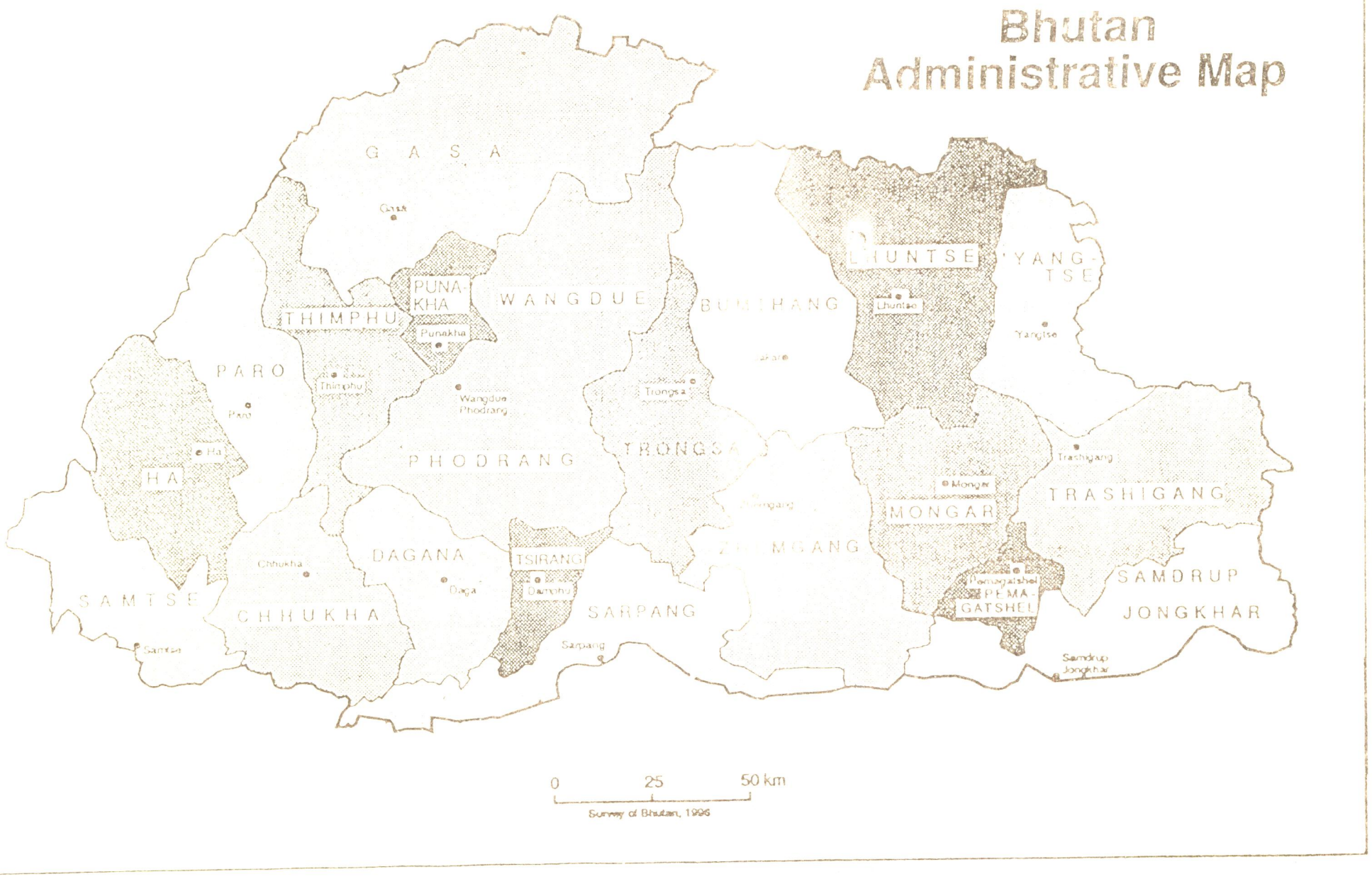
Source: Royal Bhutan Police, Thimphu.

TABLE 16.5:DETAILS OF MOTOR VEHICLE, ANTIQUES, FOREST OFFENCES AND FIRE INCIDENTS, BHUTAN,1986 TO 1998

(numbers)

Details	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Motor vehicle offences	244	313	387	475	383	276	310	354	335	334	333	319	233
Cycle accidents	-	-	2	-	-	3	1	-	-	1	-	2	2
Traffic voilation	20	21	115	144	104	37	25	62	23	48	35	35	5
Hit and run	3	25	16	31	20	15	29	9	25	16	23	17	8
Motor vehicle accident	221	267	254	299	258	220	255	283	283	261	260	259	205
Motor vehicle accident (fatal)	-	-	-	1	-	-	-	-	4	8	15	6	13
Accident pay loader	-	-	-	-	1	1	-	-	-	-	-	-	-
Forest offences	19	24	21	28	12	9	10	15	12	7	8	7	3
Illegal sale of musk	-	-	-	-	-	-	-	-	-	-	-	-	2
Poaching	11	9	8	8	5	5	1	9	4	2	3	5	1
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	1	25	45	112	125	103	88	191	171	144
Theft of antique	2	1	4	1	20	36	24	32	17	10	9	10	16
Chhoeten vandalism	-	-	-	-	4	9	87	92	83	77	179	151	116
Smuggling of antique	-	-	-	-	1	-	1	1	3	1	3	10	3
Theft from Lhakhang	-	-	-	-	-	-	-	-	-	-	-	-	9
Fire accident	43	65	58	60	63	60	44	44	48	59	48	47	28
Fire accident	43	65	58	60	52	52	37	33	40	52	44	40	24
Arson	-	-	-	-	11	8	7	11	8	7	4	7	4

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 Tsogom
3. Drametse Tsowom
4. Gungdue
5. Kengkhar
6. Jurme
7. Monggar
8. Ngatshang
9. Saleng
10. Silambi
11. Thangrong
12. Tsakaling
13. Tsamang
14. Sherimukhung

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

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 = 201

Source: Ministry of Home Affairs, Thimphu