STATISTICAL YEARBOOK OF BHUTAN 2000

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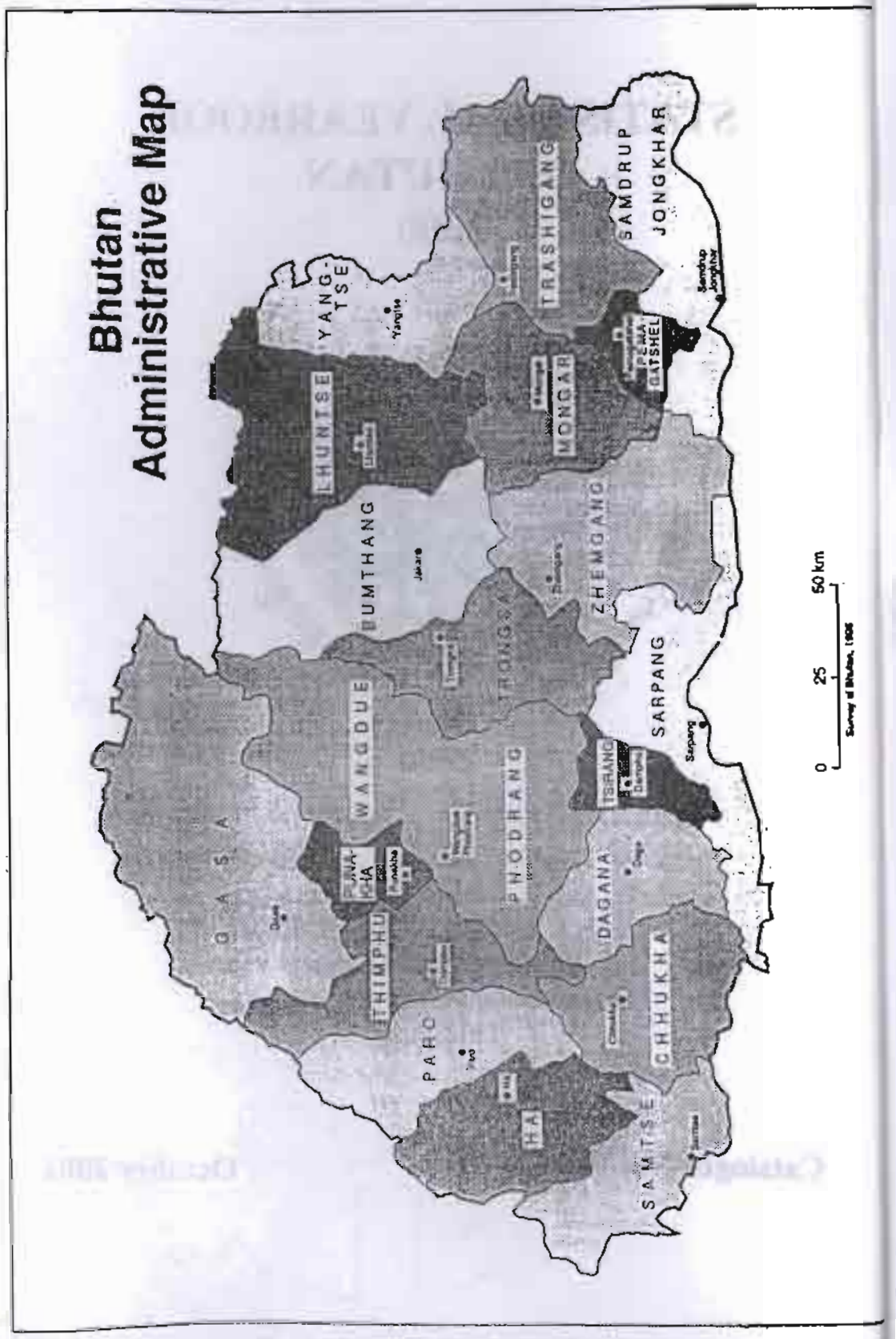

PREFACE

Statistical Yearbook of Bhutan 2000 is the nineteenth in the series of annual statistical publications issued by the Central Statistical Organization, Planning Commission.

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

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

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

It's our effort to improve the range and quality of statistics available on Bhutan, and are reflected in each of the annual up gradation of the publications.

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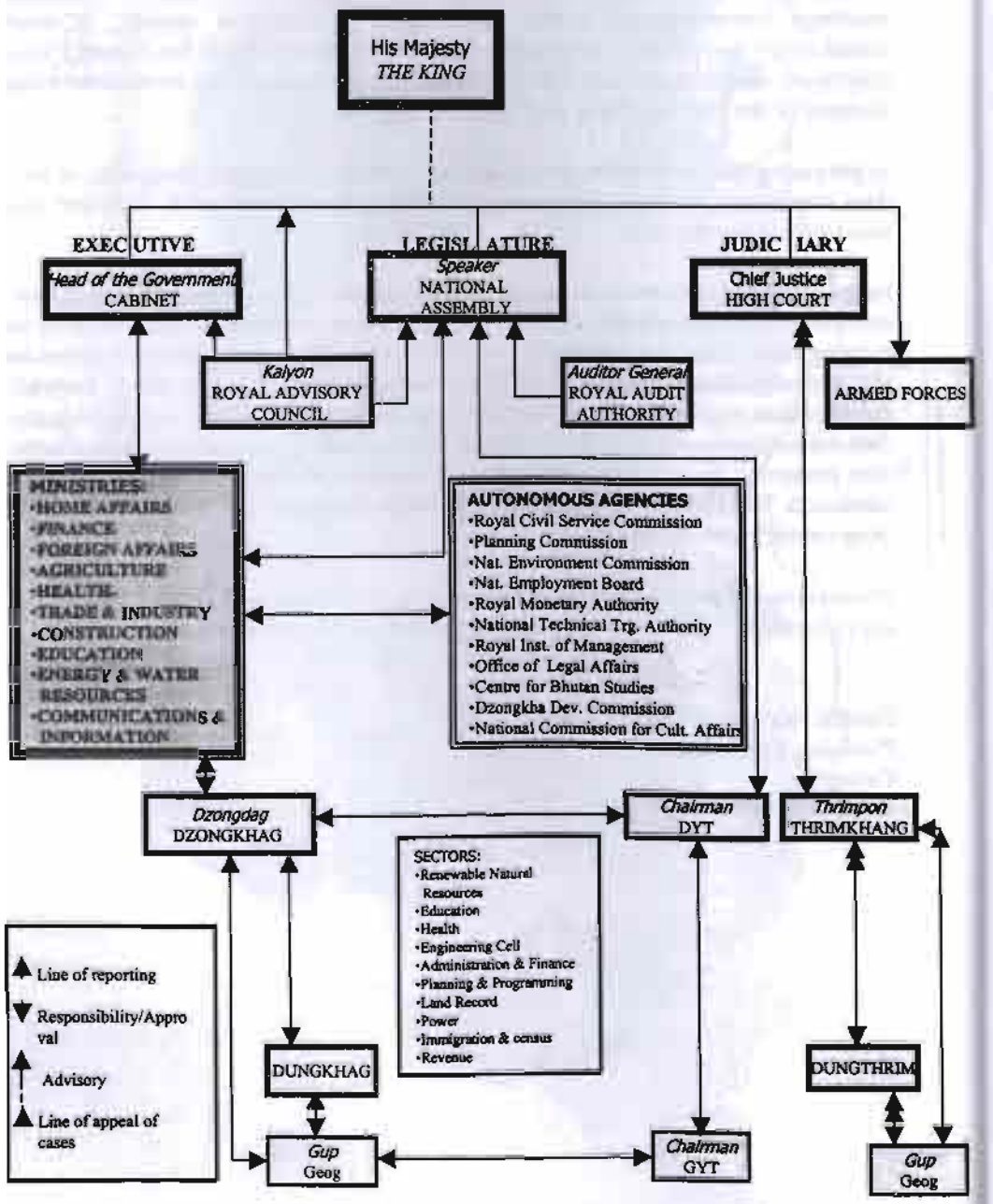
Structure of Government



BHUTAN AT A GLANCE

POPULATION		
Population 2000 (projected)	numbers	677934
Urban population 2000 (estimate)	Percent	21%
Area of Bhutan	sq. km	46,500
Population density	persons/sq. km.	14
Birth rate 1994	per 1000 population	39.9
Death rate 1994	per 1000 population	9.0
Infant mortality 1994	per 1000 live birth	70.7
Life expectancy 1994		
Males	years	66.0
Females	years	66.2
Health 2000		
Population per doctor	numbers	6,220
Population per hospital bed	numbers	663
Education 2000		
Number of schools		343
Number of students	including institutes	107,792
Number of teachers	including institutes	2,856
Agriculture and Forestry 1996		
Agriculture land	% of total area	7.7
Forested land	% of total area	72.5
Transport and Communication 2000		
Road length	km	3,636
Energy 1999/00		
Electricity generation	MU	1,746.11
Electricity sale	MU	390.79
Electricity export	MU	1,302.22
Balance of Payments 1999/00		
Value of exports	million Nu.	4,455.6
Value of imports	million Nu.	-5,516.4
Trade balances	million Nu.	(-)1,060.8
Current account balance	million Nu.	(-)5,543.59
Overall balance	million Nu.	1,588.60
International reserves		
Rupees	million Rs.	3,356.88
Convertible currency	million US $	217.51
National Accounts Statistics		
Agricultural share to GDP 2000	%	35.9
GDP Real growth 2000	%	5.7
Consumer Price Index		
Change Dec 1999 to Dec 2000	%	4.5
Average change 1979 to 2000	%	9.3

GENERAL DESCRIPTION OF BHUTAN

Position and area: Bhutan comprises a land area of 46,500 square kilometres. The land lies between latitudes 26°45'N and 28°10'N and between longitudes 88°45'E and 92°10'E. The country is relatively compact with a maximum latitudinal distance of 170 kilometers and the maximum longitudinal distance of 300 kilometers. Bhutan is landlocked and is bordered by India in the south and by the Tibetan Autonomous Region of China in the north and northwest. Bhutan's borders are largely natural ones. The border with Tibet is traditional following the watershed of the Chumbi Valley in the northwest and the crest of the Himalayas in the north. The southern border with India was established by treaty with the British in the nineteenth century and basically follows the line made by the Himalayan foothills with the plains.

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

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

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

Government: On 17 December 1907, Ugyen Wangchuck was crowned the first hereditary monarch of Bhutan by the civil and monastic representatives. It was as a result of the influence of the strength and the farsightedness of Ugyen Wangchuck that for the first time Bhutan was united under a central authority, which provided the country with stability and opportunity for development. In 1926 his son Jigme Wangchuck, who ruled until his death in 1952, succeeded Ugyen Wangchuck. The third Druk Gyalpo, Jigme Dorji Wangchuck began a campaign of modernization and expansion of Bhutan's government and society based on the accomplishments of his two predecessors in uniting the country under a strong central authority. Hence, the National Assembly consisting of representatives of the people, the Monastic order and civil administration was reestablished in 1953. The present Druk Gyalpo, His Majesty King Jigme Singye Wangchuck acceded to the throne in 1972.

His Majesty the king is the head of state. While the head of government is one of the Cabinet Ministers, in turn for a term of one year. There has been steady decentralization of decision-making and institute building since His Majesty the King Jigme Singye Wangchuk was enthroned. The most momentous change in the structure of the government came in 1998 after the devolution of the executive power by His Majesty the King to the Council of Ministers. The change set off a process of adaptation in the relationship between the various branches of the government, as shown in chart 1 which reflects the logical delineation in the separation of powers along with the establishment of elected Council of Ministers with full executive powers. It depicts the apparatus of all the important aspects of the Bhutanese system of governance like the executive, legislative and judiciary going down from the central to the district levels.

Under the unity and farsighted leadership provided by His Majesty the King, the nation will be governed primarily through the Cabinet. The Cabinet Ministers are

the heads of ministries, who oversee that policies are formulated and programmes carried out. The autonomous bodies have interactions primarily with the ministers, and this is denoted as such in the organogram.

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

The Royal Advisory Council: The Lodey Tshogdey (The Royal Advisory Council) was formally established in 1965 to advise the King and government ministers and to supervise the implementation of programs and policies laid down by the National Assembly. The Royal Advisory Council will continue to be a consultative and advisory body. The Royal Advisory Council, as stipulated in its chatrim (mandate), will ensure the observance of the decisions made during the National Assembly and the Cabinet meetings. Therefore, it will have links with both the Cabinet and the National Assembly. It consists of nine members. There are six representatives of the public (Meeser Thuepoens) who serve for a term of three years. They are elected by the National Assembly through secret ballot from among the elected representatives of the Dzongkhags. Each Dzongkhag (district) deputes one representative who is elected through secret ballot from among the public. Two members represent the Monastic Body, one each from the Central Monastic Body and the Rabdeys who serve a term of one year. The chairman (Zhung Kaloen) is nominated by the king.

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

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

The Judiciary: Bhutan's Legal Code is based on that laid down by Ngawang Namgyal, the first Shabdrung who arrived Bhutan in 1616. Traditional Buddhist precepts are significantly maintained in the legal processes. The High Court consists of eight judges. There is a court in each dzongkhag headed by a Thrimpoen and assisted by Ramjams but minor disputes are settled by Gups at the village levels. As the final arbiter of law, the judiciary has been independent from other branches of the government since its inception.

TABLE OF CONTENTS

Preface.....i
Structure of Government.....ii
Bhutan at a glance.....iii
General description of Bhutan.....iv - viii
Table of contents.....ix - xvii
General Information.....xviii - xix

Chapter 1: POPULATION 1 - 2

TABLE; 1.1: Population estimates by age and sex, 2000.....3
1.2: Summary of population indicators 1995 to 2000.....4
1.3: Percentage of population by marital status and age, 1984.....5
1.4: Summary of demographic indicators, Bhutan 1984 and 1994.....6

Chapter 2: HEALTH 7 - 8

TABLE; 2.1: Summary of Health facilities and personnel, Bhutan 1996 to 2000.....9
2.2: Type of Health facilities and personnel by Dzongkhags, 2000.....10
2.3: Health personnel by category, 1996 to 2000.....11
2.4: Number of Patients treated in basic health units by disease, sex and age, Bhutan, 2000.....12
2.4: (Cont.) Number of Patients treated in basic health units by disease, Sex and age, Bhutan, 2000.....13
2.5: Patients treated in basic health units by diseases, Bhutan, 1997 to 2000.....14
2.6: Number of Patients treated in Hospital for various diseases by Sex and age, Bhutan, 2000.....15
2.6: (cont) No. Of Patients treated in Hospital for various disease by sex and age, Bhutan, 2000.....16
2.6: (cont) No. Of Patients treated in Hospital for various disease by Sex and age, Bhutan, 2000.....17
2.6: (cont) No. Of Patients treated in Hospital for various disease by Sex and age, Bhutan, 2000.....18
2.7: Number of patients reported in different hospitals, 1996 to 2000.....19
2.8: Number of individuals covered by immunisation activities Dzongkhag, 2000.....20
2.9: Incidence of E.P.I. diseases for children below age 15, Bhutan, 1994 to 1999.....21
2.10: Details of child growth monitoring in immunisation clinics, Bhutan, 1995 to 2000.....22
2.11: Details of maternal and child health care services, 1995 to 2000.....23

2.12: Details of maternal health care activities by Dzongkhag, 1995 to 2000.....24
2.12: (cont..) Details of maternal health care activities by Dzongkhag, 1995to 2000.....25
2.12: (cont...) Details of maternal health care activities by Dzongkhag, 1995 to 2000.....26
2.13: Details of complications during pregnancy, delivery & puerperium, Bhutan, 2000.....27
2.14: Family planning acceptors by type of method, Bhutan, 1995 to 2000.....28
2.15: Number of users family planning methods by type by Dzongkhag, 2000.....29
2.16: Details of Leprosy patients, Leprosy control programme, 1995 to 2000.....30
2.17: Number of blood slide examinations for malaria and malariometricindices, Bhutan, 1997 to 2000.....31
2.18: Number of Tuberculosis cases by type, Bhutan, 1993 to 2000.....32
2.19: Water and sanitation facilities by type and by Dzongkhag, 2000.....33
2.20: Number of patients treated outside Bhutan in India by sex and casualties, 1989/90 to 1999/00.....34

Chapter 3: EDUCATION 35

TABLE; 3.1: Number of Schools and institutions, staff and students, Bhutan, 2000.....36
3.2: Number of educational institutions, Teachers and Students, Bhutan, 1981 to 2000.....37
3.3: Number of educational facilities by type and Dzongkhag, 2000.....38
3.4: Number of teachers in educational institutions by nationality, Bhutan, 1999 to 2000.....39
3.5: Number of educational facilities, teachers & students by Dzongkhag, April, 2000.....40
3.6: Number of enrolment in educational institutions, Bhutan, 1996 to 2000.....41
3.7: Number of students by Dzongkhags and type of school, 2000.....42
3.7: (cont.) Number of students by Dzongkhag and type of school, 2000.....43
3.8: Number of students by grade and type of school, Bhutan, 2000.....44
3.8: (cont.) Number of students by grade and type of school, Bhutan, 2000.....45
3.9: Number of students by grade, 1996 to 2000.....46
3.10: Number of students enrolled, promotes, repeaters and dropouts by Sex and grade, 2000.....47
3.11: Monthly stipend for boarders in different educational institutions, 1996 and 2000.....48
3.11: (cont) Monthly stipend for boarders in different educational institutions, 1996 and 2000.....49
3.11: (cont) Monthly stipend for boarders in different educational institutions, 1996 and 2000.....50
3.12: Number of teacher in school and institute by educational level of teacher, 2000.....51

3.12: (cont.) No. of teacher in school and institute by educational level of teacher, 2000.....52
3.12: (cont.) No. of teacher in school and institute by educational level of teacher, 2000.....53

Chapter 4: HUMAN RESOURCES 54

TABLE; 4.1: Percentage of population according to economic activity by age and sex, 1984.....55
4.2: Employment in Civil Service, Bhutan, 1996 to 2000.....56
4.3: Percentage of population aged 15 years and over by sex and principle economic activity in Thimphu and Phuentsholing towns, 1991.....57
4.4: Percent distribution of unemployed person by age-sex and area of residence, Bhutan, 1998.....58
4.5: Percent distribution of unemployed person by age-sex and area of residence, Bhutan, 1999.....59
4.6: Percent distribution of employed person by age-sex and area of residence, Bhutan, 1998.....60
4.7: Percent distribution of employed person by age-sex and area of residence, Bhutan, 1999.....61
4.8: Percent distribution of economically active and inactive population by age and area of residence, participation rate, Bhutan, 1998.....62
4.9: Percent distribution of economically active and inactive population by age and area of residence, participation rate, Bhutan, 1999.....63
4.10: Percent distribution of economically active and inactive population by age and sex specific participation rate, Bhutan, 1998.....64
4.11: Percent distribution of economically active and inactive population by age and sex specific participation rate, Bhutan, 199.....65
4.12: Percent distribution of population in different economic status by sex and area of residence, Bhutan, 1998.....66
4.13: Percent distribution of population in different economic status by sex and area of residence, Bhutan, 1999.....67

Chapter 5: LAND USE AND AGRICULTURE 68 - 69

TABLE; 5.1: Land use and vegetation types as percentage of total area of Bhutan, 1999.....70
5.2: Area of Dzongkhags as a Percentage of total area of Bhutan by type of land cover, 1995.....71
5.3: Altitude zones of Dzongkhags as percentage of their total area, 1995.....72
5.3: (cont...) Altitude zones of Dzongkhags as percentage of their total area, 1995.....73
5.4: Area of Dzongkha as a percentage of total area of Bhutan by altitude Zones, 1995.....74

5.4: (cont...) Area of Dzongkhags as a percentage of total area of Bhutan by altitude zones, 1995.....75
5.5: Average monthly temperature at various stations by Dzongkhag, 1991.....76
5.5: (cont...) Average monthly temperature at various stations by Dzongkhag, 1999.....77
5.5: (cont...) Average monthly temperature at various stations by Dzongkhag, 1999.....78
5.6: Total monthly rainfall at existing stations in each Dzongkhag, 1999.....79
5.6: (cont...) Total monthly rainfall at existing stations in each Dzongkhags, 1999.....80
5.7: Number of agriculture research &extension centres, Bhutan, March 1999.....81
5.8: Irrigation schemes constructed in Dzongkhags, 1996/97 to 1998/99.....82
5.9: Quantity of pesticides supplied to farmers, Bhutan 1986/87 to 1998/99.....83
5.10:Land under agriculture use by Dzongkhag, 1995.....84
5.11: Holders by size of holding in each Dzongkhag, 1988/89.....85
5.12: Holders, area, production and yield of major crops by Dzongkhag, 1988/89 (a).....86
5.12: (Cont...) Holders, area, production and yield of major crops by Dzongkhag, 988/89 (a).....87
5.13: Annual crops, number of holders harvesting each crop and area harvested, Bhutan, 1988/89.....88
5.14: Quantity of seed planted and production of potatoes by variety and region, 1992/1993 to 1994/95.....89
5.15: Perennial crops by zone, 1988/89.....90
5.16: Holders by size of livestock holding, 1988/89.....91
5.17: Number of Livestock by type and Dzongkhag, 1997.....92
5.18: Number of selected livestock by breed, Bhutan, 1994 to 1997.....93
5.19: Imports and distribution of food items by Food Corporation of Bhutan 1994 to 1999.....94
5.20: Quantity of agricultural produce handled by Food Corporation of Bhutan, 1995 to 1998.....95
5.21: Details of protected areas in Bhutan, by year of establishment and area, 1996.....96
5.22: Quantity and value of forest products supplied by type and users 1996/97 to 1997/98.....97
5.23: Production of logwood, 1990 to 1995.....98

CHAPTER 6: INDUSTRIES 99

TABLE: 6.1: Number of industrial establishments by sector, Bhutan,1996 to 2000.....100
6.2: Number of licensed firms in manufacturing and mining industries by sector,,1998 to 2000.....101
6.3: Number of industries by sector, size and type, Bhutan, 1996 to 2000.....102
6.4: Number of contract firms and industries by Dzongkhag, 1999.....103
6.5: Number of industries by type by Dzongkhag, 2000.....104
6.6: Number of mining and manufacturing industries by employment size,1989....105
6.7: Percentage of employees by nationality in mining and manufacturing industries, 1989.....106
6.8: Production of mines and minerals, 1997 to 2000.....107
6.9: Production and use of mines and minerals, Bhutan, 1999 to 2000.....108
6.10: Number of establishments by type of industry and sector, 1997.....109
6.11: Distribution of establishments by Dzongkhags, 1997.....110
6.12: Number of establishments by sector and size of employment, 1997.....111
6.12: (contd..) Number of establishments by sector and size of employment, 1997.....112
6.13: Persons engaged at the end of each quarter by type of work by industry, 1997.....113
6.13: (contd..) Persons engaged at the end of each quarter by type of work by industry, 1997.....113
6.14: Number of persons engaged in industrial sectots by employment status and sex, 1997.....114
6.14: (contd..) : Number of persons engaged in industrial sectots by employment status and sex, 1997.....114
6.15: Percent of expenditure on fuel used by sector, 1997.....115

Chapter 7: TRANSPORT AND COMMUNICATION 116-117

TABLE; 7.1: Length of roads by type, Bhutan, December 1999.....118
7.2: Length of roads by type and Dzongkhag, Bhutan, 2000.....119
7.3: Number and length of bridges by type, Bhutan, 2000.....120
7.4: Number of suspension bridges completed during I to VIII five year plan periods by Dzongkhag,.....121
7.5: Number of registered vehicles by type and region, 1997 and 2000.....122
7.6: Number of new motor vehicle driving licences issued (a) by type of vehicle, 1993 to 1998.....123
7.7: Details of public road transport services, 1993 to 1998.....124
7.8: Number of passengers carried and revenue earned by Druk air flights by sector, 1995 to 1999.....125
7.9: Number of Flights made by Druk air by sector, 1995 to 1999.....126
7.10:Telephone connection capacity by exchange, 1996 to 2000.....127
7.11: Number of Telephone trunk circuits, Bhutan, 2000.....128

7.12: Number of trunk lines, connection capacities and sets in use, 1994 to 1998.....129
7.13: Number of Telephone trunk calls by type, 1995 to 1999.....130
7.14: Telecommunication traffic in minutes and revenue earnings, Bhutan 1996 to 2000.....131
7.15: Number of communication facilities, 1994 to 2000.....132
7.16: Volume of postal mail traffic by destination, 1995 to 1998.....133
7.17: Volume of mail handled by type of article and destination, 1999.....134
7.18: Number and value of money order by type, 1995 to 1999.....135

Chapter 8: ENERGY 136

TABLE; 8.1: Electricity generating stations and their capacities, FY, 1998/99 and 1999/2000.....137
8.1: (cont...) Electricity generating stations and their capacities, FY, 1998/99 and 1999/2000.....138
8.2: Total electricity generation and supply, 1996/97 to 1999/00.....139
8.3: Major transmission lines for evacuating hydropower from Chukha Power plant, 1999 and 2000.....140
8.4: Details of domestic electrical energy consumption, 1996/97 to 1999/00.....141
8.5: Monthly revenue from sale of energy from Chukha hydropower, 1998 to 2000.....142
8.6: Consumption of electricity by type of consumer, 1995/96 to 1999/00.....143

Chapter 9: TOURISM 144

TABLE; 9.1: Number of annual tourist arrivals to Bhutan by country of residence, 1996 to 2000.....145
9.2: Tourist arrivals by country of residence and tourism revenue receipt, 1995 to 1999.....146
9.3: Number of tourist arrivals by season and month, 1996 to 2000.....147
9.4: Number of tourist arrivals by purpose of visit, 1996 to 2000.....148
9.5: Number of tourist arrivals by mode of transport, 1996 to 2000.....148

Chapter 10: FOREIGN TRADE AND BALANCE OF PAYMENTS 149
TABLE; 10.1: Balance of payments estimates, FY, 1994/95 to 1998/99.....150
10.2: Value of exports and imports, Bhutan, Calendar Year from 1995 to 1999....151
10.3: Ten major commodities of exports and imports to and from India, calendar year from 1997 to 1999.....152
10.3: (cont...) Ten major commodities of exports and imports to and from India, Calendar year from 1997 to 1999.....153
10.4: Ten major commodities of exports and imports to and from third Countries (a), calendar year from 1995 and 1997.....154

10.4: (cont...) Ten major commodities of exports and imports to and from third Countries (a),calendar year from 1995 and 1997.....155
10.4: (cont...) Ten major commodities of exports and imports to and from third Countries (a),calendar year from 1995 and 1997.....156
10.5: Value and its percentage share of Exports to six selected countries each year calendars year from 1995 to 1997.....157
10.6: Value and its percentage share of Imports to ten selected countries each year calendars year from 1995 to 1997.....158
10.7: Gross International reserves, 1995/96 to 1999/00.....159
10.8: Monthly average exchange rates, Ngultrums per US dollar, 1994 to 2000...160

Chapter 11: MONEY, BANKING AND FINANCE 161

TABLE; 11.1: Monetary survey (a), Royal monetary Authority and Bank of Bhutan, 1995 to 1999.....162
11.2: Financial details of Royal Insurance Corporation of Bhutan, 1996 to 2000.....163
11.3: Financial details of Unit Trust of Bhutan, 1996 to 2000.....164
11.4: Money and Banking details of Bhutan Development Finance Corporation, 1995 to 2000.....165
11.5: Money and Banking of Royal Monetary Authority of Bhutan, 1995 to 2000.....166
11.6: Money and Banking, Bank of Bhutan, 1996 to 2000.....167
11.7: Investments of financial institutions by industry (a), amounts outstanding, 1992 to June 1996.....168
11.8: Interest rates for deposits in financial institutions, 1993 to 1999.....169
11.9: Interest rates and repayment period by sector and type of loan, Financial institutions (a), 2000.....170
11.10: Royal security Exchange of Bhutan Limited number of shareholders, 1994 to 2000.....171
11.11: Royal Security Exchange of Bhutan limited market information, 1999 to 2000.....172
11.12: Royal Security Exchange of Bhutan limited Volume price taken at end of Year 1997 and 1998.....173
11.13: Royal Security Exchange of Bhutan limited traded values (Ngultrums) 1995 and 2000.....174

Chapter 12: PUBLIC FINANCE 175

TABLE; 12.1 Current budgetary expenditure of the government by ministry/agency, 1995/96 to 1999/2000.....176
12.2: Budgetary development expenditure of the government by ministry, 1995/96 to 1999/2000.....177
12.3: Budgetary receipts of the government by source, 1996/97 to 2000/01.....178
12.4: Summary of budgetary operations, 1996/97 to 1999/00 (a).....179

Chapter 13: PLAN OUTLAYS 180-181

TABLE; 13.1: Outlays of development plans, first plan to eighth plan.....182
13.2: Outlays of development plans, percentage by category, first plan to eighth plan (a).....183
13.2: (cont.) Outlays of development plans, percentage by category, first plan to eighth plan (a).....184
13.3: Financial outlays during eighth plan by sector, 1997 to 2002.....185
13.3: (cont.) Financial outlays during eighth plan by sector, 1997 to 2002.....186
13.4: Dzongkhag wise seventh five-year plan outlay, 1997 to 2002.....187
13.5: Dzongkhag wise eighth five-year plan outlay, 1997 to 2002.....188

Chapter 14: GROSS DOMESTIC PRODUCT 189

TABLE; 14.1: Gross domestic product at factor cost in current prices by kind of activity, 1996 to 2000.....190
14.2: Gross domestic product at factor cost in 1980 prices by kind of activity, 1996 to 2000.....191
14.3: Compound growth rate of gross domestic product during fifth to eighth plan by kind of Activity.....192
14.4: Percentage composition of gross domestic product by various activities, 1996 to 2000.....193
14.5: Gross domestic capital formation by major components, 1996 to 2000 194
14.6: Share of gross domestic capital formation in GDP at market prices, 1996 to 2000.....195
14.7: Gross and net capital formation, 1996 to 2000.....196
14.8: Gross and net domestic product and related aggregates, 1996 to 2000.....197
14.9: Estimates of final consumption expenditure, Gross domestic savings and savings in Current prices, 1995 to 1999.....198

Chapter 15: PRICES 199

TABLE; 15.1: Consumer price indices for food and non-food components, Bhutan, June 1998 to Dec. 2000.....200
15.2: Consumer price indices for major items, Bhutan, June 1998 to Dec.2000.....201
15.3: Consumer price indices for major items, Bhutan,June 1998 to Dec. 2000.....202
15.4: Consumer price indices for major items, Bhutan,June 1998 to Dec. 2000.....203
15.5: Consumer price indices for food items, Bhutan, June 1998 to Dec. 2000.....204
15.6: Consumer price indices for food items, Bhutan, June 1998 to Dec. 1999.....205
15.7: Consumer price indices for food items, Bhutan, June 1998 to Dec. 2000.....206
15.8: Quarterly price indices for food items, Thimphu town, 1996 to 200.....207

15.9: Quarterly price indices for food items, Thimphu town, 1996 to 2000.....208

Chapter 16: CRIME 209

TABLE; 16.1: Crime reports by nature of crime, Bhutan, 1996 to 2000.....210
16.2: Details of crime against human body, Bhutan, 1996 to 2000.....211
16.3: Details of sexual offences, Bhutan, 1996 to 2000.....212
16.4: Details of crime against property, Bhutan, 1996 to 2000.....213
16.5: Details of motor vehicle, antiques, forest offences and fire incidents Bhutan 1996 to 2000.....214
16.6: Motor vehicle accidents by traffic division, Bhutan ,2000.....215
16.7: Motor vehicle accidents by cause by traffic division Bhutan,2000.....216
16.7: (cont..) Motor vehicle accidents by cause by traffic division Bhutan, 200.....217
16.8: Number of motor vehicle accidents by traffic division, Bhutan, 1996 to 2000.....218

Map of Bhutan 219
Annex I:
ADMINISTRATIVE UNITS WITH THEIR STANDARD SPELLINGS.....220 to 223

GENERAL INFORMATION

EXPLANATION OF SYMBOLS USED IN THE YEARBOOK

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

EXPLANATORY NOTES

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

SOME UNITS OF MEASUREMENT

Numbering (UK)

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

A. Length Measurement

1. Metric equivalents

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

2. British units

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

3. Conversion from British to metric units (lengths)

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

B. Area measurements

1. British units

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

2. Metric units

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

3. Conversion from British to Metric units (Area)

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

C. Weight measurements

1. British units

16 dram	= 1 ounce
16 ounces	= 1 pound
28 pounds	= 1 cwt
20 cwt	= 1 ton
14 pounds	= 1 stone
10 hg	= 1 kg
100 kg	= 1 quintal
200 mg	= 1 carat

2. Metric units

10 mg	= 1 cg
10 cg	= 1 dg
10 dg	= 1 g
10 g	= 1 dkg
10 dkg	= 1 hg

3. Conversion from British to metric units

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

D. Conversion of air temperatures

1. Degree celsius to degree Fahrenheit

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

2. Fahrenheit to degree celsius

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

CHAPTER 1: POPULATION

INTRODUCTION

The main source of statistics on population is the population census. Population censuses are undertaken in most countries on a five or ten yearly basis aimed to provide a full count of the population according to a range of characteristics such as demography, health, education and other social aspects. Censuses are useful not only because they provide a range of current population data but also for use as a benchmark for making population estimates in non census years and for population projections. Population censuses were undertaken in Bhutan in 1969 and 1980. The population figures those early Years were large because of the large reflect of migrants from neighboring countries: labor migrants at the instant of large-scale influx construction and Tibetan refugees who settled temporarily for few Years in the country. With the development emphasis changing to human resource development the large migrants moved out and in 1996 the total population was found to be around 600,000. Until the next round of Census, scheduled for 2005 is under taken the estimates are used utilize growth rate from the surveys.

The second major element of population statistics relates to the demography characteristics of the population. The most common source of information on demography is the vital registration system (which usually covers the registration of births and deaths and sometimes marriages and divorces). In Bhutan, the vital registration system does not currently provide the full coverage of births and deaths and it has been necessary to undertake special sample surveys; (the first one in 1984, and second in 1994) to obtain the important demographic information. Statistics presented in this chapter include estimates of current population together with data from 1984 on demographic survey and 1994 National Health Survey. These special surveys carried out at certain intervals of 3 to5 Years is proposed to provide the changes that are occurring in the population indicators. The population data presented in this chapter is an estimated population using the annual growth rates resulting from the National Demographic Health Surveys. Some of the important demographic Health surveys were carried out to provide basic demographic indicators and these are presented here. The interpretations of demographic indicators are as follows:

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

General fertility rate: Number of live births in a year per thousand women in the childbearing age (15 to 44 or 49).

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

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

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

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

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

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

Maternal mortality ratio: The annual number of deaths of women from pregnancy-related causes per thousand live births

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

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

Index of aging: It is the number of persons aged 65 and over as a percentage of the number of persons aged 0 to 14.

TABLE 1.1: POPULATION ESTIMATES BY AGE AND SEX, 2000

	Persons			Percent		
Age group	Total	Male	Female	Total	Male	Female
0 - 4	104,743	52,488	52,255	15.5	7.7	7.7
5 - 9	98,192	48,757	49,435	14.5	7.2	7.3
10 - 14	82,141	41,600	40,541	12.1	6.1	6.0
15 - 19	60,956	30,919	30,037	9.0	4.6	4.4
20 - 24	53,824	26,741	27,083	7.9	3.9	4.0
25 - 29	46,201	23,111	23,090	6.8	3.4	3.4
30 - 34	41,460	20,920	20,540	6.1	3.1	3.0
35 - 39	37,979	19,621	18,358	5.6	2.9	2.7
40 - 44	32,008	16,503	15,505	4.7	2.4	2.3
45 - 49	25,736	13,352	12,383	3.8	2.0	1.8
50 - 54	24,413	12,566	11,847	3.6	1.9	1.7
55 - 59	21,600	11,163	10,438	3.2	1.6	1.5
60 - 64	19,836	10,238	9,599	2.9	1.5	1.4
65 - 69	11,964	5,889	6,075	1.8	0.9	0.9
70 - 74	8,136	4,075	4,061	1.2	0.6	0.6
75 +	8,744	4,382	4,362	1.3	0.6	0.6
All ages	677,934	342,324	335,610	100.0	50.5	49.5

Note: Estimates based on population rate 3.1% NHS.1994.

Source: CSO, Ministry of Planning

TABLE 1.2: SUMMARY OF POPULATION INDICATORS, 1995 TO 2000

Population Indicators	1995	1996	1997	1998	1999	2000
Sex Ratio						
(males per 100 females)	104.1	102.0	98.0	102.0	102.0	102.0
Age Composition (%)	100.0	100.0	100.0	100.1	100.1	100.0
0 - 14	39.2	42.1	42.1	42.1	42.1	42.1
15 - 49	47.3	44.0	44.0	44.0	44.0	44.0
50 - 59	6.6	6.8	6.7	6.8	6.8	6.8
60 +	6.9	7.1	7.2	7.2	7.2	7.2
Median age(years)	20.5	19.4	19.4	19.4	19.4	19.4
Dependency Ratio						
Child dependency	69.6	78.3	78.3	78.3	78.3	78.3
Old age dependency	7.8	7.9	8.0	8.0	8.0	7.9
Total dependency	77.4	86.2	86.3	86.3	86.3	86.2
Index of aging	11.3	10.1	10.1	10.1	10.1	10.1

Source: Estimates by CSO, Planning Commission, Thimphu

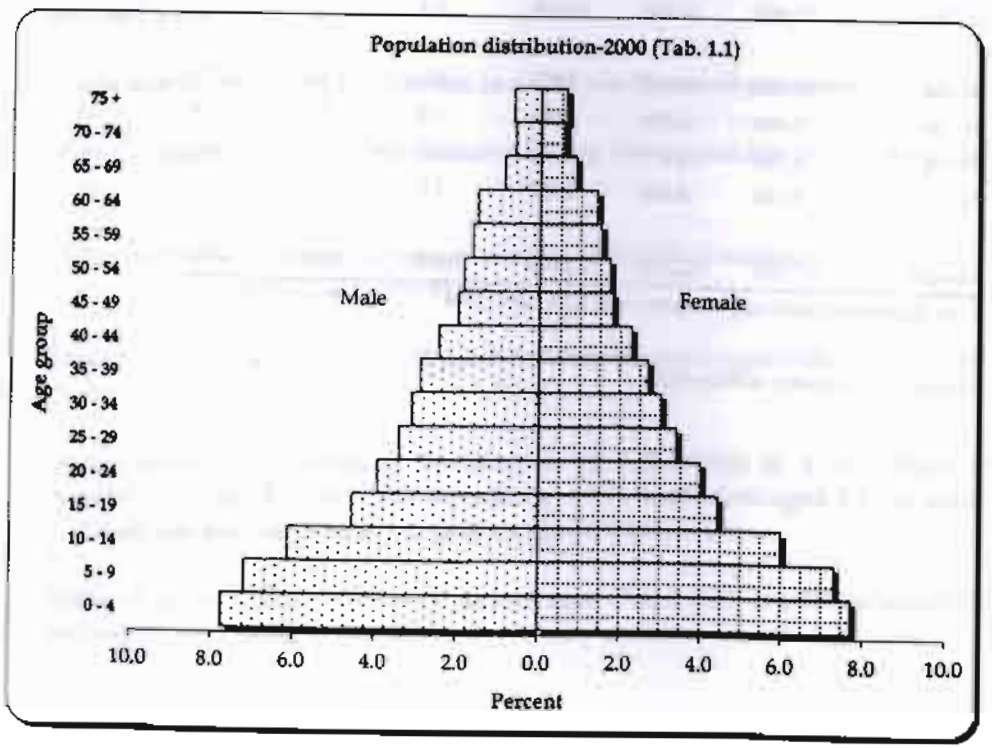


TABLE 1.3: PERCENTAGE OF POPULATION BY MARITAL STATUS AND AGE, 1984

(percent)

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

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

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

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

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

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

CHAPTER 2: HEALTH

INTRODUCTION

Efforts to establish modern medical facilities in Bhutan were begun in 1962. The Department of Health services now has wide spread of health facilities across the country, covering about 90% of the total population. Institutional health facilities were earlier concentrated in urban centers, but today the emphasis has shifted to the rural areas where the majority of the population lives. Health care is delivered in a totally integrated system through an organizated structure placed at the National, Regional and District hospitals serving as referral centers followed by the Basic Health Unit (BHUs) units in the community level. Basic health units (BHUs) usually serve remote districts staffed by well trained paramedical personnel equipped to treat minor ailments and advise on preventive measures to avoid the spread of communicable diseases. Extended Health Centre (Out Reach Clinics) and mobile health units support these BHUs. As of now the country has 29 hospitals, 160 BHUs and over 447 outreach clinics manned by over 2000 health personnel of different categories. Besides, there exists a well-established network of Indigenous medical facilities under the National Institute of Traditional Medicines. The National Institute of Traditional Medicine Services has basically three functions; medical services for out patients; collection and manufacturing of indigenous medicines and research and training of physicians (Drungtshos) and compounders (Drungtshos/Menpas). As of Year 2000 there were 13 dzongkhag level Indigenous Medical units attached to the District hospital each run by a Drungtshos and Menpas. There were 31 Physicians (Drungtshos) and 17 Compounders working in indigenous medical service units in the Year 2000.

There are also a number of health programs specific to a disease administered by the Division of Health. These cover Child Health and Immunization program, Reproductive Health program, Acute Respiratory Infection (ARI) program, National Control of Diarrhoeal Diseases program (NCDDP), National STD/AIDS control program, National Tuberculosis control program, Rural Water Supply & Sanitation program (RWSS), Village Health Workers program (VHW), National Leprosy control program, National Malaria control program (NMCP) and Mental Health program.

General health condition in Bhutan was affected by low nutrition intake poor sanitation and high prevalence of parasitic infections and contagious diseases. ARI and Diarrhoeal diseases continue to dominate entire morbidity. While the other communicable diseases still remain constant problem and non-Communicable Diseases are apparently on the rise.

The main indicators of the health status of the population are morbidity and mortality. Morbidity refers to the type of illness people suffer from, while mortality relates to death rates and causes of death. Every after 5 years the Health division is conducting the National Health Survey, and it is the only source of mortality data. Morbidity data can often be obtained from patients' records of health units, while information on mortality rates and causes of death are usually obtained from vital registration systems (that is the civil registration of birth and deaths). According to the latest National Health Survey (1994) the only comprehensive source of health indicators, life expectancy of the Bhutanese people has risen from 48 years to 66 years in the past 20 years. The reductions in mortality rates, specially infant and maternal mortality is also quite noteworthy.

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

TABLE 2.1: SUMMARY OF HEALTH FACILITIES AND PERSONNEL,1996 TO 2000

Facilities	1996	1997	1998	1999	2000
Number of hospitals	28	28	28	28	29
Number of basic health units	145	145	145	145	160
Number of indigenous hospitals	1	1	1	1	18
Number of indigenous dispensaries	10	11	11	13	n.a
Number of doctors	103	101	98	103	109
Persons per doctor	5,825	6,124	6,510	6,384	6,220
Number of hospital beds	1,080	1,001	1,001	1,023	1,023
Persons per hospital bed	556	618	637	643	663
Doctors per 10,000 persons	1.7	1.6	1.5	1.6	1.6
Hospital bed per 10,000 persons	18	16	16	16	15
Population covered by health care (%)	90	90	90	90	90
Population access to safe drinking water (%)	45	50	58	63	78
Women attended by trained personnel during child birth (%)	78	79	34	15	24

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

Source: Health Division, Thimphu

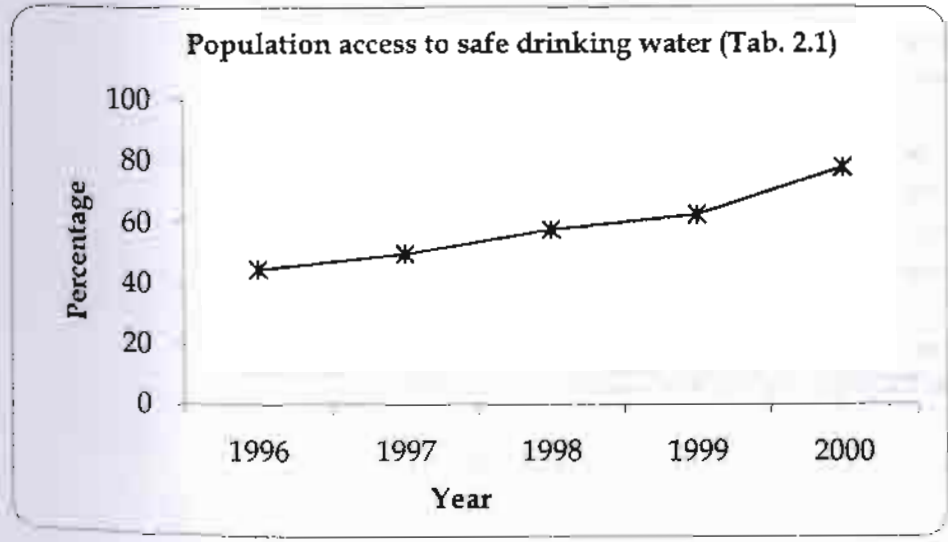


TABLE 2.2: TYPE OF HEALTH FACILITIES IN DZONKHAGS, 2000

(numbers)

Dzongkhag	Hospitals	Basic health unit	Outreach clinic
Bjakar	1	3	12
Chhukha	3	9	38
Dagana	0	7	16
Gasa	0	3	3
Haa	1	4	15
Lhuntse	1	10	34
Mongar	1	17	41
Paro	1	3	24
Pemagatshel	1	4	21
Punakha	1	5	7
Samtse	3	12	4
Samdrupjongkha	2	13	30
Sarpang	2	12	9
Thimphu	4	4	18
Trashigang	3	19	63
Trashiyangtse	1	3	23
Trongsa	1	5	22
Tsirang	1	6	3
Wangduephodrang	1	8	23
Zhemgang	1	13	41
Bhutan	29	160	447

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

Source:Health Division,Ministry of Health and Education.

TABLE 2.3: HEALTH PERSONNEL BY CATEGORY, 1996 TO 2000

(numbers)

Health personnel	1996	1997	1998	1999	2000
Doctors	103	101	98	103	109
Health Assistants	99	111	115	151	148
Basic health workers	158	154	152	182	178
Sister and nurses	352	355	386	467	443
Other technicians *	185	183	211	253	244
Indigenous physicians	21	19	28	31	31
Indigenous compounders	16	17	17	17	17
Village health workers (VHW)	1275	1093	1,245	1,012	1,327

Note: * Including compounders

Source: Health Division, Thimphu

TABLE 2.4: NUMBER OF PATIENTS TREATED IN BASIC HEALTH UNITS BY DISEASE, SEX AND AGE, BHUTAN, 2000

Disease	Age below 1			Age 1 to 4		
	Male	Female	Persons	Male	Female	Persons
Diarrhoea/Dysentery	2,307	2,455	4,762	6,887	6,756	13,643
Respiratory tract infection(RTI)	3,927	4,247	8,174	9,184	9,878	19,062
Worms	44	51	95	2,236	2,384	4,620
Skin infection	986	1,153	2,139	2,236	2,384	4,620
Malaria	28	19	47	156	124	280
Fever of Unknown orgin	359	401	760	1,148	1,056	2,204
Conjunctivitis	568	728	1,296	1,437	1,690	3,127
Otitis media	479	489	968	1,235	1,249	2,484
Nutritional deficiency	120	153	273	513	691	1,204
Peptic ulcer syndrome	6	8	14	206	272	478
Disease of teeth & gum	12	15	27	234	287	521
UTI & Nephritis	17	20	37	161	171	332
Injuries	66	61	127	751	725	1,476
Sexually transmitted diseases(STD)	..	..	..	..	..	..
Childhood diseases	30	34	64	215	245	460
Diseases of female genital tract	..	3	3	..	35	35
Compli. of pregnancy & child birth peuperum	..	..	..	..	..	..
Headache	42	42	84	446	726	1,172
Others	538	536	1,074	1,901	1,926	3,827
All diseases	9,529	10,415	19,944	28,946	30,599	59,545

continues..

TABLE 2.4: (CONT..)NUMBER OF PATIENTS TREATED IN BASIC HEALTH UNITS BY DISEASE, SEX AND AGE , BHUTAN, 2000

Disease	Age 5 to 14			Age 15 and above			All ages	
	Male	Female	Persons	Male	Female	Persons	Persons	%
Diarrhoea/Dysentery	9,912	9,559	19,471	16,389	12,820	29,209	67,085	12.7
Respiratory tract infection(RTI)	17,816	19,968	37,784	41,711	39,452	81,163	146,183	25.8
Worms	4,367	4,139	8,506	5,527	5,810	11,337	24,558	6.5
Skin infection	7,277	6,763	14,040	16,605	12,075	28,680	49,479	11.4
Malaria	558	449	1,007	1,473	955	2,428	3,762	0.9
Fever of Unknown orgin	1,881	1,986	3,867	5,622	5,016	10,638	17,469	4.5
Conjunctivitis	2,749	2,868	5,617	8,047	9,346	17,393	27,433	6.5
Otitis media	2,008	1,964	3,972	2,027	1,871	3,898	11,322	2.2
Nutritional deficiency	978	1,251	2,229	4,240	6,339	10,579	14,285	3.0
Peptic ulcer syndrome	1,609	2,137	3,746	14,270	15,627	29,897	34,135	5.3
Disease of teeth & gum	1,633	1,676	3,309	5,539	5,653	11,192	15,049	2.3
UTI & Nephritis	407	466	873	2,478	3,888	6,366	7,608	1.3
Injuries	3,345	2,046	5,391	11,132	4,224	15,356	22,350	3.8
Sexually transmitted diseases(STD)	11	20	31	532	262	794	825	
Childhood diseases	782	715	1,497	314	241	555	2,576	0.5
Diseases of female genital tract	..	115	115	n.a	1,854	1,854	2,007	0.3
Compli. of pregnancy & child birth peuperum	..	..	..	..	n.a	n.a	n.a	n.a
Headache	5,447	6,264	11,711	21,378	23,777	45,155	58,122	6.3
Others	4,435	5,219	9,654	23,396	24,369	47,765	62,320	6.5
All diseases	74,744	78,020	152,764	209,626	204,178	413,804	566,568	100

Source: Health Division, Thimphu

TABLE 2.5: PATIENTS TREATED IN BASIC HEALTH UNITS BY DISEASE, BHUTAN, 1997 TO 2000

Disease	persons('000)				percent(%)			
	1997	1998	1999	2000	1997	1998	1999	2000
Diarrhoea/Dysentery	57.5	66.8	65.9	67.1	11.6	9.5	11.8	11.8
Respiratory tract infection	121.2	135.3	13.8	14.6	27.3	30.7	26.5	25.8
Worms	36.3	33.8	30.5	24.6	7.3	2.3	5.5	4.3
Skin infection	61.5	59.7	52.8	52.3	12.4	8.7	9.4	9.2
Malaria/P.U.O	6.8	4.9	77.1	3.7	1.4	0.0	1.4	0.7
Conjunctivitis	44.9	34.0	30.3	27.4	9.0	9.7	5.4	3.1
Otitis media	11.7	11.4	11.0	11.3	2.4	2.5	2.0	4.8
Nutritional deficiency	14.6	15.6	13.9	14.3	2.9	1.8	2.5	2.0
Fever of unknown origin	n.a	n.a	n.a	n.a	5.0	0.4	4.0	2.5
Peptic ulcer syndrome	26.1	28.0	32.4	34.1	5.3	7.2	5.8	6.0
Disease of teeth and gum	12.0	12.0	13.1	15.0	2.4	4.2	2.4	2.6
Urinary tract infection and nephretis	6.6	6.8	67.5	7.6	1.3	1.0	1.2	1.3
Injuries	19.5	19.9	28.0	22.5	3.9	2.7	3.7	3.9
Sexually transmitted Diseases	0.7	1.1	0.8	0.8	0.1	0.1	0.2	0.1
Childhood diseases	1.0	2.5	2.9	2.6	0.2	0.1	0.5	0.5
Disease of female genital tract	1.4	1.6	1.7	2.0	0.3	0.2	0.3	0.4
Headache	n.a	n.a	n.a	n.a	0.2	14.5	9.2	10.2
Others	33.6	33.9	46.2	6.2	6.8	4.5	8.3	10.9
All diseases	456.4	524.3	524.3	306.2	100.0	100.0	100.0	100.0

Source: Health Division, Thimphu

TABLE 2.6: PATIENTS TREATED IN HOSPITALS FOR VARIOUS DISEASES BY SEX AND AGE, BHUTAN, 2000

(numbers)

Disease	Age > 1		1 to 4		5 to 14	
	M	F	M	F	M	F
Bacterial and amoebic intestinal infections	1,112	1,315	2,147	2,274	2,575	2,651
Viral & other intestinal infection	1,615	1,706	3,050	3,017	3,813	3,657
Tuberculosis	6	5	21	28	89	177
Children's diseases	26	46	140	194	443	407
Tonsillitis	38	42	177	264	1,106	1,297
Scabies	162	275	582	647	867	882
Hepatitis	9	4	34	36	52	49
Malaria	6	5	72	77	225	223
Gonorrhoea					3	6
Intestinal worms	54	104	1,416	1,524	2,230	2,152
Other infections	38	47	307	325	445	452
Neoplasms	n.a	n.a	n.a	n.a	4	6
Endocrine, metabolic and nutritional diseases	115	189	550	655	732	780
Anaemia	48	117	254	294	704	806
Mental disorders		1	3	1	48	59
Diseases of the eye	331	497	996	1,128	1,877	2,195
Diseases of the ear	272	342	865	868	1,519	1,570
Diseases of the nervous system	37	39	101	109	344	384
Diseases of the circulatory system	10	15	19	19	230	361
Acute repiratory infections	3,762	4,100	6,010	6,123	8,681	9,334
	3,721	3,679	5,976	6,065	7,623	8,646

continues...

TABLE 2.6: (CONT.) PATIENTS TREATED IN HOSPITALS FOR VARIOUS DISEASES BY SEX AND AGE, BHUTAN, 2000

(numbers)

Disease	15 to 49		Age >= 50		All ages		
	M	F	M	F	M	F	Total
Bacterial and amoebic intestinal infections	5,164	4,201	1,930	1,621	12,928	12,062	24,990
Viral & other intestinal infection	5,691	4,327	1,893	1,410	16,062	14,117	30,179
Tuberculosis	686	571	585	478	1,387	1,259	2,646
Children's diseases	208	168	64	57	881	872	1,753
Tonsillitis	2,101	2,294	593	425	4,015	4,322	8,337
Scabies	1,225	977	749	566	3,585	3,347	6,932
Hepatitis	128	118	37	10	260	217	477
Malaria	740	456	145	50	1,188	811	1,999
Gonorrhoea	692	511	35	28	730	545	1,275
Intestinal worms	2,507	2,556	1,136	1,040	7,343	7,376	14,719
Other infections	745	567	297	272	1,832	1,663	3,495
Neoplasms	44	59	86	66	134	131	265
Endocrine, metabolic and nutritional diseases	1,274	1,381	793	672	3,464	3,677	7,141
Anaemia	1,367	2,690	898	928	2,316	3,679	5,995
Mental disorders	207	246	130	122	3,541	4,188	7.729
Diseases of the eye	5,036	4,708	2,330	2,206	10,022	9,694	19,716
Diseases of the ear	1,964	1,808	694	600	3,140	2,940	6,080
Diseases of the nervous system	1,143	1,198	401	335	1,803	1,928	3,731
Diseases of the circulatory system	3,111	3,503	3,360	2,914	24,924	25,974	50,898
Acute repiratory infections	18,170	16,424	5,369	4,540	40,859	39,354	80,213

continues...

TABLE 2.6: (cont.)PATIENTS TREATED IN HOSPITALS FOR VARIOUS DISEASES BY SEX AND AGE, BHUTAN, 2000

(numbers)

Disease	Age > 1		1 to 4		5 to 14		15 to 49	
	M	F	M	F	M	F	M	F
Respiratory system								
Disease of the teeth and gum	34	94	379	542	2,430	2,805	5,503	6,393
Peptic ulcer & gastritis	72	103	266	281	1,159	1,429	8,538	9,946
Other diseases of the digestive system	114	120	308	284	641	677	1,739	1,748
Diseases of the urinary system	30	38	227	254	616	877	2,548	3,916
Diseases of male genital organs	7	..	20	..	62	..	547	..
Diseases of breast	..		..	2	..	31	..	609
Diseases of female genital organs	..	5	..	26	..	117	..	3,623
Pregnancy, childbirth and the puerperium	..	..	..	1	..	10	..	2,551
Diseases of the skin	1,265	1,462	3,191	3,169	4,852	5,603	11,240	9,204
Diseases of the musculo-skeletal system	6	24	141	145	660	682	6,911	5,700
Acute abdomen	14	12	82	138	229	255	669	626
Fever of unknown origin	343	384	759	864	1,355	1,405	4,006	2,788
Headache	11	12	232	281	1,603	2,172	6,423	6,797
Other symptoms and signs	165	212	384	360	672	860	2,328	2,320
Injuries	178	188	818	796	2,214	1,822	6,607	3,353
All diseases	25,364	11,092	23,343	24,258	42,370	47,389	57,059	59,574

continues...

TABLE 2.6: (cont..)PATIENTS TREATED IN HOSPITALS FOR VARIOUS DISEASES BY SEX AND AGE, BHUTAN, 2000

(numbers)

Disease	Age >= 50		All ages			
	M	F	M	F	Total	%
Respiratory system						
Disease of the teeth and gum	2,427	1,772	10,773	11,606	22,379	4.58
Peptic ulcer & gastritis	3,749	3,086	13,784	14,845	28,629	5.86
Other diseases of the digestive system	1,273	1,015	4,075	3,844	7,919	1.62
Diseases of the urinary system	1,208	870	4,629	5,955	10,584	2.17
Diseases of male genital organs	267	..	903	..	903	0.18
Diseases of breast	..	89	..	731	731	0.15
Diseases of female genital organs	..	399	..	4,170	4,170	0.85
Pregnancy, childbirth and the puerperium	..	4	..	2,566	2,566	0.53
Diseases of the skin	3,867	2,618	24,415	22,056	46,471	9.52
Diseases of the musculo-skeletal system	3,190	2,463	10,908	9,014	19,922	4.08
Acute abdomen	206	175	1,200	1,206	2,406	0.49
Fever of unknown origin	802	645	7,265	6,086	13,351	2.73
Headache	2,887	2,261	11,156	11,523	22,679	4.64
Other symptoms and signs	938	732	4,487	4,484	8,971	1.84
Injuries	1,667	873	11,484	7,032	18,516	3.79
All diseases	27,086	20,998	106,848	106,403	222,062	96.37

Source: Health Division, Thimphu

TABLE 2.7: NUMBER OF PATIENTS REPORTED IN DIFFERENT HOSPITALS, 1996 TO 2000

Hospital	1996	1997	1998	1999	2000
Government hospitals					
Bjakar	9.7	8.1	6.7	13.2	9.2
Tsirang	11.2	14.2	11.7	20.9	17.9
Geylegphug	13.2	15.2	18.6	52.6	45.9
Pemagatshel	6.7	7.5	8.2	15.3	12.0
Paro	19.4	25.0	24.0	22.2	21.1
Phuntsholing	26.6	39.0	79.2	19.9	58.2
Samdrupjongkhar	17.4	18.4	15.7	62.0	16.8
Samtse	14.1	17.1	15.9	37.5	19.3
Sarpang	18.4	16.6	12.9	21.9	15.4
Sibsoo	5.6	9.0	9.1	11.7	8.6
Thimphu	6.7	7.0	8.6	197.0	125.3
Trashigang	23.0	15.4	16.1	22.0	10.7
Tshimalakha	21.0	18.1	19.4	19.3	15.9
Trongsa	7.3	9.9	6.5	10.3	8.7
Leprosy mission hospitals					
Gidakom	9.5	9.9	9.4	14.6	9.6
Lhuntshi	5.1	6.2	6.3	9.4	8.1
Mongar	17.8	9.4	18.1	23.2	18.5
Riserboo	9.4	9.7	7.8	15.2	1.9
Yebilaptsa(Zhemgang)	6.3	5.0	6.2	8.5	9.0
Army hospitals					
Wangdiphodrang	24.5	34.3	40.1	15.9	14.5
Yonphula	11.0	11.6	13.1	n.a	n.a
Imtrat (Haa)	19.6	19.8	20.4	n.a	n.a
Others					
IBFH (Thimphu)	64.2	64.3	46.7	n.a	n.a
Project hospitals					
Gomtu	27.8	24.0	25.0	33.1	25.7
Indigenous hospital	n.a	48.3	48.1	32.4	n.a
Indigenous dispensary	n.a	n.a	46.6	59.1	n.a
All hospitals(b)	395.5	463.0	540.2	737.3	472.1

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

Source: Health Division, Thimphu

TABLE 2.8:NUMBER OF INDIVIDUALS COVERED BY IMMUNIZATION ACTIVITIES BY DZONGKHAG,2000

DZONGKHAGS	BCG	DPT3	OPV3	MEASLES	TT2
Thimphu	1,302	1,173	1,127	1,032	1,142
Paro	490	623	616	578	447
Haa	202	201	210	191	118
Punakha	452	424	453	419	404
Wangduphodrang	595	636	636	315	361
Chukha	1,910	1,757	1,761	1,520	1,422
Samtsi	1,016	1,128	1,124	1,017	842
Sarpang	836	837	815	714	638
Tsirang	402	375	365	322	250
Dagana	190	188	188	178	196
Trongsa	263	288	292	267	243
Shemgang	493	449	450	474	380
Bumthang	295	310	310	275	192
Lhuntse	364	346	316	307	213
Tashiyangtse	418	464	462	436	417
Tashigang	1,345	1,037	1,119	943	1,374
Pemagatshel	310	266	314	298	180
Samdrup Jongkhar	866	880	880	809	725
Gasa	36	32	32	16	31
Mongar	901	814	833	646	622
BHUTAN	12,686	12,228	12,303	10,757	10,197

Source. Health Division, Thimphu

TABLE 2.9: INCIDENCE OF E.P.I. DISEASES FOR CHILDREN BELOW AGE 15, 1994 TO 1999

Year	1994	1995	1996	1997	1998	1999
Diptheria	0	0	0	0	0	1
Incidence	0	0	0	0	0	1
Deaths	0	0	0	0	0	0
Measles	683	148	9	169	205	84
Incidence	683	148	9	169	205	84
Deaths	0	0	0	0	0	0
Pertussis	0	5	0	0	7	96
Incidence	0	5	0	0	7	96
Deaths	0	0	0	0	0	0
Poliomyelitis	0	0	0	0	0	0
Incidence	0	0	0	0	0	0
Deaths	0	0	0	0	0	0
Tetanus	0	0	0	0	0	1
Incidence	0	0	0	0	0	1
Deaths	0	0	0	0	0	0
Neonatal tetanus	2	0	0	0	0	1
Incidence	1	0	0	0	0	1
Deaths	1	0	0	0	0	0
Tuberculosis	311	274	3	10	342	625
Incidence	311	269	3	10	337	625
Deaths	0	5	0	0	5	0
All EPI diseases	996	427	12	179	554	1,615
Incidence	995	422	12	179	549	1,615
Deaths	1	5	0	0	5	0

Note: EPI stands for expanded program on Immunization

Source: Health Division, Thimphu

TABLE 2.10: DETAILS OF CHILD GROWTH MONITORING IN IMMUNIZATION CLINICS,1995 TO 2000

Details	1995	1996	1997	1998	1999	2000
Children weighed(nos)	14,800	16,467	16,473	16,528	12,276	87,390
Child malnutrition(nos)	4,751	4,525	4,201	4,001	2,006	3,021
Degree I	3,176	3,139	2,965	2,940	616	2,336
Degree II	1,268	924	890	800	177	553
Degree III	307	462	346	261	23	132
Child malnutrition(%)	32.1	27.5	26.0	24.2	n.a	3.5

Source: Health Division, Thimphu

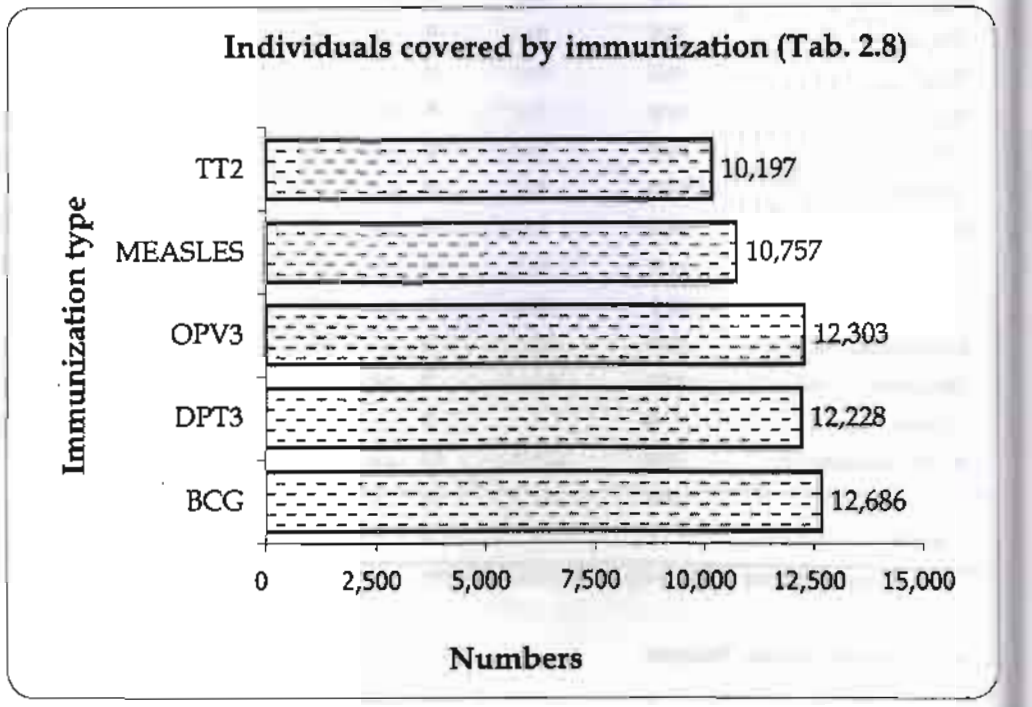


TABLE 2.11: DETAILS OF MATERNAL AND CHILD HEALTH CARE SERVICES, 1995 TO 2000

(persons)

Type of care	1995	1996	1997	1998	1999	2000
Maternal health care attendence(a	101,407	65,568	54,053	19,860	66,159	66,626
Antenatal	11,614	40,269	44,692	10,516	45,611	44,166
Postnatal	89,793	25,299	9,361	9,344	20,548	22,460
Deliveries attended						
Home	1,379	1,327	1,348	1,140	873	941
Hospital/Basic Health Units	5,244	4,825	5,083	3,777	6,244	6,099
Total deliveries	6,623	6,152	6,431	4,917	7,117	7,040
Child health care attendance						
First visit	n.a	n.a	n.a	n.a	n.a	n.a
Re-visit	n.a	n.a	n.a	n.a	n.a	n.a
Total attendance	n.a	n.a	n.a	276,021	104,931	n.a
Malnourished children (b)						
All malnourished	4,751	4,525	n.a	4,001	n.a	3,021
Third degree	307	462	n.a	261	n.a	132

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

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

Source: Health Division, Thimphu

TABLE 2.12: DETAILS OF MATERNAL HEALTH CARE ACTIVITIES BY DZONGKHAG, 1995 TO 2000

(numbers)

Dzongkhag	1995	1996	1997	1998	1999	2000
Bjakar						
Antenatal	228	866	723	244	307	833
Postnatal	193	491	466	225	12	439
Reported deliveries	199	270	na	116	184	166
Trained deliveries	162	255	135	51	136	161
Chhukha						
Antenatal	993	4,356	6,451	1,617	1,976	8,178
Postnatal	904	3,086	1,561	1,496	61	3,608
Reported deliveries	395	350	na	690	755	813
Trained deliveries	390	331	720	643	688	733
Dagana						
Antenatal	247	588	560	281	258	463
Postnatal	322	605	415	315	44	453
Reported deliveries	211	184	na	118	92	122
Trained deliveries	98	122	174	61	78	114
Gasa						
Antenatal	43	75	55	47	39	53
Postnatal	8	1	13	19	5	10
Reported deliveries	7	6	na	15	19	13
Trained deliveries	3	6	3	11	22	13
Haa						
Antenatal	125	355	410	184	126	334
Postnatal	47	263	199	165	29	172
Reported deliveries	29	97	na	152	93	29
Trained deliveries	29	96	13	119	83	26
Lhuntse						
Antenatal	355	763	677	382	422	775
Postnatal	287	983	276	421	200	924
Reported deliveries	405	375	na	165	330	257
Trained deliveries	333	375	218	147	279	250
Mongar						
Antenatal	870	2,159	2,087	975	1,311	2,609
Postnatal	847	2,445	858	2,142	136	3,887
Reported deliveries	973	1,094	n.a	365	1,173	1,193
Trained deliveries	664	843	749	278	1,111	928

continues...

TABLE 2.12: (cont.) DETAILS OF MATERNAL HEALTH CARE ACTIVITIES BY DZONGKHAG, 1995 To 1999

(numbers)

Dzongkhag	1995	1996	1997	1998	1999	2000
Paro						
Antenatal	237	1,260	1,722	486	674	973
Postnatal	223	109	274	113	175	771
Reported deliveries	194	33	na	328	740	364
Trained deliveries	184	16	310	212	541	216
Pemagatshel						
Antenatal	327	904	930	209	270	1,235
Postnatal	393	2,943	299	302	81	689
Reported deliveries	147	535	na	77	223	329
Trained deliveries	84	324	275	36	228	299
Punakha						
Antenatal	294	1,279	1,529	426	444	1,542
Postnatal	44	166	126	226	7	802
Reported deliveries	92	154	na	322	144	283
Trained deliveries	63	129	154	288	137	275
Samdrupjongkhar						
Antenatal	903	2,106	2,124	765	824	2,878
Postnatal	730	3,375	918	626	64	1,696
Reported deliveries	500	723	na	383	458	706
Trained deliveries	332	507	659	249	450	675
Samtse						
Antenatal	803	2,612	2,544	914	940	2,571
Postnatal	622	923	639	634	26	1,378
Reported deliveries	50	132	na	494	168	190
Trained deliveries	50	132	67	404	96	189
Sarpang						
Antenatal	660	3,379	3,293	827	833	3,161
Postnatal	363	709	536	561	15	941
Reported deliveries	86	133	na	155	256	303
Trained deliveries	86	94	99	121	237	256
Thimphu						
Antenatal	2,508	12,066	14,869	234	2,107	10,630
Postnatal	710	1,403	399	162	12	816
Reported deliveries	853	167	na	126	1,535	189
Trained deliveries	818	148	135	91	1,523	183

continues...

TABLE 2.12: (cont.) DETAILS OF MATERNAL HEALTH CARE ACTIVITIES BY DZONGKHAG, 1994 TO 1999

(numbers)

Dzongkhag	1995	1996	1997	1998	1999	200
Trashigang						
Antenatal	1,053	2,837	1,825	1,026	801	2,56
Postnatal	1,138	2,628	747	705	105	1,47
Reported deliveries	1,266	895	na	642	780	79
Trained deliveries	883	649	393	506	706	76
Trashiyangtse						
Antenatal	227	627	504	260	227	62
Postnatal	228	789	144	108	14	44
Reported deliveries	290	185	na	69	171	11
Trained deliveries	282	162	34	57	131	9
Trongsa						
Antenatal	296	701	760	88	321	81
Postnatal	245	917	212	65	48	59
Reported deliveries	245	243	na	117	255	46
Trained deliveries	192	196	227	56	212	27
Tsirang						
Antenatal	372	756	759	315	332	1,20
Postnatal	438	767	332	368	7	53
Reported deliveries	122	42	na	69	111	8
Trained deliveries	122	42	107	69	98	8
Wangduephodrang						
Antenatal	607	1,650	1,640	706	563	2,07
Postnatal	635	1,214	572	578	90	1,59
Reported deliveries	264	284	na	347	464	45
Trained deliveries	214	222	251	251	358	39
Zhemgang						
Antenatal	406	930	1,230	530	450	6
Postnatal	416	1,482	375	113	26	1,2
Reported deliveries	295	250	na	167	318	1
Trained deliveries	254	176	360	127	298	1

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

Source: Health Division, Thimphu

TABLE 2.13: DETAILS OF COMPLICATIONS DURING PREGNANCY, DELIVERY AND PUERPERIUM, BHUTAN, 2000

Complications	Numbers	Percent
Pregnancy of mothers	997	100
Abortions	114	11.4
Antepartum haemorrhage	31	3.1
Hypertensive diseases	57	5.7
Anaemia	769	77.1
Hepatitis	2	0.2
Malaria	13	1.3
Others	11	1.1
Labour/delivery	157	100
Obstructed labour	31	19.7
Transverse lie	9	5.7
Brech	47	29.9
Ruptured uterus	0	0.0
Hypertensive diseases	11	7.0
Prematurity	38	24.2
Others	21	13.4
Puerperium	165	100
Postpartum hamorrhage	32	19.4
Retained	92	55.8
Placenta	1	0.6
Pyxeria	18	10.9
Others	22	13.3
All complications	1,319	100

Source: Health Division, Thimphu

TABLE 2.14: FAMILY PLANNING ACCEPTORS BY TYPE OF METHOD, BHUTAN 1995 TO 2000

persons

Method	1995	1996	1997	1998	1999	2000
Vasectomy	1,263	1,930	74	4,451	6,835	8,204
Minilap	n.a	n.a	806	478	1,374	1,510
Intra uterine device(IUD)	759	1,602	1,582	1,977	2,549	1,582
Pills	8,794	8,917	6,483	7,104	3,697	4,227
Condoms	5,635	7,411	6,309	7,599	11,310	3,393
Injection DMPA	9,278	12,065	12,024	15,746	15,184	8,498
All methods	25,729	31,925	27,278	37,355	40,949	27,414

Source: Health Division, Thimphu

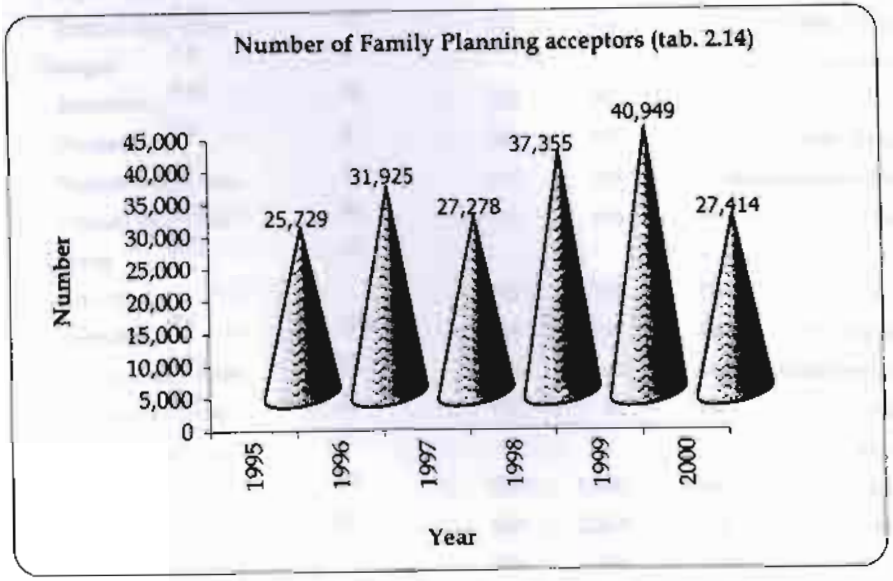


TABLE 2.15: NUMBER OF USERS OF FAMILY PLANNING METHODS BY TYPE BY DZONGKHAG,2000

Dzongkhag	Family planning methods					All methods
	Sterilisation	IUD	DMPA	Pills	Condom	
Chhukha	1,400	402	1,328	1,561	1,172	5,863
Mongar	184	189	891	150	601	2,015
Punakha	1,611	32	2,737	796	214	5,390
Samdrupjongkha	1,380	93	653	195	244	2,565
Samtse	2,643	80	404	364	300	3,791
Zhemgang	408	225	613	4,227	41	5,514
Thimphu	349	121	502	198	60	1,230
Trashiyangtse	458	252	191	44	47	992
Trongsa	409	103	446	102	182	1,242
Tsirang	592	25	316	385	122	1,440
Wangduephodrang	280	60	417	173	410	1,340
Bhutan	9,714	1,582	8,498	8,195	3,393	31,382

Source: Health Division, Thimphu

TABLE 2.16: DETAILS OF LEPROSY PATIENTS, LEPROSY CONTROL PROGRAMME, 1995 TO 2000

Details	Persons					
	1995	1996	1997	1998	1999	2000
Patients at beginning of year	113	117	n.a	65	63	24
New cases detected	32	37	33	24	26	16
Relapse cases	3	2	n.a	0	0	1
Released from control(a)	35	41	n.a	n.a	32	19
Lost to control(b)	3	_	n.a	n.a	n.a	0
Patients at the end of year	117	111	65	63	53	28
Deaths	_	_	_	n.a	n.a	n.a

Note: (a) Patients successfully treated. (b) Patients unsuccessfully treated.

Source: Health Division, Thimphu

TABLE 2.17: NUMBER OF BLOOD SLIDE EXAMINATIONS FOR MALARIA,MALARIOMETRIC INDICES, 1996 TO 2000

Details	(Numbers)				
	1996	1997	1998	1999	2000
Total blood films examined (numbers)	80,777	68,153	58,086	79,589	76,445
Blood film detected negative	n.a	n.a	n.a	n.a	n.a
Blood films detected positive	17,446	9,029	6,995	40,590	5,935
Plasmodium vivax	10,601	5,044	n.a	n.a	3,197
Plasmodium falciparum	6,845	3,614	n.a	n.a	2,738
Mixed infections	n.a	n.a	n.a	n.a	n.a
Malariometric indices					
Annual blood slide examination rate	23.1	19.4	n.a	n.a	22
Slide positive rate	22.0	13.2	12.0	n.a	8
Annual parasite incidence	49.8	25.7	n.a	n.a	17
Slide falciparum rate	8.5	5.3	n.a	n.a	4
Positive falciparum rate (%)	39.0	40.8	n.a	n.a	46
Deaths due to malaria (numbers)	n.a	n.a	n.a	n.a	15

Source: Health Division, Thimphu

TABLE 2.18: NUMBER OF TUBERCULOSIS CASES BY TYPE,1993 TO 2000

(persons)

Year	Cases diagnosed and treated			
	Pulmonary	Extra Pulmonary	Total cases	Total deaths
1993	3,224	1,034	4,258	40
1994	1,427	393	1,820	23
1995	1,038	270	1,308	62
1996	942	329	1,271	51
1997	na	na	1,211	33
1998	924	368	1,292	55
1999	778	396	1,174	40
2000	777	363	1,140	25

Source: Health Division, Thimphu

TABLE 2.19: WATER AND SANITATION FACILITIES BY TYPE AND BY DZONGKHAG, 2000

(numbers)

Dzongkhag	Houses	Latrines	Houses with piped water	Animal sheds	Garbage pits	Kitchen gardens
Bjakar	1,635	1,364	1,205	995	1,232	1,174
Chhukha	8,490	7,253	6,456	2,177	2,524	3,399
Dagana	2,794	2,542	2,095	2,374	2,291	2,235
Gasa	417	350	107	340	270	401
Haa	970	911	902	380	402	952
Lhuntse	2,387	2,197	1,955	1,552	1,228	2,152
Mongar	5,410	4,659	3,363	3,686	2,500	3,010
Paro	3,931	3,098	2,493	1,168	2,038	2,083
Pemagatshel	2,175	1,815	1,753	1,282	449	1,778
Punakha	2,343	2,151	1,722	1,463	1,611	1,673
Samdrupjongkha	6,343	5,587	3,715	3,556	2,615	3,988
Samtse	7,798	6,447	4,283	5,100	3,661	4,795
Sarpang	4,737	4,216	2,646	3,457	2,993	3,250
Shemgang	2,515	2,304	1,717	1,183	1,642	1,406
Thimphu	1,917	1,744	1,230	1,085	1,139	1,709
Trashigang	8,264	6,802	4,329	4,407	3,564	5,630
Trashiyangtse	3,267	2,873	2,118	2,498	1,054	2,604
Trongsa	1,899	1,724	1,591	1,422	1,079	1,574
Tsirang	2,265	1,870	1,298	2,059	997	1,633
Wangduephodrang	3,602	3,393	2,628	1,862	3,112	2,313
Bhutan	73,159	63,300	47,606	42,046	36,401	47,759

Source: Health Division, Thimphu

TABLE 2.20: NUMBER OF PATIENT REFERRED OUTSIDE BHUTAN BY SEX AND CASUALTIES, 1989/90 TO 2000/2001

(numbers)

Year	Recovered			Dead		
	Male	Female	Total	Male	Female	Total
1989-90	122	132	254	–	–	0
1990-91	154	118	272	1	–	1
1991-92	175	147	322	1	1	2
1992-93	132	112	244	–	2	2
1993-94	123	108	231	–	1	1
1994-95	126	114	240	2	1	3
1995-96	194	188	382	1	1	2
1996-97	215	201	416	2	–	2
1997-98	221	213	434	8	3	11
1998-99	292	238	530	8	7	15
1999-00	288	236	524	8	9	17
2000-01	298	286	584	6	3	9
Total	2,340	2,093	4,433	37	28	65

Source: Ministry of Health and Education, Thimphu

CHAPTER 3: EDUCATION

INTRODUCTION

The development of a comprehensive education system in Bhutan was initiated in 1961. Prior to that time there were virtually no modern education facilities inside Bhutan, apart from the traditional education given in the monasteries. Today there is an extensive network of schools and other educational institutions spread throughout the country. The present formal educational structure consists of one-year pre-primary (pp) six years primary, four years secondary (comprising of two years of Junior High and two years High School), two years Junior College and three years of Degree programme.. Entry into the formal education system starts at the age of six when children are admitted into Pre-Primary classes. While the medium of instruction in schools is both the English and Bhutan's national language "Dzongkha". School curricula also include training in traditional arts, crafts, agriculture, besides then modern education system, there are a large number of traditional institution offering education to children in monasteries, drupdas, shedras, for which data are not maintained by the education Division and data on these are currently not available. Non-formal education first began in 1992, although that existed in disorganized traditional forms earlier The division of education maintains an extensive range of data on students, schools and teaching personnel; some summary data are presented in this chapter.

The Gross Primary enrolment rate in 2000 was estimated at 72%. There were 110517 students enrolled in 361 schools, Institutes and 146 Non-formal Education centers. Out of 361 schools and Institutes only 7 of them were privately run. In 2000 there were 151 community schools catering to small and far flung communities, A community schools is the basic level in primary school system, which caters to a specific community, a village or a cluster of defined villages. Number of NFE centers expanded from 6 in 1992 and 300 learners to 146 centers with 5372 learners in 2000. The NFE centers provide only basic literacy courses of reading and writing. The Dzongkhags that has the highest number of students is Thimphu followed by Trashigang, chukha, Samdrupjongkhar and Mongar, that almost commensurate with the size of the Dzongkhags. The least member of students was in Gasa, Dagana, Tsirang and Trongsa. Many schools provide boarding facilities for students living in areas far off from the nearest school. Children from communities who do not have their own schools enroll in the more distant schools either as day scholars or as boarders. This is made possible large through the provision of meals through World Food Programme. At present, 8 community schools and 73 primary schools benefit from the feeding programme. A total of 6736 children study as boarders and 6921 children including 3143 girls receive mid-day meals.

TABLE 3.1: NUMBER OF SCHOOLS AND INSTITUTIONS, STAFF AND STUDENTS, BHUTAN 2000

Details	Comty. Schools	Primary schools	Junior schools	High schools	Private schools	Other institute	Total
Number of infrastructures	151	110	59	26	8	7	361
Total staff	380	895	1,204	873	125	259	3,736
Teaching staff	367	750	1,028	614	108	159	3,026
Nationals	362	694	790	393	95	116	
Non Nationals	5	56	238	221	13	43	
Non teaching staff	13	145	176	259	17	100	710
Nationals	13	145	176	254	16	90	694
Non Nationals	0	0	0	5	1	10	16
Number of students	17,335	32,744	40,508	17,481	2,449	1,824	112,341
Males	9,611	17,956	21,368	9,829	1,300	1,185	61,249
Females	7,724	14,788	19,140	7,652	1,149	639	51,092
Student to teacher ratio	47	44	39	28	23	11	37

Source: Education Division, Thimphu

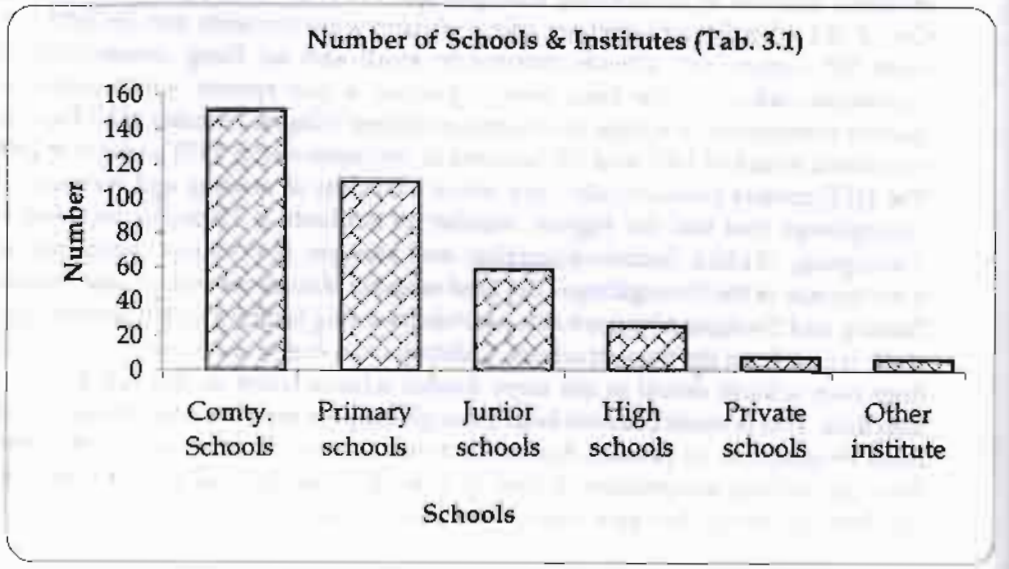


TABLE 3.2: NUMBER OF EDUCATIONAL INSTITUTIONS,TEACHERS AND STUDENTS, BHUTAN, 1981 TO 2000

Year	Infrastructure			Teachers			Students		
	Schools	Insti.	Total	Schools	Insti.	Total	Schools	Insti.	Total
1981	142	8	150	1,219	108	1,327	31,938	1,105	33,043
1982	158	12	170	1,263	159	1,422	40,064	2,058	42,122
1983	166	28	194	1,520	n.a	1,520	43,782	2,035	45,817
1984	171	30	201	1,655	n.a	1,655	46,328	2,439	48,767
1985	175	31	206	1,668	n.a	1,668	49,175	2,660	51,835
1986	177	n.a	177	1,934	n.a	1,934	52,452	n.a	52,452
1987	178	n.a	178	2,038	n.a	2,038	54,927	n.a	54,927
1988	180	7	187	2,208	150	2,358	58,796	1,761	60,557
1989	188	7	195	2,398	147	2,545	66,065	1,787	67,852
1990	192	8	200	2,435	190	2,625	68,013	2,341	70,354
1991	244	8	252	2,153	184	2,337	50,412	1,693	52,105
1992	261	7	268	2,146	187	2,333	55,850	1,520	57,370
1993	267	7	274	2,084	197	2,281	62,138	1,524	63,662
1994	279	7	286	2,208	210	2,418	69,154	1,732	70,886
1995	281	7	288	2,224	199	2,423	75,504	1,772	77,276
1996	292	8	300	2,314	203	2,517	82,362	1,795	84,157
1997	302	10	312	2,242	293	2,715	90,378	1,889	92,267
1998	312	10	322	2,570	215	2,785	96,509	2,004	98,513
1999	333	10	343	2,632	224	2,856	102,746	2,124	104,870
2000	354	7	361	2,867	159	3,026	110,517	1,824	112,341

Source: Education Division, Thimphu

TABLE 3.3: NUMBER OF EDUCATIONAL FACILITIES BY TYPE AND DZONGKHAG, 2000

Dzongkhag	Private schools	Community schools	Primary schools	Junior schools	High school	Other schools	Total
Bumthang	-	9	1	3	1	-	14
Chhukha	2	12	6	5	3	-	28
Dagana	-	6	2	1	1	-	10
Gasa	-	3		1	-	-	4
Haa	-	1	5	1	1	-	8
Lhuntse	-	7	8	1	1	-	17
Mongar	-	22	10	3	2	-	37
Paro	-	4	5	4	2	1	16
Pemagatshel	-	7	5	2	1	-	15
Punakha	-	3	5	1	1	-	10
Samdrupjongkhar	-	8	7	6	2	-	23
Samtse	-	3	4	4	-	1	12
Sarpang	-	9	2	1	1	2	15
Thimphu	6	2	7	9	2	1	27
Trashigang	-	27	14	8	3	2	54
Trashiyangtse	-	9	5	1	1	-	16
Trongsa	-	7	4	2	1	-	14
Tsirang	-	3	2	-	1	-	6
Wangduephodran	-	7	5	4	1	-	17
Zhemgang	-	2	13	2	1	-	18
Bhutan	8	151	110	59	26	7	361

Source: Education Division, Thimphu

E 3.4: NUMBER OF TEACHERS IN EDUCATIONAL INSTITUTIONS BY NATIONALITY, BHUTAN, 1999 TO 2000

itions	1999			2000		
	National	Foreigner	Total	National	Foreigner	Total
ls	2,111	521	2,632	2,334	533	2,867
munity School	294	2	296	362	5	367
ıary School	779	90	869	694	56	750
or School	645	217	862	790	238	1,028
h School	310	204	514	393	221	614
ate School	83	8	91	95	13	108
alised/Professional Institutes	165	59	224	283	507	790
rubtse College	17	35	52	19	34	53
ional Institute of Education	23	6	29	28	7	35
chers Training Centre	25		25	32	1	33
al Bhutan Polytechnic	35	10	74	37	13	74
al Technical Institute	31	8	39	30	9	39
ıtokha Rigzhung Institute	24	..	24	27	..	27
tional Institute for Disabled (NID)	7	..	7	6	1	7
ıskrit Patshala	3	..	3	4	..	4
teachers	2,276	580	2,856	2,617	1,040	3,657

ce: Education Division, Thimphu

TABLE 3.5: NUMBER OF EDUCATIONAL FACILITIES, TEACHERS AND STUDENTS BY DZONGKHAG APRIL,2000

Dzongkhag	Educational facilities	Teachers			Students		
		Total	National	Foreigner	Total	Girls	Boys
Bumthang	14	97	84	13	3,338	1,648	1,690
Chhukha	28	271	210	61	10,694	4,723	5,971
Dagana	10	56	52	4	2,136	1,011	1,125
Gasa	4	15	15	-	402	165	237
Haa	8	95	80	15	3,141	1,557	1,584
Lhuntse	17	83	74	9	2,918	1,221	1,697
Mongar	37	192	154	38	7,602	3,220	4,382
Paro	16	235	193	42	7,768	3,791	3,977
Pemagatshel	15	82	59	23	3,534	1,488	2,046
Punakha	10	112	87	25	3,945	1,911	2,034
Samdrupjongkhar	23	169	122	47	7,447	3,068	4,379
Samtse	12	131	106	25	4,627	1,932	2,695
Sarpang	15	93	74	19	5,030	2,365	2,665
Thimphu	27	583	481	102	18,959	9,324	9,635
Trashigang	54	356	268	88	12,120	5,193	6,927
Trashiyangtse	16	86	73	13	3,372	1,441	1,931
Trongsa	14	73	67	6	2,840	1,369	1,471
Tsirang	6	41	32	9	2,270	991	1,279
Wangduephodrang	17	134	115	19	5,945	2,856	3,089
Zhemgang	18	119	102	17	4,253	1,818	2,435
Bhutan	361	3,023	2,448	575	112,341	51,092	61,249

Source: Education Division, Thimphu

TABLE 3.6: NUMBER OF ENROLMENT IN EDUCATIONAL INSTITUTIONS, BHUTAN, 1996 TO 2000

Institutions	1996	1997	1998	1999	2000
Schools	82,362	90,378	96,509	102,746	110,814
Community school	9,257	10,743	12,695	14,654	17,335
Primary school	53,095	51,776	41,733	37,126	32,744
Junior high schools	12,491	17,907	29,502	34,923	40,508
High schools	6,271	8,528	11,035	14,023	17,778
Private schools	1,248	1,424	1,544	2,020	2,449
Other institutions	1,795	1,853	1,934	2,094	2,434
Sherubtse college	445	496	571	528	611
National Institute of Education	189	199	207	267	278
Teachers Training College	177	206	280	446	594
Royal Bhutan Polytechnic	239	258	277	181	297
Royal Technical Institute	265	264	296	314	313
Semtokha Rigzhung Institute	393	305	219	235	236
Institute for Disabled(NID)	27	28	30	40	38
Sanskrit patshala	60	97	54	83	67
All institutions	84,157	92,231	98,443	104,840	113,248

Source: Education Division, Thimphu.

TABLE 3.7: NUMBER OF STUDENTS IN HIGH SCHOOLS AND BELOW BY DZONGKHAG AND TYPE OF SC

Dzongkhag	Private schools			Community schools			Primary schools	
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
Bumthang	na	na	na	414	479	893	98	80
Chhukha	522	468	990	956	741	1,697	1,144	868
Dagana	na	na	na	411	393	804	225	215
Gasa	na	na	na	132	67	199	na	na
Haa	na	na	na	12	11	23	807	807
Lhuntse	na	na	na	245	200	445	856	696
Mongar	na	na	na	1,575	1,228	2,803	1,262	908
Paro	na	na	na	256	253	509	1,118	1,005
Pemagatshel	na	na	na	506	367	873	636	448
Punakha	na	na	na	140	152	292	981	984
Samtse	na	na	na	150	82	232	776	484
Samdrupjongkha	na	na	na	659	460	1,119	1,321	887
Sarpang (a)	na	na	na	936	825	1,761	462	383
Thimphu	778	681	1,459	168	123	291	2,460	2,383
Trashigang	na	na	na	1,519	1,127	2,646	1,690	1,152
Trashiyangtse	na	na	na	504	398	902	547	390
Trongsa	na	na	na	264	251	515	724	329
Tsirang	na	na	na	346	215	561	604	535
Wangduephodra	na	na	na	323	275	598	1,032	933
Zhemgang	na	na	na	95	77	172	1,401	1,113
Bhutan	1,082	938	2,020	8,139	6,515	14,654	20,512	16,614

continues

BLE 3.7: (CONT) NUMBER OF STUDENTS IN HIGH SCHOOLS AND BELOW BY DZONGKHAG AND TYPE OF SCHOOL, 2000

ongkhag	Junior schools			High schools			All schools		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
nthang	828	857	1,685	350	232	582	1,690	1,648	3,338
hukha	2,427	2,069	4,496	922	577	1,499	5,971	4,723	10,694
gana	299	269	568	190	134	324	1,125	1,011	2,136
sa	105	98	203	na	na	na	237	165	402
a	344	334	678	421	405	826	1,584	1,557	3,141
tse	213	158	371	383	167	550	1,697	1,221	2,918
ngar	898	732	1,630	647	352	999	4,382	3,220	7,602
ro	1,287	1,364	2,651	993	898	1,891	3,654	3,520	7,174
magatshel	677	524	1,201	227	149	376	2,046	1,488	3,534
kha	474	499	973	439	276	715	2,034	1,911	3,945
tse	1,592	1,265	2,857	na	na	na	2,518	1,831	4,349
ndrupjongkha	1,637	1,098	2,735	762	623	1,385	4,379	3,068	7,447
rpang (a)	381	331	712	835	810	1,645	2,614	2,349	4,963
mphu	5,041	5,017	10,058	1,017	1,055	2,072	9,464	9,259	18,723
shigang	2,262	2,017	4,279	993	711	1,704	6,464	5,007	11,471
shiyangtse	435	304	759	425	349	774	1,911	1,441	3,352
ngsa	435	369	776	264	232	496	1,687	1,181	2,868
rang	na	na	na	329	241	570	1,279	991	2,270
ngduephodra	1,435	1,434	2,869	299	214	513	3,089	2,856	5,945
mgang	606	401	1,007	333	227	560	2,435	1,818	4,253
tan	18,662	16,261	34,923	7,882	6,141	14,023	58,592	49,200	107,792

te: (a)Total figure excludes 67 students of Surrey Sanskrit Patsala

urce: Education Division, Thimphu

TABLE 3.8: NUMBER OF STUDENTS BY GRADE AND TYPE OF SCHOOL, BHUTAN, 2000

Grade	Private school			Community school			Primary school		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Nursery	184	174	358	-	-	-	-	-	-
Pre primary	336	300	636	2,388	1,997	4,385	2,927	2,523	5,450
I	161	133	294	1,767	1,510	3,277	2,910	2,475	5,385
II	94	96	190	1,777	1,362	3,139	2,757	2,262	5,019
III	73	53	126	1,371	1,029	2,400	2,607	2,173	4,780
IV	53	57	110	1,099	851	1,950	2,586	2,031	4,617
V	30	22	52	707	593	1,300	2,251	1,769	4,020
VI	34	18	52	502	382	884	1,918	1,555	3,473
VII	12	6	18	-	-	-	-	-	-
VIII	8	4	12	-	-	-	-	-	-
IX	-	-	-	-	-	-	-	-	-
X	14	31	45	-	-	-	-	-	-
XI	191	174	365	-	-	-	-	-	-
XII	110	81	191	-	-	-	-	-	-
Non formal	0	-	-	-	-	-	-	-	-
Total	1,300	1,149	2,449	9,611	7,724	17,335	17,956	14,788	32,744

continues..

BLE 3.8: (CONT.)NUMBER OF STUDENTS BY GRADE AND TYPE OF SCHOOL, BHUTAN, 2000

ade	Junior school			High school			All schools		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
ery	-	-	-	-	-	-	184	174	358
primary	2,398	2,083	4,481	247	261	508	8,296	7,164	15,460
	2,512	2,249	4,761	290	251	541	7,640	6,618	14,258
	2,304	2,180	4,484	241	251	492	7,173	6,151	13,324
	2,334	2,112	4,446	253	235	488	6,638	5,602	12,240
	2,183	2,036	4,219	246	247	493	6,167	5,222	11,389
	2,078	1,852	3,930	186	224	410	5,252	4,460	9,712
	1,996	1,844	3,840	230	235	465	4,680	4,034	8,714
I	3,352	2,922	6,274	913	794	1,707	4,277	3,722	7,999
II	2,211	1,862	4,073	1,313	1,032	2,345	3,532	2,898	6,430
	-	-	-	3,079	2,427	5,506	3,079	2,427	5,506
	-	-	-	1,976	1,345	3,321	1,990	1,376	3,366
	-	-	-	617	244	861	808	418	1,226
I	-	-	-	463	178	641	573	259	832
on formal	-	-	-	-	-	-	1,323	4,049	5,372
otal	21,368	19,140	40,508	10,054	7,724	17,778	61,612	50,525	116,186

urce: Education Division, Thimphu

TABLE 3.9: NUMBER OF STUDENTS BY GRADE, 1996 TO 2000

Grade	1996	1997	1998	1999	2000
Primary grades	69,968	74,666	78,007	77,618	81,150
Pre-primary	13,675	14,714	14,011	14,918	15,818
I	11,795	13,042	13,965	13,663	14,258
II	11,223	11,404	12,517	13,235	13,324
III	10,437	10,503	10,683	11,535	12,240
IV	9,482	10,287	10,397	10,527	11,389
V	7,551	8,357	9,206	9,536	9,712
VI	5,805	6,359	7,228	4,204	4,409
Junior high grades	8,123	16,565	19,167	17,387	18,734
VI(a)	-	6,359	7,228	3,824	4,305
VII	4,445	5,868	6,509	7,383	7,999
VIII	3,678	4,338	5,430	6,180	6,430
High school grades	3,432	4,534	5,435	6,560	8,872
IX	2,037	2,706	3,132	3,961	5,506
X	1,395	1,828	2,303	2,599	3,366
Total students	81,523	95,765	102,609	101,565	108,756

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

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

.BLE 3.10: NUMBER OF STUDENTS ENROLED, PROMOTEES, REPEATERS AND DROPOUTS BY SEX AND GRADE,2000

tails	PP	I	II	III	IV	V	VI	VII	VIII	IX	X	Total
ys												
nrolment	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
romotees	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
epeaters	1,296	1,132	1,101	815	872	683	397	599	364	284	82	7,625
ropouts	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
ls												
nrolment	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
romoters	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
epeaters	986	874	839	605	662	574	383	634	390	200	42	6,189
ropouts	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
l students												
nrolment	15,460	14,258	13,324	12,240	11,389	9,712	8,714	7,999	6,430	5,506	3,366	108,398
romoters	12,252	11,384	11,384	9,855	8,455	7,934	6,766	5,676	5,022	3,242	1,218	83,188
epeaters	2,282	2,006	1,940	1,420	1,534	1,257	780	1,233	754	484	124	13,814
ropouts	98	273	475	260	538	345	482	474	404	235	1,257	4,841

ote: Promotees and dropout figures are imputations

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

TABLE 3.11: MONTHLY STIPEND FOR BOARDERS IN DIFFERENT EDUCATIONAL INSTITUTIONS, 1999 AND 2000

Institutions	1999			2000		
	Boarders (persons)	Monthly stipend Nu/person	Total (Nu.)	Boarders (persons)	Monthly stipend Nu/person	Total (Nu.)
Schools						
Junior High schools						
Bidung Junior High School	199	240	477,600	177	120	212,400
Yebilaptsa Junior High School	392	240	940,800	371	120	445,200
Paro Junior High School	251	240	602,400	283	120	339,600
Chapcha Junior High School	290	240	696,000	279	120	334,800
Pemagatshel Junior High School	218	240	523,200	192	120	230,400
Trashigang Junior High School	251	240	602,400	233	120	279,600
Gaselo Junior high School				135	120	162,000
Dremetse Junior High School	306	240	734,400	265	120	318,000
Tsenkharla Jr. High School	312	240	595,800	342	120	410,400
Khuruthang Junior High School	395	240	948,000	403	120	483,600
Chhumey Junior High School	119	240	285,600	49	120	58,800
Drujeygang Junior High School	76	240	182,400	87	120	104,400
Martshala Junior High School	168	240	403,200	189	120	226,800
Lhuentse Junior High School	-	-	-	93	120	111,600
Samtengang Junior High School	144	240	345,600	123	120	147,600
Gasa Junior High School	97	240	232,800	39	120	46,800
Panbang Junior High School	66	240	158,400		120	0
Yurung Junior High School	147	240	352,800	101	120	121,200
Nobding Junior High School	-	-	-	111	120	133,200
Thungkhar Junior High School	-	-	-	62	120	74,400

continues..

E 3.11: (Cont.) MONTHLY STIPEND FOR BOARDERS IN DIFFERENT EDUCATIONAL INSTITUTIONS, 1999 AND 2000

tions	1999			2000		
	Boarders (persons)	Monthly stipend (Nu/person)	Total (Nu.)	Boarders (persons)	Monthly stipend (Nu/person)	Total (Nu.)
chools						
kha High School	485	240	1,164,000	530	240	1,272,000
yel High School	453	240	1,087,200	514	240	1,233,600
khu High School	425	240	1,020,000	523	240	1,255,200
Kherubling High School	680	240	1,632,000	703	240	1,687,200
gang High School	403	240	967,200	424	240	1,017,600
r High School	333	240	799,200	337	240	808,800
High School	427	240	1,024,800	445	240	1,068,000
Dorji High School	565	240	1,356,000	670	240	1,608,000
High School	249	240	597,600	256	240	614,400
phu High School	309	240	741,600	318	240	763,200
pozhing High School	452	240	1,084,800	513	240	1,231,200
gdam High School	354	240	849,600	356	240	854,400
ang High School	331	240	794,400	318	240	763,200
ichu High School	518	240	1,243,200	533	240	1,279,200
gsa High School	288	240	691,200	293	240	703,200
kor High School				335	240	804,000
rong High School				463	240	1,111,200

continues..

TABLE 3.11: (Cont.) MONTHLY STIPEND FOR BOARDERS IN DIFFERENT EDUCATIONAL INSTITUT
1999 AND 2000

Institutions	1999			2000		
	Boarders (persons)	Monthly stipend (Nu/person)	Total (Nu.)	Boarders (persons)	Monthly stipend (Nu/person)	T (N
Other institutions						
Sherubtse College	528	700	3,696,000	611	700	4,277,0
Semtokha Rigzhung Institute	235	240	564,000	236	240	566,4
Royal Technical Institute	314	900	2,826,000	287	900	258,3
Royal Bhutan Polytechnic	181	1,000	1,810,000	309	1,000	309,0
National Institute of Education	223	1,500	3,345,000	261	1,500	3,913,5
Bachelors & post graduate course			0			
Primary teachers training course	35	1,500	525,000			
Teacher Training College	311	1,500	4,665,000	478	1,500	7,170,0
National Institute for the Disabled (NID)	40	240	96,000	38	240	91,2
All institutions	11,570	15,020	40,661,200	12,689	10,660	38,334,8

Note: Haa jr. high school was upgraded to High School and re-named as Ugyen Dorji High school since 1996. Stipend is for ten months school session.

Source: Education Division, Thimphu

Table 3.12: NO OF TEACHER IN SCHOOLS AND INSTITUTE BY EDUCATIONAL LEVEL OF TEACHERS, 2000

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

cont..

Table 3.12:(CONT..)NO OF TEACHER IN SCHOOLS AND INSTITUTE BY EDUCATIONAL LEVEL OF TEACHERS, 2000

Education Level	NATIONAL				
	Nursury School	Community School	Primary School	Junior School	High School
Graduate Completed					
Trained	0	0	7	26	51
Male	-	-	3	13	27
Female	-	-	4	13	24
Untrained	0	0	1	4	2
Male	-	-	-	1	1
Female	-	-	1	3	1
Postgraduate and above					
Trained	0	0	0	1	9
Male	-	-	-	-	6
Female	-	-	-	1	3
Untrained	0	0	0	0	1
Male	-	-	-	-	1
Female	-	-	-	-	-
All Teachers	4	13	120	170	147
Trained	3	6	56	80	112
Male	2	6	36	57	92
Female	1	0	20	23	20
Untrained	1	7	64	90	35
Male	0	6	48	58	27
Female	1	1	16	32	8
Below High school level					
Trained	0	0	0	0	0
Male	-	-	-	-	-
Female	-	-	-	-	-
Untrained	0	0	0	0	0
Male	-	-	-	-	-
Female	-	-	-	-	-
High school Completed					
Trained	2	0	2	1	1
Male	2	-	1	-	1
Female	-	-	1	1	-
Untrained	1	0	1	2	1
Male	-	-	1	1	-
Female	1	-	-	1	1

cont..

Table 3.12:(CONT..)NO OF TEACHER IN SCHOOLS AND INSTITUTE BY EDUCATIONAL LEVEL OF TEACHERS, 2000

Education Level	NATIONAL				
	Nursury School	Community School	Primary School	Junior School	High School
Higher scondary Completed					
Trained	0	4	11	7	3
Male	-	4	8	6	3
Female	-	-	3	1	-
Untrained	0	4	2	11	0
Male	-	4	1	9	-
Female	-	-	1	2	-
Graduate Completed					
Trained	1	2	35	56	46
Male	-	2	21	38	38
Female	1	-	14	18	8
Untrained	0	3	56	64	19
Male	-	2	43	43	14
Female	-	1	13	21	5
Postgraduate and above					
Trained	0	0	8	16	62
Male	-	-	6	13	50
Female	-	-	2	3	12
Untrained	0	0	5	13	15
Male	-	-	3	5	13
Female	-	-	2	8	2

Note: Data for 1999 was not provided by sector.

Source : Education Division, Thimphu.

CHAPTER 4: HUMAN RESOURCES

INTRODUCTION

The economy of Bhutan is characterized by the predominance of people engaged i self-employment, particularly those working on their own land. There is also a goo deal of small cottage industry often undertaken in the home. The number of perso working for wages is relatively small. Statistics on human resources are designed t measure the involvement of people in economic activities. Economic activity refe to the production of economic goods and services and includes persons who are se employed (e.g. farmers operating their own land) as well as persons who work f wages (i.e. employees). Broadly, a statistical system for human resources or lab should cover topics such as size and characteristics of the labor force, employmen wage rates and conditions of work. Labor statistics usually presented in this chapt are from sample surveys and the National Labor Force Surveys conducted annuall since 1998.

Although share of primary sector in GDP is gradually decreasing, it still is th predominant sector providing employment to around 75% of the labor force. Lab force is marred by high dependency ratio of around 70%. Younger age dependen ratio of 61.4%, besides having a momentary burden yet promises of an expandi work force for the future on the other hand. The old age dependency ratio of 9%, an indication of growing number of old age people that will have a bearing on th socio economic condition of the future. The private sector is emerging as importa sector generating employment opportunities for the increasing labor market. A unemployment rate of 1.4% in 1999 appears to be of any. But these unemploy were found common among younger ages, with 68% of all unemployed in ag between 15 and 29.

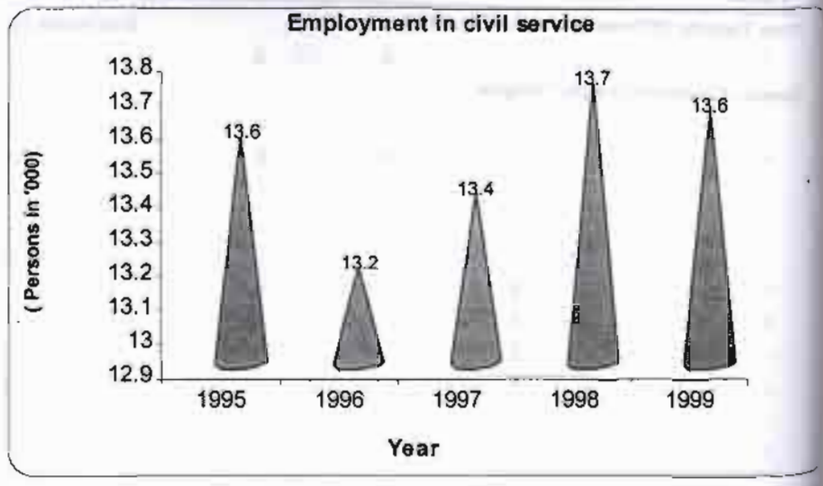


TABLE 4.1: PERCENTAGE OF POPULATION ACCORDING TO ECONOMIC ACTIVITY BY AGE AND SEX, 1984

Age group	Agriculture	Government service	Business	Others	No occupation
Male					
Less than 15	7.0	-	-	1.0	92.0
15 - 19	54.7	2.0	*	3.5	39.7
20 - 24	70.9	11.1	1.5	4.0	12.5
25 - 29	76.7	13.8	2.0	4.4	3.1
30 - 34	82.0	11.1	1.7	4.3	0.8
35 - 39	84.4	7.7	2.4	4.7	*
40 - 44	87.7	5.9	2.3	3.6	*
45 - 54	90.5	3.3	1.6	3.6	1.0
55 - 64	88.1	1.0	0.9	4.0	6.0
65 and over	71.1	1.5	*	0.9	26.0
All ages	52.5	3.9	0.9	2.8	39.9
Age 15 - 64	78.4	6.5	1.4	4.0	9.6
Female					
Less than 15	9.2	-	-	0.2	90.7
15 - 19	87.8	*	*	0.4	11.0
20 - 24	95.7	1.0	1.1	*	2.1
25 - 29	98.0	*	*	*	0.7
30 - 34	98.4	*	*	*	*
35 - 39	99.1	*	*	*	*
40 - 44	99.2	*	*	*	-
45 - 54	98.4	*	*	*	1.2
55 - 64	91.1	*	*	*	8.5
65 and over	73.2	*	*	-	26.1
All ages	61.5	0.3	0.3	0.2	37.8
Age 15-64	95.4	0.4	0.5	0.2	3.6
Total persons					
Less than 15	8.2	-	-	0.6	91.3
15 - 19	72.4	1.2	*	1.9	24.4
20 - 24	83.9	5.8	1.3	2.0	7.0
25 - 29	88.0	6.8	1.1	2.2	1.8
30 - 34	90.8	5.4	1.1	2.1	0.6
35 - 39	91.7	3.9	1.4	2.5	0.5
40 - 44	93.5	3.0	1.4	1.9	*
45 - 54	94.4	1.7	1.0	1 9	1.1
55 - 64	89.6	0.6	0.6	2.0	7.2
65 and over	72.1	1.0	*	0.5	26.0
All ages	57.2	2.0	0.6	1.4	38.8
Age 15-64	87.2	3.4	0.9	2.0	6.5

Source: Demographic Sample Survey, CSO, 1984

TABLE 4.2: EMPLOYMENT IN CIVIL SERVICE, BHUTAN, 1996 TO 2000

(numbers)

Ministry/Division	1996	1997	1998	1999	2000
All Ministries	12246	12418	12627	12587	12245
Ministry of Home Affairs	1,157	1,185	1,195	1,556	1143
Home Affairs	430	433	436	387	349
Dzongkhags	727	752	759	1,169	794
Ministry of Finance	604	605	661	608	602
Ministry of Communications	2,171	2,134	2,037	1,385	1,286
Ministry of Health & Education	4,660	4,779	5,055	5409	5,504
Ministry of Agriculture	2,368	2,435	2,498	2,401	2,457
Ministry of Foreign Affairs	122	125	130	109	122
Ministry of Trade & Industry	1,164	1,155	1,051	1,119	1,131
Other Non-Ministerial Organisations	936	982	1,095	1,058	1,098
His Majesty's Secretariat	48	48	47	47	48
Planning Commission Secretariat	74	79	77	48	45
Royal Civil Service Commission	41	47	49	47	48
Royal Audit Authority	108	122	123	134	134
Royal Advisory Council	13	14	15	18	16
National Assembly	15	14	15	15	17
National Commission for Cultural Affairs	175	142	146	139	128
Dratshang Lhentshog	n.a	36	34	n.a	na
National Women's Association of Bhutan	1	1	1	1	na
National Technical Training Authority	n.a	n.a	n.a	141	161
Judiciary	252	255	252	274	272
Bhutan Olympic Committee	19	21	23	20	21
Dzongkhag Development Commission	14	17	18	17	23
Royal Institute of Management	90	98	88	88	111
Royal Monetary Authority	58	58	180	n.a	na
National Environment Commission	20	22	22	29	31
Department of Legal Affairs	n.a	n.a	n.a	11	11
Cabinet Secretariat	n.a	n.a	n.a	6	9
Centre for Bhutan Studies	n.a	n.a	n.a	8	8
National Employment Board	n.a	n.a	n.a	9	13
Others	8	8	5	6	na
All Civil Servants	13,182	13,400	13,722	13,645	13,343

Source: Royal Civil Service Commission, Thimphu

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

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

Note: Preliminary estimates

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

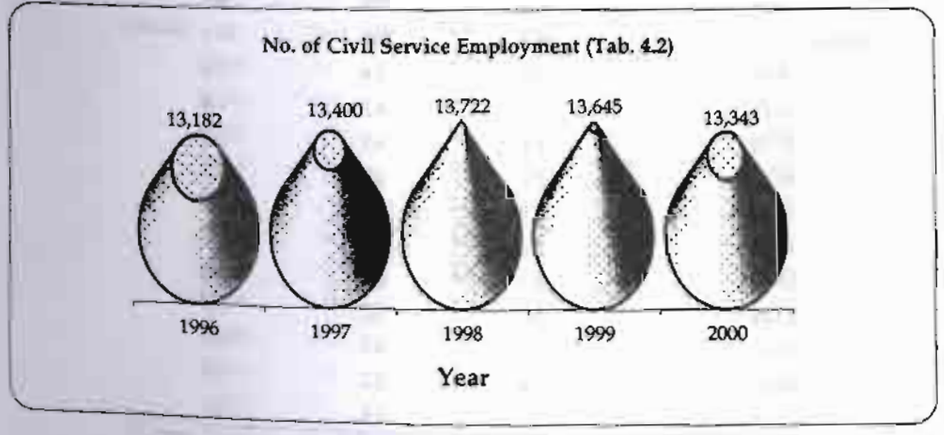


Table 4.4: Percent distribution of unemployed persons by age - sex and area of residence, Bhutan, 1998

Age group	Total	Urban	Rural
Both sexes	**100.0**	**37.2**	**62.8**
15-19	20.4	5.9	14.5
20-24	25.1	9.6	15.5
25-29	13.1	6.9	6.2
30-34	10.5	4.5	6.1
35-39	13.0	3.3	9.7
40-44	4.1	1.8	2.3
45-49	4.1	3.2	0.9
50-54	4.8	0.5	4.4
55-59	4.4	1.0	3.4
60-64	0.5	0.5	0.0
65+	0.0	0.0	0.0
Male	**55.6**	**14.7**	**40.9**
15-19	9.4	2.3	7.2
20-24	17.5	3.4	14.0
25-29	6.4	2.5	3.9
30-34	4.8	1.6	3.3
35-39	8.1	1.6	6.5
40-44	2.1	0.8	1.3
45-49	2.0	1.2	0.9
50-54	1.1	0.3	0.9
55-59	3.8	0.7	3.1
60-64	0.3	0.3	0.0
65+	0.0	0.0	0.0
Female	**44.4**	**22.5**	**21.9**
15-19	11.0	3.6	7.4
20-24	7.6	6.2	1.4
25-29	6.6	4.3	2.3
30-34	5.7	2.9	2.8
35-39	4.9	1.7	3.2
40-44	2.0	1.1	1.0
45-49	2.1	2.1	0.0
50-54	3.7	0.2	3.5
55-59	0.5	0.3	0.3
60-64	0.2	0.2	0.0
65+	0.0	0.0	0.0

Souese: National Labour Force survey 1998 , Bhutan

Table 4.5: Percent distribution of unemployed persons by age - sex and area of residence, Bhutan, 1999

Age group	Total	Urban	Rural
Both sexes	**100.0**	**26.2**	**73.8**
15-19	18.9	5.8	13.1
20-24	30.5	8.4	22.1
25-29	18.9	4.7	14.2
30-34	3.5	2.3	1.2
35-39	3.4	2.0	1.4
40-44	5.1	1.3	3.8
45-49	11.7	0.8	10.9
50-54	4.4	0.8	3.6
55-59	2.1	0.0	2.1
60-64	1.4	0.1	1.3
65 +	0.0	0.0	0.0
Male	**47.1**	**10.4**	**36.7**
15-19	5.2	2.2	2.9
20-24	14.6	3.8	10.8
25-29	9.1	1.6	7.4
30-34	2.0	0.8	1.2
35-39	0.8	0.8	0.0
40-44	2.5	0.3	2.2
45-49	9.6	0.3	9.4
50-54	3.2	0.5	2.7
55-59	0.0	0.0	0.0
60-64	0.0	0.0	0.0
65 +	0.0	0.0	0.0
Female	**52.9**	**15.8**	**37.2**
15-19	13.7	3.6	10.1
20-24	15.9	4.6	11.3
25-29	9.8	3.0	6.8
30-34	1.5	1.5	0.0
35-39	2.6	1.2	1.4
40-44	2.6	1.0	1.7
45-49	2.1	0.5	1.6
50-54	1.2	0.3	0.9
55-59	2.1	0.0	2.1
60-64	1.4	0.1	1.3
65 +	0.0	0.0	0.0

Souese: National Labour Force survey 1999, Bhutan

Table 4.6: Percent distribution of employed persons by age - sex and area of residence, Bhutan, 1998

Age group	Total	Urban	Rural
Both sexes	100.0	13.3	86.7
15-19	10.8	0.6	10.2
20-24	12.6	1.7	10.8
25-29	13.3	2.9	10.4
30-34	11.7	2.4	9.3
35-39	10.8	2.0	8.8
40-44	9.7	1.4	8.3
45-49	8.5	1.0	7.4
50-54	8.1	0.5	7.5
55-59	6.1	0.3	5.8
60-64	4.7	0.2	4.5
65 +	3.8	0.1	3.7
Male	55.8	9.8	46.0
15-19	4.8	0.3	4.5
20-24	6.3	1.0	5.3
25-29	6.8	2.0	4.8
30-34	6.9	1.9	5.0
35-39	6.4	1.6	4.9
40-44	5.4	1.1	4.3
45-49	5.0	0.9	4.2
50-54	4.7	0.4	4.2
55-59	3.8	0.3	3.5
60-64	3.0	0.1	2.9
65 +	2.6	0.1	2.4
Female	44.2	3.5	40.8
15-19	6.0	0.3	5.7
20-24	6.3	0.7	5.6
25-29	6.4	0.9	5.6
30-34	4.8	0.6	4.3
35-39	4.4	0.4	4.0
40-44	4.3	0.3	4.0
45-49	3.4	0.2	3.3
50-54	3.4	0.1	3.3
55-59	2.3	0.1	2.3
60-64	1.7	0.0	1.6
65 +	1.3	0.0	1.3

Souese: National Labour Force survey 1998 , Bhutan

Table 4.7: Percent distribution of employed persons by age - sex and area of receidence, Bhutan, 1999.

Age group	Total	Urban	Rural
Both sexes	100.0	11.0	89.0
15-19	7.2	0.4	6.8
20-24	9.1	1.3	7.8
25-29	8.3	2.4	6.0
30-34	6.5	2.1	4.4
35-39	6.1	1.8	4.3
40-44	5.3	1.1	4.1
45-49	5.0	0.9	4.1
50-54	3.1	0.4	2.6
55-59	3.1	0.3	2.9
60-64	1.3	0.1	1.1
65 +	1.4	0.1	1.3
Male	54.5	7.7	46.8
15-19	5.6	0.2	5.4
20-24	6.6	0.7	5.9
25-29	6.8	1.5	5.2
30-34	5.8	1.5	4.3
35-39	5.4	1.3	4.1
40-44	5.6	0.9	4.7
45-49	4.7	0.8	4.0
50-54	4.3	0.3	4.0
55-59	4.1	0.2	3.9
60-64	3.0	0.1	2.9
65 +	2.6	0.1	2.5
Female	45.5	3.3	42.2
15-19	6.8	0.3	6.5
20-24	7.8	0.6	7.2
25-29	6.0	0.8	5.2
30-34	4.4	0.6	3.8
35-39	4.3	0.5	3.9
40-44	4.1	0.2	3.9
45-49	4.1	0.2	3.9
50-54	2.6	0.1	2.6
55-59	2.9	0.1	2.8
60-64	1.1	0.0	1.1
65 +	1.3	0.0	1.3

Souese: National Labour Force survey 1999, Bhutan

Table 4.8: Percent distribution of economically active and inactive population by age and area of residence, participation rate, Bhutan, 1998

Age group	Total Percent	Economically Inactive	Economically active populatio Employed	Unemployed	Rate LFPR	mployment Rate	Unemployment Rate
Both areas	100.0	41.1	58.1	0.8	58.9	98.6	1.4
15-19	17.0	10.6	6.3	0.2	37.8	97.5	2.5
20-24	13.2	5.7	7.3	0.2	56.7	97.3	2.7
25-29	11.2	3.3	7.7	0.1	70.1	98.6	1.4
30-34	9.3	2.4	6.8	0.1	74.2	98.8	1.2
35-39	8.6	2.2	6.3	0.1	74.3	98.4	1.6
40-44	7.8	2.1	5.6	0.0	72.8	99.4	0.6
45-49	7.1	2.1	4.9	0.0	70.2	99.3	0.7
50-54	6.9	2.2	4.7	0.0	68.6	99.2	0.8
55-59	5.8	2.2	3.6	0.0	62.4	99.0	1.0
60-64	5.2	2.5	2.7	0.0	52.5	99.8	0.2
65 +	8.0	5.8	2.2	0.0	28.0	99.5	0.5
Urban	**14.9**	6.9	7.7	0.3	53.9	96.2	3.8
15-19	2.5	2.1	0.4	0.0	16.1	88.2	11.8
20-24	2.3	1.3	1.0	0.1	46.1	92.8	7.2
25-29	2.7	1.0	1.7	0.1	63.6	96.8	3.2
30-34	2.1	0.7	1.4	0.0	68.1	97.5	2.5
35-39	1.7	0.5	1.1	0.0	69.8	97.7	2.3
40-44	1.2	0.3	0.8	0.0	72.3	98.2	1.8
45-49	0.9	0.2	0.6	0.0	72.2	95.9	4.1
50-54	0.5	0.2	0.3	0.0	64.7	98.8	1.2
55-59	0.3	0.1	0.2	0.0	61.7	96.2	3.8
60-64	0.3	0.2	0.1	0.0	34.7	95.3	4.7
65 +	0.4	0.3	0.1	0.0	21.9	98.7	1.3
Rural	**85.1**	34.2	50.4	0.5	59.8	99.0	1.0
15-19	14.5	8.5	5.9	0.1	41.5	98.1	1.9
20-24	10.9	4.5	6.3	0.1	59.0	98.1	1.9
25-29	8.4	2.3	6.0	0.0	72.2	99.2	0.8
30-34	7.2	1.7	5.4	0.0	76.1	99.1	0.9
35-39	6.9	1.7	5.1	0.1	75.4	98.5	1.5
40-44	6.6	1.8	4.8	0.0	72.9	99.6	0.4
45-49	6.2	1.9	4.3	0.0	69.9	99.8	0.2
50-54	6.4	2.0	4.4	0.0	68.9	99.2	0.8
55-59	5.4	2.0	3.4	0.0	62.4	99.2	0.8
60-64	4.9	2.3	2.6	0.0	53.3	100.0	0.0
65 +	7.6	5.5	2.1	0.0	28.3	99.6	0.4

Souese: National Labour Force survey 1998 , Bhutan

Table 4.9: Percent distribution of economically active and inactive population by age and area of residence, participation rate, Bhutan, 1999

Age group	Total Percent	Economically Inactive	Economically active populatio Employed	Unemployed	Rate LFPR	Emplomen Rate	Unemployment Rate
Both areas	100.0	30.4	68.7	1.0	69.6	98.6	1.4
15-19	18.1	9.4	8.5	0.2	48.0	97.9	2.1
20-24	14.6	4.4	9.9	0.3	69.9	97.1	2.9
25-29	10.9	2.0	8.7	0.2	82.0	97.9	2.1
30-34	8.6	1.5	7.0	0.0	82.0	99.5	0.5
35-39	8.1	1.4	6.6	0.0	82.8	99.5	0.5
40-44	8.1	1.3	6.7	0.1	83.4	99.3	0.7
45-49	7.5	1.3	6.1	0.1	82.8	98.2	1.8
50-54	6.0	1.1	4.8	0.0	81.1	99.1	0.9
55-59	6.1	1.3	4.8	0.0	79 0	99.6	0.4
60-64	4.5	1.6	2.8	0.0	63.6	99.5	0.5
65 +	7.6	5.0	2.7	0.0	35.0	100.0	0.0
Urban	13.5	5.7	7.6	0.3	57.8	96.7	3.3
15-19	2.4	2.0	0.3	0.1	14.9	83.9	16.1
20-24	2.0	1.0	0.9	0.1	49.2	91.6	8.4
25-29	2.4	0.8	1.6	0.0	68.1	97.3	2.7
30-34	2.0	0.5	1.5	0.0	74.1	98.5	1.5
35-39	1.6	0.4	1.2	0.0	75.1	98.4	1.6
40-44	1.1	0.3	0.8	0.0	73.9	98.4	1.6
45-49	0.8	0.2	0.6	0.0	76.9	98.8	1.2
50-54	0.4	0.1	0.3	0.0	72.9	97.4	2.6
55-59	0.3	0.1	0.2	0.0	67.0	100.0	0.0
60-64	0.2	0.1	0.1	0.0	52.8	99.3	0.7
65 +	0.3	0.2	0.1	0.0	28.5	100.0	0.0
Rural	86.5	24.7	61.1	0.7	71.5	98.8	1.2
15-19	15.8	7.4	8.2	0.1	52.9	98.5	1.5
20-24	12.6	3.4	9.0	0.2	73.2	97.7	2.3
25-29	8.5	1.2	7.1	0.1	86.0	98.1	1.9
30-34	6.6	1.0	5.6	0.0	84.4	99.8	0.2
35-39	6.4	1.0	5.4	0.0	84.7	99.8	0.2
40-44	7.0	1.1	5.9	0.0	84.8	99.4	0.6
45-49	6.6	1.1	5.4	0.1	83.5	98.1	1.9
50-54	5.6	1.0	4.5	0.0	81.7	99.2	0.8
55-59	5.8	1.2	4.6	0.0	79.6	99.5	0.5
60-64	4.3	1.5	2.7	0.0	64.1	99.5	0.5
65 +	7.4	4.8	2.6	0.0	35.3	100.0	0.0

Source: National Labour Force survey 1999, Bhutan

Table 4.10: Percent distribution of economically active and inactive population age and sex specific participation rate, Bhutan, 1998

Age group	Total Percent	Economically Inactive	Economically active populatio Employed	Unemployed	Rate LFPR	Employment Rate	Unempl Rate
Both sexe	**100.0**	**41.1**	**58.1**	**0.8**	**58.9**	**98.6**	
15-19	17.0	10.6	6.3	0.2	37.8	97.5	
20-24	13.2	5.7	7.3	0.2	56.7	97.3	
25-29	11.2	3.3	7.7	0.1	70.1	98.6	
30-34	9.3	2.4	6.8	0.1	74.2	98.8	
35-39	8.6	2.2	6.3	0.1	74.3	98.4	
40-44	7.8	2.1	5.6	0.0	72.8	99.4	
45-49	7.1	2.1	4.9	0.0	70.2	99.3	
50-54	6.9	2.2	4.7	0.0	68.6	99.2	
55-59	5.8	2.2	3.6	0.0	62.4	99.0	
60-64	5.2	2.5	2.7	0.0	52.5	99.8	
65+	8.0	5.8	2.2	0.0	28.0	99.5	
Male	**50.3**	**17.4**	**32.4**	**0.4**	**65.3**	**98.6**	
15-19	8.4	5.6	2.8	0.1	34.1	97.4	
20-24	6.6	2.8	3.7	0.1	57.7	96.3	
25-29	5.2	1.2	4.0	0.1	76.6	98.7	
30-34	4.7	0.6	4.0	0.0	86.8	99.0	
35-39	4.3	0.5	3.7	0.1	87.4	98.3	
40-44	3.9	0.7	3.1	0.0	81.1	99.5	
45-49	3.4	0.5	2.9	0.0	85.9	99.4	
50-54	3.5	0.8	2.7	0.0	78.0	99.7	
55-59	3.1	0.9	2.2	0.0	72.2	98.6	
60-64	2.9	1.1	1.8	0.0	61.0	99.9	
65+	4.2	2.7	1.5	0.0	35.4	100.0	
Female	**49.7**	**23.6**	**25.7**	**0.4**	**52.5**	**98.6**	
15-19	8.6	5.1	3.5	0.1	41.4	97.5	
20-24	6.6	2.9	3.6	0.1	55.7	98.3	
25-29	5.9	2.1	3.7	0.1	64.3	98.6	
30-34	4.6	1.8	2.8	0.0	61.6	98.4	
35-39	4.2	1.7	2.5	0.0	60.8	98.5	
40-44	3.9	1.4	2.5	0.0	64.5	99.4	
45-49	3.6	1.6	2.0	0.0	55.3	99.2	
50-54	3.4	1.4	2.0	0.0	59.1	98.5	
55-59	2.6	1.3	1.3	0.0	50.8	99.7	
60-64	2.3	1.3	1.0	0.0	41.9	99.8	
65+	3.8	3.0	0.7	0.0	19.7	98.6	

Crude activity = 38. Employment rate = 98.6. General activity = 59.
Unployment rate = 1.4. Economic dependency ratio = 166.
Note:- LFPR = Labour Force Participation Rate.
Souese: National Labour Force survey 1998 and 1999, Bhutan

Table 4.11: Percent distribution of economically active and inactive population by age and sex specific participation rate, Bhutan, 1999

Age group	Total Percent	Economically Inactive	Economically active populatio Employed	Unemployed	Rate LFPR	Employment Rate	Unemployment Rate
Both sexes	**100.0**	**30.4**	**68.7**	**1.0**	**69.6**	**98.6**	**1.4**
15-19	18.1	9.4	8.5	0.2	48.0	97.9	2.1
20-24	14.6	4.4	9.9	0.3	69.9	97.1	2.9
25-29	10.9	2.0	8.7	0.2	82.0	97.9	2.1
30-34	8.6	1.5	7.0	0.0	82.0	99.5	0.5
35-39	8.1	1.4	6.6	0.0	82.8	99.5	0.5
40-44	8.1	1.3	6.7	0.1	83.4	99.3	0.7
45-49	7.5	1.3	6.1	0.1	82.8	98.2	1.8
50-54	6.0	1.1	4.8	0.0	81.1	99.1	0.9
55-59	6.1	1.3	4.8	0.0	79.0	99.6	0.4
60-64	4.5	1.6	2.8	0.0	63.6	99.5	0.5
65+	7.6	5.0	2.7	0.0	35.0	100.0	0.0
Male	**49.4**	**11.5**	**37.4**	**0.5**	**76.7**	**98.8**	**1.2**
15-19	8.8	5.0	3.8	0.1	44.0	98.7	1.3
20-24	6.9	2.2	4.6	0.1	67.7	97.0	3.0
25-29	5.2	0.5	4.6	0.1	90.5	98.1	1.9
30-34	4.2	0.2	4.0	0.0	95.0	99.5	0.5
35-39	3.9	0.3	3.7	0.0	93.5	99.8	0.2
40-44	4.0	0.1	3.9	0.0	98.3	99.4	0.6
45-49	3.5	0.1	3.3	0.1	95.8	97.2	2.8
50-54	3.3	0.3	3.0	0.0	91.5	98.9	1.1
55-59	3.0	0.2	2.8	0.0	94.2	100.0	0.0
60-64	2.6	0.5	2.1	0.0	80.4	100.0	0.0
65+	4.0	2.2	1.8	0.0	44.5	100.0	0.0
Female	**50.6**	**18.8**	**31.3**	**0.5**	**62.8**	**98.4**	**1.6**
15-19	9.3	4.5	4.7	0.1	51.8	97.2	2.8
20-24	7.6	2.1	5.3	0.2	71.9	97.2	2.8
25-29	5.7	1.5	4.1	0.1	74.1	97.7	2.3
30-34	4.4	1.3	3.0	0.0	69.5	99.5	0.5
35-39	4.1	1.1	3.0	0.0	72.5	99.2	0.8
40-44	4.2	1.3	2.8	0.0	69.2	99.1	0.9
45-49	4.0	1.1	2.8	0.0	71.3	99.3	0.7
50-54	2.7	0.8	1.8	0.0	68.3	99.4	0.6
55-59	3.1	1.1	2.0	0.0	64.4	99.0	1.0
60-64	1.9	1.1	0.8	0.0	41.4	98.3	1.7
65+	3.7	2.8	0.9	0.0	24.7	100.0	0.0

Crude activity = 45 Employment rate = 98.6 General activity = 70 Unemployment rate = 1.4
Economic dependency ratio = 122. Note:- LFPR = Labour Force Participation Rate.
Souese: National Labour Force survey 1998 and 1999, Bhutan

Table 4.12: Percent distribution of population in different economic status by sex and area of residence, Bhutan, 1998

Economic status	Both areas	Urban area	Rural
Both sexes	100.0	15.6	84.4
Under 15 years of age	36.1	6.1	30.0
Economically active	37.7	5.1	32.5
Employed	37.1	4.9	32.2
Unemployed	0.5	0.2	0.3
Economically inactive	26.2	4.4	21.8
Work around house	8.3	2.0	6.4
Students	6.7	1.5	5.2
Retired	0.3	0.1	0.2
Others	10.9	0.8	10.1
Male	50.4	7.9	42.5
Under 15 years of age	18.3	3.1	15.2
Economically active	21.0	3.7	17.3
Employed	20.7	3.6	17.1
Unemployed	0.3	0.1	0.2
Economically inactive	11.1	1.1	10.0
Work around house	1.4	0.1	1.3
Students	4.2	0.7	3.5
Retired	0.2	0.1	0.1
Others	5.3	0.2	5.1
Female	49.6	7.7	41.9
Under 15 years of age	17.8	3.0	14.8
Economically active	16.7	1.4	15.3
Employed	16.4	1.3	15.1
Unemployed	0.2	0.1	0.1
Economically inactive	15.1	3.3	11.8
Work around house	7.0	1.9	5.1
Students	2.4	0.8	1.7
Retired	0.1	0.0	0.1
Others	5.6	0.6	5.0

Souese: National Labour Force survey 1998, Bhutan

Table 4.13: Percent distribution of population in different economic status by sex and area of residence, Bhutan, 1999

Economic status	Both areas	Urban area	Rural area
Both sexes	100.0	14.1	85.9
Under 15 years of age	35.5	5.4	30.0
Economically active	45.0	5.0	39.9
Employed	44.3	4.9	39.4
Unemployed	0.6	0.2	0.5
Economically inactive	19.6	3.7	15.9
Work around house	6.3	1.8	4.5
Students	7.6	1.5	6.1
Retired	0.1	0.0	0.1
Others	5.6	0.3	5.2
Male	50.0	7.2	42.8
Under 15 years of age	18.1	2.7	15.3
Economically active	24.4	3.5	21.0
Employed	24.2	3.4	20.7
Unemployed	0.3	0.1	0.2
Economically inactive	7.4	1.0	6.5
Work around house	0.3	0.0	0.3
Students	4.4	0.8	3.6
Retired	0.1	0.0	0.1
Others	2.6	0.1	2.5
Female	50	6.9	43.1
Under 15 years of age	17.4	2.7	14.7
Economically active	20.5	1.6	18.9
Employed	20.2	1.5	18.7
Unemployed	0.3	0.1	0.2
Economically inactive	12.2	2.7	9.5
Work around house	5.9	1.7	4.2
Students	3.2	0.7	2.5
Retired	0.0	0.0	0.0
Others	3.0	0.2	2.8

Source: National Labour Force survey 1999, Bhutan

CHAPTER 5: LAND USE AND AGRICULTURE

INTRODUCTION

The Ministry of Agriculture, over the past four decades, was concerned abou "how to grow" by establishing various agricultural infrastructures to produce an distribute the inputs. Currently the Ministry of Agriculture established 4 mai RNR research centers, 5 RNR research sub centers, 344 extension centers, 11 seed and plant protection farms, 3 farm machinery centers and 2 machinery-trainin centers. The Ministry of Agriculture with the accumulated experience havin accomplished one five year plan to the other maintains the three basic objective that is to conserve the environment, enhance the rural income and attain the se reliance in cereals and oil crops. In 1998 estimation of the GDP agricultur contributed 36.7%, which is the single largest sector-providing livelihood to 79% of the population.

Over the years the agricultural practice has changed tremendously. Until a decade ago, agriculture was practiced on a subsistence basis. What ever wa produced on the farm was consumed having no marketable surplus. The farm production is supplemented by keeping different kinds of domestic animals via cattle for draught and milking purpose, chicken for eggs and pigs for meat. At higher altitudes, herds of yaks and sheep are also kept for draughting and milking. Due to the improved communication facilities, in the country, there is an increasing tendency to go for cash crops like apples in the north, orange, arecanut and cardamom in the south. Other case crop are exported include ginger, chillies and vegetables. Strategies to increase livestock and the cereal production includes of double cropping of the paddy production and distribution high yield varieties. In the livestock sector the artificial insemination covers not only for the jersey but also for the production of Jatsha and Jatsam a high yield variety. As a result increasing number of many farms are mechanized with sizable investmen on the machinery and other inputs, that are subsidized by the government.

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

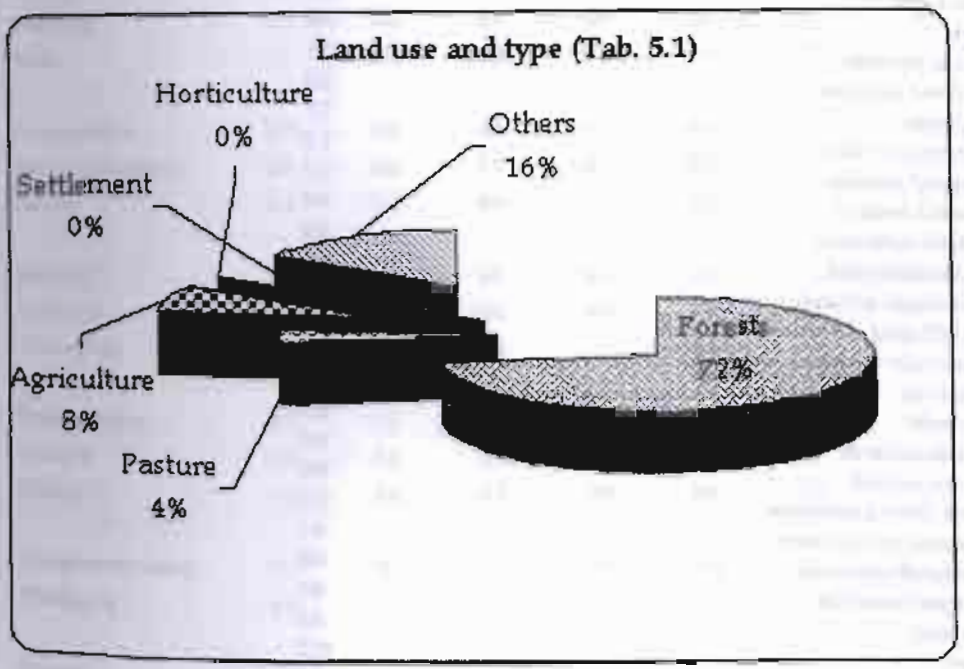


TABLE 5.1: LAND-USE AND VEGETATION TYPES AS PERCENTAGE OF TOTAL AREA OF BHUTAN, 1996

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

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

Source: Ministry of Agriculture, Thimphu

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

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

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

Source: Ministry of Agriculture, Thimphu

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

(percent)

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

continues...

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

(percent)

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

Source: Ministry of Agriculture, Thimphu

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

(percent)

Dzongkhag	Area	Altitude zones (metres)						
		0-600	600-1200	1200-1800	1800-24000	2400-3000	3000-3600	
Bumthang	6.8	0.0	0.0	0.0	0.0	0.7	1.8	
Chhukha	4.5	0.3	0.8	0.9	0.9	0.8	0.5	
Dagana	3.5	0.1	0.5	0.8	0.8	0.7	0.3	
Gasa	11.0	0.0	0.0	0.0	0.1	0.3	0.5	
Haa	4.3	0.0	0.0	0.2	0.3	0.7	1.0	
Lhuntse	7.2	0.0	0.1	0.5	1.0	1.4	1.2	
Mongar	4.9	0.2	0.9	1.3	1.1	0.8	0.5	
Punakha	2.4	0.0	0.0	0.4	0.6	0.5	0.4	
Paro	3.2	0.0	0.0	0.0	0.2	0.8	0.8	
Pemagatshel	1.3	0.1	0.5	0.5	0.2	0.0	0.0	
Samdrupjongkhar	5.8	1.5	1.6	1.3	0.8	0.4	0.1	
Samtse	3.9	0.7	1.0	1.0	0.7	0.4	0.1	
Sarpang	5.7	1.8	1.7	1.2	0.8	0.2	0.0	
Thimphu	4.8	0.0	0.0	0.0	0.2	0.8	0.9	
Trashigang	5.7	0.0	0.3	0.9	1.3	1.2	1.0	
Trashiyangtse	3.6	0.0	0.1	0.2	0.6	0.8	0.7	
Trongsa	4.5	0.0	0.1	0.5	0.9	1.3	1.0	
Tsirang	1.6	0.1	0.5	0.5	0.3	0.1	0.1	
Wangduephodrang	10.1	0.0	0.3	0.9	1.4	1.8	1.9	
Zhemgang	5.3	0.5	1.4	1.5	0.9	0.5	0.3	
Bhutan	100.0	5.3	9.8	12.6	13.4	14.3	13.2	

continues...

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

(percent)

	Area	Altitude zones (metres)							Total
		0-3600	3600-4200	4200-4800	4800-5400	5400-6000	6000-6600	>6600	area (%)
	6.8	2.5	1.7	1.2	1.1	0.1	0.0	0.0	6.8
	4.5	4.3	0.1	0.0	0.0	0.0	0.0	0.0	4.5
	3.5	3.3	0.1	0.0	0.0	0.0	0.0	0.0	3.4
	11.0	0.9	1.2	2.4	3.1	2.3	0.8	0.2	11.0
	4.3	2.2	1.2	0.7	0.1	0.0	0.0	0.0	4.3
	7.2	4.2	1.1	1.2	0.6	0.0	0.0	0.0	7.2
	4.9	4.8	0.1	0.0	0.0	0.0	0.0	0.0	4.9
	2.4	2.0	0.3	0.1	0.0	0.0	0.0	0.0	2.4
	3.2	1.8	0.6	0.7	0.1	0.0	0.0	0.0	3.2
	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.3
	5.8	5.7	0.0	0.0	0.0	0.0	0.0	0.0	5.8
	3.9	3.9	0.0	0.0	0.0	0.0	0.0	0.0	3.9
	5.7	5.7	0.0	0.0	0.0	0.0	0.0	0.0	5.7
	4.8	2.0	0.9	1.3	0.5	0.1	0.0	0.0	4.8
	5.7	4.7	0.9	0.1	0.0	0.0	0.0	0.0	5.7
	3.6	2.4	0.6	0.5	0.1	0.0	0.0	0.0	3.6
	4.5	3.7	0.6	0.2	0.0	0.0	0.0	0.0	4.5
	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.6
	10.1	6.3	1.3	1.3	1.1	0.1	0.0	0.0	10.1
	5.3	5.2	0.1	0.0	0.0	0.0	0.0	0.0	5.3
	100.0	68.6	10.9	9.9	6.8	2.7	0.9	0.2	99.9

Indicates land cover which is not observed/recorded; but less then 0.05%

Ministry of Agriculture, Thimphu

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

(percent)

Dzongkhag	Area	Altitude zones (metres)						
		0-600	600-1200	1200-1800	1800-24000	2400-3000	3000-3600	
Bumthang	6.8	0.0	0.0	0.0	0.0	0.7	1.8	
Chhukha	4.5	0.3	0.8	0.9	0.9	0.8	0.5	
Dagana	3.5	0.1	0.5	0.8	0.8	0.7	0.3	
Gasa	11.0	0.0	0.0	0.0	0.1	0.3	0.5	
Haa	4.3	0.0	0.0	0.2	0.3	0.7	1.0	
Lhuntse	7.2	0.0	0.1	0.5	1.0	1.4	1.2	
Mongar	4.9	0.2	0.9	1.3	1.1	0.8	0.5	
Punakha	2.4	0.0	0.0	0.4	0.6	0.5	0.4	
Paro	3.2	0.0	0.0	0.0	0.2	0.8	0.8	
Pemagatshel	1.3	0.1	0.5	0.5	0.2	0.0	0.0	
Samdrupjongkhar	5.8	1.5	1.6	1.3	0.8	0.4	0.1	
Samtse	3.9	0.7	1.0	1.0	0.7	0.4	0.1	
Sarpang	5.7	1.8	1.7	1.2	0.8	0.2	0.0	
Thimphu	4.8	0.0	0.0	0.0	0.2	0.8	0.9	
Trashigang	5.7	0.0	0.3	0.9	1.3	1.2	1.0	
Trashiyangtse	3.6	0.0	0.1	0.2	0.6	0.8	0.7	
Trongsa	4.5	0.0	0.1	0.5	0.9	1.3	1.0	
Tsirang	1.6	0.1	0.5	0.5	0.3	0.1	0.1	
Wangduephodrang	10.1	0.0	0.3	0.9	1.4	1.8	1.9	
Zhemgang	5.3	0.5	1.4	1.5	0.9	0.5	0.3	
Bhutan	100.0	5.3	9.8	12.6	13.4	14.3	13.2	

continues...

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

(percent)

	Area	Altitude zones (metres)							Total
		0-3600	3600-4200	4200-4800	4800-5400	5400-6000	6000-6600	>6600	area (%)
	6.8	2.5	1.7	1.2	1.1	0.1	0.0	0.0	6.8
	4.5	4.3	0.1	0.0	0.0	0.0	0.0	0.0	4.5
	3.5	3.3	0.1	0.0	0.0	0.0	0.0	0.0	3.4
	11.0	0.9	1.2	2.4	3.1	2.3	0.8	0.2	11.0
	4.3	2.2	1.2	0.7	0.1	0.0	0.0	0.0	4.3
	7.2	4.2	1.1	1.2	0.6	0.0	0.0	0.0	7.2
	4.9	4.8	0.1	0.0	0.0	0.0	0.0	0.0	4.9
	2.4	2.0	0.3	0.1	0.0	0.0	0.0	0.0	2.4
	3.2	1.8	0.6	0.7	0.1	0.0	0.0	0.0	3.2
hel	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.3
ongkhar	5.8	5.7	0.0	0.0	0.0	0.0	0.0	0.0	5.8
	3.9	3.9	0.0	0.0	0.0	0.0	0.0	0.0	3.9
	5.7	5.7	0.0	0.0	0.0	0.0	0.0	0.0	5.7
	4.8	2.0	0.9	1.3	0.5	0.1	0.0	0.0	4.8
g	5.7	4.7	0.9	0.1	0.0	0.0	0.0	0.0	5.7
gtse	3.6	2.4	0.6	0.5	0.1	0.0	0.0	0.0	3.6
	4.5	3.7	0.6	0.2	0.0	0.0	0.0	0.0	4.5
	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.6
phodrang	10.1	6.3	1.3	1.3	1.1	0.1	0.0	0.0	10.1
g	5.3	5.2	0.1	0.0	0.0	0.0	0.0	0.0	5.3
	100.0	68.6	10.9	9.9	6.8	2.7	0.9	0.2	99.9

- Indicates land cover which is not observed/recorded; but less then 0.05%

Ministry of Agriculture, Thimphu

TABLE 5.5: AVERAGE MONTHLY TEMPERATURE AT VARIOUS STATIONS BY DZONGKHAG, 2000

(degrees celsius)

Dzongkhag and station	Temperatur	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Thimphu													
Kawangjangsa	Maximum	15.9	14.3	15.7	20.0	23.0	24.2	24.4	23.6	24.4	22.5	18.0	15.9
	Minimum	-3.7	-4.1	1.6	7.5	11.9	15.6	16.0	16.3	13.4	7.8	4.2	-2.8
Gidakom	Maximum	15.8	15.2	17.5	23.0	25.5	27.7	26.2	25.5	25.9	25.8	21.5	18.5
	Minimum	-2.3	-2.7	2.0	7.1	10.9	15.5	16.0	15.6	13.9	7.4	3.7	-3.1
Taba	Maximum	13.7	13.8	15.5	18.9	19.2	20.8	19.4	20.8	17.1	19.3	14.3	13.3
	Minimum	-2.1	-2.2	1.6	5.8	8.9	13.3	13.4	14.7	11.3	6.8	2.9	-3.3
Chhukha													
Chhukha	Maximum	17.5	17.9	19.4	19.4	19.8	20.6	20.6	20.3	19.0	18.1	20.3	18.3
	Minimum	7.5	7.9	9.0	9.7	9.9	9.9	10.0	9.7	8.7	8.8	8.5	6.8
Gedu	Maximum	9.9	12.3	14.0	17.6	19.7	20.9	-	19.2	19.0	19.4	15.6	12.9
	Minimum	4.6	3.4	7.8	9.7	13.2	16.3	-	16.4	15.4	12.9	9.6	4.6
Tala	Maximum	13.1	13.0	17.1	20.4	23.0	23.4	22.8	22.8	22.4	22.5	18.3	15.4
	Minimum	5.9	5.2	9.9	11.6	13.2	17.8	17.5	17.4	16.8	14.3	10.0	6.8
Haa													
Namjeyling	Maximum	11.6	8.6	10.0	16.1	18.0	19.3	19.9	19.2	17.5	20.4	15.1	14.2
	Minimum	-4.1	-3.7	0.5	5.3	9.0	13.0	14.0	13.4	11.6	5.3	1.5	-4.2
Paro													
Drugyel Dzong	Maximum	15.7	12.8	13.3	19.6	22.5	23.2	24.1	22.9	21.9	19.9	16.8	13.6
	Minimum	-5.0	-3.9	0.9	5.4	9.4	14.0	14.7	15.7	11.9	6.6	2.4	-4.0
Samtse													
NIE	Maximum	19.6	19.9	25.2	27.6	27.0	27.4	27.5	27.6	27.8	27.6	24.2	21.9
	Minimum	13.9	14.6	19.2	21.6	23.0	24.5	23.8	23.7	22.6	20.2	15.7	14.5
Dagana													
Drujeygang	Maximum	19.3	19.6	23.7	25.5	27.8	27.9	28.6	27.3	28.0	27.1	23.6	21.1
	Minimum	7.3	7.8	10.9	16.0	17.6	20.0	20.3	20.2	19.5	17.4	13.2	9.4
Punakha													
Punakha Dzong	Maximum	-	-	-	-	-	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Shelgana	Maximum	18.1	19.7	22.1	27.3	-	30.4	29.8	28.8	28.7	28.2	22.9	19.9
	Minimum	1.6	2.6	6.1	10.8	-	17.3	17.7	17.3	15.9	11.5	8.2	1.9

(continues...)

TABLE 5.5(continuation): AVERAGE MONTHLY TEMPERATURE AT VARIOUS STATIONS BY DZONGKHAG, 2000

(degrees celsius)

Dzongkhag and station	Temperatur	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wangduephodrang													
CARD	Maximum	16.7	16.5	20.7	25.1	27.9	27.2	26.9	26.4	26.2	26.1	21.6	18.7
	Minimum	5.3	6.0	9.5	14.5	18.0	21.0	22.1	20.8	19.1	15.4	11.8	4.8
Samtengang	Maximum	14.6	15.4	18.5	24.8	26.6	25.7	27.4	26.7	25.3	24.2	21.2	16.1
	Minimum	8.1	9.4	5.8	10.1	12.4	15.2	15.8	16.2	15.1	12.1	8.0	4.1
Nobding	Maximum	11.0	7.2	12.6	20.2	21.7	21.8	23.7	22.9	23.6	22.3	14.6	14.2
	Minimum	1.3	1.4	3.8	8.4	12.0	14.0	15.5	15.0	12.7	8.3	5.7	4.0
Phobjekha	Maximum	6.6	7.7	8.3	14.6	18.4	16.4	18.8	18.8	16.5	16.3	-	11.2
	Minimum	-8.2	-8.5	0.3	-1.3	3.5	8.6	11.2	10.5	10.5	5.8	-	-6.8
Basochhu	Maximum	17.1	19.3	22.8	27.6	28.5	28.6	29.1	27.1	27.9	27.4	24.2	19.5
	Minimum	7.5	7.9	11.7	14.6	17.9	19.9	20.0	19.5	18.5	15.1	12.2	7.3
Zhemgang													
Yebilaptsa	Maximum	20.8	22.0	27.2	30.1	31.4	29.9	28.6	28.1	28.3	28.3	24.1	22.9
	Minimum	7.1	7.1	10.1	15.9	19.3	21.8	21.9	21.7	20.2	16.9	12.3	7.9
Trongsa													
Trongsa	Maximum	27.9	27.3	31.3	-	31.4	31.1	34.1	33.3	-	-	-	-
	Minimum	25.8	25.2	27.9	-	21.3	26.6	30.9	31.2	-	-	-	-
Kuenga Rabten	Maximum	17.7	19.3	13.7	23.8	-	23.7	22.6	18.7	18.5	16.4	12.3	13.3
	Minimum	8.8	7.6	9.2	13.5	-	15.5	13.5	12.0	16.8	14.1	10.6	8.7
Chendebji	Maximum	-	3.2	14.5	9.5	10.3	14.7	16.0	13.2	13.0	13.7	12.4	13.4
	Minimum	-	-7.1	-2.7	-3.5	-4.2	6.5	9.0	8.7	7.4	5.7	2.7	5.0
Langthel	Maximum	-	16.0	18.7	20.0	27.3	-	-	29.3	30.7	29.4	29.2	-
	Minimum	-	8.7	9.4	11.0	17.9	-	-	22.1	21.6	22.7	7.3	-
Bumthang													
Ura	Maximum	-	-	-	-	16.9	16.5	16.4	16.7	-	-	-	-
	Minimum	-	-	-	-	9.3	10.9	10.7	11.9	-	-	-	-
Chhumeth	Maximum	-	-	-	-	-	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Chamkhar	Maximum	9.8	9.9	13.0	17.2	19.5	21.2	19.0	19.7	19.7	18.4	14.7	12.2
	Minimum	-5.6	-3.9	0.1	5.4	8.0	13.0	13.7	13.5	11.5	5.7	1.7	-4.8
Trashigang													
Khaling	Maximum	-	-	-	-	-	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Wamrong	Maximum	14.0	17.2	25.5	23.0	29.2	29.2	28.9	28.8	28.2	29.4	27.8	29.0
	Minimum	5.5	6.2	6.2	8.6	6.4	5.7	5.4	5.6	5.1	4.7	4.5	5.5
Radhi	Maximum	-	-	25.4	26.8	28.3	28.2	-	-	26.2	28.4	-	-
	Minimum	-	-	10.5	14.4	16.8	18.3	-	-	18.1	15.4	-	-
Thrimshing	Maximum	-	-	-	-	-	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-	-	-	-	-	-

(continues...)

TABLE 5.5(continuation): AVERAGE MONTHLY TEMPERATURE AT VARIOUS STATIONS BY DZONGKHAG, 2000

(degrees celsius)

Dzongkhag and station	Temperatur	Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mongar													
Yadi	Maximum	13.7	13.3	12.6	23.4	24.9	25.3	25.2	24.2	25.3	24.0	-	15.1
	Minimum	3.5	3.2	4.3	12.2	14.7	17.2	17.5	17.2	16.1	13.3	-	6.2
Tsakaling	Maximum	-	-	-	-	-	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Lingmethang	Maximum	23.8	22.3	25.7	31.6	33.0	32.9	33.7	30.6	31.1	29.9	28.1	25.0
	Minimum	8.2	8.6	11.7	16.2	19.6	21.4	21.6	21.4	20.0	16.4	12.5	8.6
Trashiyangtse													
Trashiyangtse	Maximum	13.3	-	15.8	20.1	22.1	22.7	23.1	22.5	22.6	21.4	16.2	13.8
	Minimum	3.3	-	7.8	12.2	14.2	18.2	18.1	18.4	16.2	11.8	8.7	2.6
Yallang	Maximum	-	-	-	-	-	-	-	-	-	-	-	-
	Minimum	-	-	-	-	-	-	-	-	-	-	-	-
Lhuntse													
Dungkhar	Maximum	13.8	12.9	13.2	21.1	-	23.8	24.3	23.1	23.3	-	-	-
	Minimum	2.8	1.8	6.2	10.4	-	16.1	16.9	16.4	15.0	-	-	-
Tangmachhu	Maximum	22.7	-	25.8	30.8	33.7	33.9	34.1	33.6	32.9	31.9	26.3	23.9
	Minimum	5.0	-	2.5	3.0	5.5	11.5	9.0	9.0	7.3	3.5	-1.3	5.2
Pemagatshel													
Yurung	Maximum	15.6	17.5	-	-	-	-	-	23.8	23.1	22.6	21.2	-
	Minimum	9.5	10.0	-	-	-	-	-	15.9	14.3	12.0	11.9	-
Dungmein	Maximum	14.5	16.0	19.6	24.1	26.1	24.5	27.3	26.9	-	24.0	-	16.8
	Minimum	5.9	4.1	7.0	14.7	17.0	18.3	19.8	18.7	-	14.7	-	8.1
Samdrupjongkhar													
Airong	Maximum	13.5	15.1	19.5	22.8	25.1	25.7	26.0	25.3	21.6	17.3	12.8	9.6
	Minimum	6.5	7.2	11.5	14.9	16.3	16.9	16.6	18.8	14.5	8.6	4.8	0.0
Dechheling	Maximum	17.8	14.9	20.8	23.4	25.1	25.0	24.6	25.4	24.3	24.9	21.2	18.7
	Minimum	5.4	6.0	9.7	11.1	15.3	16.2	12.1	16.4	15.3	12.6	9.2	6.6
Nganglam	Maximum	21.1	-	20.6	28.4	27.5	29.4	-	-	-	-	-	-
	Minimum	9.1	-	9.0	13.1	20.1	21.2	-	-	-	-	-	-
Sarpang													
Sarpang	Maximum	24.4	25.1	28.4	31.7	31.0	31.0	31.4	30.8	31.1	31.1	26.1	24.8
	Minimum	15.0	14.7	18.0	20.1	23.5	24.5	24.0	24.7	23.3	22.5	17.6	14.7
Tsirang													
Sunkosh Dobani	Maximum	22.7	24.3	24.9	30.7	32.2	30.1	31.0	29.9	30.2	29.0	25.6	19.5
	Minimum	8.7	9.0	12.3	18.6	21.9	23.4	23.2	22.9	22.0	18.0	13.8	9.4

Source: Meteology Unit,Division of Power,Thimphu.

TABLE 5.6: TOTAL MONTHLY RAINFALL AT EXISTING STATIONS IN EACH DZONGKHAG, 2000

(millimeters)

Dzongkhag and station	Month												Total rain fall
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Thimphu													
Gidakom	0.5	16.2	18.9	33.6	60.1	258.8	131.5	100.2	50.6	2.4	-	-	672.8
Taba	7.7	14.6	26.5	40.0	96.9	110.9	166.3	178.7	98.1	15.3	4.2	-	759.2
Kawang Jangsa	1.8	1.2	6.6	33.8	93.6	92.7	202.4	121.5	83.6	6.6	0.2	0.4	644.4
Chhukha													
Chhukha	12.0	30.8	63.0	133.7	150.2	197.8	187.2	600.8	206.1	14.4	-	-	1,796.0
Tala	7.4	22.0	63.2	93.0	351.1	898.8	755.8	755.8	304.7	32.0	-	-	3,286.5
Gedu	24.4	38.2	124.4	345.2	360.0	885.9	-	1,812.5	462.1	37.2	12.0	-	4,101.9
Haa													
Namjeyling	-	16.2	36.6	70.6	122.8	164.5	143.0	144.0	144.1	-	-	-	841.8
Paro													
Drugyal Dzong	-	-	50.0	28.3	227.0	196.5	482.0	3,565.5	1,085.0	-	-	-	5,634.3
Samtse													
NIE	33.0	19.4	8.2	234.2	474.6	838.2	685.2	1,062.7	774.7	233.4	62.4	2.4	4,428.4
Dorokha	-	-	-	-	-	-	-	-	-	-	-	-	-
Tsirang													
Damphu	4.9	12.9	7.4	67.6	157.4	435.0	336.7	386.3	172.1	13.4	0.9	-	1,594.6
Sunkosh Dobani	3.4	16.0	6.6	22.2	97.4	382.7	219.0	433.1	189.2	40.8	1.2	-	1,411.6
Dagana													
Dagadzong	6.4	58.8	36.7	223.0	418.3	838.7	1011.0	6609.5	4382.5	28.7	85.4	-	13,699.0
Drujeygang	9.0	19.0	10.0	35.8	134.7	481.0	206.0	758.8	94.6	29.0	3.3	-	1,781.2
Tashithang	-	-	-	-	-	-	-	-	-	-	-	-	-
Punakha													
Punakha	4.5	6.4	-	24.8	83.1	67.6	66.9	84.4	127.7	-	15.0	-	480.4
Shelgana	13.0	23.0	28.0	45.5	-	132.5	270.7	249.2	206.0	28.0	22.0	1.0	1,018.9
Wangdue													
Nobding	-	13.8	22.0	59.0	223.0	382.0	564.0	603.0	351.0	28.0	7.0	-	2,252.8
Phobjikha	10.0	14.0	43.0	38.0	129.0	353.1	342.0	410.3	412.1	9.0	-	-	1,760.5
Samtengang	6.4	13.0	11.5	17.5	57.7	93.0	146.6	142.8	216.5	8.0	21.6	-	734.6
Wangdue CARD	5.5	0.9	9.4	12.8	77.2	112.2	110.4	148.4	96.4	1.2	-	-	574.4
Basochhu	1.2	15.4	9.3	21.0	77.6	127.0	147.8	229.0	211.6	1.2	-	1.8	842.9
Sarpang													
Sarpang	1.4	19.0	42.8	247.0	553.8	659.8	1,281.5	1,865.8	584.6	84.2	33.6	-	5,373.5
Bhur	42.4	25.4	43.0	255.9	568.4	1,670.1	984.7	999.1	169.4	16.8	24.5	7.2	4,806.9
Zhemgang													
Panbang	-	-	-	-	-	-	-	-	-	-	-	-	-
Yebilaptsa	10.0	39.2	3.6	47.2	156.4	410.8	323.0	602.8	301.7	30.2	-	-	1,924.9

TABLE 5.6(continuation): TOTAL MONTHLY RAINFALL AT EXISTING STATIONS IN EACH DZONGKHAG, 2000

(millimeters)

Dzongkhag and station	Month												Total rain fall
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Trongsa													
Kuengarabten	9.0	4.0	45.0	44.0	-	98.0	257.0	212.0	-	22.5	4.5	-	696.0
Langthel	-	22.6	1.5	27.7	114.3	-	-	203.0	80.3	-	-	-	449.4
Trongsa	-	-	-	-	217.8	143.9	102.5	64.9	-	-	-	-	529.1
Bumthang													
Chamkhar	-	6.9	17.0	55.7	136.7	110.4	121.5	154.5	60.4	21.9	2.4	-	686.9
Chhumey	-	-	-	-	-	-	-	-	-	-	-	-	-
Ura	-	-	-	-	98.5	400.8	610.0	157.0	-	-	-	-	1,266.3
Trashigang													
Khaling	-	-	-	-	-	-	-	-	-	-	-	-	-
Radhi	-	-	14.0	4.0	32.0	83.0	-	-	252.5	6.0	-	-	391.5
Thrimshing	-	-	-	-	-	-	-	-	-	-	-	-	-
Wamrong	10.0	-	53.6	57.8	134.9	807.2	409.7	915.0	206.6	9.0	4.8	-	2,608.6
Tashiyangtse													
Yallang	-	-	-	-	-	-	-	-	-	-	-	-	-
Tashiyangtse	2.6	-	49.8	108.4	206.8	255.0	221.4	196.4	167.4	16.4	23.6	-	1,247.8
Mongar													
Lingmethang	18.8	11.4	22.6	11.2	102.4	225.4	87.3	228.0	72.6	12.0	-	-	791.7
Yadi	1.2	15.2	32.4	45.0	84.1	274.9	184.5	308.5	96.6	-	-	-	1,042.4
Tsakaling	-	-	-	-	-	-	-	-	-	-	-	-	-
Lhuntse													
Dungkhar	9.0	27.8	32.2	130.3	-	170.5	270.5	385.8	192.2	-	-	-	1,218.3
Tangmachu	0.8	-	21.4	52.7	66.9	118.6	141.2	169.0	154.0	25.4	78.8	-	757.8
Pemagatshel													
Dungmain	-	39.3	20.0	103.6	150.4	692.1	177.0	232.0	-	-	5.0	-	1,419.4
Yurung	-	-	-	-	-	-	-	149.0	125.0	5.0	9.0	-	288.0
Samdrupjongkhar													
Airong	37.0	86.0	87.0	432.0	207.0	813.0	899.2	362.2	538.8	73.8	61.6	2.0	3,599.6
Dechenling	40.0	-	79.4	174.2	212.6	716.0	470.5	484.2	347.6	7.2	38.0	1.2	2,570.9
Nanglam	17.0	-	81.3	260.1	260.0	825.9	-	-	-	-	-	-	1,444.3

Source: Meteorology Unit, Division of Power, Thimphu

TABLE 5.7: NUMBER OF AGRICULTURE RESEARCH AND EXTENSION CENTRES, BHUTAN, MARCH 2000

Infrastructure	Numbers
RNR (Common services)	
RNR centres	35
National Resourse Training Institute (NRTI)	1
RNR Research Centres	4
RNR Research sub-stations	6
Soil and Plant Analytical Laboratory	1
Agriculture	
Agriculture Extension Centres	159
Agriculture Seed Production Farms	11
Plant Protection Centres	3
Farm Mechanization Centres	3
Farm Mechanization Training Centres	1
National Mashroom Centres	1
Animal Husbendry	
Veterinary Hospital (including Thimphu Hospital)	21
Livestock Extension Centres	110
Regional Veterinary Laboratories	4
Satellite Veterinary Laboratories	2
Livestock Farms	11
Fodder Seed Production Centres	2
Sub-Tropical Fodder Seed Production sub-centres	na
National Artificial Insemination programme	1
Vaccine Production Centres	1
Royal Veterinary Epidemiology Centre	1
Pheasant Rearing Centre	1
Forestry	
Territorial Division HQs(DFO)	11
Range Offices	36
Beat Offices	53
Forest Training Institute	1
Nature Study Centre	1

Source: Ministry of Agriculture, Thimphu

TABLE 5.8: IRRIGATION SCHEMES CONSTRUCTED IN DZONGKHAGS, 1996/97 TO 1998/99

Dzongkhag	1997/98 New construction		1998/99 New construction		1998/99 New construction	
	Length of channel (Km)	Command area (hec.)	Length of channel (Km)	Command area (hec.)	Length of channel (Km)	Command area (hec.)
Thimphu	0.00	0.00	0.00	0.00	0.00	0.00
Chhukha	1.10	13.80	1.1	13.8	2.7	74
Paro	0.00	0.00	2	141.14	0.489	53
Haa	0.00	0.00	3	8.1	3	81
	0.00	0.00	0.00	0.00	0	0
Samtse	0.00	0.00	0.00	0.00	0	0
Tsirang	0.00	0.00	0.00	0.00	0	0
Dagana	0.00	0.00	2	0.00	1	64.05
Punakha	0.00	0.00	0.00	0.00	0	0
	0.00	0.00	0.00	0.00	0	0
Wangduephodrang	0.00	0.00	0.00	0.00	0	0
Bumthang	0.00	0.00	1	19.2	3.1	6.48
Sarpang	0.00	0.00	0.00	0.00	0	0
Zhemgang	0.00	0.00	2.73	0.00	1.875	79.79
	0.00	0.00	0.00	0.00	0	0
Trongsa	0.00	0.00	0.00	0.00	0	0
Lhuntse	0.00	0.00	0.00	0.00	0.194	12.15
Mongar	0.00	0.00	0.00	0.00	2.23	50.63
Pemagatshel	0.00	0.00	0.00	0.00	0	0
	0.00	0.00	0.00	0.00	0	0
Samdrupjongkhar	0.00	0.00	0.00	0.00	0	0
Trashigang	0.00	0.00	0.00	0.00	0.5	89.5
Trashiyangtse	0.00	0.00	0.00	0.00	1	81
Gasa	0.00	0.00	0.00	0.00	0	0
	0.00	0.00	0.00	0.00	0	0
Bhutan	1.10	13.80	11.83	182.24	16.088	591.60

Source: Ministry of Agriculture, Thimphu

TABLE 5.9: QUANTITY OF PESTICIDES SUPPLIED TO FARMERS, BHUTAN 1986/87 TO 1999/2000

(Kilograms or litre)

Period	Insect-icide	Fungi-cide	Weedi-cide	Acari-cide	Rodent-icide	Others	Total
1986/87	11,656	2,964	228	0	18	47	14,913
1987/88	23,610	5,741	1,355	0	515	500	31,721
1988/89	33,440	5,214	271	0	347	1,128	40,400
1989/90	57,843	5,259	14,785	0	144	3,473	81,504
1990/91	30,841	2,538	58,180	95	90	140	91,884
1991/92	20,498	2,868	60,400	26	195	2,329	86,316
1992/93	16,066	1,405	57,389	50	113	48	75,071
1993/94	6,435	923	88,046	44	205	531	96,184
1994/95	6,128	563	89,554	12	63	6,846	103,166
1995/96	1,881	2,058	93,244	9	28	7,687	104,907
1996/97	10,883	236	90,730	50	-	10,490	112,389
1997/98	3,493	1,196	117,040	-	-	1,400	123,129
1998/99	1,484	591	512	-	30	10,150	12,767
1999/00	2,752	1,290	137,421	35	1751	53,401	1,240,294

Source: Ministry of Agriculture, Thimphu

TABLE 5.10: LAND UNDER AGRICULTURAL USE BY DZONGKHAG, 1995

('000 Acres)

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

Source: LUPP, Ministry of Agriculture, Thimphu.

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

Dzongkhag	Size of land holding (hectares)							Land holders	All holders
	0.01-0.49	0.50-0.99	1.00-1.49	1.50-1.99	2.00-2.99	3.00-4.99	5 & over		
Bjakar	110	160	150	*	180	180	260	1,130	1,170
Chhukha	170	230	580	350	550	600	790	3,270	3,290
Dagana	*	240	240	220	360	480	190	1,790	1,790
Gasa(b)									
Haa	120	190	170	*	110	*	220	920	930
Lhuntse	410	570	410	250	300	340	200	2,480	2,480
Mongar	570	1,220	1,020	660	450	270	100	4,300	4,300
Paro	170	400	440	360	440	360	130	2,280	2,320
Pemagatshel	230	750	680	420	260	110	*	2,490	2,500
Punakha	250	420	480	280	230	*	120	1,850	1,860
Samdrupjongkhar (c)	170	590	550	610	1,010	820	350	4,100	4,110
Samtse	390	860	1,020	920	1,790	1,590	1,060	7,640	7,640
Sarpang	200	400	710	900	1,610	1,010	730	5,570	5,580
Thimphu	490	540	320	160	150	110	*	1,800	1,830
Trashigang	1,730	3,190	2,440	1,450	1,790	990	970	12,560	12,600
Trashiyantse(d)									
Trongsa	150	240	300	120	160	170	150	1,290	1,320
Tsirang	140	750	1,040	750	1,420	1,180	440	5,710	5,710
Wangduephodrang	600	780	540	270	210	*	*	2,470	2,590
Zhemgang	*	*	180	270	400	480	400	1,830	1,830
Bhutan	5,300	10,750	10,550	7,450	10,810	8,210	5,710	59,180	59,430

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

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

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

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

continues...

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

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

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

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

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

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

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

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

(metric tonnes)

Location/region	Desiree			K. Jyoti			Yusikap		
	1992/93	1993/94	1994/95	1992/93	1993/94	1994/95	1992/93	1993/94	1994/95
Quantity planted	161.1	156.4	156.1	95.2	82.5	75.4	90.7	86.3	86.0
Phujikha farm	8.2	6.7	6.7	4.4	4.7	1.3	4.7	4.8	4.8
Trashigang	18.4	20.3	20.2	35.0	34.5	33.3	45.5	35.2	35.1
Pemagatshel	4.0	4.0	4.0	14.0	14.0	13.8	10.0	10.0	10.0
Bumtha	32.6	31.7	31.7	22.0	18.9	17.0	21.4	20.0	20.0
Phubjikha	98.0	93.7	93.5	19.9	10.5	10.2	9.2	16.4	16.2
Quantity produced	414.2	414.9	447.0	216.7	188.8	156.6	238.0	237.9	240.7
Phujikha farm	33.5	33.5	36.0	11.4	11.4	15.8	34.0	34.0	28.3
Trashigang	15.7	15.7	41.6	42.9	42.9	67.7	95.4	95.3	93.1
Pemagatshel	10.7	10.7	8.2	28.7	28.7	30.9	22.1	22.1	21.0
Bumtha	74.1	74.1	86.1	84.9	57.1	13.3	53.2	53.2	56.6
Phubjikha	280.2	281.0	275.3	48.8	48.8	29.0	33.4	33.4	41.9
Seed to production ratio	2.6	2.7	2.9	2.3	2.3	2.1	2.6	2.8	2.8
Phujikha farm	4.1	5.0	5.3	2.6	2.4	12.4	7.2	7.1	5.9
Trashigang	0.9	0.8	2.1	1.2	1.2	2.0	2.1	2.7	2.7
Pemagatshel	2.7	2.7	2.0	2.1	2.1	2.2	2.2	2.2	2.1
Bumtha	2.3	2.3	2.7	3.9	3.0	0.8	2.5	2.7	2.8
Phubjikha	2.9	3.0	2.9	2.5	4.7	2.9	3.6	2.0	2.6

Source: Ministry of Agriculture,Thimphu

TABLE 5.15: PERENIAL CROPS BY ZONE, 1988/89

('000 trees)

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

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

TABLE 5.16: HOLDERS BY SIZE OF LIVESTOCK HOLDING, 1988/89

('000 holders)

Number of livestock	Cattle	Yak	Buffalo	Pig	Goat	Sheep	Horse	Donkey / mule	Chicken
Zero	9.2	62.5	62.7	29.6	47.7	57.7	46.9	60.7	12.7
1 - 2	8.2	*	0.6	24.9	7.5	2.4	14.3	3.0	14.6
3 - 4	10.9	0.2	0.3	7.0	5.7	1.2	2.0	0.1	13.2
5 - 9	23.1	0.1	0.3	2.2	2.6	1.3	0.6	*	13.7
10 - 14	8.1	*	*	0.2	0.2	0.4	*	*	5.1
15 - 19	2.4	0.2	*	*	*	*	*	*	2.1
20 - 29	1.5	0.1	*	*	*	0.2	*	*	1.6
30 & Over	0.5	0.5	*	*	*	0.1	*	*	0.8
Total	63.9	63.6	63.9	63.9	63.7	63.3	63.8	63.8	63.8
				(percentage of all holders)					
Zero	14.4	97.8	98.1	46.3	74.6	90.3	73.4	95.0	19.9
1 - 2	12.8	*	0.9	39.0	11.7	3.8	22.4	4.7	22.8
3 - 4	17.1	0.3	0.5	11.0	8.9	1.9	3.1	0.2	20.7
5 - 9	36.2	0.2	0.5	3.4	4.1	2.0	0.9	*	21.4
10 - 14	12.7	*	*	0.3	0.3	0.6	*	*	8.0
15 - 19	3.8	0.3	*	*	*	*	*	*	3.3
20 - 29	2.3	0.2	*	*	*	0.3	*	*	2.5
30 & Over	0.8	0.8	*	*	*	0.2	*	*	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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

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

Dzongkhag	Cattle	Yak	Mithun	Carabo	Sheep	Goat	Pig	Horse	Mule	Donkey	Poultry
Bumthang	9,217	2,500	2,120	-	4,691	10	-	1,421	126	6	2,492
Chhukha	23,602	-	1,696	-	24,800	35,220	17,552	649	80	18	15,350
Dagana	3,323	-	-	261	1,568	2,896	1,782	389	45	-	8,043
Gasa	777	3,210	123	-	14	-	251	260	192	8	649
Haa	8,169	5,614	220	-	56	130	1,116	844	435	7	3,220
Lhuntse	11,519	287	4,440	-	186	32	1,756	1,437	169	18	5,595
Mongar	14,576	-	10,717	-	109	329	4,138	1,846	402	9	16,328
Paro	9,362	4,656	1,238	-	175	60	3,253	1,296	244	4	4,757
Pemagatshel	5,434	-	2,420	-	-	178	2,146	559	358	5	5,925
Punakha	8,400	-	1,754	-	-	43	2,311	898	22	5	5,522
Samdrupjongkhar	16,051	-	4,713	88	127	1,034	3,249	1,862	410	15	15,105
Samtse	41,406	-	172	1,567	6,037	17,586	3,505	900	326	1	34,448
Sarpang	16,492	-	464	973	967	4,809	1,693	754	2	-	-
Thimphu	7,965	9,318	1,101	-	1,057	-	1,414	1,100	-	-	3,614
Trashigang	23,769	7,591	9,325	-	6,625	75	7,358	4,482	839	15	19,397
Trashiyangtse	10,068	367	2,848	-	85	68	2,835	1,422	224	4	6,413
Trongsa	8,974	-	1,026	-	3,343	11	197	443	60	-	2,775
Tsirang	7,457	-	-	355	863	3,251	730	212	1	-	4,463
Wangdiphodrang	19,124	4,239	3,353	-	7,364	157	4,168	2,312	108	14	7,203
Zhemgang	11,138	-	4,308	-	-	431	1,556	1,456	278	3	188
Bhutan	256,823	37,782	52,038	3,244	58,067	66,320	61,010	24,542	4,321	132	161,487

Source: Crops & Livestock Division, Thimphu

TABLE 5.18: NUMBER OF SELECTED LIVESTOCK BY BREED, BHUTAN, 1997 TO 2000

Type of livestock	1997	1998	1999	2000
Cattle	263,699	na	344595.0	320,510
Local	223,847	na	na	284,339
Improved (a)	39,852	na	na	36,171
Horse	24,542	na	31255.0	23,328
Local	22,717	na	na	22,521
Improved	1,825	na	na	807
Sheep	34,465	na	24840.0	22,714
Local	28,841	na	na	21,423
Improved	5,624	na	na	1,291
Pig	61,010	na	52264.0	41,402
Local	50,355	na	na	36,294
Improved	10,655	na	na	5,108
Poultry	161,487	na	293933.0	230,723
Local	138,953	na	na	220,197
Improved	22,534	na	na	10,526
Mithun cross	52,036	na	**	**
Yak	37,782	na	39604.0	33,111
Buffalo	3,244	na	1790.0	1,853
Mule	4,321	na	*	4,273
Donkey	132	na	*	285
Goat	66,320	na	36007.0	31,330

* In 1990, mules and donkey were placed together with horse.

** In 1999 and 2000, we have mithun added together with cattle.

Source: Crop & Livestock Services Division, Thimphu

TABLE 5.19: IMPORTS AND DISTRIBUTION OF FOOD ITEMS BY FOOD CORPORATION OF BHUTAN, 1995 TO 2000

(metric tonnes)

Commodity	1995	1996	1997	1998	1999	2000
Imports						
Rice	11,780.2	13,391.7	15,862.0	9,005.0	13,225.9	6,302.1
Wheat	925.0	2,000.0	4,900.0	1,240.0	2,400.0	924.8
Sugar	3,282.0	3,812.0	3,903.0	3,780.0	3,150.0	3,780.0
Salt	0.0	24.0	27.0	37.0	0.0	0.0
Oil	489.6	493.0	101.0	34.0	133.1	185.6
Kharang	n.a	n.a	1,162.9	198.4	549.0	390.0
Sales						
Rice	11,270.3	8,925.0	15,715.0	8,640.0	n.a	8,601.2
Wheat	1,453.6	1,513.3	2,377.0	538.0	n.a	1,456.9
Sugar	3,415.2	3,630.2	3,986.0	3,605.0	n.a	3,319.1
Salt	0.0	0.5	25.0	37.0	n.a	0.0
Oil	451.1	214.5	263.0	215.0	n.a	187.6

Source: Food Corporatipon of Bhutan.

TABLE 5.20: QUANTITY OF AGRICULTURAL PRODUCE HANDLED BY FOOD CORPORATION OF BHUTAN, 1997 TO 2000

Commodity	1997	1998	1999	2000
Potatoes	17,031.00	18,194.00	20,457.32	18,026.48
Vegetables	1,363.00	1,367.00	2,694.47	1,627.19
Apples	281.00	973.00	829.19	420.99
Oranges	3,042.00	4,327.00	7,166.44	2,689.76
Cardamom	30.00	1.00	0.28	0.04
Ginger	984.00	640.00	24.00	3.82
Garlic	n.a	0.83	1.10	0.56
Arecanut	104.00	0.76	0.60	0.67
Supari(dried doma)	n.a	n.a	0.00	0.00
Dry chilli	33.00	36.00	16.31	9.05
Kidney bean(rajma)	103.00	39.00	22.06	37.35
Soya bean	143.00	67.00	49.17	30.21
Pulses	4.00	2.00	0.35	0.00
Mustard	1.00	2.00	0.00	0.00
Pipla (wild)	13.00	16.00	10.86	0.00
Chirota (wild)	2.00	7.00	0.00	0.50
Lemon	35.00	2.00	0.00	0.92
Apricot	n.a	n.a	n.a	n.a
Peach	3.00	0.85	3.48	0.45
Plum	0.59	1.00	1.28	0.53
Pear	0.13	0.23	1.41	1.54
Dry bean	4.00	0.06	n.a	n.a

Note: Vegetables include beans, beetroot, brinjal, cabbage, capsicum, carrot,cauliflower, wet chilly, crowsbeak, peas, radish, sag, squash, tomato, onion.

Source: Agricultural Marketing Section, MOA, August 2001.

TABLE 5.21: DETAILS OF PROTECTED AREAS IN BHUTAN, BY YEAR OF ESTABLISHMENT AND AREA. 2000

Name of Area	Establishment year	Area(sq.Km)	Percent of total area
Existing Protected Areas		10,513	100.00
Torsa Strict Nature Reserve	1993	644	6.13
Jigme Dorji National Park	1993	4,200	39.95
Black Mountain National Park	1993	1,400	13.32
Thrumshingla National Park	1998	768	7.31
Royal Manas National Park	1993	1,000	9.51
Sakteng Wildlife Sanctuary	1993	650	6.18
Bomdeling Wildlife Sanctuary	1993	1,300	12.37
Phibsoo Wildlife Sanctuary	1974	278	2.64
Khaling Wildlife Sanctuary	1974	273	2.60

Note: Data not supplyed from the forestry division, ministry of Agriculture

Source: Forest Division, Ministry of Agriculture, Thimphu

TABLE 5.22: QUANTITY AND VALUE OF FOREST PRODUCTS SUPPLIED BY TYPE AND USERS, 1995/96 TO 1997/98

User and product type	1995/96		1996/97		1997/98	
	Quantity	Value	Quantity	Value	Quantity	Value
Rural population						
Trees (numbers)	110,001.7	2.2	41,121.0	0.5	63,593.0	0.7
Poles (numbers)	2,742.5	0.3	50,702.0	0.1	124,549.0	0.2
Logged timber (cubic metre)	228.0	0.0	228.0	0.0	1,581.1	0.0
Firewood (cubic metre)	2,864.0	0.1	2,864.0	0.1	336.0	0.0
Charcoal (kg)	n.a	..	347,870.0		n.a	n.a
Bamboos (numbers)	593,839.0	0.1	301,736.0	0.1	347,755.0	0.0
Urban population						
Trees (numbers)	27,383.1	6.3	42,367.8	6.3	51,634.0	1.8
Poles (numbers)	1,540.9	0.4	1,038.4	0.4	51,296.0	0.5
Logged timber (cubic metre)	2,728.7	0.8	13,513.8	0.8	214,021.4	3.2
Firewood (cubic metre)	68,458.5	0.8	41,168.8	0.8	9,274.0	0.2
Charcoal (kg)	199,870.0	0.0	292,123.0	0.0	1,544,521.0	0.2
Bamboos (numbers)	300,636.0	0.1	334,567.0	0.1	601,553.0	0.1
Government agencies						
Trees (numbers)	..	..	..	..	..	..
Poles (numbers)	..	..	..	..	..	..
Logged timber (cubic metre)	..	..	..	..	..	..
Firewood (cubic metre)	..	..	..	..	..	..
Charcoal (kg)	..	..	..	..	..	..
Bamboos (numbers)	..	..	..	..	..	..
Bhutan						
Trees (numbers)	137,384.7	8.5	83,488.8	..	115,227.0	n.a
Poles (numbers)	4,283.4	0.7	51,740.4	..	175,845.0	n.a
Logged timber (cubic metre)	2,956.7	0.8	13,741.7	..	215,602.5	n.a
Firewood (cubic metre)	71,322.5	0.9	44,032.8	..	9,610.0	n.a
Charcoal (kg)	199,870.0	0.0	639,993.0	..	1,544,521.0	n.a
Bamboos (numbers)	894,475.0	0.2	636,303.0	..	949,308.0	n.a
Free of Royalty						
Trees (numbers)	n.a	n.a	4,955.9	..	1,335.0	n.a
Poles (numbers)	n.a	n.a	479.0	..	26,537.0	n.a
Logged timber (cubic metre)	n.a	n.a	6,319.3	..	50.0	n.a
Firewood (cubic metre)	n.a	n.a	48,951.0	..	5,617.9	n.a
Charcoal (kg)				..	20,000.0	n.a
Bamboos (numbers)	n.a	n.a	285,068.0	..	554,934.0	n.a

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

Source: Forestry Services Division, Thimphu

TABLE 5.23: PRODUCTION OF LOGWOOD, 1995 TO 2000

Item	1995	1996	1997	1998	1999	2000
Logwood	943.9	35,589.5	49,483.3	52,200.9	53,672.0	48,205.7
Commercial logwood	58.4	n.a	n.a	n.a	n.a	n.a
Construction and other uses	885.6	15,511.5	27,279.4	23,663.7	45,546.2	43,592.4
Rural construction	429.3	4,446.1	5,382.9	5,058.9	6,858.3	4,593.8
Urban construction	456.2	14,366.8	16,148.0	20,691.1	1,267.6	19.5
Government construction	!	1,265.2	673.0	543.8	n.a	n.a
Others	..	n.a	n.a	2,243.3	n.a	n.a
Firewood	n.a	n.a	n.a	n.a	n.a	n.a
Total	943.9	35,589.5	49,483.3	52,200.9	53,672.0	48,205.7

(a) Years refer to 1 April to 31 March while 1987/88 refer to fifteen months period April to June
For 1988/89 is for 12 months period July to June. Figures exclude collection of firewood by individuals
(b) Production declined mainly because of road blokage during monsoon and shortage of labourers
(c) unit of measurement is in thousand of cubic feet unlike other years
"!" these figure is included with urban construction
Note: Data not supplied from the Forestry Division, from the year 1996

Source: Forestry Services Division, Thimphu

CHAPTER 6: INDUSTRIES

INTRODUCTION

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

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

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

Census of Manufacturing Industries was conducted in from which 1998 information about number of industries in operation types of industries, employment in industries, and are presented in this chapter.

TABLE 6.1: NUMBER OF INDUSTRIAL ESTABLISHMENTS BY SECTOR, BHUTAN, 1996 TO 2000

Sector	1996	1997	1998	1999	2000
Production & manufacturing	372	405	447	486	523
New registration	36	33	35	34	33
Existing establishments	336	372	412	452	490
Services	1,990	2,331	2,530	2,922	3,281
New registration	180	341	218	384	303
Existing establishments	1,810	1,990	2,312	2,538	2,978
Contract	1,343	1,658	1,874	2,308	5,212
New registration	251	315	223	437	1,091
Existing establishments	1,092	1,343	1,651	1,871	4,121
All sectors	3,705	4,394	4,851	5,716	9,016

Source: Industries Division, Thimphu

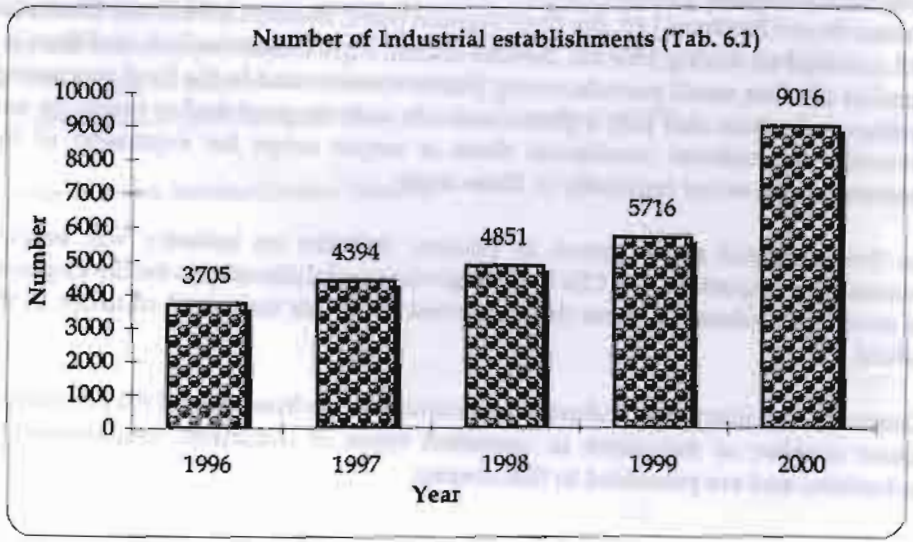


TABLE 6.2: NUMBER OF LICENSED FIRMS IN MANUFACTURING AND MINING INDUSTRIES BY SECTOR 1999 AND 2000

Industry	1999				2000			
	Public	Joint	Private	Total	Public	Joint	Private	Total
Mining	0	0	5	5	0	0	6	6
Manufacturing	7	2	365	374	7	4	386	397
Food processing/milling	4	0	100	104	4	1	104	109
Textiles and Clothing	0	0	0	0	0	0	0	0
Wood and Paper Products	3	2	265	270	3	3	282	288
Chemical Products	0	0	1	1	0	0	0	0
Mineral Products	0	2	29	31	0	2	34	36
Other	1	0	74	75	2	0	82	84
Total mining and manufacturing	8	4	474	486	9	6	508	523

Source: Industries Division, Thimphu

TABLE 6.3: NUMBER OF INDUSTRIES BY SECTOR, SIZE AND TYPE,1996 TO 2000

Industrial establishments	1996	1997	1998	1999	2000
Sector					
Private	3,666	4,356	4,813	5,678	8959
Joint	11	5	5	5	23
Public	28	33	33	33	34
Size					
Large scale	31	36	36	38	39
Medium scale	32	39	41	39	43
Small scale	196	328	337	345	409
Cottage scale	678	693	734	832	878
Mini scale	1,425	1,640	1,829	2,154	2435
Other (Contract)	1,343	1,658	1,874	2,308	5212
Type					
Production & Manufacturing	372	405	447	486	523
Agro based	84	96	105	104	109
Forest based	198	207	239	270	288
Mineral based	35	37	37	37	42
Others	55	65	66	75	84
Contract	1,343	1,658	1,874	2,308	5212
Services	1,990	2,331	2,530	2,922	3281
All industries	3,705	4,394	4,851	5,716	9016

Source: Industries Division, Thimphu

TABLE 6.4: NUMBER OF CONTRACT FIRMS AND INDUSTRIES BY DZONGKHAG, 2000

Dzongkhag	Class of contract firms					Scale of industries				
	A	B	C	Petty	Total	Small	Medium	Large	Cottage	Total
Bumthang	1	3	4	61	69	6	-	-	103	109
Chhukha	8	10	23	237	278	116	19	14	408	557
Dagana	-	-	3	60	63	-	-	-	35	35
Gasa	-	-	-	25	25	-	-	-	1	1
Haa	-	5	35	113	153	2	-	-	51	53
Lhuntse	-	-	15	67	82	2	-	-	9	11
Mongar	1	-	17	107	125	14	-	-	74	88
Paro	-	14	51	210	275	14	1	2	242	259
Pemagatshel	-	1	11	100	112	1	-	3	24	28
Punakha	-	2	15	187	204	1	-	-	44	45
Samdrupjongkhar	12	4	24	144	184	34	1	4	272	311
Samtse	-	-	3	87	90	50	4	5	119	178
Sarpang	1	1	5	105	112	23	1	1	271	296
Thimphu	111	86	336	1,930	2,463	129	15	10	1,263	1,417
Trashigang	3	9	35	233	280	9	1	-	140	150
Trashiyangtse	-	-	15	45	60	2	-	-	18	20
Trongsa	-	-	4	36	40	1	-	-	37	38
Tsirang	-	-	-	33	33	-	-	-	66	66
Wangduephodrang	-	-	20	456	476	5	1	-	85	91
Zhemgang	-	-	3	85	88	-	-	-	51	51
Bhutan	137	135	619	4,321	5,212	409	43	39	3,313	3,804

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

Source: Ministry of Trade and Industry, Thimphu

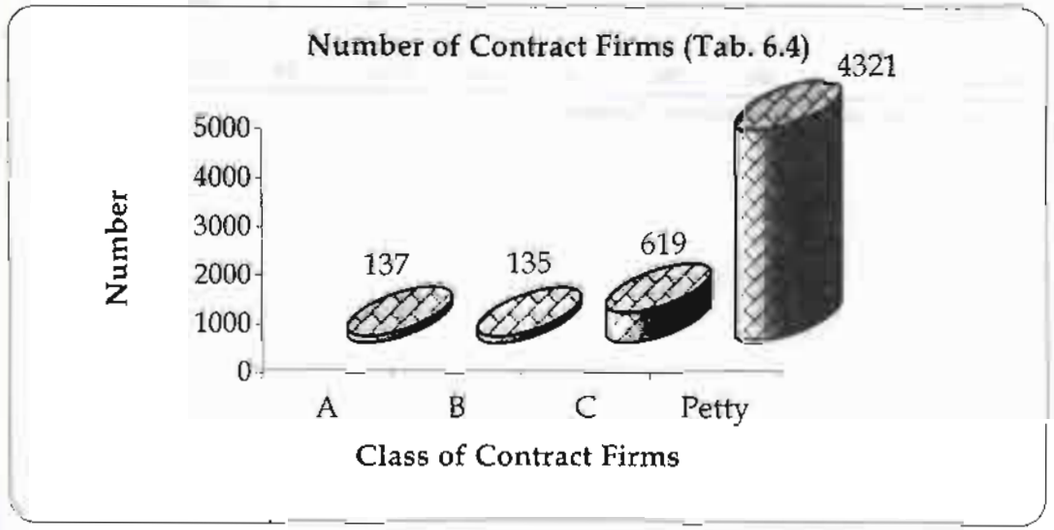


TABLE 6.5: NUMBER OF INDUSTRIES BY TYPE BY DZONGKHAG, 2000

Dzongkhag	Agro based	Forest based	Mineral based	Services	Contract	Others	All types
Bumthang	6	22	0	79	69	2	178
Chhukha	24	31	7	468	278	27	835
Dagana	0	.0	0	35	63	0	98
Gasa	0	0	0	1	25	0	26
Haa	1	11	0	41	153	0	206
Lhuntse	0	1	0	10	82	0	93
Mongar	4	12	2	70	125	0	213
Paro	5	31	2	215	275	6	534
Pemagatshel	1	4	3	20	112	0	140
Punakha	0	1	0	44	204	0	249
Samdrupjongkhar	10	19	3	275	184	4	495
Samtse	13	9	10	139	90	7	268
Sarpang	17	13	3	261	112	2	408
Thimphu	18	95	10	1,262	2463	32	3,880
Trashigang	2	13	0	133	280	2	430
Trashiyangtse	1	4	0	15	60	0	80
Trongsa	1	5	0	32	40	0	78
Tsirang	2	1	0	63	33	0	99
Wangduephodrang	1	6	2	81	476	1	567
Zhemgang	3	10	0	37	88	1	139
Bhutan	109	288	42	3,281	5,212	84	9,016

Source: Ministry of Trade and Industry, Thimphu

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

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

Note: Data not available from the sectors.

Source: Ministry of Trade & Industries, Thimphu

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

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

Note: Data not provided since year 1990 from the sector.

Source: Ministry of Trade and Industries, Thimphu

TABLE 6.8: PRODUCTION OF MINES AND MINERALS, 1997 TO 2000

Minerals	1997	1998	1999	2000
Dolomites ('000 tonnes or mt)	240.3	214,291.9	224,219.0	283,744.0
Lime stone ('000 tonnes or mt)	376.7	301,511.4	415,930.0	434,920.0
Gypsum ('000 tonnes or mt)	62.3	74,007.0	100,542.0	86,951.0
Slate mines ('000 square feet)	48.4	9,990.0	na	na
Coal mines ('000 tonnes or mt)	53.2	67,494.8	68,153.0	65,818.0
Marbles				
Chips ('000 tonnes or mt)	na	8,869.2	18,378.0	13,306.0
Slabs ('000 square feet)	8.2	23,194.5	24,439.0	20,242.0
Quartzite ('000 tonnes)	39.5	73,047.4	29,949.0	48,671.0
Talc (tonnes)	11.4	10,252.6	11,509.0	8,869.0
Iron Ore ('000 mt)	5.0	1,109.0	3,106.0	3,106.0
Pink Shale ('000 mt)	2.7	na	na	na

Source: Geology and Mines Division, Thimphu

TABLE 6.9: PRODUCTION AND USE OF MINES AND MINERALS, BHUTAN, 1999 TO 2000

Minerals	1999			2000		
	Total	Exports	Domestic use	Total	Exports	Domestic use
Dolomites ('000 tonnes)	224,219.0	na	na	283744.0	283744	na
Lime stone ('000 tonnes)	415,930.0	na	na	434920.0	5040	429880
Gypsum ('000 tonnes)	100,542.0	na	na	86951.0	86348	603
Slate mines ('000 sq. ft.)	-	na	na	na	na	na
Coal mines ('000 tonnes)	68,153.0	na	na	65818.0	30698	35119
Marbles						
Chips ('000 tonnes)	18,378.0	na	na	13306.0	13306	na
Slabs ('000 sq. ft.)	24,439.0	na	na	20242.0	na	20242
Quartzite ('000 tonnes)	29,949.0	na	na	48671.0	6952	41719
Talc (tonnes)	11,509.0	na	na	8869.0	8869	na
Iron Ore ('000 mt)	3,106.0	na	na	3106.0	na	3106
Pink Shale ('000 mt)	na	na	na	na	na	na

Note: 1994 figures are preliminary

Source: Geology and Mines Division, Thim

Table 6.10: Number of establishments by type of industry and sector, 1997

Type of Industry	Private sector	Joint sector	Public sector	Semi-ernment	Others	ompany	All Sectors
Forest based industry	89	3	-	1	1	3	97
Agrobased industry	34	2	2	1	2	5	46
Mineralbased industry	18	2	1	-	-	6	27
Other industry	36	1	5	-	1	-	43
All industries	177	8	8	2	4	14	213

Note: All industries that operated at the time of survey.

Source: National Census of Manufacturing Industries, 1998

Table 6.11: Distribution of establishments by Dzongkhags, 1997

Dzongkhag	Number of establishments	Persentage
Thimphu	70	32.9
Paro	11	5.2
Haa	3	1.4
Wangdue	3	1.4
Chukha	43	20.2
Samtse	21	9.9
Sarpang	11	5.2
Zhemgang	3	1.4
Trongsa	2	0.9
Bumthang	15	7.0
S/Jongkhar	15	7.0
Pemagatshel	2	0.9
Trashigang	5	2.3
Yangtse	3	1.4
Mongar	6	2.8
Lhuentse	-	-
Dagana	-	-
Tsirang	-	-
Punakha	-	-
Gasa	-	-
All dzongkhags	213	100.0

Source: National Census of Manufaturing Industries, 1998

Table 6.12: Number of establishments by sector and size of employment 1997

Legal status by industry	Total persons engaged				
	1-5	6-10	11-20	21-30	31-40
Private Sector	52	47	38	13	5
Foreat based industry	26	22	23	9	1
Agrobased industry	15	9	5	1	-
Mineralbased industry	1	4	3	1	3
Other industry	10	12	7	2	1
Joint Sector	-	-	1	3	1
Foreat based industry	-	-	1	1	-
Agrobased industry	-	-	-	1	-
Mineralbased industry	-	-	-	1	-
Other industry	-	-	-	-	1
Public Sector	-	-	2	-	-
Agrobased industry	-	-	-	-	-
Mineralbased industry	-	-	1	-	-
Other industry	-	-	1	-	-
Semi-government	-	-	-	-	-
Foreat based industry	-	-	-	-	-
Agrobased industry	-	-	-	-	-
Other Sector	-	-	1	-	1
Foreat based industry	-	-	1	-	-
Agrobased industry	-	-	-	-	-
Other industry	-	-	-	-	1
Company	-	1	4	1	-
Foreat based industry	-	-	2	-	-
Agrobased industry	-	-	2	1	-
Mineralbased industry	-	1	-	-	-
Table Total	52	48	46	17	7

contd..

Table 6.12: (contd..) Number of establishments by sector and size of employment, 1997

Legal status by industry	Total persons engaged					
	41-50	51-100	101-200	201-300	300+	Total
Private Sector	1	11	5	1	4	177
Foreat based industry	-	6	2	-	-	89
Agrobased industry	-	2	-	-	2	34
Mineralbased industry		2	1	1	2	18
Other industry	1	1	2	-	-	36
Joint Sector	-	-	1	-	2	8
Foreat based industry	-	-	-	-	1	3
Agrobased industry	-	-	1	-	-	2
Mineralbased industry	-	-	-	-	1	2
Other industry	-	-	-	-	-	1
Public Sector	1	1	2	-	2	8
Agrobased industry	-	-	1	-	1	2
Mineralbased industry	-	-	-	-	-	1
Other industry	1	1	1	-	1	5
Semi-government	-	2	-	-	-	2
Foreat based industry	-	1	-	-	-	1
Agrobased industry	-	1	-	-	-	1
Other Sector	-	2	-	-	-	4
Foreat based industry	-	-	-	-	-	1
Agrobased industry	-	2	-	-	-	2
Other industry	-	-	-	-	-	1
Company	2	1	3	-	2	14
Foreat based industry	1	-	-	-	-	3
Agrobased industry	-	-	2	-	-	5
Mineralbased industry	1	1	1	-	2	6
Table Total	4	17	11	1	10	213

Source: National Census of Manufaturing Industries, 1998

Table 6.13: Persons engaged at end of each quarter by type of work by industry, 1997

(Persons)

Type of industry	PRODUCTION LINE WORKERS			
	February	May	August	November
Forest based industry	1,240	1,348	1,342	1,307
Agrobased industry	1,571	1,457	1,411	1,490
Mineralbased industry	1,497	1,512	1,531	1,517
Other industry	713	708	764	800
All industries	5,021	5,025	5,048	5,114

contd..

Table 6.13: (contd.) Persons engaged at end of each quarter by type of work by industry, 1997

(Persons)

Type of industry	NON PRODUCTION WORKERS			
	February	May	August	November
Forest based industry	474	507	501	487
Agrobased industry	363	360	339	347
Mineralbased industry	1,676	1,548	1,549	1,675
Other industry	111	109	110	110
All industries	2,624	2,524	2,499	2,619

Source: National Census of Manufaturing Industries, 1998

Table 6.14: Number of persons engaged in industrial sectors by employment status and sex, 1997

Sector	Male			
	All male	Proprieter	Unpaid	Employee
Private	3,712	71	10	3,631
Joint Sector	576	15	-	561
Public Sector	1,355	-	-	1,355
Semi-government	98	-	-	98
Others	98	1	-	97
Company	1,039	1	-	1,038
Table Total	6,878	88	10	6,780

cont..

Table 6.14: (cont.) Number of persons engaged in industrial sectors by employments status and sex, 1997

Sector	Female			
	All female	Proprieter	Unpaid	Employee
Private	1,415	21	10	1,382
Joint Sector	69	1	-	68
Public Sector	507	-	-	507
Semi-government	48	-	-	48
Others	75	-	-	75
Company	787	-	-	787
Table Total	2,901	22	10	2,867

Note: Excludes 2813 employees whose differentiation by sex was not available.

Source: National Census of Manufaturing Industries, 1998

Table 6.15: Percent of expenditure on fuel used by sector, 1997

Sector	Kero- sene	Fuel oil	Wood/ charcoal	Gas	Other	All fuel
Private sector	88.7	16.7	28.4	53.2	43.1	35.4
Joint sector	0.2	-	45.2	-	1.1	24.7
Public sector	0.5	83.3	15.9	38.3	-	9.5
Semi-government	-	-	-	-	-	-
Others	-	-	-	-	-	-
Company	10.6	-	10.5	8.5	55.8	30.4
All sectors	100.0	100.0	100.0	100.0	100.0	100.0

Source: National Census of Manufaturing Industries, 1998

CHAPTER 7: TRASNPORT AND COMMUNICATION

INTRODUCTION

About two and half decades back, Bhutan had fragmented transport and communication network. An efficient road system for a landlocked country assumes paramount importance as it plays a crucial role in supporting all development activities and in stimulating domestic and international trade. The first appearance of the motor vehicle was in 1962 and surface transport continues to be the main means of transport. The Bhutan Government Transport service (BGTS) originally entrusted with goods transportation was restructured to concentrate on passenger transport. In 1985 the gradual privatization of the public transport commenced and full privatization of the public transport services was achieved in 1990 with 21 operators managing a fleet of more than 100 buses on 73 routes. The Government in order to promote and see the development of surface transport with emphasis on safety formulated Roads Safety and Transport Act, which became operational since October 1997. In the last 25 years tremendous achievements were made in establishing 3,691 kilometers of roads and several motorable bridges. In the difficult areas where the construction of motorable road has not yet begun, 184 suspension bridges provide the vital transport links. Today the Division of Roads is responsible for the design and planning of roads and in setting standards for quality.

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

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

Following the formulation and implementation of Bhutan Postal Act of 1996, Division of Post was incorporated under Bhutan Companies Act. There are 107 postal services where one post office caters to 6,145 Bhutanese people. In 1993, Bhutan post introduced International Express Mail Service and after a year Domestic Express Mail Services and Fax Mail services were introduced. Fax money order service was started in 1996 followed by Post Overnight Courier and Bhutan Post Express Passenger Services in 1997. Within a short period Bhutan Post increased the types of services from 4 to 13.

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

TABLE 7.1: LENGTH OF ROADS BY TYPE, BHUTAN, DECEMBER 1999

(length km)

Type of road	National highway	District road	Feeder road	Urban road	All road
Black topped	1,568.4	293.0	290.0	77.5	2,228.9
Non-black topped	23.0	143.1	1,285.5	10.0	1,461.6
Total	1,591.4	436.1	1,575.5	87.5	3,690.5

Source: Public Work Divison, Thimphu

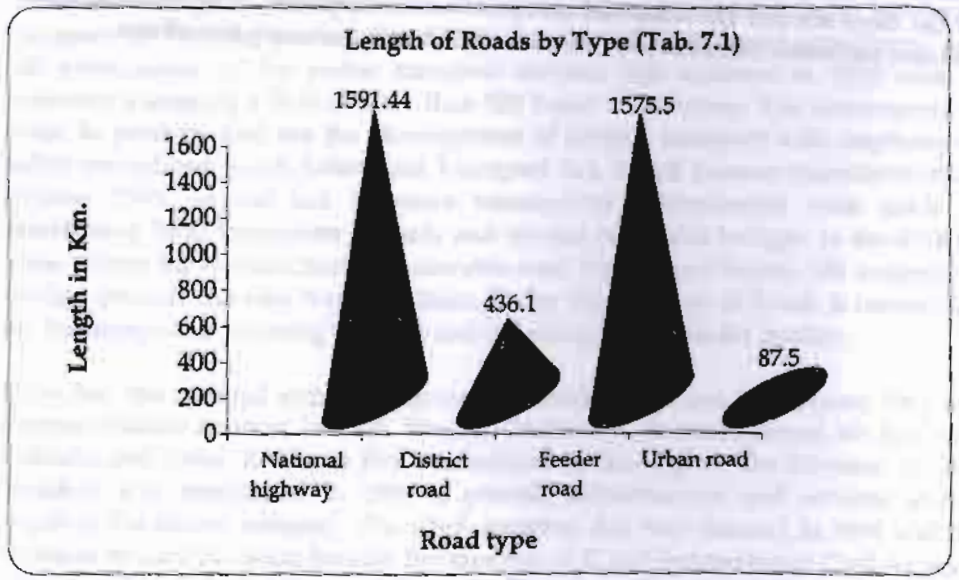


TABLE 7.2: LENGTH OF ROADS BY TYPE AND DZONGKHAG, BHUTAN, 2000

(kilometres)

Dzongkhag	National highway	District road	Feeder road	Urban road	Forest road	All road
Bumthang	112.00	-	65.00	15.72	47.60	234.60
Chhukha	213.00	-	192.75	-	33.02	454.49
Dagana	-	87.00	31.36	-	-	118.36
Gasa	-	-	7.30	-	-	7.30
Haa	16.00	25.60	25.50	-	32.98	100.08
Lhuntse	-	43.00	17.95	-	-	60.95
Mongar	177.00	21.00	59.80	-	34.75	292.55
Paro	103.00	36.40	91.49	-	5.19	236.08
Pemagatshel	-	23.00	25.70	-	17.60	66.30
Punakha	9.00	-	90.02	-	1.95	100.97
Samdrupjongkhar	60.80	55.00	56.85	-	29.90	202.55
Samtse	-	108.80	17.70	-	-	126.50
Sarpang	120.44	-	41.40	-	93.25	255.09
Thimphu	111.00	111.00	62.98	69.14	110.36	353.48
Trashigang	141.00	5.00	107.30	-	8.50	261.80
Trashiyangtse	-	40.00	15.10	-	-	55.10
Trongsa	167.00	-	20.55	-	10.71	198.26
Tsirang	62.00	-	37.70	1.50	6.48	107.68
Wangduephodrang	150.76	-	77.46		39.00	267.22
Zhemgang	144.00	-	36.40	1.15	58.16	239.71
Bhutan	1,587.00	555.80	1,080.31	87.51	529.45	3,739.07

Source: Public Works Divison, Thimphu

TABLE 7.3: NUMBER AND LENGTH OF BRIDGES BY TYPE, BHUTAN,2000

Type of bridges	Numbers	Length (metres)
Reinforced concrete	44	994
Prestressed concrete	2	248
Bailey bridge	62	2,024
Suspension Bridge (Motorable)	7	687
Hemilton and steel	7	214
Composite bridge	24	477
Wooden	16	260
Submersible	7	194
RCC Slab	15	280
All bridges	184	5,377

Source: Public Works Division, Thimphu

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

Dzongkhag	Plan periods					All plan periods
	I - IV	Vth	VI	VII	VIII	(I - VIII)
Bjakar	1	7	3	4	2	17
Chhukha	3	5	1	3	2	14
Dagana	2	2	2	3	3	12
Gasa	0	0	2	2	0	4
Haa	3	6	1	3	1	14
Lhuntse	3	4	2	3	5	17
Monggar	9	5	2	5	3	24
Paro	3	8	3	2	1	17
Pemagatshel	2	7	2	3	3	17
Punakha	3	4	1	0	1	9
Samdrupjongkha	10	13	6	2	3	34
Samtse	9	15	2	1	1	28
Sarpang	9	8	5	0	1	23
Thimphu	0	1	3	3	1	8
Trashigang	7	12	2	3	7	31
Trashiyangtse	3	6	4	3	3	19
Trongsa	4	6	3	3	2	18
Tsirang	6	4	1	2	1	14
Wangduephodrang	2	10	5	3	2	22
Zhemgang	1	5	4	4	2	16
Bhutan	80	128	54	52	44	358

Source: Division of Roads, Thimphu

TABLE 7.5: NUMBER OF REGISTERED VEHICLES BY TYPE AND REGION, 1997 TO 2000

Region	Heavy	Light	2-Wheeler	Taxi	Others	All Types
1997 Total	**2,131**	**4,769**	**6,286**	**340**	**58**	**13,584**
Thimphu	693	3,413	3,949	243	58	8,356
Gelephu	122	196	479	-	-	797
Phuntsholing	1,098	946	1,316	97	-	3,457
SamdrupJongkhar	218	214	542	-	-	974
1998 Total	**289**	**763**	**776**	**195**	**22**	**2,045**
Thimphu	110	467	479	137	15	1,208
Gelephu	9	28	43	-	7	87
Phuntsholing	150	233	205	58	-	646
SamdrupJongkhar	20	35	49	-	-	104
1999 Total	**853**	**936**	**601**	**229**	**40**	**2,659**
Thimphu	151	577	287	140	36	1,191
Gelephu	21	42	56	5	4	128
Phuntsholing	629	280	201	84	-	1,194
SamdrupJongkhar	52	37	57	-	-	146
2000 Total	**2,062**	**7,438**	**7,793**	**770**	**1,400**	**19,463**
Thimphu	410	4,865	4,599	548	537	10,959
Gelephu	102	274	604	11	108	1,099
Phuntsholing	1,348	1971	1,894	210	633	6,056
SamdrupJongkhar	202	328	696	1	122	1,349

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

Source: Road Safety Transport Authority, Thimphu

TABLE 7.6: NUMBER OF NEW MOTOR VEHICLE DRIVING LICENCES ISSUED
(a) BY TYPE OF VEHICLE, 1993 TO 1998

(numbers)

Licence for	1993	1994	1995	1996	1997	1998
Two Wheelers	328	371	225	538	788	561
Light	586	461	281	840	1,090	596
Medium	45	48	67	68	101	36
Heavy	74	45	19	63	77	18
Other(b)	n.a	66	27	91	73	170
All vehicles	1,033	991	619	1,600	2,129	1,381

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

Source: Road Safety & Transport Authority, Thimphu

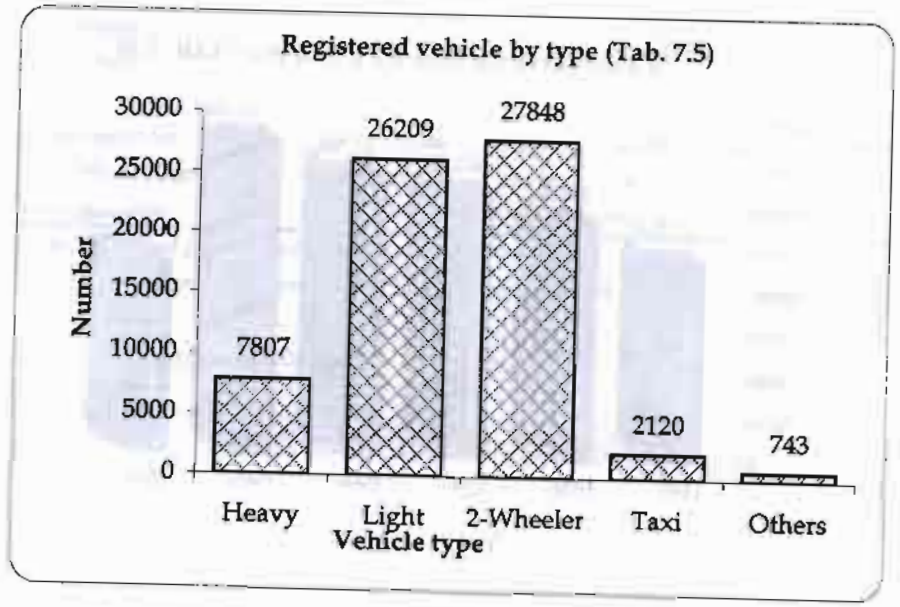


TABLE 7.7: DETAILS OF PUBLIC ROAD TRANSPORT SERVICES, 1993 TO 1998

Details	1993	1994	1995	1996	1997	1998
Number of operators	13	14	15	18	19	21
Number of service routes (a)	72	65	67	65	56	59
Distance run ('000 kms)	4,581	4,180	3,107	4,350	3,359	3,527
Passengers carried ('000 passengers)	1,388	995	1,021	1,812	863	n.a
Direct	901	729	786	1,077	806	886
Local	488	265	235	735	57	64
Loads carried ('000 kgs)	1,273	4,314	119	4,626	n.a	n.a
Services suspended (route days)	2,278	1,427	1,038	1,230	168	n.a

Note: (a) Service route imply bus services one round trip station to station.
for e.g. Phuentsholing to Thimphu - Thimphu to Phuentsholing
Data for 1999 was not provided by the sector.

Source: Surface Transport Division, Ministry of Communications, Thimphu

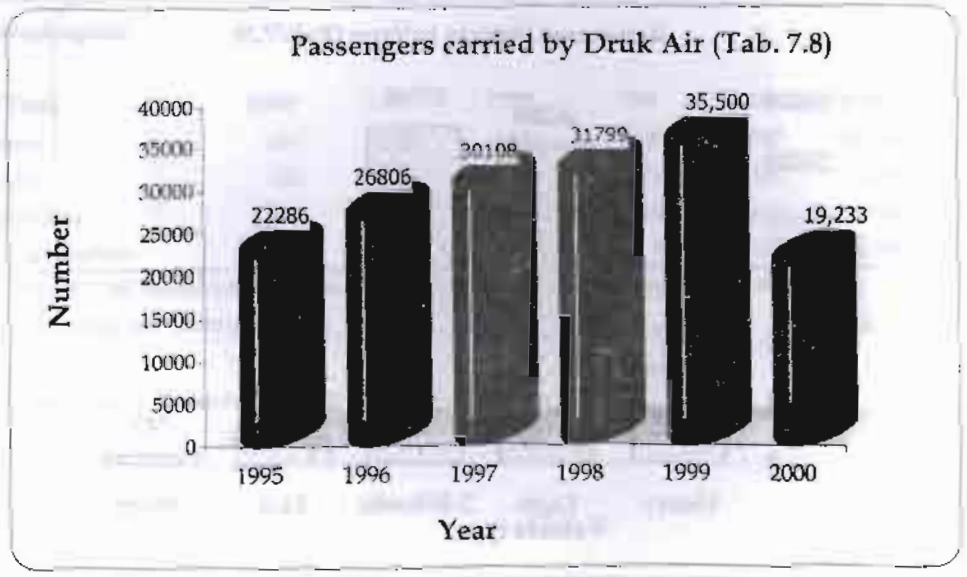


TABLE 7.8: NUMBERS OF PASSENGERS CARRIED AND REVENUE EARNED BY DRUK AIR FLIGHTS BY SECTOR, 1995 TO 2000

Sector	1995	1996	1997	1998	1999	2000
Paro to Calcutta	1,826	2,290	2,486	3,261	3102	1266
Calcutta to Paro	1,533	1,878	2,179	2,805	2628	1280
Paro to Bangkok	3,937	4,371	5,012	5,877	6450	3083
Bangkok to Paro	3,879	4,423	5,201	5,911	6485	3185
Paro to Dhaka	596	699	1,086	204	550	186
Dhaka to Paro	563	638	1,022	307	489	184
Paro to Delhi	3,042	3,614	3,884	3,889	4102	1746
Delhi to Paro	3,122	3,656	3,745	3,827	4085	1929
Paro to Kathmandu	1,998	2,649	2,718	2,989	3891	1593
Kathmandu to Paro	1,790	2,588	2,652	2,633	3718	1657
Paro to Yangon	..	..	56	34	n.a	n.a
Yangon to Paro	..	..	67	42	n.a	n.a
Total passengers (a)	22,286	26,806	30,108	31,799	35500	19233
Revenue (Nu.in millions)	213.78	252.94	280.63	326.70	n.a	157.264
during fiscal year	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00

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

Source: Druk Air Corporation, Thimphu

TABLE 7.9: NUMBER OF FLIGHTS MADE BY DRUK AIR BY SECTOR, 1995 TO 1999

Sector	1995	1996	1997	1998	1999
Paro to Calcutta	111	120	186	167	148
Calcutta to Paro	108	114	186	164	148
Paro to Bangkok	158	169	221	193	183
Bangkok to Paro	156	167	221	190	184
Paro to Dhaka	52	52	20	17	45
Dhaka to Paro	52	51	20	20	46
Paro to Delhi	109	112	143	108	113
Delhi to Paro	112	111	143	108	113
Paro to Kathmandu	71	97	115	105	113
Kathmandu to Paro	64	99	115	100	112
Paro to Yangon	-	-	20	16	n.a
Yangon to Paro	-	-	20	15	n.a
All sectors	993	1,092	1,370	1,203	1,205

Source: Druk Air Corporation, Thimphu

TABLE 7.10: TELEPHONE CONNECTION CAPACITY BY EXCHANGE, 1996 TO 2000

(numbers)

Exchange (Switch type)	1996	1997	1998	1999	2000
Tsimakothi(DRMASS)	50	50	228	230	220
Gelephu(LS)	584	584	568	656	688
Haa(DRMASS)	50	50	176	230	176
Paro(LS)	200	200	1,344	1,344	1,344
Phuentsholing(LS)	900	900	2,216	2,216	2,344
Punakha(RLU)	80	80	306	278	312
Samdrupjongkha(LS)	664	664	656	656	664
Samtse(LS)	100	100	436	464	448
Sarpang(DRMASS)	109	109	104	123	122
Thimphu (LS/INTS/MS)	3,896	3,896	6,128	6,200	6,208
Trashigang (TS/LS)	528	528	512	512	724
Trongsa (TS/LS)	336	336	280	280	280
Wangduephodrang(RLU)	100	100	312	372	392
Jakar(RLU)	200	200	280	344	344
Zhemgang(RLU)	200	200	200	200	200
Damphu(RLU)	376	376	328	328	272
Dagana(DRMASS)	64	62	64	64	64
Mongar(RLU)	420	64	420	420	420
Lhuntse(DRMASS)	64	420	58	64	60
Kanglung(DRMASS)	93	93	64	128	128
Trashiyangtse(DRMASS)	64	64	64	128	128
Pemagatshel(RLU)	116	116	116	116	140
Total capacity	9,194	9,192	14,860	15,353	15,500

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

Source: Telecommunication Division, Thimphu

TABLE 7.11: NUMBER OF TELEPHONE TRUNK CIRCUITS, BHUTAN, 2000

Sector	Type of connection	Existing circuits
Thimphu - London (BT)	Satellite	14
Thimphu - Singapore (ST)	Satellite	7
Thimphu - Japan (KDD)	Satellite	6
Thimphu - India	Analogue Microwave	n.a
Thimphu - Phuentsholing	Analogue Microwave	90
Thimphu - Trongsa	Digital Microwave	30
Thimphu - Gelephu	Digital Microwave	30
Thimphu - Trashigang	Digital Microwave	30
Thimphu - Samdrupjongkha	Digital Microwave	30
Thimphu - Paro	Digital Microwave	60
Thimphu - Paro Airport	Digital Microwave	n.a
Thimphu - Tsimakothi	DRMASS	n.a
Thimphu - Wangduephodrang	Digital Microwave	30
Thimphu - Lobesa	-	n.a
Thimphu - Punakha	Digital Microwave	60
Trongsa - Trashigang	Digital Microwave	n.a
Trongsa - Gelephu	Digital Microwave	n.a
Trongsa - Samdrupjongkha	Digital Microwave	n.a
Gelephu - Trashigang	Digital Microwave	n.a
Trashigang - Samdrupjongkha	Digital Microwave	n.a
Paro - Haa	DRMASS	n.a
Samtse - Banarhat (India)	Physical Line	n.a
Phuentsholing - India (via Thimphu)	Analogue Micorwave	n.a
Phuentsholing - India (via Hasimara)	Digital Microwave	90
All sectors	..	477

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

Source: Division of Telecommunication, Thimphu

TABLE 7.12: NUMBER OF TRUNK LINES, CONNECTION CAPACITIES AND SETS IN USE, 1994 TO 1998

Details	1994	1995	1996	1997	1998
Trunk lines					
Satellite	19	23	22	28	na
Microwave	565	331	562	562	na
Analogue	n.a	101	82	82	na
Digital	n.a	105	480	480	na
Digital radio concentrator system	11	73	15	n.a	na
DRMASS	n.a	224	394	n.a	na
Physical lines					
Number of lines	4	4	4	n.a	na
Distance (km)	45	n.a	n.a	n.a	na
Connection capacity	9,154	9,019	9,194	9,256	na
Telephone sets in use	4,609	5,606	6,041	6,440	na

Note: DRMASS stands for digital radio multiple access system

Data for 1999 was not provided by the sector.

Source: Division of Telecommunication, Thimphu

TABLE 7.13: NUMBER OF TELEPHONE TRUNK CALLS BY TYPE, 1995 TO 1999

Type of call	1995	1996	1997	1998	1999
		(Thousands)			
Domestic calls	n.a	1,777	7,092	9,441	4,646
International calls	n.a	508	2,683	2,032	2,968
India	n.a	333	1,067	1,224	2,661
Other	n.a	174	1,840	808	307
All calls	n.a	2,285	9,775	11,473	7,614

Source: Division of Telecommunication, Thimphu

TABLE 7.14: TELECOMMUNICATION TRAFFIC IN MINUTES AND REVENUE EARNINGS,BHUTAN,1996 TO 2000

Details	1996	1997	1998	1999	2000
Type of call					
Domestic calls (minutes)	5,369,556	13,593,000	19,833,152	13,936,667	78,161,951
International calls (minutes)	1,288,620	5,561,000	4,063,871	5,935,201	3,472,348
India	1,288,620	4,061,000	3,502,495	3,862	2,827,295
Other countries	n.a	1,500,000	561,376	5,931,339	534,425
Total calls	6,658,176	19,154,000	23,897,023	19,871,868	81,634,299
Revenue earnings (millions Nu.)	123.17	n.a	186.00	198.75	n.a

Source: Division of Telecommunications, Thimphu

TABLE 7.15: NUMBER OF COMMUNICATION FACILITIES, 1994 TO 2000

Postal infrastructure	1994	1995	1996	1997	1998	1999	2000
General Post Offices	2	2	2	2	2	2	2
Post Offices	56	55	21	18	19	19	19
Branch Post Offices	23	21	64	69	..	..	..
Agency Post Offices	20	25	18	17	17	17	17
Community Mail Offices	..	..	..	..	..	69	68
Telegraph or Fax Offices	17	17	17	17	17	18	18
Wireless Stations(a)	52	..	n.a	n.a	n.a	n.a	45

Note: WT. Stations are merged with Telecommunication Division
W.E.F JULY 1995

(a) Includes 3 stations installed at New Delhi, Dhaka and Kalimpong

Source: Bhutan Post, Thimphu

TABLE 7.16: VOLUME OF POSTAL MAIL TRAFFIC BY DESTINATION, 1995 TO 1999

Type of service	1995	1996	1997	1998	1999
Domestic	1,414	1,035	10,208	1,316	1,282
International	482	437	800	1,046	1,078
Dispatch	228	197	299	443	401
Receipt	255	240	501	603	677
Total mail items	1,896	1,471	11,008	2,362	2,252

Source: Bhutan Post, Thimphu

TABLE 7.17: VOLUME OF MAIL HANDLED BY TYPE OF ARTICLE AND DESTINATION, 1999

('000 numbers)

Type of mail	Total Domestic	International		
		Total	Inward	Outward
Letters/Postcards/Aerogrammes				
Ordinary letter	714	536	320	216
Registered items	83	79	39	40
Printed matter/packets	476	354	212	142
Parcels	1	3	2	1
Express mail service (EMS)	8	6	4	2
Messages				
Telegraphic message	n.a	n.a	n.a	n.a
Facsimile message	n.a	n.a	n.a	n.a
Wireless transmission	n.a	n.a	n.a	n.a
All mail items	1282	978	577	401

Source: Bhutan Post, Thimphu

TABLE 7.18: NUMBER AND VALUE OF MONEY ORDER BY TYPE, 1995 TO 1999

Type	1995	1996	1997	1998	1999
Total money orders					
Number of orders ('000)	17.0	25.6	24.0	21.0	45.0
Amount of orders ('000 Nu.)	15,124.1	15,316.1	15,270.0	26,099.0	51,273.0
Domestic money order					
Number of orders ('000)	9.4	18.2	13.0	13.0	23.0
Amount of orders ('000 Nu.)	8,020.3	9,731.0	10,221.0	15,957.0	2,898.0
International money order					
Dispatched					
Number of orders ('000)	7.4	7.2	7.0	8.0	21.0
Amount of orders ('000 Nu.)	7,032.2	5,488.5	4,798.0	9,821.0	22,098.0
Receipts					
Number of orders ('000)	0.2	0.2	4.0	0.2	1.0
Amount of orders ('000 Nu.)	71.6	96.6	251.0	322.0	205.0

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

Source: Division of Posts and Telegraph, Thimphu

CHAPTER 8: ENERGY

INTRODUCTION

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

Two big projects " Kurichhu Hydro power Project" and the "Tala Hydro Power Project" will substantially improve the energy generation in the country. Domestic consumption of electricity has been marginal but should increase with the ongoing emphasis through Rural Electrification Programs in emphasis. Other forms of energy as the solar, wind and biomass energy are being explored; they form very insignificant quantities. Number of villages electrified increased from 331 in 1995/96 to 443 villages in 1998/99. This trend is a positively indication of the prospective reduction of fuel wood dependence in the near future.

TABLE 8.1: ELECTRICITY GENERATING STATIONS AND THEIR CAPACITIES, FY 1998/99 & 1999/2000

	1998/1999				1999/2000			
Generating stations Dzongkhag	Capacity (No.X MW) Installed	Generatin capacity (MW)	Peak generatio n (MW)	Energy generatio n (MW)	Capacity (No. X MW) Installed	Generatin capacity (MW)	Peak generatio n (MW)	Energy generated (MU)
Hydro stations (a)								
Chhukha	4 x 84.00	336.0	363.0	1732926	4 x 84.00	336.0	361.0	2117.2
Chumey (Bumthang)	3 x 00.50	1.0	0.5	2.638	3 x 00.50	1.0	0.8	2.4
Gidakom (Thimphu)	5 x 00.25	0.0	0.0	0	5 x 00.25	0.0	0.0	0.0
Jushina (Thimphu)	4 x 00.09	0.4	0.2	0.351	4 x 00.09	0.4	0.3	1.1
Rangjung (Trashigang)	2 x 01.10	2.2	1.2	4.062	2 x 01.10	2.2	1.5	5.2
Chenari (Trashigang)	3 x 00.25	0.0	0.0	0	3 x 00.25	0.0	0.0	0.0
Khaling (Trashigang)	3 x 00.20	0.4	0.4	0.567	3 x 00.20	0.4	0.3	0.6
Khalangzi (Mongar)	3 x 00.13	0.3	0.3	1.011	3 x 00.13	0.3	0.3	1.4
Wangduephodrang	3 x 00.10	0.2	0.1	0.173	3 x 00.10	0.0	0.0	0.0
Micro hydels								
Lhuntse (Lhuntse)	1 x 0.020	.	..	..	1 x 0.020	0.1	0.1	0.1
Thinleygang (Thimphu)	1 x 0.030	..	..	..	1 x 0.030	..	..	..
Rukubji (Wangduephodrang)	1 x 0.040	0.0	..	0.005	1 x 0.040	0.0	..	0.0
Tangsibi (Trongsa)	1 x 0.030	..	..	..	1 x 0.030	0.0	..	0.2
Trongsa (Trongsa)	1 x 0.050	0.1	..	..	1 x 0.050	0.1	..	0.2
Bubja (Trongsa)	1 x 0.030	..	..	..	1 x 0.030	0.0	..	0.2
Tamshing (Bjakar)	1 x 0.050	..	..	..	1 x 0.050	0.0	..	..
Ura (Bjakar)	1 x 0.030	..	..	..	1 x 0.030	0.1	..	..
Yadi (Mongar)	1 x 0.020	..	..	..	1 x 0.020	0.0	.	0.0
Kekhar (Zhemgang)	1 x 0.020	.	..	..	1 x 0.020	0.0	..	..
Surey (Sarpang)	2 x 0.070	..	..	..	2 x 0.070	0.1	..	..
Damphu (Tsirang)	2 x 0.100	0.2	..	0.876	2 x 0.100	0.2	0.2	0.7
Tingtibi (Zhemgang)	2 x 0.100	0.2	0.1	1.046	2 x 0.100	0.2	0.1	1.1
Dagana (Dagana)	2 x 0.100	0.2	0.1	1.8	2 x 0.100	0 2	0.1	0.3

continues...

TABLE 8.1(cont): ELECTRICITY GENERATING STATIONS AND THEIR CAPACITIES, FY 1998/99 & 1999/2000

Generating stations (Dzongkhag)	1998/1999				1999/2000			
	Number of machines	enerating capacity (MW)	Peak generation (MW)	Energy generated (MU)	Number of machines	enerating capacity (MW)	Peak generation (MW)	Energy generated (MU)
Diesel generation stations								
Thimphu	6	..	..	..	7	..	..	0.00
Paro	1	..	..	0.00	1	..	..	0.00
Phuentsholing	4	..	..	0.00	3	0.00	..	0.00
Damphu	2	..	..	..	3	..	..	..
Trongsa	1	..	..	0.00	2	..	..	..
Gelephu	2	0.69	..	0.03	2	0.69	..	0.05
Sarpang	1	0.26	..	0.00	2	0.51	..	0.01
Kalikhola	2	0.15	..	0.04	2	0.15	..	0.10
Zhemgang	1	..	..	..	3	..	..	..
Dagana	1	..	..	..	2	..	..	..
Trashigang	2	..	..	..	5	..	..	..
Bjakar	1	..	..	..	3	..	..	..
Mongar	..	..	..	..	1	..	..	..
Samdrup Jongkhar	..	..	..	..	2	..	..	..
Trashi Yangtse	..	..	..	..	1	..	..	..
Pema Gatshel	..	..	..	..	1	..	..	..
Other diesel stations	..	..	..	..	..	..	..	..
Penden Cement Authority Lt	4	..	..	0.10	4	3.60	..	0.04
Bhutan Board Products Ltd.	2	..	..	..	2	0 46	..	..
Chhukha Hydro Power Corp	5	..	..	0.02	5	1.95	..	0.01
Bhutan Chemical & Carbide	2	..	..	0.00	2	0.23	..	0.01
Bhutan Ferro Alloys Ltd.	1	..	..	0.00	1	0.29	..	0.17

Note: The given energy generation are annual energy generation during 1999/99 & 1999/2000

Source: Division of Power, Thimphu

TABLE 8.2: TOTAL ELECTRICITY GENERATION AND SUPPLY, 1996/97 TO 1999/2000

Details	1996/97	1997/98	1998/99	1999/2000
Installed capacity (MW)	350.14	350.17	350.15	353.6
Chhukha hydro power	336.00	336.00	336.00	336
Other hydro power	8.35	8.35	8.35	8.5
All diesel generators	5.79	5.82	5.80	9.2
Electricity generation (MU)	1,838.38	1,801.02	1746.11	2131
Chhukha hydro power	1,828.06	1,789.98	1732.93	2117.2
Other hydro power	10.25	10.97	13.12	13.5
All diesel generators	0.07	0.06	0.07	0.3
Exports (MU)	1,430.29	1,357.20	1302.22	1626
Imports (MU)	7.03	7.54	8.15	9.2
Total energy requirement (MU)	378.02	389.90	418.33	480.8
Total energy sales (MU)	361.04	375.24	390.79	445.6
Energy losses (MU)	16.98	14.66	27.53	35.3
Percentage losses (%)	4.49	3.76	6.58	7.3
Peak system demand (MW)	72.00	77.00	80.00	89
Length of HT lines (33/11 KV)				
Overhead lines (km)	923.82	954.41	1113.44	985.7
Underground lines (km)	9.01	12.27	14.90	14.9
Length of LT lines				
Overhead lines (km)	863.11	885.74	951.78	1020.9
Underground lines (km)	29.05	37.63	40.90	45

Note: Diesel generators excludes those owned by private organisations.

HT = High tension, LT = Low tension

Source: Division of Power, Thimphu

TABLE 8.3: MAJOR TRANSMISSION LINES FOR EVACUATING HYDRO POWER FROM CHHUKHA POWER PLANT, 1999 AND 2000

Stations	1999			2000		
	220 KV line(Km)	132 KV line(Km)	66 KV line (Km)	220 KV line(Km)	132 KV line(Km)	66 KV line (Km)
Chhukha - Birpara	71.00	..	..	1.000(D/C)	..	..
Chhukha - Singhigoan	33.32	..	..	33.30	..	..
Chhukha - Simtokha	54.37	..	..	54.40	..	..
Indian border- Gelephu	..	0.30	..	..	0.30	..
Chhukha - Gedu			20.10	..	..	20.10
Gedu - Phuntsholing	..	..	17.70	..	..	17.70
Chhukha - Confluence	..	..	36.70	..	..	36.70
Confluence - Simtokha	..	..	18.30	..	..	18.30
Confluence - Haa	..	..	33.52	..	..	33.50
Confluence - Paro	..	..	24.02	..	..	24.00
Simtokha - Wangduephodrang	..	..	26.02	..	..	26.00
Phuntsholing - Gomtu	..	..	27.00	..	..	27.00
Phuntsholing - Singhigoan	..	..	8.38	..	..	8.40
Phuntsholing - Birpara			Redumdan	..	..	.. Redumdent
Lobeysa - Basochhu	..	..	23.02	..	..	23.00
Total	/c)::87.867(	0.30	234.77		0.30	234.70

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

Source: Division of Power, Thimphu

TABLE 8.4: DETAILS OF DOMESTIC ELECTRICAL ENERGY CONSUMPTION, 1996/97 TO 1999/2000

Details	1996/97	1997/98	1998/99	1999/2000
Towns electrified (numbers)	39	39	40	40
Villages electrified (numbers)	363	370	443	552
Consumers ('000)	23.0	31.6	33.7	35.7
Sales of energy (million Nu.)	179.0	229.5	236.4	280.7
Per capita energy consumption (Units)	599.4	609.8	656.6	720.0

Source: Division of Power, Thimphu

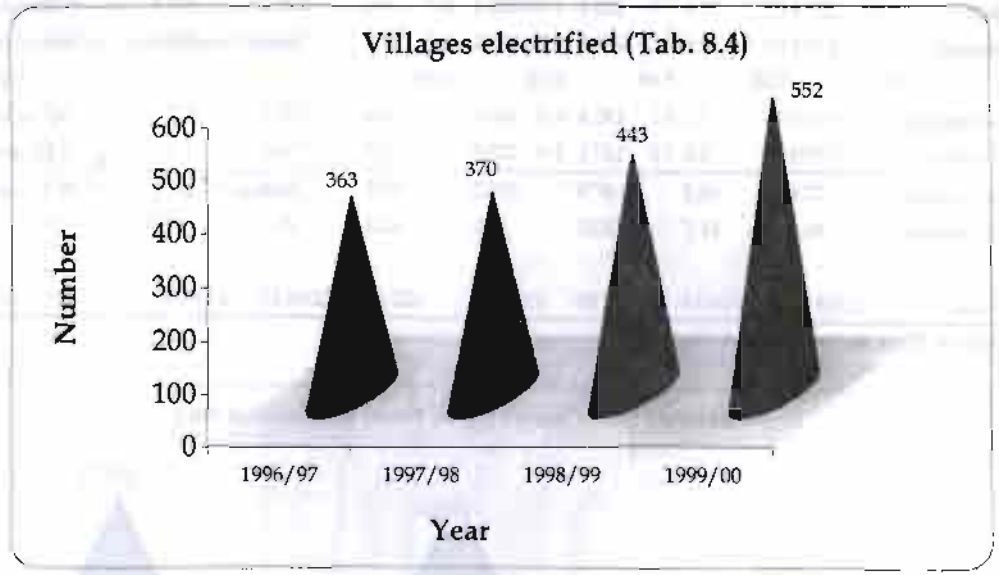


TABLE 8.5: MONTHLY REVENUE FROM SALE OF ENERGY FROM CHHUKHA HYDROPOWER, 1998 TO 2000

	1998			1999			2000		
Month	Export	Internal	Total	Export	Internal	Total	Export	Internal	Total
January	25.8	9.9	35.7	25.6	11.3	37.0	62.0	13.0	75.0
February	17.5	8.7	26.2	14.9	10.0	24.9	34.8	12.5	47.3
March	21.0	10.6	31.6	15.6	10.8	26.5	40.8	13.0	53.3
April	81.9	9.5	91.4	43.6	10.5	54.1	124.2	11.1	135.2
May	118.7	33.3	128.7	93.0	11.0	104.1	209.9	11.5	221.4
June	172.5	6.7	179.2	184.6	6.0	190.6	298.3	10.7	309.0
July	203.6	29.8	212.6	329.3	9.8	339.1	317.4	10.9	328.3
August	215.3	8.5	224.9	328.3	9.8	338.0	351.2	3.7	354.9
September	187.2	1.2	195.4	310.6	9.6	320.2	327.5	3.9	331.3
October	177.3	9.8	187.1	323.9	10.7	334.6	261	4.5	265.5
November	77.4	10.5	87.9	237.5	11.1	248.6	114.7	9.2	123.9
December	40.4	11.7	52.1	11.2	12.0	23.2	48.3	13.8	62.1
Total	1,338.74	114.15	1,452.89	1,918.11	122.54	2,040.65	2,189.50	117.70	2,307.30

Source: RMA Bullitin, Vol. 14. No.1

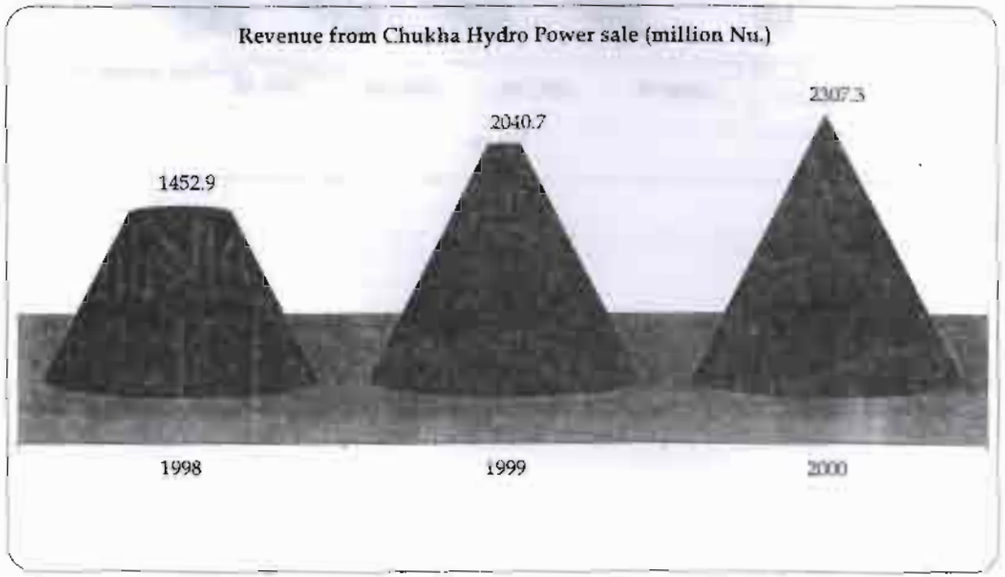


TABLE 8.6: CONSUMPTION OF ELECTRICITY BY TYPE OF CONSUMER, 1995/96 TO 1999/2000

Type of consumer	1995/96	1996/97	1997/98	1998/99	1999/2000
Total consumption (MU)	342.8	366.4	357.2	390.8	434.4
Domestic	25.7	40.7	31.0	35.0	46.7
Commercial & Government Offices	18.2	20.1	21.4	25.4	42.0
Industries	291.9	299.8	317.0	324.0	338.5
Bulk supply	6.5	4.5	5.5	6.2	6.8
Public lighting	0.5	1.3	0.3	0.3	0.3
Consumption as percentage	100.0	100.0	100.0	100.0	100.0
Domestic	7.5	11.1	8.3	9.0	10.8
Commercial & Government Offices	5.3	5.5	5.7	6.5	9.7
Industries	85.2	81.8	84.5	82.9	77.9
Bulk supply	1.9	1.2	1.5	1.6	1.6
Public lighting	0.1	0.4	0.1	0.1	0.1

Source: Division of Power, Thimphu

CHAPTER 9: TOURISM

INTRODUCTION

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

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 are another important aspect.

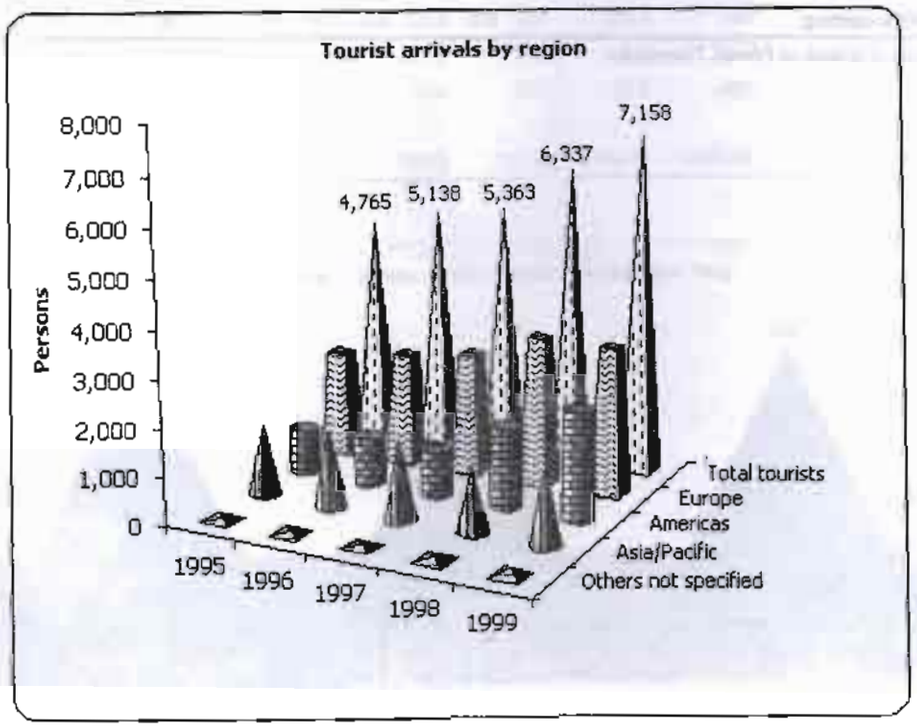


TABLE 9.1: NUMBER OF ANNUAL TOURIST ARRIVALS TO BHUTAN BY COUNTRY OF RESIDENCE, 1996 TO 2000

Country	1996	1997	1998	1999	2000
Americas	1,039	1,010	1,714	2,285	3,024
Canada	57	89	82	149	194
USA	963	910	1,471	2,122	2,754
Brazil	19	11	27	14	10
Mexico	na	na	na	na	37
Argentina	na	na	na	na	29
Asia/Pacific	1,639	1,712	1,401	1,599	1,556
India	1	0	0	0	na
Nepal	15	32	23	23	50
Other south Asia	112	197	224	236	326
Japan	1,211	1,173	1,032	1,102	875
Korea Republic	41	31	11	14	3
Thailand	181	140	19	71	92
Australia	71	121	64	131	179
New Zealand	7	18	28	22	31
Europe	2,391	2,590	3,132	3,118	2,948
Ireland	6	10	0	16	na
Sweden	7	18	58	37	48
United Kingdom	385	642	686	646	595
Italy	242	186	218	276	156
Spain	49	33	109	118	141
Austria	156	156	270	197	131
Belgium	77	75	95	107	95
France	331	229	366	236	399
Germany	722	533	520	574	662
Netherlands	131	234	370	362	na
Switzerland	161	186	170	296	137
Europeans unspecified	124	288	270	253	584
Others not specified	69	51	90	156	7
Total tourists	5,138	5,363	6,337	7,158	7,535

Source: Tourism Authority of Bhutan, Thimphu

TABLE 9.2: TOURIST ARRIVALS BY REGIONS AND REVENUE RECEIPTS, 1995 TO 2000

Region	1995	1996	1997	1998	1999	2000
Americas	1,003	1,039	1,010	1,714	2,285	3024
Asia and Pacific	1,529	1,639	1,712	1,418	1,599	1556
Europe	2,227	2,391	2,590	3,062	3,118	2948
Others	69	69	51	90	156	7
All regions (persons)	4,765	5,138	5,363	6,203	7,158	7535
Tourism revenue receipts						
Ngultrums (million)	n.a	231	n.a	n.a	n.a	n.a
Or						
US Dollars (million)	6	7	7	8	9	n.a

Source: Tourism Authority of Bhutan, Thimphu

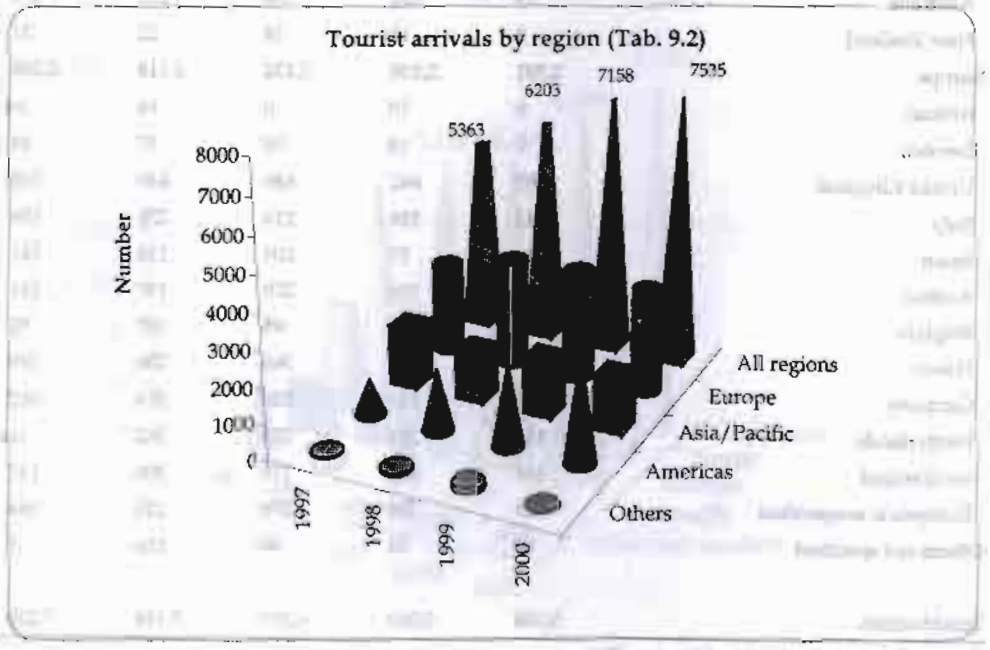


TABLE 9.3: NUMBER OF TOURIST ARRIVALS BY SEASON AND MONTH, 1996 TO 2000

Season and month	1996	1997	1998	1999	2000
Winter	508	640	1,048	1,179	1,274
November	508	640	678	841	996
December	n.a	n.a	274	190	213
January	n.a	n.a	96	148	65
Spring	n.a	n.a	1,863	2,071	2,284
February	n.a	n.a	154	322	223
March	n.a	n.a	542	1,145	1,066
April	n.a	n.a	1,167	604	995
Summer	n.a	n.a	516	635	764
May	n.a	n.a	267	395	415
June	n.a	n.a	97	108	187
July	n.a	n.a	152	132	162
Autumn	n.a	n.a	2,776	3,273	3,237
August	n.a	n.a	340	348	307
September	n.a	n.a	1,107	1,069	683
October	n.a	n.a	1,329	1,856	2,247
Total Arrival	508	640	6,203	7,158	7,559

sourse: Druk Air.

TABLE 9.4: NUMBER OF TOURIST ARRIVALS BY PURPOSE OF VISIT, 1996 TO 2000

Purpose	1996	1997	1998	1999	2000
Tour, holidays and recreation	3,245	4,517	4,860	6,328	6,633
Trekking & mountaineering	1,893	846	1,343	830	926
Total tourists	5,138	5,363	6,203	7,158	7,559

Source: Tourism Authority of Bhutan, Thimphu

TABLE 9.5: NUMBER OF TOURIST ARRIVALS BY MODE OF TRANSPORT,1996 TO 2000

Mode of transport	1996	1997	1998	1999	2000
Air	na	4826	5583	5745	6522
Other	na	537	620	1413	1037
Total tourists	5138	5363	6203	7158	7559

Source: Tourism Authority of Bhutan, Thimphu

CHAPTER 10: FOREIGN TRADE AND BALANCE OF PAYMENTS

INTRODUCTION

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

Balance of Payments statistics are designed to show the difference between the total payments made to foreign countries and the total receipts from foreign countries. Payments and receipts include imports and exports of merchandise; services and transfers (such as freight and insurance charges); expenditure by 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 situations is obtained by including services and transfers to provide a measure of the current account balance.

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

TABLE 10.1: BALANCE OF PAYMENTS ESTIMATES, FY 1995/96 TO 1999/00

Item	1995/96	1996/97	1997/98	1998/99*	1999/2000*
Exports,fob	3,349.13	3,553.77	4,274.18	4,460.00	4,987.86
India	3,078.95	3,226.98	4,041.94	4181	4711.23
Other	270.18	326.79	232.24	279	276.63
Imports,cif	(3,802.34)	(4,697.21)	(5,226.10)	-6988.43	-8074.72
India	(2,790.52)	(3,068.17)	(3,684.74)	-4994.03	-6065.71
Other	(1,011.82)	(1,629.04)	(1,541.36)	-1994.4	-2009.01
Trade balance	(453.21)	(1,143.44)	(951.92)	-2528.43	-3086.86
India	288.43	158.81	357.20	-813.03	-1354.48
Other	(741.64)	(1,302.25)	(1,309.12)	-1715.4	-1732.38
Services & transfer receipts	995.70	995.05	1,734.60	1912.38	2289.06
India	282.26	293.21	481.73	497.32	804.33
Other	713.44	701.84	1,252.87	1415.06	1484.73
Services & transfer payments	(1,814.94)	(1,870.51)	(2,570.19)	-3733.35	-4733.54
India	(776.14)	(920.14)	(1,819.93)	-2822.58	-3796.88
Other	(1,038.80)	(950.37)	(750.26)	-910.77	-936.66
Current account balance	(1,272.45)	(2,018.90)	(1,787.51)	-4349.4	-5531.34
India	(205.45)	(468.12)	(981.00)	-3138.29	-4347.03
Other	(1,067.00)	(1,550.78)	(806.51)	-1211.11	-1184.31
Foreign aid	2,396.50	3,013.84	3,538.21	6757.19	7353.12
India	682.09	1,510.64	2,366.11	5086.42	5663.57
Other	1,714.41	1,503.20	1,172.10	1670.77	1689.55
Other loans	(77.50)	(10.76)	(90.55)	-298.15	0
India	0.00	71.82	0.00	-250	0
Other	(77.50)	(82.58)	(90.55)	-48.15	0
Foreign Direct Investment	-	-	-	45.22	0
India	-	-	-	-	-
Other	-	-	-	45.22	0
Errors and omissions	(190.77)	(50.61)	81.82	-272.39	-233.18
India	(397.05)	(343.88)	(714.61)	-601.87	-685.54
Other	206.28	293.27	796.43	329.48	452.36
Overall balance	855.78	794.11	1,741.97	1882.47	1588.6
India	79.59	631.00	670.50	1096.26	631
Other	776.19	163.11	1,071.47	786.21	957.6

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

Source: Royal Monetary Authority, Thimphu

TABLE 10.2:VALUE OF EXPORTS AND IMPORTS, BHUTAN, CALENDAR YEAR FROM 1995 TO 1999

Trade	1995	1996	1997	1998	1999
Exports	3,349.10	3,553.80	4,274.10	4,455.61	4967.98
India	3,078.90	3,227.00	4,041.90	4,175.63	4,691.23
Third Countries	270.20	326.80	232.20	279.98	276.75
Imports	3,641.90	4,525.20	4,978.00	5,516.36	7,834.86
India	2,630.20	2,896.20	3,453.60	3,620.95	5,845.28
Third Countries	1,011.70	1,629.00	1,524.40	1,895.41	1,989.58
Balance of trade	(292.80)	(971.40)	(703.90)	(1,060.75)	n.a
India	448.70	330.80	588.30	554.68	n.a
Third Countries	(741.50)	(1,302.20)	(1,292.20)	(1,615.43)	n.a

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

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

TABLE 10.3: COMMODITIES OF EXPORT TO THIRD COUNTRIES, CALENDAR YEAR FROM 1998 TO 1999
(EXPORTS)

Commodity	1998		1999	
	Million Nu.	Share (%)	Million Nu.	Share (%)
Vegetables and fruits	186.40	66.58	176.67	63.84
Processed food	5.65	2.02	8.05	2.91
Mineral products	63.71	22.76	60.7	21.93
Plastics products	0.81	0.29	0.7	0.25
Photographic film & photographic materials	0.00	0.00	0	0
Wood products	3.97	1.42	6.6	2.38
Woodpulp products	2.85	1.02	0.31	0.11
Textile	1.24	0.44	16.2	5.85
Coins	0.00	0.00	0	0
Base metals and base metal products	1.93	0.69	0	0
Machinery	9.59	3.43	6.59	2.38
Philatelic products	0.00	0.00	0	0
Handicrafts products	3.83	1.37	0.15	0.05
Household items & personal effects	0.00	0.00	0.78	0.3

continues...

TABLE 10.3: COMMODITIES OF IMPORT FROM THIRD COUNTRIES, CALENDAR YEAR FROM 1998 TO 1999
(IMPORTS)

Commodity	1998		1999	
	Million Nu.	Share (%)	Million Nu.	Share (%)
Animal products	2.14	0.11	0.99	0.05
Vegetables, fruits, nuts, coffee, cereals & seeds	0.45	0.02	12.22	0.61
Vegetables fats and oil	20.55	1.08	13.22	0.66
Whiskies and prepared foodstuffs	43.78	2.31	34.42	1.73
Mineral oil and fuels	40.13	2.12	56.86	2.86
Products of chemical industries	62.78	3.31	7.45	0.37
Medicines and pharmaceuticals	79.00	4.17	19.56	0.98
Photographic film & materials	33.67	1.78	0.12	0.01
Plastics and rubber products	118.83	6.27	70.26	3.53
Wood products	17.32	0.91	7	0.35
Woodpulp products	115.61	6.10	26.34	1.32
Textile	51.47	2.72	35.94	1.81
Machinery and mechanical appliances, base metals and electronics items	1,157.14	61.05	1,667.87	83.83
Creamic cups, melamine	35.36	1.87	3.14	0.16
Treking items, footwears, carpets	33.27	1.76	7.6	0.38
Miscellaneous manufactured articles	23.84	1.26	9.1	0.46
Precious and semi-precious metals	3.32	0.18	7.75	0.39
Tobacco & cigarette	5.40	0.28	6.4	0.32
Personal effects	51.35	2.71	3.34	0.18

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

TABLE 10.4: TEN MAJOR COMMODITIES OF EXPORT AND IMPORT TO AND FROM THIRD COUNTRIES
(a) CALENDAR YEAR FROM 1995 TO 1997

Commodity	1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
Exports									
Oranges	99.21	36.7	1	109.23	33.4	1	119.77	51.6	1
Apples	49.54	18.3	2	71.80	22.0	2	34.16	14.7	2
Cardamom	..	..	..	..	..	..	..	..	..
Dolomite powder chips and lumps	..	..	..	..	..	..	..	..	..
Portland cement	4.33	1.6	10	..	..	..	..	..	..
Boulders	..	..		9.42	2.90	7	..	..	..
Coal	17.47	6.5	4	19.91	6.1	4	25.59	11.0	3
Fruit products	..	..	..	..	..	..			
Limestone chips	6.52	2.4	6	4.48	1.4	10	7.27	3.1	5
Gingers	..	.	..	..	..	..	..	..	..
Sawn timber	..	..	..	..	..	..	..	..	..
Philatilic stamps	..	..	..	..	..	..	5.54	2.4	6
Stone ballast	..	..	..	..	..	..	..	..	..
Mixed fruit juice	6.09	2.3	8	7.76	2.4	9	2.62	1.1	9
Broom handles	..	..	..	..	..	..	..	..	..
Mushroom, fresh	6.16	2.3	7	8.66	2.7	8	12.66	5.5	4
Calcium carbide	..	..	..	..	..	..	..	..	..
Handicrafts	..	..	..	12.12	3.7	5		..	..
Stone chips	..	..	..	..	..	..		..	..
Ferro-silicon	30.83	11.4	3	..	..	..	..	..	..
Quartzite	15.36	5.7	5	46.70	14.3	3	2.32	1.0	10
Saw logs, hard (Non-coniferous)	5.00	1.9	9	..	..	..	3.10	1.3	8
Handmade paper				9.87	3	6	..	..	..

continues...

TABLE 10.4(continuation): TEN MAJOR COMMODITIES OF EXPORT AND IMPORT TO AND FROM THIRD COUNTRIES (a) CALENDAR YEAR FROM 1995 TO 1997

Commodity	1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
Imports									
Agriculture equipments	..	..	..	..	..	..	..	..	..
Passanger motor cars	55.16	5.5	3	186.83	11.5	2	187.22	12.3	2
Power project equipments	..	..	..	..	..	..	..	..	..
Cold rolled ennealal sheet	..	..	..	..	..	..	..	..	..
Soyabean oil	..	..	..	..	..	..	..	..	..
Dry fish	..	..	..	..	..	..	..	..	..
Equipment for furniture manufacture project	..	..	..	..	..	..	..	..	..
Vegetable oil	..	..	..	..	..	..	..	..	..
Spare parts for motor vehicle	25.24	2.5	10	43.60	2.7	6	82.59	5.4	3
Hydro meteorological equipments	..	..	..	..	..	..	..	..	..
Aircraft	..	..	..	..	..	..	..	..	..
Equipments and accessori	..	..	..	..	..	..	..	..	..
Equipment for tele-communication	286.53	28.3	1	302.15	18.5	1	491.02	32.2	1
Spare parts for aircraft	..	..	..	38.24	2.3	9	..	..	..
MVA Elken fesi furnace equipment	..	..	..	..	..	..	..	..	..
Laboratory equipments	88.02	8.7	2	126.64	7.8	3	..	..	..
Laxfire extinguishers, etc	..	..	..	..	..	..	..	..	..
Fertilizers	..	..	..	..	..	..	..	..	..
Aircraft engine	..	..	..	..	..	..	..	..	..
Personal effects	..	..	..	..	..	..	..	..	..
Palm	..	..	..	..	..	..	..	..	..
Decorative paper	..	..	.	..	..	..	..	..	..

continues...

TABLE 10.4(continuation): TEN MAJOR COMMODITIES OF EXPORT AND IMPORT TO AND FROM THIRD COUNTRIES (a) CALENDAR YEAR FROM 1995 TO 1997

Commodity	1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
Imports									
Aircraft tool and gauges, parts	35.95	3.6	8	..	..	..	..	..	..
Machhinery for treating wood	..	..	..	..	..	..	..	..	..
Parts of bulldozer angle dozer	..	..	..	..	..	..	22.65	1.5	10
Household goods	..	..	..	..	..	..	..	..	..
Advertising materials	..	..	..	..	..	..	..	..	..
Coinsn new issue	..	..	..	..	..	..	..	..	..
Spare parts	..	..	..	..	..	..	82.59	5.4	3
Parts of computers	51.86	5.1	4	103.60	6.4	4	33.64	2.2	5
Photocopying apparatus	48.12	4.8	5	57.75	3.5	5	..	..	..
Computer CD Rom	40.04	4.0	6	41.74	2.6	7	..	..	..
Laptop computers				38.32	2.4	8	..	..	..
Packing paper for bakery	38.28	3.8	7	..	..	..	..	..	..
Spare parts for aircraft	35.95	3.6	8	..	..	..	..	..	..
Flat rolled product,iron				35.89	2.2	10	..	..	..
Type writers, electric	32.59	3.2	9	..	..	..	29.99	2.0	7

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

TABLE 10.5: VALUE AND ITS PERCENTAGE SHARE OF EXPORTS TO SIX SELECTED COUNTRIES EACH YEAR, CALENDAR YEAR FROM 1995 TO 1997

Country	1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
India	3,078.95	91.93	1	3,226.98	90.80	1	4,041.94	94.6	1
Bangladesh	201.12	6.01	2	261.68	7.40	2	179.37	4.2	2
Singapore	..	..	..	..	..	..	..	..	..
Netherland	..	..	..	4.49	0.10	5	..	..	..
Austria	2.75	0.08	6	19.88	0.60	4	..	..	..
Germany	4.09	0.12	5	..	..	..	4.05	0.1	6
Thailand	..	..	..	..	..	..	..	..	..
Nepal	19.55	0.58	4	20.19	0.60	3	25.69	0.6	3
Japan	34.64	1.03	3	7.23	0.20	6	11.76	0.3	4
U.S.A	..	..	..	..	..	..	4.66	0.1	5
Spain	..	..	..	..	..	..	..	..	..
Other countries	8.02	0.24	..	..	..	..	4.19	0.1	..
All countries	3,349.13	100.00	..	3,540.45	99.70	..	4,271.66	100.00	..

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

TABLE 10.6: VALUE AND ITS PERCENTAGE SHARE OF IMPORTS TO TEN SELECTED COUNTRIES EACH YEAR CALENDAR YEAR FROM 1995 TO 1997

Country	1995			1996			1997		
	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank	Million Nu.	Share (%)	Rank
India	2,630.22	72.22	1	2,896.16	64.00	1	3,453.59	69.4	1
Japan	412.01	11.31	2	602.09	13.30	2	841.62	16.9	2
Germany	70.76	1.94	5	67.13	1.50	6	45.43	0.9	5
Canada	..	..	..						
Bangladesh	..	..	..	19.76	0.80	9	34.58	..	..
Denmark	111.87	3.07	4	139.83	3.10	5	41.70	0.8	6
Norway	..	..	..						
Singapore	194.00	5.33	3	344.13	7.60	3	139.97	2.8	3
U.S.A	12.69	0.35	8	..	..	..	30.23	0.6	10
Hongkong	10.85	0.30	10	..	..	..	..	..	..
Korea, south	..	..	..	39.14	0.90	8	..	..	..
Australia	..	..	..	..	..	..	31.32	0.6	9
U.K	57.50	1.58	7	40.61	0.90	7			
Malaysia	..	..	..	..	..	..	..	..	..
China	11.29	0.31	9	30.76	0.70	10	37.11	0.7	7
Netherland	..	..	..	..	..	..	..	..	..
Austria	..	..	..	..	..	..	..	..	..
Thailand	60.84	1.67	6	153.26	3.40	4	131.58	2.6	4
Other countries	69.88	1.92	..	109.00	..	..	142.96	2.9	..
All countries	3,641.92	100.00	..	4,441.87	96.20	..	4,930.09	98.20	..

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

TABLE 10.7: GROSS INTERNATIONAL RESERVES, 1995/96 TO 1999/2000

Money reserves	1995/96	1996/97	1997/98	1998/99	1999/00
Rupee reserves (million)	1,351.9	958.6	1,629.1	2,725.4	3,165.0
Royal Monetary Authority	25.1	39.2	152.8	278.4	102.0
Bank of Bhutan	1,326.8	913.8	1,404.4	1,863.7	1,819.5
Bank National Bhutan		5.7	72.0	583.3	1,191.9
Convertible currency	152.5	149.3	177.2	195.6	202.1
Royal Monetary Authority (a)	146.4	141.5	171.0	189.0	185.0
Royal Government	-	-	-	-	-
Bank of Bhutan	6.1	6.9	4.0	3.0	4.1
Bank National Bhutan		0.9	2.2	3.6	12.9
Royal Insurance Corporation of Bhutan (RICB)	0.0	0.0	0.0	0.1	0.0
All reserves (million US $)	152.5	176.0	215.5	292.6	290.0

(a) Including reserve tranche position in the Fund

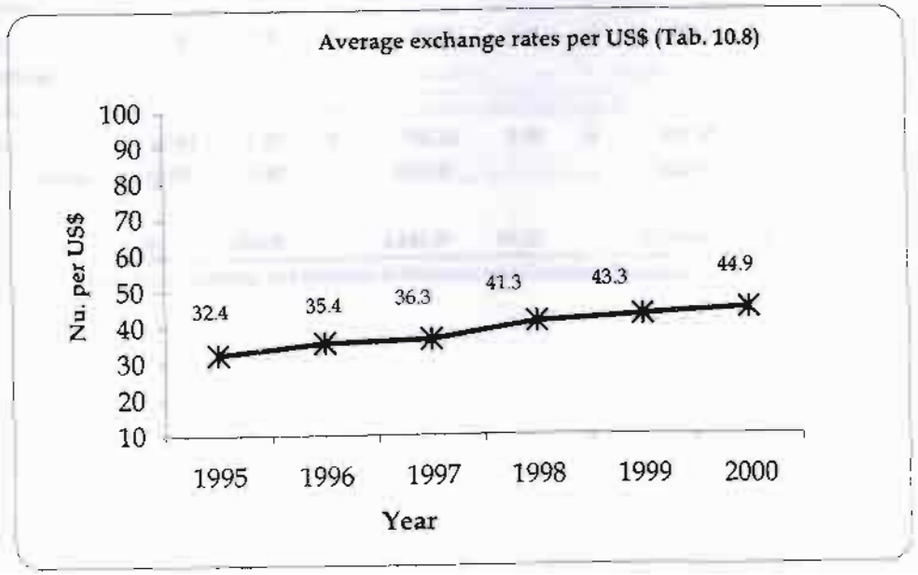
Source: Royal Monetary Authority, Thimphu

TABLE 10.8: MONTHLY AVERAGE EXCHANGE RATES, NGULTRUMS PER US DOLLAR, 1994 TO 2000

Month	1994	1995	1996	1997	1998	1999	2000
January	31.4	31.4	35.8	35.9	39.4	42.5	43.6
February	31.4	31.4	36.6	35.9	38.9	42.5	43.6
March	31.4	31.7	34.4	35.9	39.5	42.4	43.6
April	31.4	31.4	34.2	35.8	39.7	42.7	43.6
May	31.4	31.4	35.0	35.8	40.4	42.8	44.0
June	31.4	31.4	35.0	35.8	42.3	43.1	44.7
July	31.4	31.4	35.5	35.7	42.5	43.3	44.8
August	31.4	31.6	35.7	35.9	42.8	43.5	45.7
September	31.4	33.3	35.7	36.4	42.5	43.5	45.9
October	31.4	34.6	35.6	36.2	42.4	43.5	46.4
November	31.4	34.7	35.7	37.2	42.4	43.4	46.8
December	31.4	35.0	35.8	39.2	42.6	43.5	46.8
Calendar year average	31.4	32.4	35.4	36.3	41.3	43.3	44.9

Fiscal year average	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00
	31.37	31.41	34.29	35.77	38.39	43.18	43.64

Source: Royal Monetary Authority, Thimphu



CHAPTER 11: MONEY, BANKING AND FINANCE

INTRODUCTION

Until recent times most economic transactions in Bhutan were carried out on the basis of barter arrangements. The widespread use of money commenced during the 1960s with the expansion of trade with India and the inflow of development assistance. The Indian Rupee was most commonly used until 1974 when the government first issued Ngultrum notes, Bhutan's official currency, the monetary sector has grown since then with increasing economic development, improvement in transport and communication facilities and greater urbanization, though the barter economy continues to be important. The monetary sector in Bhutan comprises the Royal Monetary Authority, Bhutan's Central Bank; the Bank of Bhutan and the Unit trust of Bhutan was converted from its non-bank status to a financial bank in 1997, and Bhutan National Bank. The non-bank financial institutions are the Royal Insurance Corporation 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.

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

TABLE 11.1: MONETARY SURVEY (a) ROYAL MONETARY AUTHORITY AND BANK OF BHUTAN, 1996 TO 2000

Item	1996	1997	1998	1999
Assets total	1169.3	1426.9	1701.0	1862.5
Reserves	61.7	20.0	167.9	107.3
Foreign Assets	1.4	0.6	2.1	15.4
Rupee	..	..	0.0	13.1
Others	1.4	0.6	2.1	2.3
Investment total (a)	..	..		
Claims on Govt. enterprises	41.5	30.1	14.9	41.7
Claims on private sector	728.4	720.7	680.6	669.7
Claims on deposit money banks	321.8	655.5	835.5	1013.0
Claims on NFIs	14.3	..	0.0	0.0
Real estate	..	..	0.0	0.0
Liabilities total	1169.3	1426.9	1701.0	1847.2
GI reserve funds	43.6	12.3	14.6	15.8
Life fund	0.0	33.5	48.5	41.1
GEPF	886.8	1112.1	1363.5	1396.9
Group Insurance Fund	80.7	94.1	106.4	104.6
Credit from DMB	0.0	0.0	0.0	0.0
UTB fund	0.0	0.0	0.0	0.0
Capital accounts	63.0	79.9	82.6	176.7
Other items (net)	95.2	95.0	85.3	112.1

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

Source: Royal Monetary Authority of Bhutan, Thimphu

TABLE 11.2: FINANCIAL DETAILS OF ROYAL INSURANCE CORPORATION OF BHUTAN, 1996 TO 2000

Item	1996	1997	1998	1999	2000
Assets total	810.7	914.5	1701.0	1847.2	1509.5
Foreign assets				15.4	55.0
Rupee	0.0	0.0	0.0	13.1	53.0
Others	1.4	0.6	2.1	2.3	2.0
Reserves	142.5	104.8	167.9	107.3	93.7
Claims on private sector	728.0	720.7	680.6	669.7	713.6
Claims on govt. enterprises	6.7	10.4	7.5	41.7	39.2
Claims on deposit money banks (Fixed deposits)	57.5	0.0	0.0	1013.0	608.0
Claims on other NBFIs	2.5	0.0	0.0	0.0	0.0
Real Estate	0.0	0.0	0.0	0.0	0.0
Liabilities total	810.6	..	1701.0		1509.5
GI Reserved Funds	43.6	12.3	14.6	15.8	129.8
Life Fund	0.0	33.5	48.5	41.1	39.7
GEPF Fund	886.8	1112.1	1363.5	1396.9	1104.3
Group Insurance Fund	80.7	94.1	106.4	104.6	118.8
Credit from DMB	0.0	0.0	0.0	0.0	0.0
UTB Fund	0.0	0.0	0.0	0.0	0.0
Capital Accounts	63.0	79.9	82.6	176.7	166.9
Other items(net)	95.2	95.0	85.3	112.1	-57.4

(a) RICB stands for Royal Insurance Corporation of Bhutan

Source: Royal Monetary Authority of Bhutan, Thumphu

TABLE 11.3: FINANCIAL DETAILS OF BHUTAN NATIONAL BANK, 1996 TO 2000

(millions Nu.)

Item	1996	1997	1998	1999	2000
Assets total	810.7	914.5	1,292.2	1,979.4	3,126.1
Reserves	142.5	104.8	228.7	264.9	343.2
Invesments through RICB	-	-	335.9	939.4	-
Claims on private sector	601.4	663.6	717.1	766.7	873.4
Claims on joint sector	6.7	10.4	7.5	8.4	5.0
Claims on deposit money banks	57.5	-	-	-	-
(Fixed deposits)					-
Claims on other NBFIs	2.5	-	-	-	-
Liabilities total	810.6	..	1,292.2	1,650.6	3,126.1
Deposits under unit shares	298.7	..	222.1	348.2	202.6
Deposits under fixed term	235.8	..	755.7	1,034.7	-
units					-
Recurring deposits	-	..	..	..	-
Provident fund	9.3	..	..	..	-
Credit from deposit money	-	..	..	..	-
banks					
Credit from RMA	-	-	-	-	0.0
Capital accounts	130.4	139.7	164.5	173.7	202.6
Other items(net)	136.4	59.9	123.2	94.0	369.0
Call loans	..	..	..	..	-

(a) RICB stands for Royal Insurance Corporation of Bhutan

Source: Royal Monetary Authority of Bhutan, Thimphu

TABLE 11.4: MONEY AND BANKING DETAILS OF BHUTAN DEVELOPMENT FINANCE CORPORATION, 1995 TO 2000

(million Nu.)

Item	1995	1996	1997	1998	1999	2000
Assets total	349.9	425.8	470.5	513.3	535.5	637.2
Reserves	19.0	25.0	28.2	28.3	22.0	33.5
Foreign assets	0.0	0.0	0.0	0.0	0.0	0.0
Rupees	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0	0.0
Claims on Government	0.0	0.0	0.0	0.0	0.0	0.0
Claims on Government Corporations	4.8	2.0	1.8	1.8	1.8	1.4
Claims on joimt corporations	0.0	0.0	0.0	0.0	0.0	0.0
Claims on private sector	301.5	377.6	406.1	422.1	466.0	478.2
Claims on DMBs(a)	9.0	21.2	34.4	61.1	45.7	124.2
Claims on other NBFIs(b)	15.5	0.0	0.0	0.0	0.0	0.0
Liabilities total	349.9	425.8	470.5	513.3		637.2
Foreign liabilities	104.7	141.9	165.2	168.9	172.4	221.8
Credit from RMA	0.0	0.0	0.0	0.0	0.0	0.0
Credit from DMB	0.0	0.0	0.0	0.0	0.0	0.0
Credit from other NBFIs	0.0	0.0	0.0	0.0	0.0	0.0
Grants	0.0	0.0	0.0	0.0	50.0	50.0
Capital Account	169.0	230.3	233.2	242.5	253.1	281.4
Other items net	76.3	53.5	72.1	51.9	60.0	84.2

Note: The summary exclude Agriculture Credit Program

(a) Deposits other than demand deposit (b) represents purchase of unit shares of UTB

Source: Royal Monetary Authority, Thimphu

TABLE 11.5: MONEY AND BANKING STATISTICS OF ROYAL MONETARY AUTHORITY OF BHUTAN, 1995 TO 2000

Item	END OF YEAR					
	1995	1996	1997	1998	1999	2000
Assets total	4,395.0	5,602.5	6,126.7	9,218.6	9,855.5	9,580.5
Foreign assets	4,337.2	5,284.8	6,064.6	8,022.4	8,581.5	8,584.6
Indian rupee	27.6	25.1	25.5	26.9	76.9	60.8
Convertible Foreign Currency	4,309.5	5,259.7	5,859.9	7,814.1	8,318.8	7,773.7
Claims on deposit money banks	2.8	307.8	2.5	1,193.0	1,246.1	1,000.0
Claims on Government	50.0	5.0	5.0	0.0	33.3	0.0
Claims on NMFIs	5.0	4.9	3.7	3.1	0.0	0.0
Liabilities total	4,395.0	5,602.6	6,126.7	9,218.6	9,855.4	8,713.3
Reserve money	2,149.7	2,328.5	2,545.5	3,954.1	4,239.0	5,298.5
Currency outside banks	432.4	422.5	720.9	768.8	815.0	1,117.0
Foreign Liabilities	161.1	250.0	250.0	250.0	104.2	0.0
Rupee	161.1	250.0	250.0	250.0	104.2	0.0
Others	0.0	0.0	0.0	0.0	0.0	0.0
Government deposits	28.6	333.7	27.9	1,207.3	1,278.3	955.0
RMA Bills Outstanding	550.0	1,000.0	681.1	560.0	516.4	469.7
Capital Account	88.1	78.9	48.1	150.1	215.0	276.9
Other items (net)	1,417.6	1,611.5	2,574.2	3,097.2	3,169.2	3,359.5

Source: Royal Monetary Authority, Thimphu

TABLE 11.6: MONEY AND BANKING STATISTICS OF BANK OF BHUTAN, 1996 TO 2000

Item	1996	1997	1998	1999	2000
Assets total	4,962.5	5,743.1	6,613.3	7,062.9	7,301.2
Reserve with RMA	2,085.3	2,903.5	2,672.1	3,083.9	3,626.7
Foreign assets	1,545.4	1,391.5	2,732.1	2,831.1	2,586.3
Rupee	1,326.8	1,153.7	2,549.8	2,560.1	2,089.2
Other	218.5	237.9	182.3	271.0	497.2
Claims on Government	100.0	200.6	50.0	50.0	50.0
Claims on Government Corporations	483.7	449.1	411.4	399.1	359.6
Claims on joint Corporations	187.7	213.3	166.6	149.4	131.8
Claims on private sector	560.5	585.0	581.1	549.4	546.8
Liabilities total	4,962.5	5,743.1	6,613.3	7,062.9	7,309.6
Demand deposit (a)	1,651.6	1,329.8	1,638.3	1,764.4	2,103.3
Time deposit	1,370.5	2,787.1	2,842.8	3,356.6	3,447.8
Foreign currency deposits	95.0	96.4	183.2	253.8	243.3
Foreign liabilities	0.0	0.0	0.0	0.0	0.0
Rupee	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Government deposits	458.8	183.6	257.3	357.3	383.4
Credit from RMA	..	..	..	0.0	0.0
Capital Accounts	371.1	399.3	410.7	414.1	456.5
Other items (net)	1,015.5	946.8	1,281.1	916.7	667.0

Note: In 1997 the Bhutan National Bank included with Bank of Bhutan.

(a) Saving deposits included in demand deposits.

Source: Royal Monetary Authority, Thimphu

ABLE 11.7: INVESTMENTS OF FINANCIAL INSTITUTIONS BY INDUSTRY(a), AMOUNTS OUTSTANDING, 1992 TO JUNE 1996

ndustry	1992	1993	1994	1995	1996
griculture	86.4	92.2	80.9	106.1	6.1
Bank of Bhutan	6.1	6.0	5.0	0.0	0.0
Royal Insurance Corporation of Bhutan	0.0	0.0	0.0	0.0	0.0
Bhutan Development Finance Corporation	80.2	86.1	75.8	106.1	6.1
Unit Trust of Bhutan	0.1	0.1	0.1	0.0	0.0
ndustry, Manufacturing	452.1	585.0	663.0	880.7	1,069.2
Bank of Bhutan	163.1	222.6	221.3	340.4	326.2
Royal Insurance Corporation of Bhutan	124.6	151.7	227.9	197.2	366.1
Bhutan Development Finance Corporation	57.1	91.4	20.0	134.1	152.4
Unit Trust of Bhutan	107.4	119.3	193.8	209.0	224.5
Building and construction	473.6	518.4	540.1	635.5	497.6
Bank of Bhutan	79.3	92.0	92.6	148.8	80.5
Royal Insurance Corporation of Bhutan	246.9	272.4	287.8	273.4	269.2
Bhutan Development Finance Corporation	0.8	0.8	2.6	60.4	0.0
Unit Trust of Bhutan	146.5	153.2	157.1	153.0	148.0
Trade and commerce	328.1	356.8	406.8	332.4	864.5
Bank of Bhutan	155.1	168.4	203.7	205.1	737.7
Royal Insurance Corporation of Bhutan	112.9	137.6	117.4	80.2	87.3
Bhutan Development Finance Corporation	2.1	4.3	41.3	0.0	0.1
Unit Trust of Bhutan	58.0	46.5	44.4	47.0	39.5
Transport	751.0	736.0	693.5	575.3	68.9
Bank of Bhutan	665.8	646.7	612.2	515.2	0.0
Royal Insurance Corporation of Bhutan	50.2	55.6	50.7	45.0	53.8
Bhutan Development Finance Corporation	0.0	0.0	0.4	0.0	0.0
Unit Trust of Bhutan	35.1	33.7	30.2	15.1	15.2
Personal and other loans	281.9	252.5	316.1	222.8	324.8
Bank of Bhutan	184.0	144.8	183.7	94.3	183.4
Royal Insurance Corporation of Bhutan	18.5	15.6	22.3	50.8	66.4
Bhutan Development Finance Corporation	17.4	20.7	21.8	1.0	3.8
Unit Trust of Bhutan	61.9	71.4	88.3	76.8	71.2
Total	2,373.0	2,540.9	2,700.4	2,752.8	2,831.2

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

Source: Royal Monetary Authority, Thimphu

TABLE 11.8: INTEREST RATES FOR DEPOSITS IN FINANCIAL INSTITUTIONS, 1994 TO 2000

Type of deposit	1994	1995	1996	1997	1998	1999	2000
Savings	5.0	5.0	5.0	7.0	5-7	n.a	n.a
Fixed deposits for							
3 to 6 months	8.0	8.0	8.0	8.0	8.0	8.0	8.0
6 to 9 months	8.0	8.0	8.0	8.0	8.0	8.0	8.0
9 to 12 months	8.0	8.0	8.0	8.0	8.0	8.0	8.0
12 to 24 months	10.0	10.0	10.0	10.0	10.0	10.0	10.0
24 to 36 months	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Over 36 months	11.0	11.0	11.0	11.0	11.0	11.0	11.0
UTB fixed term deposits							
3 to 12 months	8.5	8.5	8.5	8.5	8.5	8.5	8.5
12 to 36 months	10.5	10.5	10.5	10.5	10.5	10.5	10.5
Over 36 months	11.5	11.5	11.5	11.5	11.5	11.5	11.5
UTB Unit shares (a)	11.7	10.0	10.0	10.0	10.0	10.0	10.0

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

Source: Bank of Bhutan

TABLE 11.9: INTEREST RATES AND REPAYMENT PERIOD BY SECTOR AND TYPE OF LOAN, FINANCIAL INSTITUTIONS (a), 2000

Sector	Interest Rate(% p.a)	Repayment period (year)
Export finance (convertible currency areas)	13.0	1.0
General trade	16.0	3.0
Buses and trucks	14.0	5.0
Other passanger vehicles	16.0	5.0
Agriculture and Livestock	13.0	10.0
Manufacturing Industry	13.0	10.0
Service Industries (includes tourism, contract services, and other service activities)	13.0	5.0
Personal loans	16.0	5.0
Equity finance	13.0	5.0
Working capital	13.0	1.0
Housing	14.0	20.0

(a) Rates applicable since August 22, 1994

Source: Royal Monetary Authority, Thimphu

Table 11.10:ROYAL SECURITY EXCHANGE OF BHUTAN LIMITED NUMBER OF SHAREHOLDERS 1995 TO 2000

Company	1995	1996	1997	1998	1999	2000
Penden Cement Aaauthority Ltd.	851.0	901.0	901.0	835.0	1,630.0	1,630.0
Bhutan Chemical Crbide Ltd.	277.0	272.0	268.0	267.0	267.0	266.0
Royal Insurance Corp. of Bhutan	205.0	205.0	205.0	200.0	260.0	2,543.0
Bhutan Board Products Ltd	602.0	474.0	474.0	475.0	489.0	489.0
Bhutan Tourism Corpn. Ltd	84.0	88.0	87.0	87.0	89.0	89.0
Bhutan Frro-Alloys Ltd.	56.0	56.0	56.0	48.0	44.0	42.0
Druk Petroleum Chemical Ltd.	77.0	77.0	79.0	80.0	80.0	80.0
Bhutan Dairy Ltd.	89.0	89.0	89.0	96.0	96.0	96.0
Bhutan National Bank	na	429.0	411.0	406.0	407.0	407.0
Druk Stone & Minerals Ltd.	na	59.0	59.0	59.0	64.0	64.0
State Trading Corp. of Bhutan	na	na	132.0	132.0	133.0	133.0
Bhutan Polimer Company Ltd.	na	na	54.0	54.0	78.0	78.0
Druk Satair Corp. Ltd.	na	na	na	1,201.0	1,201.0	1,201.0
Total	2,241.0	2,650.0	2,815.0	3,940.0	4,838.0	7,118.0

Source: Royal Securities Exchange of Bhutan, Thimphu

Table 11.11 ROYAL SECURITY EXCHANGE OF BHUTAN LIMITED MARKET INFORMATION, 1999 TO 2000

Company	1999			2000		
	Price	Paid-up shares	Market capitalization	Price	Paid-up shares	Market capitalization
Penden Cement Authority Ltd.	3000	680000000	226670000	4000	90667000	226670000
Bhutan Chemical Carbide Ltd.	3750	100000000	375000000	40001	10000000	400000000
Royal Insurance Corp.of Bhutan	3700	24000000	88800000	4100	48000000	196800000
Bhutan Board Products Ltd	100	101390000	106470000	103	140000000	144200000
Bhutan Tourism Corpn. Ltd	1050	20940000	21990000	1050	20940000	21990000
Bhutan Frro-Alloys Ltd.	130	150000000	195000000	130	150000000	202500000
Druk Petroleum Chemical Ltd.	100	4290000	4290000	100	4290000	4290000
Bhutan Dairy Ltd.	100	2500000	2500000	100	5000000	5000000
Bhutan National Bank	250	59500000	148760000	700	59500000	416530000
Druk Stone & Minerals Ltd.	100	3770000	3770000	100	3770000	3770000
State Trading Corp.of Bhutan	100	20000000	20000000	130	20000000	26000000
Bhutan Polimer Company Ltd.	100	12470000	12470000	100	24930000	24930000
Druk Satair Corp. Ltd.	100	10130000	10130000	100	10130000	10130000
Total	12580	1188990000	1215850000	50714	587227000	1682810000

source: Royal Security Exchange of Bhutan

Table 11.12 ROYAL SECURITY EXCHANGE OF BHUTAN LIMITED VOLUME TRADED PRICE TAKEN AT THE END OF YEAR, 1998 TO 2000

Company	1998		1999		2000	
	Price	Traded volume	Price	Traded volume	Price	Traded volume
Penden Cement Authority Ltd.	3,000	777	3,000	15,340	4,500	5,000
Bhutan Chemical Carbide Ltd.	3,750	22	3,750	-	4,001	4
Royal Insurance Corp.of Bhutan	3,700	88	3,700	20	4,702	12,141
Bhutan Board Products Ltd	106	8,000	106	15,340	103	5,000
Bhutan Tourism Corpn. Ltd	1,000	2,287	1,050	96	1,050	-
Bhutan Frro-Alloys Ltd.	120	19,850	130	7,040	135	3,500
Druk Petroleum Chemical Ltd.	100	na	100	-	100	-
Bhutan Dairy Ltd.	100	na	100	-	100	-
Bhutan National Bank	240	9,019	250	400,252	700	3,773
Druk Stone & Minerals Ltd.	100	na	100	-	100	-
State Trading Corp.of Bhutan	100	na	100	5,000	130	10,000
Bhutan Polimer Company Ltd.	100	na	100	-	100	-
Druk Satair Corp. Ltd.	na	na	100	-	100	23
Total	12,416	40,043	12,586	485,496	15,821	97,137

Source: Royal Securities Exchange of Bhutan, Thimphu

Table 11.13 ROYAL SECURITY EXCHANGE OF BHUTAN LIMITED TRADED VALUES (NGULTRUMS) 1997 TO 2000

Company		1997	1998	1999	2000	Total
	Primary	na	na	53,047,200	na	40,000,500
Penden Cement Aaauthority Ltd.	Secondar	1,830,000	2,282,400	18,004,700	13,958,143	5,362,660
	Primary	na	na	na	na	na
Bhutan Chemical Carbide Ltd.	Secondar	255,000	75,150	na	16,004	13,150,650
	Primary	na	na	na	14,536,350	na
Royal Insurance Corp. of Bhutan	Secondar	125,000	260,800	74,000	7,408,649	803,300
	Primary	na	na	na	na	na
Bhutan Board Products Ltd	Secondar	10,000	800,600	1,600,800	515,000	2,765,600
	Primary	na	na	na	na	na
Bhutan Tourism Corpn. Ltd	Secondar	644,700	2,287,000	100,800	na	4,408,800
	Primary	na	na	na	na	na
Bhutan Ferro-Alloys Ltd.	Secondar	na	2,382,000	845,200	472,500	2,982,000
	Primary	445,200	na	na	na	1,345,200
Druk Petroleum Chemical Ltd.	Secondar	na	na	na	na	na
	Primary	na	na	na	na	1,225,000
Bhutan Dairy Ltd.	Secondar	na	na	na	na	na
	Primary	na	na	76,000,000	na	28,056,600
Bhutan National Bank	Secondar	2,653,216	2,066,025	62,480	2,062,150	4,924,021
	Primary	na	na	na	na	297,200
Druk Stone & Minerals Ltd.	Secondar	na	na	na	na	na
	Primary	9,800,000	na	na	na	9,800,000
State Trading Corp. of Bhutan	Secondar	30,000	na	500,000	1,300,000	30,000
	Primary	3,780,000	na	1,666,700	5,871,900	3,780,000
Bhutan Polimer Company Ltd.	Secondar	na	na	425,200	na	na
	Primary	na	na	na	na	na
Druk Satair Corp. Ltd.	Secondar	na	na	na	2,300	na
Total		19,573,116	10,153,975	152,327,080	56,142,996	118,931,531

Source: Royal Securities Exchange of Bhutan, Thimphu

CHAPTER 12: PUBLIC FINANCE

INTRODUCTION

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

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

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

TABLE 12.1: CURRENT BUDGETARY EXPENDITURE OF THE GOVERNMENT BY MINISTRY/AGENCY, 1995/96 TO 1999/2000

Ministry/Non-ministerial Organisation	1995/96 (actual)	1996/97 (actual)	1997/98 (actual)	1998/99 (actual)	1999/00 (actual)
Ministries	1,228.1	1,440.5	1,881.4	2,265.1	2,468.0
Home Affairs	146.6	242.1	267.1	306.5	375.1
Finance	88.1	109.1	435.6	586.7	504.6
Communication	183.7	232.2	220.0	214.3	247.5
Planning	9.6	10.6	13.2	11.7	12.5
Health & Education	290.2	336.0	387.6	448.7	546.9
Agriculture	207.5	213.1	237.7	285.6	331.1
Foreign Affairs	113.7	112.9	121.6	143.1	177.8
Trade and Industry	188.8	184.4	198.6	268.5	272.6
Non Ministerial organisations	108.7	135.8	104.9	n.a	n.a
Special Commission	12.0	15.7	18.5	20.8	23.6
Central Monastic Secretariat	44.2	51.5	n.a	n.a	n.a
Royal Monetary Authority	-	-	n.a	n.a	n.a
Social and Cultural Division	-	-	n.a	n.a	n.a
His Majesty's Secretariat	4.8	5.5	7.6	8.0	9.9
Science and Technology	-	-	n.a	n.a	n.a
Royal Civil Service Commission	4.6	8.7	11.4	13.3	17.4
Royal Audit Authority	10.3	12.7	16.3	19.5	23.2
Royal Advisory Council	3.0	3.5	4.4	6.2	7.7
National Assembly	4.5	5.6	7.5	10.2	13.4
Urban Development Corporation	-	-	n.a	n.a	n.a
National Women's Association	-	-	n.a	n.a	n.a
Judiciary	19.1	25.5	29.0	34.8	46.6
Bhutan Olympic Committee	3.2	4.5	4.8	12.9	18.0
Druk Air Corporation	-	-	n.a	n.a	n.a
Tourism Corporation	-	-	n.a	n.a	n.a
Bhutan Govt. Transport Service	-	-	n.a	n.a	n.a
Dzongkhag Development Commission	2.8	2.5	5.3	4.3	6.4
Zonal Administration, Chhukha	-	-	n.a	55.8	55.8
Zonal Administration, Tsirang	-	-	n.a	15.5	15.5
Zonal Administration, Yongphula	-	-	n.a	n.a	n.a
Zonal Administration, Gelephu	-	-	n.a	n.a	n.a
Dzongkhags	334.1	440.2	510.5	649.2	678.6
Dzongkhag Administration, Thimphu	34.3		61.3	75.4	97.7
Common public expenditure	292.7	320.4	237.7	n.a	n.a
Total current expenditure	1,906.7	1,963.6	2,336.9	3,178.3	3,702.1

Source: National Budget and Aid Coordination Division, Thimphu.

TABLE 12.2: BUDGETARY DEVELOPMENT EXPENDITURE OF THE GOVERNMENT BY MINISTRY, 1995/96 TO 1999/2000

(millions Nu.)

Ministerial/non ministerial Organizations	1995/96 (actual)	1996/97 (actual)	1997/98 (actual)	1998/99 (actual)	1999/00 (actual)
Ministries	1,956.9	1,720.3	1,317.5	3,202.8	3,425.7
Home Affairs	37.0	96.7	70.5	89.8	102.9
Finance	43.2	39.3	492.2	1,239.4	1,406.9
Communication & Tourism	349.8	681.5	514.6	605.9	927.5
Planning	3.3	2.1	8.9	10.1	5.2
Social Services	264.8	298.6			
Agriculture	519.9	419.5	97.5	272.9	289.2
Foreign Affairs	2.4	3.1	4.5	11.3	15.6
Trade and Industries	736.6	179.5	129.4	973.5	678.3
Non ministerial organizations	90.4	120.3			
Special Commission	11.1	16.0	8.6	13.6	20.2
Central Monastic Secretariat	4.3	3.5	-	-	-
Royal Monetary Authority	-	-	-	-	-
Social And Culture Division	-	-	8.6	-	-
Royal Secretariat (HM)	0.9	2.0	0.1	0.3	0.3
Science and Technology	-	-	-	-	-
Royal Civil Service Commission	29.9	30.0	57.2	65.6	99.3
Royal Audit Authority	0.5	0.6	14.9	23.9	2.8
Royal Advisory Council	0.3	0.0	0.3	1.2	1.3
National Assembly	0.2	1.0	0.3	6.4	9.7
Urban Dev. Corp.	-	-	-	-	-
Nat. Women's Association	-	-	-	-	-
Judiciary	2.2	3.5	8.5	5.7	13.5
Bhutan Olympic Committee	0.4	0.0	0.2	0.5	0.8
Dzongkhag Dev.Commission	1.7	0.7	1.9	0.7	0.5
SAARC Conference complex	-	-			
Punakha Dz. Renovation Service	34.9	59.4	49.0	51.5	87.6
National Environment Commissi	4.1	3.7	4.5	4.2	6.2
Dzongkhags	137.1	449.8	-	-	-
Other Dzongkhags	98.8	na	-	-	-
Thimphu Dzongkhag	6.2	182.4	7.7	12.2	40.3
Common public expenses	32.0	267.4	-	-	-
Total development expenses (c)	2,223.3	2,353.5	1,960.6	4,105.7	4,632.1

Note: Total development expense excludes Zonal Administration figure which existed earlier.

Source: National Budget and Aid Coordination Division, Thimphu.

TABLE 12.3 : BUDGETARY RECEIPTS OF THE GOVERNMENT BY SOURCE, 1996/97 TO 00/01

Source of revenue	1996/97 (actual)	1997/98 (actual)	1998/99 (actual)	1999/00 (actual)	2000/01 (actual)
Tax revenue	868.9	1,411.8	3,656.9	1,977.1	2,475.4
Direct tax	500.4	831.3	n.a	1,063.7	1,512.1
Tax on income & profits	492.0	661.4	n.a	1,056.8	n.a
Corporate taxes	400.6	559.3	n.a	833.2	939.2
Individual & trading units	91.4	102.1	n.a	223.5	n.a
Rural tax	8.4	7.6	n.a	7.1	8.7
Indirect tax	368.5	580.5	109.4	693.9	963.3
Tax on goods & services	311.1	509.5	n.a	829.2	n.a
Sales tax	182.0	208.2	n.a	299.9	330.4
Excise duty	101.8	266.8	n.a	470.3	458.8
Motor vehicle tax	27.3	34.5	n.a	58.9	59.9
Import duty	21.9	31.1	n.a	58.9	78.4
Business & Prof. licences	22.8	6.4	n.a	12.4	8.4
Royalties	-	162.3	n.a	221.8	279.0
Other taxes	12.7	14.4	n.a	16.7	14.8
Non tax revenue	1,548.5	1,627.7	2,281.7	2,404.1	2,137.8
Net transfer of profits from	511.6	162.2	n.a	248.2	438.4
public enterprises	n.a	n.a	n.a	n.a	n.a
Royalties	153.3	n.a	n.a	221.8	n.a
Dividends	49.5	921.1	n.a	1,222.1	1,258.6
Administrative fees & charges	84.4	51.6	n.a	71.6	64.2
Sale of government properties	63.3	78.8	n.a	71.4	n.a
Receipts from govt. departments	335.0	410.6	n.a	564.4	334.5
Other non revenue receipts	351.4	3.5	n.a	4.3	4.5
Total revenue	2,417.3	3,039.5	5,938.6	4,381.1	4,613.3

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

TABLE 12.4: SUMMARY OF BUDGETARY OPERATIONS, 1996/97 TO 1999/2000(a)

Item	1996/97 (actual)	1997/98 (actual)	1998/99 (actual)	1999/00 (actual)	2000/01 (revised)
Revenue	2,424.3	3,133.0	3,656.9	4,585.4	5,576.6
Tax revenue	868.9	1,246.4	1,265.8	1,977.1	2,475.4
Non-tax revenue	1,204.1	1,789.6	228.7	2,404.1	2,137.8
Other	351.4	97.1	109.3	204.3	963.3
Grants	2,232.1	1,816.3	3,262.6	3,274.1	3,798.6
India	947.6	1,045.1	1,928.5	1,927.1	2,220.5
Other	1,284.5	771.2	1,334.1	1,347.1	1,578.1
Expenditure	4,957.2	4,806.0	7,224.4	8,624.1	10,047.1
Current	2,341.2	2,627.8	3,178.3	3,702.1	4,611.1
Capital	2,289.4	1,960.6	4,105.7	4,632.1	5,202.6
Lending(net)	326.6	217.6	-59.648	289.8	n.a
Overall surplus/deficit	(300.8)	143.4	304.899	-764.546	n.a

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

CHAPTER 13: PLAN OUTLAYS

INTRODUCTION

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

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

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

The Seventh Five Year Plan was successfully completed in 1996/97. The Eighth Five Year Plan (1997 to 2002) laid lay emphasis towards attaining the objective of economic self-reliance with progressively higher rates of growth and greater distributional equity among various sectors and regions. At the same time, it will lay renewed emphasis on the preservation and promotion of traditional values and ideals. Privatization, initiated in the seventh plan will continue to be promoted. The ninth plan is on the offing, and will begin in 2002.

The plan, unlike the previous ones is a step further down at the grass roots in the process of decentralization. The plans will be geog based with the local people responsible for planning their program and implementing them.

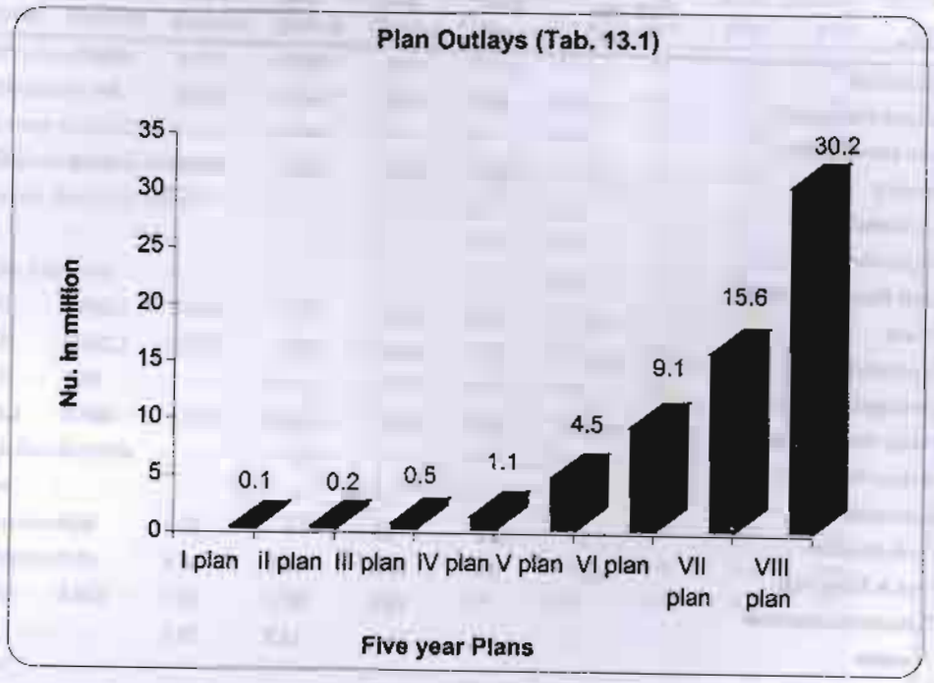


TABLE 13.1: OUTLAYS OF DEVELOPMENT PLANS, FIRST PLAN TO EIGHTTH PLAN

Sector	First plan (actual)	Second plan (actual)	Third plan (actual)	Fourth plan (actual)	Fifth plan (revised)	Sixth plan (revised)	Seventh plan (budget)	Eighth plan (budget)
	(millions Nu.)							(Units)
Agriculture	1.9	21.6	58.3	259.0	419.4	880.5	709.0	917.7
Animal Husbandry	1.5	5.8	24.2	61.5	162.4	331.0	327.9	533.1
Area Development	-	-	-	-	-	-	-	1,222.4
Forestry	3.2	6.9	28.4	110.3	229.9	418.2	479.0	855.4
Secretariat	-	-	-	-	-	-	-	307.9
Registration	-	-	-	-	-	-	-	36.3
Land Record & Survey	-	-	-	-	-	-	-	131.2
Power	1.5	9.1	30.1	50.5	340.5	1,247.9	390.0	3,374.1
Trade and Industries	1.1	1.0	25.2	175.0	323.3	1,276.1	838.9	188.8
Geological Survey	-	-	-	-	-	35.3	153.8	99.9
Public Works Department	62.9	70.5	84.6	128.3	787.5	887.2	1,213.7	3,939.8
Surface Transport	-	-	-	-	-	-	-	46.9
Secretariat	-	-	-	-	-	-	-	67.6
Civil Aviation	7.5	12.0	9.5	-	26.3	48.8	95.3	50.2
Post & Telegraph	0.5	5.9	11.4	16.9	65.8	68.1	163.8	122.3
Telecommunications	-	-	14.8	37.3	33.7	133.8	1,088.9	1,219.4
Tourism	-	-	14.1	12.5	29.1	-	-	30.2
Secretariat	-	-	-	-	-	-	-	50.0
Education	9.4	35.7	90.0	134.6	519.1	778.8	1,738.0	2,966.8
Health	3.1	16.7	38.1	54.6	237.5	399.1	1,035.5	2,547.5
Information and Broadcasti	0.1	1.4	4.0	11.0	36.1	95.9	96.0	-
Royal Instt.of Management	-	-	-	-	-	-	-	150.4
Urban Development	-	-	-	-	187.3	248.7	709.4	135.4
General Government	-	-	-	-	1,114.9	1,973.8	6,196.1	
Planning Commission	-	-	-	-	-	-	-	100.6
Dzongkhags	-	-	-	-	-	238.5	355.4	682.3
Other	14.4	15.6	42.5	54.7	-	-	-	10,375.0
Total outlay	107.2	202.2	475.2	1,106.2	4,512.8	9,061.7	15,590.7	30,151.3

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

Source: Planning Commission, Thimphu.

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

Sector	First plan	Second plan	Third plan	Fourtht plan	Ffth plan	Sixth plan	Seventh plan	Eighth plan
	(percent)							(Units)
His Majesty's Secretariat	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.1
National Assembly	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.1
Royal Advisory Council	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.1
Council for Ecclesiastical Affairs	n.a	n.a	n.a	n.a	n.a	n.a	n.a	1.0
Special Comsn. For Cult. Affairs	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.8
Judiciary	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.7
Royal Audit Authority	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.3
RCSC	n.a	n.a	n.a	n.a	n.a	n.a	n.a	5.1
BOC	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.2
DDC	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.1
NEC	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.3
Polic, Jail & Fire Services	n.a	n.a	n.a	n.a	n.a	n.a	n.a	3.2
Agriculture	1.8	10.7	12.3	23.4	9.0	9.2	4.5	3.1
Animal Husbandry	1.4	2.9	5.1	5.6	3.5	3.5	2.1	1.8
Area Dvelopment	n.a	n.a	n.a	n.a	n.a	n.a	n.a	4.1
Forestry	3.0	3.4	6.0	10.0	4.9	4.4	3.1	2.9
Secretariat	-	-	-	-	-	-	-	1.0
Registration	-	-	-	-	-	-	-	0.1
Land Record & Survey	-	-	-	-	-	-	-	0.4
Secretariat								0.1
Power	1.4	4.5	6.3	4.6	7.3	13.1	2.5	11.3
Trade and Industries	1.0	0.5	5.3	15.8	7.0	13.3	5.4	0.6
Geological Survey	-	-	-	-	-	0.4	1.0	0.3
Tourism	-	-	3.0	1.1	0.6	-	-	0.1

cont..

TABLE 13.2: (CONT.)OUTLAYS OF DEVELOPMENT PLANS, PERCENTAGE BY CATEGORY, FIFTH PLAN TO EIGHTTH PLAN

(Units)

Sector	First plan	Second plan	Third plan	Fourtht plan	Ffth plan	Sixth plan	Seventh plan	Eighth plan
Secretariat					n.a	n.a	n.a	0.2
Road Services	58.7	34.9	17.8	11.6	16.9	9.3	7.8	13.1
Surface Transport								0.2
Civil Aviation	7.0	5.9	2.0	-	0.6	0.5	0.6	0.2
Post Services	0.5	2.9	2.4	1.5	1.4	0.7	1.1	0.4
Telecommunications	-	-	3.1	3.4	0.7	1.4	7.0	4.1
Work & Housing Services	n.a	n.a	n.a	n.a	n.a	n.a	n.a	3.1
Thimphu City Corporation	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.5
Secretariat	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.2
Education	8.8	17.7	18.9	12.2	11.2	8.1	11.1	9.9
Health	2.9	8.3	8.0	4.9	5.1	4.2	6.6	8.5
Secretariat	n.a	n.a	n.a	n.a	n.a	n.a	n.a	2.9
Debt Services	n.a	n.a	n.a	n.a	n.a	n.a	n.a	7.2
Common Public Services	n.a	n.a	n.a	n.a	n.a	n.a	n.a	2.1
Reserve for pay Revision	n.a	n.a	n.a	n.a	n.a	n.a	n.a	7.5
Foreign Affairs	n.a	n.a	n.a	n.a	n.a	n.a	n.a	2.5
Royal Instt. of Management	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.5
Planning Commission	n.a	n.a	n.a	n.a	n.a	n.a	n.a	0.3
General Government	-	-	-	-	24.0	20.6	39.7	n.a
Dzongkhags	-	-	-	-	-	2.5	23.0	2.3
Other	13.4	7.7	8.9	4.9	-	-	-	n.a
Total outlay	100.0	100.0	100.0	99.0	100.0	91.2	100.0	103.1

(a) See footnotes to Table 13.1.

Source: Planning Commission, Thimphu

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

(million Nu.)

Sector	Recurrent	Capital	Total	total outlay
His Majesty's Secretariat	35.2	1.1	36.2	0.1
National Assembly of Bhutan	31.3	2.2	33.5	0.1
Royal Advisory Council	21.4	0.4	21.8	0.1
Council of Ecclesiasticl Affairs	260.0	23.7	283.7	0.9
Special Commission for Cultural Affairs	81.6	151.7	233.3	0.8
Judiciary	123.2	86.2	209.4	0.7
Royal Audit Authority	61.8	15.3	77.1	0.3
Royal Civil Service Commisssion	40.8	1,484.2	1,524.9	5.1
Bhutan Olympic Committee	26.5	31.9	58.4	0.2
Dzonkhag Development Commission	14.0	2.3	16.2	0.1
National Envirnment Commission	5.3	87.6	92.9	0.3
Policce,Jail & Fire Service	688.3	258.9	947.2	3.2
Ministry of Home affairs	208.1	267.4	475.5	1.6
Secretariat	63.2	244.8	308.0	1.0
Survey of Bhutan	36.3	0.0	36.3	0.1
Survey of Bhutan	108.6	22.6	131.2	0.4
Ministry of Finance	3,248.7	402.6	3,651.3	12.2
Secretariat and Division	693.1	172.3	865.4	2.9
Debt servicing	2,149.5	0.0	2,149.5	7.2
Common Public Sservices	406.1	230.4	636.4	2.1
Resserve for Pay Revision	2,250.0	0.0	2,250.0	7.5
Ministry of Foreign Affairs	734.0	16.4	750.4	2.5
Ministry of Health & Education	3,662.8	1,901.5	5,564.3	18.5
Secretariat	49.7	0.3	50.0	0.2
Education	2,089.0	877.8	2,966.8	9.9
Health Services	1,524.1	1,023.4	2,547.5	8.5
Royal Instt. of Management	50.4	100.0	150.4	0.5
Agriculture Ministry	653.2	797.6	1,450.8	4.8
Secretariat	163.4	99.9	263.3	0.9
Research,Extension & Irrigation	263.7	390.7	654.4	2.2
Crops & Livestock Division	226.2	306.9	533.1	1.8
Forestry	275.7	579.7	855.4	2.9
Area Devlopment Projects	525.1	697.3	1,222.4	4.1

cont..

TABLE 13.3: (CONT..) FINANCIAL OUTLAYS DURING EIGHTTH PLAN BY SECTOR, 1997 TO 2002

(million Nu.)

Sector	Recurrent	Capital	Total	total outlay
Ministry of Trade & Industries	110.6	53.8	164.4	0.5
Secretariat	30.7	6.8	37.5	0.1
Tourism Authority of Bhutan	12.3	17.9	30.2	0.1
Trade Division	67.7	29.1	96.8	0.3
Geology & Mines Division	70.4	29.5	99.9	0.3
Power Services	896.4	2,477.7	3,374.1	11.2
Industries Division		92.1	92.1	0.3
Ministry of Communication	532.4	876.9	1,409.3	4.7
Secretariat	55.3	12.3	67.6	0.2
Post Services	203.9	26.3	230.2	0.8
Telecommunications Services	273.1	838.3	1,111.5	3.7
Department of Roads	650.5	2,346.9	2,997.4	10.0
Works & Housing Division	228.4	802.0	1,030.4	3.4
Civil Aviation	24.3	25.9	50.2	0.2
Sarface Transport	15.6	31.3	46.9	0.2
Thimphu City Corporation	n.a	47.4	47.4	0.2
Ministry of Planning	55.5	45.1	100.6	0.3
Dzonkhag Administrations(Civil)	495.8	186.5	682.3	2.3
All Sector	16,076.9	13,923.1	30,000.0	100.0

Source: Planning Commission, Thimphu.

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

(Nu. in million)

Dzongkhags	Current	Capital	Total
Bumthang	251.1	495.2	746.3
Chhukha	391.3	2,148.7	2,540.0
Dagana	115.9	200.6	316.5
Gasa	57.0	169.3	226.2
Haa	99.3	157.1	256.4
Lhuentse	167.0	399.0	566.1
Mongar	369.3	884.1	1,253.4
Paro	306.8	336.5	643.3
Pemagatshel	154.5	275.8	430.2
Punakha	219.7	225.7	445.4
Samdrup Jongkhar	428.8	616.3	1,045.1
Samtse	293.6	274.8	568.5
Sarpang	278.2	381.2	659.5
Thimphu	995.5	1,787.8	2,783.3
Trashigang	579.6	759.5	1,339.1
Trongsa	141.4	387.2	528.5
Tsirang	130.4	338.5	468.8
Wangdue Phodrang	283.4	529.2	812.6
Yangtse	161.6	234.9	396.5
Zhemgang	232.4	538.0	770.3
Total	5,262.6	10,366.5	16,796.0

Source: Planning Commission, Thimphu

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

(Nu. in million)

Dzongkhag	Current	Capital	Total
Bumthang	251.1	466.0	746.3
Chirang	391.3	2,148.7	2,540.0
Chhukha	391.3	2,148.7	2,540.0
Dagana	115.9	200.6	316.5
Gasa	57.0	169.3	338.6
Haa	99.4	157.1	256.4
Lhuentse	167.0	399.0	566.1
Mongar	369.3	884.1	1,253.4
Paro	99.4	157.1	256.4
Pemagatshel	154.5	275.8	430.2
Punakha	219.7	225.7	445.4
Samtse	293.6	276.7	570.3
Samdrup Jongkhar	428.8	616.3	1,045.1
Sarpang	278.2	381.3	659.5
Zhemgang	232.4	538.0	770.3
Trashigang	604.6	734.4	1,339.1
Trashiyangtse	170.1	234.9	396.5
Thimphu	995.5	1,787.8	2,783.3
Trongsa	141.4	387.2	528.5
Wangdue Phodrang	283.3	529.2	812.6
Total	5,743.6	12,717.8	18,461.4

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

Source: Planning Commission, Thimphu

CHAPTER 14: GROSS DOMESTIC PRODUCT

INTRODUCTION

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

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

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

TABLE 14.1: GROSS DOMESTIC PRODUCT AT FACTOR COST IN CURRENT PRICES BY KIND OF ACTIVITY, 1996 TO 2000

(in million Nultrum)

Activity	1996	1997	1998	1999	2000
Agriculture, livestock, forestry and fishing	4,538.0	5,368.9	6,057.5	6,640.8	7769.1
Agriculture	2,253.7	2,506.4	2,893.4	3,175.1	3877.5
Livestock	910.2	1,237.5	1,374.1	1,497.7	1636.6
Forestry and logging	1,374.1	1,625.0	1,790.0	1,968.0	2255.0
Fishing	-	-	-	-	-
Mining and quarrying	269.8	308.7	262.3	325.9	341
Manufacturing	1,444.3	1,520.1	1,621.8	1,761.8	1734.7
Electricity and gas	1,101.6	1,727.5	1,937.1	2,317.9	2519.8
Construction	1,040.0	1,466.4	1,687.0	2,113.1	2717.3
Wholesale, retail trade, hotels and restaurants	903.5	1,014.4	1,159.7	1,281.6	1465.3
Transport,storage and communications	855.8	1,022.6	1,369.5	1636.7	1863.2
Finance,insurance and real estate,business services	441.9	729.2	1,004.0	1,042.0	1324.1
Community,social $personal services (government administration $ Defence)	1,013.7	1,362.7	1,436.9	1,835.9	1920
Less: Imputed bank service charges	-203.0	-526.9	-458.3	-441.6	-528
Gross domestic product	11,405.6	13,993.5	16,077.5	18,514.1	21126.5
Annual growth rate (%)	18.7	22.7	14.9	15.2	14.1

Source: CSO, Planning Commission, Thimphu.

TABLE 14.2: GROSS DOMESTIC PRODUCT AT FACTOR COST IN 1980 PRICES BY KIND OF ACTIVITY, 1996 To 2000

(in Million Nultrums)

Activity	1996	1997	1998	1999	2000
Agriculture, livestock, forestry and fishery	1,197.5	1,245.0	1,279.8	1,348.2	1,411.2
Agriculture	601.0	625.3	646.8	678.5	711.5
Livestock	256.0	259.7	263.0	279.7	289.7
Forestry and logging	340.5	360.0	370.0	390.0	410.0
Fishing	-	-	-	-	-
Mining and quarrying	46.2	43.7	50.8	56.2	47.9
Manufacturing	291.5	292.0	297.9	308.9	292.6
Electricity and gas	342.6	353.6	367.2	400.6	398.2
Construction	243.1	266.5	322.3	393.2	466.7
Wholesale and retail trade, hotels and restaurants	203.1	218.2	224.5	231.8	245.1
Transport, storage & Communications	271.0	308.9	350.1	381.6	400.2
Finance, insurance & real estate	256.2	319.9	349.1	339.0	419.8
Community, social and personal services(government)	334.5	360.5	362.9	401.7	411.9
Less: Imputed bank service charges	(115.8)	(106.0)	(90.3)	(87.8)	(104.1)
Gross domestic product	3,069.9	3,302.4	3,514.2	3,773.3	3,989.4
Annual growth rate (%)	5.2	7.6	6.4	7.4	5.7

Source: CSO, Planning Commission,Thimphu.

TABLE 14.3:COMPOUND GROWTH RATE OF GROSS DOMESTIC PRODUCT DURING SIXTH TO EIGHTH PLAN BY KIND OF ACTIVITY, 1987/91 TO 1997/2002

(percent)

Activity	Growth rate in current prices			Growth rate in 1980 prices			
	VIth Plan (1987-91)	VIIth Plan (1992-97)	VIIIth Plan* (1997-2002)	Vth Plan (1980-87)	VIth Plan (1987-91)	VIIth Plan (1992-97)	VIIIth Plan* (1997-2002)
Agriculture, livestock and forestry and fishing	9.2	16.5	9.3	6.7	2.6	4.5	2.3
Agriculture proper	13.4	13.4	10.8	6.9	4.4	1.9	2.2
Livestock production	9.2	16.9	10.3	4.2	5.6	6.2	2.0
Forestry and logging	2.7	22.5	5.9	8.3	-0.3	8.4	2.6
Fishing	-	-	-	-	-	-	-
Mining and quarrying	24.9	28.5	23.6	20.1	6.1	18.4	4.3
Manufacturing	25.0	21.1	17.7	3.7	15.5	10.7	7.1
Electricity and gas	0.5	25.4	9.4	86.2	-3.3	13.0	13.2
Construction	0.7	15.0	10.2	1.6	-6.5	9.6	11.8
Wholesale, retail trade, hotels and restaurants	11.4	17.1	9.6	0.4	0.5	6.0	2.2
Transport, storage and communicaations	33.4	16.1	15.0	8.9	18.8	9.3	8.3
Finance, insurance and real estate	18.4	0.2	15.5	9.5	11.4	4.4	5.6
Community, social and personal services	7.9	13.6	6.1	6.8	3.9	7.4	5.3
Gross domestic product	10.9	16.4	11.8	6.8	3.9	6.5	6.0

Note: * 8th Five Year Plan (FYP) projected @ contains 6 years.

Source: CSO, Planning Commission, Thimphu.

TABLE 14.4: PERCENTAGE COMPOSITION OF GROSS DOMESTIC PRODUCT BY VARIOUS ACTIVITIES, 1996 To 2000

Activity	1996	1997	1998	1999	2000
Agriculture sector	39.1	37.0	36.6	35.0	35.9
Agriculture proper	19.4	17.3	17.5	16.8	17.9
Livestock production	7.8	8.5	8.3	7.9	7.6
Forestry and logging	11.8	11.2	10.8	10.4	10.4
Fishing	-	-	-	-	-
Mining and quarrying	2.3	2.1	1.6	1.7	1.6
Manufacturing	12.4	10.5	9.8	9.3	8.0
Electricity and gas	9.5	11.9	11.7	12.2	11.6
Construction	9.0	10.1	10.2	11.1	12.5
Wholesale, retail trade, hotels & restaurants	7.8	7.0	7.0	6.8	6.8
Transport, storage and communications	7.4	7.0	8.3	8.6	8.6
Finance, insurance and real estate	3.8	5.0	6.1	5.5	6.1
Community, social and personal services	8.7	9.4	8.7	9.7	8.9
Gross domestic product	100.0	100.0	100.0	100.0	100.0

Source: CSO, Planning Commission, Thimphu.

TABLE 14.5: GROSS DOMESTIC CAPITAL FORMATION BY MAJOR COMPONENTS, 1996 TO 2000

Components	1996	1997	1998	1999	2000
In current prices					
Construction	2,576.9	3,004.2	3,584.7	5,073.6	6,119.2
Machinery and equipment (a)	2,516.6	2,509.3	2,614.8	3,053.4	3,328.1
Gross fixed capital formation	5,093.5	5,513.5	6,199.5	8,127.0	9,447.3
Increase in stock (a)	182.1	(631.8)	45.3	108.4	48.9
Gross domestic capital formation	5,275.6	4,881.7	6,244.8	8,235.4	9,496.2
In 1980 prices					
Construction	547.0	625.9	742.2	927.5	1,013.1
Machinery and equipment	494.9	450.4	421.9	467.7	468.5
Gross fixed capital formation	1,041.9	1,076.3	1,164.1	1,395.2	1,481.6
Increase in stock (b)	48.8	(151.3)	18.7	22.1	9.2
Gross domestic capital formation	1,090.7	925.0	1,182.8	1,417.3	1,490.8

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

* 8th Five Year Plan (FYP) projected @ contains 6 years.

Source: CSO, Planning Commission, Thimphu.

TABLE 14.6: SHARE OF GROSS DOMESTIC CAPITAL FORMATION IN GDP AT MARKET PRICES, 1996 TO 2000

Components	1996	1997	1998	1999	2000
Gross domestic product at market prices	11,808.0	14,314.0	16,337.0	19,122.0	21,698.0
Gross domestic fixed capital formation	5,093.5	5,513.5	6,199.5	8,127.0	9,447.3
Gross domestic capital formation	5,275.6	4,881.7	6,244.8	8,235.4	9,496.2
Share in Gross domestic product (percent)	na	na	na	na	na
Gross domestic fixed capital formation	43.1	38.5	37.9	42.5	43.5
Gross domestic capital formation	44.7	34.1	38.2	43.1	43.8

Source: CSO, Planning Commission, Thimphu.

TABLE 14.7: GROSS AND NET CAPITAL FORMATION, 1996 TO 1999

Components	1996	1997	1998	1999	2000
In current prices					
Gross domestic capital formation	5,275.6	4,881.7	6,244.8	8,235.4	9,496.2
Consumption of fixed capital (depreciation)	956.0	1,168.0	1,324.0	1,566.0	1,757.0
Net domestic capital formation	4,319.6	3,713.7	4,920.8	6,669.4	7,739.2
Im 1980 prices					
Gross domestic capital formation	1,090.7	925.0	1,182.8	1,417.3	1,490.8
Consumption of fixed capital (depreciation)	260.0	281.0	300.0	321.0	337.0
Net domestic capital formation	830.7	644.0	882.8	1,096.3	1,153.8

Source: CSO, Planning Commission, Thimphu

TABLE 14.8: GROSS AND NET DOMESTIC PRODUCT AND RELATED AGGREGATES, 1996 TO 1999

Aggregates	1996	1997	1998	1999*	2000
In current prices					
Net domestic product at factor cost	10,493	12,640	14,467	16,948	19,370
Add: Consumption of fixed capital	956	1,168	1,324	1,566	1,757
Gross domestic product at factor cost	11,449	13,808	15,791	18,514	21,127
Add: Indirect taxes, less of subsidies (a)	359	506	546	608	572
Gross domestic product at market prices	11,808	14,314	16,337	19,122	21,698
Add: Net factor income from abroad	-1247	-1141	-2323	-3083	-3458
Gross national product at market prices	10,562	13,173	14,013	16,040	18,240
Net national product at market prices	9,606	12,006	12,689	14,474	16,483
In 1980 prices					
Net domestic product at factor cost	2,810	3,025	3,214	3,452	3,653
Add: Consumption of fixed capital	260	281	300	321	337
Gross domestic product at factor cost	3,070	3,306	3,514	3,773	3,989

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

Source: CSO, Planning Commission, Thimphu.

TABLE 14.9: ESTIMATES OF FINAL CONSUMPTION EXPENDITURE, GROSS DOMESTIC SAVINGS AND SAVINGS IN CURRENT PRICES, 1995 TO 1999

Details	1996	1997	1998	1999	2000
Revenue receipts	2,290.0	3,036.0	3,547.5	4,381.0	4,672.0
Consumption expenditure	2,502.3	3,651.1	3,308.2	4,271.0	4,421.5
Government	2,502.3	3,651.1	3,308.2	4,271.0	4,421.5
Private					
Savings	3,264.2	3,094.7	2,075.2	2,572.4	3,740.2
Government	(212.3)	(615.1)	239.3	110.0	250.5
Private	3,476.5	3,709.8	1,835.9	2,462.4	3,489.7
Gross domestic savings	3,264.2	3,094.7	2,075.2	2,572.4	3,740.2
Gross domestic capital formation	5,275.6	4,881.7	6,244.8	8,235.4	9,496.2
Net capital inflow	2,011.4	1,787.0	4,169.6	5,663.0	5,756.0

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

Source: CSO, Planning Commission, Thimphu.

CHAPTER 15: PRICES

INTRODUCTION

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

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

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

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

TABLE 15.1: CONSUMER PRICE INDICES FOR FOOD AND NON-FOOD COMPONENTS, BHUTAN, JUNE 1998 TO DEC 2000

(December 1979 = 100)

Item	Weight	1998		1999		2000		Average growth %	
								Jun	Dec
	(%)	Jun	Dec	Jun	Dec	June	Dec	80-00	79-00
Index									
Food	72.31	465.3	494.5	508.1	507.3	511.2	513.9	..	..
Non-food	27.69	694.4	737.1	757.9	795.1	825.2	871.3	..	..
Total	100.00	528.7	561.7	577.3	587.0	598.1	612.9	..	..
Percentage change on the previous year									
Food	72.31	10.0	12.9	9.2	2.6	0.6	1.3	8.9	8.1
Non-food	27.69	7.5	10.6	9.2	7.9	8.9	9.6	10.7	10.9
Total	100.00	9.0	12.1	9.2	4.5	3.6	4.4	9.5	9.0
Percentage change on the previous period									
Food	72.31	6.2	6.3	2.7	-0.2	0.8	0.5	4.1	8.1
Non-food	27.69	4.2	6.2	2.8	4.9	3.8	5.6	5.3	10.9
Total	100.00	5.5	6.2	2.8	1.7	1.9	2.5	4.5	9.0

Source: CSO, Planning Commission, Thimphu.

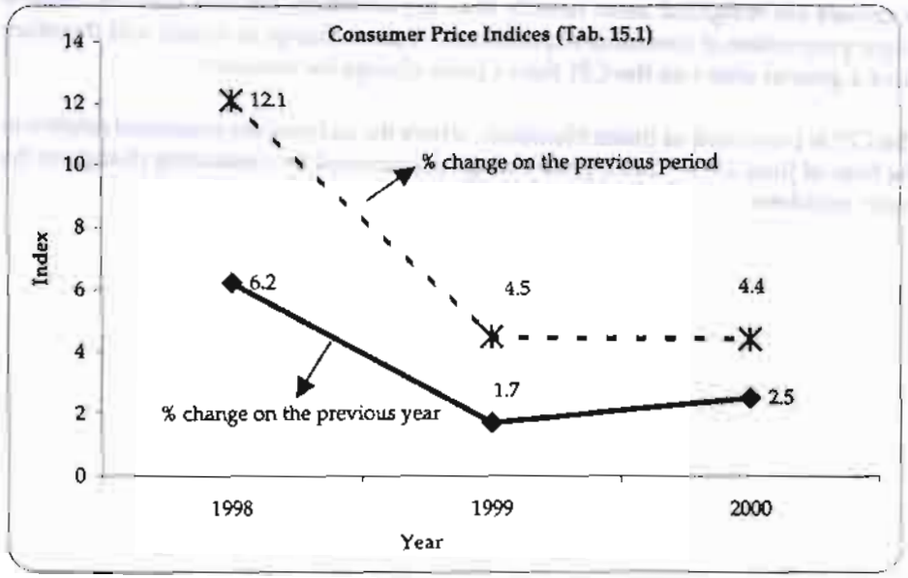


TABLE 15.2: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, JUNE 1998 TO DEC 2000

Item	Weight	1998		1999		2000	
	(%)	Jun	Dec	Jun	Dec	Jun	Dec
Cereals	37.8	395.3	414.5	439.0	437.2	432.8	429.8
Pulses	0.7	587.6	627.8	660.8	664.8	661.3	676.8
Vegetables	2.4	721.9	825.5	642.2	574.5	591.0	619.3
Fruits	0.0	734.2	656.7	983.3	955.7	1075.0	929.7
Edible oil and fats	2.9	353.2	454.8	395.3	360.3	339.3	337.6
Spices	5.1	674.0	771.9	796.8	822.3	844.1	882.5
Milk and its products	7.1	518.3	519.3	525.2	524.9	524.9	526.7
Other food and intoxicants	16.4	515.2	534.3	562.9	571.8	593.3	595.5
Fuel and lighting	3.7	276.1	315.7	318.6	320.8	369.2	422.0
Clothing and footwear	21.2	773.5	817.0	840.3	886.3	911.2	963.5
Stationary, personal effects	0.6	510.2	524.2	522.9	529.0	533.5	541.6
Miscellaneous goods, services	1.6	640.6	668.3	685.6	709.3	773.8	744.5
Furniture and utensils	0.7	763.3	861.3	930.0	936.1	977.7	1,003.1
Total	100.0	528.7	561.7	577.3	587.0	598.1	612.9

Source: CSO, Planning Commission, Thimphu.

TABLE 15.3: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, JUNE 1998 TO DEC 2000

(percentage change on the previous period)

Item	Weight	1998		1999		2000		Average growth(%)
	(%)	Jun	Dec	Jun	Dec	Jun	Dec	1979-00
Cereals	37.8	3.8	4.9	5.9	-0.4	1.0	-0.7	7.2
Pulses	0.7	2.6	6.8	5.3	0.6	-0.5	2.3	9.5
Vegetables	2.4	45.3	14.4	-22.2	-10.5	2.9	4.8	9.1
Fruits	0.0	19.6	-10.5	49.7	-2.8	12.5	-13.5	11.2
Edible oil & fats	2.9	13.4	28.8	-13.1	-8.9	-5.8	-0.5	6.0
Spices	5.1	2.2	14.5	3.2	3.2	2.6	4.5	10.9
Milk & its products	7.1	2.1	0.2	1.1	-0.1	0.0	0.4	8.2
Other food & intoxicants	16.4	7.5	3.7	5.4	1.6	3.8	0.4	7.6
Fuel & lighting	3.7	0.9	14.3	0.9	0.7	15.1	14.3	10.4
Clothing & footwear	21.2	4.6	5.6	2.9	5.5	2.8	5.7	9.1
Stationary & personal effects	0.6	6.7	2.7	-0.2	1.2	0.8	1.5	7.0
Miscellaneous goods & services	1.6	1.7	4.3	2.6	3.4	9.1	-3.8	5.9
Furniture & utensils	0.7	2.7	12.8	8.0	0.7	4.4	2.6	11.4
Total	100.0	5.5	6.2	2.8	1.7	1.9	2.5	8.1

Source: CSO, Planning Commission, Thimphu.

TABLE 15.4: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, JUNE 1998 TO DEC 2000

Item	Weight	1998		1999		2000		growth(%)	
								Jun	Dec
	(%)	Jun	Dec	Jun	Dec	Jun	Dec	80-00	79-00
Cereals	37.8	3.9	8.9	11.1	5.5	-1.4	-1.7	7.7	7.2
Pulses	0.7	-0.2	9.7	12.5	5.9	0.1	1.8	9.3	9.5
Vegetables	2.4	96.6	66.1	-11.0	-30.4	-8.0	7.8	9.7	9.1
Fruits	0.0	16.2	7.0	33.9	45.5	9.3	-2.7	12.6	11.2
Edible oil & fats	2.9	12.9	46.0	11.9	-20.8	-14.2	-6.3	5.6	6.0
Spices	5.1	10.3	17.1	18.2	6.5	5.9	7.3	11.0	10.9
Milk & its products	7.1	6.2	2.3	1.3	1.1	-0.1	0.4	8.6	8.2
Other food and intoxicants	16.4	13.2	11.5	9.3	7.0	5.4	4.2	8.9	8.9
Fuel & lighting	3.7	6.5	15.3	15.4	1.6	15.9	31.5	7.8	7.1
Clothing & footwear	21.2	7.4	10.5	8.6	8.5	8.4	8.7	10.9	11.4
Stationary & personal effects	0.6	9.2	9.6	2.5	0.9	2.0	2.4	8.3	8.4
Miscellaneous goods and services	1.6	5.8	6.1	7.0	6.1	12.9	5.0	11.1	10.0
Furniture & utensils	0.7	12.7	15.9	21.8	8.7	5.1	7.2	12.0	11.6
Total	100.0	9.0	12.1	9.2	4.5	3.6	4.4	9.2	9.0

Source: CSO, Planning Commission, Thimphu.

TABLE 15.5: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, JUNE 1998 TO DEC 2000

Item	Weight (%)	1998 Jun	1998 Dec	1999 Jun	1999 Dec	2000 Jun	2000 Dec
Cereals	37.8	395.3	414.5	439.0	437.2	432.8	429.8
Pulses	0.7	587.6	627.8	660.8	664.8	661.3	676.8
Vegetables	2.4	721.9	825.5	642.2	574.5	591.0	619.3
Fruits	0.0	734.2	656.7	983.3	955.7	1075.0	929.7
Edible oil & fats	2.9	353.2	454.8	395.3	360.3	339.3	337.6
Spices	5.1	674.0	771.9	796.8	822.5	844.1	882.5
Milk & its products	7.1	518.3	519.3	525.2	524.9	524.9	526.7
Sugar	1.0	439.7	450.9	454.5	458.6	593.3	595.5
Beverages	1.3	674.8	710.3	772.5	777.1	369.2	422.0
Meat and fish	9.1	569.5	580.8	595.3	599.0	911.2	963.5
Eggs	0.2	394.4	426.3	386.1	406.8	533.5	541.6
Intoxicants	3.4	318.8	322.0	326.4	326.4	773.8	744.5
Tobacco	1.3	555.5	656.4	839.9	913.3	977.7	1,003.1
Total	72.3	465.3	494.5	508.1	507.3	598.1	612.9

Source: CSO, Planning Commission, Thimphu.

TABLE 15.6: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, JUNE 1998 TO DEC 2000

(percent change over the preceeding year)

Item	Weight (%)	1998 Jun	1998 Dec	1999 Jun	1999 Dec	2000 Jun	2000 Dec	Averge growth(%) Jun 80-00	Averge growth(%) Dec 79-00
Cereals	37.8	3.9	8.9	11.1	5.5	-1.4	-1.7	7.7	7.2
Pulses	0.7	-0.2	9.7	12.5	5.9	0.1	1.8	9.3	9.5
Vegetables	2.4	96.6	66.1	-11.0	-30.4	-8.0	7.8	9.7	9.1
Fruits	0.0	16.2	7.0	33.9	45.5	9.3	-2.7	12.6	11.2
Edible oil & fats	2.9	12.9	46.0	11.9	-20.8	-14.2	-6.3	5.9	6.0
Spices	5.1	10.3	17.1	18.2	6.5	5.9	7.3	11.0	10.9
Milk & its products	7.1	6.2	2.3	1.3	1.1	-0.1	0.4	8.6	8.2
Sugar	1.0	10.2	4.2	3.4	1.7	0.9	2.2	5.7	7.6
Beverages	1.3	21.4	20.9	14.5	9.4	2.3	1.9	10.5	10.4
Meat & fish	9.1	10.7	10.8	4.5	3.1	6.6	4.7	9.6	9.1
Eggs	0.2	1.4	8.2	-2.1	-4.6	8.2	1.8	6.6	7.0
Intoxicants	3.4	15.2	6.6	2.4	1.4	0.7	2.5	5.2	5.9
Tobacco	1.3	22.8	18.2	51.2	39.2	8.7	5.9	13.1	11.4
Total	72.3	10.0	12.9	9.2	2.6	0.6	1.3	8.5	8.1

Source: CSO, Planning Commission, Thimphu.

TABLE 15.7: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, JUNE 1998 TO DEC 2000

(percent change over the preceeding period)

Item	Weight (%)	1998 Jun	1998 Dec	1999 Jun	1999 Dec	2000 Jun	2000 Dec	Average growth(%) 1979-2000
Cereals	37.8	3.8	4.9	5.9	-0.4	-1.0	-0.7	7.2
Pulses	0.7	2.6	6.8	5.3	0.6	-0.5	2.3	9.5
Vegetables	2.4	45.3	14.4	-22.2	-10.5	2.9	4.8	9.1
Fruits	0.0	19.6	-10.5	49.7	-2.8	12.9	-13.5	11.2
Edible oil and fats	2.9	13.4	28.8	-13.1	-8.9	-5.8	-0.5	6.0
Spices	5.1	2.2	14.5	3.2	3.2	2.6	4.5	10.9
Milk and its products	7.1	2.1	0.2	1.1	-0.1	0.0	0.4	8.2
Sugar	1.0	1.6	2.6	0.8	0.9	3.8	0.4	8.9
Beverages	1.3	14.8	5.3	8.8	0.6	15.1	14.3	7.1
Meat and fish	9.1	8.6	2.0	2.5	0.6	2.8	5.7	11.4
Eggs	0.2	0.1	8.1	-9.4	5.4	0.8	1.5	8.4
Intoxicants	3.4	5.6	1.0	1.4	0.0	9.1	-3.8	10.0
Tobacco	1.3	0.0	18.2	28.0	8.7	4.4	2.6	11.6
Total	72.3	6.2	6.3	2.7	-0.2	1.9	2.5	9.0

Source: CSO, Planning Commission, Thimphu.

TABLE 15.8: QUARTERLY PRICE INDICES FOR FOOD ITEMS, THIMPHU TOWN, 1996 TO 2000

(December 1979 = 100)

Period	Cereals and pulses	Vegetables and fruits	Other food items	Total food items
Quarter ending:				
1996				
March	459.5	1,537.0	537.0	529.5
June	462.2	1,803.6	538.6	541.4
September	501.7	1,497.7	563.9	562.6
December	507.8	1,859.1	586.4	588.2
1997				
March	492.8	2,000.2	572.7	579.7
June	496.3	2,191.1	595.2	597.2
September	495.8	2,231.8	594.0	598.0
December	497.4	2,343.2	605.8	607.6
1998				
March	506.5	2,669.7	611.3	626.9
June	528.2	4,113.1	658.3	710.6
September	623.5	4,190.6	703.8	785.5
December	630.3	3,788.1	696.7	771.9
1999				
March	650.5	3,138.8	697.4	759.9
June	661.7	3,407.5	700.9	777.5
September	667.3	3,110.5	711.4	774.0
December	658.1	3,117.2	696.5	763.1
2000				
March	642.8	3,119.9	700.9	777.5
June	667.8	3,611.7	721.0	774.0
September	674.5	3,368.0	739.4	763.1
December	666.8	3,544.4	716.7	756.2

Source: CSO, Ministry of Planning, Thimphu

TABLE 15.9: QUARTERLY PRICE INDICES FOR FOOD ITEMS, THIMPHU TOWN, 1996 TO 2000

(percentage change over the preceeding quarter)

Period	Cereals and pulses	Vegetables and fruits	Other food items	Total food items
Quarter ending:				
1996				
March	1.5	-8.5	3.7	0.4
June	0.6	17.3	0.3	2.3
September	8.5	-17.0	4.7	3.9
December	1.2	24.1	4.0	4.6
1997				
March	-3.0	7.6	-2.3	-1.5
June	0.7	9.5	3.9	3.0
September	-0.1	1.9	-0.2	0.1
December	0.3	5.0	2.0	1.6
1998				
March	1.8	13.9	0.9	3.2
June	4.3	54.1	7.7	13.3
September	18.0	1.9	6.9	10.5
December	1.1	-9.6	-1.0	-1.7
1999				
March	3.2	-17.1	0.1	-1.6
June	1.7	8.6	0.5	2.3
September	0.8	-8.7	1.5	-0.5
December	-1.4	0.2	-2.1	-1.4
2000				
March	-2.3	0.1	0.6	-0.9
June	3.9	15.8	2.9	5.3
September	1.0	-6.7	2.5	0.3
December	-1.1	5.2	-3.1	-0.9

Source: CSO, Planning Commission, Secretariat. Thimphu.

CHAPTER 16. CRIME

INTRODUCTION

Bhutan had been a very peaceful country in the past and incidence of crime was rare. But in the recent past with changes brought about by development, crimes have become noticeable. Comparatively the crime rate was lesser in the past. Today with the increase in the population and diversified economic activities crime rate seems to have increased. This chapter presents the details of crime statistics by nature of crime; viz against human body, sexual offences, crime against property, motor vehicle, antiques, forest offences and fire incidents, motor vehicle accidents that were recorded with the respective division of the Royal Bhutan Police. The nature and type of crime reported here reflects on the peace and security of the community. The content and coverage of this chapter should improve in our subsequent issues.

TABLE 16.1: CRIME REPORTS BY NATURE OF CRIME, BHUTAN, 1996 TO 2000

Nature of crime	1996	1997	1998	1999	2000
Crime against human body	552	498	390	453	606
Sexual offence	33	42	45	48	73
Crime against property	747	675	609	635	728
Motor vehicle accident	333	319	233	240	266
Forest offence	8	7	3	8	4
Antiques	193	176	144	125	98
Fire incidents	48	47	28	34	29
Others	132	127	81	49	62
All crimes	2,046	1,891	1,533	1,592	1,866

Source: Crime & Operations, Royal Bhutan Police (HQ),Thimphu.

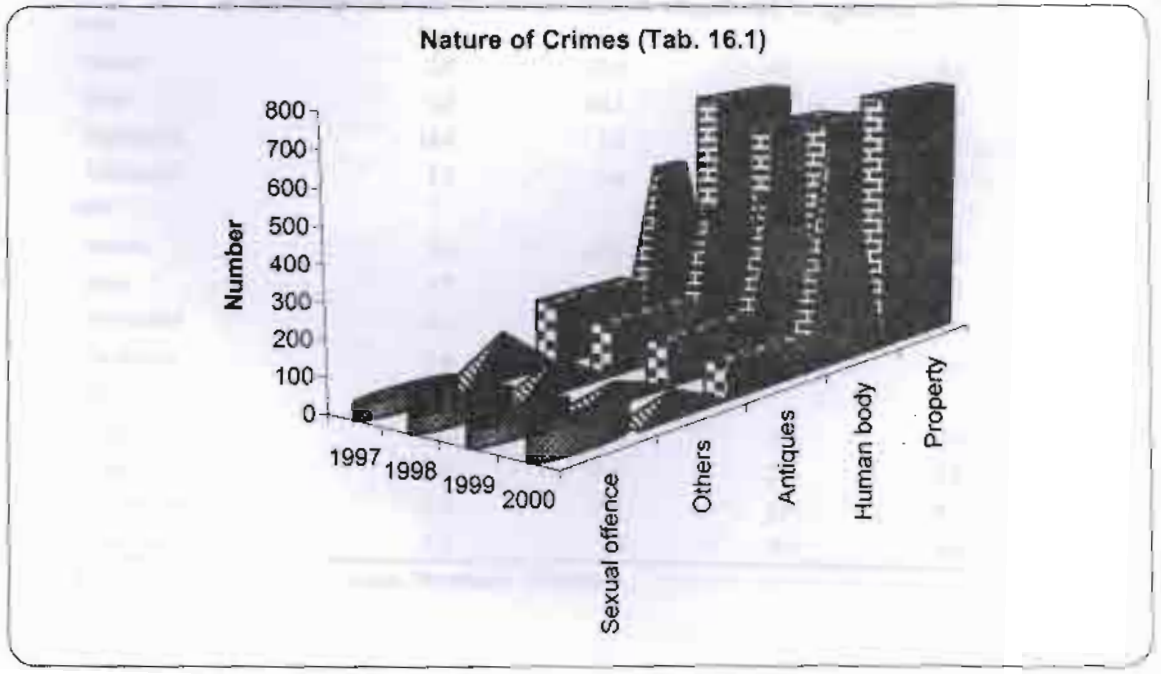


TABLE 16.2: DETAILS OF CRIME AGAINST HUMAN BODY, BHUTAN, 1995 TO 2000

Details	1995	1996	1997	1998	1999	2000
Murder	16	12	7	11	13	18
Attempted murder	10	15	6	5	3	2
Dacoity with murder	1	-	-	-	-	-
Rape cum murder	-	-	-	-	1	
Robbery with murder	-	-	-	-	2	1
Infanticide	-	-	-	-	-	-
Unnatural death	24	19	22	20	19	30
Accidental death	42	40	41	30	38	42
Drowning	29	14	31	22	16	27
Suicide	26	35	34	26	32	41
Attempted suicide	7	6	3	11	6	14
Assault	367	387	319	241	286	367
Abduction	2	3	-	1	-	1
Kidnapping	1	2	-	1	1	1
Poisoning	1	2	3	-	3	1
Drugs(Nurcotics)	-	-	11	9	20	25
Contempt of lawful authority	1	2	5	3	3	3
Wrongful confinement	-	1	-	1	-	-
Affray	3	3	4	1	1	
Accidental injury	1	3	2	1	2	6
Black magic	1	1	1	2	-	1
Defamation	1	3	2	2	4	5
Grevious hurt	2	1	2	3	3	3
Wronful restraint	-	-	-	-	-	-
Missing Person	-	-	-	-	-	18
All crimes against human body	535	549	493	390	453	606

Source: Crime & Operations, Royal Bhutan Police (HQ),Bhutan.

TABLE 16.3: DETAILS OF SEXUAL OFFENCES,BHUTAN, 1995 TO 2000

Details	1995	1996	1997	1998	1999	2000
Rape	10	12	4	15	10	17
Attempted rape	9	3	10	3	7	15
Adultry	8	4	4	7	9	14
Incest	-	2	1	1	-	2
Molestation	2	-	3	1	3	1
Elopment	15	11	19	13	16	23
Eve teasing	2	-	-	1	-	-
Unnatural offence	-	-	-	-	-	-
Prostitution	6	1	1	2	3	
Robbery cum rape	-	-	-	-	-	-
Dacoity cum rape	-	-	-	1	-	1
Beastility	-	-	-	1	-	-
All sexual offences	52	33	42	45	48	73

Source : Crime & Operations, Royal Bhutan Police (HQ),Thimphu.

TABLE 16.4: DETAILS OF CRIME AGAINST PROPERTY, BHUTAN, 1996 TO 2000

Details	1996	1997	1998	1999	2000
Theft	356	325	288	298	390
Burglary	156	94	142	176	132
House breaking	3	4	3	6	12
Robbery	27	14	18	14	10
Dacoity	25	32	12	12	18
Pick pocketing	8	12	9	6	1
Cheating	19	38	22	16	31
Loss of property	31	38	23	12	14
Forgery	5	3	6	8	9
Criminal breach of trust	9	7	7	5	9
Embezzlement	5	2	2	-	6
Counterfeit of coin/notes	6	2	1	1	8
Misappropriation	6	1	2	-	4
Cattle lifting	24	25	23	22	23
Mischief	46	44	33	33	39
Extortion	3	4	1	1	1
Hijacking	2	2	-	-	4
Bribery	-	-	-	2	1
Impersonation	-	-	-	6	-
Money laundering	-	-	-	2	1
Food adulteration	-	-	-	-	-
Attemted to robbery	2	5	1	1	-
Illegal tresspass	3	2	2	1	2
Attempted to theft	-	-	-	-	-
Snatching	-	-	1	-	-
House tresspass	2	-	2	-	4
Trafficking in fair sex	-	-	-	-	-
Explosive	-	-	-	8	-
Attempted to dacoity	-	-	-	-	-
Criminal tresspass	2	1	-	-	2
Smuggling	6	18	9	5	4
Conspiracy	-	1	1	-	-
Weight and measurers	1	-	1	-	-
Sabotage	-	-	-	-	2
Illegal collection of Donation	-	-	-	-	1
All crimes against property	747	674	609	635	728

Source : Crime & Operations, Royal Bhutan Police (HQ),Thimphu.

LE 16.6: MOTOR VEHICLE ACCIDENTS BY TRAFFIC DIVISION,BHUTAN, 2000

(numbers)

Division	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
phu	6	n.a	1	4	11	9	6	5	11	10	5	7	75
ha	1	1	n.a	1	n.a	2	1	1	1	1	1	1	11
	2	3	2	n.a	4	1	2	2	n.a	4	1	1	22
tsholing	6	5	9	6	10	6	5	1	5	4	2	9	68
e	n.a	2	1	n.a	2	n.a	n.a	n.a	n.a	n.a	n.a	n.a	5
tu	2	2	n.a	1	n.a	n.a	1	1	2	n.a	2	2	13
g	n.a	1	2	n.a	1	n.a	n.a	2	2	n.a	n.a	n.a	8
sa	2	n.a	n.a	2	2	2	3	n.a	1	1	1	3	17
mp Jongkhar	2	4	3	1	1	n.a	2	3	2	3	1	n.a	22
gang	1	n.a	3	2	2	3	2	3	1	n.a	n.a	3	20
r	n.a	n.a	2	n.a	n.a	n.a	n.a	n.a	1	1	1	n.a	5
	22	18	23	17	33	23	22	18	26	24	14	26	266

Crime & Operations,Royal Bhutan Police (HQ),Thimphu

TABLE 16.7 : MOTOR VEHICLE ACCIDENTS BY CAUSE BY TRAFFIC DIVISION, BHUTAN, 2000

(numbers)

Traffic division/Type of Vehicle	Mechanical fault	Drunk driving	Bad weather	Without licence	Unknown causes	Other causes	All causes
Thimphu	9	6	0	9	0	51	75
Trucks	4	1	0	4	0	16	25
Buses	0	1	0	2	0	2	5
Light Vehicle	4	4	0	2	0	29	39
Two Wheeler	1	0	0	1	0	4	6
Paro	0	1	3	2	0	15	21
Trucks	0	0	1	1	0	6	8
Buses	0	0	0	1	0	0	1
Light Vehicle	0	1	2	0	0	8	11
Two Wheeler	0	0	0	0	0	1	1
Punakha	1	2	1	1	0	6	11
Trucks	0	1	1	1	0	2	5
Buses	1	0	0	0	0	0	1
Light Vehicle	0	1	0	0	0	3	4
Two Wheeler	0	0	0	0	0	1	1
Phuntsholing	13	5	12	2	0	36	68
Trucks	7	1	7	2	0	19	36
Buses	0	0	0	0	0	1	1
Light Vehicle	6	3	5	0	0	16	30
Two Wheeler	0	1	0	0	0	0	1
Samtsi	1	0	0	1	1	2	5
Trucks	1	0	0	0	0	2	3
Buses	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Light Vehicle	0	0	0	1	1	0	2
Two Wheeler	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Geylegphu	3	2	0	0	0	6	13
Trucks	0	2	0	0	0	2	4
Buses	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Light Vehicle	2	0	0	0	0	4	7
Two Wheeler	1	0	0	0	0	0	2
Tsirang	2	0	1	0	0	5	8
Trucks	1	0	1	0	0	3	5
Buses	n.a	n.a	n.a	n.a	n.a	1	1
Light Vehicle	1	n.a	n.a	n.a	n.a	1	2
Two Wheeler	n.a	n.a	n.a	n.a	n.a	n.a	n.a

cont..

TABLE 16.7: (CONT..)MOTOR VEHICLE ACCIDENTS BY CAUSE BY TRAFFIC DIVISION, BHUTAN, 2000

(numbers)

Traffic division/Type of Vehicle	Mechanical fault	Drunk driving	Bad weather	Without licence	Unknown causes	Other causes	All causes
Trongsa	6	0	2	2	0	7	17
Trucks	3	-	1	1	-	3	8
Buses	-	-	-	-	-	0	0
Light Vehicle	2	-	1	1	-	4	8
Two Wheeler	1	-	-	-	-	-	1
Samdrupjongkhar	6	1	1	1	0	12	21
Trucks	5	1	1	1		8	16
Buses	-	-	-	-	-	0	0
Light Vehicle	1	-	-	-	-	3	4
Two Wheeler	-	-	-	-	-	1	1
Trashigang	3	1	2	1	0	11	18
Trucks	-	1	2	-	-	5	8
Buses	-	-	-	-	-	-	0
Light Vehicle	3	-	-	1	-	5	9
Two Wheeler	-	-	-	-	-	1	1
Mongar	2	0	0	0	0	3	5
Trucks	1	-	-	-	-	3	4
Buses	-	-	-	-	-	-	0
Light Vehicle	1	-	-	-	-	-	1
Two Wheeler	-	-	-	-	-	-	0
Bhutan	46	18	22	21	1	114	262

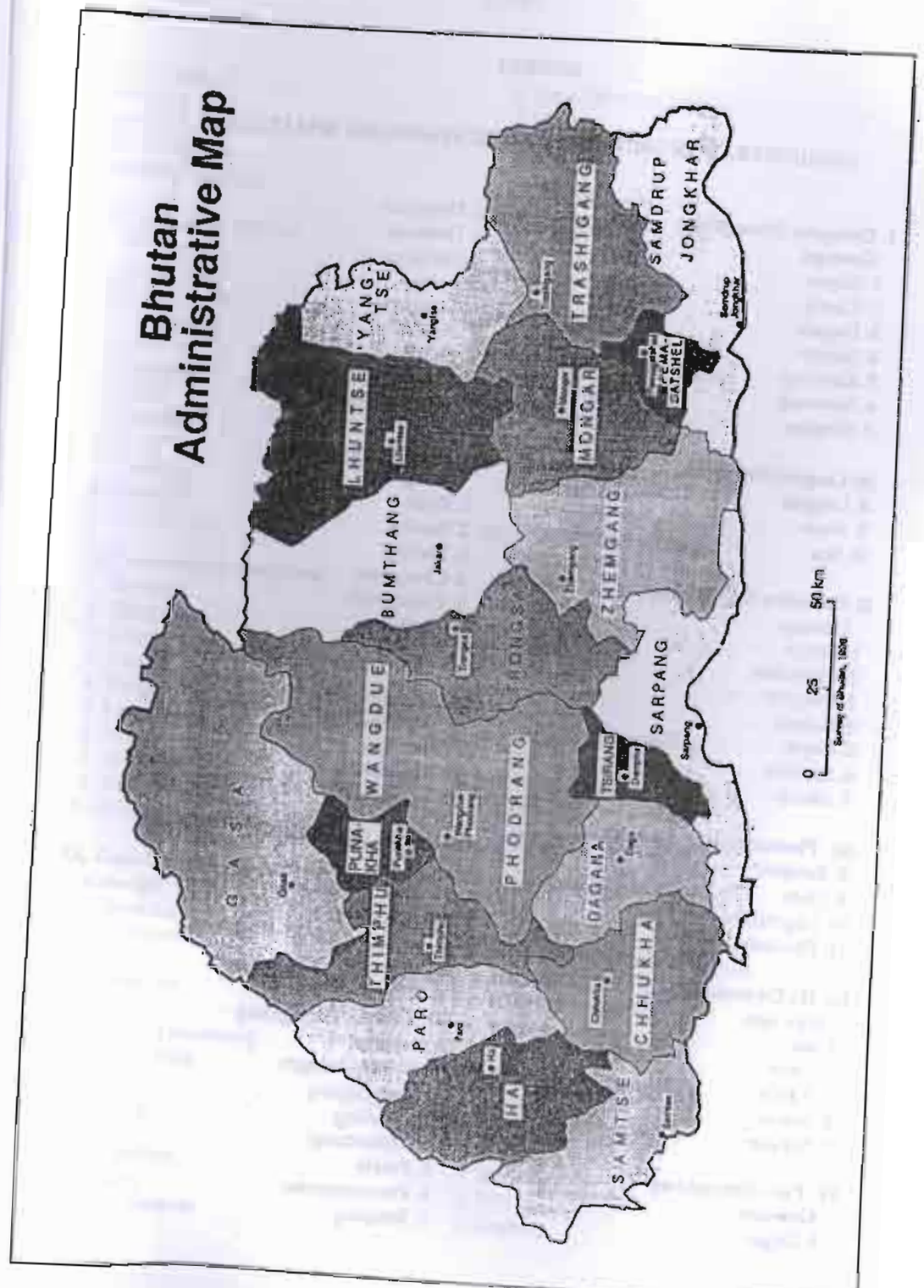
Source: Crime & Operations,Royal Bhutan Police (HQ),Thimphu.

TABLE 16.8: NUMBER OF MOTOR VEHICLE ACCIDENTS BY TRAFFIC DIVISION, BHUTAN, 1996 TO 2000

(Numbers)

Traffic Division	1996	1997	1998	1999	2000
Thimphu	156	122	99	94	75
Paro	-	-	9	17	22
Punakha	18	18	29	18	11
Phuentsholing	48	58	32	27	68
Samtse	3	6	1	5	5
Gelephu	10	16	8	9	13
Tsirang	3	2	1	10	8
Trongsa	7	7	11	11	17
Samdrupjongkha	16	18	14	26	22
Trashigang	8	4	3	13	20
Monggar	6	14	11	10	5
Bhutan	275	265	218	240	226

Source: Crime & Operations, Royal Bhutan Police H/Q, Thimphu



ANNEX I

ADMINISTRATIVE UNITS WITH THEIR STANDARD SPELLINGS.

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

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

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

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

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

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

V. Samtse Dzongkhag
Gewogs:
1. Pagli
2. Samtse
3. Tading
4. Charghare
5. Chengmari
6. Gumaune
7. Nainital

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

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

VI. Tsirang Dzongkhag
Gewogs:
1. Tsirangdrangra
2. Dunglegang
3. Gozeling
4. Kikhothang
5. Patale
6. Phuentenchhu
7. Semjong
8. Tshokhana
9. Beteni
10. Chaunautre
11. Gairigang
12. Mendrelgang

VII. Daga Dzongkhag
Gewogs:
1. Drugegang
2. Kalidzingkha
3. Khilpisa
4. Lajap
5. Tsangkha
6. Tseza
7. Dorona
8. Emeri
9. Gozhing
10. Suntali
11. Trashiding

VIII. Punakha Dzongkhag
Gewogs:
1. Chhubu
2. Goenshari
3. Guma
4. Kabjisa
5. Lingmukha
6. Shenga Bjime
7. Talo
8. Teowang
9. Dzomo

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

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

XI. Bumthang Dzongkhag
Gewogs:
1. Chhoekhor
2. Chhume
3. Tang
4. Ura

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

(a) Geylephug Dungkhag
6. Bhur
7. Chhuzagang
8. Gelephu
9. Umling
10. Serzhong
11. Jigmechholing
12. Taklai

(b) Lhamoy Zingkha Dungkhag
13. Deorali
14. Lhamoy Zingkha
15. Nichula

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

(a) Panbang Dungkhag
6. Bjoka
7. Ngangla
8. Phangkhar

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

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

XVI. Monggar Dzongkhag
Gewogs:
1. Chaskhar
2. Drametse Tsogom
3. Drametse Tsowom
4. Gungdue
5. Kengkhar
6. Jurme
7. Monggar
8. Ngatshang
9. Saleng
10. Silambi
11. Thangrong
12. Tsakaling
13. Tsamang
14. Sherimukhung
15. Drepung

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

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

(a) Dechhenling Dungkhag
3. Dechhenling
4. Norbugang

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

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

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

(a) Sakteng Dungkhag
10. Mera
11. Sakteng

(b) Thrimshing Dungkhag
12. Kangpara
13. Thrimshing

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

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

Total Dzongkhags = 20

Total Gewogs = 201

Source: Ministry of Home Affairs,Thimphu

List of CSO's Publication

Statistical Yearbook of Bhutan	*Annually*
National Accounts Statistics	*Annually*
Bhutan at a Glance	*Annually*
Socio Economic Indicators	*Monthly*
Consumer Price Index (CPI)	*Quarterly for Thimphu Food Index & Half yearly For the National*
National Census of Manufacturing Industries	*Every three years*
Household Income & Expenditure Survey	*Adhoc*

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