

397

STATISTICAL
YEARBOOK
OF
BHUTAN

1989

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CENTRAL STATISTICAL OFFICE
PLANNING COMMISSION

ROYAL GOVERNMENT OF BHUTAN
THIMPHU, MAY 1990

Catalogue No. 101

397

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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 Chukha Dzongkhags and the abolition of Gasa Dzongkhag.

PREFACE

This publication is the eighth 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.

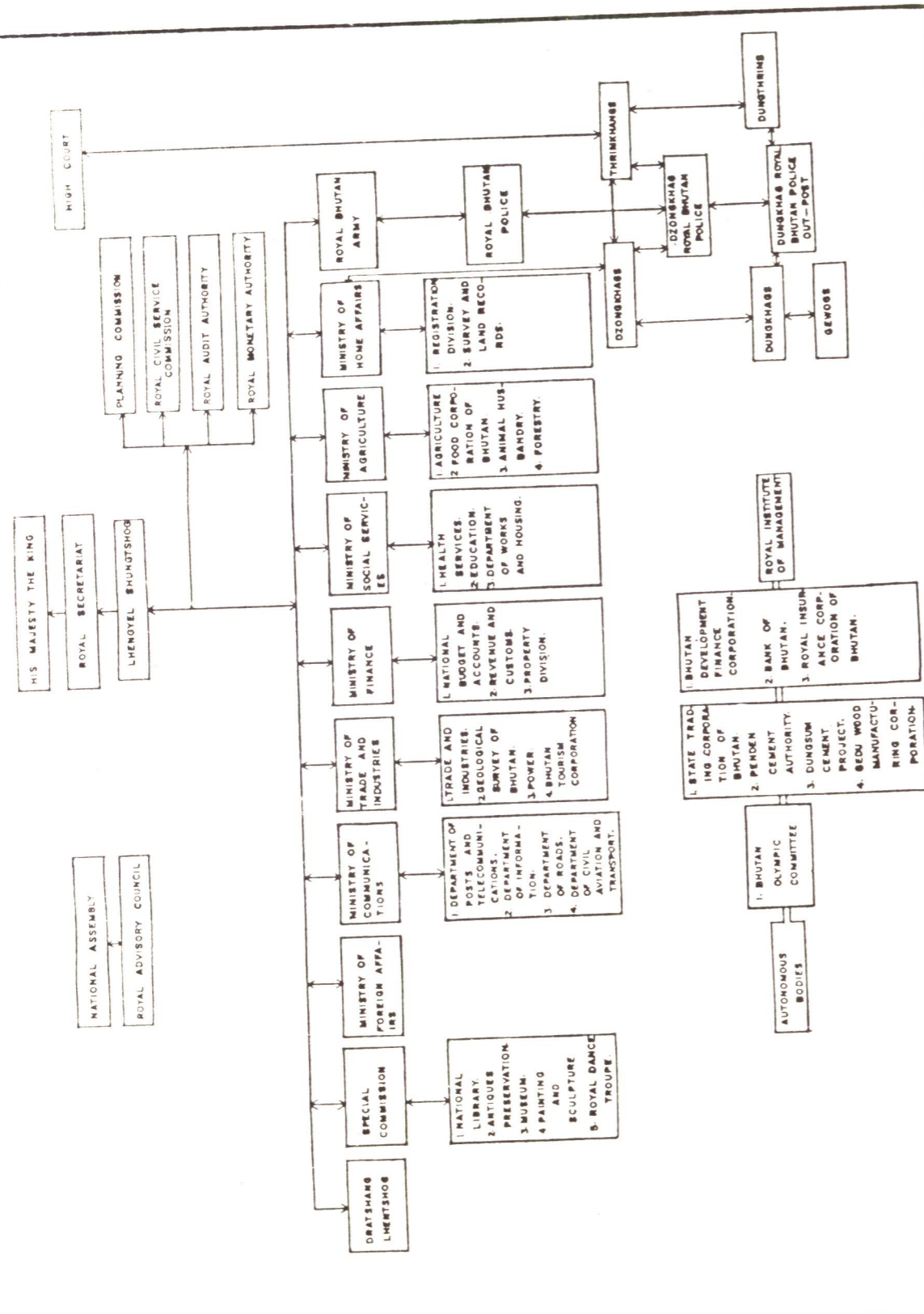
Every effort has been made to ensure that the statistics given in the publication meet with acceptable statistical standards. However, it has been necessary to place reliance on existing data collections and it was not always possible to undertake as detailed an assessment of data sources as would have 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
Deputy Minister,
Planning Commission
Royal Government of Bhutan,
Tashichhodzong
March 1990.

INTRODUCTION

STRUCTURE OF GOVERNMENT



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 ones 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 three year term by consensus in each of the Dzongkhags. The 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 18 Dzongkhags or Districts each under the charge of a Dzongda responsible for civil administration and development activities. Each Dzongda is assisted by a Dzongda Wongmo or a Dzongrab who are responsible for planning and development and civil administration. The larger Dzongkhags are sub-divided 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 Thschokchung (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 borne by women during their lifetime.
Gross reproduction rate: average number of daughters borne 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 1988, the total population of Bhutan was estimated to be 1,375,400 of which 701,000 were males and 674,400 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. If this rate of population increase is sustained, the population of Bhutan will double in the next 35 years.

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.

TABLE 1.1 : POPULATION ESTIMATES BY AGE AND SEX, 1988

Age Group	Males	Females	Persons
0-4	126,000	112,700	238,700
5-9	87,400	83,100	170,500
10-14	70,300	74,800	145,100
15-19	67,700	69,400	137,100
20-24	62,000	60,200	122,200
25-29	52,500	51,800	104,300
30-34	44,800	44,000	88,800
35-39	38,200	36,700	74,900
40-44	32,600	30,400	63,000
45-49	28,800	26,400	55,200
50-54	25,300	23,200	48,500
55-59	21,000	19,200	40,200
60-64	16,600	15,300	31,900
65-69	12,100	11,400	23,500
70-74	8,200	8,000	16,200
75-79	4,700	4,800	9,500
80 and over	2,800	3,000	5,800
ALL AGES	701,000	674,400	1,375,400

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

TABLE 1.2 : POPULATION ESTIMATES BY DZONGKHAG, 1980

Dzongkhag	Population	Percentage
Chukhha	97,200	8.3
Ha	17,100	1.5
Paro	39,800	3.4
Samchi	138,900	11.9
Thimphu	64,600	5.5
Chirang	104,500	9.0
Daga	27,700	2.4
Punakha	34,500	3.0
Wangdiphodrang	47,700	4.1
Bumthang	23,600	2.0
Geylegphug	112,800	9.7
Shemgang	43,300	3.7
Tongsa	28,600	2.5
Lhuntshi	36,900	3.2
Mongar	71,300	6.1
Pemagatsel	35,100	3.0
Samdrupjongkhar	72,200	6.2
Tashigang	170,000	14.5
BHUTAN	1,165,000	100.0

Source : Ministry of Home Affairs- 1980 Population Census.

TABLE 1.3 : POPULATION PROJECTIONS, 1991-2006, WITH DIFFERENT FERTILITY AND MORTALITY PARAMETERS

	Projections (a)								
	A	B	C	D	E	F	G	H	I
POPULATION ('000)									
1991	1,477	1,481	1,484	1,473	1,476	1,479	1,467	1,470	1,473
1996	1,661	1,676	1,689	1,642	1,657	1,670	1,619	1,663	1,615
2001	1,862	1,898	1,928	1,818	1,853	1,882	1,762	1,796	1,823
2006	2,090	2,159	2,216	2,006	2,072	2,125	1,900	1,963	2,012
DEMOGRAPHIC ASSUMPTIONS									
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									
Males	45.8	51.8	56.5	45.8	51.8	56.5	45.8	51.8	56.5
Females	48.7	55.0	60.0	48.7	55.0	60.0	48.7	55.0	60.0
Average annual population growth 1986 to 2006 (%)	2.4	2.5	2.7	2.1	2.3	2.4	1.9	2.0	2.2

(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).

TABLE 1.4 : SUMMARY OF POPULATION INDICATORS, 1988

Population Indicators	
Sex Ratio (Males/Females)	103.9
Age Composition (%)	
0-14	40.3
15-64	55.7
65 and over	4.0
Total	100.0
Dependency Ratio (a)	
Child dependency	72.3
Old age dependency	7.2
Total dependency	79.5
Index of aging (b)	9.9

(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 1.5 : 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	99.9	99.8	-	-	-	-	-	-	100.0	100.0
15-19	92.1	73.4	7.7	25.5	-	-	-	-	100.0	100.0
20-24	54.5	30.1	43.8	64.8	1.5	4.4	-	-	100.0	100.0
25-29	26.8	12.4	70.0	80.5	2.4	5.7	-	1.4	100.0	100.0
30-34	13.1	8.4	82.8	81.3	1.9	7.3	2.3	3.1	100.0	100.0
35-39	10.0	5.5	85.8	84.9	1.8	5.7	2.5	3.9	100.0	100.0
40-44	7.6	6.3	87.9	81.4	1.7	5.3	2.8	7.0	100.0	100.0
45-49	6.9	6.9	86.8	78.7	1.4	5.4	5.0	9.1	100.0	100.0
50 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	38.0	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 1.6 : 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
MORTALITY	
Crude death rate	19.3
Infant mortality rate	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 1988, there were 28 hospitals, 69 basic health units and 46 dispensaries scattered across Bhutan. A total of 142 doctors and 674 paramedical workers service the health needs of the population. This represents one doctor for every 9,700 population. There were 932 hospital beds available in 1988, representing one bed per 1,480 population.

Information on diseases of patients treated in basic health 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 (18.2 per cent of patients treated in 1988) and diarrhoea/dysentery (15.0 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 1988, over 25,000 children were vaccinated for BCG, 17,000 against measles and about 21,000 against both diphtheria and poliomyelitis. The numbers were substantially lower than the previous year.

Maternal and child health services are an important part of the health services. In 1988, total attendance at maternal health clinics was over 63,000 and child health services was over 162,000.

Malaria is still an endemic disease in Southern Bhutan with over 173,000 people living in malaria areas. Blood examinations carried out as part of the malaria eradication program produced over 11,000 positive readings during 1988. Leprosy is also a problem in some areas and at the end of 1988, leprosy hospitals had 601 patients including 69 new cases detected during the year.

TABLE 2.1 : SUMMARY OF HEALTH FACILITIES AND PERSONNEL, 1985 TO 1988

	1985	1986	1987	1988
Hospitals	27	27	27	28
Basic Health Units	65	67	68	69
Dispensaries	44	46	46	46
Indigenous Hospitals	1	1	1	1
Indigenous dispensaries	4	4	5	6
Hospital beds	857	915	922	932
Doctors (a)	113	134	138	142
Paramedical Workers	n.a.	541	611	678
Population per doctor	11,300	9,800	9,740	9,700
Population per paramedical	n.a.	2,400	2,200	2,000
Population per bed	1,500	1,400	1,460	1,500

(a) Includes doctors in administrative services.

Source : Department of Health.

TABLE 2.2 : HEALTH PERSONNEL BY CATEGORY, 1986 TO 1988

Category	1986	1987	1988
Specialist doctors	22	21	29
Doctors	112	117	109
Sister	n.a.	n.a.	18
Staff nurses	56	68	58
Junior nurses	80	25	29
Assistant nurses	116	186	126
Assistant nurse midwife	n.a.	n.a.	72
Laboratory technicians/MEP technicians	36	36	46
Physiotherapists	n.a.	5	1
Physiotechnicians	n.a.	n.a.	4
Dental technicians	4	9	8
Dental hygienists	4	5	8
O.T technicians	4	4	5
Pharmacy technicians	63	15	15
Pharmacist	n.a.	n.a.	3
X-Ray technicians	8	12	14
Ophthalmic Assistants	n.a.	n.a.	4
Health assistants	85	91	100
Basic Health Workers	85	91	97
Compounders	n.a.	45	51
Health supervisors	n.a.	19	19
ALL HEALTH PERSONNEL	675	749	816

Source : Department of Health.

TABLE 2.3 : PATIENTS TREATED BY BASIC HEALTH UNITS BY DISEASE, SEX AND AGE, 1988

('000)

Disease	Age 0-14			Age 15 and over			All	
	Males	Females	Persons	Males	Females	Persons	Persons	Percentage
Diarrhoea/Dysentery	19.4	18.9	38.3	14.1	11.9	26.0	64.3	15.0
Respiratory tract infection	17.1	19.1	36.2	22.0	19.8	41.8	78.0	18.2
Worms	15.0	15.0	30.0	12.9	12.1	25.0	55.1	12.8
Skin infection	13.5	13.4	26.9	13.5	10.5	24.0	50.9	11.9
Malaria/P.U.O	9.0	8.9	17.9	9.4	8.4	17.8	35.7	8.3
Conjunctivitis	6.1	6.6	12.7	6.8	5.9	12.7	25.4	5.9
Otitis media	3.4	3.3	6.7	1.5	1.1	2.6	9.3	2.2
Nutritional deficiency	5.3	5.8	11.1	6.9	9.0	15.9	27.0	6.3
Peptic ulcer syndrome	0.6	1.2	1.8	6.5	6.6	13.1	14.9	3.5
Disease of teeth and gum	0.8	0.9	1.7	3.4	3.0	6.4	8.1	1.9
Urinary tract infection and nephritis	0.9	1.0	1.9	2.2	2.5	4.7	6.5	1.5
Injuries	4.0	3.3	7.3	6.9	3.4	10.3	17.6	4.1
Sexually transmitted diseases	-	-	-	0.8	0.5	1.3	1.3	0.3
Other childhood diseases	1.1	1.1	2.2	0.1	0.1	0.2	2.4	0.5
Diseases of female genital tract	-	0.1	0.1	-	1.2	1.2	1.3	0.3
Complication of pregnancy and child birth peuperum	-	-	-	-	0.8	0.8	0.8	0.2
Others	4.2	5.0	9.2	10.4	10.4	20.8	30.0	7.0
ALL DISEASES	100.3	103.6	203.9	117.6	107.3	224.5	428.5	100.0

Source : Department of Health.

TABLE 2.4 : PATIENTS TREATED IN BASIC HEALTH UNITS AND DISPENSARIES BY DISEASE, 1985 TO 1988

('000)

Disease	Persons				Percentage			
	1985	1986	1987	1988	1985	1986	1987	1988
Diarrhoea/Dysentery	52.7	61.9	65.7	64.3	18.2	17.5	15.6	15.0
Respiratory tract infection	48.1	58.6	70.4	78.0	16.6	16.5	16.7	18.2
Worms	33.7	41.4	46.4	55.0	11.6	11.7	11.0	12.8
Skin infection	34.1	39.8	53.9	50.9	11.8	11.2	12.8	11.9
Malaria/P.U.O	30.2	30.0	33.4	35.7	10.4	8.5	7.9	8.3
Conjunctivitis	12.5	17.2	17.5	25.4	4.3	4.8	4.2	5.9
Otitis media	7.8	7.3	10.8	9.3	2.7	2.1	2.6	2.2
Nutritional deficiency	20.8	24.0	32.7	27.0	7.2	6.8	7.8	6.3
Peptic ulcer syndrome	10.9	14.4	14.9	14.9	3.7	4.1	3.6	3.5
Disease of teeth and gum	5.3	6.9	8.7	8.1	1.8	2.0	2.1	1.9
Urinary tract infection and nephritis	5.1	6.3	4.7	6.5	1.7	1.8	1.1	1.5
Injuries	2.7	19.3	19.9	17.6	0.9	5.4	4.7	4.1
Sexually transmitted diseases	2.1	2.7	1.7	1.3	0.7	0.8	0.4	0.3
Other childhood diseases	1.3	3.8	3.5	2.4	0.4	1.1	0.8	0.6
Disease of female genital tract	1.0	1.2	1.5	1.4	0.3	0.3	0.4	0.3
Complication of pregnancy and childbirth peuperum	n.a.	0.6	0.7	0.8	n.a.	0.2	0.2	0.2
Others	21.5	19.0	34.1	30.0	7.4	5.4	8.1	7.0
ALL DISEASES	289.6	354.3	420.6	428.5	100.0	100.0	100.0	100.0

Source : Department of Health.

TABLE 2.5 : PATIENTS TREATED IN EACH HOSPITAL, 1985 TO 1988(a)

Hospital	('000)			
	1985	1986	1987	1988
Government Hospitals				
Bumthang	19.1	9.6	10.4	8.1
Chirang	11.8	29.4	24.9	23.5
Geylegphug	50.4	70.4	66.4	67.7
Pemagatsel	9.9	8.9	8.7	8.4
Paro	16.7	17.2	19.4	17.4
Phuntsholing	21.4	18.5	24.4	22.5
Samdrupjongkhar	12.8	15.1	16.0	16.5
Samchi	6.0	27.5	24.8	25.9
Sarbhang	6.1	21.7	21.8	22.9
Sibsu	4.1	15.8	12.3	11.2
Thimphu	98.4	122.4	125.1	98.6
Tashigang	7.9	27.9	19.3	19.5
Tshimalakha	-	6.9	6.6	11.2
Tongsa	2.1	2.5	4.8	4.9
Leprosy Mission Hospitals				
Gidakom	1.9	7.2	9.1	9.2
Lhuntshi	3.6	3.7	4.7	5.7
Mongar	10.9	13.4	11.1	12.9
Riserboo	2.9	12.0	5.0	7.0
Yebilepcha (Shemgang)	4.2	4.5	3.8	5.0
Army Hospitals				
Lungtenphug	29.4	27.9	n.a	51.7
Wangdiphodrang	18.9	13.2	17.4	16.8
Yonphula	n.a	n.a	n.a	n.a
Project Hospitals				
Gomtu	8.8	35.6	33.6	36.6
Other Hospitals				
Deothang (Dantak)	n.a	n.a	n.a	n.a
Ha (IMIRAT)	n.a	n.a	n.a	n.a
IBF, Thimphu	n.a	n.a	n.a	n.a
Tongsa (Dantak)	n.a	n.a	n.a	n.a
Indigenous Hospital				
	26.9	25.1	22.8	19.0
ALL HOSPITALS (b)	374.2	536.2	492.4	522.1

(a) Comparisons over time may be affected by different coverage in each year. (b) Total patient numbers exclude hospitals for which data were not available.

Source : Department of Health.

TABLE 2.6: IMMUNIZATION ACTIVITIES, 1981 TO 1988

Immuni- zation	('000 children)							
	1981	1982	1983	1984	1985	1986	1987	1988
BCG	26.9	17.0	20.5	20.3	17.4	28.5	28.2	24.8
DPT1	9.4	7.7	11.8	13.2	14.1	21.6	25.5	21.8
DPT3	5.4	4.2	7.4	7.5	10.1	14.8	21.4	17.9
OPV1	11.7	7.6	10.9	13.2	13.3	20.9	25.4	21.5
OPV3	4.6	4.2	6.1	7.2	10.2	14.2	21.3	17.5
Measles	9.0	8.7	9.4	12.7	12.5	17.1	21.5	16.9
TT1	-	-	-	2.3	5.3	4.9	8.4	8.9
TT2	-	-	-	1.0	1.5	2.4	4.9	5.2

Source : Department of Health.

TABLE 2.7: MATERNAL AND CHILD HEALTH SERVICES, 1981 TO 1988

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

(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 degrees of malnourishment. Third degree malnourishment refers to the most severe cases.

Source : Department of Health.

TABLE 2.8 : FAMILY PLANNING ACCEPTORS BY TYPE OF METHOD, 1982 TO 1988

Method of family planning	1982	1983	1984	1985	1986	1987	1988	Percentage 1988
Vasectomy	210	851	637	447	414	552	897	10.5
Minilap	12	490	430	371	428	470	379	4.5
Intra uterine device(IUD)	180	387	337	584	896	665	619	7.3
Pills	1,242	1,599	1,440	4,314	6,355	6,036	5,663	66.6
Condoms	168	197	390	1,159	2,846	1,099	897	10.5
Injection DMPA	-	-	84	-	81	78	48	0.6
ALL METHODS	1,812	3,524	3,318	6,875	11,020	8,900	8,503	100.0

Source: Department of Health.

TABLE 2.9: LEPROSY CONTROL PROGRAMME, 1985 TO 1988

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

(a) Patients successfully treated. (b) Patients unsuccessfully treated.
(c) Some non-nationals patient left the course at the beginning of 1988.

Source : Department of Health.

TABLE 2.10: MALARIA ERADICATION PROGRAMME, 1985 TO 1988

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

Source : Department of Health.

3. EDUCATION

INTRODUCTION

The development of a comprehensive education system in Bhutan was initiated in 1961. Prior to that time there were virtually no modern education facilities inside Bhutan, apart from the traditional education given in the monasteries.

Today there is an extensive network of schools and other educational institutions spread throughout the country. Many schools contain boarding facilities for students living in areas far from the nearest school. While the medium of instruction in schools is English, Bhutan's national language Dzongkha, is taught as a compulsory subject from primary to college level. School curricula also include religious instruction, training in traditional arts and crafts and agriculture.

The Department of Education maintains an extensive range of data on students, schools, and teaching personnel. Some summary data are presented in this Chapter.

MAIN FEATURES

In 1988, there were altogether 180 schools scattered throughout the country of which 150 were primary schools, 21 were junior high schools and 9 were high schools. Besides these, there is a college and several other technical and vocational institutions, in addition to monastic schools and Sanskrit Patshalas.

In 1988 the total number of students enrolled in schools in Bhutan was 58,800. Of these, 42,000 were enrolled in primary schools, 11,800 in junior high schools and 4,500 in high schools. There were 21,600 females enrolled in schools (or about 37 per cent of total enrollment).

Student numbers in schools have increased over the past few years from 36,700 in 1981 to 58,800 in 1988.

There were altogether 2,208 school teachers in 1988, of which 1,513 were in primary schools, 447 in junior high schools and 248 in high schools.

TABLE 3.1 : SUMMARY OF SCHOOLS BY DZONGKHAG, 1988

Dzongkhag	No. of schools	No. of teachers	No. of students		
			Males	Females	Persons
Thimphu	13	305	4,024	3,473	7,497
Zone I					
Chhukha	13	139	2,254	1,495	3,749
Ha	6	55	755	536	1,291
Paro	10	114	1,745	1,084	2,829
Samchi	23	327	5,336	3,158	8,494
Total Zone I	52	635	10,090	6,273	16,363
Zone II					
Chirang	18	188	4,189	2,575	6,764
Daga	5	45	922	319	1,241
Punakha	6	63	712	428	1,140
Wangdiphodrang	8	74	847	554	1,401
Total Zone II	37	370	6,670	3,876	10,546
Zone III					
Bumthang	4	41	638	431	1,069
Geylegphug	18	284	5,015	2,965	7,980
Shemgang	8	72	1,382	454	1,836
Tongsa	4	41	515	391	906
Total Zone III	34	438	7,550	4,241	11,791
Zone IV					
Lhuntshi	5	43	665	235	900
Mongar	7	75	1,358	496	1,854
Pemagatsel	4	48	872	238	1,110
Samdrupjongkhar	11	114	2,672	1,207	3,879
Tashigang	17	180	3,301	1,555	4,856
Total Zone IV	44	460	8,868	3,731	12,599
BHUTAN	180	2,208	37,202	21,594	58,796

Source: Department of Education.

TABLE 3.2 : NUMBER OF SCHOOLS BY DZONGKHAG AND TYPE OF SCHOOL, 1988

Dzongkhag	Primary Schools	Junior high Schools	High schools	All Schools
Thimphu	9	2	2	13
Zone I				
Chhukha	12	1	-	13
Ha	5	1	-	6
Paro	8	1	1	10
Samchi	19	3	1	23
Total Zone I	44	6	2	52
Zone II				
Chirang	15	3	-	18
Daga	4	1	-	5
Punakha	5	-	1	6
Wangdiphodrang	7	1	-	8
Total Zone II	31	5	1	37
Zone III				
Bumthang	3	1	-	4
Geylegphug	15	2	1	18
Shemgang	7	-	1	8
Tongsa	3	1	-	4
Total Zone III	28	4	2	34
Zone IV				
Lhuntshi	4	1	-	5
Mongar	6	-	1	7
Pemagatsel	3	1	-	4
Samdrupjongkhar	11	-	-	11
Tashigang	14	2	1	17
Total Zone IV	38	4	2	44
BHUTAN	150	21	9	180

Source : Department of Education.

TABLE 3.3: NUMBER OF STUDENTS BY DZONGKHAG AND TYPE OF SCHOOL, 1988

Dzongkhag	Primary Schools	Junior High Schools	High Schools	All schools		
				Males	Females	Persons
Thimphu	4,692	1,828	977	4,024	3,473	7,497
Zone I						
Chhukha	3,527	222	-	2,254	1,495	3,749
Ha	856	435	-	755	536	1,291
Paro	2,098	460	271	1,745	1,084	2,829
Samchi	6,332	1,843	319	5,336	3,158	8,494
Total Zone I	12,813	2,960	590	10,090	6,273	16,363
Zone II						
Chirang	4,969	1,795	-	4,189	2,575	6,764
Daga	1,038	203	-	922	319	1,241
Punakha	767	-	373	712	428	1,140
Wangdiphodrang	956	445	-	847	554	1,401
Total Zone II	7,730	2,443	373	6,670	3,876	10,546
Zone III						
Bumthang	486	583	-	638	431	1,069
Geylegphug	5,458	1,536	986	5,015	2,965	7,980
Shemgang	1,127	-	709	1,382	454	1,836
Tongsa	429	477	-	515	391	906
Total Zone III	7,500	2,596	1,695	7,550	4,241	11,791
Zone IV						
Lhuntshi	541	359	-	665	235	900
Mongar	1,240	-	614	1,358	496	1,854
Pemagatsel	537	573	-	872	238	1,110
Samdrupjongkhar	3,879	-	-	2,672	1,207	3,879
Tashigang	3,514	1,076	266	3,301	1,555	4,856
Total Zone IV	9,711	2,008	880	8,868	3,731	12,599
BHUTAN	42,446	11,835	4,515	37,202	21,594	58,796

Source: Department of Education.

TABLE 3.4: NUMBER OF STUDENTS BY TYPE OF SCHOOL AND GRADE, 1988

Grade	Primary Schools			Junior High Schools			High Schools			All Schools		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
PP	7,368	4,494	11,862	1,275	908	2,183	170	108	278	8,813	5,510	14,323
I	6,748	3,980	10,728	1,258	962	2,220	214	151	365	8,220	5,093	13,313
II	4,671	2,565	7,236	1,073	735	1,808	201	178	379	5,945	3,478	9,423
III	3,149	1,707	4,856	754	529	1,283	196	155	351	4,099	2,391	6,490
IV	2,298	1,226	3,524	694	493	1,187	190	147	337	3,182	1,866	5,048
V	1,649	787	2,436	654	385	1,039	139	114	253	2,442	1,286	3,728
VI	1,272	532	1,804	620	345	965	150	96	246	2,042	973	3,015
VII	..	..	..	428	183	611	430	236	666	858	419	1,277
VIII	..	..	..	390	149	539	397	206	603	787	355	1,142
IX	..	..	..	..	..	..	425	133	558	425	133	558
X	..	..	..	..	..	..	389	90	479	389	90	479
Total	27,155	15,291	42,446	7,146	4,689	11,835	2,901	1,614	4,515	37,202	21,594	58,796

Source: Department of Education.

TABLE 3.5: NUMBER OF STUDENTS BY GRADE, 1981 TO 1988

Grade	1981	1982	1983	1984	1985	1986	1987	1988
Primary grades								
Pre-primary	16,428	17,366	19,217	20,085	20,375	18,431	15,579	14,323
I	6,191	6,446	7,018	7,705	8,359	9,814	13,094	13,313
II	4,384	4,995	5,307	5,668	6,064	6,760	7,365	9,423
III	3,395	3,805	4,331	4,682	4,986	5,361	5,867	6,490
IV	2,332	2,745	3,147	3,426	3,690	3,957	4,257	5,048
V	1,751	2,047	2,352	2,709	2,967	3,029	3,158	3,728
VI	-	-	-	-	-	2,133	2,628	3,015
Total Primary	34,481	37,404	41,372	44,275	46,441	49,485	51,948	55,340
Junior High grades								
VI	732	950	1,059	1,249	1,149	-	-	-
VII	693	700	869	995	1,129	1,132	1,107	1,277
VIII	431	609	700	809	906	1,071	1,000	1,142
Total Junior High	1,856	2,259	2,628	3,053	3,184	2,203	2,107	2,419
High School grades								
IX	194	239	263	336	391	408	528	558
X	174	162	218	219	295	356	344	479
Total High School	368	401	481	555	686	764	872	1,037
Total students	36,705	40,064	44,481	47,883	50,311	52,452	54,927	58,796

Source: Department of Education.

TABLE 3.6 : NUMBER OF INSTITUTIONS, TEACHERS AND STUDENTS BY TYPE OF SCHOOL, 1988

	Primary School	Junior High School	High School	Total
No. of Schools	150	21	9	180
No. of Teachers	1,513	447	248	2,208
Students	27,155	7,146	2,901	37,202
Males	15,291	4,689	1,614	21,594
Females	42,446	11,835	4,515	58,796
Persons	28	26	18	27
Student / Teacher ratio				

Source : Department of Education.

TABLE 3.7: SUMMARY OF TEACHERS BY DZONGKHAG AND TYPE OF SCHOOL, 1988

Dzongkhag	Primary schools	Junior High Schools	High Schools	All Schools
Thimphu	180	67	58	305
Zone I				139
Chhukha	129	10	-	55
Ha	38	17	-	114
Paro	79	16	19	327
Samchi	223	76	28	635
Total Zone I	469	119	47	
Zone II				188
Chirang	125	63	-	45
Daga	34	11	-	63
Punakha	49	-	14	74
Wangdiphodrang	57	17	-	370
Total Zone II	265	91	14	
Zone III				41
Bumthang	24	17	-	284
Ceylegphug	178	59	47	72
Shemgang	41	-	31	41
Tongsa	22	19	-	438
Total Zone III	265	95	78	
Zone IV				43
Lhuntshi	26	17	-	75
Mongar	44	-	31	48
Pemagatsel	30	18	-	114
Samdrupjongkhar	114	-	-	180
Tashigang	120	40	20	460
Total Zone IV	334	75	51	
BHUTAN	1,513	447	248	2,208

Source: Department of Education.

TABLE 3.8 : CATEGORY OF TEACHERS BY QUALIFICATION AND SEX, 1988

Category	Males	Females	Persons
Trained			
Post Graduate	55	40	95
Graduate	130	60	190
Matriculate	167	89	256
Others	260	150	410
Untrained	926	331	1,257
TOTAL	1,538	670	2,208

Source : Department of Education.

TABLE 3.9 : SUMMARY OF SCHOOLS AND INSTITUTES 1988

Schools/institutes	Students			Teachers
	Males	Females	Total	
Primary Schools	27,155	15,291	42,446	1,513
Junior High Schools	7,146	4,689	11,835	447
High Schools	2,901	1,614	4,515	248
Sherubtshe College	364	63	427	27
National Institute of Education	108	58	166	21
Teachers' Training Centre	41	17	58	9
Royal Bhutan Polytechnic(a)	202	7	209	31
Royal Technical Institute	332	-	332	32
Simtokha Rigney School	541	-	541	22
Zangley Muenselling School for the Blind	22	6	28	8

(a) Includes 2 years certificate course in Survey and Drafting.

Source : Department of Education.

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 records).

In Bhutan, there are currently few statistics available on human resources and labour. The only data available are some broad level data on economic activity which was obtained from two household surveys, and some data on 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 July 1989, total civil service employment amounted to 15,802, including the newly established corporations. Of these, 3,137 (or 20 per cent) were non-nationals. There has been a substantial reduction in the number of civil service employees since January 1987 as a result of the government's policy for a small, compact, efficient government.

In Thimphu town in 1990, there were 5,270 employed persons of which 54 per cent were government employees. The labour force participation rate was 63 per cent.

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

Age group	Agriculture	Government service	Business	No		Total
				Others	Occupation	
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, JULY 1989

Ministry/Department	Employment			
	Regular	Contract	Wage	Total
Ministry of Home Affairs	60	5	4	69
Home Affairs	162	54	2	218
Survey and Land Records	97	9	4	110
Registration Division	402	63	27	492
Dzongkhags	78	9	4	91
Zonal Administrations	799	140	41	980
Total Ministry of Home Affairs				
Ministry of Finance	93	6	-	99
Secretariat	57	11	1	69
National Budget and Accounts	38	12	6	56
Property Division	283	58	13	354
Revenue and Customs	43	4	3	50
Royal Monetary Authority	39	3	1	43
Bhutan Development Finance Corporation	553	94	24	671
Total Ministry of Finance				
Ministry of Communications	16	6	1	23
HRH Office	12	4	3	19
Secretariat	595	259	40	894
Department of Posts and Telecommunication	147	11	11	169
Department of Information	158	23	12	193
Department of Civil Aviation and Transport	639	67	65	771
Department of Roads	1,567	370	132	2,069
Total Ministry of Communication				
Ministry of Social Services	26	5	1	32
Secretariat	883	197	69	1,149
Health Services	1,494	651	217	2,362
Education	484	62	43	589
Department of Works and Housing	22	7	1	30
Royal Institute of Management	2,909	922	331	4,162
Total Ministry of Social Services				
Ministry of Agriculture	14	5	-	19
Secretariat	486	21	104	611
Animal Husbandry	992	30	56	1,078
Forestry	179	24	49	252
Food Corporation of Bhutan	734	52	55	841
Agriculture	2,405	132	264	2,801
Total Ministry of Agriculture				
Ministry of Foreign Affairs	99	11	18	128

Table 4.2 continued on next page

TABLE 4.2(CONT.) : TYPE OF EMPLOYMENT IN CIVIL SERVICE BY MINISTRY AND DEPARTMENT, JULY 1989

Ministry/Department	Employment			
	Regular	Contract	Wage	Total
Ministry of Trade and Industries				
Secretariat	29	2	-	31
Trade and Industries	60	5	1	66
Geology and Mines	79	5	1	85
Power	399	77	116	592
State Trading Corporation of Bhutan	82	11	8	101
Bhutan Tourism Corporation	143	8	57	208
Total Ministry of Trade and Industries	792	108	183	1,083
Special Commission				
Special Commission Secretariat	135	4	1	140
National Library	33	4	2	39
National Museum	7	-	4	11
Antiques Preservation	10	2	-	12
Total Special Commission	185	10	7	202
Central Monastic Secretariat	32	3	2	37
Other Non-Ministerial Organisations				
His Majesty's Secretariat	61	3	2	66
Planning Commission	61	4	2	67
Royal Civil Service Commission	29	9	-	38
Royal Audit Authority	72	8	-	80
Royal Advisory Council	16	2	-	18
National Assembly	8	3	-	11
National Women's Association of Bhutan	11	2	1	14
Judiciary	166	22	2	190
Bhutan Olympic Committee	10	5	2	17
Dzongkhag Development Commission	9	-	-	9
Total Other Non-Ministerial Organisations	443	58	9	510
Corporations				
Bank of Bhutan	207	56	56	319
Royal Insurance Corporation of Bhutan	118	12	3	133
Penden Cement Authority	375	11	199	585
Gedu Wood Manufacturing Corporation	190	24	151	365
Bhutan Carbide & Chemical Limited	154	217	80	451
Dungsum Cement Project	47	3	6	56
Bhutan Board Products	74	23	48	145
Bhutan Polythene Company	17	1	3	21
Handicraft Development Centre	26	-	4	30
Army Welfare Project	107	99	-	206
Total Corporations	1,315	446	550	2,311
TOTAL	11,099	2,294	1,561	14,954
Chhukha Hydrel Project	n.a	n.a	n.a	848
TOTAL CIVIL SERVICE EMPLOYMENT	n.a	n.a	n.a	15,802

Source : Royal Civil Service Commission.

TABLE 4.3 : EMPLOYMENT IN CIVIL SERVICE BY DEPARTMENT AND NATIONALITY, JULY 1989

Ministry/Department	National	Non-national	Total
Ministry of Home Affairs			
Home Affairs	66	3	69
Survey and Land Records	207	11	218
Registration Division	110	-	110
Dzongkhags	452	40	492
Zonal Administrations	85	6	91
Total Ministry of Home Affairs	920	60	980
Ministry of Finance			
Secretariat	90	9	99
National Budget and Accounts	59	10	69
Property Division	45	11	56
Revenue and Customs	323	31	354
Royal Monetary Authority	47	3	50
Bhutan Development Finance Corporation	43	-	43
Total Ministry of Finance	607	64	671
Ministry of Communications			0
HRH Office	19	4	23
Secretariat	18	1	19
Department of Posts and Telecommunications	834	60	894
Department of Information	154	15	169
Civil Aviation and Transport	140	53	193
Department of Roads	623	148	771
Total Ministry of Communications	1,788	281	2,069
Ministry of Social Services			
Secretariat	26	6	32
Health Services	924	225	1,149
Education	1,562	800	2,362
Department of Works and Housing	449	140	589
Royal Institute of Management	25	5	30
Total Ministry of Social Services	2,986	1,176	4,162
Ministry of Agriculture			
Secretariat	15	4	19
Animal Husbandry	588	23	611
Forestry	1,036	42	1,078
Food Corporation of Bhutan	222	30	252
Agriculture	781	60	841
Total Ministry of Agriculture	2,642	159	2,801
Ministry of Foreign Affairs	98	30	128

Table 4.3 continued on next page

TABLE 4.3(CONT.) : EMPLOYMENT IN CIVIL SERVICE BY DEPARTMENT AND NATIONALITY, JULY 1989

Ministry/Department	National	Non-national	Total
Ministry of Trade and Industries			
Secretariat	31	-	31
Trade and Industries	64	2	66
Geology and Mines	78	7	85
Power	394	198	592
State Trading Corporation of Bhutan	66	35	101
Bhutan Tourism Corporation	185	23	208
Total Ministry of Trade and Industries	818	265	1,083
Special Commission			
Special Commission Secretariat	138	2	140
National Library	39	-	39
National Museum	11	-	11
Antiques Preservation	12	-	12
Total Special Commission	200	2	202
Central Monastic Secretariat	36	1	37
Other Non-Ministerial Organisations			
His Majesty's Secretariat	65	1	66
Planning Commission	66	1	67
Royal Civil Service Commission	31	7	38
Royal Audit Authority	74	6	80
Royal Advisory Council	18	-	18
National Assembly	10	1	11
National Women's Association of Bhutan	12	2	14
Judiciary	183	7	190
Bhutan Olympic Committee	10	7	17
Dzongkhag Development Commission	9	-	9
Total Other Non-Ministerial Organisations	478	32	510
Corporations			
Bank of Bhutan	225	94	319
Royal Insurance Corporation of Bhutan	109	24	133
Penden Cement Authority	420	165	585
Gedu Wood Manufacturing Corporation	338	27	365
Bhutan Carbide & Chemical Limited	243	208	451
Dungsum Cement Project	45	11	56
Bhutan Board Products	123	22	145
Bhutan Polythene Company	20	1	21
Handicraft Development Centre	29	1	30
Chhukha Hydrel Project	426	422	848
Army Welfare Project	114	92	206
Total Corporations	2,092	1,067	3,159
TOTAL CIVIL SERVICE EMPLOYMENT	12,665	3,137	15,802

Source : Royal Civil Service Commission.

TABLE 4.4: 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.....	920	28	440	22	1,360	26
Private business.....	620	19	400	20	1,030	20
Self-employed.....	330	10	*	*	370	7
Paid or unpaid employee.....	2,200	67	660	33	2,860	54
Government employee.....	*	*	840	42	840	16
Cottage industries.....						
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 1988/89, irrigation schemes were extended to cover newly constructed areas of 454 hectares and renovated areas of 2,139 hectares.

According to recent Agronomic Surveys undertaken by the, 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, chilies, ginger, oranges and cardamom.

The most important livestock in Bhutan are cattle, yaks, sheep, poultry and pigs. In 1988, there were about 357,000 cattle, 35,000 yaks, 47,000 sheep, 237,000 poultry and 66,000 pigs.

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

Land-use and vegetation types	Area ('000 hectares)	Percentage
NON-FORESTED		
Non-agricultural	400.6	10.0
Perpetual snow/glaciers	345.6	8.6
Barren exposed and rocky areas (above 3500 m)	30.7	0.7
Barren land, grassland and scrubs (below 3500 m)	52.3	1.3
Water spreads	829.2	20.6
Total non-agricultural		
Agricultural	64.9	1.6
Valley cultivation (slope less than 30 percent)	175.9	4.4
Terraced cultivation (slope more than 30 percent)	115.0	2.8
Old shifting cultivation (tsheri)	355.9	8.8
Total agricultural(b)		
Total non-forested	1,185.1	29.4
FORESTED		
Tree cover	295.6	7.3
Fir	485.4	12.1
Mixed conifer	75.5	1.9
Blue pine	129.2	3.2
Chir pine	219.3	5.5
Hardwood mixed with conifers	872.6	21.7
Upland hardwood (temperate)	351.4	8.7
Lowland hardwood (tropical and sub-tropical)	141.6	3.5
Degraded forest	2.7	0.1
Plantations	2,573.4	64.0
Total tree cover		
Other	74.8	1.9
Alpine pasture/meadows	191.8	4.7
Alpine scrub (rhododendron, juniper scrubs)	266.6	6.6
Total other		
Total forested	2,839.9	70.6
TOTAL SURVEYED AREA	4,025.0	100.0
AREA NOT YET SURVEYED	625.0	..
TOTAL AREA	4,650.0	..

(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

Dzongkhag	('000 hectares)						Total Area Surveyed	Total Area	Percentage Forested
	Non-forested			Forested					
	Non-Agri-cultural	Agri-cultural	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
Wangdiphodrang	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
Pemagatsel	0.2	15.2	15.4	33.6	-	33.6	49.0	..	68.5
Samdrupjongkhar	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	4,650.0	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.

TABLE 5.3 : MONTHLY RAINFALL DATA FOR VARIOUS STATIONS IN BHUTAN, 1988

Dzongkhag	Station	Rainfall in millimeter												Total Rainfall	
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
Thimphu	Cidakom	0.0	6.0	37.0	11.3	45.0	67.9	162.0	95.4	67.2	8.0	7.6	0.0	0.0	507.4
	Lingshi	n.a	n.a	n.a	n.a	n.a	122.1	139.8	194.7	n.a	n.a	0.0	0.0	0.0	..
	Simtokha	0.0	3.8	24.6	n.a	53.6	73.0	189.8	199.3	62.1	6.8	6.0	6.6	..	..
	Taba	0.0	n.a	n.a	35.6	n.a	254.0	251.7	220.3	n.a	n.a	6.5	0.0	0.0	646.2
	Thimphu Agri. Office	0.0	0.0	20.2	32.0	49.8	54.7	198.9	213.8	56.0	4.3	5.1	0.0	0.0	..
Chhukha	Yusipang	0.0	18.0	42.1	124.0	n.a	n.a	138.9	128.2	39.5	3.0	5.1	0.0	0.0	..
	Chapcha	0.0	7.0	43.2	40.0	50.0	92.0	n.a	108.0	61.0	22.0	n.a	0.0	0.0	1,565.6
	Chhukha	3.8	23.0	99.6	87.1	168.5	118.2	414.8	409.0	202.4	12.4	18.4	8.4	..	..
	Dungna	5.6	30.6	n.a	n.a	294.8	191.2	845.2	658.0	497.8	n.a	n.a	n.a	7.6	3,498.2
	Gedu	17.0	48.8	95.6	140.0	n.a	294.8	845.2	1,044.8	726.4	70.8	16.0	7.6	..	4,592.6
Ha	Fana	0.0	31.4	98.2	108.8	371.4	258.2	1,547.6	1,075.0	929.2	148.8	13.0	11.0	..	..
	Tala	8.0	75.4	50.8	198.2	366.7	260.6	1,361.9	n.a	684.0	71.6	9.6	1.2	..	..
	Namjeyling	0.0	9.2	46.2	37.2	75.8	119.7	210.3	190.2	116.7	9.9	10.8	0.0	0.0	826.0
	Bitekha	0.0	n.a	43.0	31.6	68.8	99.8	233.7	160.0	127.0	9.0	6.0	2.0	..	780.9
	Bondhey	0.0	14.0	n.a	n.a	36.4	137.8	117.4	221.2	128.2	8.6	12.0	16.2	..	691.8
Samchi	Dotey	0.0	0.0	n.a	17.0	59.0	n.a	n.a	n.a	n.a	n.a	n.a	n.a	..	..
	Chengmari	3.2	6.2	44.4	116.2	296.1	253.2	988.6	1,046.0	666.0	96.8	0.0	3.8	..	3,520.5
	Pugli	7.0	23.0	38.0	135.0	304.0	n.a	1,478.0	1,087.5	978.0	105.0	5.0	4.0	..	4,164.5
	Samchi (NIE)	14.2	33.6	27.8	113.0	265.0	343.0	1,242.0	1,222.0	818.7	197.5	2.8	10.0	..	4,289.6
	Sibsu	4.7	57.6	84.5	n.a	766.5	400.1	895.0	1,371.6	525.2	176.0	0.0	0.0	..	2,630.2
Chirang	Tendu	0.0	17.0	57.0	134.2	n.a	274.0	895.0	902.5	314.0	11.5	25.0	0.0	..	2,293.4
	Dagapela	0.0	22.2	30.6	49.8	120.4	334.5	888.6	584.3	263.0	0.0	0.0	0.0	..	1,817.7
	Damphu	0.3	14.4	26.0	62.1	49.2	324.5	635.2	513.4	164.9	0.3	14.6	12.8	..	..
	Lamidara	0.0	18.5	23.0	54.8	40.3	393.9	n.a	n.a	304.1	n.a	n.a	n.a	..	..
	Dagdzong	0.0	5.3	31.4	25.1	83.3	218.2	363.0	364.8	171.2	7.0	12.3	0.0	..	1,281.6
Daga	Drujeygang	0.0	12.7	34.7	37.1	76.4	294.6	720.8	406.6	301.5	5.5	21.9	0.0	..	1,911.8
	Tashithang	0.0	7.8	50.0	35.2	88.4	192.1	543.7	438.6	240.2	6.0	13.4	20.0	..	1,636.4
	Sasakhatay	4.4	n.a	145.6	98.0	69.8	254.8	485.1	614.6	n.a	n.a	0.0	0.0	..	993.6
	Shelgana	1.0	5.0	20.6	56.2	87.8	169.2	211.4	364.0	57.2	4.0	12.2	5.0	..	..
	Daga Uma	n.a	n.a	n.a	16.6	15.0	n.a	n.a	73.4	99.7	n.a	n.a	0.0	..	..
Wangdiphodrang	Gaselo	n.a	n.a	n.a	80.2	66.9	88.7	215.7	159.8	35.1	9.2	5.4	4.3	..	..
	Nobding	n.a	5.0	101.6	129.6	211.0	431.9	475.5	119.9	10.0	18.0	10.0	..	..
	Phujikha	0.0	n.a	n.a	n.a	285.0	249.4	355.9	273.6	67.4	7.5	17.8	0.0	..	1,007.2
	Samtengang	0.0	1.0	16.8	53.8	117.4	148.2	249.4	228.6	58.0	6.6	7.6	6.8	..	894.2
	Wangdi (CARD)	0.0	6.2	17.5	35.5	51.1	93.8	222.0	158.4	35.5	4.4	9.4	5.2	..	639.0

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

Table continued on next page

TABLE 5.3 (CONT.): MONTHLY RAINFALL DATA FOR VARIOUS STATIONS IN BHUTAN, 1988

Dzongkhag	Station	Rainfall in millimeters												Total Rainfall	
		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.		
Geylegphug	Rhur	27.6	80.0	86.0	251.4	585.6	514.4	1,878.4	1,536.3	792.0	172.2	27.4	4.4	..	6,015.7
	Kalikhola	0.0	179.2	n.a	n.a	n.a	n.a	n.a	536.9	n.a	n.a	n.a	n.a	..	..
	Maugan	n.a	n.a	12.8	51.1	104.0	256.9	1,462.0	1,442.6	456.2	8.0	n.a	4.0	..	..
	Sarbhag	n.a	n.a	n.a	n.a	n.a	n.a	2,254.6	n.a	n.a	n.a	42.0	0.0	..	..
	Surey	5.0	11.6	168.6	250.3	303.4	258.6	926.4	1,794.9	461.3	29.0	0.0	0.0	..	4,259.1
Shemgang	Thombatar	13.5	51.0	84.1	132.5	521.3	485.0	2,220.0	2,977.0	1,210.0	166.0	23.0	3.0	..	7,886.4
	Buli	n.a	n.a	44.1	66.6	115.9	225.8	533.2	662.9	163.2	32.6	29.2	n.a	..	..
	Khomear	0.0	n.a	32.7	45.5	76.2	158.8	361.9	539.9	n.a	n.a	n.a	n.a	..	..
	Panbang	13.2	12.1	125.8	112.8	600.8	n.a	1,467.4	n.a	n.a	264.0	37.2	9.4	..	..
	Shemgang(W/T)	7.2	14.4	12.1	121.8	127.6	229.6	560.9	431.2	169.6	17.6	29.2	21.6	..	1,742.8
Tongsa	Yebilapcha	4.4	15.6	8.2	60.4	151.6	169.8	570.2	547.0	n.a	14.8	20.2	7.6	..	..
	Kuengarabten	2.1	n.a	22.0	89.0	72.0	192.0	406.0	349.0	150.0	33.0	20.0	4.0	..	1,329.1
	Langthel	7.4	15.8	12.9	43.5	75.8	148.1	346.6	255.0	95.6	24.8	21.4	0.0	..	1,046.9
	Tongsa	n.a	20.0	52.2	108.6	76.8	186.4	345.4	329.0	95.1	15.4	23.8	6.6	..	1,259.3
	Chankhar	0.0	n.a	23.7	35.6	84.1	137.9	148.7	92.3	51.9	n.a	22.9	4.4	..	..
Tashigang	Chhumey	n.a	0.0	36.0	62.6	94.6	312.7	218.1	227.3	52.2	n.a	17.8	n.a	..	..
	Kanglung	0.0	14.0	33.1	115.4	79.0	163.4	285.0	n.a	n.a	10.0	45.6	3.6	..	..
	Khaling	2.0	17.7	38.0	136.5	199.2	175.1	465.0	543.0	126.5	70.4	58.1	13.8	..	1,843.3
	Radhi	n.a	23.0	110.5	154.5	124.2	185.8	304.0	262.5	180.0	n.a	n.a	n.a	..	..
	Rangyangwoong	0.0	27.9	31.7	102.0	122.2	124.2	185.8	304.0	75.1	32.1	27.6	4.4	..	1,037.0
Mongar	Thrimshing	0.2	27.8	59.0	n.a	245.7	158.3	541.4	556.0	92.6	32.6	47.9	0.0	..	..
	Tashiyangsthi	0.0	28.8	39.0	70.9	82.4	116.6	160.0	256.3	33.5	0.0	50.2	0.0	..	837.7
	Wamtong	0.2	25.1	73.4	120.5	225.7	209.7	527.7	732.3	152.8	65.4	48.4	13.2	..	2,194.4
	Yallang	0.0	15.5	33.0	120.4	75.4	n.a	179.8	249.5	121.7	17.0	31.6	16.6	..	860.5
	Kengkhar	n.a	n.a	33.9	84.9	60.4	211.4	n.a	523.9	180.0	n.a	n.a	n.a	..	..
Lhuntsi	Lingmethang	n.a	13.0	17.6	76.2	77.9	193.7	208.8	139.1	104.0	12.6	26.8	2.4	..	872.1
	Chakaling	0.0	27.2	47.9	123.5	76.4	193.5	191.7	177.8	114.5	21.5	n.a	12.0	..	986.0
	Yadi	0.0	16.0	12.8	92.2	92.1	121.2	265.9	206.7	117.2	23.0	36.0	4.4	..	1,007.5
	Chaskar	..	..	..	..	43.1	135.2	123.9	n.a	65.5	25.6	7.4	9.8	..	..
	Chali	..	..	..	..	50.0	n.a	n.a	n.a	n.a	n.a	21.5	n.a	..	..
Pemagatse	Dungkhar	n.a	n.a	n.a	91.6	171.2	172.4	265.0	248.6	242.6	27.0	13.0	14.2	..	..
	Tangnachu	0.0	0.9	16.6	50.7	72.0	111.5	135.6	215.2	60.3	11.4	36.4	2.7	..	713.3
	Dungmain	12.6	38.4	115.7	125.6	236.8	292.7	1,023.0	1,272.5	348.9	116.2	58.5	0.0	..	3,600.9
	Yurung	5.0	n.a	n.a	110.2	240.6	200.0	681.2	1,078.8	248.6	121.0	43.6	4.2	..	..
	Arong	0.0	7.0	125.0	119.4	740.0	435.0	205.0	997.4	265.4	157.6	0.0	n.a	..	3,051.8
Samdrup-jongkhar	Bakuli	1.0	11.0	98.6	174.2	616.0	580.2	914.6	919.8	354.2	210.2	34.4	n.a	..	3,914.2
	Dafam	1.0	28.2	156.0	150.0	513.6	n.a	n.a	551.0	151.3	39.0	15.2	..	..	..
	Dechenling	0.0	54.6	n.a	107.0	374.7	347.3	1,253.0	1,872.7	152.7	44.5	2.2	..	..	4,741.4
	Nanglha	n.a	n.a	n.a	n.a	625.4	374.7	n.a	1,574.6	821.8	355.0	29.8	n.a	..	..
	Shingkar-	0.0	7.5	33.4	90.8	161.0	170.6	305.8	38.0	83.2	82.6	36.1	8.0	..	1,023.0

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

Source : Department of Agriculture.

TABLE 5.4 : AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1988
(Degrees Celsius)

Dzongkhag	Station	Temperature	Month											
			Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Thimphu	Gidakom	Maximum	n.a	n.a	n.a	n.a	n.a	n.a	24.5	24.4	24.4	20.6	17.3	
		Minimum	n.a	n.a	9.1	n.a	n.a	n.a	18.2	16.7	14.4	7.2	1.0	-0.5
	Lingshi	Maximum	n.a	n.a	n.a	n.a	n.a	14.7	13.5	14.3	n.a	n.a	14.9	14.6
		Minimum	n.a	n.a	n.a	n.a	n.a	3.8	4.3	4.7	n.a	n.a	-0.9	-9.1
	Simtokha	Maximum	16.6	16.0	20.2	n.a	26.1	26.3	n.a	25.3	26.3	26.2	20.6	19.0
		Minimum	n.a	1.8	6.9	n.a	14.5	16.8	n.a	n.a	n.a	9.0	1.0	0.8
Taba	Maximum	15.6	n.a	n.a	20.6	n.a	23.6	23.7	22.9	n.a	n.a	21.2	n.a	
	Minimum	-3.6	n.a	n.a	5.1	n.a	12.1	14.8	16.3	n.a	n.a	1.3	n.a	
Thimphu Agr. Office	Maximum	16.0	17.8	18.6	21.5	24.4	25.3	25.6	24.4	24.4	24.5	19.5	16.9	
	Minimum	-3.8	0.7	4.4	7.6	12.4	14.0	17.1	16.6	14.6	6.9	0.0	0.7	
Yusipang	Maximum	10.0	11.8	12.6	16.5	19.5	20.5	21.5	20.6	21.0	19.8	14.7	12.4	
	Minimum	-1.1	0.7	4.0	5.3	9.5	12.2	14.4	14.2	12.4	6.0	0.2	0.9	
Chhukha	Chapcha	Maximum	12.0	13.3	13.8	18.1	19.6	21.1	n.a	n.a	21.0	20.8	n.a	8.1
		Minimum	0.8	1.3	4.2	7.1	9.8	12.1	n.a	n.a	12.2	6.8	n.a	-1.8
Chhukha	Chhukha	Maximum	19.1	20.5	21.6	26.0	26.5	27.3	26.8	25.9	26.7	27.6	25.0	n.a
		Minimum	8.7	10.5	12.3	16.1	17.6	19.3	19.7	n.a	18.6	16.4	12.9	n.a
Dungna	Dungna	Maximum	16.1	17.8	n.a	n.a	n.a	n.a	n.a	23.1	23.7	n.a	n.a	n.a
		Minimum	13.9	12.6	n.a	n.a	n.a	n.a	n.a	20.6	20.0	n.a	n.a	n.a
Gedu	Gedu	Maximum	23.6	n.a	n.a	23.7	n.a	n.a	n.a	n.a	n.a	n.a	n.a	17.6
		Minimum	4.2	n.a	7.6	9.7	n.a	n.a	14.4	n.a	15.3	n.a	n.a	5.5
Pana	Pana	Maximum	n.a	26.3	27.2	29.9	30.5	30.1	29.1	19.6	29.3	19.9	n.a	13.6
		Minimum	n.a	16.8	18.2	21.6	21.9	23.7	23.1	18.4	23.2	14.3	n.a	7.3
Tala	Tala	Maximum	7.5	12.9	13.4	19.7	n.a	n.a	n.a	19.6	n.a	19.9	n.a	13.6
		Minimum	5.0	8.0	5.2	9.6	n.a	n.a	n.a	18.4	n.a	14.3	n.a	7.3
Ha	Namjeyling	Maximum	11.7	12.5	12.4	15.5	17.7	18.8	19.4	18.2	17.7	18.2	13.5	10.5
		Minimum	4.0	3.1	1.4	3.7	7.9	11.6	14.2	13.9	11.5	3.6	-2.8	-3.9
Paro	Bitekha	Maximum	10.5	n.a	12.4	15.9	18.4	20.1	20.8	19.4	19.1	18.3	15.4	11.9
		Minimum	n.a	n.a	4.2	5.6	9.8	12.3	14.0	13.8	12.5	7.4	2.5	1.0
Bondey	Bondey	Maximum	16.4	17.0	n.a	n.a	24.0	26.4	24.7	24.7	24.9	24.7	19.4	16.9
		Minimum	-2.3	0.5	n.a	n.a	11.1	13.8	16.6	n.a	14.3	5.7	1.3	-1.0
Dotey	Dotey	Maximum	19.1	18.8	n.a	22.0	23.1	n.a	n.a	24.3	n.a	n.a	n.a	n.a
		Minimum	n.a	0.4	n.a	7.8	9.3	n.a	n.a	n.a	n.a	n.a	n.a	n.a

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

Table continued on next page

TABLE 5.4 (CONT.): AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1988

(Degrees Celsius)

Dzongkhag	Station	Temperature	Month											
			Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Samchi	Chengmari	Maximum	25.7	27.1	26.9	32.3	31.3	31.2	31.2	30.9	31.2	31.7	30.4	25.5
		Minimum	16.6	18.7	18.7	20.6	21.3	22.8	23.1	23.2	22.4	21.1	19.4	16.9
	Pugli	Maximum	22.8	24.0	23.3	n.a	28.4	n.a	27.2	n.a	n.a	n.a	n.a	25.0
		Minimum	n.a	15.9	17.9	n.a	17.9	n.a	24.6	n.a	n.a	n.a	n.a	16.1
	Samchi (NIE)	Maximum	25.2	27.2	27.8	33.1	31.6	32.3	32.0	31.2	31.9	31.8	28.5	24.5
		Minimum	n.a	19.8	21.0	19.1	19.4	19.2	18.9	18.9	21.1	21.2	20.5	16.3
Sibsu	Maximum	23.6	26.0	25.9	n.a	27.7	27.8	27.4	28.3	26.3	27.9	25.4	22.8	
	Minimum	11.6	14.2	15.9	n.a	21.3	22.3	22.5	22.6	21.9	19.4	16.5	14.3	
Tendu	Maximum	19.2	20.1	21.3	24.0	n.a	26.0	25.0	23.7	24.2	24.3	22.5	19.5	
	Minimum	10.2	11.7	14.0	17.2	n.a	20.0	20.5	21.1	20.1	17.8	14.1	11.6	
Chirang	Dagapela	Maximum	17.6	17.4	19.1	22.5	23.6	24.5	22.7	23.0	22.9	23.1	21.1	17.9
		Minimum	4.8	6.5	9.6	12.8	13.1	16.7	18.0	17.8	16.8	13.0	8.5	7.6
	Damphu	Maximum	15.7	15.8	16.4	20.7	22.9	23.4	22.5	22.3	21.6	21.7	19.6	15.3
		Minimum	13.9	7.1	8.8	13.9	15.7	17.4	18.6	18.3	17.2	16.0	10.2	6.5
	Lamidara	Maximum	17.0	18.6	19.9	23.9	n.a	25.1	n.a	n.a	n.a	n.a	n.a	n.a
		Minimum	2.5	10.4	11.3	16.4	17.8	19.3	n.a	n.a	n.a	n.a	n.a	n.a
Daga	Dagadzong	Maximum	14.6	16.2	17.6	21.7	23.6	24.9	25.3	24.1	23.1	22.7	19.4	17.0
		Minimum	7.5	8.1	9.9	13.1	15.9	17.3	18.4	18.2	17.1	13.4	10.1	8.0
Drujeygang	Drujeygang	Maximum	18.6	20.7	21.1	21.9	24.3	26.2	26.6	27.3	25.2	24.9	21.7	19.2
		Minimum	8.3	9.8	12.8	15.2	18.9	20.4	21.0	20.3	20.7	19.1	n.a	9.2
Tashithang	Tashithang	Maximum	16.9	17.9	19.0	22.6	24.0	25.1	25.5	25.0	25.3	25.7	24.2	20.0
		Minimum	7.1	8.6	11.2	14.8	17.1	18.7	19.1	20.5	21.3	16.0	10.8	9.0
Punakha	Gasakhatay	Maximum	17.7	n.a	16.8	15.8	17.5	20.1	n.a	n.a	n.a	22.8	19.9	14.4
		Minimum	5.7	n.a	4.4	5.8	5.6	5.9	n.a	n.a	n.a	4.7	n.a	n.a
Shelgana	Shelgana	Maximum	17.6	18.7	21.1	24.3	26.5	26.9	26.0	26.0	26.6	26.5	23.1	18.5
		Minimum	4.0	6.0	9.2	12.8	14.5	17.2	18.7	18.1	17.2	11.4	5.5	5.2
Wangdi-phodrang	Daga Uma	Maximum	18.8	n.a	18.2	22.1	25.5	n.a	n.a	25.4	21.8	n.a	n.a	18.1
		Minimum	6.0	n.a	10.1	n.a	14.5	n.a	n.a	23.4	17.2	n.a	n.a	6.4
Caselo	Caselo	Maximum	n.a	16.3	n.a	21.6	24.5	24.9	24.9	25.7	24.6	23.3	20.1	15.5
		Minimum	n.a	6.4	n.a	10.8	14.5	16.8	17.4	17.8	16.3	12.7	7.1	5.1
Nobding	Nobding	Maximum	n.a	12.1	14.4	18.2	19.9	20.7	21.9	19.3	19.4	18.5	13.9	10.6
		Minimum	n.a	0.5	2.0	7.0	9.5	12.2	13.4	13.2	11.8	7.7	3.1	1.4

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

Table continued on next page

TABLE 5.6: 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
ZONE I							
Chhukha	1.1	3.1	4.4	-	0.7	8.2	17.5
Ha	0.1	0.8	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
Total Zone I	7.5	13.4	9.2	0.3	4.9	22.1	57.4
ZONE II							
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
Total Zone II	6.9	11.1	1.7	0.4	2.4	11.4	33.9
ZONE III							
Bumthang	*	1.1	1.9	-	-	14.1	17.1
Geylegphug	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
Total Zone III	6.2	11.0	6.9	0.2	2.3	24.0	50.6
ZONE IV							
Lhuntshi	0.8	1.6	1.6	-	-	1.0	5.0
Mongar	0.4	2.9	1.9	-	-	1.7	6.9
Pemagatsel	-	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
Total Zone IV	5.4	18.9	14.9	0.0	0.3	67.6	107.2
BHUTAN	26.8	54.9	32.8	0.9	9.9	132.0	257.3

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

Dzongkhag	Size of lad holding (hectares)							Land Holders	All Holders
	0.01-0.49	0.50-0.99	1.00-1.49	1.50-1.99	2.00-2.99	3.00-4.99	5 & over		
Thimphu	490	540	320	160	150	110	*	1,800	1,830
ZONE I									
Chhukha	170	230	580	350	550	600	790	3,270	3,290
Ha	120	190	170	*	110	600	220	920	930
Paro	170	400	440	360	440	*	130	2,280	2,320
Samchi	390	860	1,020	920	1,790	360	130	7,640	7,640
Total Zone I	850	1,680	2,210	1,630	2,890	1,590	2,200	14,110	14,180
ZONE II									
Chirang	140	750	1,040	750	1,420	1,180	440	5,710	5,710
Daga	*	240	240	220	360	480	190	1,790	1,790
Punakha	250	420	480	280	230	*	120	1,850	1,860
Wangdiphodrang	600	780	540	270	210	*	*	2,470	2,500
Total Zone II	990	2,190	2,300	1,520	2,220	1,660	750	11,820	11,960
ZONE III									
Bumthang	110	160	150	*	180	180	260	1,130	1,170
Geylegphug	200	400	710	900	1,610	1,010	730	5,570	5,580
Shemgang	*	*	180	270	400	480	400	1,830	1,830
Tongsa	150	240	300	120	160	170	150	1,290	1,320
Total Zone III	460	800	1,340	1,290	2,350	1,840	1,540	9,820	9,900
ZONE IV									
Lhuntshi	410	570	410	250	300	340	200	2,480	2,480
Mongar	570	1,220	1,020	660	450	270	100	4,300	4,300
Pemagatsel	230	750	680	420	260	110	*	2,490	2,500
Samdrupjongkhar	170	590	550	610	1,010	820	350	4,100	4,110
Tashigang	1,730	3,190	2,440	1,450	1,790	990	970	12,560	12,600
Total Zone IV	3,110	6,320	5,100	3,390	3,810	2,530	1,640	25,930	25,990
BHUTAN	5,900	11,530	11,270	7,990	11,420	8,690	6,140	63,480	63,850

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

	Paddy			Wheat			Maize			Mustard							
	Holders	Area (ha.)	Production (tonnes)	Holders	Area (ha.)	Production (tonnes)	Holders	Area (ha.)	Production (tonnes)	Holders	Area (ha.)	Production (tonnes)	Yield/ha. (Kg.)				
Dzongkhag																	
Thimphu	1,240	760	1,850	2,420	1,220	400	260	660	240	240	30	10	500	530	70	20	330
Chhokha	1,820	920	950	1,030	1,100	310	220	700	2,570	1,830	1,830	680	370	1,650	300	80	270
Ha	150	90	80	880	820	460	230	510	140	70	40	40	540	640	120	50	390
Paro	1,790	1,460	2,400	1,640	2,110	1,250	650	520	7,320	7,540	2,490	330	330	1,670	230	80	340
Samchi	5,850	4,400	5,740	1,310	1,290	130	500	500	10,110	9,450	3,210	340	340	4,050	660	210	320
TOTAL ZONE 1	9,610	6,870	9,170	1,330	5,320	2,270	1,230	540	10,110	9,450	3,210	340	340	4,050	660	210	320
Chirang	4,110	3,050	4,510	1,480	1,880	340	170	490	5,550	6,380	2,910	460	460	3,380	610	170	270
Taga	1,280	790	1,070	1,360	200	80	40	500	1,500	2,360	890	380	380	1,180	320	100	310
Punakha	1,680	1,600	4,290	2,670	1,540	420	230	560	340	80	60	770	770	1,050	160	50	310
Wangdiphodrang	1,740	1,250	na	na	1,980	790	na	na	380	60	na	na	na	1,030	110	na	na
TOTAL ZONE 2	8,810	6,690	13,210	1,970	5,600	1,630	880	540	7,770	8,880	3,910	440	440	6,640	1,200	350	300
Bunathang	4,520	4,690	7,120	1,520	760	260	150	570	130	130	10	20	1,160	1,630	560	160	280
Geylegphug	1,540	770	900	1,170	590	200	150	780	1,800	1,060	1,250	1,180	380	430	170	50	290
Shengang	1,160	600	820	1,370	850	270	180	640	970	390	390	270	720	290	40	10	390
Tongsa	7,260	6,080	8,660	1,460	3,220	1,120	880	790	8,050	8,450	4,150	500	500	2,430	790	230	290
TOTAL ZONE 3	2,010	800	1,640	2,050	590	150	170	1,090	2,230	1,140	2,480	2,170	380	380	70	30	440
Ihuatshi	2,200	470	470	980	610	130	60	470	4,260	2,570	4,530	1,760	450	80	30	20	600
Mongjar	2,870	120	110	960	960	160	100	630	2,390	860	920	1,060	330	30	20	600	
Pemayatse	2,660	2,030	2,910	1,430	460	60	30	490	4,900	4,700	2,650	560	560	2,190	690	180	260
Samdrukjungkhar	8,420	2,210	4,930	2,230	2,890	490	460	940	11,460	5,810	9,230	1,590	1,310	3,780	500	280	550
Tashiganj	16,150	5,630	10,050	1,780	5,500	1,000	820	820	25,300	15,080	19,810	1,310	740	7,120	1,360	530	390
TOTAL ZONE 4	43,070	26,030	43,140	1,660	20,860	6,420	4,080	640	51,470	41,890	31,130	740	740	20,770	4,080	1,340	330
TOTAL BHUTAN																	

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

Source : Agronomic Survey undertaken by Central Statistical Office.

Table 5.9 : ANNUAL CROPS, NUMBER OF HOLDERS HARVESTING EACH CROP AND AREA HARVESTED, BHUTAN, 1988-89

Crop	Number of Holders	Per cent holders	Crop area (hectares)
Cereals			
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
Legumes			
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
Oil seeds	21,110	32.6	4,120
Roots and tubers			
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
Vegetables	8,610	13.3	630
Other crops			
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 5.10 : PERENIAL CROPS BY ZONE, 1988/89
('000 trees)

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

Source: Agronomic Survey undertaken by Central Statistical Office.

TABLE 5.11: HOLDERS ACCORDING TO SIZE OF LIVESTOCK HOLDING, 1988/89

Number of livestock	Cattle	Yaks	Buffaloes	Pigs	Goats	Sheep	Horses	Donkeys/ mules	Chickens
('000 holders)									
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 5.12 : LIVESTOCK NUMBERS BY DZONGKHAG, 1988

Dzongkhag	('000)							
	Cattle	Yaks	Buffaloes	Sheep	Goats	Pigs	Horses	Poultry
Thimphu	5.8	6.7	-	1.6	-	2.1	0.8	2.1
Zone I								
Chukha	23.8	-	0.3	0.9	3.2	3.8	0.6	11.5
Pa	9.4	5.6	-	0.1	-	2.1	1.4	2.5
Paro	15.3	4.0	-	0.4	-	5.8	1.0	4.2
Lamchi	35.6	-	1.0	5.8	11.9	2.4	0.3	38.7
Total Zone I	84.1	9.6	1.3	7.2	15.1	14.1	3.3	56.9
Zone II								
Chirang	19.3	-	0.8	3.0	8.5	1.2	0.5	18.5
Daga	21.4	-	0.8	2.0	5.8	2.7	0.9	11.6
Punakha	12.0	2.5	-	-	-	4.4	1.4	7.2
Wangdiphodrang	19.7	2.9	-	10.9	0.5	5.4	2.4	6.7
Total Zone II	72.4	5.4	1.6	15.9	14.8	13.7	5.2	44.0
Zone III								
Bumthang	10.6	6.2	-	8.4	-	-	1.6	2.6
Gyeylophug	42.1	-	1.4	3.9	-	4.3	0.7	43.1
Shongqang	14.7	-	-	-	0.1	3.3	1.0	8.2
Tongsa	9.9	-	-	3.0	-	0.6	0.5	3.4
Total Zone III	77.3	6.2	1.4	15.3	0.1	8.2	3.8	57.3
Zone IV								
Lhontshi	16.0	0.3	-	0.4	-	3.3	1.3	9.1
Mongar	29.3	-	-	0.1	0.2	5.9	2.1	13.7
Pemagatse	8.3	-	-	-	-	2.1	1.1	4.2
Sandrupjongkhar	19.4	-	-	0.2	1.8	4.2	1.7	14.0
Tashigang	44.8	7.4	-	5.9	4.7	12.1	6.4	35.9
Total Zone IV	117.8	7.7	-	6.6	6.7	27.6	12.6	76.9
BHUTAN	357.4	35.6	4.3	46.6	36.7	65.7	25.7	237.2

Source: Animal Husbandry Department.

TABLE 5.13 : LIVESTOCK NUMBERS, 1981 TO 1988

Livestock	('000)							
	1981	1982	1983	1984	1985	1986	1987	1988
Cattle	275.2	291.7	309.4	327.7	347.4	340.3	357.0	357.4
Yaks	28.9	29.6	30.1	30.7	31.3	35.7	30.1	35.6
Buffaloes	n.a	n.a	n.a	n.a	n.a	n.a	5.2	4.3
Sheep(a)	27.0	31.8	37.5	44.3	52.3	41.8	36.4	46.6
Goats	n.a	n.a	n.a	n.a	n.a	n.a	40.9	36.7
Pigs	55.5	56.6	57.7	58.9	60.1	88.5	70.3	65.7
Horses	n.a	n.a	n.a	n.a	n.a	37.5	26.0	25.7
Poultry	152.5	158.8	165.5	172.3	179.5	211.3	218.0	237.2

(a) For 1981 to 1986 figure includes both sheep and goats.

Source: Animal Husbandry Department.

TABLE 5.14 : FOOD CORPORATION OF BHUTAN, IMPORTS AND DISTRIBUTION, 1981/82 TO 1988/89

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

Source: Food Corporation of Bhutan.

TABLE 5.15 : AGRICULTURAL PRODUCE HANDLED BY FOOD CORPORATION OF BHUTAN, 1982/83 TO 1987/88

Commodity	Quantity (tonnes)					
	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88
Potatoes	3,795.8	6,178.9	7,571.9	8,987.8	8,021.0	10,060.3
Apples	452.5	671.9	889.6	648.0	1,295.0	965.6
Oranges	549.4	588.6	690.0	769.5	946.3	2,455.6
Value (Nu.millions)						
Potatoes	5.2	10.5	11.5	15.0	19.2	21.2
Apples	1.4	2.4	3.5	2.8	4.4	4.8
Oranges	1.6	1.3	1.8	2.2	2.9	7.1

(a) 1987/88 refers to the 15 month period April 1987 to June 1988. The remaining years refer to the twelve month period April to March.

Source: Food Corporation of Bhutan.

TABLE 5.16: PRODUCTION OF LOGWOOD, 1982/83 TO 1986/87 (a)

('000 cubic metres)

	1982/83	1983/84	1984/85	1985/86	1986/87
Commercial Logging- Bhutan Logging Corporation	34.0	59.7	100.8	59.1	118.1
Logging for house construction and public works	55.8	31.8	54.3	77.7	31.0
TOTAL	89.8	91.5	155.1	136.8	149.1

(a) Years refer to 1 April to 31 March. Figures exclude collection of firewood by individuals.

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.

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

Source: Department of Trade and Industries.

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 that time 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 June 1989, there were 2,280 kilometers of motorable roads in Bhutan, of which 1,761 kilometers were black topped. In 1988, there were a total of 7,002 registered vehicles, in Bhutan.

Bus transport combines both public and private enterprise. Government buses carried 1.2 million passengers in 1988/89. A total of 8,700 passengers were carried by Druk Air during 1987, an increase of nearly 12 per cent compared with 1986.

Post offices in Bhutan handled a total of 6.4 million items of mail during 1988 of which 3.2 million were domestic, 2.8 million were neighboring countries and 0.3 million overseas.

TABLE 7.1 : ROAD NETWORK IN BHUTAN BY TYPE, JUNE 1989

Type of road	Distance (km)			
	National Highways	District Roads	Feeder Roads	All Roads
Black topped	1,393	230	138	1,761
Non-black topped	60	258	201	519
TOTAL	1,453	488	339	2,280

Source: Department of Roads.

TABLE 7.2: ROAD NETWORK IN BHUTAN BY DZONGKHAG, JUNE 1989

Dzongkhag	Distance (km)			
	National Highway	District Road	Feeder Road	All Roads
Thimphu	10	-	19	121
Chhukha	13	41	17	190
Ha	15	11	16	42
Paro	104	51	16	171
Samchi	-	81	13	94
Chirang	67	-	24	91
Daga	22	87	-	109
Punakha	-	26	42	68
Wangdiphodrang	101	8	33	142
Bumthang	122	-	24	146
Geylegphug	106	-	40	146
Shemgang	142	-	-	142
Tongsa	163	-	-	163
Lhuntshi	-	47	10	57
Mongar	177	20	24	221
Pemagatsel	-	23	15	38
Samdrupjongkhar	59	48	5	112
Tashigang	141	45	41	227
BHUTAN	1,453	488	339	2,280

Source: Department of Roads.

TABLE 7.3: NUMBER OF REGISTERED VEHICLES BY TYPE, 1980 TO 1988

Year	Cars	Jeeps	Trucks	Buses	Bull dozer	Taxis	Motorcycle & scooters	Diplo-matic	Total
1980	76	118	156	9	-	23	299	19	700
1981	167	185	333	14	-	39	455	19	1,212
1982	319	276	431	23	6	55	707	23	1,840
1983	402	377	498	27	8	60	946	27	2,345
1984	620	469	673	37	9	78	1,200	36	3,122
1985	782	627	826	57	9	117	1,513	49	3,980
1986	934	810	955	78	10	153	1,883	58	4,881
1987	1,027	951	1,075	99	10	213	2,281	65	5,721
1988(a)	1,235	1,105	1,249	118	12	250	2,882	71	7,002

(a) Total includes 80 numbers of power tillers.

Source: Department of Revenue and Customs.

TABLE 7.4 : NUMBER OF NEW MOTOR VEHICLE DRIVING LICENCES ISSUED (a) BY TYPE OF VEHICLE, 1982 TO 1987

Type of vehicle	1982	1983	1984	1985	1986	1987
Scooter/Bike						
Light Vehicle	61	82	141	105	179	324
Medium	205	177	307	322	531	507
Heavy	30	32	24	30	18	39
Other(b)	161	126	88	87	131	187
	20	18	29	32	44	34
ALL VEHICLES	477	435	589	576	903	1,091

(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 1988/89

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

Source: Bhutan Government Transport Service.

TABLE 7.6: NUMBER OF MOTOR VEHICLE ACCIDENTS BY TRAFFIC
DIVISION, 1984 TO 1987

Traffic Division	1984	1985	1986	1987
Thimphu	36	69	118	146
Chimakothi	41	45	27	24
Phuntsholing	30	35	37	18
Samchi	-	5	2	5
Geylegphug	8	10	12	11
Chirang	3	1	1	8
Tongsa	6	5	6	6
Samdrupjongkhar	7	12	13	13
Tashigang	1	4	11	11
Mongar	3	1	3	4
TOTAL	135	187	230	246

Source : Royal Bhutan Police.

TABLE 7.7 : CIVIL AVIATION - DRUK AIR FLIGHT SERVICES, 1983 TO 1987

	1983	1984	1985	1986	1987
Distance flown ('000 km)	64.4	125.4	152.0	201.2	n.a
Passengers carried	2,854	4,480	5,928	7,776	8,700
Passenger-kilometers ('000 km)	1,612	2,531	3,349	4,381	n.a

Source : Druk Air Corporation.

TABLE 7.8 : TELEPHONE CONNECTION CAPACITY (a)
BY EXCHANGE, 1988

Exchange	Connection Capacity
Thimphu	900
Phuntsholing	400
Wangdiphodrang	50
Paro	100
Ha	50
Punakha	20
Chimakothi	50
Tongsa	35
Geylegphug	100
Sarbhang	50
Samdrupjongkhar	100
Tashigang	35
Samchi	100
ALL EXCHANGES	1,990

(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, 1988

Place	Distance (Kms)
Thimphu-Chimakothi	65
Thimphu-Phuntsholing (a)	130
Thimphu-Wangdiphodrang	45
Thimphu-Punakha	50
Thimphu-Paro	54
Wangdiphodrang-Punakha	15
Paro-Ha	18
Samdrupjongkhar-Tashigang	130
Geylegphug-Tongsa	200
Geylegphug-Sarbhang	23
Samchi-Banarhat (India)	14

(a) Microwave/UHF.

Source: Department of Telecommunication.

TABLE 7.10 : NUMBER OF TELEPHONE TRUNK CALLS
BY TYPE (a) 1988
('000)

Type of call	Number of Calls
Domestic calls	85.7
International calls	
India	18.2
Other	3.8
Total	22.0
ALL CALLS	107.7

(a) Estimated number of calls.

Source : Department of Telecommunication.

TABLE 7.11 : NUMBER OF POST OFFICES AND OTHER COM-
MUNICATION FACILITIES, 1980 AND 1988

	1980	1988
General Post Offices	2	2
Post Offices	52	55
Branch Post Offices	27	28
Telegraph Offices	8	8
Wireless Stations(a)	28	39
Hydromet Stations	5	13

(a) Includes two stations installed at New Delhi and Dhaka Embassies.

Source : Department of Posts, Telegraph & Civil Wireless.

TABLE 7.12 : NUMBER OF ITEMS OF MAIL SENT BY TYPE OF ITEM AND DESTINATION, 1988
('000)

Type of Mail	Letters			Aero-gramme	Postcards	Printed Matter	Parcels	Total
	Ordinary	Registered	Total					
Domestic	2,924.3	172.3	3,096.6	-	40.2	41.1	32.1	3,210.0
Neighbouring	2,599.2	154.3	2,753.5	-	47.1	23.1	4.1	2,827.8
Overseas	223.3	40.4	263.7	44.1	21.2	14.1	1.2	344.3
ALL MAIL	5,746.8	367.0	6,113.8	44.1	108.5	78.3	37.4	6,362.1

Source: Department of Posts, Telegraph and Civil Wireless.

TABLE 7.13 : NUMBER AND AMOUNTS OF MONEY ORDER BY TYPE,
1980 AND 1988

Type	1980	1988
Internal money order		
Number ('000)	54.0	n.a
Amount booked ('000 Nu.)	4,735.9	9,477.1
Amount paid ('000 Nu.)	3,933.5	8,498.1
Foreign money order (a)		
Number ('000)	37.8	n.a
Amount booked ('000 Nu.)	1,412.7	5,461.5
Amount paid ('000 Nu.)	117.3	169.4

(a) Amount booked refers to money transferred out of Bhutan.
Amount paid refers to amount transferred into Bhutan.

Source : Department of Posts, Telegraph and Civil Wireless.

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 1988/89 was 346.4 MW, of which 341.2 MW were generated from hydro power, 4.8 MW from diesel generating stations and 0.4 MW from micro hydel.

In the twelve months ending June 1989, total electricity generation was 1,544.0 MU of which 1,541.1 MU was from the Chhukha plant. A total of 1,396.0 MU (90 per cent of electricity generation) was exported to India. Total sales to consumers in Bhutan amounted to 123.3 MU representing consumption per head of population of only 90 units. Some 20 towns and 171 villages have now been electrified with total consumers being 14,092.

TABLE 8.1 : ELECTRICITY GENERATING STATIONS AND THEIR CAPACITY, 1988/89

Generating Stations	Machine Sizes (MW)	Installed Capacity (MW)
Hydro Stations		
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
TOTAL HYDRO CAPACITY		341.150
Micro hydels		
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
TOTAL MICRO HYDEL		0.410
Diesel Generation Stations		
Phuntsholing	2 x 0.128	0.256
Samchi	2 x 0.248	0.496
Paro	1 x 0.135	0.135
	1 x 0.400	0.400
Thimphu	1 x 0.088	0.088
	1 x 0.500	0.500
	2 x 0.225	0.450
	2 x 0.150	0.300
Damphu	2 x 1.000	2.000
Tongsa	1 x 0.048	0.048
Shemgang	1 x 0.056	0.056
Daga	1 x 0.080	0.080
	1 x 0.040	0.040
TOTAL DIESEL CAPACITY		4.849
TOTAL CAPACITY		346.409

Source : Department of Power.

TABLE 8.2 : ELECTRICITY SUPPLY, 1983/84 TO 1988/89

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

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

Source: Department of Power.

TABLE 8.3 : MAJOR TRANSMISSION LINES FOR EVACUATING CHHUKHA POWER 1988/89

	220 KV	66 KV
Chhukha - Birpara	76 (d/c)	-
Chhukha - Singhigoan	35 (s/c)	-
Chhukha - Phuntsholing	-	35.0
Chhukha - Confluence	-	39.0
Phuntsholing - Gomtu	-	27.0
Phuntsholing - Singhigoan	-	8.4
Confluence - Ha	-	34.0
Confluence - Simtokha	-	20.0
Simtokha - Wangdiphodrang	-	27.0

Source: Department of Power.

TABLE 8.4: ELECTRICITY CONSUMPTION, 1983/84 TO 1988/89

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

Source: Department of Power.

TABLE 8.5: SALES OF ENERGY FROM CHHUKHA HYDROPOWER, 1986 TO 1988

Year and month	1986			1987			1988		
	Export	Internal consumption	Total	Export	Internal consumption	Total	Export	Internal consumption	Total
January	-	-	-	18.1	0.2	18.3	18.9	0.5	19.4
February	-	-	-	13.9	0.2	14.1	15.1	0.4	15.5
March	-	-	-	12.2	0.2	12.4	15.7	0.5	16.2
April	-	-	-	15.6	0.3	15.9	18.2	0.4	18.6
May	-	-	-	20.6	0.3	20.9	33.7	0.4	34.1
June	-	-	-	20.3	0.4	20.7	41.3	0.8	42.1
July	-	-	-	25.5	0.4	25.9	49.5	1.0	50.5
August	-	-	-	31.5	0.3	31.8	37.2	0.9	38.1
September	5.1	0.1	5.2	28.4	0.3	28.7	43.7	0.9	44.6
October	4.9	0.1	5.0	32.0	0.4	32.4	28.3	1.1	29.4
November	13.2	0.2	13.3	31.1	0.4	31.5	19.4	1.0	20.4
December	18.8	0.2	19.0	26.6	0.5	27.1	16.3	1.2	17.5
Total	42.0	0.6	42.5	275.9	3.8	279.7	337.3	9.1	346.4

Source: Department of Power.

TABLE 8.6 : CONSUMPTION OF ELECTRICITY BY TYPE OF CONSUMER, 1988/89

Type of Consumer	Energy sold (MU)	Percentage
Domestic	9.6	7.8
Commercial & Govt. Offices	8.2	6.7
Industries	102.3	83.0
Bulk supply	3.0	2.3
Public lighting	0.2	0.2
Total	123.3	100.0

Source: Department of Power.

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, when they come 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 1988 was 2,199, which is about 13 per cent less than the previous year. The highest number of tourists recorded was 2,524 in the year 1987. The largest numbers of tourists came from Europe, United States, and Japan. The majority of tourists (73 per cent) came on a tour, while, 27 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 : TOURIST ARRIVALS BY COUNTRY OF RESIDENCE, 1988

Country	Number of tourists
United States of America	598
West Germany	475
Japan	354
United Kingdom	256
France	97
Switzerland	73
Belgium	61
Austria	58
Canada	46
Holland	30
Sweden	18
Taiwan	14
Thailand	10
Others	109
TOTAL	2,199

Source : Bhutan Tourism Corporation.

TABLE 9.2 : TOURIST ARRIVALS BY COUNTRY OF RESIDENCE AND TOURISM REVENUES, 1984 to 1988

Country	1984	1985	1986	1987	1988
Europe					
West Germany	351	397	360	381	475
France	113	83	119	125	97
Italy(a)	75	61	99	105	-
Other Europe	329	287	162	540	496
Total Europe	868	828	740	1,151	1,068
United States of America	514	550	776	715	598
Japan	396	411	448	379	354
Australia(a)	66	46	60	40	-
Other	56	61	381	239	179
TOTAL TOURISTS (Nos.)	1,900	1,896	2,405	2,524	2,199
TOURISM REVENUE (Nu. million)	26.0	29.8	36.4	40.0	27.0

(a) Included in Other categories in 1988.

Source : Bhutan Tourism Corporation.

TABLE 9.3 : TOURIST ARRIVALS BY PURPOSE, 1985 TO 1988

Purpose	1985	1986	1987	1988
Tour	1,493	1,894	2,082	1,616
Trekking & mountaineering	403	511	442	583
TOTAL	1,896	2,405	2,524	2,199

Source : Bhutan Tourism Corporation.

TABLE 9.4 : TOURIST ARRIVALS BY MONTH, 1984 TO 1988

Months	1984	1985	1986	1987	1988
January	35	40	43	59	26
February	76	39	45	63	43
March	91	237	409	122	390
April	406	214	172	466	230
May	114	130	134	145	140
June	52	22	49	16	31
July	62	94	92	91	62
August	208	182	306	235	147
September	204	237	338	253	298
October	459	453	573	709	670
November	134	160	112	268	118
December	59	88	132	97	44
TOTAL	1,900	1,896	2,405	2,524	2,199

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 1986/87, the trade balance deficit rose from Nu. 487.1 million to Nu. 778.1 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 1987/88 from Nu. 646.5 million to Nu. 1,124.2 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. 224.5 million in 1987/88.

Foreign aid payments increased from Nu. 788.7 million in 1982/83 to Nu. 1,046.6 million in 1987/88. Aid from India accounted for Nu. 652.7 million of the 1987/88 figure. Total aid inflow has generally been larger than current account deficits and therefore Bhutan's total international reserves have been increasing over time. In 1988/89, Indian rupee reserves amounted to Rupees 776.9 million (an increase of Rupees 87.9 million over the previous year), while convertible currency reserves amounted to \$US 50.1 million (an increase of \$US 9.9 million over the previous year).

In 1987, the chief exports to India were cement (Nu. 103.2 million), electricity (Nu. 275.9 million) and a range of timber

and food products (especially cardamom, fruit products, potatoes and oranges). At the same time, an estimated Nu. 52.3 million of rice was imported from India, together with Nu. 45.1 million of diesel oil and a variety of transport and machinery equipment (tyres and tubes, truck chassis, machinery parts).

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. 16.46 to the dollar in June 1989.

TABLE 10.1: BALANCE OF PAYMENTS ESTIMATES, 1982/83 TO 1988/89

Item	(Nu. in millions)						
	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88 (a)	1988/89 (b)
Exports, fob(c)							
India	159.4	160.7	206.4	272.0	427.1	711.9	1,072.6
Other	157.0	157.2	200.0	270.0	424.4	702.4	999.2
Imports, cif(c)	2.4	3.5	6.4	2.0	2.7	9.5	73.5
India	(646.5)	(730.0)	(825.2)	(1,041.6)	(1,205.4)	(1,124.2)	(1,817.0)
Other	(546.5)	(600.6)	(725.0)	(800.0)	(911.1)	(899.7)	(1,163.4)
Trade balance	(100.0)	(129.4)	(100.2)	(241.6)	(294.3)	(224.5)	(653.6)
India	(487.1)	(569.3)	(618.9)	(769.6)	(778.3)	(412.3)	(744.3)
Other	(389.5)	(443.4)	(525.0)	(530.0)	(486.7)	(197.3)	(164.3)
Services and transfer receipts	(97.6)	(125.9)	(93.9)	(239.6)	(291.6)	(215.0)	(580.1)
India	131.3	196.3	243.1	281.8	314.7	288.3	412.2
Other	89.8	146.8	172.4	205.7	215.7	182.9	277.4
Services and transfer payments	41.5	49.5	70.7	76.3	99.0	105.4	134.8
India	(389.9)	(555.7)	(511.4)	(597.3)	(616.0)	(511.3)	(635.2)
Other	(346.9)	(450.0)	(422.7)	(499.7)	(421.8)	(326.2)	(426.5)
Current account balance	(52.0)	(105.7)	(88.7)	(201.8)	(194.2)	(185.1)	(208.7)
India	(754.7)	(928.7)	(887.2)	(1,089.4)	(1,079.6)	(635.3)	(967.4)
Other	(646.6)	(746.7)	(775.3)	(724.1)	(692.8)	(340.6)	313.4
Foreign aid	(108.1)	(182.1)	(111.9)	(365.3)	(386.8)	(294.7)	(654.0)
India	788.7	1,085.0	989.0	1,224.3	1,268.8	1,046.6	1,086.3
Other	679.5	856.0	819.4	760.8	824.1	652.7	808.5
Other loans	109.2	229.0	169.6	463.5	444.7	393.9	277.8
India	-	-	-	6.3	(6.3)	(64.0)	278.3
Other	-	-	-	-	-	-	-
Errors and omissions	-	-	-	6.3	(6.3)	(64.0)	278.3
India	25.9	(77.0)	31.9	(74.6)	(2.5)	58.4	(48.9)
Other	18.0	(57.3)	24.7	(46.9)	(55.4)	(70.0)	(407.1)
Overall balance	7.9	(19.7)	7.2	(27.7)	57.9	128.5	358.3
India	59.9	79.3	133.7	66.6	185.3	405.7	348.3
Other	50.9	52.1	68.8	(10.2)	75.8	242.0	87.9
Other	9.0	27.2	64.9	76.9	109.4	163.7	260.4

(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 and 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.

TABLE 10.2: EXPORTS TO INDIA BY MAJOR COMMODITY, 1981 TO 1987

(Nu. in millions)

Commodity	1981	1982	1983	1984	1985	1986	1987
Cement	35.7	34.3	35.2	41.8	55.0	79.6	103.2
Timber	16.0	10.1	8.2	14.0	46.8	53.3	121.2
Cardamom	10.8	9.6	8.0	15.6	38.0	38.5	21.9
Ginger	-	-	-	-	-	1.8	2.0
Fruit products	4.5	8.8	11.0	20.6	21.2	21.5	22.3
Potatoes	15.6	8.5	5.1	11.9	16.1	23.6	23.2
Oranges	17.2	21.6	3.6	14.4	13.3	17.6	19.7
Rosin	7.2	7.8	8.1	11.3	10.7	18.6	6.0
Alcoholic beverage	1.0	0.6	4.4	6.6	7.8	9.6	17.5
Soft drinks	-	-	-	-	-	5.1	4.2
Veneers	0.3	1.0	3.0	5.9	6.9	0.6	0.9
Apples	0.1	2.9	0.5	3.5	6.1	5.1	8.9
Menthhol	4.9	1.5	0.3	1.7	3.2	1.4	1.9
Block boards	-	-	0.1	6.3	14.8	21.2	29.3
Electricity	-	-	-	-	-	42.0	275.9
Dolomite	-	-	-	-	-	11.3	13.2
TOTAL EXPORTS(a)	166.2	157.0	157.2	200.0	270.0	380.1	702.4

(a) Total includes other commodities not listed.

Source: Central Statistical Office and Department of Trade and Industries.

TABLE 10.3: IMPORTS FROM INDIA BY MAJOR COMMODITY, 1981 TO 1987

(Nu. in millions)

Commodity	1981	1982	1983	1984	1985	1986	1987
Diesel oil	28.0	36.4	40.4	53.4	53.4	54.8	45.1
Petrol	11.7	12.7	13.4	14.3	16.2	20.9	20.3
Kerosine	n.a	n.a	n.a	n.a	n.a	9.0	8.7
Rice	15.6	14.8	17.2	21.4	33.5	48.1	52.3
Tyres and tubes	4.8	11.4	1.0	15.5	33.5	29.3	30.1
Electricity	4.8	10.1	15.8	19.9	23.4	34.7	14.2
Truck chassis	19.9	6.8	4.4	32.8	41.4	15.2	23.4
Iron rods	28.8	12.9	5.9	10.7	21.7	25.7	49.3
Structures and parts	44.3	8.7	3.3	7.8	8.7	2.7	8.7
Machinery parts	14.6	2.1	6.2	24.7	49.6	33.4	21.2
Hardware	2.0	3.1	1.3	23.2	21.1	13.9	2.5
Passenger cars	2.0	4.6	2.5	4.9	4.1	4.6	6.6
Bitumen	11.3	2.0	5.2	3.3	13.3	8.3	2.5
Fabrics	12.0	8.1	1.3	5.2	17.0	18.5	16.4
TOTAL IMPORTS(a)	520.6	546.5	600.6	725.0	800.0	861.1	899.7

(a) Total includes other commodities not listed.

Source: Central Statistical Office and Department of Trade and Industries.

TABLE 10.4 : VALUE OF EXPORTS AND IMPORTS, 1981 TO 1987

(Nu. in millions)

	1981	1982	1983	1984	1985	1986	1987
Exports							
India	166.2	157.0	157.2	200.0	270.0	380.1	702.4
Other	5.5	2.4	3.5	6.4	2.0	7.3	12.6
All countries	171.7	159.4	160.7	206.4	272.0	387.4	715.0
Imports							
India	520.6	546.5	600.6	725.0	800.0	814.0	899.7
Other	65.3	100.0	129.4	100.2	126.9	354.0	224.5
All countries	585.9	646.5	730.0	825.2	926.9	1,168.0	1,124.2

Source : Central Statistical Office and Department of Trade and Industries.

Extended

TABLE 10.4 : VALUE OF EXPORTS AND IMPORTS WITH INDIA BY COMMODITY DIVISION (a), 1987

		('000 Nu.)	
Commodity	Description	Exports	Imports
0. FOOD AND LIVE ANIMALS CHIEFLY FOR FOOD			
00	Live animals chiefly for food	298.5	4,622.0
01	Meat and meat preparations	-	3,468.0
02	Dairy products and eggs	-	20,790.0
03	Fish, crustaceans and fish preparations	1.9	2,391.9
04	Cereals and cereal preparations	146.3	75,891.6
05	Vegetables and fruit	75,340.8	6,141.0
06	Sugar, sugar preparations and honey	426.4	21,779.5
07	Coffee, tea, spices etc	24,694.2	3.7
08	Feeding stuff for animals	17.2	1,484.3
09	Miscellaneous edible products and preparations	0.1	175.8
TOTAL FOOD AND LIVE ANIMALS		100,925.5	140,496.2
1. BEVERAGES AND TOBACCO			
11	Beverages	17,509.4	27,944.2
12	Tobacco and tobacco manufactures	-	3,565.6
TOTAL BEVERAGES AND TOBACCO		17,509.4	31,509.8
2. CRUDE MATERIALS, INEDIBLE, EXCEPT FUELS			
21	Hides and skins	371.2	24.7
22	Oil seeds	1,048.3	124.5
23	Crude rubber	16.3	21.2
24	Wood	124,143.7	2,072.7
25	Pulp and waste paper	-	-
26	Textile fibres and their wastes (not manufactured into yarn or fabric)	-	292.1
27	Crude fertilizers and crude minerals (excluding coal, petroleum and precious stones)	16,253.6	1,097.3
28	Metalliferous ores and metal scrap	2,621.7	2.7
29	Other crude animal and vegetable materials	2,595.6	1,075.5
TOTAL CRUDE MATERIALS (EXC. FUELS)		147,050.4	4,710.7
3. MINERAL FUELS, LUBRICANTS AND RELATED MATERIALS			
32	Coal, coke etc	51.4	8,567.3
33	Petroleum, petroleum prods. and related materials	-	82,173.0
34	Gas, natural and manufactured	-	1,648.8
35	Electric current	275,880.0	14,231.5
TOTAL MINERAL FUELS AND RELATED MATERIALS		275,931.4	106,623.6
4. ANIMALS AND VEGETABLE OILS, FATS AND WAXES			
41	Animal oils and fats	-	-
42	Fixed vegetable oils and fats	-	25,804.9
43	Animal and vegetable oils and fats, processed	-	-
TOTAL ANIMAL, VEGETABLE OILS, FATS		-	25,804.9

(Table continued next page)

TABLE 10.5 (CONT.) : VALUE OF EXPORTS AND IMPORTS WITH INDIA BY COMMODITY DIVISION (a), 1987

		('000 Nu.)	
Commodity Division	Description	Exports	Imports
5. CHEMICALS AND RELATED PRODUCTS			
51	Organic chemicals	-	-
52	Inorganic chemicals	1,866.6	-
53	Dyeing, tanning and colouring materials	-	2,808.8
54	Medicinal and pharmaceutical products	-	3,998.7
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	-	4,127.4
56	Fertilizers, manufactured	-	7,767.3
57	Explosives	1.2	15,086.2
58	Artificial resins and plastic materials	-	5,820.2
59	Other chemical materials and products	2,992.8	1,863.3
TOTAL CHEMICALS AND RELATED PRODUCTS		7,206.4	393.3
		12,066.9	42,820.3
6. MANUFACTURED GOODS CLASSIFIED BY MATERIAL			
61	Leather, leather manufactures	-	-
62	Rubber manufactures	-	-
63	Wood manufactures (excluding furniture)	18.2	31,576.5
64	Paper, paperboard, and articles of paper	42,688.1	6,514.7
65	Textile yarn, fabrics, made-up articles, and related products	76.1	24,282.2
66	Non-metallic mineral manufactures	541.6	36,761.1
67	Iron and steel	105,005.9	18,972.1
68	Non-ferrous metals	0.5	98,231.4
69	Other manufactures of metal	-	5,956.4
TOTAL BASIC MANUFACTURES		7.7	32,112.5
		148,338.0	254,406.9
7. MACHINERY AND TRANSPORT EQUIPMENT			
71	Power generating machinery and equipment	-	-
72	Machinery specialized for particular industries	34.3	7,190.5
73	Metalworking machinery	288.6	29,586.7
74	General industrial machinery and equipment, and machine parts	-	1,390.2
75	Office machines/automatic data processing equip.	120.0	12,132.0
76	Telecommunications and sound recording and reproducing apparatus and equipment	-	1,237.2
77	Electrical machinery/apparatus/appliances & parts	-	2,696.9
78	Road vehicles	10.8	82,432.9
79	Other transport equipment	11.7	129,900.6
TOTAL MACHINERY & TRANSPORT EQUIPMENT		465.4	266,567.3

(Table continued next page)

TABLE 10.5 (CONT.) : VALUE OF EXPORTS AND IMPORTS WITH INDIA BY COMMODITY DIVISION (a), 1987

('000 Nu.)

Commodity Division	Description	Exports	Imports
8. MISCELLANEOUS MANUFACTURED ARTICLES			
81	Sanitary, plumbing, heating and lighting fixtures and fittings	-	2,143.0
82	Furniture	-	3,398.9
83	Travel goods, handbags and similar containers	-	823.9
84	Articles of apparel and clothing accessories	0.5	3,619.1
85	Footwear	-	5,986.9
87	Professional/scientific/ controlling instruments and apparatus	-	759.5
88	Photo. apparatus, equipment and supplies and optical goods; watches and clocks	-	3,457.2
89	Other miscellaneous manufactured articles	21.2	6,539.2
TOTAL MISCELLANEOUS MANUFACTURED ARTICLES		21.7	26,727.6
Not classified		97.5	21.4
TOTAL TRADE		702,406.3	899,688.4

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

Source: Central Statistical Office and Department of Trade and Industries.

TABLE 10.6: GROSS INTERNATIONAL RESERVES, 1981/82 TO 1988/89(a)

Item	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89
RUPEE REERVES (million rupees)								
Rupee reserves	209.5	260.4	312.5	381.3	371.1	446.9	689.0	776.9
Royal Monetary Authority	-	-	6.2	12.0	8.1	10.7	12.3	81.1
Bank of Bhutan	209.5	260.4	306.3	369.3	362.9	436.2	676.6	695.8
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
Royal Monetary Authority (a)	-	-	4.4	7.9	19.8	26.9	37.9	47.6
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
Royal Insurance Corporation of Bhutan(d)	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

(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. (b) Including reserves tranche position in the International Monetary Fund from 1981/82.

Source: Royal Monetary Authority of Bhutan.

TABLE 10.7: EXCHANGE RATES, NGULTRUM/\$ US, 1981 TO 1989

(period average)

	1981	1982	1983	1984	1985	1986	1987	1988	1989
January	7.94	9.12	9.79	10.72	12.62	12.28	13.04	13.06	15.11
February	8.18	9.19	9.90	10.76	12.94	12.37	13.07	13.07	15.25
March	8.21	9.28	9.97	10.75	12.96	12.29	12.94	13.00	15.48
April	8.25	9.36	9.98	10.83	12.49	12.40	12.81	13.20	15.73
May	8.39	9.28	9.99	11.03	12.55	12.48	12.69	13.31	16.12
June	8.59	9.43	10.05	11.05	12.46	12.61	12.84	13.77	16.46
July	8.87	9.54	10.09	11.34	12.03	12.51	13.03	14.09	16.44
August	8.99	9.55	10.17	11.57	11.94	12.58	13.10	14.25	
September	9.09	9.62	10.19	11.82	12.18	12.69	13.02	14.49	
October	9.16	9.67	10.22	12.08	12.03	12.85	13.06	14.74	
November	9.11	9.76	10.35	12.08	12.09	13.09	13.00	14.98	
December	9.12	9.68	10.48	12.31	12.16	13.17	12.95	15.05	
Calendar year average	8.66	9.46	10.10	11.36	12.37	12.61	12.96	13.92	
Fiscal year average	7.89	8.93	9.63	10.31	11.89	12.24	12.79	12.97	15.15

(1980/81) (1981/82) (1982/83) (1983/84) (1984/85) (1985/86) (1986/87) (1987/88) (1988/89)

Source: Royal Monetary Authority of Bhutan.

11. MONEY, BANKING AND FINANCE

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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 1988, there was an increase in the broad money supply (M2) of Nu. 171.2 million or 31 per cent from the previous year. This was largely accounted for by an increase in net foreign assets of Nu. 307.4 million.

From December 1983 to December 1988, there was an increase in net foreign assets of the Royal Monetary Authority and the Bank of Bhutan of Nu. 1,038.7 million. Domestic credit decreased by Nu. 360.9 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 1988, total investment in the Royal Insurance Corporation of Bhutan increased from Nu. 137.5 million to Nu. 461.7 million while investment in the Unit Trust of Bhutan increased from Nu. 25.2 million to Nu. 215.2 million.

Loan amounts outstanding by the financial sector (including both banking and non-banking institutions) totalled Nu. 593.2 million at the end of 1988. The use of those advances has changed over time with the building and construction industry in 1988 receiving 40 per cent of all advances compared with only 27 per cent in 1983. Agriculture received 4 per cent of advances in 1988, industry received 20 per cent and trade and commerce

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received 13 per cent.

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 1988

(Nu. in millions)

Item	End of year					
	1983	1984	1985	1986	1987	1988
Foreign assets (net)						
Rupree	345.7	490.2	595.4	700.1	1,077.0	1,384.4
Other	260.5	317.6	359.0	380.0	579.0	658.4
Domestic credit	85.2	172.6	236.5	320.1	498.0	726.0
Claims on Government (net)	110.4	45.1	101.7	53.9	-208.9	-250.5
Claims on Government corporations	10.0	-54.0	19.7	-33.1	-304.7	-398.8
Claims on private sector	57.3	41.3	26.6	19.7	13.5	32.4
Total liquidity-Broad money (M2)	43.1	7.8	55.4	67.3	82.3	115.9
Money supply-Narrow money (M1)	324.6	367.0	464.0	498.8	552.5	723.7
Currency outside banks	177.2	209.8	261.7	277.1	316.8	412.0
Demand deposits	22.1	46.2	70.4	90.7	103.5	149.1
Quasi-money	155.1	163.6	191.3	186.3	213.3	263.0
Other items (net)	147.4	157.2	202.3	221.8	235.7	311.6
	131.5	168.3	233.1	255.2	315.6	410.0

(a) Revised data, excluding rupees in circulation.

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

TABLE 11.2 : ROYAL INSURANCE CORPORATION OF BHUTAN- FINANCIAL STATISTICS, 1983 TO 1988

(Nu. in millions)

ASSETS								
End of Year	Investments(a)							
	Total assets	Reserves	Total Investments	Claims	Claims	Claims	Claims	Real Estate
				on Govt. Enterprises	on Private Sector	on Deposit Money Banks	on Non-mon. Financ. Instits.	
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

LIABILITIES							
End of Year	Total	Insu-	Life Fund	GEPF Fund(b)	UTB Fund(c)	Capital Accounts	Other
		rance Reserve Funds					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

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

Source : Royal Insurance Corporation of Bhutan.

TABLE 11.3 : UNIT TRUST OF BHUTAN- FINANCIAL STATISTICS, 1980 TO 1988

(Nu. in millions)

End of Year	Assets					Liabilities				
	Total Reserves	Investments			Total Deposits	Call loans	Capital Accounts	Other Items (Net)		
		Total	RICB(a)	Direct						
1980	4.0	0.5	3.5	-	3.5	4.0	1.6	-	2.5	-0.1
1981	10.5	0.1	10.4	-	10.4	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	3.9	25.2	20.1	-	3.8	1.3
1984	40.9	0.1	40.8	36.8	4.0	40.9	33.8	-	4.4	2.7
1985	70.0	0.3	69.7	65.4	4.3	70.0	57.6	-	4.2	8.2
1986	100.3	-	100.3	91.4	8.9	100.3	86.8	-	5.4	8.1
1987	150.2	0.1	150.1	145.4	4.7	150.2	125.3	6.5	5.3	13.1
1988	215.2	0.2	215.2	209.9	5.2	215.2	187.8	-	6.7	20.7

(a) Royal Insurance Corporation of Bhutan.

Source: Unit Trust of Bhutan.

TABLE 11.4: FINANCIAL INVESTMENTS BY SECTOR(a) - AMOUNTS OUTSTANDING, 1983 TO JUNE 1989

(Nu. in millions)

Industry	End of year						
	1983	1984	1985	1986	1987	1988	June 1989
Agriculture	10.4	14.9	15.2	18.5	21.4	21.3	22.3
Industry	52.0	57.7	67.2	72.3	58.2	119.5	121.6
Building and construction	51.1	59.4	89.4	135.1	200.7	240.1	264.1
Trade and commerce	23.7	31.8	18.0	19.8	32.8	78.0	80.5
Transport	32.4	31.4	30.9	26.4	28.7	41.3	43.8
Other(b)	19.9	29.7	30.2	37.9	32.5	93.0	137.8
TOTAL	189.5	224.9	250.9	310.0	374.3	593.2	670.1

(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.

TABLE 11.5 : BANK OF BHUTAN INTEREST RATES - DEPOSITS,
1982 TO 1988
(per cent per annum)

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

Source: Bank of Bhutan.

TABLE 11.6: 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
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.

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. 753.3 million in 1987/88. Of this, Nu. 232.3 million was met from tax revenue, while Nu. 421.6 million and Nu.29.2 million were met from non-tax revenue and other sources of revenue. Current expenditure in 1987/88, which is the beginning of Sixth Five Year Plan, totaled Nu. 774.6 million (an increase of 48 per cent over 1986/87), while development expenditure totaled Nu. 965.1 million (an increase of 38 per cent over the same period).

The Budget deficit in 1987/88 was Nu. 56.7 million, following a deficit of Nu. 98.3 million recorded in the previous year. Domestic revenue amounted to 43 per cent of total expenditure in 1987/88, with grants from India accounting for 41 per cent.

TABLE 12.1: CURRENT BUDGETARY EXPENDITURE OF THE GOVERNMENT BY MINISTRY, 1981/82 TO 1987/88(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) (b)
MINISTRIES							
HRH Office, Agri.Comm.& Tourism	-	-	-	-	-	-	2.8
Home Affairs	12.6	15.5	16.7	18.6	24.1	27.3	43.3
Finance	19.4	21.8	26.0	41.2	82.3	165.4	104.4
Communication & Tourism	9.5	13.8	12.5	13.7	18.1	19.2	44.9
Social Services	51.8	52.8	51.4	79.7	137.6	96.5	213.5
Agriculture	26.4	24.7	30.1	30.9	50.7	47.1	95.8
Foreign Affairs	7.9	11.7	11.5	13.4	21.9	24.6	33.8
Trade and Industries	7.0	10.6	10.8	11.4	13.0	13.5	30.5
NON-MINISTERIAL ORGANISATIONS							
Special Commission	1.2	1.4	1.0	1.0	9.8	4.1	8.4
Central Monastic Secretariat	-	-	-	0.1	0.6	11.2	19.8
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	3.9	3.4
Planning Commission	1.0	1.0	0.6	1.6	2.6	2.6	4.2
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
Royal Audit Authority	1.0	1.2	1.4	1.9	2.2	2.7	6.1
Royal Advisory Council	1.0	0.9	0.9	1.0	1.8	1.6	1.9
National Assembly	0.6	0.8	0.8	1.1	1.6	1.9	2.0
Nat. Urban Development Corp	1.2	2.6	2.9	12.0	1.0	8.4	20.0
National Women's Association	-	-	-	-	0.3	0.4	1.0
Judiciary	1.7	3.0	3.2	3.7	5.1	5.1	9.9
Bhutan Olympic Committee	-	-	-	0.2	0.3	1.4	2.2
Druk Air Corporation	0.2	2.7	3.1	4.7	-	-	-
Tourism Corporation	7.4	2.4	0.6	1.5	-	-	-
Bhutan Govt. Transport Service	11.4	0.5	-	0.1	-	-	-
Dzongkhag Development Commission	-	-	-	-	-	-	0.4
DZONGKHAGS	6.6	42.9	44.8	58.3	61.7	72.0	123.9
TOTAL CURRENT EXPENDITURE(a)	169.7	213.1	223.2	304.0	441.5	522.6	774.6

(a) For 1986/87, a sum of Nu. 12.1 million of financing transaction was wrongly classified as capital expenditure. (b) 1981/82 to 1986/87 refer to the twelve month period 1 April to 31 March. 1987/88 refers to the period 1 April 1987 to 30 June 1988.

Source: Department of National Budget and Accounts.

TABLE 12.2 : BUDGETARY DEVELOPMENT EXPENDITURE OF THE GOVERNMENT BY MINISTRY, 1981/82 TO 1987/88

(Nu. in millions)

Ministerial / Non-ministerial Organisation	1981/82 (revised)	1982/83 (actual)	1983/84 (actual)	1984/85 (actual)	1985/86 (actual)	1986/87 (actual) (a)	1987/88 (actual) (b)
MINISTRIES							
HRH Office, Agri.Comm.& Tourism	-	-	-	-	-	-	-
Home Affairs	5.5	6.1	6.7	10.1	9.3	9.7	0.2
Finance	25.0	23.3	22.6	41.6	21.4	28.3	6.2
Communication & Tourism	10.2	5.2	25.7	9.1	12.1	27.6	100.3
Social Services	86.3	115.0	184.1	155.3	143.9	128.6	73.3
Agriculture	94.7	67.3	104.1	94.7	100.1	106.3	158.1
Foreign Affairs	0.1	-	3.2	3.9	5.3	5.6	0.9
Trade and Industries	21.7	13.1	24.1	34.6	370.6	376.1	265.5
NON-MINISTERIAL ORGANISATIONS							
Special Commission	-	2.4	1.4	0.7	0.9	2.4	2.4
Central Monastic Secretariat	-	-	-	2.5	0.2	2.1	2.1
Royal Monetary Authority	-	-	0.9	-	-	-	-
Social & Cultural Div.	0.3	0.6	1.7	2.8	-	-	-
His Majesty's Secretariat	-	-	0.1	0.1	-	-	-
Planning Commission	0.3	0.3	12.6	8.0	5.0	0.3	0.1
Science and Technology	-	-	0.1	0.1	1.2	2.6	5.9
Royal Civil Service Commission	1.2	3.9	3.5	3.4	9.8	0.9	0.5
Royal Audit Authority	-	-	0.3	0.1	0.2	21.1	0.7
Royal Advisory Council	-	-	-	0.1	0.2	0.7	0.5
National Assembly	-	0.1	-	-	0.3	0.2	-
Nat. Urban Development Corp.	3.1	3.5	4.5	-	0.2	0.2	0.7
National Women's Association	-	-	-	24.0	33.5	52.4	51.3
Judiciary	0.1	0.4	0.3	-	3.8	0.9	1.3
Bhutan Olympic Committee	-	-	-	0.4	0.9	0.4	0.4
Druk Air Corporation	4.0	0.3	24.3	1.5	1.6	-	0.1
Tourism Corporation	8.9	2.0	4.8	5.4	-	-	-
Bhutan Govt. Transport Service	4.4	-	-	1.0	-	-	-
Dzongkhag Development Commission	-	-	-	-	-	-	-
DZONGKHAGS	1.4	31.1	50.9	55.3	56.1	33.0	16.8
TOTAL DEVELOPMENT EXPENDITURE (c)	267.1	274.7	476.0	454.4	776.2	698.1	965.1

(a) For 1986/87, a sum of Nu. 87.9 million of financing transaction was wrongly classified as expenditures. (b) 1981/82 to 1986/87 refer to the twelve month period 1 April to 31 March. 1987/88 refers to the period 1 April 1987 to 30 June 1988. (c) Total expenditure for 1987/88 includes lending of Nu. 118.4 million to public and joint sector corporations.

Source: Department of National Budget and Accounts.

TABLE 12.3 : BUDGETARY RECEIPTS OF THE GOVERNMENT BY SOURCE, 1981/82 TO 1988/89

(Nu. in millions)

Source of Revenue	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89
(a)								
TAX REVENUE(b)								
Direct tax	11.0	20.7	43.3	39.4	44.1	62.9	77.1	80.2
✓ Tax on income & profits	8.8	19.4	40.0	35.8	40.9	59.5	69.9	76.2
Company corporate & enterprise	3.7	13.4	28.9	24.1	24.0	40.6	48.1	55.9
Individuals & trading units	4.5	5.5	10.2	9.0	14.8	17.6	23.7	18.8
Agriculture Income Tax	0.6	0.4	0.9	2.7	2.1	1.3	1.7	1.5
✓ Rural tax	2.2	1.3	3.3	3.6	3.2	3.4	3.6	4.0
Indirect tax	54.0	55.0	70.4	94.4	91.8	109.3	158.8	152.4
✓ Taxes on goods & services	51.8	53.0	67.0	92.7	89.4	106.0	155.2	145.9
Sales tax	6.9	7.8	11.6	13.5	12.9	15.8	39.2	34.3
Selective excise on goods	39.1	40.6	47.5	71.0	67.2	79.5	97.5	92.8
Selective tax on services	1.3	0.9	1.0	1.2	1.4	1.7	2.1	1.4
Tax on use of goods/property	4.5	3.6	6.9	7.0	8.0	9.0	16.4	17.4
✓ Taxes on international trade	0.2	0.2	0.7	1.1	1.9	2.8	2.8	5.9
Other tax	2.0	1.8	2.7	0.6	0.5	0.5	0.8	0.6
Revenue stamps	0.2	0.1	0.2	0.2	0.3	0.4	0.5	0.4
Municipal Tax	1.8	1.7	2.5	0.3	0.2	0.1	0.2	0.1
TOTAL TAX REVENUE	65.1	75.7	113.7	133.7	135.9	173.8	232.3	232.6
NON-TAX REVENUE(b)								
Operating surpluses of departmental enterprises	2.6	2.0	0.1	1.0	-	-	-	-
Net profit transferred from non-fin. & public enterp.	12.7	28.3	39.1	75.1	50.7	83.5	99.7	320.6
Royalties and dividends	5.3	17.7	14.8	25.9	34.0	45.3	66.4	102.3
Administrative fees, charges and non-industrial sales	3.2	4.2	9.2	14.2	12.5	12.1	27.5	56.9
TOTAL NON-TAX REVENUE	23.7	52.2	63.2	116.2	97.3	139.3	491.6	479.8
CAPITAL REVENUE								
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
Unclassified revenue	22.7	-	-	5.4	9.2	9.1	2.0	0.9
TOTAL CAPITAL REVENUE	23.4	0.5	2.2	9.1	12.9	15.5	12.1	11.7
RECEIPTS FROM DEPARTMENTAL ENTERPRISES								
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
Telephones	1.5	2.2	3.8	0.8	0.7	1.2	1.5	1.0
Wireless	0.2	0.4	0.8	0.2	-	-	-	-
TOTAL RECEIPTS DEPT. ENTERP.	3.4	3.6	9.0	11.1	6.6	6.7	7.5	6.9
OTHER NON-REVENUE RECEIPTS								
Treaty of 1949	-	-	-	-	0.5	0.5	0.5	0.5
Audit recovery	-	0.2	-	0.2	0.9	1.8	2.2	-
Recovery of loan & advance	0.3	0.7	2.3	0.5	0.8	0.3	0.4	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
Recovery against cost of material	-	-	-	-	-	0.4	-	-
Receipts on outstanding dues	-	-	-	-	-	-	0.7	-
Receipts on foreign exchanges	-	-	-	-	-	-	0.1	-
Receipts on security deposits	-	-	-	-	-	-	0.5	0.3
TOTAL OTHER NON-REV. REC.	3.9	5.7	8.0	6.1	5.1	4.8	6.0	2.3
ALL REVENUE RECEIPTS	119.6	137.7	196.0	276.2	257.5	340.1	753.1	733.3

(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 refers to twelve months period 1 July - 30 June.

Source : Department of Revenue and Customs.

TABLE 12.4: SUMMARY OF BUDGETARY OPERATIONS, 1981/82 TO 1987/88 (a)

(Nu. in millions)

Item	1981/82 (revised)	1982/83 (actual)	1983/84 (actual)	1984/85 (actual)	1985/86 (actual)	1986/87 (actual)	1987/88 (actual)
Revenue							
Tax revenue	65.1	75.7	113.7	133.7	135.9	173.8	232.3
Non-tax revenue	23.7	52.2	63.2	116.2	97.3	139.3	491.6
Other	30.8	9.8	19.1	26.3	24.3	27.0	29.2
Total revenue	119.6	137.7	196.0	276.2	257.5	340.1	753.1
Grants							
India	195.3	259.7	256.2	355.6	334.1	486.7	708.9
Other	104.9	100.6	222.1	156.5	367.6	295.6	221.0
Total grants	300.2	360.3	478.3	512.1	701.7	782.3	929.9
Total revenue and grants	419.8	498.0	674.3	788.3	959.2	1,122.4	1,683.0
Expenditure							
Current	169.7	213.1	223.2	304.0	441.5	522.6	774.6
Development	267.1	274.7	476.0	454.4	776.2	698.1	965.1
Total expenditure	436.8	487.8	699.2	758.4	1,217.7	1,220.7	1,739.7
OVERALL SURPLUS/DEFICIT	(17.0)	10.2	(24.9)	29.9	(258.5)	(98.3)	(56.7)

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

Source : Ministry of Finance.

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. 9,559.2 million in Sixth Plan period. Outlays for the Sixth Plan were over double those for the Fifth Plan. In the Sixth plan period, about 40 per cent of the total outlay was 'current' expenditure while 'capital' expenditure amounted to 60 per cent.

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

(Nu. in millions)

Sector	First Plan (actual)	Second Plan (actual)	Third Plan (actual)	Fourth Plan (actual)	Fifth Plan (a) (revised)	Sixth Plan (revised)
Agriculture	1.9	21.6	58.3	259.0	419.4	880.5
Food Corporation of Bhutan	-	-	-	-	135.5	106.5
Animal Husbandry	1.5	5.8	24.2	61.5	162.4	331.0
Forestry	3.2	6.9	28.4	110.3	229.9	418.2
Power	1.5	9.1	30.1	50.5	340.5	1,247.9
Trade and Industries	1.1	1.0	25.2	175.0	323.3	1,276.1
Geological Survey	-	-	-	-	-	35.3
Public Works Department	62.9	70.5	84.6	128.3	787.5	887.2
Road Transport/Aviation	7.5	12.0	9.5	-	26.3	48.8
Post & Telegraph	0.5	5.9	11.4	16.9	65.8	68.1
Telecommunications	-	-	14.8	37.3	33.7	133.8
Tourism	-	-	14.1	12.5	29.1	-
Druk Air	-	-	-	-	-	391.0
Education	9.4	35.7	90.0	134.6	519.1	778.8
Health	3.1	16.7	38.1	54.6	237.5	399.1
Information and Broadcasting	0.1	1.4	4.0	11.0	36.1	95.9
Urban Development	-	-	-	-	187.3	248.7
General Government	-	-	-	-	1,114.9	1,973.8
Dzongkhags	-	-	-	-	-	238.5
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

(a) Figures exclude Chhukha Hydel Project (Fifth Plan outlay Nu. 2,430 million). Small differences exist between outlays shown in this table and budgetary expenditures shown in Tables 12.1 and 12.2 because some expenditures will not be reflected in Development Plans.

Source: Planning Commission.

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

(per cent)

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

In 1985, estimates of GDP by major kind of activity (ie. major industrial sector) at current and constant (1983) prices were produced for Bhutan for the period 1981-84. While the estimates suffered from deficiencies caused by the paucity of data, the series was recently extended for a further two years on the basis of the same methodology, in order to maintain comparability with the earlier data. Work on the revision of the GDP estimates based on wider coverage and more systematic methodology, and preparation of the Consolidated Accounts of the Nation has been initiated in the CSO.

MAIN FEATURES

In real terms (measured at constant 1980 prices), the economy witnessed an average annual growth rate of 8.8 per cent from 1980 to 1987.

In 1987, the agriculture sector contributed 47 per cent of the total GDP followed by electricity (12 per cent) and community and personal services (10 per cent). There was an increase of 5.1 per cent in the GDP in agriculture, .279.1 per cent in electricity, 18.6 per cent in community and personal services over the previous year.

The high rate of growth for electricity was due in large part to the substantial increases in electricity generation following the commissioning of the Chukha Hydrel Project.

TABLE 14.1: GROSS DOMESTIC PRODUCT AT CURRENT PRICES BY KIND OF ACTIVITY, 1980 TO 1987

(Nu. in millions)

Activity	1980	1981	1982	1983	1984	1985	1986	1987
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
Agriculture	309.9	331.2	380.3	461.6	523.0	580.6	644.4	715.3
Livestock	139.2	157.5	185.1	209.5	239.0	276.0	322.1	372.3
Forestry and logging	172.3	188.0	238.9	263.1	355.6	379.6	432.7	535.9
Fishing	-	-	-	-	-	-	-	-
Mining and quarrying	6.8	8.9	12.5	10.2	23.3	20.2	37.4	37.0
Manufacturing	35.8	63.5	70.1	96.5	109.5	128.3	137.1	204.7
Electricity and gas	2.5	2.7	3.7	6.7	5.9	6.8	96.6	377.0
Construction	88.5	142.8	188.2	238.6	276.5	290.5	267.5	349.9
Wholesale and retail trade, hotels and restaurants	121.5	155.6	162.1	170.0	182.4	203.0	234.1	248.2
Transport, storage and communications	47.9	58.1	66.2	76.8	80.6	104.1	114.2	126.0
Finance, insurance and real estate and business services	70.2	80.3	84.2	100.5	129.6	149.3	170.7	210.5
Finance and insurance	21.4	31.5	26.6	34.1	53.6	62.1	69.3	95.9
Real estate and business services	48.8	48.8	57.6	66.4	76.0	87.2	101.4	114.6
Community, social and personal services (Government administration and defence)	120.4	121.5	139.8	155.0	178.5	262.2	350.8	416.0
Less: Imputed bank service charges	-20.0	-30.0	-33.0	-35.0	-44.0	-51.0	-49.0	-62.0
TOTAL GROSS DOMESTIC PRODUCT	1,095.0	1,280.1	1,498.1	1,753.5	2,059.9	2,349.6	2,758.6	3,530.8
Annual growth rate (%)	..	16.9	17.0	17.0	17.5	14.1	17.4	28.0

Source : Estimates compiled by Central Statistical Office.

TABLE 14.2: GROSS DOMESTIC PRODUCT AT 1980 PRICES BY KIND OF ACTIVITY, 1980 TO 1987

(Nu. in millions)

Activity	1980	1981	1982	1983	1984	1985	1986	1987
Agriculture, livestock, forestry and fishing	621.4	636.1	692.2	742.2	806.5	833.9	881.0	925.8
Agriculture	309.9	312.5	331.0	368.9	388.3	411.6	436.3	458.1
Livestock	139.2	144.5	149.7	155.4	161.3	168.6	177.4	184.5
Forestry and logging	172.3	179.1	211.5	217.9	256.9	253.7	267.3	283.2
Fishing	-	-	-	-	-	-	-	-
Mining and quarrying	6.8	8.9	12.1	8.9	15.8	12.6	22.2	21.6
Manufacturing	35.8	59.1	59.6	62.9	67.2	75.4	71.0	105.0
Electricity and gas	2.5	2.7	3.1	6.0	5.2	6.0	60.4	229.0
Construction	88.5	131.0	157.7	185.2	173.5	169.0	141.8	152.3
Wholesale and retail trade, hotels and restaurants	121.5	140.3	132.0	122.0	123.4	132.4	143.4	142.4
Transport, storage and communications	47.9	54.9	57.4	64.8	66.4	79.4	83.9	91.3
Finance, insurance and real estate and business services	70.2	80.3	77.0	91.1	109.4	110.1	126.2	135.7
Finance and insurance	21.4	31.5	19.4	24.7	39.1	29.9	33.3	46.1
Real estate and business services	48.8	48.8	57.6	66.4	70.3	80.2	92.9	89.6
Community, social and personal services (Government administration and defence)	120.4	121.5	102.1	113.1	130.3	126.0	168.6	200.0
Less: Imputed bank service charges	-20.0	-30.0	-24.0	-26.0	-32.0	-25.0	-24.0	-30.0
TOTAL GROSS DOMESTIC PRODUCT	1,095.0	1,204.8	1,269.2	1,370.2	1,465.7	1,519.8	1,674.5	1,973.1
Annual growth rate (%)	..	10.0	5.3	8.0	7.0	3.7	10.2	17.8

Source : Estimates compiled by Central Statistical Office.

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

Activity	(Nu. in millions)					
	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 and personal services (Government administration and defence)	351	372	394	417	442	468
Less: Imputed bank service charges	-49	-52	-55	-58	-62	-66
TOTAL GROSS DOMESTIC PRODUCT	2,759	3,197	3,441	3,633	3,835	4,049

Source: Estimates compiled by Central Statistical Office.

TABLE 14.4: GROSS DOMESTIC PRODUCT AND EXPENDITURE, 1980 TO 1987
(in current prices)

	(Nu. in millions)							
	1980	1981	1982	1983	1984	1985	1986	1987(a)
OUTGOINGS								
Compensation of employees and operating surplus	1,033.8	1,206.2	1,411.7	1,651.0	1,941.1	2,212.4	2,567.4	3,150.4
Consumption of fixed capital formation	61.2	73.8	86.3	103.0	118.9	137.6	191.6	330.6
Indirect taxes less subsidies	17.9	21.2	23.6	34.8	45.6	41.8	43.0	76.7
Gross domestic product at market prices	1,112.9	1,301.2	1,521.6	1,788.8	2,105.6	2,391.8	2,802.0	3,557.7
INCOMINGS								
Government final consumption expenditure	275.9	287.3	326.7	442.9	513.2	560.9	576.3	633.6
Private final consumption expenditure	748.6	922.2	1,053.8	1,195.1	1,435.8	1,506.7	1,837.9	2,271.0
Increase in stocks	14.7	74.7	59.8	21.3	10.4	81.6	32.0	-161.5
Gross fixed capital formation	330.4	425.8	555.7	690.7	754.9	1,002.9	1,103.1	1,249.7
Exports of goods and services less imports of goods and services	145.4	207.4	213.2	227.8	290.2	367.5	550.5	767.5
	-402.1	-616.2	-687.6	-789.0	-898.9	-1,127.8	-1,297.8	-1,202.6
Expenditure on the gross domestic product	1,112.9	1,301.2	1,521.6	1,788.8	2,105.6	2,391.8	2,802.0	3,557.7

(a) A sharp rise in consumption of fixed capital in 1987 is due to coming into operation of Chhukha Hydro Project.

Source: Estimates compiled by Central Statistical Office.

TABLE 14.5 : NATIONAL DISPOSABLE INCOME AND ITS APPROPRIATION, 1980 TO 1987
(in current prices)

	(Nu. in millions)							
	1980	1981	1982	1983	1984	1985	1986	1987
OUTGOINGS								
Government final consumption expenditure	275.9	287.3	326.7	442.9	513.2	560.9	576.3	633.6
Private final consumption expenditure	748.6	922.2	1,053.8	1,195.1	1,435.8	1,506.7	1,837.9	2,771.0
Net saving	-166.3	-209.7	-209.0	-319.7	-240.8	-142.5	-136.1	122.3
Appropriation of disposable income	858.2	999.8	1,171.5	1,318.3	1,708.2	1,925.1	2,278.1	3,026.9
INCOMINGS								
Compensation of employees and operating surplus	1,033.8	1,206.2	1,411.7	1,651.0	1,941.1	2,212.4	2,567.4	3,150.4
Compensation of employees from rest of the world net (a)	-217.0	-294.6	-357.8	-495.8	-436.3	-511.6	-517.9	-425.2
Property and entrepreneurial income from rest of the world (net)	17.0	24.9	36.2	39.7	48.5	61.9	50.9	75.7
Indirect taxes less subsidies	17.9	21.2	23.6	34.8	45.6	41.8	43.0	76.7
Current transfers from rest of the world net (b)	6.5	42	57.8	88.6	109.3	120.6	134.7	149.3
Disposable income	858.2	999.8	1,171.5	1,318.3	1,708.2	1,925.1	2,278.1	3,026.9

(a) Represents compensation of employees brought from India and other countries to work on Chhukha and other foreign aided projects. (b) Represents private transfers and include Helvetas, Leprosy Fund, Norwegian Mission, Misereor, Save the children and others.

Source : Estimates compiled by Central Statistical Office.

TABLE 14.6 : CAPITAL FINANCE, 1980 TO 1987
(in current prices)

	(Nu. in millions)							
	1980	1981	1982	1983	1984	1985	1986	1987
OUTGOINGS								
Increase in stock	14.7	74.7	59.8	21.3	10.4	81.6	32.0	-161.5
Gross fixed capital formation	330.9	425.8	555.7	690.7	754.9	1,002.9	1,103.1	1,249.7
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
Gross accumulation	381.8	514.3	658.1	670.8	550.2	901.1	1,037.8	1,193.9
Net acquisition of financial assets	36.2	16.5	51.0	156.3	101.8	141.2	182.8	347.3
INCOMINGS								
Net saving	-166.3	-209.7	-209.0	-319.7	-240.8	-142.5	-136.1	122.3
Consumption of fixed capital	61.2	73.8	86.3	103.0	118.9	137.6	191.6	330.6
Capital transfer from rest of the world net (a)	486.9	650.2	780.8	887.5	672.1	906.0	982.3	741.0
Finance of gross accumulation	381.8	514.3	658.1	670.8	550.2	901.1	1,037.8	1,193.9
Net lending to the rest of the world	36.2	13.8	42.6	-41.2	-215.1	-183.4	-97.3	105.7
Net incurrence of liabilities (b)	-	2.7	8.4	197.5	316.9	324.6	280.1	241.6
Net incurrence of liabilities plus net lending to the rest of the world	36.2	16.5	51.0	156.3	101.8	141.2	182.8	347.3

(a) Receipt of developmental grants net. (b) Borrowing from the rest of the world.

Source : Estimates compiled by Central Statistical Office.

TABLE 14.7 : ALL ACCOUNTS- EXTERNAL TRANSACTIONS, 1980 TO 1987

(Nu. in millions)								
	1980	1981	1982	1983	1984	1985	1986	1987
OUTGOINGS								
Exports of goods and services	145.4	207.4	213.2	227.8	290.2	367.5	550.5	767.5
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	56.6	83.4
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
Current receipts	168.9	274.4	307.2	357.0	449.4	553.7	741.8	1,000.2
INCOMINGS								
Imports of goods and services	402.1	616.2	687.6	789.0	898.9	1,127.7	1,297.8	1,202.6
Compensation of employees to the rest of the world	217.0	294.6	357.8	495.8	436.3	511.6	517.9	425.2
Property and entrepreneurial income to the rest of the world	-	-	-	0.9	1.4	3.7	5.7	7.7
Other current transfers to the rest of the world	-	-	-	-	-	-	-	-
Surplus of the nation on current transactions	-450.2	-63.4	-738.2	-928.7	-887.2	-1,089.3	-1,079.6	-635.3
Disposal of current receipts	168.9	274.4	307.2	357.0	449.4	553.7	741.8	1,000.2

Source : Estimates compiled by Central Statistical Office.

TABLE 14.8 : GROSS DOMESTIC PRODUCT, ITS VARIANTS AND RELATED AGGREGATES AT CURRENT PRICES, 1980 TO 1987

(Nu. in millions)								
	1980	1981	1982	1983	1984	1985	1986	1987
Major economic flows								
Net domestic product at factor cost	1,034.0	1,206.0	1,412.0	1,651.0	1,941.0	2,212.0	2,567.0	3,200.0
Consumption of fixed capital	61.0	74.0	86.0	103.0	119.0	138.0	192.0	331.0
Gross domestic product at factor cost	1,095.0	1,280.0	1,498.0	1,754.0	2,060.0	2,350.0	2,759.0	3,531.0
Indirect taxes less of subsidies	17.9	21.2	23.6	34.8	45.6	41.8	43.0	76.7
Gross domestic product at market prices	1,112.9	1,301.2	1,521.6	1,788.8	2,105.6	2,391.8	2,802.0	3,607.7
Net export of goods and services	(256.7)	(408.8)	(474.4)	(561.2)	(608.7)	(760.3)	(747.3)	(135.1)
Domestic supply of goods & services	1,369.6	1,710.0	1,996.0	2,350.0	2,714.3	3,152.1	3,549.3	4,042.8
Gross domestic capital formation	345.1	500.5	615.5	712.0	765.3	1,084.5	1,135.1	1,098.2
Final consumption expenditure	1,024.5	1,209.5	1,380.5	1,638.0	1,949.0	2,067.6	2,414.2	2,944.6
Government	275.9	287.3	326.7	442.9	513.2	560.9	576.3	614.4
Households	748.6	922.2	1,053.8	1,195.1	1,435.8	1,506.7	1,837.9	2,330.2
Net capital inflow	450.2	636.4	738.2	928.7	887.2	1,089.4	1,074.6	634.3
Gross domestic saving	(105.1)	(135.9)	(122.7)	(216.7)	(121.9)	(4.9)	93.5	42.9
Government	(174.2)	(167.6)	(189.1)	(246.9)	(237.1)	(303.4)	(236.2)	208.1
Non-govt. sector	69.1	31.7	66.4	24.7	115.2	298.5	291.7	245.2
Rates of growth of								
Gross domestic capital formation	31.0	38.5	40.5	39.8	36.3	45.3	40.5	6.2
Gross domestic saving	(9.4)	(10.4)	(8.1)	(12.1)	(5.8)	(0.2)	2.0	12.6
At 1980 prices								
Gross domestic product at factor cost	1,095.0	1,204.8	1,269.2	1,370.2	1,465.7	1,519.8	1,674.5	1,974.1
Gross domestic capital formation	345.1	452.7	516.1	549.2	503.6	677.8	573.5	562.6

Source : Estimates compiled by Central Statistical Office

15. PRICES

90

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 June 1989, 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 9.1 per cent. This means that prices for consumer items in Bhutan as a whole rose by an average of 9.1 per cent over this twelve month period. This compares with a rate of 10.6 per cent recorded in the twelve months to June 1988.

Prices for food rose by an average of 8.7 per cent in the twelve months to June 1989, 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 1982 TO JUNE 1989
- DECEMBER 1979 = 100

Item	Weight (%)	1982		1983		1984		1985		1986		1987		1988		1989		Av. growth (%) (80-89) (79-88)
		Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	
Food	72.3	129.1	122.8	139.4	149.6	148.0	156.9	155.6	160.8	165.0	169.2	171.7	183.8	191.7	201.9	208.4		
Non-food	27.7	130.4	125.6	176.7	147.2	187.3	171.4	171.1	178.1	204.2	215.2	217.5	229.3	235.5	250.6	258.4		
Total	100.0	129.5	123.5	149.7	148.9	158.8	160.9	159.9	165.6	175.9	182.0	184.4	196.4	203.8	215.3	222.3		
PERCENTAGE CHANGE ON THE PREVIOUS YEAR																		
Food	72.3	15.3	6.1	7.9	21.9	6.1	4.9	5.2	2.5	6.1	5.3	4.0	8.6	11.7	9.8	8.7	8.4	8.1
Non-food	27.7	9.6	6.7	35.5	17.2	6.0	16.5	-8.6	3.9	19.3	20.8	6.5	6.5	8.3	9.3	9.7	10.0	10.7
Total	100.0	13.7	6.2	15.6	20.6	6.1	8.0	0.7	2.9	10.0	9.9	4.8	7.9	10.6	9.6	9.1	8.9	8.9
PERCENTAGE CHANGE ON THE PREVIOUS PERIOD																		
Food	72.3	11.6	-4.9	13.6	7.3	-1.1	6.0	-0.8	3.3	2.6	2.5	1.4	7.0	4.3	5.3	3.3	3.9	3.9
Non-food	27.7	10.8	-3.7	40.7	-16.7	27.2	-8.5	-0.2	4.1	14.7	5.4	1.1	5.4	2.7	6.4	3.1	5.1	5.1
Total	100.0	11.4	-4.6	21.2	-0.5	6.7	1.3	-0.6	3.5	6.2	3.5	1.3	6.5	3.8	5.6	3.2	4.3	4.3

Source : Collection undertaken by Central Statistical Office.

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ADMINISTRATIVE UNITS

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1. Thimphu Dzongkhag Gewog :	1. Babesa 4. Geyni 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. Dungna 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. Tsentso
5. Samchi Dzongkhag Gewog :	1. Pagli	2. Samchi	3. Tading
(a) Chengmari Dungkhang Gewog :	1. Charnarey 4. Nainital	2. Chengmari	3. Gumaaney
(b) Dorokha Dungkhang Gewog :	1. Denchhukha 4. Mayona	2. Dorokha	3. Dungteo
(c) Sibusu Dungkhang Gewog :	1. Bangra 4. Sibusu	2. Biru 5. Tendu	3. Lahirini
6. Chirang Dzongkhag Gewog :	1. Chirang Dangra 4. Kikhorthang 7. Samjong	2. Dunlagang 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 Dungkhang Gewog :	1. Dorona 4. Suntalay	2. Emiray 5. Tashiding	3. Goshi
8. Punakha Dzongkhag Gewog :	1. Chhubu 4. Jimi 7. Shengana 10. Zoma	2. Geonshari 5. Kabisa 8. Talo	3. Guma 6. Lingbukha 9. Teowang
(a) Gasa Dungkhang Gewog :	1. Khamed 4. Lunana	2. Khateo	3. Laya

ADMINISTRATIVE UNITS (continued)

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9. Wangdiphodrang Dzongkhag Gewog :	1. Athang 4. Ganteo 7. Jena 10. Nisho 13. Rubisa	2. Daga 5. Gase Tsogog 8. Kashi 11. Phangyul 14. Sephu	3. Dangchhu 6. Gase Tsowog 9. Nahi 12. Phobji 15. Thetso
10. Bumthang Dzongkhag Gewog :	1. Chhokhor 4. Ura	2. Chhumi	3. Tang
11. Geylegphug Dzongkhag Gewog :	1. Bhur 4. Lalai 7. Taklai	2. Danabari 5. Sershong	3. Geylegphug 6. Surey
(a) Kalikhola Dungkhang Gewog :	1. Deorali	2. Kalikhola	3. Nichula
(b) Sarbhang Dungkhang Gewog :	1. Doban 4. Sarbhangtar	2. Hilay 5. Singye	3. Leopani
12. Shemgang Dzongkhag Gewog :	1. Bardo 4. Tong	2. Nangkor	3. Shingkar
(a) Panbang Dungkhang Gewog :	1. Drokar	2. Ngala	3. Phangkar
13. Tongsa Dzongkhag Gewog :	1. Dragteng 4. Nubi	2. Korphu 5. Tangsibi	3. Namther
14. Lhuntshi Dzongkhag Gewog :	1. Gangzur 4. Kurteo 7. Metsho	2. Jaray 5. Menbi 8. Tsenkhar	3. Khoma 6. Menji
15. Mongar Dzongkhag Gewog :	1. Chaskhar 4. Kengkhar 7. Saleng 10. Tsakaling	2. Dametsi 5. Mongar 8. Selambi 11. Tsamang	3. Gongdu 6. Ngatsang 9. Tangrong
16. Pemagatsel Dzongkhag Gewog :	1. Chongshi Borang 4. Khar 7. Zobel	2. Dungmed 5. Shumar	3. Khangma 6. Yurung
17. Samdrupjongkhar Dzongkhag Gewog :	1. Orong	2. Gomdar	
(a) Dechhenling Dungkhang Gewog :	1. Dechhenling	2. Norbugang	
(b) Bangtar Dungkhang Gewog :	1. Bakuli 4. Samrang	2. Dalim	3. Martsala
(c) Daifam Dungkhang Gewog :	1. Hastinapur	2. Louri	3. Serthig

ADMINISTRATIVE UNITS (continued)

1. Th:	18. Tashigang Dzongkhag		
	Gewog :	1. Kanglung	2. Phongme
		4. Samkhar	5. Shongphu
		7. Uzarong	8. Yangner
(a)	(a) Sakteng Dungkhag	1. Bartsam	2. Bidung
	Gewog :	4. Yalang	3. Merasakteng
	(b) Tashi Yangtse Dungkhag		
	Gewog :	1. Jangphu	2. Tashi Yangtse
2. Ch	(c) Thrimshing Dungkhag		
	Gewog :	1. Kangpara	2. Thrimshing
	(d) Wamrong Dungkhag		
	Gewog :	1. Khaling	2. Lumang
			3. Nanong

TOTAL NUMBER OF GEWOGS - 191

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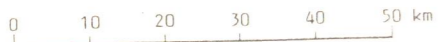
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8.

BHUTAN

ADMINISTRATIVE MAP

1 : 1 000 000



LEGEND

- International Boundary
- Dzongkhag (District) Boundary
- Paved Road
- Unpaved Road/under Construction
- Capital
- Dzongkhag (District) Headquarter
- Dungkhag (Sub-district) Headquarter
- Town, Village
- Airport

