

399

# STATISTICAL YEARBOOK OF BHUTAN 1991



CENTRAL STATISTICAL OFFICE  
Planning Commission

Royal Government of Bhutan  
Thimphu, July 1992

Catalogue No. 101

399

# STATISTICAL YEARBOOK OF BHUTAN 1991

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GENERAL INFORMATION	viii
PREFACE	ix
GOVERNMENT ORGANISATION CHART	x
INTRODUCTION	xi
<b>1: POPULATION</b>	
Introduction	1
Pyramid showing percentage distribution of population by age	3
Table 1.1 : Population estimates by age and sex, 1990	4
Table 1.2 : Population projection, 1991-2006, with different fertility and mortality parameters	5
Table 1.3 : Summary of population indicators, 1980 and 1990	6
Table 1.4 : Percentage of population by marital status and age, 1984	7
Table 1.5 : Summary of demographic indicators, 1984	8
<b>2 : HEALTH</b>	
Introduction	9
Table 2.1 : Summary of health facilities and personnel, 1985 to 1990	11
Table 2.2 : Health personnel by category, 1986 to 1990	12
Table 2.3 : Patients treated by basic health units by disease, sex and age, 1990	13
Table 2.4 : Patients treated in basic health units by disease, 1985 to 1990	14
Table 2.5 : Patients treated in each hospital, 1985 to 1990	15
Table 2.6 : Immunization activities, 1981 to 1990	16
Table 2.7 : Maternal and child health services, 1981 to 1990	17
Table 2.8 : Family planning acceptors by type of method, 1982 to 1990	17
Table 2.9 : Leprosy control programme, 1985 to 1990	18
Table 2.10: Malaria eradication programme, 1985 to 1990	18
Table 2.11: Tuberculosis Control Programme 1988 to 1990	19
<b>3 : EDUCATION</b>	
Introduction	20
Pie Chart ratio of Males and females of various educational institutes 1991	21
Table 3.1 : Summary of schools by Dzongkhag, 1991	22
Table 3.2 : Number of schools by Dzongkhag and type of school, 1991	23
Table 3.3 : Number of students by Dzongkhag and type of school, 1991	24
Table 3.4 : Number of students by type of school and grade, 1991	25

CONTENTS (Continued)	Page
Table 7.10: Number of telephone trunk calls sent by type 1987 to 1991	71
Table 7.11: Number of Post Offices and other communication facilities, 1980 and 1991	72
Table 7.12: Number of items of mail sent by type of item and destination, 1991	72
Table 7.13: Number and amounts of money order by type, 1980 and 1991	73
<b>8 : ENERGY</b>	
Introduction	74
Table 8.1 : Electricity generating stations and their capacity, 1989/90	75
Table 8.2 : Electricity supply, 1983/84 to 1989/90	76
Table 8.3 : Major transmission lines for evacuating Chhukha power, 1989/90	76
Table 8.4 : Electricity consumption, 1983/84 to 1989/90	77
Table 8.5 : Sales of energy from Chhukha Hydropower, 1986 to 1990	77
Table 8.6 : Consumption of electricity by type of consumer, 1989/90	77
<b>9 : TOURISM</b>	
Introduction	78
Table 9.1 : Tourist arrivals by country of residence, 1990	79
Table 9.2 : Tourist arrivals by country of residence and tourism revenues, 1984 to 1990	80
Table 9.3 : Tourist arrivals by purpose, 1985 to 1990	80
Table 9.4 : Tourist arrivals by month 1984 to 1991	80
<b>10: BALANCE OF PAYMENTS</b>	
Introduction	81
Table 10.1: Balance of payments estimates, 1982/83 to 1988/89	83
Table 10.2: Value of exports and imports, 1981 to 1990	84
Table 10.3: Value of exports and imports with India by commodity division, 1990	85
Table 10.4: Value of imports with India by commodity division 1990	87
Table 10.5: Gross international reserves, 1981/82 to 1990	89
Table 10.6: Exchange rates, Ngultrum/\$ US, 1981 to June 1990	90

CONTENTS (Continued)	Page
<b>11: MONEY, BANKING AND FINANCE</b>	
Introduction	91
Table 11.1: Monetary Survey - Royal Monetary Authority and Bank of Bhutan, 1983 to 1990	93
Table 11.2: Royal Insurance Corporation of Bhutan - financial statistics, 1983 to 1990	94
Table 11.3: Unit Trust of Bhutan - financial statistics, 1980 to 1990	95
Table 11.4: Deposit mobilisation and investment, 1981 to 1990	96
Table 11.5: Financial investments by sector- amounts outstanding, 1983 to March 1991	97
Table 11.6: Bank of Bhutan interest rates-deposits, 1982 to 1991	98
Table 11.7: Commercial bank interest rates - loans	99
<b>12: PUBLIC FINANCE</b>	
Introduction	100
Table 12.1: Current budgetary expenditure of the Government by Ministry, 1981/1982 to 1990/91	101
Table 12.2: Budgetary development expenditure of the Government by Ministry, 1981/82 to 1990/91	103
Table 12.3: Budgetary receipts of the Government by source, 1981/82 to 1990/91	105
Table 12.4: Summary of Budgetary operations, 1981/82 to 1990/91	107
<b>CHAPTER 13: PLAN OUTLAYS</b>	
Introduction	108
Bar chart showing outlays of Development Plan	109
Table 13.1: Outlays of Development Plans, First Plan to Seventh Plan	110
Table 13.2: Outlays of Development Plans, percentage by category, First Plan to Seventh Plan	111
Table 13.3: Proposed outlays by sector, Sixth Plan (1987-1992)	112
<b>14: GROSS DOMESTIC PRODUCT</b>	
Introduction	113
Table 14.1: Gross domestic product at factor cost in current prices by kind of activity, 1980 to 1991	114
Table 14.2: Gross domestic product at factor cost in 1980 prices by kind of activity, 1980 to 1991	115
Table 14.3: Gross domestic product by kind of activity: projections for the sixth plan	116



CONTENTS (Continued)	Page
Table 14.4: Gross domestic product and expenditure in current prices, 1980 to 1990	117
Table 14.5: National disposable income and its appropriation in current prices, 1980 to 1990	118
Table 14.6: Capital finance in current prices, 1980 to 1990	119
Table 14.7: All accounts- external transactions, 1980 to 1990	120
Table 14.8: Gross domestic product, its variants and related aggregates in current prices, 1980 to 1991	121
 <b>CHAPTER 15: PRICES</b>	
Introduction	122
Table 15.1: Chart showing Consumer Price Index 1982 to 1991 Consumer price indexes-food and non-food components, Bhutan, June 1982 to Dec. 1991	123
Table 15.2: Consumer price indexes- major components, Bhutan, June 1982 to Dec. 1991	124
Table 15.3: Thimphu food price index, December quarter 1987 to March quarter 1992	125
 <b>ANNEX I : ADMINISTRATIVE UNITS</b>	 127
<b>MAP OF BHUTAN</b>	130

## GENERAL INFORMATION

### EXPLANATION OF SYMBOLS

- n.a not available
- .. not applicable
- nil or rounded to zero
- \* sampling error too high for accurate estimation
- ( ) brackets signify negative numbers

### METRIC EQUIVALENTS

1 kilometre	=	0.62 miles
1 hectare	=	2.47 acres
1 square kilometre	=	0.386 square miles
1 litre	=	0.220 imperial gallons
1 kilogram	=	2.20 pounds
1 metric tonne	=	0.984 imperial tons

### 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 recent changes in the Dzongkhags following the creation of Punakha and Chhukha Dzongkhags and the abolition of Gasa Dzongkhag.

CONTENTS (Continued)	Page
Table 7.10: Number of telephone trunk calls sent by type 1987 to 1991	71
Table 7.11: Number of Post Offices and other communication facilities, 1980 and 1991	72
Table 7.12: Number of items of mail sent by type of item and destination, 1991	72
Table 7.13: Number and amounts of money order by type, 1980 and 1991	73
<b>8 : ENERGY</b>	
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Table 8.1 : Electricity generating stations and their capacity, 1989/90	75
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Table 8.5 : Sales of energy from Chhukha Hydropower, 1986 to 1990	77
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Introduction	78
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Table 10.3: Value of exports and imports with India by commodity division, 1990	85
Table 10.4: Value of imports with India by commodity division 1990	87
Table 10.5: Gross international reserves, 1981/82 to 1990	89
Table 10.6: Exchange rates, Ngultrum/\$ US, 1981 to June 1990	90

CONTENTS (Continued)	Page
<b>11: MONEY, BANKING AND FINANCE</b>	
Introduction	91
Table 11.1: Monetary Survey - Royal Monetary Authority and Bank of Bhutan, 1983 to 1990	93
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Introduction	100
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Table 12.4: Summary of Budgetary operations, 1981/82 to 1990/91	107
<b>CHAPTER 13: PLAN OUTLAYS</b>	
Introduction	108
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Table 14.2: Gross domestic product at factor cost in 1980 prices by kind of activity, 1980 to 1991	115
Table 14.3: Gross domestic product by kind of activity: projections for the sixth plan	116



CONTENTS (Continued)	Page
Table 14.4: Gross domestic product and expenditure in current prices, 1980 to 1990	117
Table 14.5: National disposable income and its appropriation in current prices, 1980 to 1990	118
Table 14.6: Capital finance in current prices, 1980 to 1990	119
Table 14.7: All accounts- external transactions, 1980 to 1990	120
Table 14.8: Gross domestic product, its variants and related aggregates in current prices, 1980 to 1991	121
<b>CHAPTER 15: PRICES</b>	
Introduction	122
Table 15.1: Chart showing Consumer Price Index 1982 to 1991	123
Table 15.2: Consumer price indexes-food and non-food components, Bhutan, June 1982 to Dec. 1991	124
Table 15.3: Consumer price indexes- major components, Bhutan, June 1982 to Dec. 1991	125
Table 15.4: Thimphu food price index, December quarter 1987 to March quarter 1992	126
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MAP OF BHUTAN	130

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PREFACE

This publication is the tenth in the series of annual statistical publications issued by the Central Statistical Office (CSO).

The purpose of the publication is to provide a summary of the more important statistics in Bhutan. 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.

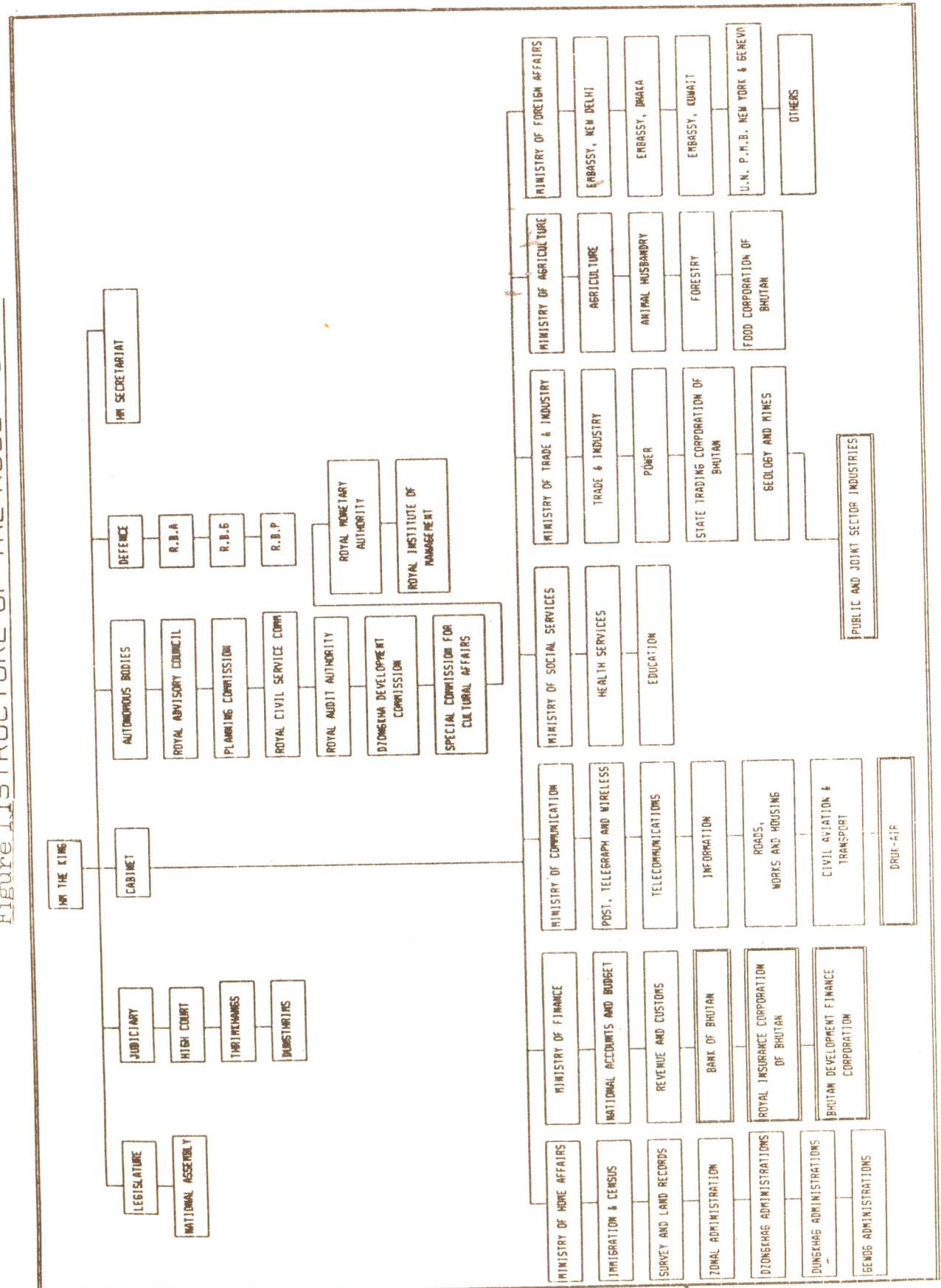
Much of the existing statistics in Bhutan are not yet considered to be fully reliable. In preparing the publication, attempts have been made to assess the quality of each data source and where appropriate, tables have been footnoted to highlight any shortcomings in the data. In cases where it is considered the publication might mislead, data have been omitted altogether leaving some apparent gaps in the statistical presentation.

Every effort has been made to ensure that the statistics given in the publication meet with 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.

The Central Statistical Office has embarked on a program to upgrade the statistical service in Bhutan. Over the next few years, a number of new statistical collections will be introduced to fill existing statistical gaps. At the same time, existing statistical systems will be reviewed and improvements made as necessary. As a result, the range and quality of statistics available in Bhutan should improve over the next few years, and this will be reflected in further upgradings of this publication in the future.

C. Dorji  
Minister,  
Planning Commission  
Royal Government of Bhutan  
Tashichhodzong  
July 1991.

Figure 1.1 STRUCTURE OF THE RGOB - 1992





BHUTAN AT A GLANCE

POPULATION			
Population (1990)	Number		600000
Area of Bhutan	sq. km.		46500
Population density (1986)	persons per sq. km.		13
Birth rate (1984)	per 1000 population		39.1
Death rate (1984)	per 1000 live births		19.3
Infant mortality (1989)			134
Life Expectancy (1984)			
males	years		45.8
females	years		49.1
Both	years		47.5
HEALTH (1991)			
Population per doctor			3822
Population per hospital bed			656
EDUCATION (1991)			
Number of schools			244
Number of students			50412
Number of teachers			2152
AGRICULTURE AND FORESTRY (1983)			
Agriculture land	000 hectares		355.9
Forested land	000 hectares		2839.9
TRANSPORT AND COMMUNICATION			
Road lengths (1987)	Km.		2418.5
ENERGY (1989/90)			
Electricity generation	MU		1557
Electricity sales	MU		1395.6
BALANCE OF PAYMENTS (1990/91)			
Value of exports	Nu. millions		1387.6
Value of imports	Nu. millions		1994.6
Trade balance	Nu. millions		-607
Current account balance	Nu. millions		-1211.6
overall balance	Nu. millions		185.6
International reserves			
Rupees	Rupees millions		246
Convertible currency	US \$ millions		78.8
GROSS DOMESTIC PRODUCT			
Agricultural sector (1986)	% of total		22.29
Real growth (1985 to 1986)	%		12.9
CONSUMER PRICE INDEX			
Change (Dec. 1990 to Dec. 1991)	%		13.3
Average change (1990 to 1991)	%		9.2

INTRODUCTION

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 kilometres.

Bhutan is landlocked. It is bordered by India in the south, and by the Tibetan Autonomous Region of China in the north and north-west.

Bhutan's borders are largely natural ones. The border with Tibet is traditional following the watershed of the Chumbi Valley in the north-west 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.

**Landforms** - Bhutan is almost entirely mountainous with flat land limited to the broader river valleys. The land rises from approximately 300 metres above sea level in the south to the towering Himalayan mountains in the north of over 7,000 metres high. The densely populated central valleys are separated from the south by a 2,000 metre 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 about 1,500 metres extending to the north by about 20 kilometres. Southern Bhutan consists of a heavy network of steep hills covered with large tracts of dense forest and jungles.

Central Bhutan consisting of the inner Himalayas rises gradually to about 3,000 metres. This region contains the broader river valleys - Paro, Thimphu, Punakha, Wangdiphodrang, Bumthang and Tashigang 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 principal crop and large tracts of forest 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 Kula Gangri and the Gangkar Punsum (both over 7,500 metres) and the Jomolhari (7316 metres) are the highest peaks in the Bhutan Himalaya. The slopes of the mountains are covered with birch, magnolia and rhododendron 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 a swiftly flowing rivers or streams which merge ultimately into four major river systems as they flow south - the Ammochu, the Wongchu, 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 months (June to September) and lowest in winter (December to March).

Climate - The country can be divided into three district 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 C and 30 C with rainfall ranging between 2,500 mm to 5,000 mm in some areas.

The central inner Himalayas has a cool temperate climate with annual rainfall averaging about 1,000 mm with the 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 south west monsoon accounting for 60-90 per cent 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 one with consequent sharp changes in the composition of agricultural production.

Widespread flood rainfall may occur during the summer monsoons and the waters of the valley rivers may swell dramatically, spreading across the plains and flooding fields, bridges and houses.

#### GOVERNMENT

The Monarchy - On December 17 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 far-sightedness of Ugyen Wangchuck that for the first time Bhutan was united under a central authority which provided the country with stability and the opportunity for development. In 1926 Ugyen Wangchuck was succeeded by his son Jigme Wangchuck, who ruled until his death in 1952.

The third Druk Gyalpo, Jigme Dorji Wangchuck began a campaign of modernisation 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 re-established in 1953.

The present Druk Gyalpo, His Majesty King Jigme Singye Wangchuck acceded to the throne in 1972 on the demise of his father. His Majesty the King is the Head of State and also the Head of Government. He is assisted by the Cabinet which consists of His Majesty's Representatives in various Ministries, Ministers and some senior civil servants.

The National Assembly - The National Assembly has 150 members of which 100 members represent the people. These are elected for a three year term by consensus in each of the Dzongkhags. Ten monastic representatives are elected by the regional monk bodies while forty representatives of the Government are nominated by the King. They include members of the Council of Ministers and the Royal Advisory Council, Secretaries of various Government Departments and several Dzongkhag officers.

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 Royal Advisory Council was formally established in 1965 to advise the King and Government Ministers and to supervise the implementation of programs and policies laid down by the National Assembly. It consists of 10 members. There are two members elected by the National Assembly and two members appointed by the King. The Chairman is nominated by the King from among the members.

The Monk Body - The Monk Body which currently has a strength of about 5,000 is financed by an annual subsidy from the Government and is the sole arbiter on religious matters. The Je Khempo is the Head of the Body chosen from among high ranking gelongs (monks). He is assisted by four high ranking "Lopens" of the Central Monk Body which consists of 1,000 gelongs.

Local Government - Local administration has been strengthened to meet the requirements of decentralised administration and development. There are 4 Zones and 18 Dzongkhags or Districts each under the charge of a Zonal Administrator and Dzongda responsible for civil administration and development activities. Basically, a Zone comprised of three to four Dzongkhags based upon their homogeneity and topographical structure. Each Dzongda is assisted a Dzongrab who is responsible for planning and development and civil administration. The larger Dzongkhags are subdivided into sub-divisions (Dungkhags) headed by a Dungpa. Groups of villages have a headman - the Gup (in the north) or Mandal (in



the south). In each Dzongkhag, the Dzongda is assisted in his development functions by the Dzongkhag Yargye Tschogchung (or District Development Committee) which consists of people's representatives and officials.

The Judiciary - Bhutan's legal code is based on that laid down by Ngawang Namgyal, the first Shabdung who arrived in Bhutan in 1616. Traditional Buddhist precepts are significantly maintained in the legal processes.

The High Court consists of six judges. Four of the judges are appointed by the King and two public representatives elected by the National Assembly subject to ratification by the King. There are courts in each Dzongkhag headed by a Thrimpon and assisted by Ramjams but minor disputes are settled by village gups.

## 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 and aim 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 demographic 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 vitals registration system does not currently provide 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 the 1984 Demographic Sample Survey. The interpretation of the major demographic indicators is 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 women aged 15 to 49.

Total fertility rate: average number of children born by women during their lifetime.

Gross reproduction rate: average number of daughters born by women during their lifetime.

Net reproduction rate: reproduction rate adjusted for mortality of women.

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.

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

### MAIN FEATURES

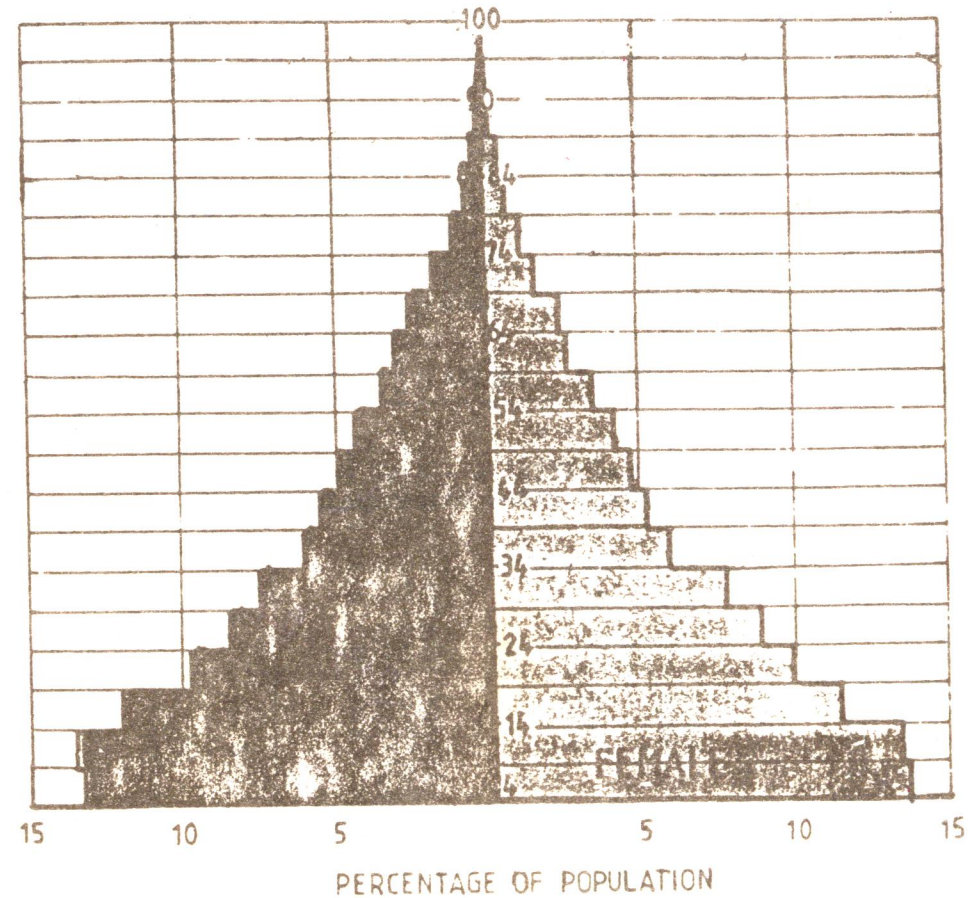
In 1990, the total population of Bhutan was estimated to be 60,000 of which 303,656 were males and 296,344 were females.

The birth rate in Bhutan was estimated in 1984 at 39.1 births per thousand population. The death rate at the same time was estimated at 19.3 deaths per thousand population. This represents an annual population growth rate of approximately 2 per cent.

In 1984, life expectancy was estimated at 45.8 years for males and 49.1 years for females. The expected number of live births for each woman during her lifetime was estimated at 5.9. There were an estimated 142 deaths of children in their first year per thousand live births.

The age, sex pyramid of Bhutan is constructed which has a broad base at age 0-14. The tapering is rapid at about the age of 84 years, a small percentage of the population is observed. This depicts that the population is very young.

### AGE-SEX PYRAMID



*REMOVE*



TABLE 1.1 : POPULATION ESTIMATES BY AGE AND SEX, 1990

Age Group	Person			Percent		
	Total	Males	Females	Total	Males	Females
0-4	81660	40568	41092	13.61	13.36	13.87
5-9	82200	41267	40933	13.70	13.59	13.82
10-14	71460	36499	34961	11.91	12.02	11.80
15-19	59760	29698	30062	9.96	9.78	10.14
20-24	53040	26540	26500	8.84	8.74	8.94
25-29	46380	23169	23211	7.73	7.63	7.84
30-34	36180	18644	17536	6.03	6.14	5.91
35-39	32640	16823	15817	5.44	5.54	5.33
40-44	29100	15152	13948	4.85	4.99	4.70
45-49	26640	13877	12763	4.44	4.57	4.30
50-54	22320	11539	10781	3.72	3.80	3.63
55-59	17040	8988	8052	2.84	2.96	2.71
60-64	15060	7622	7438	2.51	2.51	2.51
65-69	10380	5193	5187	1.73	1.71	1.75
70-74	7200	3583	3617	1.20	1.18	1.23
75 and over	8940	4494	4446	1.49	1.48	1.52
All ages	600000	303656	296344	100	100	100

Source : Ministry of Home Affairs - 1980 Population Census projected forward using Demographic methods.

*Remove*

*Note  
append  
6-9 - 65760  
10-12 - 42876  
108636*

*4.9%*

*213420*

TABLE 1.2 : POPULATION PROJECTIONS, 1991-2006, WITH DIFFERENT FERTILITY AND MORTALITY PARAMETERS

	Projections (a)								
	A	B	C	D	E	F	G	H	I
	POPULATION ('000)								
1991	614,400	615,000	616,200	612,600	613,800	614,400	611,400	612,000	613,200
1996	691,753	630,375	632,837	625,465	627,917	691,753	623,017	624,240	626,590
2001	778,845	646,134	649,924	638,599	642,360	778,845	634,854	636,725	640,478
2006	876,901	662,288	667,472	652,010	657,134	876,901	646,916	649,459	654,568
Total fertility rate	5.8	5.8	5.8	5.0	5.0	5.0	4.0	4.0	4.0
Crude birth rate, 2006	41.0	40.4	39.9	36.9	36.3	35.9	31.2	30.8	30.4
Crude death rate, 2006	17.6	14.1	11.3	17.2	13.8	11.2	16.7	13.4	10.9
Life expectancy, 2006	45.8	51.8	56.5	45.8	51.8	56.5	45.8	51.8	56.5
Males	48.7	55.0	60.0	48.7	55.0	60.0	48.7	55.0	60.0
Females	2.4	2.5	2.7	2.1	2.3	2.4	1.9	2.0	2.2
Average annual population growth 1986 to 2006 (%)	DEMOGRAPHIC ASSUMPTIONS								

(a) Projections based on nine different fertility and mortality assumptions (Projections A to I)  
 Source : 1980 Population Census projected forward using demographic methods based on nine different fertility and mortality assumptions (Projections A to I).

*Crude birth rate - line graph  
 per 1000 population  
 Crude death rate/1000 - "*

TABLE 1.3 : SUMMARY OF POPULATION INDICATORS, 1980 AND 1990

Population Indicators	1980	1990
Sex Ratio (Males/Females)	104.3	102.5
Age Composition (%)		
0-14	38.5	38.7
15-64	57.2	57.4
65 and over	4.3	3.9
Total	100.0	100.0
Dependency Ratio (a)		
Child dependency	67.3	67.4
Old age dependency	7.5	6.8
Total dependency	74.8	74.2
Index of aging (b)	11.2	10.1

(a) Dependency ratio measures the number of dependents as a percentage of the population aged 15 to 64. Child dependency refers to children aged 0-14, while old age dependency refers to persons aged 65 and over. (b) Index of aging refers to the number of persons aged 65 and over as a percentage of the number of persons aged 0 to 14.

Source : Derived measures based on population estimates in Table 1.1

TABLE 1.4 : PERCENTAGE OF POPULATION BY MARITAL STATUS AND AGE, 1984.

Age Group	Never Married		Married		Divorced/Separated		Widowed		Total	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
0-14	93.9	98.8	-	-	-	-	-	-	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	-	-	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 and over	6.5	4.2	75.4	58.8	2.3	4.8	15.7	32.2	100.0	100.0
ALL AGES	57.8	52.0	33.0	39.0	1.0	2.8	3.2	6.2	100.0	100.0

Note : Estimates less than 1 percent have been given as a "-".

Source : 1984 Demographic Sample Survey.



TABLE 1.5: SUMMARY OF DEMOGRAPHIC INDICATORS, 1984

Measures of Fertility and Mortality

FERTILITY		
Crude birth rate		39.1
General fertility rate		169.6
Total fertility rate		5.9
Gross reproduction rate		2.9
Net reproduction rate		1.9
Rate of natural increase (%)		2.0
Sexual Mean Age at first marriage	20.3	
MORTALITY		
Crude death rate		19.3
Infant mortality rate	1989	142.0
Life expectancy at birth:		
Males		45.8
Females		49.1

Note : For explanation of demographic indicators see Introduction to this Chapter.

Source : Analysis of 1984 Demographic Sample Survey.

2. HEALTH

INTRODUCTION\*

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

There are also a number of special health programs in Bhutan administered by the Department 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 types of illnesses 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 patient records of health units, while information on mortality rates and causes of death is usually obtained from vitals registration systems (ie the system of 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 on mortality is available. While a registration system is in place for the reporting of births and deaths, it is recognized that there is some undercoverage and problems with the identification of cause of death. Overall levels 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 vitals registration system.

MAIN FEATURES

In 1990, there were 28 hospitals, 71 basic health units and 44 dispensaries scattered across Bhutan. A total of 157 doctors and 760 paramedical workers devoted to the service of the health needs of the population. This represents one doctor for every 3822 population.

Information on diseases of patients treated in basic health

TE] TB = G  
G TB  
= TW



units and dispensaries, as summarized in Tables 2.3 and 2.4 provides a guide to the health problems of the people. The major diseases are respiratory problems (20.0 per cent of patients treated in 1990) and diarrhoea/dysentery (15.1 per cent). Worms, skin infection and malaria were also widespread.

The immunization program has been given special priority in the administration of health services. In 1990, over 20,100 children were vaccinated for BCG, 14,000 against measles, about 37,400 against diphtheria and 37,700 against poliomyelitis. The numbers were substantially higher than the previous year.

Maternal and child health services are an important part of the health services. In 1990, total attendance at maternal health clinics was over 86,532 and child health services was over 182,442.

Malaria is still an endemic disease in Southern Bhutan. Blood examinations carried out as part of the malaria eradication program produced over 9,500 positive readings during 1990. Leprosy is also a problem in some areas and at the end of 1990, leprosy hospitals had 249 patients including 58 new cases detected during the year.

TABLE 2.1: SUMMARY OF HEALTH FACILITIES AND PERSONNEL, 1990 TO 1991

	1990	1991	1992
Hospitals	26	26	26
Basic Health Units	71	74	79
Dispensaries	44	43	41
Indigenous Hospitals	1	1	?
Indigenous dispensaries	6	6	?
Hospital beds	944	914	?
Doctors (a)	157	109	?
Paramedical Workers	760	797	
Population per doctor	3,822	-	
Population per paramedical	789	-	
Population per bed	636	656	
Population covered by Health care (%)	65	90	

(a) Includes doctors in administrative services.

Source : Department of Health.

TABLE 2.2 : HEALTH PERSONNEL BY CATEGORY, 1986 TO 1990.

Category	1986	1987	1988	1989	1990	1991	1992
Doctors	134	138	138	157	157	109	?
Health Assistants	85	91	100	119	117	115	
Basic health workers	85	91	97	91	114	127	
Sister and nurses	252	279	303	317	325	316	
Other technicians	119	150	178	144	182	239	
Indigenous physicians	11	11	10	12	12	14	
Indigenous compounders	-	9	9	10	10	8	
ALL HEALTH PERSONNEL	686	769	835	850	917	928	

Source : Department of Health.

Health



*No data for 93*

TABLE 2.3 : PATIENTS TREATED BY BASIC HEALTH UNITS BY DISEASE, SEX AND AGE, 1990. ('000)

Disease	Age 0-14		Age 15 and over		All Persons	Percentage
	Males	Females	Males	Females		
Diarrhoea/Dysentery	25.1	21.5	17.6	13.8	31.4	78.7
Respiratory tract infection	21.3	23.3	31.4	28.0	59.4	104.0
Worms	14.5	15.0	13.3	12.5	25.8	55.3
Skin infection	18.0	19.5	18.6	13.8	32.4	69.9
Malaria/P.U.O	9.1	8.8	13.1	10.8	23.9	41.8
Conjunctivitis	7.8	8.3	10.2	9.6	19.8	35.9
Otitis media	4.1	3.9	1.5	1.3	2.8	2.1
Nutritional deficiency	4.6	5.1	6.9	9.6	16.5	26.2
Peptic ulcer syndrome	1.3	1.5	9.8	9.7	19.5	22.3
Disease of teeth and gum	1.1	1.2	3.7	3.5	7.2	9.5
Urinary tract infection and nephritis	1.0	1.3	3.0	3.2	6.2	8.5
Injuries	4.7	3.7	8.4	4.7	14.0	22.4
Sexually transmitted diseases	-	0.2	0.7	0.5	1.2	1.4
Other childhood diseases	0.9	0.8	0.4	0.4	0.8	2.5
Diseases of female genital tract	-	0.1	0.0	1.4	1.4	1.5
Complication of pregnancy and child birth peuperum	-	-	-	1.3	1.3	1.3
Others	3.4	4.0	7.4	9.9	21.0	28.4
All DISEASES	116.9	118.2	235.1	134.0	284.6	520.4

Source : Department of Health.

*Handwritten notes:*  
 1990 41  
 1985 276  
 1986 276  
 1987 276  
 1988 276  
 1989 276  
 1990 276

TABLE 2.4 : PATIENTS TREATED IN BASIC HEALTH UNITS BY DISEASE, 1985 TO 1989 ('000)

Disease	Persons					Percentage						
	1985	1986	1987	1988	1989	1990	1985	1986	1987	1988	1989	1990
Diarrhoea/Dysentery	52.7	61.9	65.7	64.3	65.3	78.7	18.2	17.5	15.6	15.0	15.3	15.1
Respiratory tract infection	48.1	58.6	70.4	78.0	82.6	104.0	16.6	16.5	16.7	18.2	19.3	20.0
Worms	33.7	41.4	46.4	55.0	43.6	55.3	11.6	11.7	11.0	12.8	10.2	10.6
Skin infection	34.1	39.8	53.9	50.9	48.4	69.9	11.8	11.2	12.8	11.9	11.3	13.4
Malaria/P.U.O	30.2	30.0	33.4	35.7	40.6	41.8	10.4	8.5	7.9	8.3	9.5	8.0
Conjunctivitis	12.5	17.2	17.5	25.4	25.6	35.9	4.3	4.8	4.2	5.9	6.0	6.9
Otitis media	7.8	7.3	10.8	9.3	9.3	10.8	2.7	2.1	2.6	2.2	2.2	2.1
Nutritional deficiency	20.8	24.0	32.7	27.0	25.9	26.2	7.2	6.8	7.8	6.3	6.1	5.0
Peptic ulcer syndrome	10.9	14.4	14.9	14.9	18.9	22.3	3.7	4.1	3.6	4.4	4.4	4.3
Disease of teeth and gum	5.3	6.9	8.7	8.1	7.9	9.5	1.8	2.0	2.1	1.9	1.8	1.8
Urinary tract infection and nephritis	5.1	6.3	4.7	6.5	6.2	8.5	1.7	1.8	1.1	1.5	1.4	1.6
Injuries	2.7	19.3	19.9	17.6	16.9	22.4	0.9	5.4	4.7	4.1	4.0	4.3
Sexually transmitted diseases	2.1	2.7	1.7	1.3	1.1	1.4	0.7	0.6	0.4	0.3	0.3	0.3
Other childhood diseases	1.3	3.8	3.5	2.4	2.6	2.5	0.4	1.1	0.8	0.6	0.6	0.5
Disease of female genital tract	1.0	1.2	1.5	1.4	1.3	1.5	0.3	0.3	0.4	0.3	0.3	0.3
Complication of pregnancy and child birth peuperum	n.a	0.6	0.7	0.8	1.1	1.3	n.a	0.2	0.2	0.2	0.3	0.3
Others	21.5	19.0	34.1	30.0	30.3	28.4	7.4	5.4	8.1	7.0	7.1	4.5
All DISEASES	289.6	354.3	422.6	428.5	427.6	520.4	100.0	100.0	100.0	100.0	100.0	100.0

Source : Department of Health.



TABLE 2.5 : PATIENTS TREATED IN EACH HOSPITAL, 1985 TO 1990  
( '000 )

Hospital	1985	1986	1987	1988	1989	1990	1993	1992
<b>Government Hospitals</b>								
Bumthang	19.1	9.6	10.4	8.1	6.4	4.4	4963	
Chirang	11.8	29.4	24.9	23.5	23.8	20.3	18256	
Geylegphug(b)	50.4	70.4	66.4	67.7	60.0	46.6	69597	
Pemagatsel	9.9	8.9	8.7	8.4	6.1	7.6	8473	
Paro	16.7	17.2	19.4	17.4	28.9	40.1	24037	
Phuntsholing	21.4	18.5	24.4	22.5	16.4	33.1	47355	
Samdrupjongkhar	12.8	15.1	16.0	16.5	22.5	25.8	28008	
Samchi	6.0	27.5	24.8	25.9	21.3	22.1	20678	
Sarbhang	6.1	21.7	21.8	22.9	-	46.6	38607	
Sibsü	4.1	15.8	12.3	11.2	8.9	9.4	6623	
Thimphu	98.4	122.4	125.1	98.6	129.6	145.0	189520	
Tashigang	7.9	27.9	19.3	19.5	17.2	28.6	19018	
Tshimalakha	-	6.9	6.6	11.2	24.7	20.5	21356	
Tongsa	2.1	2.5	4.8	4.9	5.9	7.0	7054	
<b>Leprosy Mission Hospitals</b>								
Gidakom	1.9	7.2	9.1	9.2	4.8	10.0	4103	
Lhuntshi	3.6	3.7	4.7	5.7	5.5	7.0	8545	
Mongar	10.9	13.4	11.1	12.9	10.0	11.0	18559	
Riserboo	2.9	12.0	5.0	7.0	n.a	3.6	6631	
Yebilepcha(Shemgang)	4.2	4.5	3.8	5.0	4.1	6.2	8262	
<b>Army Hospitals</b>								
Lungtenphug	29.4	27.9	n.a	51.7	n.a	n.a	-	
Wangdiphodrang	18.9	13.2	17.4	16.8	31.0	28.5	32122	
Yonphula	n.a	n.a	n.a	n.a	n.a	7.0	7769	
Imtrat (Haa)	n.a	n.a	n.a	n.a	n.a	24.1	23602	
Dantak (Deothang)	n.a	n.a	n.a	n.a	n.a	24.1	-	
IBFH (Thimphu)	n.a	n.a	n.a	n.a	n.a	56.9	55709	
<b>Project Hospitals</b>								
Gomtu	n.a	n.a	n.a	n.a	n.a	26.1	34289	
<b>Indigenous Hospital</b>								
Dispensary	26.9	25.1	22.8	19.0	18.0	17.0	33082	
<b>ALL HOSPITALS (c)</b>	374.2	536.2	492.4	522.1	463.5	720.4	522.2	463.1

(a) Comparisons over time may be affected by different coverage in each year.  
 (b) Figure includes both Geylegphug and Sarbhang hospitals. (c) Total patient numbers exclude hospitals for which data were not available for 1989.  
 (d) The activities of Indegineous dispensaries have been reflected in this table.

Total figure not correct

73846  
33082  
40764

8  
4.4  
13.4  
5  
674.4

194.4

TABLE 2.6: IMMUNIZATION ACTIVITIES, 1981 TO 1990.

( '000 children )

Immunization	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
BCG	26.9	17.0	20.5	20.3	17.4	28.5	28.2	24.8	26.9	20.1
DPT1	9.4	7.7	11.8	13.2	14.1	21.6	25.5	21.8	23.7	19.6
DPT3	5.4	4.2	7.4	7.5	10.1	14.8	21.4	17.9	21.8	17.8
OPV1	11.7	7.6	10.9	13.2	13.3	20.9	25.4	21.5	24.1	19.8
OPV3	4.6	4.2	6.1	7.2	10.2	14.2	21.3	17.5	22.2	17.9
Measles	9.0	8.7	9.4	12.7	12.5	17.1	21.5	16.9	21.3	14.0
TT1	-	-	-	2.3	5.3	4.9	8.4	8.9	11.5	10.3
TT2	-	-	-	1.0	1.5	2.4	4.9	5.2	7.5	7.4

1993 1992  
16732  
16427  
15059  
16973  
15337  
12238  
6672  
4529

Source : Department of Health.



① I M R - Line graphs

② Hospital admissions per 100,000 popn (B G)

③ Hospital outpatients per 100,000 population (B G)

④ Number of hospitals per 100,000 population (B G)

TABLE 2.7: MATERNAL AND CHILD HEALTH SERVICES, 1981 TO 1990.

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
<b>MATERNAL HEALTH SERVICES</b>										
Attendance (a)	3,807	4,360	5,106	7,841	13,548	18,532	26,662	29,425	33,324	40,616
Antenatal	4,806	4,903	9,834	13,141	18,080	22,803	37,476	34,277	36,406	45,916
Postnatal	8,613	9,263	14,940	20,982	31,628	41,335	64,138	63,702	69,730	86,532
Total attendance										
Deliveries attended	683	721	658	822	497	800	2,170	1,838	2,258	2,450
Home (b)	213	310	489	1,460	1,817	3,007	2,491	3,086	3,568	3,513
Hospital/Basic Units										
Total deliveries	896	1,031	1,147	2,282	2,314	3,807	4,661	4,924	5,846	5,963
<b>CHILD HEALTH SERVICES</b>										
Attendance	4,608	6,321	8,524	11,967	17,734	23,996	33,240	26,090	35,784	25,465
First visit	36,688	36,543	36,084	65,526	93,275	90,754	163,161	136,450	151,526	156,979
Repeat visit	41,296	42,864	44,608	77,493	111,009	114,750	196,401	162,540	187,310	182,442
Total attendance										
Malnourished children (c)	11,344	11,020	10,610	12,934	12,456	9,030	15,502	8,334	10,807	12,155
All malnourished	1,092	1,087	1,116	1,114	1,250	953	2,020	876	1,145	2,967
Third degree										

(a) Refers to total attendance, not a count of individuals. (b) Home deliveries are those attended by health staff. Many women attending health units for antenatal care have deliveries at home without attendance by health staff and are not included in the delivery figures. (c) Children attending health units are classified according to three degree of malnourishment. Third degree malnourishment refers to the most severe cases.

Source: Department of Health.

③ Number of beds (100,000 popn (B G))

④ Cost of expenditure on health/hospitals and % of total govt. Expenditure (B G)

TABLE 2.8: FAMILY PLANNING ACCEPTORS BY TYPE OF METHOD, 1982 TO 1990.

Method of family planning	1982	1983	1984	1985	1986	1987	1988	1989	1990
Vasectomy	210	851	637	447	414	552	897	1,961	1120
Minilap	12	490	430	371	428	470	379	506	301
Intra uterine device (IUD)	180	387	337	584	896	665	619	757	987
Pills	1,242	1,599	1,440	4,314	6,355	6,036	5,663	7,168	5675
Condoms	168	197	390	1,159	2,846	1,099	897	1,476	2049
Injection DMPA	-	-	84	-	81	78	48	125	50
<b>ALL METHODS</b>	<b>1,812</b>	<b>3,524</b>	<b>3,318</b>	<b>6,875</b>	<b>11,020</b>	<b>8,900</b>	<b>8,503</b>	<b>11,993</b>	<b>10,182</b>

Source: Department of Health.

TABLE 2.9: LEPROSY CONTROL PROGRAMME, 1985 TO 1990.

	1985	1986	1987	1988(c)	1989	1990
Patients at beginning of the year	2,478	2,233	1,674	1,018	601	405
New cases detected	113	71	88	69	57	58
Relapse cases	5	9	6	11	3	12
Deaths	47	33	33	20	12	7
Released from control(a)	215	546	534	447	282	209
Lost to control(b)	101	60	18	30	14	11
Patients at the end of the year	2,233	1,674	1,183	601	353	249

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

Source: Department of Health.



TABLE 2.10: MALARIA ERADICATION PROGRAMME, 1985 TO 1989

('000)

	1985	1986	1987	1988	1989
Population in malaria areas	148.0	158.0	161.0	173.0	176.9
Blood film examined	69.4	82.4	69.0	51.2	71.7
Blood slide positive	16.0	16.5	13.1	11.3	19.2

Source : Department of Health.

TABLE 2.11 TUBERCULOSIS CONTROL PROGRAMME

Description	Year	A L L A G E S						Total		
		Pulmonary			Extrapulmonary			Male	Femal	Total
		Male	Femal	Total	Male	Femal	Total			
1. No. of cases beginning of the year	1988	995	686	1681	224	230	454	1219	916	2135
	1989	1119	821	1940	338	288	626	1457	1109	2566
	1990	1565	1181	2746	400	380	780	1965	1561	3526
2. No. of new cases	1988	379	309	688	215	178	393	594	487	1081
	1989	574	432	1006	167	171	338	741	603	1344
	1990	423	308	731	185	188	373	608	496	1104
3. No. of Relapsed	1988	23	14	37	2	6	8	25	20	45
	1989	73	80	153	15	13	28	88	93	181
	1990	30	10	40	4	6	10	34	16	50
4. No. of deaths	1988	20	9	29	6	5	11	26	14	40
	1989	6	20	26	7	7	14	13	27	40
	1990	22	10	32	7	7	14	29	17	46
5. No. of completed treatment	1988	181	102	283	51	81	132	237	183	420
	1989	233	151	384	64	66	130	287	217	504
	1990	82	54	136	30	42	72	112	96	208
6. Cost control	1988	77	77	154	46	40	86	123	117	240
	1989	107	86	193	83	52	135	180	138	318
	1990	72	59	131	39	24	63	111	83	194
7. No. of cases at the end of the year	1988	1119	821	1940	338	288	626	1457	1109	2566
	1989	1420	1076	2496	366	347	713	1786	1423	3209
	1990	1842	1376	3218	513	501	1014	2355	1877	4232

Sources : Health bulletin 1990.

get for 1993  
3577

154  
193  
131  
361



TABLE 3.1 : SUMMARY OF SCHOOLS BY DZONGKHAG, 1991

Dzongkhag	No. of schools	No. of teachers	No. of students		
			Males	Females	Persons
Thimphu	18	390	4,883	4,593	9,476
Chhukha	21	176	2,438	1,659	4,097
Ha	7	80	929	737	1,666
Paro	11	146	2,139	1,526	3,665
Samchi	6	68	988	669	1,657
Chirang	1	4	21	23	44
Daga	3	31	451	281	732
Punakha	10	100	1,188	861	2,049
Wangdiphodrang	13	130	1,311	1,088	2,399
Bumthang	10	72	845	757	1,602
Sarbang	3	32	392	304	696
Shemgang	18	123	1,815	844	2,659
Tongsa	8	78	765	597	1,362
Lhuntshi	10	61	910	450	1,360
Mongar	21	127	2,068	1,035	3,103
Pemagatsel	12	83	1,452	743	2,195
Samdrupjongkhar	17	135	2,319	1,266	3,585
Tashigang	55	317	5,169	2,896	8,065
BHUTAN	244	2,153	30,083	20,329	50,412

Source: Department of Education, General Statistics, July 1991.

TABLE 3.2 : NUMBER OF SCHOOLS BY DZONGKHAG AND TYPE OF SCHOOL, 1991

Dzongkhag	Community School	Primary Schools	Junior high Schools	High schools	All Schools
Thimphu	0	14	2	2	18
Chhukha	9	10	1	1	21
Ha	1	5	1	-	7
Paro	1	8	1	1	11
Samchi	-	6	-	-	6
Chirang	-	1	-	-	1
Daga	-	2	1	-	3
Punakha	3	6	-	1	10
Wangdiphodrang	4	8	1	-	13
Bumthang	5	4	1	-	10
Sarbang	1	2	-	-	3
Shemgang	3	14	-	1	18
Tongsa	4	3	1	-	8
Lhuntshi	5	4	1	-	10
Mongar	9	11	-	1	21
Pemagatsel	6	5	1	-	12
Samdrupjongkhar	7	9	1	-	17
Tashigang	26	26	2	1	55
BHUTAN	84	138	14	8	244

Source : Department of Education.



Table  
look for 1993

TABLE 3.3: NUMBER OF STUDENTS BY DZONGKHAG AND TYPE OF SCHOOL, 1991.

Dzongkhag	Primary Schools	Junior High Schools	High Schools	All schools		
				Males	Females	Persons
Thimphu	8,634	557	285	4,883	4,593	9,476
Chhukha	3,829	172	96	2,438	1,659	4,097
Ha	1,514	152	-	929	737	1,666
Paro	3,323	211	131	2,139	1,526	3,665
Samchi	1,657	-	-	988	669	1,657
Chirang	44	-	-	21	23	44
Daga	674	58	-	451	281	732
Punakha	1,609	199	241	1,188	861	2,049
Wangdiphodrang	2,347	52	-	1,311	1,088	2,399
Bumthang	1,496	106	-	845	757	1,602
Geylegphug	696	-	-	392	304	696
Shemgang	2,337	182	140	1,815	844	2,659
Tongsa	1,167	195	-	765	597	1,362
Lhuntshi	1,322	38	-	910	450	1,360
Mongar	2,768	156	179	2,068	1,035	3,103
Pemagatsel	2,098	97	-	1,452	743	2,195
Samdrupjongkhar	3,585	-	-	2,319	1,266	3,583
Tashigang	7,447	385	233	5,169	2,896	8,065
BHUTAN	46,547	2,560	1,305	30,083	20,329	50,412

Source: Department of Education.

TABLE 3.4: NUMBER OF STUDENTS BY TYPE OF SCHOOL AND GRADE, 1991.

Grade	Community Schools			Primary Schools			Jr. High Schools			High Schools			All Schools		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
PP	2,787	1,979	4,766	4,440	3,350	7,790	441	411	852	-	-	-	7,668	5,740	13,308
I	366	208	574	4,366	3,030	7,396	403	334	737	-	-	-	5,135	3,572	8,707
II	108	65	173	3,697	2,427	6,124	421	369	790	-	-	-	4,226	2,861	7,087
III	40	23	63	3,154	2,034	5,188	490	395	885	-	-	-	3,684	2,452	6,136
IV	-	-	-	2,322	1,626	3,948	549	408	957	-	-	-	2,871	2,034	4,905
V	-	-	-	1,587	964	2,551	467	323	790	67	59	126	2,121	1,346	3,467
VI	-	-	-	1,113	697	1,810	467	327	794	101	102	203	1,681	1,126	2,807
VII	-	-	-	-	-	-	480	249	729	405	247	652	1,885	496	1,381
VIII	-	-	-	-	-	-	401	130	531	444	234	678	845	364	1,209
IX	-	-	-	-	-	-	-	-	-	531	189	720	531	189	720
X	-	-	-	-	-	-	-	-	-	436	149	585	436	149	585
Total	3,301	2,275	5,576	20,679	14,128	34,807	4,119	2,946	7,065	1,984	980	2,964	30,083	20,329	50,412

Source: Department of Education.



TABLE 3.5: NUMBER OF STUDENTS BY GRADE, 1981 TO 1991

Grade	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<b>Primary grades</b>													
Pre-primary	16,428	17,366	19,217	20,085	20,375	18,431	15,579	14,323	16,042	15,155	13,408	12,156	12,515
I	6,191	6,446	7,018	7,705	8,359	9,814	13,094	13,313	13,756	13,151	8,708	12,576	11,662
II	4,364	4,995	5,307	5,668	6,064	6,760	7,365	9,423	10,798	11,385	7,087	8,265	9,733
III	3,395	3,805	4,331	4,682	4,986	5,361	5,867	6,490	7,754	8,684	6,136	7,137	7,643
IV	2,332	2,745	3,147	3,426	3,690	3,957	4,257	5,048	5,815	6,888	4,905	5,753	5,533
V	1,751	2,047	2,352	2,709	2,967	3,029	3,158	3,728	4,046	4,527	3,467	4,148	5,294
VI	34,481	37,404	41,372	44,275	46,441	49,485	51,948	55,340	61,575	63,643	46,517	51,411	52,773
Total Primary													
<b>Junior High grades</b>													
VI	732	950	1,059	1,249	1,149	-	-	-	-	-	-	-	-
VII	693	700	869	995	1,129	1,132	1,107	1,277	1,552	1,659	1,381	1,660	2,215
VIII	431	609	700	809	908	1,071	1,000	1,142	1,241	1,453	1,209	1,354	1,672
Total Junior High	1,856	2,259	2,628	3,053	3,184	2,203	2,107	2,419	2,793	3,112	2,590	2,044	2,887
<b>High School grades</b>													
IX	194	239	263	336	391	408	528	558	642	698	720	714	848
X	174	162	218	219	295	356	344	479	523	560	585	624	594
Total High School	368	401	481	555	686	764	872	1,037	1,165	1,258	1,305	1,338	1,434
Total students	36,705	40,064	44,481	47,883	50,311	52,452	54,927	58,796	65,533	68,013	50,412	55,793	62,084

Source: Department of Education.

TABLE 3.6: NUMBER OF INSTITUTIONS, TEACHERS AND STUDENTS BY TYPE OF SCHOOL, 1991.

	Primary School	Junior High School	High School	Total
No. of Schools	222	14	8	244
No. of Teachers	1,590	349	214	2,153
Students				
Males	23,980	4,119	1,984	30,083
Females	16,403	2,946	980	20,329
Persons	40,383	7,065	2,964	50,412
Student/Teacher ratio	25	20	14	23

Source: Department of Education.

TABLE 3.7: SUMMARY OF TEACHERS BY DZONGKHAG &amp; TYPE OF SCHOOL, 1991.

Dzongkhag	Primary schools	Junior High Schools	High Schools	All Schools
Thimphu	257	69	64	390
Chhukha	139	16	21	176
Ha	56	24	-	80
Paro	98	27	21	146
Samchi	68	-	-	68
Chirang	4	-	-	4
Daga	16	15	-	31
Punakha	71	-	29	100
Wangdiphodrang	101	29	-	130
Bumthang	52	20	-	72
Geylegphug	32	-	24	32
Shemgang	99	-	-	123
Tongsa	43	35	-	78
Lhuntshi	41	20	-	61
Mongar	98	-	29	127
Pemagatsel	52	31	-	83
Samdrupjongkhar	124	11	-	135
Tashigang	239	52	26	317
<b>BHUTAN</b>	<b>1,590</b>	<b>349</b>	<b>214</b>	<b>2,153</b>

Source: Department of Education, data inclusive of community school.



TABLE 3.8: CATEGORY OF TEACHERS BY QUALIFICATION & NATIONALITY, 1991

Qualification	National		Non-national	Persons
<b>Trained</b>				
Post Graduate	10		80	90
Graduate	44		173	217
H.Secondry	42		39	81
Matriculate	376		19	395
Volunteers	-		18	18
DLT	381		-	381
Unmatric	345		1	346
Others	15		2	17
<b>Total Trained</b>	<b>1213</b>		<b>338</b>	<b>1551</b>
<b>Untrained</b>				
Post Graduate	3		76	79
Graduate	23		322	79
H.Secondry	18		41	345
Matriculate	56		23	59
Unmatric	27		-	27
Others	13		-	13
<b>Total Untrained</b>	<b>140</b>		<b>462</b>	<b>602</b>
<b>TOTAL Teachers</b>	<b>1,353</b>		<b>800</b>	<b>2,153</b>

Source : Department of Education.

TABLE 3.9 : SUMMARY OF SCHOOLS AND INSTITUTES BY ENROLMENT, 1991.

Schools/institutes	Students			Teachers
	Males	Females	Total	
Primary Schools	23,980	16,403	40,383	1,590
Junior High Schools	4,119	2,946	7,065	349
High Schools	1,984	980	2,964	214
Sherubtshe College	327	56	383	36
National Institute of Education	120	65	185	52
Teachers' Training Centre	120	65	185	25
Royal Bhutan Polytechnic	155	9	164	25
Royal Technical Institute	227	48	275	39
National Trade Training Institu	34	-	34	9
Simtokha Rigney School	455	107	562	26
Zangley Muenselling School for the Blind	17	7	24	9

Source : Department of Education. College enrolment includes class XII from YHS.

## 4. HUMAN RESOURCES

### INTRODUCTION

The economy of Bhutan is characterized by the predominance of people engaged in self-employment, particularly those working 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 (ie. 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, earnings 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 sources, 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.

### MAIN FEATURES

In 1984, over 93 per cent of the population aged 15 to 64 were engaged in some economic activity, including 90 per cent of the males and over 96 per cent of the females. For males, 78 per cent were engaged in agriculture and 12 per cent in other activities, while for females over 95 per cent were engaged in agriculture and only one per cent in other activities.

As of December 1991, total civil service employment amounted to 11,228. There has been a substantial reduction in the number of the civil service employees since January 1987 as a result of the government's policy for a small, compact, efficient government.



Number of Employee in Civil Service  
By Ministry, 1990 & 1991.

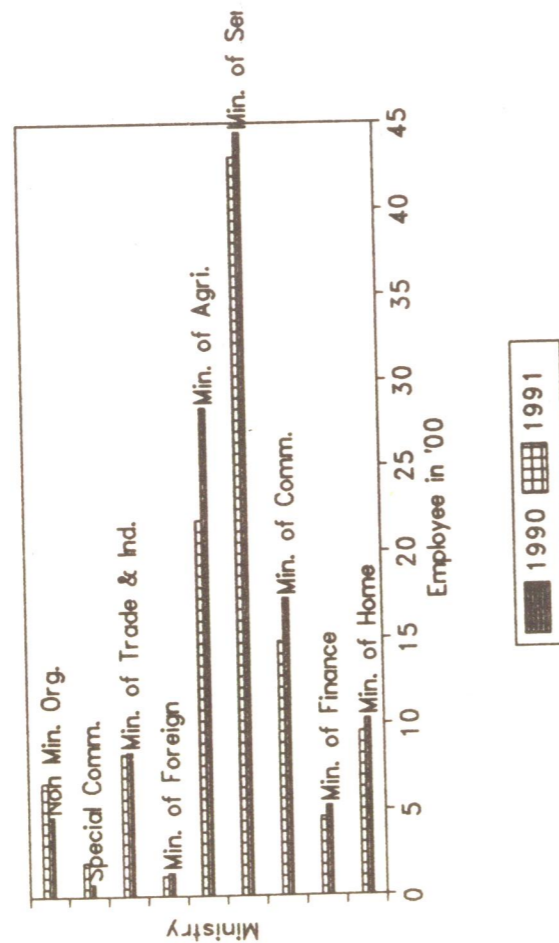


TABLE 4.1: PERCENTAGE OF POPULATION ACCORDING TO ECONOMIC ACTIVITY BY AGE AND SEX, 1984

Age group	Agriculture	Government service	Business	Others	No Occupation	Total
MALES						
Less than 15	7.0	-	-	1.0	92.0	100.0
15 - 19	54.7	2.0	*	3.5	39.7	100.0
20 - 24	70.9	11.1	1.5	4.0	12.5	100.0
25 - 29	76.7	13.8	2.0	4.4	3.1	100.0
30 - 34	82.0	11.1	1.7	4.3	0.8	100.0
35 - 39	84.4	7.7	2.4	4.7	*	100.0
40 - 44	87.7	5.9	2.3	3.6	*	100.0
45 - 54	90.5	3.3	1.6	3.6	1.0	100.0
55 - 64	88.1	1.0	0.9	4.0	6.0	100.0
65 and over	71.1	1.5	*	0.9	26.0	100.0
ALL AGES	52.5	3.9	0.9	2.8	39.9	100.0
Age 15 - 64	78.4	6.5	1.4	4.0	9.6	100.0
FEMALES						
Less than 15	9.2	-	-	0.2	90.7	100.0
15 - 19	87.8	*	*	0.4	11.0	100.0
20 - 24	95.7	1.0	1.1	*	2.1	100.0
25 - 29	98.0	*	*	*	0.7	100.0
30 - 34	98.4	*	*	*	*	100.0
35 - 39	99.1	*	*	*	*	100.0
40 - 44	99.2	*	*	*	-	100.0
45 - 54	98.4	*	*	*	1.2	100.0
55 - 64	91.1	*	*	*	8.5	100.0
65 and over	73.2	*	*	-	26.1	100.0
ALL AGES	61.5	0.3	0.3	0.2	37.8	100.0
Age 15-64	95.4	0.4	0.5	0.2	3.6	100.0
PERSONS						
Less than 15	8.2	-	-	0.6	91.3	100.0
15 - 19	72.4	1.2	*	1.9	24.4	100.0
20 - 24	83.9	5.8	1.3	2.0	7.0	100.0
25 - 29	88.0	6.8	1.1	2.2	1.8	100.0
30 - 34	90.8	5.4	1.1	2.1	0.6	100.0
35 - 39	91.7	3.9	1.4	2.5	0.5	100.0
40 - 44	93.5	3.0	1.4	1.9	*	100.0
45 - 54	94.4	1.7	1.0	1.9	1.1	100.0
55 - 64	89.6	0.6	0.6	2.0	7.2	100.0
65 and over	72.1	1.0	*	0.5	26.0	100.0
ALL AGES	57.2	2.0	0.6	1.4	38.8	100.0
Age 15-64	87.2	3.4	0.9	2.0	6.5	100.0

Source : Demographic Sample Survey 1984.



TABLE 4.2 : TYPE OF EMPLOYMENT IN CIVIL SERVICE BY MINISTRY AND DEPARTMENT, 1990 and 1991.

Ministry/Department	Employment	
	1990	1991
<b>Ministry of Home Affairs</b>		
Home Affairs	76	252
Survey and Land Records	220	233
Registration Division	112	-
Dzongkhags	518	471
Zonal Administrations	106	-
<b>Total Ministry of Home Affairs</b>	<b>1,032</b>	<b>956</b>
<b>Ministry of Finance</b>		
Secretariat	98	90
National Budget and Accounts	74	89
Revenue and Customs	356	285
<b>Total Ministry of Finance</b>	<b>528</b>	<b>464</b>
<b>Ministry of Communications</b>		
HRH Secretariat Office	16	39
Department of Posts and Telecommunication	551	531
Department of Information	175	137
Department of Civil Aviation and Transport	14	28
Department of Roads	801	581
Telephone	175	171
<b>Total Ministry of Communication</b>	<b>1,732</b>	<b>1,487</b>
<b>Ministry of Social Services</b>		
Secretariat	35	37
Health Services	1,148	1,190
Education	2,685	2,328
Department of Works and Housing	577	751
<b>Total Ministry of Social Services</b>	<b>4,445</b>	<b>4,306</b>
<b>Ministry of Agriculture</b>		
Secretariat	29	52
Animal Husbandry	609	587
Forestry	1,119	601
Food Corporation of Bhutan	246	262
Agriculture	841	690
<b>Total Ministry of Agriculture</b>	<b>2,844</b>	<b>2,192</b>
<b>Ministry of Foreign Affairs</b>	<b>137</b>	<b>124</b>

Table 4.2 continued on next page 32

TABLE 4.2 : TYPE OF EMPLOYMENT IN CIVIL SERVICE BY MINISTRY AND DEPARTMENT.

Ministry/Department	Employment	
	1990	1991
<b>Ministry of Trade and Industries</b>		
Secretariat	31	40
Trade and Industries	67	66
Geology and Mines	86	94
Power	554	507
State Trading Corporation of Bhutan	107	123
<b>Total Ministry of Trade and Industries</b>	<b>845</b>	<b>830</b>
<b>Special Commission</b>		
Secretariat	9	136
National Library	42	43
National Museum	12	14
Antiques Preservation	12	10
<b>Total Special Commission</b>	<b>75</b>	<b>203</b>
<b>Other Non-Ministerial Organisations</b>		
His Majesty's Secretariat	60	60
Planning Commission	64	69
Royal Civil Service Commission	35	42
Royal Audit Authority	83	70
Royal Advisory Council	11	10
National Assembly	11	12
Dratshang Lentshog	-	40
National Women's Association of Bhutan	14	17
Judiciary	114	200
Bhutan Olympic Committee	22	18
Dzongkhag Development Commission	21	14
Royal Institute of Management	31	47
Royal Monetary Authority	-	67
<b>Total Other Non-Ministerial Organisations</b>	<b>466</b>	<b>666</b>
<b>TOTAL CIVIL SERVICE EMPLOYMENT</b>	<b>12,104</b>	<b>11,228</b>

Source : Royal Civil Service Commission.

Note : Registration and Zonal Administration figures are reflected with the Home Affairs.



TABLE 4.3: POPULATION AGED 15 YEARS AND OVER BY SEX AND PRINCIPAL ECONOMIC ACTIVITY, THIMPHU TOWN, 1990

Principal Economic Activity	MALES		FEMALES		PERSONS	
	No.	%	No.	%	No.	%
Employed						
Agriculture.....	*	*	*	*	*	*
Private business.....	920	28	440	22	1,360	26
Self-employed.....	620	19	400	20	1,030	20
Paid or unpaid employee.....	330	10	*	*	370	7
Government employee.....	2,200	67	660	33	2,860	54
Cottage industries.....	*	*	840	42	840	16
Total employed.....	3,260	100	2,010	100	5,270	100
Total not employed.....	660	..	2,380	..	3,040	..
Total persons 15 years and over.....	3,920	..	4,400	..	8,320	..
Labour force participation rate (%)..	..	83	..	46	..	63

Source: Household Income and Expenditure Survey conducted by Central Statistical Office.

## 5. LAND USE AND AGRICULTURE

### INTRODUCTION

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

Animal husbandry also plays an integral part in the farming system in Bhutan. Farmers keep cattle for draught and milking purposes, in addition to a few chickens and some pigs for slaughter. At higher altitudes, herds of yak and sheep are kept on pasture.

Efforts are under way to improve the statistical system for agriculture. During 1988 and 1989, the CSO in conjunction with the Department of Agriculture, undertook a detailed sample survey to collect information on crop areas and livestock inventories in all Dzongkhags. Some data from this survey (together with data from a pilot Agriculture Census undertaken in Wangdiphodrang in 1987) are presented in this chapter. Data from other sources are also presented.

### MAIN FEATURES

Bhutan covers a surface area of about 46,500 square kilometres. About 71 per cent of the country's total surface area consists of forest. 9 per cent is potentially able to be used for cultivation and the rest is wilderness.

During the year 1990/91, irrigation schemes were extended to cover newly constructed areas of 222.67 hectares and renovated areas of 77.47 hectares.

According to recent Agronomic Surveys undertaken by the CSO, there are an estimated 64,770 agricultural holders in Bhutan. The majority of the holders have less than 5 hectares of land, an estimated 27 per cent of holders have less than one hectare, while a further 30 per cent have between one and two hectares. Only 10 per cent have five hectares or more.

The main cereal crops grown are paddy, maize, wheat, mustard, barley, buckwheat and millet. The CSO Agronomic Survey reveals that in 1988 and 1989, the area under paddy, wheat, maize and mustard was 26,000, 6,400, 41,900 and 4,100 hectares respectively. Similarly, the production of paddy, wheat, maize and mustard were estimated to be 43,100, 4,100, 31,100, and 1,300 tonnes respectively. Other cash crops include potatoes, apples, chillies, ginger, oranges and cardamom.

The most important livestock in Bhutan are cattle, yaks, sheep, poultry and pigs. In 1990, there were about 308,300 cattle, 33,000 yaks, 43,700 sheep, 218,900 poultry and 59,600 pigs.



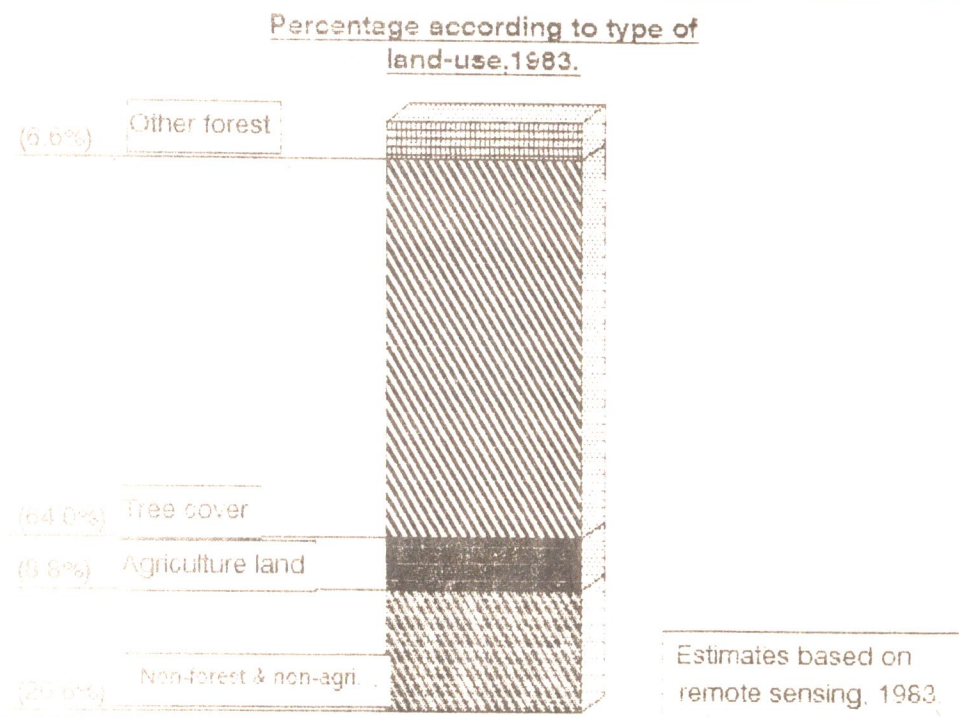


TABLE 5.1 : AREA ACCORDING TO LAND-USE AND VEGETATION TYPES, 1983(a)

Land-use and vegetation types	Area (*000 hectares)	Percentage
<b>NON-FORESTED</b>		
<b>Non-agricultural</b>		
Perpetual snow/glaciers	400.6	10.0
Barren exposed and rocky areas (above 3500 m)	345.6	8.8
Barren land, grassland and scrubs (below 3500 m)	30.7	0.7
Water spreads	52.3	1.3
<b>Total non-agricultural</b>	<b>829.2</b>	<b>20.6</b>
<b>Agricultural</b>		
Valley cultivation (slope less than 30 percent)	64.9	1.6
Terraced cultivation (slope more than 30 percent)	175.9	4.4
Old shifting cultivation (tsheri)	115.0	2.8
<b>Total agricultural (b)</b>	<b>355.9</b>	<b>8.8</b>
<b>Total non-forested</b>	<b>1,185.1</b>	<b>29.4</b>
<b>FORESTED</b>		
<b>Tree cover</b>		
Fir	295.6	7.3
Mixed conifer	485.4	12.1
Blue pine	75.5	1.9
Chir pine	129.2	3.2
Hardwood mixed with conifers	219.3	5.5
Upland hardwood (temperate)	872.6	21.7
Lowland hardwood (tropical and sub-tropical)	351.4	8.7
Degraded forest	141.6	3.5
Plantations	2.7	0.1
<b>Total tree cover</b>	<b>2,573.4</b>	<b>64.0</b>
<b>Other</b>		
Alpine pasture/meadows	74.8	1.9
Alpine scrub (rhododendron, juniper scrubs)	191.8	4.7
<b>Total other</b>	<b>266.6</b>	<b>6.6</b>
<b>Total forested</b>	<b>2,840.0</b>	<b>70.6</b>
<b>TOTAL SURVEYED AREA</b>	<b>4,025.0</b>	<b>100.0</b>
<b>AREA NOT YET SURVEYED</b>	<b>625.0</b>	<b>--</b>
<b>TOTAL AREA</b>	<b>4,650.0</b>	<b>--</b>

(a) Estimates based on remote sensing. (b) Includes urban centres and other areas which could be potentially be used for agricultural purposes.

Source: Land use survey carried out by Department of Forestry, 1983.



TABLE 5.2: AREA ACCORDING TO DIFFERENT LAND USE BY DZONGKHAG, 1983

(^000 hectares)

Dzongkhag	Non-forested			Forested			Total Area Surveyed	Percentage Forested
	Non-Agricultural	Agricultural	Total	Tree Cover	Other	Total		
Ha	26.2	6.4	32.6	117.8	22.6	140.4	173.0	81.2
Paro	26.5	14.6	41.1	152.6	19.3	171.9	213.0	80.7
Samchi	8.4	48.4	56.8	133.6	4.6	138.2	195.0	70.9
Thimphu	31.0	13.9	44.9	215.8	15.3	231.2	276.0	83.7
Chirang	3.2	24.0	27.2	61.8	-	61.8	89.0	69.5
Daga	2.9	10.5	13.4	77.8	1.8	79.6	93.0	85.6
Gasa	313.3	2.3	315.6	103.6	82.8	186.4	502.0	37.1
Wangdi-phodrang	118.0	19.6	137.6	257.2	30.2	287.4	425.0	67.6
Bumthang	135.4	7.0	142.4	123.7	33.9	157.6	300.0	52.5
Geylegphug	5.1	24.2	29.3	159.7	-	159.7	189.0	84.5
Shemgang	6.2	18.6	24.8	211.9	5.3	217.2	242.0	89.8
Tongsa	13.2	14.7	28.0	132.7	14.3	147.0	175.0	84.0
Lhuntshi	82.2	18.3	100.5	169.9	19.6	189.5	290.0	65.3
Mongar	6.0	20.5	26.5	165.5	-	165.5	192.0	86.2
Pemagatshel	0.2	15.2	15.4	33.6	-	33.6	49.0	68.5
Samdrup-jongkhar	3.5	46.2	49.7	165.3	-	165.3	215.0	76.9
Tashigang	48.0	51.3	99.3	290.6	17.1	307.7	407.0	75.6
BHUTAN	829.2	355.9	1,185.1	2,573.4	266.6	2,839.9	4,025.0	70.6

Note : Estimates based on remote sensing. See footnote (b) on Table 5.1.

Source: Land use survey carried out by Department of Forestry, 1983.

Not on Disc.

TABLE 5.3: AREA AND ALTITUDE BY DZONGKHAG, 1990

Dzongkhag	Area (Sq. kilometres) (a)	Altitude (Metres) (b)
Thimphu	2,046	2,320
Chukha	2,041	2,220
Ha	2,041	2,712
Paro	1,949	2,280
Samchi	1,775	390
Chirang	1,142	1,620
Daga	1,249	1,520
Punakha	5,664	1,220
Wangdiphodrang	5,060	1,260
Bumthang	3,173	2,690
Sarbhang	2,262	210
Shemgang	2,728	1,918
Tongsa	2,100	2,180
Lhuntshi	3,350	1,460
Mongar	2,087	1,620
Pemagatshel	597	1,200
Samdrupjongkhar	2,464	160
Tashigang	4,772	1,040
BHUTAN	46,500	..

(a) Based on 1:250000 satellite map of Bhutan. (b) From Dzongkhag headquarters.

Source: Survey of Bhutan

Engineered: 22502  
 Trashiyangtse  
 (m)  
 (Area)

No. Chukha

Tashiyangtse?



TABLE 5.4 : AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1991.

(Degrees Celsius)

Dzongkhag	Station	Temperature	Month											
			Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Thimphu	Gidakom	Maximum	13.6	17.1	19.5	21.0	23.1	25.2	n.a	25.5	23.5	24.2	19.0	16.0
		Minimum	-1.9	0.8	5.0	7.0	10.1	14.9	n.a	15.9	14.5	8.0	2.1	-2.0
	Simtokha	Maximum	17.2	21.0	19.0	27.2	29.8	25.5	27.1	27.2	25.4	n.a	n.a	n.a
		Minimum	3.0	3.2	5.1	9.9	12.7	17.2	18.3	18.3	15.8	n.a	n.a	n.a
	Yusipang	Maximum	8.6	13.0	15.1	17.5	20.6	n.a	21.5	21.2	19.7	18.4	n.a	n.a
		Minimum	-3.1	0.9	3.0	5.0	9.5	n.a	14.0	13.5	9.8	6.0	n.a	n.a
Chhukha	Chhukha	Maximum	n.a	17.4	19.7	21.6	23.0	24.0	23.8	24.8	24.1	25.2	20.8	19.8
		Minimum	n.a	6.8	10.2	12.6	13.8	16.2	16.8	15.3	15.3	12.9	7.9	6.7
	Tala	Maximum	11.0	13.9	16.5	19.6	20.6	21.5	n.a	n.a	n.a	20.6	15.8	n.a
		Minimum	4.4	7.6	10.8	14.7	15.8	16.4	n.a	n.a	n.a	13.8	8.8	n.a
Ha	Namjeyling	Maximum	n.a	10.9	11.9	15.1	13.5	19.0	17.5	n.a	n.a	15.6	n.a	n.a
		Minimum	n.a	-0.6	1.1	2.5	5.4	12.5	12.3	n.a	n.a	4.1	n.a	n.a
	Sambey Dzong	Maximum	13.3	14.1	17.6	20.7	20.4	21.2	21.4	25.5	21.0	19.5	16.4	n.a
		Minimum	0.4	1.5	5.0	9.1	13.4	16.2	16.3	16.3	17.0	13.0	4.7	n.a
Paro	Bitekha	Maximum	17.9	10.7	15.7	16.2	16.9	16.3	18.1	20.5	n.a	n.a	n.a	n.a
		Minimum	12.5	2.6	5.8	5.6	9.6	12.5	12.2	13.9	n.a	n.a	n.a	n.a
	Bondey	Maximum	n.a	n.a	n.a	n.a	n.a	n.a	n.a	26.3	n.a	23.6	19.2	18.2
		Minimum	n.a	n.a	n.a	n.a	n.a	n.a	n.a	14.3	n.a	6.4	0.0	4.7
Samchi	Sibsoo	Maximum	21.7	21.1	25.1	n.a	n.a	n.a	n.a	28.9	25.4	n.a	n.a	n.a
		Minimum	13.5	15.5	15.8	n.a	n.a	n.a	n.a	24.4	18.9	n.a	n.a	n.a
	Tendu	Maximum	n.a	n.a	n.a	23.7	24.3	24.9	25.4	25.9	n.a	n.a	n.a	n.a
		Minimum	n.a	n.a	n.a	15.6	17.4	19.5	20.4	20.9	n.a	n.a	n.a	n.a

Table continued on next page

TABLE 5.4 (CONT.): AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1991.

(Degrees Celsius)

Dzongkhag	Station	Temperature	Month											
			Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Dorokha	Dorokha	Maximum	n.a	n.a	22.0	22.3	23.2	23.9	23.8	23.9	23.3	22.5	19.2	17.6
		Minimum	n.a	n.a	13.5	15.1	16.6	18.9	19.9	19.4	18.3	15.8	11.3	9.4
Dega	Drujeygang	Maximum	15.1	18.9	22.1	23.5	24.5	24.5	25.3	25.6	24.0	23.7	n.a	n.a
		Minimum	7.8	10.0	13.0	14.8	15.3	19.4	20.3	20.5	20.1	16.7	n.a	n.a
	Tashithang	Maximum	14.1	17.0	18.9	22.4	22.6	32.9	22.6	n.a	n.a	n.a	19.4	16.4
		Minimum	4.8	7.2	9.3	13.1	15.6	19.0	18.3	n.a	n.a	n.a	8.9	5.1
Punakha	Gesakhatay	Maximum	9.8	10.8	13.8	16.1	17.3	n.a	27.1	20.1	21.4	n.a	n.a	n.a
		Minimum	0.1	2.3	4.8	6.0	8.4	n.a	11.9	11.7	12.7	n.a	n.a	n.a
	Shelgana	Maximum	19.6	20.0	22.5	24.0	23.7	26.8	n.a	27.0	27.2	24.3	21.9	22.9
		Minimum	2.8	6.1	7.0	7.0	8.5	12.5	n.a	16.0	15.7	7.0	9.6	15.7
Punakha Dzong	Punakha Dzong	Maximum	17.4	20.8	25.1	27.9	29.4	29.0	n.a	29.9	27.0	28.0	25.1	24.0
		Minimum	5.3	9.2	11.0	15.2	17.9	19.2	n.a	20.8	19.7	15.8	8.6	5.3
Wangdi-phodrang	Nobding	Maximum	6.7	10.6	14.8	18.4	18.3	20.8	20.5	19.8	19.1	18.4	11.8	10.2
		Minimum	0.4	4.6	4.7	7.1	10.9	13.1	14.6	14.5	12.9	8.9	3.3	1.3
	Pmbjikka	Maximum	7.2	10.1	12.1	14.3	16.8	18.5	18.8	n.a	18.6	17.4	13.8	n.a
		Minimum	-9.3	0.7	1.6	3.8	7.8	12.6	10.6	n.a	11.4	4.6	-1.3	n.a
Samtengang	Samtengang	Maximum	13.2	17.1	21.2	23.7	24.2	26.4	27.5	28.5	26.0	24.5	19.2	15.5
		Minimum	2.5	6.0	8.4	10.7	12.7	16.1	17.2	17.2	16.2	11.4	6.0	3.1
Sarbhag	Sarbhag	Maximum	24.5	n.a	n.a	28.7	26.2	28.5	29.4	30.0	28.8	29.4	n.a	21.5
		Minimum	23.8	n.a	n.a	21.3	20.9	23.5	23.5	23.9	22.8	22.8	n.a	11.5
	Surey	Maximum	n.a	n.a	n.a	24.9	27.7	24.6	26.0	25.5	25.8	n.a	n.a	n.a
		Minimum	n.a	n.a	n.a	19.4	22.0	20.2	14.0	21.0	20.3	n.a	n.a	n.a

Table continued on next page



TABLE 5.4 (CONT.): AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1991.  
(Degrees Celsius)

Dzongkhag	Stations	Temperature	Month											
			Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Shemgang	Buli	Maximum	12.1	11.3	19.3	20.1	21.0	19.8	22.4	23.7	23.2	22.0	17.8	n.a
		Minimum	3.6	5.7	17.4	12.4	14.6	15.5	17.6	18.2	17.0	11.8	6.3	n.a
	Panbang	Maximum	22.3	28.7	33.1	32.4	29.9	32.8	34.1	33.7	32.9	34.0	31.8	n.a
		Minimum	9.5	12.6	15.7	18.1	8.4	22.8	24.2	24.4	23.5	19.9	13.3	n.a
	Shemgang(W/T)	Maximum	14.6	19.7	19.0	18.6	12.8	14.8	15.5	20.2	20.0	19.8	14.8	12.1
		Minimum	3.3	3.1	5.3	9.9	2.1	2.2	2.5	17.4	15.9	14.3	4.8	3.8
	Yebilapcha	Maximum	19.8	24.0	28.9	31.2	27.8	29.4	n.a	29.9	29.4	n.a	20.8	n.a
		Minimum	7.1	10.0	12.7	15.2	17.3	20.8	n.a	17.3	19.9	n.a	8.7	n.a
Tongsa	Kuengarabten	Maximum	18.0	20.0	22.0	23.0	25.0	23.9	25.6	25.6	25.3	25.8	20.7	n.a
		Minimum	7.0	5.0	12.0	12.0	15.0	18.9	21.0	21.0	21.0	23.2	13.1	n.a
	Langthel	Maximum	19.4	22.8	24.7	28.1	29.9	28.2	29.0	30.2	30.8	30.1	25.5	24.6
		Minimum	10.6	12.8	15.4	17.8	20.5	24.3	25.5	24.7	24.3	21.1	14.5	13.4
	Tongsa	Maximum	10.0	13.9	16.6	18.7	20.0	20.5	21.1	21.3	20.4	19.7	15.3	12.6
		Minimum	1.8	3.6	5.9	8.1	10.6	14.3	14.9	14.6	13.5	10.6	3.5	1.2
Bumthang	Chamkhar	Maximum	19.3	n.a	16.0	n.a	20.1	19.4	21.0	21.8	20.8	20.6	11.2	8.9
		Minimum	3.5	n.a	5.5	n.a	10.8	17.5	15.9	14.2	12.3	12.3	7.3	7.0
	Chhumei	Maximum	n.a	n.a	n.a	16.4	18.8	20.7	19.2	19.7	18.6	n.a	n.a	n.a
		Minimum	n.a	n.a	n.a	3.0	7.2	11.6	12.0	11.7	9.4	n.a	n.a	n.a
	Ura	Maximum	4.9	8.9	11.2	n.a	15.7	16.7	18.6	19.8	17.3	15.5	n.a	n.a
		Minimum	7.5	5.1	2.6	n.a	7.7	9.1	11.3	14.1	14.2	5.8	n.a	n.a
Tashigang	Khaling	Maximum	n.a	11.8	n.a	n.a	19.8	20.4	21.8	21.3	21.3	19.4	n.a	n.a
		Minimum	n.a	3.8	n.a	n.a	12.8	15.5	16.8	16.3	15.0	10.0	n.a	n.a

Table continued on next page

TABLE 5.4 (CONT.): AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1991.  
(Degrees Celsius)

Dzongkhag	Station	Temperature	Month											
			Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Radhi		Maximum	n.a	19.3	n.a	n.a	25.8	n.a	27.4	25.5	27.0	26.8	n.a	n.a
		Minimum	n.a	8.8	n.a	n.a	14.9	n.a	19.7	19.0	8.2	13.7	n.a	n.a
Rangtyangxong		Maximum	11.8	14.8	18.0	21.5	23.6	24.1	24.1	24.6	13.8	22.1	n.a	n.a
		Minimum	2.9	5.8	8.5	13.0	15.0	16.4	16.3	16.1	5.1	13.0	n.a	n.a
Tashiyangsthi		Maximum	12.3	14.7	18.0	n.a	22.2	20.9	22.1	24.5	25.3	22.2	16.2	n.a
		Minimum	2.8	6.4	15.7	n.a	13.1	13.2	19.0	17.5	17.6	11.1	7.1	n.a
Wamrong		Maximum	11.6	11.9	14.9	16.3	16.9	19.0	19.6	20.0	19.3	18.5	n.a	n.a
		Minimum	1.7	4.0	7.2	9.6	12.0	14.5	15.8	15.8	14.3	11.1	n.a	n.a
Yallang		Maximum	9.4	n.a	n.a	n.a	18.4	20.7	21.5	20.7	20.1	18.4	n.a	n.a
		Minimum	1.1	n.a	n.a	n.a	12.4	15.2	15.8	15.7	14.7	10.5	n.a	n.a
Mongar	Kengkhar	Maximum	n.a	n.a	n.a	n.a	n.a	n.a	28.2	n.a	n.a	n.a	n.a	n.a
		Minimum	n.a	n.a	n.a	n.a	n.a	n.a	19.5	n.a	n.a	n.a	n.a	n.a
Lingmethang		Maximum	20.4	23.9	27.5	n.a	30.2	31.5	31.6	31.3	30.9	30.0	n.a	n.a
		Minimum	7.7	10.8	13.8	n.a	20.4	22.0	22.3	21.8	21.8	18.0	n.a	n.a
Yadi		Maximum	12.0	16.1	19.0	n.a	22.0	25.0	26.0	28.0	27.0	n.a	n.a	n.a
		Minimum	4.0	7.8	9.0	n.a	15.0	17.0	17.0	16.0	16.0	n.a	n.a	n.a
Chaskar		Maximum	n.a	n.a	n.a	n.a	n.a	n.a	28.2	n.a	n.a	n.a	n.a	n.a
		Minimum	n.a	n.a	n.a	n.a	n.a	n.a	19.5	n.a	n.a	n.a	n.a	n.a

Table continued on next page



TABLE 5.4 (CONT.): AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1991.

Dzongkhag	Station	Temperature (Degrees Celsius)												
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
Lhuntehi	Dungkhar	Maximum	14.7	15.9	16.8	17.8	21.7	23.2	23.6	23.0	22.5	21.5	n.a	n.a
		Minimum	2.2	3.4	7.7	9.3	14.0	17.0	17.6	16.8	15.7	12.2	n.a	n.a
Pemagatseel	Tangmochu	Maximum	11.3	15.2	n.a	n.a	22.7	24.6	28.5	27.9	25.2	22.6	n.a	n.a
		Minimum	4.1	7.8	n.a	n.a	11.0	17.1	18.0	17.9	17.0	13.1	n.a	n.a
Pemagatseel	Dungmain	Maximum	n.a	n.a	23.1	21.4	23.2	24.6	25.0	26.6	26.0	23.5	n.a	n.a
		Minimum	n.a	n.a	13.2	15.2	15.7	16.7	20.1	20.3	18.3	14.0	n.a	n.a
Samdrup-jongkhar	Yurung	Maximum	8.7	12.9	14.4	n.a	22.0	23.6	23.1	25.1	24.0	19.0	n.a	n.a
		Minimum	3.8	6.1	12.6	n.a	16.5	19.0	21.1	19.5	18.6	16.0	n.a	n.a
Samdrup-jongkhar	Arong	Maximum	11.8	16.0	19.7	n.a	21.8	23.1	24.8	24.3	22.3	22.2	17.5	n.a
		Minimum	7.5	10.5	13.5	n.a	17.5	19.6	20.7	20.7	18.5	16.3	12.1	n.a
Bekuli	Deifam	Maximum	n.a	n.a	n.a	27.1	32.6	33.4	30.2	30.6	29.6	n.a	n.a	n.a
		Minimum	n.a	n.a	n.a	19.9	23.3	24.9	24.7	24.1	23.7	n.a	n.a	n.a
Dechenling	Nanglam	Maximum	19.1	23.2	n.a	n.a	28.9	29.8	31.5	33.2	31.1	29.3	n.a	n.a
		Minimum	13.0	15.7	n.a	n.a	21.4	24.7	25.8	25.5	24.1	22.3	n.a	n.a
Shingkhari-louri	Shingkhari-louri	Maximum	n.a	19.6	20.1	n.a	21.6	23.2	25.1	25.1	23.2	23.1	n.a	n.a
		Minimum	n.a	n.a	8.1	n.a	18.8	20.7	21.8	21.7	19.7	16.2	n.a	n.a
Shingkhari-louri	Shingkhari-louri	Maximum	21.4	19.2	22.1	23.3	26.6	n.a	n.a	30.4	n.a	25.2	n.a	n.a
		Minimum	11.9	n.a	15.1	18.7	23.4	n.a	n.a	25.5	n.a	20.9	n.a	n.a
Shingkhari-louri	Shingkhari-louri	Maximum	18.6	19.8	21.2	n.a	20.8	23.3	20.7	24.3	n.a	n.a	n.a	n.a
		Minimum	6.6	7.7	10.4	n.a	10.1	9.7	19.2	15.8	n.a	n.a	n.a	n.a

NOTE: Temperature data for some stations may not be very accurate.

Source : Department of Agriculture.

TABLE 5.5 : AVERAGE MONTHLY RAINFALL DATA FOR VARIOUS STATIONS IN BHUTAN, 1991.

Dzongkhag	Station	Rainfall in millimeter											
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Thimphu	Gidakom	0.5	5.5	27.4	27.0	42.5	101.0	146.6	65.5	72.5	56.5	8.0	562.6
	Lingshi	-	n.a	0.3	49.7	74.0	37.8	n.a	n.a	n.a	n.a	n.a	161.8
	Simtokha	1.3	5.7	15.5	30.5	43.0	149.9	252.7	118.0	90.0	57.9	2.7	781.1
	Taba	0.0	3.3	9.1	15.8	28.4	88.0	258.0	160.8	169.4	128.4	2.0	866.8
	Thimphu Agri. Office	-	13.5	27.5	62.2	20.4	148.8	228.7	141.5	120.2	50.9	-	813.7
Chhukha	Yusipang	1.9	8.8	66.2	101.6	291.3	200.5	151.7	94.0	137.7	80.9	0.4	1141.3
	Chhukha	9.7	55.9	80.7	99.2	164.1	193.0	314.3	330.6	220.8	59.2	11.1	1544.8
	Gedu	11.0	511.6	274.8	745.4	474.2	988.2	598.4	638.2	359.6	172.4	0.8	4774.6
	Pana	3.0	103.6	130.2	-	430.0	115.0	n.a	868.6	n.a	n.a	n.a	1650.4
	Tala	8.0	150.8	98.2	198.2	366.7	260.6	1361.9	1075.0	684.0	148.8	13.0	4376.2
Ha	Namjeyling	0.0	4.1	48.7	43.0	125.7	138.5	192.8	139.3	150.3	51.4	4.5	903.8
	Sambaydzong	21.0	13.0	53.0	165.0	98.0	290.0	508.0	294.0	110.0	81.0	-	1639.0
Paro	Bitekha	2.4	29.8	40.0	38.7	66.7	147.6	150.3	48.9	149.7	68.0	2.3	750.4
	Bondey	0.0	10.9	21.7	33.0	25.8	94.3	206.8	129.3	106.6	33.6	6.2	680.0
Samchi	Chengmari	10.0	29.0	n.a	n.a	n.a	825.0	1072.0	721.4	n.a	n.a	n.a	2657.4
	Pugli	7.0	n.a	n.a	-	n.a	887.0	1027.0	424.0	400.4	88.0	n.a	2833.4
	Samchi (NIE)	1.5	n.a	100.5	429.5	481.1	1064.2	887.7	443.8	n.a	99.6	-	3507.9
	Sibus	17.3	47.8	121.0	243.8	381.5	934.6	1055.1	741.4	847.7	270.3	52.8	4723.8
	Tendu	2.2	40.8	73.5	79.6	217.5	514.4	641.6	629.9	606.1	38.0	19.5	2864.0
Chirang	Dorokha	0.0	36.5	98.5	275.7	418.9	471.9	635.4	231.8	479.7	110.1	11.0	2781.1
	Demphu	3.0	41.0	n.a	183.3	121.4	449.1	704.1	n.a	n.a	n.a	n.a	1501.9
Daga	Lamidara	-	n.a	n.a	n.a	n.a	n.a	779.4	244.9	n.a	n.a	n.a	1024.3
	Dagadzong	-	35.2	12.3	110.0	96.7	190.3	339.2	314.9	n.a	7.0	-	1105.6
Daga	Drujeygang	15.1	18.9	22.1	23.5	24.5	25.3	25.6	24.0	23.7	-	-	227.2
	Tashithang	2.1	8.3	20.5	48.8	57.1	281.8	376.9	305.7	193.6	74.1	4.1	1363.8

Table continued on next page



TABLE 5.5 (CONT.): AVERAGE MONTHLY RAINFALL DATA FOR VARIOUS STATIONS IN BHUTAN, 1991. Rainfall in millimeters

Dzongkhag	Station	Month												Total Rainfall
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
Punakha	Gasakhatey	15.4	62.0	100.9	116.4	173.9	319.0	324.1	488.7	306.3	126.8	36.5	31.1	2101.1
	Shelgana	9.4	23.2	23.5	39.9	77.9	209.2	282.9	276.4	148.5	73.7	19.4	6.3	1190.3
Wangdiphodrang	Daga Uma	9.0	28.2	3.2	65.2	62.3	146.2	405.3	n.a	n.a	n.a	n.a	n.a	719.4
	Gaselo	3.9	19.5	20.6	54.5	99.3	162.8	20.5	19.8	19.1	18.4	11.8	10.2	460.4
	Nobding	4.1	12.6	27.3	56.1	157.4	320.4	453.9	212.1	53.7	18.5	5.1	-	1321.2
	Phubjikha	43.0	0.0	49.9	45.4	137.6	170.0	68.8	-	216.6	-	-	-	731.3
	Samtengang	4.8	18.1	28.6	46.5	113.5	214.9	237.7	194.1	178.2	50.7	9.6	5.7	1102.4
Wangdi (CARD)	-	23.1	20.1	56.7	34.1	124.2	207.7	106.2	138.1	66.0	-	14.5	790.7	
Sarbhong	* Bhur	13.2	146.6	66.6	316.7	820.8	1149.9	1068.3	1019.7	1155.6	260.0	-	1.0	6018.4
	* Kalikhola	2.2	130.0	143.4	398.8	539.1	1383.8	1377.4	851.9	n.a	n.a	n.a	n.a	4826.6
	Mangoan	7.9	28.6	32.3	86.5	171.4	464.1	832.2	689.5	406.4	64.1	5.7	12.1	2800.8
	Sarbhong	n.a	n.a	n.a	121.6	338.4	1789.4	1274.6	1213.4	1128.0	808.0	-	40.3	6713.7
	Surey	7.7	59.4	145.6	201.2	285.1	727.9	1135.2	895.4	595.0	80.0	9.3	10.7	4152.5
Shemgang	Buli	27.5	21.6	14.2	64.9	107.7	252.4	357.4	368.2	264.8	46.0	10.9	5.6	1541.2
	Panbang	6.8	89.4	112.3	176.6	317.0	1032.8	932.2	579.2	665.2	249.4	26.6	6.6	4194.1
	Shemgang(W/T)	10.4	40.7	20.7	81.6	160.3	318.4	405.2	311.8	227.1	10.0	21.6	13.8	1621.6
	Yebilapcha	9.5	65.9	65.9	69.2	121.3	329.2	333.8	277.7	295.5	42.6	5.9	5.3	1621.8
	Kuengarabten	4.8	43.8	26.2	66.5	147.0	263.0	354.6	261.5	209.4	51.9	13.3	27.0	1469.0
Tongsa	Langthel	3.9	20.4	40.3	70.7	78.6	187.1	289.3	170.1	206.3	60.5	6.1	6.7	1140.0
	Tongsa	8.4	30.2	48.7	62.6	125.6	255.0	295.0	257.9	194.4	58.5	16.6	6.4	1359.3
	Chamkhar	3.4	15.6	27.2	43.2	99.4	169.6	111.8	122.7	122.3	48.5	8.6	2.3	774.6
Bumthang	Chhumey	-	-	18.9	60.0	188.0	272.2	190.7	174.6	134.3	46.8	8.9	0.0	1094.4
	Ura	-	-	2.7	27.0	68.6	117.4	167.4	96.2	119.5	146.8	8.5	-	754.1

Table continued on next page

TABLE 5.5 (CONT.): AVERAGE MONTHLY RAINFALL DATA FOR VARIOUS STATIONS IN BHUTAN, 1991. Rainfall in millimeters

Dzongkhag	Station	Month												Total Rainfall	
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
Tashigang	Kanglung	1.3	62.9	46.7	125.0	61.0	209.6	226.7	131.2	n.a	168.1	-	-	1032.5	
	Khaling	8.5	53.0	72.9	126.3	127.8	266.6	289.9	294.2	180.0	81.7	24.9	11.2	1537.0	
	Radhi	5.0	24.8	n.a	111.3	87.2	247.1	332.2	n.a	173.3	n.a	n.a	n.a	980.9	
	Rangtyangwoong	2.0	28.4	64.4	111.3	68.5	120.6	289.0	210.2	112.2	38.2	18.3	9.4	1072.5	
	Thrimshing	34.7	n.a	85.3	235.1	105.6	306.0	335.0	14.0	34.9	n.a	n.a	9.8	1160.4	
	Tashiyangsthi	1.4	14.0	19.9	72.1	82.4	152.3	279.3	220.5	224.4	73.1	15.9	0.9	1156.2	
	Wamrong	5.7	43.9	63.0	148.3	339.9	350.8	408.4	38.4	209.9	84.7	16.8	10.0	1718.8	
	Yallang	-	41.7	48.5	185.4	82.0	117.5	256.4	131.1	73.0	104.5	17.1	4.2	1061.4	
	Mongar	Kengkhar	n.a	n.a	n.a	78.0	202.0	164.6	271.8	n.a	n.a	n.a	n.a	n.a	716.4
		Lingmethang	72.2	17.2	45.4	-	97.2	263.0	151.6	206.8	25.7	32.2	-	-	911.3
Chakaling		6.8	22.2	65.4	137.0	60.0	144.1	193.6	177.4	n.a	157.9	-	-	964.4	
Yadi		4.9	46.0	20.9	92.9	80.2	210.0	186.9	148.1	155.5	62.3	14.3	3.3	1025.3	
Chaskar		n.a	n.a	n.a	n.a	76.3	186.0	n.a	n.a	n.a	157.9	n.a	n.a	420.2	
Lhuntshi	Dungkhar	-	20.1	55.5	125.3	145.7	178.8	339.8	227.7	234.9	95.0	15.0	15.4	1453.2	
	Tangmachu	2.4	13.5	52.9	63.2	72.8	146.9	155.8	127.6	114.7	42.6	24.0	4.7	821.1	
Pemagatse	Dungmain	8.0	35.4	82.0	204.7	149.5	561.4	601.7	310.2	310.2	172.2	18.9	0.6	2720.3	
	Yurung	2.5	3.1	22.0	93.4	168.8	159.0	694.4	830.0	220.5	83.0	21.8	6	2301.1	
Samdrup-jongkhar	Arong	5.7	39.5	82.0	208.0	440.3	577.7	605.0	632.7	246.6	201.7	-	11.1	3050.3	
	Bakuli	n.a	n.a	n.a	265.5	358.6	865.6	363.6	262.9	344.4	n.a	n.a	n.a	2460.6	
	Daifam	10.9	14.1	53.9	100.6	238.9	535.5	365.4	235.1	465.4	135.2	13.8	18.0	2186.8	
	Dechenling	7.0	45.5	71.6	173.4	223.6	622.1	782.5	906.9	375.9	127.4	16.2	4.1	3356.2	
	Nanglam	17.6	154.6	118.2	377.0	494.2	1273.8	n.a	1030.0	n.a	296.0	n.a	n.a	3761.4	
Shingkhar-louri	2.4	25.8	26.0	68.3	114.5	251.5	228.6	125.9	102.4	96.8	10.3	7.4	1059.9		

NOTE: Rainfall data for some stations may not be very accurate

Source: Department of Agriculture.



TABLE 5.6: IRRIGATION SCHEMES COMPLETED DURING 1990/91 BY DZONGKHAG

	New construction			Renovation		
	No. of schemes	Length of channel (Km)	Command area (hectares)	No. of schemes	Length of channel (Km)	Command area (hectares)
Thimphu	1	3.540	222.670	-	-	-
Chukha	-	-	-	-	-	-
Ha	-	-	-	-	-	-
Paro	-	-	-	-	-	-
Samchi	-	-	-	-	-	-
Chirang	-	-	-	-	-	-
Daga	-	-	-	-	-	-
Punakha	-	-	-	-	-	-
Wangdiphodrang	-	-	-	1	0.777	13.080
Bumthang	-	-	-	-	-	-
Sarbhong	-	-	-	-	-	-
Shemgang	-	-	-	-	-	-
Tongsa	-	-	-	-	1.500	10.080
Lhuntshi	-	-	-	-	-	-
Mongar	-	-	-	-	-	-
Pemagatse	-	-	-	-	-	-
Samdrupjongkhar	-	-	-	-	-	-
Tashigang	-	-	-	1	1.200	54.310
<b>BHUTAN</b>	<b>1</b>	<b>3.540</b>	<b>222.670</b>	<b>3</b>	<b>3.477</b>	<b>77.470</b>

Source : Department of Agriculture.

TABLE 5.7: LAND UNDER AGRICULTURAL USE BY ZONE AND DZONGKHAG, 1988/89(a)

( '000 hectares )

Dzongkhag	Wet Land	Dry Land	Tsheri Pangshing	Kitchen Garden	Orchard & Plantation	Others (b)	Total Area
Thimphu	0.8	0.5	0.1	-	-	6.9	8.3
Chukha	1.1	3.1	4.4	-	0.7	8.2	17.5
Ha	0.1	0.3	0.3	-	0.3	8.2	9.7
Paro	1.5	1.6	0.2	0.1	0.2	3.4	7.0
Samchi	4.8	7.9	4.3	0.2	3.7	2.3	23.2
Chirang	3.2	7.2	0.6	0.3	2.2	0.4	13.9
Daga	0.8	2.6	0.8	-	0.2	2.7	7.1
Punakha	1.6	0.4	-	-	-	8.3	10.3
Wangdiphodrang	1.3	0.9	0.3	0.1	-	na	2.6
Bumthang	*	1.1	1.9	-	-	14.1	17.1
Gyoleghug	4.8	7.5	0.9	0.2	1.8	0.3	15.5
Shemgang	0.7	1.6	3.3	-	0.3	5.6	11.5
Tongsa	0.7	0.8	0.8	-	0.2	4.0	6.5
Lhuntshi	0.8	1.6	1.6	-	-	1.0	5.0
Mongar	0.4	2.9	1.9	-	-	1.7	6.9
Pemagatse	-	1.6	1.7	-	-	0.3	3.6
Samdrupjongkhar(c)	1.9	4.2	3.6	-	0.1	0.4	10.2
Tashigang	2.3	8.6	6.1	-	0.2	64.2	81.4
<b>BHUTAN</b>	<b>26.8</b>	<b>54.9</b>	<b>32.8</b>	<b>0.9</b>	<b>9.9</b>	<b>132.0</b>	<b>257.3</b>

(a) Thimphu, Zone I and Zone II estimates are based on 1988 survey. Zone III and Zone IV based on 1989 survey. Wangdiphodrang based on 1987 survey. (b) Includes area for Tsamdok and Sokshing. (c) Excludes areas of an estimated 920 agricultural holders in Samdrupjongkhar which were excluded from the survey.

Source : Agronomic Survey undertaken by Central Statistical Office.



TABLE 5.8 : HOLDERS BY SIZE OF HOLDING AND DZONGKHAG, 1988/89(a)

Dzongkhag	Size of land holding (hectares)							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	
Thimphu	490	540	320	160	150	110	*	1,800
Chhukha	170	230	580	350	550	600	790	3,270
Ha	120	190	170	*	110	*	220	920
Paro	170	400	440	360	440	360	130	2,280
Samchi	390	860	1,020	920	1,790	1,590	1,060	7,640
Chirang	140	750	1,040	750	1,420	1,180	440	5,710
Daga	*	240	240	220	360	480	190	1,790
Punakha	250	420	480	280	230	*	120	1,850
Wangdiphodrang	600	780	540	270	210	*	260	2,470
Bumthang	110	160	150	*	180	180	260	1,170
Geylegphug	200	400	710	900	1,610	1,010	730	5,570
Shemgang	*	*	180	270	400	480	400	1,830
Tongsa	150	240	300	120	160	170	150	1,290
Lhuntshi	410	570	410	250	300	340	200	2,480
Mongar	570	1,220	1,020	660	450	270	100	4,300
Pemagatseel	230	750	680	420	260	110	*	2,490
Samdrupjongkhar (b)	170	590	550	610	1,010	820	350	4,100
Tashigang	1,730	3,190	2,440	1,450	1,790	990	970	12,560
BHUTAN	5,900	11,530	11,270	7,990	11,420	8,690	6,110	63,480

(a) See footnote (a) on Table 5.6. (b) For Samdrupjongkhar, size data were not available for an estimated 920 holders. These have been excluded from the table.

Source : Agronomic Survey undertaken by Central Statistical Office.

TABLE 5.9 : HOLDERS, AREA, PRODUCTION AND YIELD OF MAJOR CROPS BY DZONGKHAG, 1988/89(a)

Dzongkhag	Paddy			Wheat			Maize			Mustard						
	Holders (ha.)	Area (ha.)	Yield/ha. (Kg.)	Holders (ha.)	Area (ha.)	Yield/ha. (Kg.)	Holders (ha.)	Area (ha.)	Yield/ha. (Kg.)	Holders (ha.)	Area (ha.)	Yield/ha. (Kg.)				
Thimphu	1,240	760	1,850	2,420	1,220	400	260	660	240	30	10	500	530	70	20	330
Chhukha	1,820	920	950	1,030	1,100	310	220	700	2,570	1,830	680	370	1,650	300	80	270
Ha	150	90	80	880	820	460	230	510	140	70	40	540	*	*	*	*
Paro	1,790	1,460	2,400	1,640	2,110	1,250	650	520	*	*	*	*	640	120	50	390
Samchi	5,850	4,400	5,740	1,310	1,290	250	130	500	7,320	7,540	2,490	330	1,670	230	80	340
Chirang	4,110	3,050	4,510	1,480	1,880	340	170	490	5,550	6,380	2,910	460	3,380	610	170	270
Daga	1,280	790	1,070	1,360	200	80	40	500	1,500	2,360	890	380	1,180	320	100	310
Punakha	1,680	1,600	4,290	2,670	1,540	420	230	560	340	80	60	770	1,050	160	50	310
Wangdi-phodrang	1,740	1,250	na	na	1,980	790	na	na	380	60	na	na	1,030	110	na	na
Bumthang	*	*	*	*	760	260	150	570	130	10	20	1,160	*	*	*	*
Geylegphug	4,520	4,690	7,120	1,520	1,010	390	400	1,030	5,150	6,990	2,650	380	1,630	560	160	280
Shemgang	1,540	770	900	1,170	590	200	150	780	1,800	1,060	1,250	1,180	430	170	50	290
Tongsa	1,160	600	820	1,370	850	270	180	640	970	380	270	720	290	40	10	390
Lhuntshi	2,010	800	1,640	2,050	580	150	170	1,090	2,290	1,140	2,480	2,170	380	70	30	440
Mongar	2,200	470	470	980	610	130	60	470	4,260	2,570	4,530	1,760	450	80	30	400
Pemagatseel	870	120	110	960	960	160	100	630	2,390	860	920	1,060	330	20	600	
Samdrup-jongkhar	2,660	2,030	2,910	1,430	460	60	30	490	4,900	4,700	2,650	560	2,190	690	180	260
Tashigang	8,420	2,210	4,930	2,230	2,890	490	460	940	11,460	5,810	9,230	1,590	3,780	500	280	550
TOTAL BHUTAN	43,070	26,010	39,790	24,500	20,850	6,410	3,630	11,080	51,390	41,870	31,080	13,930	20,610	4,060	1,310	5,430
	43,070	26,010	42,140	16,600	20,860	6,420	4,060	6,400	51,470	41,870	31,130	7,410	20,720	4,060	1,310	5,430

(a) See footnote (a) on Table 5.6.

Source : Agronomic Survey undertaken by Central Statistical Office.



Table 5.10 : ANNUAL CROPS, NUMBER OF HOLDERS HARVESTING EACH CROP AND AREA HARVESTED, BHUTAN, 1988-89

Crop	Number of Holders	Per cent holders	Crop area (hectares)
<b>Cereals</b>			
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
All Cereals	62,490	96.5	93,060
<b>Legumes</b>			
Soya Beans	11,060	17.1	1,960
Other Bean	6,690	10.3	690
Pulses	6,200	9.6	1,220
All Legumes	17,810	27.5	3,870
<b>Oil seeds</b>			
	21,110	32.6	4,120
<b>Roots and tubers</b>			
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
All roots and tubers	22,070	34.1	3,720
<b>Vegetables</b>			
	8,610	13.3	630
<b>Other crops</b>			
Jute	1,200	1.9	90
All 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 conducted by Central Statistical Office.

TABLE 5.11 : PERENIAL CROPS BY ZONE, 1988/89

('000 trees)

Crop	Thimphu	Zone I	Zone II	Zone III	Zone IV	Total
<b>Temperate fruits</b>						
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
All temperate fruits(a)	55.3	109.2	65.2	59.9	104.0	393.6
<b>Sub-tropical fruits</b>						
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
All sub-tropical fruits(a)	6.9	1,328.5	729.2	1,112.9	466.8	3,644.3
<b>Other tree crops</b>						
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
All other trees(a)	*	5,883.7	5,400.7	4,407.1	60.1	15,751.6

Source: Agronomic Survey undertaken by Central Statistical Office.

Note: \* represent figures rounded up not reflected less than one decimal place.  
(e.g. 0.04)



TABLE 5.12: HOLDERS ACCORDING TO SIZE OF LIVESTOCK HOLDING, 1988/89

Number of livestock	Cattle	Yaks	Buffaloes	Pigs	Goats	Sheep	Horses	Donkeys/ mules	Chickens	
No livestock	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	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	
				(Percentage of all holders)						
No livestock	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 undertaken by Central Statistical Office.

TABLE 5.13 : LIVESTOCK NUMBERS BY DZONGKHAG, 1990.

( '000)

Dzongkhag	Cattle	Yaks	Mithuns	Buffa- cross	Sheep	Goats	Pigs	Horses	Poultry
Thimphu	5.3	8.5	0.6	-	1.8	-	2.1	0.9	2.5
Chhukha	24.3	6.8	1.3	0.3	0.8	2.9	3.6	0.6	11.0
Ha	7.9	3.9	0.2	-	0.2	-	2.3	1.4	3.0
Paro	14.8	-	-	-	0.3	0.1	5.8	1.2	4.0
Samchi	34.9	-	-	1.0	4.3	10.9	2.6	0.3	36.5
Chirang	19.3	-	0.1	0.8	4.7	8.3	1.7	0.5	23.5
Daga	19.2	-	0.6	0.6	1.6	4.5	2.8	0.6	13.0
Punakha	8.7	2.4	2.8	-	0.1	0.1	3.6	1.2	6.3
W/phodrang	17.3	3.0	2.9	-	10.3	0.1	6.0	2.5	3.4
Bumthang	8.9	4.3	1.9	-	6.4	-	0.1	1.5	3.4
Sarbhang	43.0	-	0.5	1.6	4.0	6.3	4.1	0.6	36.4
Shemgang	9.6	-	3.2	-	-	0.6	2.3	0.9	3.8
Tongsa	8.6	-	2.3	-	4.5	0.1	0.5	0.5	3.1
Lhuntshi	11.1	0.3	6.2	-	0.4	-	2.1	1.3	8.6
Mongar	17.9	-	11.8	-	0.1	0.2	5.3	1.9	16.0
Pemagatsel	4.6	-	2.6	-	-	0.1	2.0	0.9	4.2
S/jongkhar	19.5	-	5.0	-	0.4	2.4	4.5	1.9	16.5
Tashigang	32.8	3.8	9.6	-	5.3	-	8.7	6.4	19.6
BHUTAN	307.7	33.0	51.6	4.3	45.2	36.6	60.1	25.1	214.8

(a) Includes mules and donkeys.  
Source : Animal Husbandry Department.

TABLE 5.14 : LIVESTOCK NUMBERS, 1981 TO 1990.  
( '000)

Livestock	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Cattle(a)	275.2	291.7	309.4	327.7	347.4	340.3	357.0	357.4	303.5	308.3
Yaks	28.9	29.6	30.1	30.7	31.3	35.7	30.1	35.6	37.1	33.0
Mithun cross	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	46.4	51.6
Buffaloes	n.a	n.a	n.a	n.a	n.a	n.a	5.2	4.3	4.7	4.3
Sheep(b)	27.0	31.8	37.5	44.3	52.3	43.8	36.4	46.6	47.8	43.7
Goats	n.a	n.a	n.a	n.a	n.a	n.a	40.9	36.7	32.5	36.9
Pigs	55.5	56.6	57.7	58.9	60.1	88.6	70.3	65.7	63.2	59.6
Horses	n.a	n.a	n.a	n.a	n.a	23.6	26.0	25.7	26.1	26.1
Poultry	152.5	158.8	165.5	172.3	179.5	211.3	218.0	237.2	210.7	218.8

(a) Upto 1988, mithun species was included in cattle. (b) For 1981 and goats.  
Source : Animal Husbandry Department.



TABLE 5.15 : FOOD CORPORATION OF BHUTAN, IMPORTS AND DISTRIBUTION, 1981/82 TO 1990/91.  
(tonnes)

Commodity	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
IMPORTS										
Rice	2,345	5,843	6,033	5,388	7,211	11,282	16,750	11,600	9,900	8,776
Wheat	873	2,725	2,123	2,599	2,450	3,350	5,767	4,990	2,834	1,450
Sugar	1,276	1,381	1,800	1,824	2,749	3,574	4,039	3,616	3,040	3,447
Salt	3,475	2,755	2,326	3,598	5,689	3,516	5,035	6,495	4,619	4,318
Oil	-	-	240	306	557	874	1,280	400	340	270
SALES										
Rice	2,127	5,561	4,537	4,863	6,956	11,761	16,700	11,197	8,895	8,203
Wheat	661	2,701	2,230	2,280	2,534	3,346	5,595	4,544	2,964	1,327
Sugar	1,085	1,289	1,575	1,996	2,579	3,731	4,078	3,490	3,039	3,001
Salt	429	278	179	617	3,603	3,513	5,050	4,050	4,687	4,497
Oil	-	-	214	213	472	516	1,082	435	416	237

Source: Food Corporation of Bhutan.

TABLE 5.16 : AGRICULTURAL PRODUCE HANDLED BY FOOD CORPORATION OF BHUTAN,  
1982/83 TO 1990/91

Commodity	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
(a)									
Quantity (tonnes)									
Potatoes	3,795.8	6,178.9	7,571.9	8,987.8	8,021.0	10,060.3	14,275.7	13,881.0	9,886.0
Apples	452.5	671.9	889.6	648.0	1,295.0	965.6	431.8	325.3	94.0
Oranges	549.4	588.6	690.0	789.5	946.3	2,455.6	2,373.8	2,138.2	3,275.0
Value (Nu.millions)									
Potatoes	5.2	10.5	11.5	15.0	19.2	21.2	31.2	29.5	24.7
Apples	1.4	2.4	3.5	2.8	4.4	4.8	2.9	1.8	0.5
Oranges	1.6	1.3	1.8	2.2	2.9	7.1	7.6	6.1	9.0

(a) 1987/88 refers to the 15 month period April 1987 to June 1988 while 1988/89 and 1989/90 refer to the twelve month period July to June. The remaining years refer to the twelve month period April to March.

Source: Food Corporation of Bhutan.



TABLE 5.17: PRODUCTION OF LOGWOOD, 1982/83 TO 1988/89 (a)

	('000 cubic metres)									
	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88 (b)	1988/89	1989	1990	1991
Commercial Logging- Bhutan Logging Corporation	34.0	59.7	100.8	59.1	118.1	76.9	83.4	54.3	48.9	40.1
Logging for house construction and public works	55.8	31.8	54.3	77.7	31.0	6.8	6.0	379.8	153.8	310.0
Firewood (m3)	3135.4	3213.8	3294.2	3376.5	3460.9	10496.8	1593.3	2198.0	3048.0	
TOTAL	89.8	91.5	155.1	136.8	149.1	83.7	89.4	481.4	234.3	364.4

58

(a) Years refer to 1 April to 31 March while 1987/88 refer to fifteen months period April to June and 1988/89 refer to twelve month period July to June. Figures exclude collection of firewood by individuals. (b) The volume of production has declined mainly because of road blocked, heavy monsoon and shortage of labourers.

Source: Department of Forestry.

## 6. INDUSTRIES ✓

### INTRODUCTION

The subject 'industries' covers the whole range of industrial activity 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 activity is limited to relatively small operations, mainly involved in the mining of limestone, coal, slate and dolomite.

The manufacturing industry is dominated by a small number of major operators such as the Penden Cement Plant and the Gedu Wood Manufacturing Corporation. The first chemical plant - Bhutan Carbide and Chemicals Ltd. - was inaugurated during 1988. In addition, there are a number of smaller manufacturing plants concentrated in the food processing and wood products sectors. Cottage industries also play a prominent role with its good timber resources and favourable agricultural conditions, there is ample scope for expansion of the manufacturing sector especially 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.

### MAIN FEATURES

There were 349 manufacturing and mining firms licensed in 1986, of which 14 were public-owned and 335 were in private ownership. A total of 249 firms were in the food industry, the majority of which were very small operations. The other important industry was wood and paper products with 55 licensed firms, over half of which employed more than 10 persons.

In the manufacturing sector as a whole, 285 firms employed less than 10 employees, 21 had employment within the range 10-19, 16 employed between 20-49 employees, while 18 had more than 50 employees.

59



TABLE 6.1: NUMBER OF LICENSED MANUFACTURING FIRMS BY INDUSTRY AND EMPLOYMENT 1986

Industry	Employment size					Total
	Less than 10	10-19	20-49	50-99	100 and over	
Food processing/milling	237	4	2	3	3	249
Textiles and Clothing	3	1	-	1	-	5
Wood and Paper Products	27	14	9	2	3	55
Chemical Products	8	1	1	1	1	12
Mineral Products	2	1	-	1	2	6
Other	8	-	4	-	1	13
TOTAL MANUFACTURING	285	21	16	8	10	340

Source: Department of Trade and Industries.

TABLE 6.2 : NUMBER OF LICENSED FIRMS IN MANUFACTURING AND MINING INDUSTRIES BY SECTOR, 1986

Industry	Public	Private	Total
Mining			
Manufacturing	4	5	9
Food processing/milling	4	245	249
Textiles and Clothing	-	5	5
Wood and Paper Products	2	53	55
Chemical Products	1	11	12
Mineral Products	2	4	6
Other	1	12	13
Total Manufacturing	10	330	340
TOTAL	14	335	349

Source: Department of Trade and Industries.

TABLE 6.3: MINING AND INDUSTRY BY SECTOR, SIZE AND TYPE, NOVEMBER 1990

Dzongkhag	Sector	Size				Type				Total			
		Private	Public	Joint	Total	Agro- based	Forest based	Mineral based	Contr- act		Serv- ice	Trans- port	Others
Thimphu	196	6	5	140	59	6	29	5	135	20	3	9	207
Chhukha	97	2	3	62	22	11	27	5	21	17	5	16	100
Ha	21	-	-	15	6	-	7	-	10	-	4	-	21
Paro	45	1	-	33	12	4	13	1	23	3	1	1	46
Samchi	22	2	3	15	6	6	2	11	5	1	-	2	27
Chirang	12	-	-	7	5	2	2	-	6	2	-	-	12
Daga	-	-	-	-	-	-	-	-	-	-	-	-	-
Punakha	11	-	-	8	3	2	1	-	8	-	-	-	11
Wangdiphodrang	10	-	-	8	2	-	1	-	5	2	-	-	10
Bumthang	17	2	-	18	1	2	9	-	7	1	-	2	19
Sarbhag	44	3	-	22	1	13	9	4	8	8	-	5	47
Shemgang	9	-	-	5	4	2	3	-	4	-	-	-	9
Tongsa	5	-	-	1	3	2	3	-	7	-	-	-	5
Lhuntshi	7	-	-	7	-	-	-	-	-	-	-	-	7
Mongar	27	-	-	25	-	-	-	-	21	1	-	1	27
Pemagatshel	5	-	-	3	2	1	3	-	3	1	-	-	5
Samdrupjongkhar	58	3	1	14	40	11	13	7	18	8	2	1	60
Tashigang	20	1	-	10	11	2	8	-	8	2	-	1	21
Dzongkhag not identified	106	-	-	106	-	-	-	-	106	-	-	-	106
TOTAL	710	20	12	499	201	64	131	33	395	66	15	38	742

Source : Trade and Industry.



*Not on disk*

TABLE 6.4 : NUMBER OF OPERATING MINING AND MANUFACTURING INDUSTRIES BY EMPLOYMENT SIZE, BIC-1989 CENSUS

Industry group/classification	Employment size							Total
	Discription	-5	6-9	10-19	20-49	50-59	100+	
2 Mining and quarring		2	-	-	5	-	4	11
3 Manufacturing		35	21	62	22	6	11	157
31 Food, beverage and tobacco		17	5	10	1	1	4	38
32 Textile, wearing apparel, etc		1	1	2	2	-	1	7
33 Wood, wood products and furniture		7	5	39	16	1	3	71
34 Pulp, paper and printing		3	3	3	1	1	-	11
35 Chemicals, rubber and plastics		5	7	4	1	1	2	20
36 Non-metallic mineral products		2	-	2	-	2	-	7
38 Metal products & other manufacturing		-	-	2	1	-	-	3
2+3 Mining and manufacturing industries		37	21	62	27	6	15	168

Source : BOIC, Trade and Industry

*not on disk*

TABLE 6.5 : PERCENTAGE OF EMPLOYEES IN OPERATING MINING AND MANUFACTURING INDUSTRIES BY NATIONALITY, BIC-1989 CENSUS

Industry group/classification	Percentage of employees (%)				
	ISIC code	Description	Non-National national	Total	
2 Mining and quarring			30	70	100
3 Manufacturing			57	43	100
31 Food, beverage and tobacco			35	65	100
32 Textile, wearing apparel, etc			81	19	100
33 Wood, wood products and furniture			59	41	100
34 Pulp, paper and printing			77	23	100
35 Chemicals, rubber and plastics			50	50	100
36 Non-metallic mineral products			67	33	100
38 Metal products & other manufacturing			66	34	100
2+3 Mining and manufacturing industries			87	113	100

Source : BOIC, Trade and Industry

*Not on disk*

TABLE 6.6 : NUMBER OF OPERATING MINING AND MANUFACTURING INDUSTRIES BY OWNERSHIP TYPE, BIC-1989 CENSUS

Industry group/classification	Ownership type				Total ownership	
	ISIC code	Description	Privately owned	Jointly owned		Public/state owned
2 Mining and quarring			8	1	2	11
3 Manufacturing			136	5	16	157
31 Food, beverage and tobacco			30	1	7	38
32 Textile, wearing apparel, etc			6	-	1	7
33 Wood, wood products and furniture			66	1	4	71
34 Pulp, paper and printing			9	1	1	11
35 Chemicals, rubber and plastics			17	2	1	20
36 Non-metallic mineral products			6	-	1	7
38 Metal products & other manufacturing			2	-	1	3
2+3 Mining and manufacturing industries			144	6	18	168

Source : BOIC, Trade and Industry



*not on disk*

TABLE 6.7 : NUMBER OF OPERATING MINING AND MANUFACTURING INDUSTRIES BY FIXED ASSETS SIZE, BIC-1989 CENSUS

Industry group/classification	Fixed asset size (value in Nu. millions)						Total
	-0.10	0.10-0.25	0.25-0.50	0.50-1.00	1.00-2.00	2.00-5.00	
2 Mining and quarrying	3	-	-	-	-	2	11
3 Manufacturing	40	2	36	5	9	22	157
Food, beverage and tobacco	19	1	4	-	1	5	38
Textile, wearing apparel, etc	2	1	2	-	-	1	7
Wood, wood products and furniture	9	-	25	3	6	10	71
Pulp, paper and printing	4	-	1	-	1	2	11
Chemicals, rubber and plastics	4	-	2	2	1	4	20
Non-metallic mineral products	2	-	-	-	-	-	7
Metal products & other manufacturing	-	-	2	-	-	-	5
Total	-	-	-	-	-	-	1
2+3 Mining and manufacturing industries	43	2	36	5	9	24	168

Source : BOIC, Trade and Industry

*not on disk*

TABLE 6.8 : NUMBER OF OPERATING MINING AND MANUFACTURING INDUSTRIES BY DZONGKHAG, BIC-1989 CENSUS

Dzongkhag	Industry group/classifications (ISIC code)										Total (2+3)
	2 Mining and quarrying		3 Manufacturing Industries								
	31	32	33	34	35	36	38	38	38	Total	
Thimphu	2	-	25	3	6	1	1	1	1	43	45
Chukha	3	5	17	1	9	-	1	1	1	43	46
Ha	-	-	-	-	-	-	-	-	-	-	-
Paro	-	-	-	-	-	-	-	-	-	-	-
Samchi	4	-	-	-	-	-	-	-	-	-	-
Chirang	-	-	-	1	-	5	-	-	-	11	15
Dagana	-	-	1	-	-	-	-	-	-	1	1
Gasa	-	-	-	-	-	-	-	-	-	-	-
Punakha	-	-	-	-	-	-	-	-	-	-	-
Wangdiphodrang	-	-	-	-	-	-	-	-	-	-	-
Bumthang	-	-	9	-	-	-	-	-	-	-	-
Sarbhang	-	-	4	2	1	1	1	1	1	11	11
Shemgang	-	-	2	1	1	1	-	-	-	16	16
Tongsa	-	-	2	1	-	-	-	-	-	4	4
Lhuntshi	-	-	2	-	-	-	-	-	-	2	2
Mongar	-	-	-	-	-	-	-	-	-	-	-
Pemagatshel	-	-	1	1	1	-	-	-	-	3	3
Samdrupjongkhar	2	-	1	-	-	-	-	-	-	1	1
Tashi gang	-	6	8	1	3	-	-	-	-	19	21
Tashiyangtse	-	-	1	1	-	-	-	-	-	3	3
All Dzongkhags	11	38	71	11	20	7	3	3	3	157	168

Source : BOIC, Trade and Industry



## 7 - TRANSPORT AND COMMUNICATION

### INTRODUCTION

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

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

### MAIN FEATURES

By January 1991, there were 2,418.5 kilometers of motorable roads in Bhutan, of which 1,489 kilometers were black topped. As of January 1991, there were a total of 7,664 registered vehicles, in Bhutan.

Bus transport combines both public and private enterprise. A total number of 0.97 million passengers were carried in 1991/92. A total of 18,144 passengers were carried by Druk Air during 1991, an increase of nearly 5.8 per cent compared with 1990.

Post offices in Bhutan handled a total of 3.9 million items of mail during 1991 of which 2.2 million were domestic and 1.7 million were international.

TABLE 7.1 : ROAD NETWORK IN BHUTAN BY TYPE, JUNE 1991.

Type of road	Distance (km)			
	National Highways	District Roads	Feeder Roads	All Roads
Black topped	1,419	351	143.0	1913.0
Non-black topped	70	92	343.5	505.5
TOTAL	1,489	443	486.5	2418.5

Source: Department of Roads.

TABLE 7.2: ROAD NETWORK IN BHUTAN BY DZONGKHAG, JUNE 1991.

Dzongkhag	Distance (km)			
	National Highway	District Road	Feeder Road	All Roads
Thimphu	102	-	22.50	124.50
Chukha	157	22	36.00	215.00
Ha	15	11	16.00	42.00
Paro	104	51	10.50	165.50
Samchi	-	84	13.00	97.00
Chirang	62	-	24.00	86.00
Daga	22	87	13.00	122.00
Punakha	12	-	55.92	67.92
Wangdiphodrang	101	-	57.00	158.00
Bumthang	122	-	26.50	148.50
Gylegphug	110	-	40.90	150.90
Shemgang	142	-	-	142.00
Tongsa	163	-	-	163.00
Lhuntshi	-	47	10.00	57.00
Mongar	177	20	29.00	226.00
Pemagatsel	-	23	18.38	41.38
Samdrupjongkhar	59	48	7.00	114.00
Tashigang	141	10	98.80	249.80
BHUTAN	1,489	443	486.50	2418.50

Source : Department of Roads. Figures pertain to 1.4.92



TABLE 7.3: THE NUMBER OF REGISTERED VEHICLES, 1991, BY REGION

REGION	TYPE OF VEHICLES				Total
	Heavy	Light	Two-wheelers	Taxi	
Thimphu	1671	3471	4100	378	9620
Gaylegphug	143	598	-	14	755
Phuntsholing	1406	780	520	55	2761
Samdrupjongkhar	39	8	61	-	108
Total	3259	4857	4681	447	13244

Note: 1. The above figures do not include defence service vehicles  
 2. Two-wheelers of gaylegphug are included with light vehicles  
 source: Department of Revenue and Customs

TABLE 7.4 : NUMBER OF NEW MOTOR VEHICLE DRIVING LICENCES ISSUED (a) BY TYPE OF VEHICLE, 1982 TO 1991.

Type of vehicle	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Scooter/Bike	61	82	141	105	179	324	163	465	103	523
Light Vehicle	205	177	307	322	531	507	373	691	606	665
Medium	30	32	24	30	18	39	41	57	52	51
Heavy	161	126	88	87	131	187	65	63	50	77
Other(b)	20	18	29	32	44	34	82	132	161	76
ALL VEHICLES	477	435	589	576	903	1,091	724	1,408	972	1,392

(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 and bulldozers.

Source: Royal Bhutan Police.

TABLE 7.5 : BHUTAN GOVERNMENT TRANSPORT SERVICE, PASSENGERS CARRIED, 1982/83 TO 1991/92.

Year	Passengers carried ('000)
1982/83	1,045
1983/84	1,149
1984/85	1,264
1985/86	1,239
1986/87	1,142
1987/88	1,228
1988/89	1,230
1991/92	972

Source: Bhutan Government Transport Service.

TABLE 7.6: NUMBER OF MOTOR VEHICLE ACCIDENTS BY TRAFFIC DIVISION, 1984 TO 1991.

Traffic Division	1984	1985	1986	1987	1988	1989	1990	1991
Thimphu	36	69	105	144	142	154	105	107
Chimakothi	41	45	31	35	24	14	20	26
Phuntsholing	30	35	39	23	14	38	40	19
Samchi	-	5	4	8	7	7	8	5
Gaylegphug	8	10	12	17	7	19	23	9
Chirang	3	1	1	8	3	9	5	5
Tongsa	6	5	9	9	12	19	27	14
Samdrupjongkhar	7	12	15	15	25	21	14	15
Tashigang	1	4	5	11	14	10	6	13
Mongar	3	1	1	5	6	8	4	6
TOTAL	135	187	222	275	254	299	252	219

Source : Royal Bhutan Police till Dec. 91.



TABLE 7.7 : CIVIL AVIATION - DRUK AIR FLIGHT SERVICES, 1985/86 TO 1991

Sector	1985/86	1986/87	1987/88	1988/89	1989	1990	1991
Passenger carried							
Calcutta/Paro/Calcutta	6,269	7,891	8,661	5,648	3,337	4,418	2,599
Paro/Dhaka/Paro	-	292	1,663	849	363 c	880	1,295
Paro/Delhi/Paro	-	-	-	2,949	5,140	6,513	5,756
Paro/Bangkok/Paro	-	-	-	614	1,770 b	3,321	5,032
Paro/Kathmandu/Paro	-	-	-	495	1,016 d	2,011	3,481
All sectors	6,269	8,183	10,324	10,555	11,626	17,143	18,144
Number of flights(a)	546	687	395	387	n.a	n.a	n.a
Revenue(Nu. in millions)	11	10	15	43	n.a	n.a	n.a

(a) Inclusive of all sectors. b) March '89 to December '89  
(c) May '89 to Dec. '89 d) April '89 to Dec. '89  
Source : Druk Air Corporation.

TABLE 7.8 : TELEPHONE CONNECTION CAPACITY (a)  
BY EXCHANGE.

Exchange	Connection Capacity		1991
	1989	1990	
Thimphu	1,000	3,000	3,000
Phuntsholing	400	400	900
Wangdiphodrang	50	50	50
Paro	100	100	100
Ha	50	50	50
Punakha	35	20	20
Chimakothi	50	50	50
Tongsa	35	35	35
Geylegphug	100	100	100
Sarbhang	50	50	50
Samdrupjongkhar	100	100	100
Tashigang	35	35	35
Samchi	100	100	100
ALL EXCHANGES	2,105	4,090	4,620

(a) While figures refer to connection capacity, they should reasonably reflect the number of telephone sets in use.

Source: Department of Telecommunication.

TABLE 7.9 : NUMBER OF TRUNK LINES, 1990

Place	Type	No. of circuits	Distance Km (for physical line)
Thimphu-London	Satellite	6	
India	Microwave/UHF	39	
Thimphu-Chimakothi	Microwave		-
Thimphu-Wangdiphodrang	Physical lines	1 pairs	45
Thimphu-Punakha	Physical lines	1 pairs	60
Thimphu-Paro	Physical lines	3 "	54
Wangdiphodrang-Punakha	Physical lines	1 "	15
Paro-Ha	Physical lines	1 "	18
Samdrupjongkhar-Tashigang	Physical lines	2 "	130
Geylegphug-Tongsa	Physical lines	2 "	200
Geylegphug-Sarbhang	Physical lines	2 "	23
Samchi-Banarhat(India)	Physical lines	2 "	14

(a) Microwave/UHF.

Source: Department of Telecommunication.

TABLE 7.10: NUMBER OF TELEPHONE TRUNK CALLS BY TYPE, 1987 TO 1991  
( '000)

Type of call	1987	1988	1989	1990	1991
Domestic calls	84.9	85.7	145.7	218.2	362.0
International calls				60.2	81.9
India	15.1	18.2	96.8	115.8	146.5
Other	3.1	3.8	50.5	-	-
Total	18.2	22.0	147.3	-	-
ALL CALLS	103.2	107.7	293.0	394.3	590.4

(a) Number of successful calls.

Source : Department of Telecommunication.



TABLE 7.11 : NUMBER OF POST OFFICES AND OTHER COMMUNICATION FACILITIES, 1980 AND 1990.

	1980	1989	1990
General Post Offices	2	2	
Post Offices	52	55	59
Branch Post Offices	27	28	25
Telegraph Offices	8	8	8
Wireless Stations(a)	28	44	39
Hydromet Stations	5	13	27 (b)

(a) Includes three stations installed at New Delhi, Dhaka and Kalimpong. (b) includes 15 part time observations.

Source : Department of Posts, Telegraph & Civil Wireless.

TABLE 7.12 (a) : NUMBER OF ITEMS OF MAIL SENT BY TYPE OF ITEM AND DESTINATION, 1990.

('000)

Type of Mail	Letters		Postcards	Printed Matter	Bookpost/ packets	Total	
	Ordinary	Registered					
Domestic	1,853.0	132.6	1,985.6	39.8	104.4	60.4	2,190.2
International	1,345.5	21.3	1,375.8	139.9	130.1	63.2	1,709.0
ALL MAIL	3,207.5	153.9	3,361.4	179.7	234.5	123.6	3,899.2

Source: Department of Posts, Telegraph and Civil Wireless.

TABLE 7.12(b) : NUMBER OF ITEMS OF MAIL SENT BY TYPE OF ITEM & DESTINATION, 1991.

('000)

Type of Mail	Letters		Post-cards	Printed Matter	Bookpost/ packets	Total	
	Ordinary	Registered					
Domestic	1,946.0	139.2	2,085.2	42.0	110.0	61.5	2,298.7
International	1,422.2	22.4	1,444.6	147.0	146.4	62.7	1,800.7
ALL MAIL	3,368.2	161.6	3,529.8	189.0	256.4	124.2	4,099.4

Source: Department of Posts, Telegraph and Civil Wireless.

TABLE 7.13 : NUMBER AND AMOUNTS OF MONEY ORDER BY TYPE, 1980 AND 1991.

Type	1980	1989	1990	1991
<b>Internal money order</b>				
Number ('000)	54.0	16.0	15.1	9.0
Amount booked ('000 Nu.)	4,735.9	10,459.0	8,311.4	6,057.0
Amount paid ('000 Nu.)	3,933.5	10,400.0	8,311.4	6,507.0
<b>Foreign money order (a)</b>				
Number ('000)	37.8	12.8	0.6	6.4
Amount booked ('000 Nu.)	1,412.7	5,757.0	164.1	3,398.2
No. received for payment	-	0.8	-	0.6
Amount paid ('000 Nu.)	117.3	498.4	5.0	401.2

(a) Amount booked refers to money transferred out of Bhutan. Amount paid refers to amount transferred into Bhutan. (-) refer to number less than tenth of thousand.

Source : Department of Posts, Telegraph and Civil Wireless.

*Combined (a) & (b)*



## 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 supplies of electricity which were supplemented by imports from India. With the commissioning of the first two units of the Chhukha Hydel Project during 1986, Bhutan substantially increased its electricity generation, and became a significant exporter of electricity to India. The final two units of the Chhukha project were commissioned during 1988.

### MAIN FEATURES

Total installed capacity at 1989/90 was 352.6 MW, of which 341.2 MW were generated from hydro power, 11.0 MW from diesel generating stations and 0.4 MW from micro hydel.

In the twelve months ending June 1989, total electricity generation was 1557.0 MU of which 1,544.3 MU was from the Chhukha plant. A total of 1,395.6 MU (90 per cent of electricity generation) was exported to India. Total sales to consumers in Bhutan amounted to 127.6 MU representing consumption per head of population of only 100 units. Some 28 towns and 221 villages have now been electrified with total consumers being 15229.

TABLE 8.1 : ELECTRICITY GENERATING STATIONS AND THEIR CAPACITY, 1989/90.

Generating Stations	Machine Sizes (MW)	Installed Capacity (MW)
<b>Hydro Stations</b>		
Chhukha Hydel Project	4 x 84	336.000
Thimphu	4 x 0.090	0.360
Gidakom	5 x 0.250	1.250
Wangdiphodrang	3 x 0.100	0.300
Tashigang	3 x 0.250	0.750
Mongar	3 x 0.130	0.390
Khaling	3 x 0.200	0.600
Gyetsha	3 x 0.500	1.500
<b>TOTAL HYDRO CAPACITY</b>		<b>341.150</b>
<b>Micro hydels</b>		
Nagu		0.010
Lhuntshi		0.020
Thinleygang		0.030
Rukubji		0.040
Tangsibi		0.030
Tongsa		0.050
Bubja		0.030
Tamshing		0.030
Ura		0.050
Yadi		0.030
Kenkhar		0.020
Surey		0.070
Gaylegphug		
<b>TOTAL MICRO HYDEL</b>		<b>0.410</b>
<b>Diesel Generation Stations</b>		
Phuntsholing	2 x 0.128	0.256
	2 x 0.248	0.496
Samchi	1 x 0.135	0.135
Paro	1 x 0.400	0.400
	1 x 0.088	0.088
Thimphu	1 x 0.500	0.500
	2 x 0.225	0.450
	2 x 0.150	0.300
	2 x 1.000	2.000
Damphu	1 x 0.048	0.048
Tongsa	1 x 0.056	0.056
Shemgang	1 x 0.080	0.080
Daga	1 x 0.040	0.040
Gaylegphug	1 x 0.280	0.280
PCA	4 x 1.000	3.600
BPL	-	0.254
CHP	2 x .310	2.000
<b>TOTAL DIESEL CAPACITY</b>		<b>10.983</b>
<b>TOTAL CAPACITY</b>		<b>352.643</b>

Source : Department of Power.

miss

1991/92



TABLE 8.2 : ELECTRICITY SUPPLY, 1983/84 TO 1989/90.

	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
(a)							
Installed capacity (MW)							
Hydro (b)	3.5	3.5	3.5	171.5	258.0	341.6	341.6
Diesel	4.4	4.4	5.4	5.4	4.8	4.8	11.0
Total	7.9	7.9	8.9	176.9	262.8	346.4	352.6
Electricity generation (MU)							
Hydro-Chhukha	-	-	-	339.4	1,470.5	1,541.1	1554.3
Hydro-Other	7.9	7.3	6.9	5.5	5.4	2.7	2.5
Diesel	2.3	3.2	3.7	1.5	0.3	0.2	0.1
Total	10.2	10.5	10.6	346.4	1,476.2	1,544.0	1557.0
Exports (MU)	-	-	-	319.3	1,386.7	1,396.0	1395.6
Imports (MU)	4.9	5.2	8.1	3.5	3.7	3.5	3.3
Net energy requirement (MU)	14.8	15.4	18.5	24.3	71.0	143.0	142.3
Net sales (MU)	10.8	12.2	14.6	17.2	60.9	123.3	127.6
Energy losses (MU)	4.1	3.2	3.9	7.0	9.9	19.7	14.2
Percentage losses (%)	27.4	20.6	21.1	29.0	13.9	13.8	10.3
Peak system demand (MW)	5.3	6.5	8.2	9.1	16.5	24.0	22.0

(a) Refers to fifteen months period 1 April 1987 to 30 June 1988. (b) Includes Chukha Hydel Project.

Source: Department of Power.

TABLE 8.3 : MAJOR TRANSMISSION LINES FOR EVACUATING CHHUKHA POWER, 1989/90

(Length in Kms)

	220 KV	66 KV
Chhukha - Birpara	76 (d/c)	-
Chhukha - Singhigoan	50 (s/c)	-
Chhukha - Phuntsholing	-	35.0
Chhukha - Confluence	-	44.0
Chhukha-Simtokha	59 (s/c)	-
Phuntsholing - Gomtu	-	27.0
Phuntsholing - Singhigoan	-	8.4
Confluence - Ha	-	34.0
Confluence - Simtokha	-	15.0
Simtokha - Wangdiphodrang	-	26.0
Chhukha - Gedu	-	21.0
Gedu - Phuntsholing	-	24.0
Confluence - Paro	-	24.0
Phuntsholing - Birpara	-	30.0
Total	76 (D/C) 109(s/c)	252.9

Source: Department of Power.

TABLE 8.4: ELECTRICITY CONSUMPTION, 1983/84 TO 1989/90.

	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
Towns electrified (No.)	19	19	19	19	19	20	28
Villages electrified (No.)	113	114	118	127	141	171	221
Consumers (No.)	9,262	9,751	10,583	11,361	12,640	14,092	1522
Sales of energy (Million Nu.)	n.a	n.a	n.a	13.9	22.3	34.5	37
Per capita consumption (units)	-	30	33	46	51	90	100

Source: Department of Power. (1) Based on 1.42 million population.

TABLE 8.5: SALES OF ENERGY FROM CHHUKHA HYDROPOWER, 1986 TO 1989 (Nu. in millions)

Year and month	1986			1987			1988			1989		
	Ex- port	In- ter- nal	Total	Ex- port	In- ter- nal	Total	Ex- port	In- ter- nal	Total	Ex- port	In- ter- nal	Total
January	-	-	-	18.1	0.2	18.3	18.9	0.5	19.4	14.6	1.3	15.9
February	-	-	-	13.9	0.2	14.1	15.1	0.4	15.5	12.3	1.1	13.4
March	-	-	-	12.2	0.2	12.4	15.7	0.5	16.2	17.8	1.3	19.1
April	-	-	-	15.6	0.3	15.9	18.2	0.4	18.6	25.2	0.9	26.1
May	-	-	-	20.6	0.3	20.9	33.7	0.4	34.1	24.3	1.1	25.4
June	-	-	-	20.3	0.4	20.7	41.3	0.8	42.1	30.1	1.1	31.2
July	-	-	-	25.5	0.4	25.9	49.5	1.0	50.5	32.4	0.9	33.3
August	-	-	-	31.5	0.3	31.8	37.2	0.9	38.1	29.8	1.2	31.0
September	5.1	0.1	5.2	28.4	0.3	28.7	43.7	0.9	44.6	26.9	1.1	28.0
October	4.9	0.1	5.0	32.0	0.4	32.4	28.3	1.1	29.4	28.5	1.2	29.7
November	13.2	0.2	13.3	31.1	0.4	31.5	19.4	1.0	20.4	19.9	1.2	21.1
December	18.8	0.2	19.0	26.6	0.5	27.1	16.3	1.2	17.5	18.4	1.3	19.7
Total	42.0	0.6	42.5	275.9	3.8	279.7	337.3	9.1	346.4	280.2	13.7	293.9

Source: Department of Power.

TABLE 8.6 : CONSUMPTION OF ELECTRICITY BY TYPE OF CONSUMER, 1989/90

Type of Consumer	Energy sold (MU)		Percentage	
	1988/89	1989/90	1988/89	1989/90
Domestic	9.6	11.3	7.8	8.8
Commercial & Government Offices	8.2	8.8	6.7	6.9
Industries	102.3	103.0	83.0	80.7
Bulk supply	3.0	4.3	2.3	3.4
Public lighting	0.2	0.2	0.2	0.2
Total	123.3	127.6	100.0	100.0

Source : Department of Power.



## 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 is very high, though a strategy of 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, and the purpose of their visit. Earnings of foreign exchange from overseas visitors is another important aspect.

### MAIN FEATURES

The total number of tourist arrivals in 1990 was 1,538, which is about 3.9 per cent more than the previous year. The highest number of tourists recorded was 2,524 in the year 1987. The largest numbers of tourists came from Japan, United States, and Germany (West). The majority of tourists (83 per cent) came on a tour, while, 17 per cent came for trekking and mountaineering. The arrivals in the months of March, September and October accounted for well over half of all arrivals.

TABLE 9.1 : ANNUAL TOURISTS ARRIVAL BY COUNTRY OF RESIDENCE

Country	Number of tourists 1989	Number of tourists 1990
United States of America	479	377
West Germany	285	161
Japan	317	445
United Kingdom	167	-
France	54	27
Switzerland	13	417
Belgium	18	-
Austria	40	-
Canada	6	-
Holland	6	-
Sweden	16	-
Thailand	14	-
Australia		14
Italy		9
Others	65	88
<b>TOTAL</b>	<b>1,480</b>	<b>1,538</b>

Source : Bhutan Tourism Corporation.



TABLE 9.2 : TOURIST ARRIVALS BY COUNTRY OF RESIDENCE AND TOURISM REVENUES, 1984 to 1990.

Country	1984	1985	1986	1987	1988	1989	1990
Europe							
West Germany	351.0	397.0	360.0	381.0	475.0	285.0	161.0
France	113.0	83.0	119.0	125.0	97.0	54.0	27.0
Italy(a)	75.0	61.0	99.0	105.0	-	10.0	9.0
Other Europe	329.0	287.0	162.0	540.0	496.0	272.0	417.0
Total Europe	868.0	828.0	740.0	1151.0	1068.0	621.0	614.0
United States of America	514.0	550.0	776.0	715.0	598.0	479.0	377.0
Japan	396.0	411.0	448.0	379.0	354.0	317.0	445.0
Australia(a)	66.0	46.0	60.0	40.0	-	4.0	14.0
Other	56.0	61.0	381.0	239.0	179.0	59.0	88.0
TOTAL TOURISTS ( Nos. )	1900.0	1896.0	2405.0	2524.0	2199.0	1480.0	1538.0
TOURISM REVENUE (Nu. mill)	26.0	29.8	36.4	40.	27.0	25.1	48.2

(a) Included in other categories in 1988.  
Source : Bhutan Tourism Corporation.

TABLE 9.3: TOURIST ARRIVALS BY PURPOSE, 1985 TO 1990.

Purpose	1985	1986	1987	1988	1989	1990
Tour	1,493	1,894	2,082	1,616	1,227	1,288
Trekking & mountaineering	403	511	442	583	253	250
Others						2
TOTAL	1	2	2,524	2,199	1,480	1,540

Source : Bhutan Tourism Corporation.

TABLE 9.4: TOURIST ARRIVALS BY MONTH, 1984 TO 1991.

Months	1984	1985	1986	1987	1988	1989	1990	1991
January	35	40	43	59	26	25	35	13
February	76	39	45	63	43	41	34	86
March	91	237	409	122	390	256	148	259
April	406	214	172	466	230	120	265	150
May	114	130	134	145	140	91	99	120
June	52	22	49	16	31	38	12	35
July	62	94	92	91	62	34	44	42
August	208	182	306	235	147	133	84	173
September	204	237	338	253	298	164	262	139
October	459	453	573	709	670	377	249	397
November	134	160	112	268	118	179	205	257
December	59	88	132	97	44	44	103	124
TOTAL	1,900	1,896	2,405	2,524	2,199	1,480	1,540	2,055

Source : Bhutan Tourism Corporation.

## 10. BALANCE OF PAYMENTS

### INTRODUCTION

Bhutan's economy is closely linked with India, though efforts towards diversification of products and markets are actively pursued.

While economic links with other countries are limited, significant amounts 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 and reliance is 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 travelers; 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 situation is obtained by including services and transfers to provide a measure of the current account balance.

The balance of payments statements also show how any negative current account balance is financed - in the case of Bhutan this is achieved through foreign aid. Any surplus of foreign aid over and above current account deficits means an increase in the foreign currency reserves of the country.

Balance of payments statistics in Bhutan are compiled by the Royal Monetary Authority based on information from its own accounts and those of the Bank of Bhutan, together with information on imports and exports. Efforts are under way to improve the data in a number of areas.

### MAIN FEATURES

During the period from 1982/83 to 1990/91, the trade balance deficit rose from Nu. 487.1 million to Nu. 606.9 million. In 1987/88, the deficit declined to Nu. 412.3 million with the result of the growth in exports of electricity from the Chhukha project to India. Imports grew sharply over the period 1982/83 to 1990/91 from Nu. 546.5 million to Nu. 1,994.6 million. Imports from countries other than India accounted for a significant part of this growth, rising from Nu. 100.0 million in 1982/83 to Nu. 332.1 million in 1990/91.

Foreign aid payments increased from Nu. 788.7 million in 1982/83 to Nu. 1,050.1 million in 1990/91. Aid from India accounted for Nu. 729.1 million of the 1990/91 figure. In 1990/91, Indian



rupee reserves amounted to Rupees 246.0 million (an decrease of Rupees 430.0 million over the previous year), while convertible currency reserves amounted to \$US 78.8 million (an increase of \$US 38.7 million over the previous year).

In 1990, the chief exports to India were electricity (Nu. 376.8 millions), inorganic chemicals (Nu.171.7 millions) and cork and wood (Nu. 110.1 millions) and cork and wood manufactures (Nu.107 millions). At the same time, the major import from India were road vehicles (Nu.136.1 millions) petroleum and petroleum products (Nu.134.5 millions) and cereals and cereals preparations (Nu.128.4 millions)

However the export to the third country valued at (Nu.181.1 millions) of which vegetables and fruits had contributed (Nu.89.7 millions). The import at the same period amounted to (Nu. 225.0 millions), of which road vehicles was the single major contributor and amounted to (Nu.56.4 millions).

The value of the Ngultrum is pegged to the Indian rupee at one - to - one parity. In relation to the US dollar, there has been a continuous depreciation of the Ngultrum over the past few years, declining from a calendar year average of Nu.8.66 to the dollar in 1981 to Nu. 22.74 to the dollar in December 1991.

TABLE 10.1: BALANCE OF PAYMENTS ESTIMATES, 1982/83 TO 1990/91.

Item	(Nu. in millions)									
	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	
Exports, fob(c)	159.4	160.7	206.4	272.0	427.1	711.9	1,072.6	1224.9	1387.6	
India	157.0	157.2	200.0	270.0	424.4	702.4	999.2	1100.8	1243.9	
Other	2.4	3.5	6.4	2.0	2.7	9.5	73.5	124.1	143.7	
Imports, cif(c)	(646.5)	(730.0)	(825.2)	(1,041.6)	(1,205.4)	(1,124.2)	(1,817.0)	1770.2	-1994.6	
India	(546.5)	(600.6)	(725.0)	(800.0)	(911.1)	(898.7)	(1,163.4)	1442.6	-1662.5	
Other	(100.0)	(129.4)	(100.2)	(241.6)	(294.3)	(224.5)	(653.6)	-324.6	332.1	
Trade balance	(487.1)	(569.3)	(618.9)	(769.6)	(778.3)	(412.3)	(744.3)	-549.6	-608.9	
India	(389.5)	(443.4)	(525.0)	(530.0)	(486.7)	(197.3)	(164.3)	-344.8	-418.6	
Other	(97.6)	(125.9)	(93.9)	(239.6)	(291.6)	(215.0)	(580.1)	200.5	166.3	
Services and transfer receipts	131.3	196.3	247.1	281.8	314.7	288.3	412.2	478.5	452.6	
India	89.8	146.8	172.4	205.7	215.7	182.9	277.4	231.6	220.7	
Other	41.5	49.5	70.7	76.1	99.0	105.4	134.8	246.8	231.9	
Services and transfer payments	(389.9)	(555.7)	(511.4)	(601.6)	(616.0)	(511.3)	(635.2)	-472.3	-565.0	
India	(346.9)	(450.0)	(422.7)	(399.7)	(421.8)	(326.2)	(426.5)	-265.1	-341.5	
Other	(52.0)	(105.7)	(88.7)	(201.8)	(194.2)	(185.1)	(208.7)	-207.2	-223.5	
Current account balance	(754.7)	(928.7)	(887.2)	(1,089.4)	(1,079.6)	(635.3)	(967.4)	-539.2	-719.4	
India	(646.6)	(746.7)	(775.3)	(724.1)	(692.8)	(340.6)	(313.4)	-378.3	-339.4	
Other	(108.1)	(182.1)	(111.9)	(365.3)	(386.8)	(294.7)	(654.0)	-160.9	-179.9	
Foreign aid	788.7	1,085.0	989.0	1,224.3	1,268.8	1,046.6	1,086.3	763.6	1050.1	
India	679.5	856.0	819.4	760.8	824.1	652.7	808.5	548.1	729.1	
Other	109.2	229.0	169.6	463.5	444.7	393.9	277.8	215.6	321.0	
Other loans	-	-	-	6.3	(6.3)	(64.0)	278.3	-42.1	51.5	
India	-	-	-	-	-	-	-	-	-	
Other	-	-	-	6.3	(6.3)	(64.0)	278.3	-42.1	-51.5	
Errors and omissions	25.9	(77.0)	31.9	(74.6)	(2.5)	58.4	(48.9)	-234.3	51.5	
India	18.0	(57.3)	24.7	(46.9)	(55.4)	(70.0)	(407.1)	-528.2	362.2	
Other	7.9	(19.7)	7.2	(27.7)	57.9	128.5	358.3	293.9	413.3	
Overall balance	59.9	79.3	133.7	66.6	185.3	405.7	348.3	-22.0	330.4	
India	50.9	52.1	68.8	(10.2)	75.8	242.0	87.9	-358.4	-172.5	
Other	9.0	27.2	64.9	76.9	109.4	163.7	260.4	306.4	502.9	

(a) Refers to 1 April 1987 to 30 June 1988, while previous years refer to 1 April to 31 March. Figures are revised from 1988 issue of Yearbook. (b) Refers to 1 July to 30 June. 1988/89 figures are preliminary. (c) Exports & imports given in Table 10.1 for 1986/87 differ from those given for 1986 in later tables because of adjustments for fiscal year and unrecorded exports and imports.

Source: Royal Monetary Authority of Bhutan.



*Source: 1981-1990*

TABLE 10.2. VALUE OF EXPORTS AND IMPORTS, 1981 TO 1990.

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
( Nu. in millions )										
Exports										
India	166.2	157.0	157.2	200.0	270.0	380.1	702.4	989.8	985.9	1,011.3
Third Countries	5.5	2.4	3.5	6.4	2.0	7.3	12.6	52.2	146.4	181.1
Grand Total	171.7	159.4	160.7	206.4	272.0	387.4	715.0	1,042.0	1,132.3	1,192.4
Imports										
India	520.6	546.5	600.6	725.0	800.0	814.0	899.7	1,108.9	1,214.8	1,143.0
Third Countries	65.3	100.0	129.4	100.2	126.9	354.0	224.5	663.8	249.9	225.0
Grand Total	585.9	646.5	730.0	825.2	926.9	1,168.0	1,124.2	1,772.7	1,464.7	1,368.0

*Balance of Trade*

Source : Central Statistical Organization and Department of Revenue and Customs.

*Yellow Cable Kobayna*

TABLE 10.3 : VALUE OF EXPORT TO INDIA AND THIRD COUNTRIES BY COMMODITY DIVISION (a) 1990  
( ' 000 Ngultrum )

Division Code	Commodity Division	India	Other	Total
<b>0. FOOD AND LIVE ANIMALS CHIEFLY FOR FOOD</b>				
00	Live animals chiefly for food	145.5	-	145.5
01	Meat and meat preparations	-	-	-
02	Dairy products and eggs	40.0	-	40.0
03	Fish, crustaceans and fish preparations	-	-	-
04	Cereals and cereal preparations	33,130.0	34,455.4	67,585.4
05	Vegetables and fruit	68,570.9	89,705.6	158,276.5
06	Sugar, sugar preparations and honey	2,143.7	-	2,143.7
07	Coffee, tea, spices etc.	30,147.9	10,665.6	40,813.5
08	Feeding stuff for animals	4,307.0	-	4,307.0
09	Miscellaneous edible products & preparations	-	-	-
	<b>T o t a l :-</b>	<b>138,485.0</b>	<b>134,826.6</b>	<b>273,311.6</b>
<b>1. BEVERAGES AND TOBACCO</b>				
11	Beverages	29,477.1	-	29,477.1
12	Tobacco and tobacco manufactures	-	-	-
	<b>T o t a l :-</b>	<b>29,477.1</b>	<b>-</b>	<b>29,477.1</b>
<b>2. CRUDE MATERIALS, INEDIBLE, EXCEPT FUELS</b>				
21	Hides and skins and furskins, raw	1,086.9	-	1,086.9
22	Oil seeds and oleaginous fruit	1,854.0	-	1,854.0
23	Crude rubber	-	-	-
24	Cork and wood	110,075.1	1,058.7	111,133.8
25	Pulp and waste paper	-	-	-
26	Textile fibres (other than wool tops) & their wastes (not manufactured into yarns or fabrics)	-	-	-
27	Crude fertilizers and crude minerals (excluding coal, petroleum and precious stones )	34,622.9	11,935.7	46,558.6
28	Metalliferous ores and metal scrap	224.6	-	224.6
29	Crude animal and vegetable materials, n.e.s	930.1	-	930.1
	<b>T o t a l :-</b>	<b>148,793.6</b>	<b>12,994.4</b>	<b>161,788.0</b>
<b>3. MINERAL FUELS, LUBRICANTS AND RELATED MATERIALS</b>				
32	Coal, coke and briquettes	2,736.0	9,146.9	11,882.9
33	Petroleum, petroleum products & related material	-	-	-
34	Gas, natural and manufactured	-	-	-
35	Electric current	376,810.0	-	376,810.0
	<b>T o t a l :-</b>	<b>379,546.0</b>	<b>9,146.9</b>	<b>388,692.9</b>
<b>4. ANIMALS AND VEGETABLE OILS, FATS AND WAXES</b>				
41	Animal oils and fats	-	-	-
42	Fixed vegetable oils and fats	-	-	-
43	Animal and vegetable oils and fats, processed	-	-	-
	<b>T o t a l :-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>5. CHEMICALS AND RELATED PRODUCTS, N.E.S.</b>				
51	Organic chemicals	1,863.9	-	1,863.9
52	Inorganic chemicals	171,683.4	-	171,683.4
53	Dyeing, tanning and colouring materials	-	-	-
54	Medicinal and pharmaceutical products	-	-	-
55	Essential oils and perfume materials; toilet polishing and cleansing preparations	-	-	-
56	Fertilizers, manufactured	-	-	-
57	Explosives	-	-	-
58	Artificial resins and plastic materials	2,381.4	13,570.0	15,951.4
59	Other chemical materials and products	8,520.6	34.6	8,555.2
	<b>T o t a l :-</b>	<b>184,449.3</b>	<b>13,604.6</b>	<b>198,053.9</b>



6. MANUFACTURED GOODS CLASSIFIED CHIEFLY BY MATERIALS

61	Leather, leather manufactures, n.e.s	-	-	-
62	Rubber manufactures, n.e.s	-	-	-
63	Cork and wood manufactures, excluding furniture	106,298.7	2,341.6	109,340.3
64	Paper, paperboard, and articles of paper n.e.s	745.4	-	745.4
65	Textile yarn, fabrics, made-up articles and related products.	1.0	-	1.0
66	Non-metallic mineral manufactures, n.e.s	21,858.1	3,972.9	25,831.0
67	Iron and steel	117.9	-	117.9
68	Non-ferrous metals	-	-	-
69	Other manufactures of metal, n.e.s	33.9	-	33.9
	<b>T o t a l :-</b>	<b>129,755.0</b>	<b>6,314.5</b>	<b>136,069.5</b>
7. MACHINERY AND TRANSPORT EQUIPMENT				
71	Power generating machinery and equipment	649.0	-	649.0
72	Machinery specialized for particular industries	-	-	-
73	Metal-working machinery	-	-	-
74	General industrial machinery and equipment, and machine parts	-	-	-
75	Office machines/automatic data processing equip.	-	-	-
76	Telecommunications and sound recording and reproducing apparatus and equipment	-	-	-
77	Electrical machinery/ apparatus/ appliances and parts	-	-	-
78	Road vehicles	-	-	-
79	Other transport equipment	-	-	-
	<b>T o t a l</b>	<b>649.0</b>	<b>-</b>	<b>649.0</b>
8. MISCELLANEOUS MANUFACTURED ARTICLES				
81	Sanitary, plumbing, heating and lighting fixtures and fittings	-	-	-
82	Furniture	73.0	-	73.0
83	Travel goods, handbags and similar containers	-	-	-
84	Articles of apparel and clothing accessories	-	-	-
85	Footwear	-	-	-
87	Professional/ scientific/controlling instruments	-	-	-
88	Photographic apparatus, equipment and supplies and optical goods: watches and clocks	-	-	-
89	Other miscellaneous manufactured articles	33.4	2,146.9	2,180.3
	<b>T o t a l :-</b>	<b>106.4</b>	<b>2,146.9</b>	<b>2,253.3</b>
9. COMMODITIES AND TRANSACTIONS NOT CLASSIFIED ELSEWHERE IN THE SITC				
Commodity Division				
	Not classified ( b )	-	2,030.6	2,030.6
	<b>T o t a l :-</b>	<b>-</b>	<b>2,030.6</b>	<b>2,030.6</b>
	<b>( GRAND TOTAL OF EXPORTS ) :-</b>	<b>1,011,261.4</b>	<b>181,064.5</b>	<b>1,192,325.9</b>

(a) Commodity division refers to the first two digits of the Standard International Trade Classification ( SITC )

(b) Rent from sale of water and handicrafts.

Source : Central Statistical Organization, Department of Revenue and Customs.

*Hobayana*

TABLE 10.4 : VALUE OF IMPORTS FROM INDIA AND THIRD COUNTRIES BY COMMODITY DIVISION (a) 1990  
( ' 000 Ngultrum )

Division Code	Commodity Division	INDIA	OTHER	TOTAL
0. FOOD AND LIVE ANIMALS CHIEFLY FOR FOOD				
00	Live animals chiefly for food	2,882.4	-	2,882.4
01	Meat and meat preparations	874.3	-	874.3
02	Dairy products and eggs	31,296.6	5,777.4	37,074.0
03	Fish, crustaceans and fish preparations	3,604.4	-	3,604.4
04	Cereals and cereal preparations	128,379.9	8,351.2	136,414.1
05	Vegetables and fruit	13,631.3	886.9	14,518.2
06	Sugar, sugar preparations and honey	24,649.2	-	24,649.2
07	Coffee, tea, spices etc.	6,694.2	-	6,694.2
08	Feeding stuff for animals	2,113.8	-	2,113.8
09	Miscellaneous edible products & preparations	188.3	-	188.3
	<b>T o t a l :-</b>	<b>214,314.4</b>	<b>14,698.5</b>	<b>229,012.9</b>
1. BEVERAGES AND TOBACCO				
11	Beverages	37,198.8	29.7	37,228.5
12	Tobacco and tobacco manufactures	111.1	0.5	111.6
	<b>T o t a l :-</b>	<b>37,309.9</b>	<b>30.2</b>	<b>37,340.1</b>
2. CRUDE MATERIALS, INEDIBLE, EXCEPT FUELS				
21	Hides and skins and furskins, raw	16.4	-	16.4
22	Oil seeds and oleaginous fruit	206.3	-	206.3
23	Crude rubber	41.5	-	41.5
24	Cork and wood	7,013.6	-	7,013.6
25	Pulp and waste paper	-	-	-
26	Textile fibres (other than wool tops) & their wastes (not manufactured into yarns or fabrics)	702.7	974.8	1,677.5
27	Crude fertilizers and crude minerals (excluding coal, petroleum and precious stones)	7,508.9	-	7,508.9
28	Metalliferous ores and metal scrap	6.3	-	6.3
29	Crude animal and vegetable materials, n.e.s	489.6	2,692.9	3,182.5
	<b>T o t a l :-</b>	<b>15,985.3</b>	<b>3,667.7</b>	<b>19,653.0</b>
3. MINERAL FUELS, LUBRICANTS AND RELATED MATERIALS				
32	Coal, coke and briquettes	25,470.6	9,631.6	35,102.2
33	Petroleum, petroleum products & related material	134,462.8	12.3	134,475.1
34	Gas, natural and manufactured	4,689.3	-	4,689.3
35	Electric current	4,418.9	-	4,418.9
	<b>T o t a l :-</b>	<b>169,041.6</b>	<b>9,643.9</b>	<b>178,685.5</b>
4. ANIMALS AND VEGETABLE OILS, FATS AND WAXES				
41	Animal oils and fats	-	-	-
42	Fixed vegetable oils and fats	44,269.3	5,123.7	49,393.0
43	Animal and vegetable oils and fats, processed	-	-	-
	<b>T o t a l :-</b>	<b>44,269.3</b>	<b>5,123.7</b>	<b>49,393.0</b>
5. CHEMICALS AND RELATED PRODUCTS, N.E.S.				
51	Organic chemicals	2,217.9	-	2,217.9
52	Inorganic chemicals	12,904.2	18.2	12,922.4
53	Dyeing, tanning and colouring materials	6,081.9	-	6,081.9
54	Medicinal and pharmaceutical products	18,942.9	-	18,942.9
55	Essential oils and perfume materials; toilet polishing and cleansing preparations	17,155.4	-	17,155.4
56	Fertilizers, manufactured	11,744.1	-	11,744.1
57	Explosives	502.0	-	502.0
58	Artificial resins and plastic materials	1,052.5	1,702.4	2,754.9
59	Other chemical materials and products	2,387.5	4.6	2,392.1
	<b>T o t a l :-</b>	<b>72,988.4</b>	<b>1,725.2</b>	<b>74,713.6</b>



6. MANUFACTURED GOODS CLASSIFIED CHIEFLY BY MATERIALS			
61	Leather, leather manufactures, n.e.s	-	-
62	Rubber manufactures, n.e.s	33,054.3	6,421.5
63	Cork and wood manufactures, excluding furniture	9,804.4	1,344.2
64	Paper, paperboard, and articles of paper n.e.s	23,754.5	4,094.5
65	Textile yarn, fabrics, made-up articles and related products.	57,674.3	16,418.9
66	Non-metallic mineral manufactures, n.e.s	27,821.1	99.2
67	Iron and steel	76,568.5	18,064.8
68	Non-ferrous metals	2,113.4	-
69	Other manufactures of metal, n.e.s	72,465.2	4,544.5
	<b>Total :-</b>	<b>303,255.7</b>	<b>59,987.6</b>
			<b>354,243.3</b>
7. MACHINERY AND TRANSPORT EQUIPMENT			
71	Power generating machinery and equipment	5,976.6	-
72	Machinery specialized for particular industries	17,331.9	21,972.1
73	Metal-working machinery	2,970.7	-
74	General industrial machinery and equipment, and machine parts	8,521.8	10,361.7
75	Office machines/automatic data processing equip.	5,011.3	7,013.8
76	Telecommunications and sound recording and reproducing apparatus and equipment	9,588.6	5,557.7
77	Electrical machinery/ apparatus/ appliances and parts	60,746.9	4,468.4
78	Road vehicles	136,094.6	56,440.5
79	Other transport equipment	12.7	4,256.4
	<b>Total :-</b>	<b>246,254.9</b>	<b>110,070.6</b>
			<b>356,325.5</b>
8. MISCELLANEOUS MANUFACTURED ARTICLES			
81	Sanitary, plumbing, heating and lighting fixtures and fittings	922.4	-
82	Furniture	5,613.9	47.3
83	Travel goods, handbags and similar containers	1,358.0	-
84	Articles of apparel and clothing accessories	4,029.5	2,259.0
85	Footwear	9,920.1	-
87	Professional/ scientific/controlling instruments	3,004.1	4,020.9
88	Photographic apparatus, equipment and supplies and optical goods; watches and clocks	5,864.4	579.6
89	Other miscellaneous manufactured articles	8,787.2	5,085.7
91	Postal packages not classified according to kind.	-	-
	<b>Total :-</b>	<b>39,499.6</b>	<b>11,992.5</b>
			<b>51,492.1</b>
9. COMMODITIES AND TRANSACTIONS NOT CLASSIFIED ELSEWHERE IN THE SITC			
	Commodity Division		
	- Not classified (b)	-	17,018.8
	<b>Total :-</b>		<b>17,018.8</b>
	<b>( GRAND TOTAL OF IMPORTS ) :-</b>	<b>1,142,919.1</b>	<b>224,958.7</b>
			<b>1,367,877.6</b>

(a) Commodity division refers to the first two digits of the Standard International Trade Classification ( SITC ).

(b) Includes UN imports, equipment for technical guidance, personal effects, and baggage imports.

Source : Central Statistical Organization, Department of Revenue and Customs.

TABLE 10.5 GROSS INTERNATIONAL RESERVES, 1961/82 TO 1990 (A)

Item	1961/82	1962/83	1963/84	1964/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
	RUPEE RESERVES (million rupees)									
Rupee reserves	209.5	260.4	312.5	381.3	371.1	446.9	689.0	776.9	418.4	246.0
Royal Monetary Authority	-	-	6.2	12.0	8.1	10.7	12.3	81.1	14.9	25.8
Bank of Bhutan	209.5	260.4	306.3	369.3	362.9	436.2	676.6	695.8	403.6	220.2
	CONVERTIBLE CURRENCY RESERVES (million US dollars)									
Convertible currency reserves	8.0	8.5	10.4	14.2	20.6	28.1	40.2	50.1	65.0	78.8
Royal Monetary Authority (A)	-	-	4.4	7.9	19.8	26.9	37.9	47.6	62.5	76.7
Royal Government (B)	3.3	2.8	-	-	-	-	-	-	-	-
Bank of Bhutan	4.1	4.5	4.7	6.3	0.8	1.1	2.3	2.5	2.5	2.1
Royal Insurance Corporation of Bhutan ( )	0.6	1.2	1.3	-	-	-	-	-	-	-
	TOTAL RESERVES (million US dollars)									
Total reserves	30.5	34.6	39.6	44.9	50.8	62.6	89.1	97.1	89.0	90.0

(A) The large change in 1985/86 is mainly a result of the takeover of the Bank of Bhutan's convertible foreign exchange by the Royal Monetary Authority of Bhutan. ( ) Including reserves tranche position in the International Monetary Fund from 1981/82.

Source: Royal Monetary Authority of Bhutan.



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TABLE 10.3 EXCHANGE RATES, NGULTRUM/\$ US, 1981 TO MAY 1990  
(period average)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
January	7.94	9.12	9.79	10.72	12.62	12.28	13.04	13.06	15.11	16.97	18.83
February	8.18	9.19	9.90	10.76	12.94	12.37	13.07	13.07	15.25	17.00	18.85
March	8.21	9.28	9.97	10.75	12.96	12.29	12.94	13.00	15.48	17.12	19.24
April	8.25	9.36	9.98	10.83	12.49	12.40	12.81	13.20	15.73	17.28	19.94
May	8.39	9.28	9.99	11.03	12.55	12.48	12.69	13.31	16.12	17.32	20.58
June	8.59	9.43	10.05	11.05	12.46	12.61	12.84	13.77	16.46	17.43	21.06
July	8.87	9.54	10.09	11.34	12.03	12.51	13.03	14.09	16.44	17.42	25.58
August	8.99	9.55	10.17	11.57	11.94	12.58	13.10	14.25	16.61	17.38	25.81
September	9.09	9.62	10.19	11.82	12.18	12.69	13.02	14.49	16.76	17.87	25.88
October	9.16	9.67	10.22	12.08	12.03	12.85	13.06	14.74	16.86	18.05	25.87
November	9.11	9.76	10.35	12.08	12.09	13.09	13.00	14.98	16.94	18.09	25.89
December	9.12	9.68	10.48	12.31	12.16	13.17	12.95	15.05	16.94	18.12	25.88
Calendar year average	8.66	9.46	10.10	11.36	12.37	12.61	12.96	13.92	16.23	17.50	22.74
Fiscal year average (1980/81)(1981/82)(1982/83)(1983/84)(1984/85)(1985/86)(1986/87)(1987/88)(1988/89)	7.89	8.93	9.63	10.31	11.89	12.24	12.79	12.97	15.15	16.97	18.74

Source: Royal Monetary Authority of Bhutan.

## 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 1960's with the expansion of trade with India and the inflow of development assistance. The Indian rupee was most commonly used until 1974 when the government first issued Ngultrum notes. Bhutan's official currency. The monetary sector has grown since then with increasing economic development, improvement in transport and communication facilities and greater urbanization, though the barter economy continues to be important.

The monetary sector in Bhutan comprises the Royal Monetary Authority, Bhutan's Central Banking organisation; 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 Unit 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 relationships 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 institutions.

### MAIN FEATURES

During 1990, there was an increase in the broad money supply (M2) of Nu. 102.2 million or 10.5 per cent from the previous year. This was largely accounted for by an increase in net foreign assets of Nu. 41.3 million.

From December 1983 to December 1990, there was an increase in net foreign assets of the Royal Monetary Authority and the Bank of Bhutan of Nu. 1,141.8 million. Domestic credit decreased by Nu. 12.7 million over the same period, mainly as a consequence of large increases in deposits of government with the Bank of Bhutan.



Investment in the two non-bank financial institutions has grown rapidly over the past few years. Between December 1983 and December 1990, total investment in the Royal Insurance Corporation of Bhutan increased from Nu. 137.5 million to Nu. 767.0 million while investment in the Unit Trust of Bhutan increased from Nu. 25.2 million to Nu. 378.9 million.

Loan amounts outstanding by the financial sector (including both banking and non-banking institutions) totalled Nu. 1035.6 million at the end of 1991. The use of those advances has changed over time with the building and construction industry in 1990 receiving 28 per cent of all advances compared with only 27 per cent in 1983. Agriculture received 4 per cent of advances in 1990, industry received 23 per cent and Trade and commerce received 17 per cent. However, the outstanding continued to remain lower in Agriculture and Transport sectors.

Interest rates on deposits with the Bank of Bhutan range from 5 per cent to 11 per cent. The Bank's interest rates on advances vary from 10 per cent to 15 per cent.

TABLE 11.1: MONETARY SURVEY (a) - ROYAL MONETARY AUTHORITY AND BANK OF BHUTAN,  
1983 TO 1990.

(Nu. in millions)

Item	End of Year						
	1983	1984	1985	1986	1987	1988	1989
Foreign assets (net)	345.7	490.2	595.4	700.1	1077.0	1,384.4	1,446.2
Rupee	260.5	317.6	359.0	380.0	579.0	658.4	575.5
Other	85.2	172.6	236.5	320.1	498.0	726.0	870.7
Domestic credit	110.4	45.1	101.7	53.9	-208.9	-250.5	3.4
Claims on Government (net)	10.0	-54.0	19.7	-33.1	-304.7	-398.8	-216.5
Claims on Government corporations	57.3	41.3	26.6	19.7	13.5	32.4	27.6
Claims on private sector	43.1	57.8	55.4	67.3	82.3	115.9	192.2
Total liquidity-Broad money (M2)	324.6	367.0	464.0	498.8	552.5	723.7	976.6
Money supply-Narrow money (M1)	177.2	209.8	261.7	277.1	316.8	412.0	546.3
Currency outside banks	22.1	46.2	70.4	90.7	103.5	149.1	188.1
Demand deposits	155.1	163.6	191.3	186.3	213.3	263.0	358.2
Quasi-money	147.4	157.2	202.3	221.8	235.7	311.6	430.2
Other items (net)	131.5	168.3	233.1	255.2	315.6	410.0	473.0

(a) Revised data, excluding rupees in circul.

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



TABLE 11.2 : ROYAL INSURANCE CORPORATION OF BHUTAN- FINANCIAL STATISTICS,  
1983 TO 1990.

(Nu. in millions)

ASSETS								
End of Year	Total assets	Reserves	Investments(a)					
			Total Investments	Claims on Govt. Enterprises	Claims on Private Sector	Claims on Deposit Banks	Claims on Non-mon. Financ. Instits.	Real Estate
1983	140.1	2.6	137.5	25.1	41.3	52.4	6.1	12.6
1984	170.1	7.0	163.1	29.0	61.0	51.2	6.8	15.0
1985	219.1	3.4	215.7	17.9	102.2	71.8	6.8	17.1
1986	269.5	2.5	267.1	18.1	150.3	71.0	7.0	20.7
1987	354.5	0.8	353.8	14.9	233.2	75.2	7.0	23.4
1988	467.8	6.1	461.7	28.6	319.2	83.6	7.0	23.4
1989	610.5	2.8	607.7	23.3	392.3	151.7	8.8	31.6
1990	769.6	2.6	767.0	24.7	514.4	190.0	2.5	35.4

LIABILITIES							
End of Year	Total	Insurance Reserve Funds	Life Fund	GEPF Fund(b)	UTB Fund(c)	Capital Accounts	Other Items (Net)
1983	140.1	5.8	4.8	102.5	21.3	12.0	-6.2
1984	170.1	9.8	5.6	119.8	36.8	12.0	-13.9
1985	219.1	7.6	7.4	149.2	66.0	12.0	-23.1
1986	269.5	6.9	9.0	171.3	92.1	12.0	-21.8
1987	354.5	6.9	9.2	210.8	145.4	12.0	-29.7
1988	467.8	10.1	12.2	254.2	209.9	12.0	-30.5
1989	610.5	15.9	15.1	312.8	247.6	12.0	7.1
1990	769.6	21.7	19.0	368.0	318.3	12.0	30.6

(a) Including Unit Trust of Ehtan funds. (b) Government Employees Provident Fund.

(c) Unit Trust of Bhutan.

Source : Royal Insurance Corporation of Ehtan.

TABLE 11.3 : UNIT TRUST OF BHUTAN- FINANCIAL STATISTICS, 1980 TO 1990.  
(Nu. in millions)

End of Year	Assets				Liabilities				
	Total Reserves		Investments		Total Deposits		Call Capital Accounts		Other Items (Net)
	4.0	0.5	3.5	10.4	4.0	1.6	2.5		
1980	4.0	0.5	3.5	10.4	4.0	1.6	2.5	-0.1	
1981	10.5	0.1	10.4	15.0	10.5	7.6	2.6	0.3	
1982	16.3	1.2	15.0	15.0	16.3	12.8	3.1	0.3	
1983	25.2	-	25.2	21.3	25.2	20.1	3.8	1.3	
1984	40.9	0.1	40.8	36.8	40.9	33.8	4.4	2.7	
1985	70.0	0.3	69.7	65.4	70.0	57.6	4.2	8.2	
1986	100.3	-	100.3	91.4	100.3	86.8	5.4	8.1	
1987	150.2	0.1	150.1	145.4	150.2	125.3	5.3	13.1	
1988	215.2	0.2	215.2	209.9	215.2	187.8	6.7	20.7	
1989	297.2	0.2	297.0	247.6	297.2	253.8	10.8	32.7	
1990	378.9	0.3	378.6	318.3	378.9	321.5	13.8	43.6	

(a) Royal Insurance Corporation of Bhutan.

Source: Unit Trust of Bhutan.



*note: please get data for it.*

TABLE 11.4: DEPOSIT MOBILISATION AND INVESTMENT, 1981 TO 1990

(Nu. in millions)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
<b>DEPOSIT</b>										
Unit shares	2.6	5.0	12.1	24.8	45.7	69.8	101.2	142.1	203.9	277.5
Fixed term units	4.8	7.2	7.4	7.4	9.0	12.6	16.7	34.0	32.2	44.0
Service oriented saving schemes	-	-	0.1	0.1	0.2	0.1	-	0.1	-	-
Recurring deposit schemes	0.2	0.5	0.1	0.1	0.1	-	-	-	-	-
Provident fund deposits	-	-	-	-	-	-	0.3	1.0	1.3	-
Total	7.6	12.6	19.6	32.4	54.9	82.5	118.2	177.2	237.5	321.5
<b>INVESTMENT</b>										
Investment through RICE	1.4	3.8	21.3	36.8	65.4	91.4	145.4	208.9	247.6	318.3
Direct investment	6.5	6.9	0.1	0.2	0.5	5.1	0.7	0.7	44.9	80.3
Investment in equity shares	-	-	-	-	-	-	-	0.3	0.3	-
Fixed deposit with bank	2.5	4.3	3.8	3.8	3.8	3.8	4.0	4.5	4.5	-
Total	10.4	15.0	25.2	40.8	69.7	100.3	150.1	215.4	297.3	378.6

Source: Unit Trust of Bhutan.

*215.4 is not with tally figure. RMA figure.*

*Done*

TABLE 11.5: FINANCIAL INVESTMENTS BY SECTOR(a) - AMOUNTS OUTSTANDING, 1983 TO JUNE 1991.

(Nu. in millions)

	End of year						
	1983	1984	1985	1986	1987	1988	1989
Industry							
Agriculture	10.4	14.9	15.2	18.5	21.4	21.3	26.5
Industry	52.0	57.7	67.2	72.3	58.2	119.5	147.7
Building and construction	51.1	59.4	89.4	135.1	200.7	240.1	272.3
Trade and commerce	23.7	31.8	18.0	19.8	32.8	78.0	127.8
Transport	32.4	31.4	30.9	26.4	28.7	41.3	56.0
Other(b)	19.9	29.7	30.2	37.9	32.5	93.0	167.2
TOTAL	189.5	224.9	250.9	310.0	374.3	593.2	797.5

(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 other.

Source: Royal Monetary Authority of Bhutan.

*Not here*



*No data*

TABLE 11.6 : BANK OF BHUTAN INTEREST RATES - DEPOSITS, 1982 TO 1991  
(per cent per annum)

Type of deposit	Effective dates									
	October 1982	May 1983	June 1985	June 1987	January 1988	June 1989	Jan. 1990	June 90	Jan 91	June 91
Savings	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Fixed	5.5	5.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
3-6 months	6.0	6.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
6-9 months	7.0	7.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
9 months-1 year	8.5	8.5	8.5	9.0	9.0	9.0	9.0	9.0	9.0	9.0
1-2 years	9.0	9.0	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
2-3 years	9.5	10.0	10.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
3-5 years	10.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
5 years and over	10.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0

98

Source: Bank of Bhutan

*no data*

TABLE 11.7: COMMERCIAL BANK INTEREST RATES - LOANS(a)  
(per cent per annum)

Type of loan	Interest rate(%)
Commercial	
Export trade	12.0
General trade	15.0
Transport	
Buses, lorries and trucks, and cars	15.0
Agriculture (including livestock)	
Up to Nu. 20,000	10.0
Up to Nu. 100,000	12.0
Above Nu. 100,000	13.0
Industrial	
Up to Nu. 200,000	10.0
Up to Nu. 1,000,000	12.0
Up to Nu. 5,000,000	13.0
Above Nu. 5,000,000	14.0
Working Capital	15.0
Tourism	13.0
Housing (commercial and residential)	14.0
Miscellaneous (including personal loans)	15.0
Government employee loan	13.0

(a) Rates applicable since 1 July 1988. Rates apply to all financial institutions.

Source: Bank of Bhutan.

99



## 12. PUBLIC FINANCE

### INTRODUCTION

The system of modern public finance practices 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 finances 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 only the needs of the Ministries of Finance, Home Affairs and Foreign Affairs. The requirements of development oriented Ministries like Communications and Tourism, Trade, Industry, Forests 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 budgets into 'Civil' and 'Development' was replaced by the concepts 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.

### MAIN FEATURES

Government domestic revenue rose from Nu. 119.6 million in 1981/82 to Nu. 1711.0 million in 1990/91. Of this, Nu. 250.6 million was met from tax revenue, while Nu. 960.4 million were from non-tax revenue and other sources of revenue. Current expenditure in 1990/91, which is the second year of Sixth Five Year Plan, totaled Nu. 1027.8 decrease of 6 percent over 1989/91), while development expenditure totaled Nu. 932.7 million (decrease of over 18 per cent over the same period).

The Budget deficit in 1990/91 was Nu. 111.1 million, following a deficit of Nu. 269.1 million recorded in the previous year. Domestic revenue amounted to 54.3 per cent of total expenditure in 1990/91, with grants from India accounting for 19.7 per cent.

TABLE 12.1: CURRENT BUDGETARY EXPENDITURE OF THE GOVERNMENT BY MINISTRY, 1981/82 TO 1988/89(a)

(Nu. in millions)

Ministry / Non-ministerial Organisation	1981/82 (revised)	1982/83 (actual)	1983/84 (actual)	1984/85 (actual)	1985/86 (actual)	1986/87 (actual)	1987/88 (actual)	1988/89 (actual)	1989/90	1990/91 (Budget)
<b>MINISTRIES</b>										
Home Affairs	12.6	15.5	16.7	18.6	24.1	27.3	43.3	49.8	53.2	71.7
Finance	19.4	21.8	26.0	41.2	82.3	155.4	104.4	130.9	207.3	171.6
Communication & Tourism	9.5	13.8	12.5	13.7	18.1	19.2	44.9	48.8	36.6	90.6
Social Services	51.8	52.9	51.4	79.7	137.6	96.5	213.5	214.3	207.4	217.1
Agriculture	26.4	24.7	30.1	30.9	50.7	47.1	98.6	121.7	116.9	136.8
Foreign Affairs	7.9	11.7	11.5	13.4	21.9	24.6	33.8	35.8	48.4	50.0
Trade and Industries	7.0	10.6	10.8	11.4	13.0	13.5	30.5	86.2	46.8	108.5
<b>NON-MINISTERIAL ORGANISATIONS</b>										
Special Commission	1.2	1.4	1.0	1.0	9.6	4.1	8.4	9.4	10.2	12.3
Central Monastic Secretariat	-	-	-	0.1	0.6	11.2	19.8	18.6	25.4	24.6
Royal Monetary Authority	-	-	0.7	-	-	-	-	-	-	-
Social & Cultural Div.	0.3	0.3	0.3	0.8	0.4	0.3	-	-	-	-
His Majesty's Secretariat	1.1	1.7	1.8	2.0	4.7	3.8	3.4	3.9	4.3	4.1
Planning Commission	1.0	1.0	0.6	1.6	2.6	2.6	4.2	4.0	4.4	8.5
Science and Technology	-	-	0.1	0.3	0.3	0.3	0.7	-	-	-
Royal Civil Service Commission	0.5	0.7	2.1	4.8	1.1	1.0	1.9	3.6	2.2	2.1
Royal Audit Authority	1.0	1.2	1.4	1.8	2.2	2.7	6.1	4.8	5.1	5.4
Royal Advisory Council	1.0	0.9	0.9	1.0	1.8	1.6	1.9	2.2	2.3	2.2
National Assembly	0.6	0.8	0.8	1.1	1.6	1.9	2.0	1.7	2.6	2.3
Nat. Urban Development Corp.	1.2	2.6	2.9	12.0	1.0	8.4	20.0	15.7	12.5	-
National Women's Association	-	-	-	-	0.3	0.4	1.0	1.3	1.4	2.1
Judiciary	1.7	3.0	3.2	3.7	5.1	5.1	8.9	9.6	12.0	12.2

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Source of Revenue 1981/82 1982/83 1983/84 1984/85 1985/86 1986/87 1967/88 1988/89 1989/90 1990/91  
(a)

Source of Revenue	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1967/88	1988/89	1989/90	1990/91
<b>CAPITAL REVENUE</b>										
Sales fixed capital assets, stock, land and other intangible assets	0.7	0.5	2.2	3.7	3.7	6.5	10.1	10.8	53.5	22.7
Unclassified revenue	22.7	-	-	5.4	9.2	9.1	2.0	0.9	0.7	0.6
<b>TOTAL CAPITAL REVENUE</b>	23.4	0.5	2.2	9.1	12.9	15.5	12.1	11.7	54.2	23.3
<b>RECEIPTS FROM DEPARTMENTAL ENTERPRISES</b>										
Druk Air	-	-	1.5	6.9	1.7	-	-	-	-	-
Posts and Telegraphs	1.7	1.0	2.9	3.2	4.2	5.5	6.0	5.9	6.5	6.0
Telephones	1.5	2.2	3.8	0.8	0.7	1.2	1.5	1.0	1.0	2.0
Wireless	0.2	0.4	0.8	0.2	-	-	-	-	-	-
<b>TOTAL RECEIPTS DEPT. ENTERP.</b>	3.4	3.6	9.0	11.1	6.6	6.7	7.5	6.9	7.5	8.0
<b>OTHER NON-REVENUE RECEIPTS</b>										
Treaty of 1949	-	-	-	-	0.5	0.5	0.5	0.5	0.5	0.5
Audit recovery	-	0.2	-	0.2	0.9	1.8	2.2	-	1.9	0.5
Recovery of loan & advance	0.3	0.7	2.3	0.5	0.8	0.3	0.4	0.1	0.9	0.1
Surrender of revolving fund	-	-	1.4	0.7	0.2	-	0.1	-	-	-
Surrender of unspent balance of budget	0.2	0.9	1.1	0.3	0.8	1.1	0.7	0.1	-	-
Recovery of cost of vehicles	3.4	3.9	3.3	4.4	1.9	0.7	0.9	0.5	-	0.5
Others	-	-	-	-	-	0.4	1.3	0.3	1.3	-
<b>TOTAL OTHER NON-REV. REC.</b>	3.9	5.7	8.0	6.1	5.1	4.8	6.0	2.3	4.6	2.1
<b>ALL REVENUE RECEIPTS</b>	119.6	137.7	196.0	276.2	257.5	338.5	749.5	733.3	841.2	911.5

(a) Figures refer to actual receipts. 1981/82 to 1986/87 refer to the twelve months period 1 April - 31 March. 1987/88 refers to the fifteen months period 1 April to 30 June 1988. 1988/89, 1989/90 and 1990/91 refers to twelve months period 1 July to 30 June. Wireless is merged with P & T.

Source : Department of Revenue and Customs.

TABLE 12.4: SUMMARY OF BUDGETARY OPERATIONS, 1981/82 TO 1990/91 (a)

(Nu. in millions)

Item	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91
	revised actual	actual	actual	actual	actual	actual	actual	actual	actual	actual
<b>Revenue</b>										
Tax revenue	65.1	75.7	113.7	133.7	135.9	173.8	232.3	232.6	231.8	250.6
Non-tax revenue	23.7	52.2	63.2	116.2	97.3	139.3	491.6	479.8	586.9	640.7
Other	30.8	9.8	19.1	26.3	24.3	27.0	29.2	20.9	161.4	319.7
<b>Total revenue</b>	119.6	137.7	196.0	276.2	257.5	340.1	753.1	733.3	980.1	1,211.0
<b>Grants</b>										
India	195.3	259.7	256.2	355.6	334.1	486.7	708.9	501.9	290.0	440.6
Other	104.9	100.6	222.1	156.5	367.6	295.6	221.0	178.2	198.3	466.8
<b>Total grants</b>	300.2	360.3	478.3	512.1	701.7	782.3	929.9	680.1	488.3	907.4
<b>Total revenue &amp; grants</b>	419.8	498.0	674.3	788.3	959.2	1,122.4	1,683.0	1,413.4	1,468.4	2,118.4
<b>Expenditure</b>										
Current	169.7	213.1	223.2	304.0	441.5	522.6	774.6	952.8	1,068.5	1,094.0
Development	267.1	274.7	476.0	454.4	776.2	698.1	965.1	1,068.3	669.0	1,135.5
<b>Total expenditure</b>	436.8	487.8	699.2	758.4	1,217.7	1,220.7	1,739.7	2,021.1	1,737.5	2,229.5
<b>OVERALL SURPLUS/DEFICIT</b>	(17.0)	10.2	(24.9)	29.9	(258.5)	(98.3)	(56.7)	(607.7)	(269.1)	(111.1)

(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 : Ministry of Finance



no Problem

### 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 the preparation of the Third Plan in 1971, the Planning Commission was established headed by 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 1981-82, the responsibility for making Plan allocations, raising internal resources, and negotiating foreign assistance etc. lay with the Planning Commission. In 1981-82, 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 allocation 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 Fifth Five Year Plan was successfully completed in 1986-87. The Sixth Five Year Plan (1987/88 to 1991/92) will give emphasis to attaining the objective of economic self-reliance with progressively higher rates of growth and greater distributional equity among various sectors and regions. At the same time, it will lay renewed emphasis on the preservation and promotion of traditional values and ideals.

#### MAIN FEATURES

The total size of the plan outlay rose from Nu. 107.2 million in the First Plan period to Nu. 15,590.7 million in Seventh Plan period. Outlays for the Sixth Plan were over double those for the Fifth Plan. In the Seventh plan period, about 49 per cent of the total outlay was 'current' expenditure while 'capital' expenditure amounted to 51 per cent.

Outlays of Development Plans.  
First Plan to Seventh Plan.

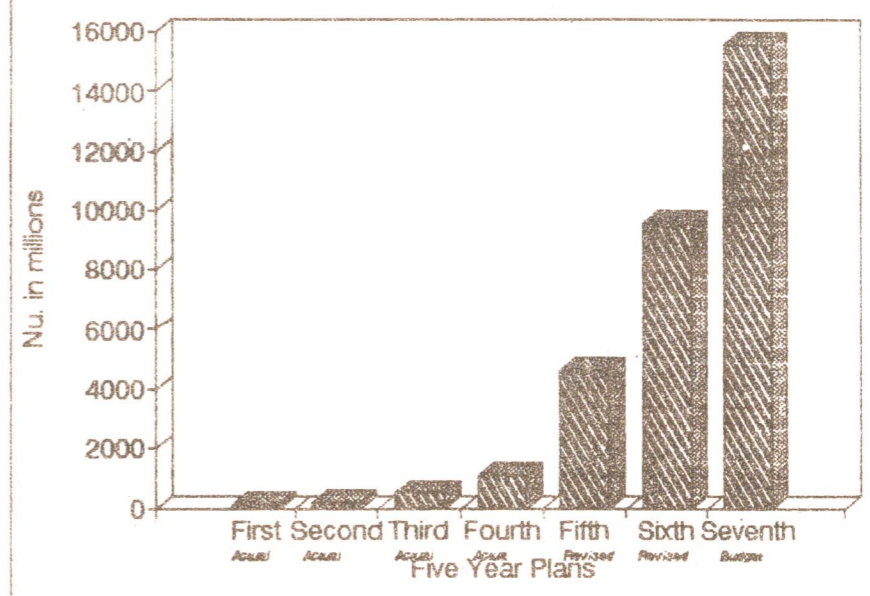




TABLE 13.1: OUTLAYS OF DEVELOPMENT PLANS, FIRST PLAN TO SEVENTH PLAN.

(Nu. in millions)

Sector	First Plan (actual) 1947-56	Second Plan (actual) 1956-71	Third Plan (actual) 1971-76	Fourth Plan (actual) 1976-81	Fifth Plan (a) (revised) 1981-87	Sixth Plan (revised) 1987-92	Seventh Plan (Budget) 1992-97
Agriculture	1.9	21.6	58.3	259.0	419.4	880.5	709.0
Food Corporation of Bhutan	-	-	-	-	135.5	106.5	-
Animal Husbandry	1.5	5.8	24.2	61.5	162.4	331.0	327.9
Forestry	3.2	6.9	28.4	110.3	229.9	418.2	479.0
Power	1.5	9.1	30.1	50.5	340.5	1,247.9	390.0
Trade and Industries	1.1	1.0	25.2	175.0	323.3	1,276.1	838.9
Geological Survey	-	-	-	-	-	35.3	153.8
Public Works Department	62.9	70.5	84.6	128.3	787.5	887.2	1,213.7
Road Transport/Aviation	7.5	12.0	9.5	-	26.3	48.8	95.3
Post & Telegraph	0.5	5.9	11.4	16.9	65.8	68.1	163.8
Telecommunications	-	-	14.8	37.3	33.7	133.8	1,088.9
Tourism	-	-	14.1	12.5	29.1	-	-
Druk Air	-	-	-	-	-	391.0	-
Education	9.4	35.7	90.0	134.6	519.1	778.8	1,736.0
Health	3.1	16.7	38.1	54.6	237.5	399.1	1,035.5
Information and Broadcasting	0.1	1.4	4.0	11.0	36.1	95.9	96.0
Urban Development	-	-	-	-	187.3	248.7	709.4
General Government	-	-	-	-	1,114.9	1,973.8	6,196.1
Dzongkhags	-	-	-	-	-	238.5	355.4
Other	14.4	15.6	42.5	54.7	-	-	-
TOTAL OUTLAYS.	107.2	202.2	475.2	1,106.2	4,648.3	9,559.2	15,590.7

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

Source: Planning Commission.

1976-81 (1973-74) & 1981-87 (1978-79) review (1981-87) & 1987-92 (1984-85) review (1987-92) review

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

(per cent)

Sector	First Plan 1947-56	Second Plan 1956-71	Third Plan 1971-76	Fourth Plan 1976-81	Fifth Plan (a) 1981-87	Sixth Plan 1987-92	Seventh Plan 1992-97
Agriculture	1.8	10.7	12.3	23.4	9.0	9.2	4.5
Food Corporation of Bhutan	-	-	-	-	2.9	1.1	-
Animal Husbandry	1.4	2.9	5.1	5.6	3.5	3.5	2.1
Forestry	3.0	3.4	6.0	10.0	4.9	4.4	3.1
Power	1.4	4.5	6.3	4.6	7.3	13.1	2.5
Trade and Industries	1.0	0.5	5.3	15.8	7.0	13.3	5.4
Geological Survey	-	-	-	-	-	0.4	1.0
Public Works Department	58.7	34.9	17.8	11.6	16.9	9.3	7.8
Road Transport/Aviation	7.0	5.9	2.0	1.5	0.6	0.5	0.6
Post & Telegraph	0.5	2.9	2.4	1.5	1.4	0.7	1.1
Telecommunications	-	-	3.1	3.4	0.7	1.4	7.0
Tourism	-	-	3.0	1.1	0.6	-	-
Druk Air	-	-	-	-	-	4.1	-
Education	8.8	17.7	18.9	12.2	11.2	8.1	11.1
Health	2.9	8.3	8.0	4.9	5.1	4.2	6.6
Information and Broadcasting	0.1	0.7	0.8	1.0	0.8	1.0	0.6
Urban Development	-	-	-	-	4.0	2.6	4.6
General Government	-	-	-	-	24.0	20.6	39.7
Dzongkhags	-	-	-	-	-	2.5	23.0
Other	13.4	7.7	8.9	4.9	-	-	-
TOTAL OUTLAYS	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) See footnotes to Table 13.1.

Source: Planning Commission.



TABLE 13.3 : PROPOSED OUTLAYS BY SECTOR, SIXTH PLAN (1987 - 1992)

(Nu. in millions)

Sector	Current	Capital	Total	% of Total Outlay
Agriculture	288.1	592.4	880.5	9.2
Food Corporation of Bhutan	72.7	33.8	106.5	1.1
Animal Husbandry	183.0	148.0	331.0	3.5
Forestry	139.3	278.9	418.2	4.4
Power	33.3	1,214.6	1,247.9	13.1
Trade and Industries	35.3	1,240.8	1,276.1	13.3
Geological Survey	17.4	17.9	35.3	0.4
Public Works Department	119.6	767.6	887.2	9.3
Civil Aviation	8.6	40.2	48.8	0.5
Post and Telegraph	65.1	3.0	68.1	0.7
Telecommunications	28.8	105.0	133.8	1.4
Druk Air	14.0	377.0	391.0	4.1
Education	532.5	246.3	778.8	8.1
Health	336.2	62.9	399.1	4.2
Information and Broadcasting	35.7	60.2	95.9	1.0
Urban Development	58.7	190.0	248.7	2.6
General Government	1,694.0	279.8	1,973.8	20.6
Dzongkhags	192.2	46.4	238.5	2.5
ALL SECTORS	3,854.4	5,704.8	9,559.2	100.0

Source: Planning Commission.

## 14. GROSS DOMESTIC PRODUCT

## INTRODUCTION

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

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

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



1. Gross National Product per Capita in Constant (year) and Current Prices.  
 2. Annual Growth Rate of Real GNP  
 Per Capita in % (Bar graph)

$\frac{\text{Current}}{\text{Constant}}$   
 Time graph

TABLE 14.1: GROSS DOMESTIC PRODUCT AT FACTOR COST IN CURRENT PRICES BY KIND OF ACTIVITY 1981

Activity	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
(Nu. in millions)												
Agriculture, livestock, forestry and fishing	621.4	676.7	804.3	934.2	1,117.6	1,236.2	1,399.2	1,623.5	1,746.3	1,924.3	2,087.8	2,326.4
Agriculture	309.9	331.2	380.3	461.6	523.0	580.6	644.4	715.3	829.8	937.7	1,057.6	1,212.3
Livestock	139.2	157.5	185.1	209.5	239.0	276.0	322.1	372.3	395.9	441.2	474.0	506.7
Forestry and logging	172.3	188.0	238.9	263.1	355.6	379.6	432.7	535.9	520.6	545.4	556.2	607.4
Fishing	-	-	-	-	-	-	-	-	-	-	-	-
Mining and quarrying	6.8	8.9	12.5	10.2	23.3	20.2	37.4	37.0	33.4	35.7	44.8	53.8
Manufacturing	35.8	63.5	70.1	96.5	109.5	128.3	137.1	204.7	226.5	302.5	396.7	467.7
Electricity and gas	2.5	2.7	3.7	6.7	5.9	6.8	96.6	377.0	388.0	391.0	384.7	404.5
Construction	88.5	142.8	188.2	238.6	276.5	290.5	267.5	349.9	309.0	358.2	397.1	456.5
Wholesale and retail trade, hotels and restaurants	121.5	155.6	162.1	170.0	182.4	203.0	234.1	248.2	258.5	268.8	321.6	416.4
Transport, storage and communications	47.9	58.1	66.2	76.8	80.6	104.1	114.2	126.0	180.6	235.6	341.5	375.7
Finance, insurance and real estate & business services	70.2	80.3	84.2	100.5	129.6	149.3	170.7	210.5	263.9	306.9	370.5	426.1
Finance and insurance	21.4	31.5	26.6	34.1	53.6	62.1	69.3	95.9	136.7	169.6	216.2	-
Real estate and business services	48.8	48.8	57.6	66.4	76.0	87.2	101.4	114.6	127.2	137.3	154.3	-
Community, social & personal services (Government administration and defence)	120.4	121.5	139.8	155.0	178.5	262.2	350.8	416.0	507.8	525.1	540.5	601.6
Less: Imputed bank service charges	-20.0	-30.0	-33.0	-35.0	-44.0	-51.0	-49.0	-62.0	-63.1	-67.0	-58.4	-78.7
<b>TOTAL GROSS DOMESTIC PRODUCT</b>	<b>1,095.0</b>	<b>1,280.1</b>	<b>1,498.1</b>	<b>1,753.5</b>	<b>2,059.9</b>	<b>2,349.6</b>	<b>2,758.6</b>	<b>3,530.8</b>	<b>3,850.9</b>	<b>4,281.1</b>	<b>4,826.8</b>	<b>5,450.0</b>
Annual growth rate (%)	..	16.9	17.0	17.0	17.5	14.1	17.4	28.0	9.1	11.0	12.0	12.9

Source: Estimates compiled by Central Statistical Office.

TABLE 14.2: GROSS DOMESTIC PRODUCT AT FACTOR COST IN 1980 PRICES BY KIND OF ACTIVITY, 1980 TO 1991.

Activity	(in 1980 prices)											
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991 (project)
1. Agriculture, livestock, forestry and fishing	621.4	636.1	692.2	742.2	806.5	833.9	881.0	925.8	939.7	962.9	984.5	1017.8
1.1 agriculture proper	309.9	312.5	331.0	368.9	388.3	411.6	436.3	458.1	485.6	514.7	530.9	558.3
1.2 livestock production	139.2	144.5	149.7	155.4	161.3	168.6	177.4	184.5	191.5	201.7	203.9	207.0
1.3 forestry and logging	172.3	179.1	211.5	217.9	256.9	253.7	267.3	283.2	262.6	250.8	249.7	252.5
1.4 fishing	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
2. Mining and quarrying	6.8	8.9	12.1	8.9	15.8	12.6	22.2	21.6	19.0	21.7	19.3	21.3
3. Manufacturing	35.8	59.1	59.6	62.9	67.2	75.4	71.0	105.0	110.3	129.2	149.3	160.0
4. Electricity and gas	2.5	2.7	3.1	6.0	5.2	6.0	60.4	229.0	225.1	222.3	203.8	212.2
5. Construction	88.5	131.0	157.7	185.2	173.5	169.0	141.8	152.3	129.0	136.2	136.8	143.0
6. Wholesale & retail trade restaurants and hotels	121.5	140.3	132.0	122.0	123.4	132.4	143.4	142.4	129.2	133.6	138.6	164.2
7. Transport, storage and communications	47.9	54.9	57.4	64.8	66.4	79.4	83.9	91.3	122.1	142.4	169.5	179.5
8. Financing, insurance, real estate & business services	70.2	80.3	77.0	91.1	109.4	110.1	126.2	135.7	141.0	162.9	199.2	218.2
8.1 financing & insurance	21.4	31.5	19.4	24.7	39.1	29.9	33.3	46.1	56.5	70.1	89.3	89.3
8.2 real estate and business services	48.8	48.8	57.6	66.4	70.3	80.2	92.9	88.6	84.5	93.4	109.9	109.9
9. Community, social & personal services (Govt. adm. & defence)	120.4	121.5	102.1	113.1	130.3	126.0	168.6	200.0	210.0	217.0	217.1	221.1
Less: Imputed bank service charges	-20.0	-30.0	-24.0	-26.0	-32.0	-25.0	-24.0	-30.0	-31.8	-41.1	-28.8	-37.8
Gross domestic product	1095.0	*1204.8	*1269.2	*1370.2	*1465.7	*1519.8	*1674.5	*1873.1	*1993.6	*2087.1	*2189.3	2299.4
Less consumption of fixed capital	81.2	70.4	74.7	82.8	87.7	93.6	121.9	197.4	201.8	215.0	241.6	258.8
Net domestic product (NDP)	1033.8	*1134.4	*1194.5	*1287.4	*1378.0	*1426.2	*1552.6	*1775.7	*1791.8	*1872.1	*1947.7	2042.6
Rate of growth of GDP over preceding year (%)	-	10.0	5.3	8.0	7.0	3.7	10.2	17.8	1.0	4.7	4.9	5.0

Source: Estimates compiled by Central Statistical Office  
 NA Report, US, 1991



- ① No. of Students per teacher in Prg & secondary schools (Be)  
 ② Govt. Expenditure on education per capita and percentage of total govt. Expenditure

TABLE 14.3: GROSS DOMESTIC PRODUCT BY KIND OF ACTIVITY: PROJECTIONS FOR THE SIXTH PLAN

*not on disc*

(Nu. in millions)

Activity	1986	1987	1988	1989	1990	1991
Agriculture, Livestock, Forestry and Fishing	1,399	1,482	1,570	1,664	1,764	1,870
Agriculture proper	644	676	710	745	782	822
Livestock production	322	338	355	373	392	412
Forestry and logging	433	468	505	545	589	636
Fishing	-	-	-	-	-	-
Mining and quarrying	37	41	45	50	55	60
Manufacturing	137	149	162	177	193	210
Electricity and gas	97	368	435	435	435	435
Construction	268	285	303	323	344	366
Wholesale and retail trade, hotels and restaurants	234	246	258	271	284	298
Transport, storage and communications	114	123	133	144	155	167
Finance, insurance and real estate and business services	171	183	196	210	225	241
Community, social & personal services (Government administration and defence)	351	372	394	417	442	468
Less: Imputed bank services charges	-49	-52	-55	-58	-62	-66
<b>TOTAL GROSS DOMESTIC PRODUCT</b>	<b>2,759</b>	<b>3,197</b>	<b>3,441</b>	<b>3,633</b>	<b>3,835</b>	<b>4,049</b>

Source : Estimates compiled by Central Statistical Office.

- \* ② The CPI (base) for major components - Health, Food, Beverage tobacco, Clothing footwear, Rent, fuel & power (L.G.)  
 ③ Annual rate of change in CPI (L.G.)

TABLE 14.4 : GROSS DOMESTIC PRODUCT AND EXPENDITURE

(Million Ru.)

(in current prices)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
outgoings											
Compensation of employees	1033.80	1206.20	1411.70	1651.0	1941.10	2212.40	2567.40	3200.40	3488.60	3909.10	4318.70
Operating Surplus	61.20	73.80	86.30	103.0	118.90	137.60	191.60	330.60	362.30	399.00	508.10
Consumption of fixed formation	17.90	21.20	23.60	34.80	45.60	41.80	43.0	76.70	82.80	73.70	134.20
Indirect taxes less subsidies	1112.90	1301.20	1521.60	1788.80	2105.60	2391.80	2802.00	3607.70	3933.70	4381.80	4961.00
Gross domestic product at market prices											
incomings											
Govt. final consumption expenditure	275.90	287.30	326.70	442.90	513.20	560.90	576.30	633.60	641.10	879.00	1223.00
Private final consumption expenditure	748.60	922.20	1053.80	1195.10	1435.80	1506.70	1837.90	2321.0	2558.20	2581.80	2695.80
Increase in stocks	14.70	74.70	59.80	21.30	10.40	81.60	32.0	-181.50	10.40	-121.10	-33.70
Gross fixed capital formation	330.40	425.80	555.70	690.70	754.90	1002.90	1103.10	1249.70	1508.00	1573.54	1690.90
Exports of goods and services less imports of goods and services	145.40	207.40	213.20	227.80	290.20	367.50	550.50	767.50	1200.80	1348.70	1484.90
Less imports of goods and services	-402.10	-616.20	-687.60	-789.00	-898.90	-1127.80	-1297.80	-1202.60	-1984.50	-1879.70	-2099.90
Expenditure on the gross domestic product	1112.90	1301.20	1521.60	1788.80	2105.60	2391.80	2802.00	3607.70	3934.00	4382.24	4961.00

\* = A sharp rise in GFC in 1987 is due to coming into operation of Chukha Hydel Project.

Source: Estimates compiled by Central Statistical Office.



1) And growth rate (%/annum) Bar of GDP and GDP

2) Tab: Availability and Use of Resources (a CP) - 4 Page

3) Tab: Selected Indicators of Money Supply and Price Level (Page 13)

TABLE 14.5 : NATIONAL DISPOSABLE INCOME AND ITS APPROPRIATION

	(in current prices)											(Million Nu.)										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980	
outgoings																						
Govt. final consumption expenditure	275.9	287.3	326.7	442.9	513.2	560.9	576.3	633.6	641.1	879.0	1223.0											
Private final consumption expenditure	748.6	922.2	1053.8	1195.1	1435.8	1506.7	1837.9	2320.8	2558.2	2581.8	2695.8											
Net saving	-166.3	-209.7	-209.0	-319.7	-240.8	-142.5	-136.1	122.3	188.6	514.2	429.7											
appropriation of disposable income	858.2	999.8	1171.5	1318.3	1708.2	1925.1	2278.1	3076.7	3387.9	3975.0	4349.5											
incomings																						
Compensation of employees and operating surplus	1033.8	1206.2	1411.7	1651.0	1941.1	2212.4	2567.4	3200.2	3488.6	3909.1	4318.7											
Compensation of employees from rest of the world (net) +	-217.0	-294.6	-357.8	-495.8	-436.3	-511.6	-517.9	-425.2	-466.6	-322.2	-424.7											
Property & entrepreneurial income from rest of the world (net)	17.0	24.9	36.2	39.7	48.5	61.9	50.9	75.7	119.2	110.0	93.6											
Indirect taxes	17.9	21.2	23.6	34.8	45.6	41.8	43.0	76.7	82.8	73.7	134.2											
Less subsidies	6.5	42.1	57.8	88.6	109.3	120.6	134.7	149.3	163.86	204.0	227.4											
Current transfers from rest of the world (net) x																						
disposable income	858.2	999.8	1171.5	1318.3	1708.2	1925.1	2278.1	3076.7	3387.9	3975.0	4349.5											

+ Represents compensation of employees brought from India & other countries to work on Chukha & other foreign aided projects.  
 x Represents private transfers and include Helvetas, Leprosy fund, Norwegian Mission, Misereor, save the children & others.

Source: Estimates compiled by central statistical office

Note: disk

TABLE 14.6 : CAPITAL FINANCE IN CURRENT PRICES, 1980 TO 1990.

	(Million Nu.)										
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Outgoings											
Increase in stock	14.7	74.7	59.8	21.3	10.4	81.6	32.0	-161.5	10.4	-121.1	-33.7
Gross fixed capital formation	330.9	425.8	555.7	690.7	754.9	1002.9	1103.1	1249.7	1508	1573.54	1690.9
Purchase of intangible assets	-	-	-	-	-	-	-	-	-	-	-
n.e.c.											
Net lending to the rest of the world	36.2	13.8	42.6	-41.2	-215.1	-183.4	-97.3	105.7	-57.2	165.9	244.00
Gross accumulation	381.8	514.3	658.1	670.8	550.2	901.1	1037.8	1193.9	1461.2	1618.34	1901.2
Net acquisition of financial assets	36.2	16.5	51.0	156.3	101.8	141.2	182.8	347.3	397.14	182.3	279.3
incomings											
Net saving	-166.3	-209.7	-209.0	-319.7	-240.8	-142.5	-136.1	122.3	188.9	514	429.7
Consumption of fixed capital	61.2	73.8	86.3	103.0	118.9	137.6	191.6	330.6	362.3	399	508.1
Capital transfer from rest of the world (net) +	486.9	650.2	780.8	887.5	672.1	906.0	982.3	741.0	910.3	705.1	963.4
Finance of gross accumulation	381.8	514.3	658.1	670.8	550.2	901.1	1037.8	1193.9	1461.5	1618.1	1901.2
Net lending to the rest of the world	36.2	13.8	42.6	-41.2	-215.1	-183.4	-97.3	105.7	-57.2	165.9	244
Net incurrence of liabilities	-	2.7	8.4	197.5	316.9	324.6	280.1	241.6	454.3	16.4	35.3
Net incurrence of liabilities plus net lending to the rest of the world	36.2	16.5	51	156.3	101.8	141.2	182.8	347.3	397.1	182.3	279.3

+ Represents receipt of developmental grants (net)  
 @ Represents borrowing from the rest of the world (net)

Source: Estimates compiled by central statistical office



*Not on disk*

TABLE 14.7 : ALL ACCOUNTS - EXTERNAL TRANSACTIONS

( Million Nu. )

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
outgoings											
Exports of goods and services	145.4	207.4	213.2	227.8	290.2	367.5	550.5	767.5	1200.8	1348.7	1484.9
Compensation of employees from the rest of the world	-	-	-	-	-	-	-	-	-	-	-
Property and entrepreneurial income from the rest of the world	17.0	24.9	36.2	40.6	49.9	65.6	86.6	83.4	119.2	150.6	128.4
Other current transfers from the rest of the world	6.5	42.1	57.8	88.6	109.3	120.6	134.7	149.3	163.9	204	227.4
Current receipts	168.9	274.4	307.2	357	449.4	553.7	741.8	1000.2	1483.9	1703.3	1840.7
incomings											
Imports of goods and services	402.1	616.2	637.6	769.0	938.9	1127.7	1297.8	1202.6	1984.5	1879.7	2099.9
Compensation of employees to the rest of the world	217.0	294.6	357.8	433.8	436.3	511.6	517.9	425.2	466.6	322.2	424.7
Property and entrepreneurial income to the rest of the world	-	-	-	0.9	1.4	3.7	5.7	7.7	23.44	40.6	34.9
Other current transfers to the rest of the world	-	-	-	-	-	-	-	-	-	-	-
Surplus of the nation on current transactions	-450.2	-636.4	-738.2	-928.7	-887.2	-1089.	-1079.	-635.3	-989.9	-539.2	-719.4
disposal of current receipts	168.9	274.4	307.2	357	449.4	553.7	741.8	1000.2	1484.6	1703.3	1840.1

*Source: Estimates compiled by external statistical office*

*Not on disk*

Table 14.8 : Gross and net domestic product and related aggregates  
(in current and 1980 prices)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
IN CURRENT PRICES												
1. Net domestic product at factor cost (million Nu.)	1033.8	1206.3	1411.8	1650.5	1941.0	2212.0	2567.0	3200.2	3488.6	3908.9	4318.7	4879.9
2. Add consumption of fixed capital (million Nu.)	61.2	73.8	86.3	103.0	118.9	137.6	191.6	330.6	362.3	399.00	508.1	570.1
3. Gross domestic product at factor cost (million Nu.)	1095.0	1280.1	1498.1	1753.5	2059.9	2349.6	2758.6	3530.8	3850.9	4307.9	4826.8	5450.0
4. Add indirect taxes less of subsidies (+) (million Nu.)	17.9	21.2	23.6	34.8	45.6	41.8	43.0	76.7	82.8	73.7	134.2	134.2
5. Gross domestic product at market prices (million Nu.)	1112.9	1301.3	1521.7	1788.3	2105.5	2391.4	2801.6	3607.5	3933.7	4381.6	4961.0	5584.2
6. Add net factor income from abroad (million Nu.)	-200.0	-269.7	-321.6	-456.1	-387.8	-449.7	-467.0	-349.5	-344.3	-171.6	-296.3	-296.3
7. Gross national product at market prices (million Nu.)	912.9	1031.6	1200.1	1332.2	1717.7	1941.7	2334.6	3258.0	3589.4	4210.0	4664.7	5287.9
IN 1980 PRICES												
1. Net domestic product at factor cost (mill. Nu.)	1033.8	1134.4	1194.5	1287.4	1378.0	1426.2	1552.6	1775.7	1794.6	1878.5	1947.7	2042.5
2. Add consumption of fixed capital (mill. Nu.)	61.2	70.4	74.7	82.8	87.7	93.6	121.9	197.4	201.8	215.0	241.6	258.8
3. Gross domestic product at factor cost (mill. Nu.)	1095.0	1204.8	1269.2	1370.2	1465.7	1519.8	1674.5	1973.1	1986.4	2093.5	2189.3	2299.3

(+) Excludes excise refunds from Government of India

*Source: Estimates compiled by Central Statistical office*



## 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 standards 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' includes food items (e.g. rice, other cereals, vegetables, oils and fats, and spices) together with non-food items such as clothing, fuel, furniture and other personal items. Items such as cereals are weighted more heavily than say furniture, because they represent a larger proportion of consumer expenditure. A price change in cereals will therefore have a greater effect on the CPI than a price change for furniture.

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

### MAIN FEATURES

In December 1991, the rate of inflation in Bhutan as measured by the change in the Consumer Price Index over the previous twelve months was estimated to be 13.3 per cent. This indicated that prices for consumer items in Bhutan as a whole rose by an average of 13.3 per cent over this twelve month period. This compares with a rate of 9.4 per cent recorded in the twelve months to December 1990.

Prices for food rose by an average of 15.1 per cent in the twelve months to December 1991, while prices for non-food items rose by 9.7 per cent over the same period.

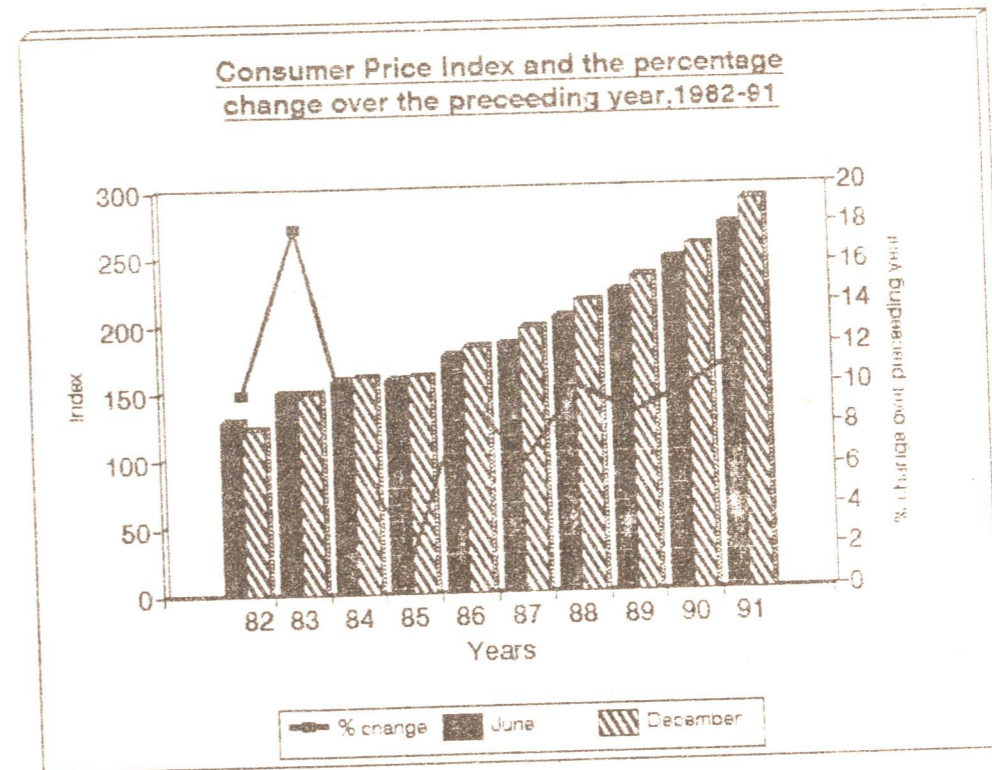




TABLE 15.1 : CONSUMER PRICE INDEXES - FOOD AND NON-FOOD COMPONENTS, BHUTAN, JUNE 1985 TO DECEMBER 1991  
DECEMBER 1979=100

I T E M	WEIGHT (%)	1985		1986		1987		1988		1989		1990		1991		AVERAGE GROWTH (%)
		JUNE	DEC	JUNE	DEC	JUNE	DEC	JUNE	DEC	JUNE	DEC	JUNE	DEC	JUNE	DEC	
INDEX																
Food	72.31	155.6	160.8	165.0	169.2	171.7	183.8	191.7	201.9	208.4	218.3	225.6	236.1	251.0	271.6	
Non-food	27.69	171.1	178.1	204.2	215.2	217.5	229.3	235.5	250.6	258.4	273.4	299.2	306.5	324.9	336.2	
Total	100.00	159.9	165.6	175.9	182.0	184.4	196.4	203.8	215.3	222.3	233.6	246.0	255.6	271.4	289.5	
PERCENTAGE CHANGE ON THE PREVIOUS YEAR																80-91 79-91
Food	72.31	5.2	2.5	6.1	5.3	4.0	8.6	11.7	9.8	8.7	8.1	8.2	8.1	11.3	15.1	8.6 8.7
Non-food	27.69	-8.6	3.9	19.3	20.8	6.5	6.5	8.3	9.3	9.7	9.1	15.8	12.1	8.6	9.7	10.4 10.6
Total	100.00	0.7	2.9	10.0	9.9	4.8	7.9	10.6	9.6	9.1	8.5	10.7	9.4	10.4	13.3	9.2 9.3
PERCENTAGE CHANGE ON THE PREVIOUS PERIOD																79-91
Food	72.31	-0.8	3.3	2.6	2.5	1.4	7.0	4.3	5.3	3.3	4.7	3.3	4.6	6.3	8.2	4.3
Non-food	27.69	-0.2	4.1	14.7	5.4	1.1	5.4	2.7	6.4	3.1	5.8	9.4	2.4	6.0	3.5	5.2
Total	100.00	-0.6	3.5	6.2	3.5	1.3	6.5	3.8	5.6	3.2	5.1	5.3	3.9	6.2	6.7	4.5

*Source: collection undertaken by central statistical office*

TABLE 15.2 : CONSUMER PRICE INDEXES - MAJOR COMPONENTS, BHUTAN, JUNE 1985 TO DECEMBER 1991  
(PERCENTAGE CHANGE ON THE PREVIOUS PERIOD)

I T E M	WEIGHT (%)	1985		1986		1987		1988		1989		1990		1991		AVERAGE GROWTH RATE (%) 79-91
		JUNE	DEC	JUNE	DEC	JUNE	DEC	JUNE	DEC	JUNE	DEC	JUNE	DEC	JUNE	DEC	
Cereals	37.77	-7.5	4.2	2.9	0.1	0.9	2.9	4.6	3.5	3.7	6.2	4.4	2.7	6.2	6.9	3.7
Pulses	0.67	14.2	2.8	4.0	1.0	2.8	5.0	6.4	13.4	7.6	4.2	1.7	8.3	2.1	9.3	5.0
Vegetables	2.43	3.1	8.5	0.8	5.7	-0.1	10.0	-3.5	33.9	2.1	-2.6	-12.4	-5.9	24.0	19.0	5.1
Fruits	0.04	22.8	35.1	25.3	-37.2	20.5	11.8	10.3	-8.1	8.8	-8.2	8.6	3.4	6.3	9.2	5.1
Edible oil & fats	2.87	-5.2	0.8	8.4	3.4	9.5	29.1	-3.4	-2.2	-3.5	3.2	17.7	19.2	6.2	7.1	5.1
Spices	5.10	18.6	3.9	0.6	15.2	0.2	18.2	4.9	10.3	-5.5	7.0	-1.5	4.2	8.7	23.7	5.7
Milk & its products	7.07	8.3	-1.1	0.7	6.5	0.5	7.4	12.9	9.0	2.1	3.2	3.9	2.1	3.1	7.6	4.8
Other food and intoxicants	16.36	5.6	2.8	3.1	1.8	2.3	7.7	2.3	1.9	7.8	3.5	3.3	9.0	5.1	4.2	4.3
Fuel & lighting	3.65	-7.5	8.3	11.3	6.2	-0.9	7.0	1.1	9.4	0.5	2.5	29.7	1.0	0.0	0.0	3.3
Clothing & footwear	21.20	0.8	3.1	17.3	5.0	1.2	4.9	2.8	6.2	2.7	6.6	8.4	2.7	6.8	3.7	5.4
Stationery goods & personal effects	0.62	4.5	3.5	3.4	1.5	0.2	18.1	3.6	3.6	4.2	2.3	6.3	6.0	-1.4	7.3	4.6
Misc. goods and services	1.57	-2.4	8.1	0.0	9.0	2.1	6.6	2.6	6.7	9.6	-0.4	4.0	-1.9	3.2	0.3	5.4
Furniture and utensils	0.65	-0.9	9.3	-2.8	7.2	3.2	3.2	4.3	2.7	7.7	13.3	-4.7	9.7	16.4	11.3	6.0
Total	100.00	-0.6	3.5	6.2	3.5	1.3	6.5	3.8	5.6	3.2	5.1	5.3	3.9	6.2	6.7	4.5

*Source: collection undertaken by central statistical office*



TABLE 15.3 : THIMPHU FOODPRICE INDEX, DECEMBER QUARTER 1987 TO MARCH QUARTER 1992

(Base : December 1979 = 100.0)

Period	Cereals & Pulses	Vegetables & Fruit	Other Food	Total Food
Quarter ending:				
December 1987	157.7	234.2	214.2	182.8
March 1988	156.7	196.1	207.8	178.4
June 1988	163.5	236.7	210.6	184.8
September 1988	170.5	192.7	220.1	190.9
December 1988	170.2	260.6	226.8	195.9
March 1989	172.8	261.8	228.3	198.0
June 1989	178.0	290.0	235.1	204.6
September 1989	180.3	292.8	239.3	207.7
December 1989	182.5	284.9	245.9	211.3
March 1990	189.8	267.7	254.6	218.2
June 1990	198.4	286.6	275.8	232.2
September 1990	201.7	263.2	261.7	227.6
December 1990	202.9	316.4	280.6	237.7
March 1991	210.8	375.1	294.1	249.7
June 1991	213.6	473.4	297.3	256.1
September 1991	227.7	447.8	300.6	264.5
December 1991	235.7	527.4	313.6	277.1
March 1992	258.4	534.4	316.7	291.5

Source: Central Statistical Office

TABLE 15.4 : THIMPHU FOOD PRICE INDEX, QUARTERLY CHANGES, DECEMBER QUARTER 1987 TO MARCH QUARTER 1992 (per cent)

Period	Cereals & Pulses	Vegetables & Fruit	Other Food	Total Food
Quarter ending:				
December 1987	3.7	9.0	8.6	6.2
March 1988	-0.6	-16.3	-3.0	-2.4
June 1988	4.3	20.7	1.3	3.6
September 1988	4.3	-18.6	4.5	3.3
December 1988	-0.2	35.2	3.0	2.6
March 1989	1.5	0.5	0.7	1.1
June 1989	3.0	10.8	3.0	3.3
September 1989	1.3	1.0	1.8	1.5
December 1989	1.2	-2.7	2.8	1.7
March 1990	4.0	-6.0	3.5	3.3
June 1990	4.5	7.1	8.5	6.4
September 1990	1.7	-8.2	-5.1	-2.0
December 1990	0.6	20.2	7.2	4.4
March 1991	4.0	18.6	4.8	5.0
June 1991	1.3	26.2	1.1	2.6
September 1991	6.6	-5.4	1.1	3.3
December 1991	3.5	17.8	4.3	4.8
March 1992	9.6	1.3	1.0	5.2

Source: Collection undertaken by Central Statistical Office

ANNEX I  
ADMINISTRATIVE UNITS

1. Thimphu Dzongkhag Gewog :	1. Babesa 4. Gevni 7. Teobesa	2. Chang 5. Kawang	3. Dagala 6. Mewang
(a) Lingshi Dungkhang Gewog :	1. Lingshi	2. Naro	3. Soy
2. Chhukha Dzongkhag Gewog :	1. Bongo 4. Getana 7. Metab	2. Chapchha 5. Geyli	3. Dunga 6. Jagchhu
(a) Phuntsholing Dungkhang Gewog :	1. Balujora 4. Phuntsholing	2. Gengudala	3. Logchina
3. Ha Dzongkhag Gewog :	1. Bee 4. Samar	2. Isu 5. Sangbay	3. Katsho
4. Paro Dzongkhag Gewog :	1. Dogar 4. Humrel 7. Naja 10. Wangchang	2. Dopshari 5. Lamgong 8. Shaba	3. Doteng 6. Lungni 9. Tsento
5. Samchi Dzongkhag Gewog :	1. Pagli	2. Samchi	3. Tading
(a) Chengmari Dungkhang Gewog :	1. Chargharey 4. Nainital	2. Chengmari	3. Gumauney
(b) Dorokha Dungkhang Gewog :	1. Denchhukha 4. Mayona	2. Dorokha	3. Dungleo
(c) Sibus Dungkhang Gewog :	1. Bangra 4. Sibus	2. Biru 5. Tendu	3. Lahirini
6. Chirang Dzongkhag Gewog :	1. Chirang Dangra 4. Kikhorthang 7. Samjong	2. Dugla,ang 5. Patali 8. Tshokana	3. Goseling 6. Phungtenchhu
(a) Lamidangra Dungkhang Gewog :	1. Beteni 4. Lamidangra	2. Chaunauti	3. Gairi Goan
7. Daga Dzongkhag Gewog :	1. Drujegang 4. Lajab	2. Kalizingkha 5. Tsangkha	3. Khibesa 6. Tsezang



- (a) Dagapela Dzungkhag  
Gewog : 1. Dorona 2. Emiray 3. Goshi  
4. Suntalay 5. Tashiding
8. Punakha Dzungkhag  
Gewog : 1. Chhubu 2. Geonshari 3. Guna  
4. Jimi 5. Kabisa 6. Lingbukha  
7. Shengana 8. Talo 9. Teowang  
10. Zoma
- (a) Gasa Dzungkhag (1992)  
Gewog : 1. Khamed 2. Khateo 3. Laya  
4. Lunana
9. Wangdiphodrang Dzungkhag  
Gewog : 1. Athang 2. Daga 3. Dangchhu  
4. Ganteo 5. Gase Tsogog 6. Gase Tsowog  
7. Jena 8. Kashi 9. Nahi  
10. Nisho 11. Phangyul 12. Phobji  
13. Rubisa 14. Sephu 15. Thetso
10. Bumthang Dzungkhag  
Gewog : 1. Chhokhor 2. Chhumi 3. Tang  
4. Ura
11. Sarbhang Dzungkhag  
(a) Geykephug Dzungkhag  
Gewog : 1. Bhur 2. Danabari 3. Geylegphug  
4. Lalai 5. Sershong 6. Surey  
7. Taklai  
(b) Kalikhola Dzungkhag  
Gewog : 1. Deorali 2. Kalikhola 3. Nichula  
(c) Sarbhang Dzungkhag  
Gewog : 1. Doban 2. Hilay 3. Leopani  
4. Sarbhangtar 5. Singye
12. Shemgang Dzungkhag  
Gewog : 1. Bardo 2. Nangkor 3. Shingkar  
4. Tong  
(a) Panbang Dzungkhag  
Gewog : 1. Drokhar 2. Ngala 3. Phangkhar
13. Tongsa Dzungkhag  
Gewog : 1. Dragteng 2. Korphu 3. Namther  
4. Nubi 5. Tangsibi
14. Lhuntshi Dzungkhag  
Gewog : 1. Gangzur 2. Jaray 3. Khoma  
4. Kurteo 5. Menbi 6. Menji  
7. Metsho 8. Tsenkhar

## ADMINISTRATIVE UNITS (Continued)

15. Mongar Dzungkhag  
Gewog : 1. Chaskhar 2. Dametsi 3. Gongdu  
4. Kengkhar 5. Mongar 6. Ngatsang  
7. Saleng 8. Selambi 9. Tangrong  
10. Tsakaling 11. Tsamang
16. Pemagatsetel Dzungkhag  
Gewog : 1. Chongshi Borang 2. Dungmed 3. Khangma  
4. Khar 5. Shumar 6. Yurung  
7. Zobel
17. Samdrupjongkhar Dzungkhag  
Gewog : 1. Orong 2. Gomdar  
(a) Dechhenling Dzungkhag  
Gewog : 1. Dechhenling 2. Norbugang  
(b) Bangtar Dzungkhag  
Gewog : 1. Bakuli 2. Dalim 3. Martsala  
4. Samrang  
(c) Daifam Dzungkhag  
Gewog : 1. Hastinapur 2. Louri 3. Serthig
18. Tashigang Dzungkhag  
Gewog : 1. Bartsham 2. Bidung 3. Kanglung  
4. Phongme 5. Radhi 6. Samkhar  
7. Shongphu 8. Uzarong 9. Yangner  
(a) Sakteng Dzungkhag  
Gewog : 1. Sakten
19. (a) Tashi Yangtse Dzungkhag (1992)  
Gewog : 1. Jangphu Khamdang 2. Tomiyangtse  
3. Toetsho 4. Yallang 5. Yangtshi  
(b) Thrimshing Dzungkhag  
Gewog : 1. Kangpara 2. Thrimshing  
(c) Wamrong Dzungkhag  
Gewog : 1. Khaling 2. Lumang 3. Nanong

TOTAL NUMBER OF GEWOGS - 191

Source: Ministry of Home Affairs 1990.