# STATISTICAL YEARBOOK OF BHUTAN

# 1992

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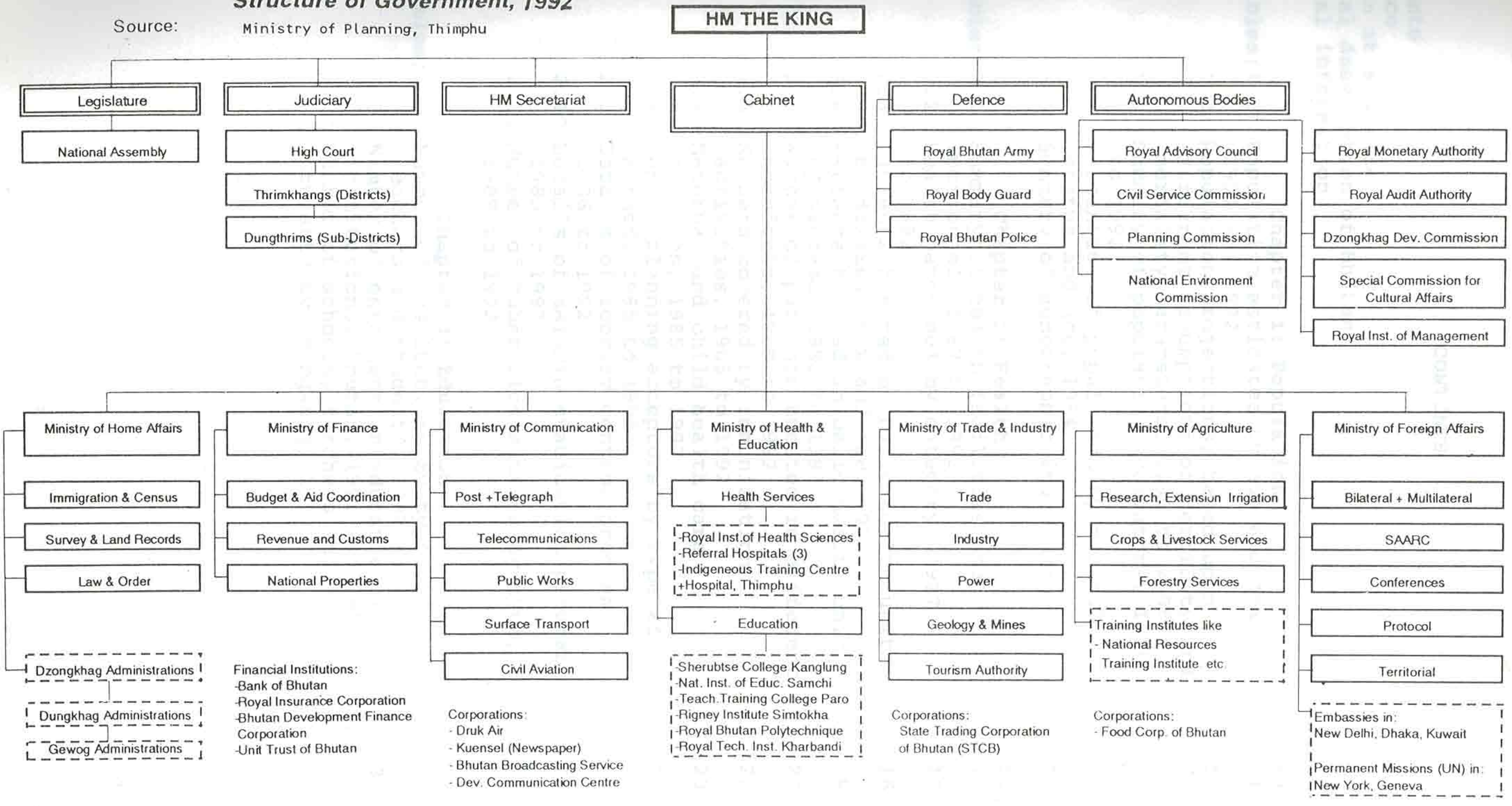


In addition to above indicated Divisions, each Ministry has also a Policy and Planning Division and an Administration and Finance Division.

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# PREFACE

Statistical Yearbook of Bhutan 1992 is the eleventh in the series of annual statistical publications issued by the Central Statistical Office, Ministry of Planning.

The purpose of the publication is to provide a summary of the more important statistics of Bhutan referring to 1992. ***This publication is being issued to keep the continuity of data series of Bhutan*** although it has been delayed due to unavoidable circumstances.

Statistics have been presented under a number of subject headings corresponding to the major areas of statistical interest. For each subject, a short introductory text has been given providing a brief description of the statistics, how they were obtained and any existing shortcomings.

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

The range and quality of statistics available in Bhutan should improve over the next few years, and this will be reflected in further upgrading of this publication in the future.

Joint Director
Central Statistical Organization
Ministry of Planning
Thimphu

# BHUTAN AT A GLANCE

| | | |
|---|---|---|
| **POPULATION** | | |
| Population 1992(projected) | numbers | 6,23,543 |
| Urban population(estimate) | Percent | 14.5 |
| Area of Bhutan | sq. km. | 46,500 |
| Population density | persons/sq. km. | 13.4 |
| Birth rate 1984 | per 1000 population | 39.1 |
| Death rate 1984 | per 1000 population | 19.3 |
| Infant mortality 1989 | per 1000 live birth | 134 |
| Life expectancy 1984 | | |
| Males | years | 45.8 |
| Females | years | 49.1 |
| Both | years | 47.5 |
| **Health 1992** | | |
| Population per doctor | numbers | 5,882 |
| Population per hospital bed | numbers | 654 |
| **Education 1992** | | |
| Number of schools | | 268 |
| Number of students | | 67,370 |
| Number of teachers | | 2,333 |
| **Agriculture and Forestry 1983** | | |
| Agriculture land | '000 hectares | 355.9 |
| Forested land | '000 hectares | 2,839.9 |
| **Transport and Communication 1992** | | |
| Road length | km | 2,462 |
| **Energy 1992** | | |
| Electricity generation | MU | 1551.9 |
| Electricity sale | MU | 159.7 |
| Electricity export | MU | 1336.9 |
| **Balance of Payments 1991/92** | | |
| Value of exports | million Nu. | 1632.0 |
| Value of imports | million Nu. | 2148.5 |
| Trade balance | million Nu. | -516.6 |
| Current account balance | million Nu. | -639.5 |
| Overall balance | million Nu. | 666.9 |
| International reserves | | |
| Rupees | million Rs. | 97.8 |
| Convertible currency | million US $ | 95.96 |
| **Gross Domestic Product** | | |
| Agricultural sector 1992 | % of total | 39.8 |
| Real growth 1991 to 1992 | % | 4.1 |
| **Consumer Price Index** | | |
| Change Dec 1991 to Dec 1992 | % | 16 |
| Average change 1979 to 1992 | % | 9.8 |

# GENERAL DESCRIPTION OF BHUTAN

**Position and area:**
Bhutan comprises a land area of 46,500 square kilometers. The lan
lies between 26°45′N and 28°10′N and between longitudes 88°45′E an
92°10′E. The country is relatively compact with a maximu
latitudinal distance of 170 kilometers and the maximum longitudina
distance of 300 kilometers.

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

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

**Landform:**
Bhutan is almost entirely mountainous with flat land limited to the
broader river valleys. The land rises from approximately 300 metres
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 1500 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 3000 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
(7316 metres) 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 2500 to 5000 millimeters in some areas.

The central inner Himalayas has a cool temperate climate with annual rainfall averaging about 1000 millimeters with western region receiving comparatively higher rainfall.

The higher and more northern region has a severe alpine climate with annual rainfall around 400 mm. Much of the rainfall is concentrated in the summer months with the southwest monsoon accounting for 60 to 90 percent of the total rainfall.

There is substantial variation within these broad ranges and the climate and rainfall characteristics change dramatically from one valley to an adjacent on with consequent sharp changes in the composition of agricultural production.

Wide spread flood rainfall may occur during summer monsoon and the waters of the valleys may swell dramatically, spreading across the plains and flooding fields, bridges and houses.

**Government:**
The monarchy: On 17 December 1907, Ugyen Wangchuck was crowned the first hereditary monarch of Bhutan by the civil and monastic representatives. It was as a result of the influence of the strength and the farsightedness of Ugyen Wangchuck that for the first time Bhutan was united under a central authority which provided the country with stability and opportunity for development. In 1926 Ugyen Wangchuck was succeeded by his son Jigme Wangchuck, who ruled until his death in 1952.

The third Druk Gyalpo, Jigme Dorji Wangchuck began a campaign of modernization and expansion of Bhutan's government and society based on the accomplishments of his two predecessors in uniting the country under a strong central authority. Hence, the National Assembly consisting of representatives of the people, the Monastic order and Civil administration was reestablished in 1953.

The present Druk Gyalpo, His Majesty King Jigme Singye Wangchuc acceded to the throne in 1972. His Majesty the king is the head o state and also the head of government. He is assisted by th cabinet which consists of His Majesty's representatives in variou Ministries, Ministers and some senior civil servants.

**The National Assembly:** The Tshogdu (The National Assembly) consist of 150 members; 105 are the elected representatives of the people 10 are from the Dratshang (Clergy) and 35 are nominate representatives of the Government. The people's representatives ar directly elected by the people of their respective constituencie through secret ballot. The representatives of the clergy ar elected by the Zhung Dratshang (Central Monastic Body) and the concerned Rabdeys (District Monastic Bodies). The representative 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. It consists of nine members. There are six representatives of the public (Meeser Thuepoens) who serve for a term of three years. They are elected by the National Assembly through secret ballot from among the representatives of the Dzongkhags. Each Dzongkhag (district) deputes one representative who is elected through secret ballot from among the public. Two members represent the Monastic Body, one each from the Central Monastic Body and the Rabdeys who serve a term of one yearr. The chairman (Zhung Kaloen) is nominated by the king.

**The Monastic Body:** The Monastic Body is comprised of the Central Monastic Body and the Rabdeys (District Monastic Bodies). The current strength of the Monastic Body is about 5,000 registered gelongs (monks) and is financed by an annual subsidy from the Royal Government. Punakha and Thimphu Dratshang having a strength of 1,600 constitutes the Central Monastic Body.

The Monastic Body is the sole arbiter on religious matters. The Je Khempo who is chosen from among high ranking gelongs is the head of the Body. He is assisted by four high ranking Lopens of the Central Monastic Body.

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

**The Judiciary:** Bhutan's Legal Code is based on that laid down by Ngawang Namgyal, the first Shabdrung who arrived Bhutan in 1616. Traditional Buddhist precepts are significantly maintained in the legal processes.

The High Court consists of eight judges. There is a court in each dzongkhag headed by a Thrimpoen and assisted by ramjams but minor disputes are settled by village gups.

## EXPLANATION OF SYMBOLS

| | |
|---|---|
| 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 percen |
| ( ) | stands for negative numbers |

## 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. This is because of changes following the creation of new Dzongkhags.

## SOME UNITS OF MEASUREMENT

### Numbering (UK)

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

### A. Length Measurement

#### 1. Metric equivalents

| | | |
|---|---|---|
| 10 mm | = 1 cm | |
| 10 cm | = 1 dm | |
| 10 dm | = 1 m | |
| 10 m | = 1 dk m | |
| 10 dk m | = 1 hm | |
| 10 hm | = 1 km | |

Abbreviations

| | |
|---|---|
| mm | = millimetre |
| cm | = centimetre |
| m | = metre |
| dm | = decimetre |
| hm | = hectometre |

#### 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 cm | = | 0.155 square inch |
| 1 square mile | = | 2.590 square km |
| 1 square km | = | 0.386 square mile |

**C. Weight measurements**

**1. British units**

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

**2. Metric units**

| | | |
|---|---|---|
| 10 mg | = | 1 cg |
| 10 cg | = | 1 dg |
| 10 dg | = | 1 g |
| 10 g | = | 1 dk g |
| 10 dk g | = | 1 hg |
| 10 hg | = | 1 kg |
| 100 kg | = | 1 quintal |
| 200 mg | = | 1 carat |

**3. Conversion from British to metric units**

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

**D. Conversion of air temperatures**

1. Degree celsius to degree Fahrenheit
   **$(9 \times T_c)/5 + 32$**, where $T_c$ is temperature in degree celsius
2. Fahrenheit to degree celsius
   **$5 \times (T_f - 32)/9$**, where $T_f$ is temperature in fahrenheit

# CHAPTER 1: POPULATION

## INTRODUCTION

The main source of statistics on population is the populatio census. Population censuses are undertaken in most countries on five or ten yearly basis aimed to provide a full count of th population according to a range of characteristics such a demography, health, education and other social aspects. Censuse are useful not only because they provide a range of curren population data but also for use as a benchmark for makin population estimates in non census years and for populatio projections. Population censuses were undertaken in Bhutan in 196 and 1980.

The second major element of population statistics relates to the demography characteristics of the population. The most commo source of information on demography is the vitals registratio system (which usually covers the registration of births and death and sometimes marriages and divorces). In Bhutan, the vita registration system does not currently provide the full coverage of births and deaths and it has been necessary to undertake a special sample survey (in 1984) to obtain the important demographic information.

Statistics presented in this chapter include estimates of current and future population together with data from 1984 demographic survey. The interpretation of demographic indicators is as follows:

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

***General fertility rate:*** Number of live births in a year per thousand woman aged 15 to 49.

***Total fertility rate:*** Average number of children born by women during their life time.

***Gross reproduction rate:*** Average number of daughters born by women during their life time.

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

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

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

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

***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, 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, 1991 AND 1992

| Age group | Persons | | | Percent | | |
|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female |
| 1991 | | | | | | |
| 0 - 4 | 81419 | 40493 | 40926 | 13.3 | 6.6 | 6.7 |
| 5 - 9 | 82691 | 41344 | 41347 | 13.5 | 6.8 | 6.8 |
| 10 - 14 | 73833 | 37687 | 36146 | 12.1 | 6.2 | 5.9 |
| 15 - 19 | 61595 | 30756 | 30839 | 10.1 | 5.0 | 5.1 |
| 20 - 24 | 54062 | 27011 | 27051 | 8.9 | 4.4 | 4.4 |
| 25 - 29 | 47894 | 23888 | 24006 | 7.8 | 3.9 | 3.9 |
| 30 - 34 | 37659 | 19296 | 18363 | 6.2 | 3.2 | 3.0 |
| 35 - 39 | 33023 | 17012 | 16011 | 5.4 | 2.8 | 2.6 |
| 40 - 44 | 29495 | 15311 | 14184 | 4.8 | 2.5 | 2.3 |
| 45 - 49 | 26934 | 14015 | 12919 | 4.4 | 2.3 | 2.1 |
| 50 - 54 | 22957 | 11834 | 11123 | 3.8 | 1.9 | 1.8 |
| 55 - 59 | 17404 | 9142 | 8262 | 2.9 | 1.5 | 1.4 |
| 60 - 64 | 14982 | 7616 | 7366 | 2.5 | 1.2 | 1.2 |
| 65 - 69 | 10818 | 5380 | 5438 | 1.8 | 0.9 | 0.9 |
| 70 - 74 | 6762 | 3393 | 3369 | 1.1 | 0.6 | 0.6 |
| 75 + | 8899 | 4463 | 4436 | 1.5 | 0.7 | 0.7 |
| All ages | 610427 | 308641 | 301786 | 100.0 | 50.6 | 49.4 |
| 1992 | | | | | | |
| 0 - 4 | 84396 | 42096 | 42300 | 13.5 | 6.8 | 6.8 |
| 5 - 9 | 81763 | 40723 | 41040 | 13.1 | 6.5 | 6.6 |
| 10 - 14 | 76309 | 38826 | 37483 | 12.2 | 6.2 | 6.0 |
| 15 - 19 | 63680 | 32031 | 31649 | 10.2 | 5.1 | 5.1 |
| 20 - 24 | 55060 | 27426 | 27634 | 8.8 | 4.4 | 4.4 |
| 25 - 29 | 49148 | 24531 | 24617 | 7.9 | 3.9 | 3.9 |
| 30 - 34 | 39577 | 20121 | 19456 | 6.3 | 3.2 | 3.1 |
| 35 - 39 | 33306 | 17179 | 16127 | 5.3 | 2.8 | 2.6 |
| 40 - 44 | 30027 | 15530 | 14497 | 4.8 | 2.5 | 2.3 |
| 45 - 49 | 27150 | 14110 | 13040 | 4.4 | 2.3 | 2.1 |
| 50 - 54 | 23567 | 12139 | 11428 | 3.8 | 1.9 | 1.8 |
| 55 - 59 | 18031 | 9397 | 8634 | 2.9 | 1.5 | 1.4 |
| 60 - 64 | 14759 | 7560 | 7199 | 2.4 | 1.2 | 1.2 |
| 65 - 69 | 11390 | 5628 | 5762 | 1.8 | 0.9 | 0.9 |
| 70 - 74 | 6520 | 3283 | 3237 | 1.0 | 0.5 | 0.5 |
| 75 + | 8860 | 4433 | 4427 | 1.4 | 0.7 | 0.7 |
| All ages | 623543 | 315013 | 308530 | 100.0 | 50.5 | 49.5 |

Note: Estimates based upon 1990 population figure and age sex structure of 1980 census

Source: Estimates made by CSO, Ministry of Planning

TABLE 1.2: POPULATION PROJECTIONS, BASED UPON DIFFERENT ASSUMPTIONS OF FERTILITY AND MORTALITY PARAMETERS, 1991 TO 2006

| Indicators\Assumptions | A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|
| Total fertility rate | 5.8 | 5.8 | 5.8 | 5.0 | 5.0 | 5.0 | 4.0 | 4.0 | 4.0 |
| Crude birth rate,2006 | 41.0 | 40.4 | 39.9 | 36.9 | 36.3 | 35.9 | 31.2 | 30.8 | 30.4 |
| Crude death rate,2006 | 17.6 | 14.1 | 11.3 | 17.2 | 13.8 | 11.2 | 16.7 | 13.4 | 10.9 |
| Life expectancy ,2006 | | | | | | | | | |
| Males | 45.8 | 51.8 | 56.5 | 45.8 | 51.8 | 56.5 | 45.8 | 51.8 | 56.5 |
| Females | 48.7 | 55.0 | 60.0 | 48.7 | 55.0 | 60.0 | 48.7 | 55.0 | 60.0 |
| Population estimates | | | | | | | | | |
| 1991 | 614,400 | 615,000 | 616,200 | 612,600 | 613,800 | 614,400 | 611,400 | 612,000 | 613,200 |
| 1996 | 691,753 | 630,375 | 632,837 | 625,465 | 627,917 | 691,753 | 623,017 | 624,240 | 626,690 |
| 2001 | 778,845 | 646,134 | 649,924 | 638,599 | 642,360 | 778,845 | 634,854 | 636,725 | 640,478 |
| 2006 | 876,901 | 662,288 | 667,472 | 652,010 | 657,134 | 876,901 | 646,916 | 649,459 | 654,568 |
| Average annual growth rate (%) | 2.4 | 2.5 | 2.7 | 2.1 | 2.3 | 2.4 | 1.9 | 2.0 | 2.2 |

Source: Estimates by CSO, Ministry of Planning

TABLE 1.3: SUMMARY OF POPULATION INDICATORS, 1990 TO 1992

| Population indicators | 1990 | 1991 | 1992 |
|---|---|---|---|
| Sex ratio (males/females) | 102.5 | 102.3 | 102.1 |
| Age composition (%) | 100.0 | 100.0 | 100.0 |
| 0 - 14 | 39.2 | 38.9 | 38.7 |
| 15 - 49 | 47.3 | 47.7 | 47.9 |
| 50 - 59 | 6.6 | 6.6 | 6.7 |
| 60 + | 6.9 | 6.8 | 6.7 |
| Median age(years) | 20.5 | 20.5 | 20.6 |
| Dependency ratio | | | |
| Child dependency | 67.4 | 68.8 | 68.4 |
| Old age dependency | 6.8 | 7.7 | 7.6 |
| Total dependency | 74.2 | 76.4 | 76.0 |
| Index of aging | 10.1 | 11.1 | 11.0 |

Source: Estimates by CSO, Ministry of Planning

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

(percent)

| Age group | Never married | | Married | | Divorced/separated | | Widowed | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Males | Females | Males | Females | Males | Females | Males | Females | Males | Females |
| 0 - 14 | 99.9 | 99.8 | - | - | - | - | - | - | 100.0 | 100.0 |
| 15 - 19 | 92.1 | 73.4 | 7.7 | 25.5 | - | - | - | - | 100.0 | 100.0 |
| 20 - 24 | 54.5 | 30.1 | 43.8 | 64.8 | 1.5 | 4.4 | - | - | 100.0 | 100.0 |
| 25 - 29 | 26.8 | 12.4 | 70.0 | 80.5 | 2.4 | 5.7 | - | 1.4 | 100.0 | 100.0 |
| 30 - 34 | 13.1 | 8.4 | 82.8 | 81.3 | 1.9 | 7.3 | 2.3 | 3.1 | 100.0 | 100.0 |
| 35 - 39 | 10.0 | 5.5 | 85.8 | 84.9 | 1.8 | 5.7 | 2.5 | 3.9 | 100.0 | 100.0 |
| 40 - 44 | 7.6 | 6.3 | 87.9 | 81.4 | 1.7 | 5.3 | 2.8 | 7.0 | 100.0 | 100.0 |
| 45 - 49 | 6.9 | 6.9 | 86.8 | 78.7 | 1.4 | 5.4 | 5.0 | 9.1 | 100.0 | 100.0 |
| 50 + | 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 1.5: SUMMARY OF DEMOGRAPHIC INDICATORS

| Indicators | 1984 |
|---|---|
| Fertility | |
| Crude birth rate | 39.1 |
| General fertility rate | 169.6 |
| Total fertility rate | 5.9 |
| Gross reproduction rate | 2.9 |
| Net reproduction rate | 1.9 |
| Rate of natural increase (%) | 2.0 |
| Singulate Mean Age at First Marriage | 20.3 |
| Mortility | |
| Crude death rate | 19.3 |
| Infant mortality rate | 142.0 |
| Life expectancy at birth | |
| Males | 45.8 |
| Females | 49.1 |

Source: 1984 Demographic Sample Survey, CSO

# CHAPTER 2: HEALTH

## INTRODUCTION

General health conditions in Bhutan are affected by low nutritio intake, poor sanitation and high prevalence of parasitic infection and contagious diseases. Health facilities are spread through ou the country. Greater emphasis is given to the rural areas where th majority of the population live. Basic health units (BHUs) usuall serving remote districts staffed by well trained paramedica personnel are equipped to treat minor ailments and advise o preventive measures to avoid the spread of communicable diseases These BHUs are supported by dispensaries.

There are also a number of special health programs in Bhuta administered by the Division of Health. These cover immunization maternal and child health services, malaria eradication, lepros control program and family planning.

The main indicators of the health status of the population ar morbidity and mortality. Morbidity refers to the type of illnes people suffer from, while mortality relates to death rates an causes of death. Morbidity and mortality data are usually obtaine from administrative sources. Morbidity data can often be obtaine from patients records of health units, while information o mortality rates and causes of death is usually obtained from vita registration systems (that is the civil registration of births an deaths)

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

TABLE 2

Health

Number
Number
Number
Number
Number
Number
Number
Persons
Persons
Doctors
Hospit
Popula
Popula
Women
pers
(a) In
Source

TABLE

Healt

TABLE 2.1: SUMMARY OF HEALTH FACILITIES AND PERSONNEL, 1987 TO 1992

| Health indicators | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|
| Number of hospitals | 27 | 28 | 26 | 26 | 26 | 26 |
| Number of basic health units | 68 | 69 | 69 | 71 | 74 | 75 |
| Number of dispensaries | 46 | 46 | 46 | 44 | 43 | 43 |
| Number of indigenous hospitals | 1 | 1 | 1 | 1 | 1 | 1 |
| Number of indigenous dispensaries | 5 | 6 | 6 | 6 | 6 | 6 |
| Number of hospital beds | 922 | 932 | 944 | 944 | 914 | 954 |
| Number of doctors | 138 | 138 | 157 | 157 | 109 | 106 |
| Persons per doctor (a) | 9,740 | 9,700 | 9,100 | 3,822 | 5,600 | 5,882 |
| Persons per hospital bed | 1,460 | 1,500 | 1,500 | 636 | 668 | 654 |
| Doctors per 10,000 persons | 1 | 1 | 1 | 3 | 2 | 2 |
| Hospital bed per 10,000 persons | 7 | 7 | 7 | 16 | 15 | 16 |
| Population covered by health care(%) | n.a | 65 | 65 | 65 | 90 | 70 |
| Population access to safe drinking water(%) | n.a | n.a | 38 | 38 | 54 | 54 |
| Women attended by trained personnel during child birth (%) | n.a | n.a | 16 | 21 | 25 | 25 |

(a) Includes doctors in adminstrative services and non-nationals

Source: Health Division, Thimphu

TABLE 2.2: HEALTH PERSONNEL BY CATEGORY, 1987 TO 1992

(numbers)

| Health personnel | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|
| Doctors | 138 | 138 | 157 | 157 | 109 | 106 |
| Health assistants | 91 | 100 | 119 | 117 | 115 | 116 |
| Basic health workers | 91 | 97 | 91 | 114 | 127 | 119 |
| Sister and nurses | 279 | 303 | 317 | 325 | 316 | 323 |
| Other technicians | 150 | 178 | 144 | 182 | 239 | 251 |
| Indigenous physicians | 11 | 10 | 12 | 12 | 14 | 14 |
| Indigenous compounders | 9 | 9 | 10 | 10 | 8 | 8 |
| Total health personnel | 769 | 835 | 850 | 917 | 928 | 937 |

Source: Health Division, Thimphu

(numbers)

| Disease | Age below 1 | | | Age 1 to 4 | | | Age 5 to 14 | | | Age 15 and above | | | All ages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Persons | Male | Female | Persons | Male | Female | Persons | Male | Female | Persons | Persons | Percent |
| Diarrhoea/Dysentery | 2,050 | 2,358 | 4,408 | 6,177 | 5,805 | 11,982 | 7,988 | 7,174 | 15,162 | 12,209 | 9,875 | 22,084 | 53,636 | 15.0 |
| Respiratory tract infection | 2,040 | 2,235 | 4,275 | 4,338 | 4,684 | 9,022 | 7,999 | 8,578 | 16,577 | 24,197 | 21,508 | 45,705 | 75,579 | 21.2 |
| Worms | 228 | 294 | 522 | 3,530 | 3,589 | 7,119 | 6,297 | 6,241 | 12,538 | 9,226 | 9,922 | 19,148 | 39,327 | 11.0 |
| Skin infection | 1,403 | 1,638 | 3,041 | 4,106 | 4,327 | 8,433 | 7,705 | 6,406 | 14,111 | 14,687 | 10,882 | 25,569 | 51,154 | 14.3 |
| Malaria/P.U.O | 469 | 541 | 1,010 | 1,264 | 1,402 | 2,666 | 2,816 | 2,812 | 5,628 | 9,043 | 7,391 | 16,434 | 25,738 | 7.2 |
| Conjunctivitis | 565 | 664 | 1,229 | 1,562 | 1,728 | 3,290 | 3,086 | 3,323 | 6,409 | 7,133 | 7,862 | 14,995 | 25,923 | 7.3 |
| Otitis media | 477 | 527 | 1,004 | 1,043 | 1,081 | 2,124 | 1,474 | 1,171 | 2,645 | 1,054 | 959 | 2,013 | 7,786 | 2.2 |
| Nutritional deficiency | 273 | 320 | 593 | 868 | 1,013 | 1,881 | 1,233 | 1,314 | 2,547 | 3,941 | 5,724 | 9,665 | 14,686 | 4.1 |
| Peptic ulcer syndrome | 3 | 5 | 8 | 31 | 89 | 120 | 701 | 789 | 1,490 | 6,383 | 6,640 | 13,023 | 14,641 | 4.1 |
| Disease of teeth and gum | 7 | 5 | 12 | 89 | 131 | 220 | 614 | 637 | 1,251 | 2,799 | 2,763 | 5,562 | 7,045 | 2.0 |
| Urinary tract infection and nephritis | 18 | 22 | 40 | 164 | 189 | 353 | 360 | 405 | 765 | 2,079 | 2,255 | 4,334 | 5,492 | 1.5 |
| Injuries | 72 | 112 | 184 | 628 | 675 | 1,303 | 2,008 | 1,449 | 3,457 | 5,927 | 2,939 | 8,866 | 13,810 | 3.9 |
| Sexually transmitted diseases | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 26 | 59 | 807 | 455 | 1,262 | 1,321 | 0.4 |
| Other childhood diseases | 27 | 31 | 58 | 112 | 120 | 232 | 376 | 347 | 723 | 117 | 91 | 208 | 1,221 | 0.3 |
| Diseases of female genital tract | 0 | 1 | 1 | 0 | 14 | 14 | 0 | 60 | 60 | 0 | 1,203 | 1,203 | 1,278 | 0.4 |
| Complication of pregnancy and child birth peuperum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 11 | 0 | 988 | 988 | 999 | 0.3 |
| Others | 69 | 97 | 166 | 434 | 499 | 933 | 1,605 | 1,545 | 3,150 | 6,963 | 6,498 | 13,461 | 17,710 | 5.0 |
| All diseases | 7,701 | 8,850 | 16,551 | 24,346 | 25,346 | 49,692 | 44,295 | 42,288 | 86,583 | 106,565 | 97,955 | 204,520 | 357,346 | 100.0 |

continues...

Source: Health Division, Thimphu

TABLE 2.3: PATIENTS TREATED IN BASIC HEALTH UNITS BY DISEASE,SEX AND AGE 1992

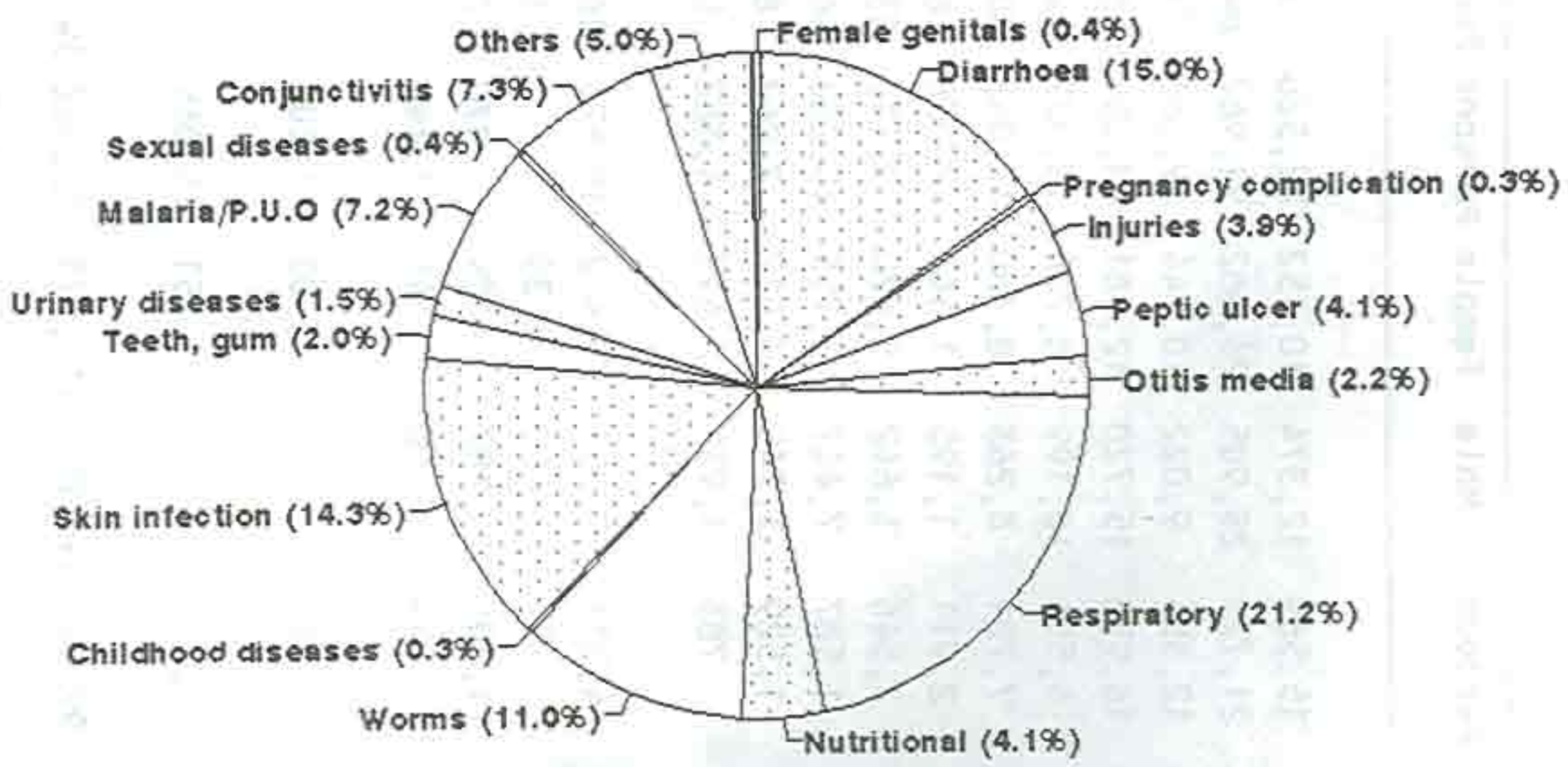
continuation (numbers)

| Disease | Age below 1 | | | Age 1 to 4 | | | Age 5 to 14 | | | Age 15 and above | | | All ages | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Persons | Male | Female | Persons | Male | Female | Persons | Male | Female | Persons | Persons | Percent |
| Diarrhoea/Dysentery | 2,394 | 2,647 | 5,041 | 6,609 | 6,128 | 12,737 | 8,276 | 7,293 | 15,569 | 12,374 | 10,152 | 22,526 | 55,873 | 14.0 |
| Respiratory tract infection | 2,240 | 2,575 | 4,815 | 5,279 | 5,775 | 11,054 | 10,311 | 11,418 | 21,729 | 25,905 | 26,062 | 51,967 | 89,565 | 22.5 |
| Worms | 177 | 219 | 396 | 3,603 | 3,774 | 7,377 | 6,176 | 6,178 | 12,354 | 9,022 | 10,244 | 19,266 | 39,393 | 9.9 |
| Skin infection | 1,512 | 1,851 | 3,363 | 4,814 | 4,794 | 9,608 | 9,255 | 7,703 | 16,958 | 15,720 | 12,581 | 28,301 | 58,230 | 14.6 |
| Malaria/P.U.O | 413 | 473 | 886 | 1,418 | 1,516 | 2,934 | 3,352 | 3,152 | 6,504 | 10,199 | 8,728 | 18,927 | 29,251 | 7.3 |
| Conjunctivitis | 622 | 845 | 1,467 | 1,871 | 2,075 | 3,946 | 3,965 | 3,816 | 7,781 | 8,263 | 8,780 | 17,043 | 30,237 | 7.6 |
| Otitis media | 544 | 579 | 1,123 | 1,239 | 1,206 | 2,445 | 1,554 | 1,357 | 2,911 | 1,195 | 1,143 | 2,338 | 8,817 | 2.2 |
| Nutritional deficiency | 184 | 230 | 414 | 722 | 801 | 1,523 | 1,210 | 1,336 | 2,546 | 3,642 | 5,470 | 9,112 | 13,595 | 3.4 |
| Peptic ulcer syndrome | 5 | 5 | 10 | 78 | 100 | 178 | 635 | 952 | 1,587 | 7,447 | 7,755 | 15,202 | 16,977 | 4.3 |
| Disease of teeth and gum | 2 | 3 | 5 | 69 | 117 | 186 | 807 | 722 | 1,529 | 3,745 | 3,517 | 7,262 | 8,982 | 2.3 |
| Urinary tract infection and nephritis | 12 | 17 | 29 | 155 | 184 | 339 | 349 | 434 | 783 | 1,939 | 2,443 | 4,382 | 5,533 | 1.4 |
| Injuries | 61 | 72 | 133 | 708 | 755 | 1,463 | 2,505 | 1,806 | 4,311 | 7,051 | 3,472 | 10,523 | 16,430 | 4.1 |
| Sexually transmitted diseases | 0 | 0 | 0 | 0 | 1 | 1 | 31 | 63 | 94 | 888 | 539 | 1,427 | 1,522 | 0.4 |
| Other childhood diseases | 65 | 61 | 126 | 249 | 236 | 485 | 613 | 493 | 1,106 | 187 | 189 | 376 | 2,093 | 0.5 |
| Diseases of female genital tract | 0 | 2 | 2 | 0 | 13 | 13 | 0 | 54 | 54 | 0 | 1,140 | 1,140 | 1,209 | 0.3 |
| Complication of pregnancy and child birth peuperum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 11 | 0 | 1,205 | 1,205 | 1,216 | 0.3 |
| Others | 70 | 76 | 146 | 423 | 482 | 905 | 1,935 | 1,844 | 3,779 | 7,514 | 7,551 | 15,065 | 19,895 | 5.0 |
| All diseases | 8,301 | 9,655 | 17,956 | 27,237 | 27,957 | 55,194 | 50,974 | 48,632 | 99,606 | 115,091 | 110,971 | 226,062 | 398,818 | 100.0 |

end

Source: Health Division, Thimphu

Major causes of health problems, 1991
(for details see table 2.3)




Major causes of health problems, 1992
(for details see table 2.3)

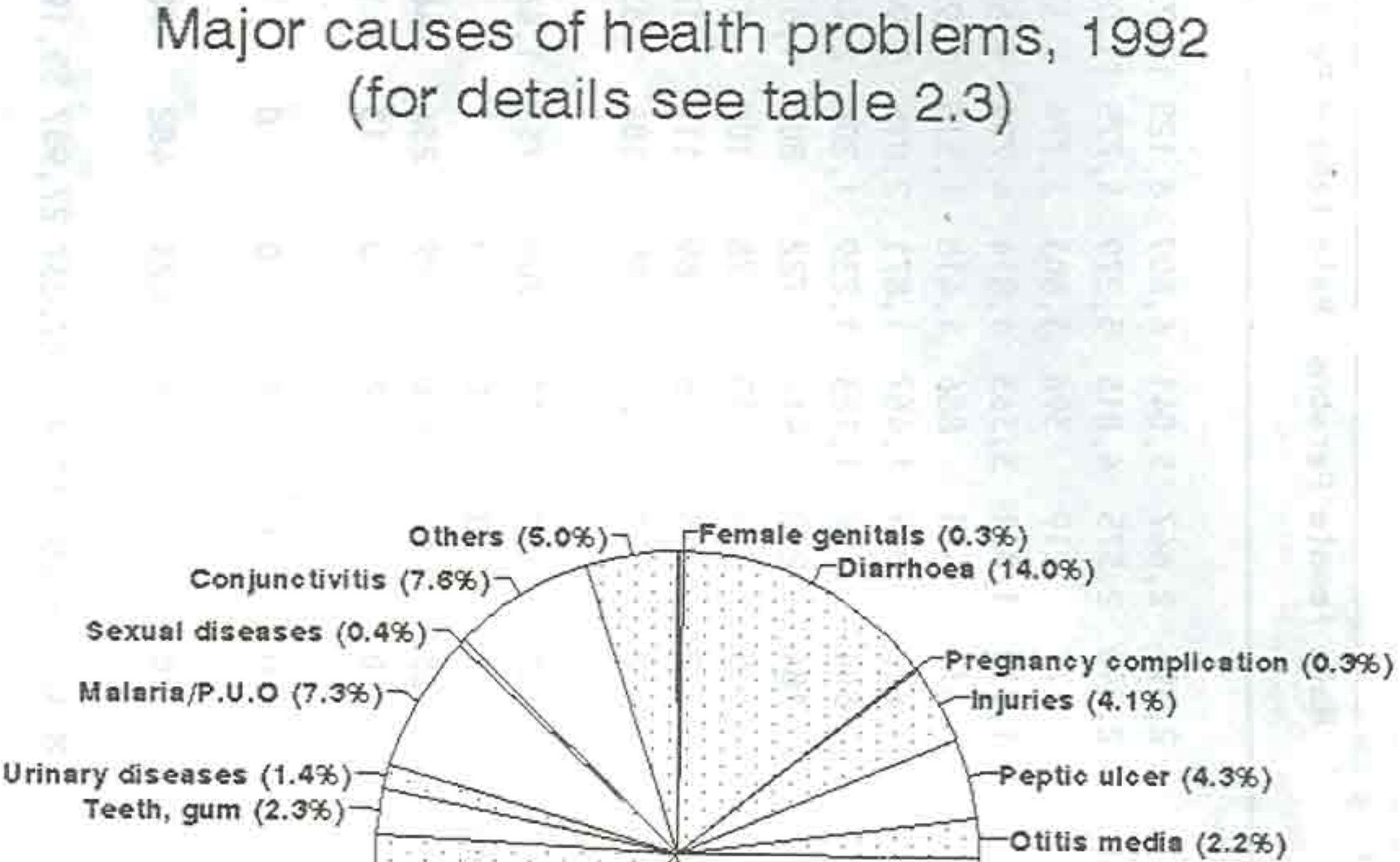
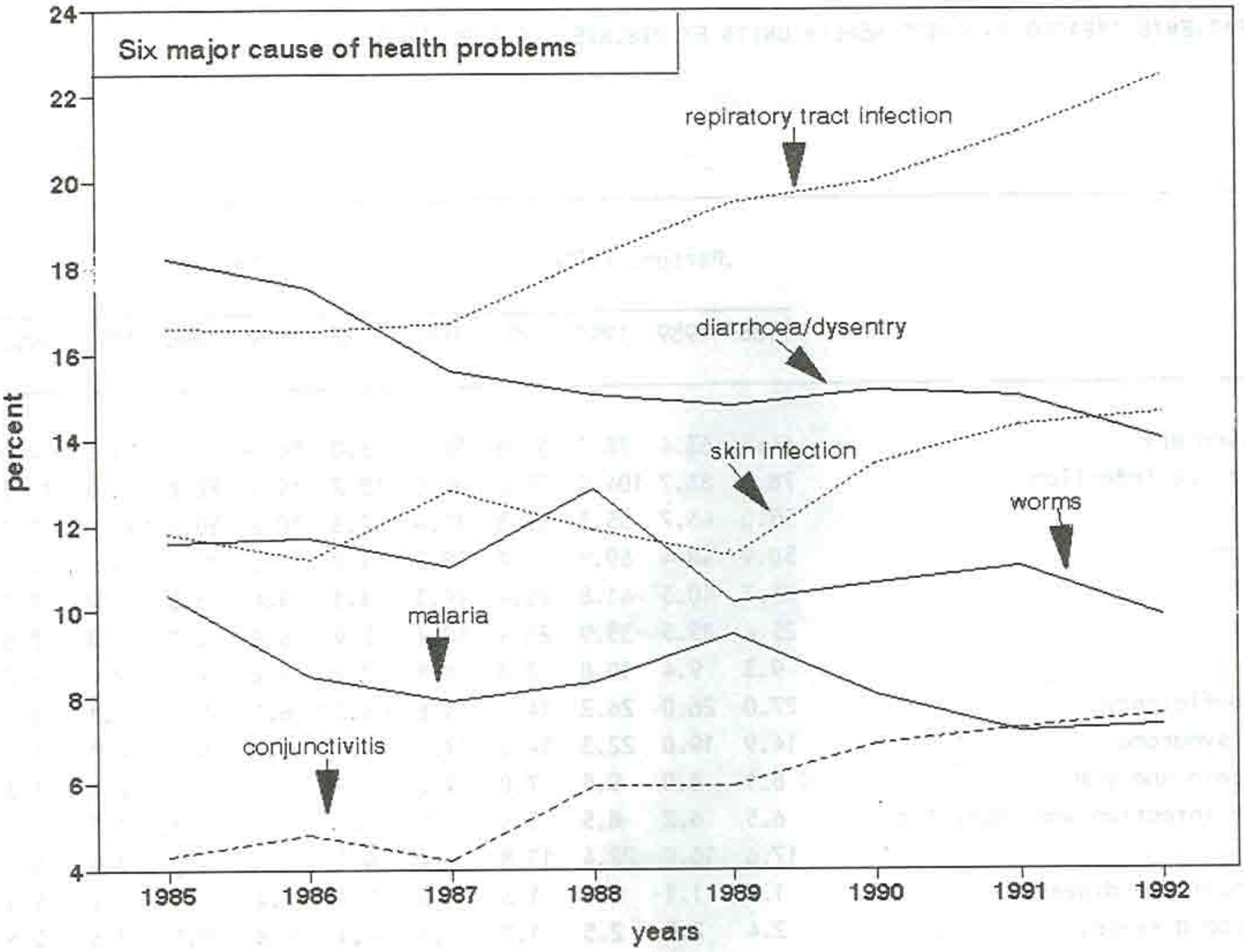


TABLE 2.4: PATIENTS TREATED IN BASIC HEALTH UNITS BY DISEASE, 1988 TO 1992

| Disease | Persons ('000) | | | | | Percent | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1988 | 1989 | 1990 | 1991 | 1992 | 1988 | 1989 | 1990 | 1991 | 1992 |
| Diarrhoea/Dysentery | 64.3 | 63.4 | 78.7 | 53.6 | 55.9 | 15.0 | 14.8 | 15.1 | 15.0 | 14.0 |
| Respiratory tract infection | 78.0 | 83.7 | 104.0 | 75.6 | 89.6 | 18.2 | 19.5 | 20.0 | 21.2 | 22.5 |
| Worms | 55.0 | 43.7 | 55.3 | 39.3 | 39.4 | 12.8 | 10.2 | 10.6 | 11.0 | 9.9 |
| Skin infection | 50.9 | 48.4 | 69.9 | 51.2 | 58.2 | 11.9 | 11.3 | 13.4 | 14.3 | 14.6 |
| Malaria/P.U.O | 35.7 | 40.5 | 41.8 | 25.7 | 29.3 | 8.3 | 9.4 | 8.0 | 7.2 | 7.3 |
| Conjunctivitis | 25.4 | 25.5 | 35.9 | 25.9 | 30.2 | 5.9 | 5.9 | 6.9 | 7.3 | 7.6 |
| Otitis media | 9.3 | 9.4 | 10.8 | 7.8 | 8.8 | 2.2 | 2.2 | 2.1 | 2.2 | 2.2 |
| Nutritional deficiency | 27.0 | 26.0 | 26.2 | 14.7 | 13.6 | 6.3 | 6.1 | 5.0 | 4.1 | 3.4 |
| Peptic ulcer syndrome | 14.9 | 19.0 | 22.3 | 14.6 | 17.0 | 3.5 | 4.4 | 4.3 | 4.1 | 4.3 |
| Disease of teeth and gum | 8.1 | 8.0 | 9.5 | 7.0 | 9.0 | 1.9 | 1.9 | 1.8 | 2.0 | 2.3 |
| Urinary tract infection and nephretis | 6.5 | 6.2 | 8.5 | 5.5 | 5.5 | 1.5 | 1.4 | 1.6 | 1.5 | 1.4 |
| Injuries | 17.6 | 16.9 | 22.4 | 13.8 | 16.4 | 4.1 | 4.0 | 4.3 | 3.9 | 4.1 |
| Sexually transmitted diseases | 1.3 | 1.1 | 1.4 | 1.3 | 1.5 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 |
| Other childhood diseases | 2.4 | 2.5 | 2.5 | 1.2 | 2.1 | 0.5 | 0.6 | 0.5 | 0.3 | 0.5 |
| Disease of female genital tract | 1.4 | 1.4 | 1.5 | 1.3 | 1.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 |
| Complication of pregnancy and childbirth peuperum | 0.8 | 1.1 | 1.3 | 1.0 | 1.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 |
| Others | 30.0 | 30.2 | 28.4 | 17.7 | 19.9 | 7.0 | 7.0 | 5.5 | 5.0 | 5.0 |
| All diseases | 428.5 | 428.9 | 520.4 | 357.3 | 398.8 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Health Division, Thimphu


Six major cause of health problems
repiratory tract infection
diarrhoea/dysentry
skin infection
worms
malaria
conjunctivitis
percent
24
22
20
18
16
14
12
10
8
6
4
1985
1986
1987
1988
1989
1990
1991
1992
years

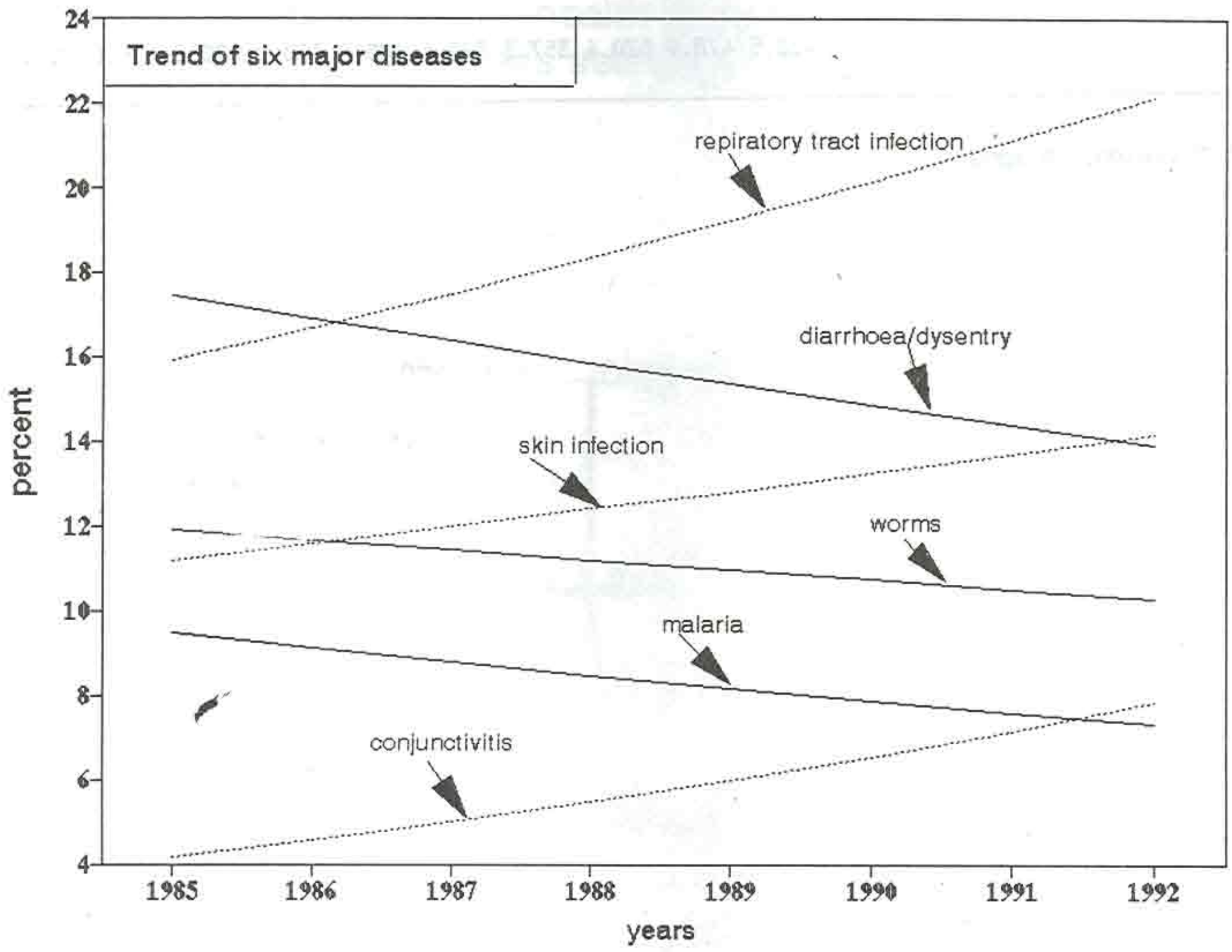

Trend of six major diseases
repiratory tract infection
diarrhoea/dysentry
skin infection
worms
malaria
conjunctivitis
percent
24
22
20
18
16
14
12
10
8
6
4
1985
1986
1987
1988
1989
1990
1991
1992
years

TABLE 2.5: NUMBER OF PATIENTS TREATED IN DIFFERENT HOSPITALS, 1988 TO 1992

(thousand)

| Hospital | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|
| Government hospitals | | | | | |
| Bjakar | 8.1 | 6.4 | 4.4 | 9.4 | 10.4 |
| Tsirang | 23.5 | 23.8 | 20.3 | 73.8 | 38.7 |
| Geylegphug(a) | 67.7 | 60.0 | 46.6 | 77.1 | 70.0 |
| Pemagatshel | 8.4 | 6.1 | 7.6 | 11.0 | 9.6 |
| Paro | 17.4 | 28.9 | 40.1 | 28.5 | 18.9 |
| Phuntsholing | 22.5 | 16.4 | 33.1 | 34.6 | 34.9 |
| Samdrupjongkhar | 16.5 | 22.5 | 25.8 | 17.7 | 25.6 |
| Samtse | 25.9 | 21.3 | 22.1 | 23.1 | 29.9 |
| Sarpang | 22.9 | - | 46.6 | n.a | n.a |
| Sibsoo | 11.2 | 8.9 | 9.4 | 9.5 | 8.4 |
| Thimphu | 98.6 | 129.6 | 145.0 | 5.5 | 5.1 |
| Trashigang | 19.5 | 17.2 | 28.6 | 17.7 | 20.9 |
| Tsimalakha | 11.2 | 24.7 | 20.5 | 24.6 | 20.6 |
| Trongsa | 4.9 | 5.9 | 7.0 | 6.9 | 6.4 |
| Leprosy Mission hospitals | | | | | |
| Gidakom(Thimphu) | 9.2 | 4.8 | 10.0 | 8.7 | 9.0 |
| Lhuntse | 5.7 | 5.5 | 7.0 | 8.7 | 9.6 |
| Mongar | 12.9 | 10.0 | 11.0 | 11.8 | 12.1 |
| Riserboo(Trashigang) | 7.0 | n.a | 3.6 | 5.2 | 7.9 |
| Yebilaptsa(Zhemgang) | 5.0 | 4.1 | 6.2 | 6.8 | 7.7 |
| Army hospitals | | | | | |
| Lungtenphug | 51.7 | n.a | n.a | n.a | n.a |
| Wangdiphodrang | 16.8 | 31.0 | 28.5 | 29.0 | 24.2 |
| Yonphula | n.a | n.a | 7.0 | 15.2 | 10.5 |
| Imtrat (Haa) | n.a | n.a | 24.1 | 23.3 | 30.1 |
| Others | | | | | |
| Dantak (Deothang) | n.a | n.a | 24.1 | 56.5 | n.a |
| IBFH (Thimphu) | n.a | n.a | 56.9 | 44.6 | 51.5 |
| Project hospitals | | | | | |
| Gomtu | n.a | n.a | 26.1 | 33.2 | 38.3 |
| Indigenous hospital | 36.6 | 18.0 | 15.8 | 33.4 | 33.5 |
| Indigenous dispensary | 19.0 | 18.0 | 17.0 | 71.4 | 77.1 |
| All hospitals(b) | 522.2 | 463.1 | 694.4 | 687.2 | 610.9 |

Note: Comparison over time may be affected by different coverage in each year (a) Figure includes both Gaylephug and Sarpang hospitals
(b) Total patients exclude hospitals for which data were not available for 1989

Source: Health Division, Thimphu

TABLE 2.6: NUMBERS COVERED BY IMMUNIZATION ACTIVITIES, 1985 TO 1992

(numbers)

| Immunization | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|
| BCG | 17,379 | 28,469 | 28,158 | 24,830 | 26,881 | 20,099 | 18,454 | 16,597 |
| DPT1 | 14,078 | 21,556 | 25,456 | 21,819 | 23,718 | 19,639 | 18,363 | 16,710 |
| DPT3 | 10,139 | 14,846 | 21,358 | 17,939 | 21,810 | 17,763 | 15,730 | 14,888 |
| OPV1 | 13,331 | 20,927 | 25,355 | 21,455 | 24,113 | 19,764 | 18,167 | 16,307 |
| OPV3 | 10,190 | 14,179 | 21,281 | 17,497 | 22,241 | 17,933 | 15,688 | 14,702 |
| Measles | 12,487 | 17,076 | 21,514 | 16,872 | 21,293 | 13,991 | 13,716 | 12,438 |
| TT1 | 5,327 | 4,912 | 8,365 | 8,883 | 11,480 | 10,342 | 7,926 | 7,073 |
| TT2 | 1,454 | 2,395 | 4,948 | 5,244 | 7,497 | 7,361 | 5,475 | 4,847 |

Source: Health Division, Thimphu

TABLE 2.7: COVERAGE by MATERNAL AND CHILD HEALTH CARE SERVICES, 1985 TO 1992

(persons)

| Type of care | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|
| Maternal health care attendence(a) | | | | | | | | |
| Antenatal | 13,548 | 18,532 | 26,662 | 29,425 | 33,324 | 40,616 | 38,064 | 40,310 |
| Postnatal | 18,080 | 22,803 | 37,476 | 34,277 | 36,406 | 45,916 | 40,289 | 42,182 |
| Total attendance | 31,628 | 41,335 | 64,138 | 63,702 | 69,730 | 86,532 | 78,353 | 82,492 |
| Deliveries attended | | | | | | | | |
| Home (b) | 497 | 800 | 2,170 | 1,838 | 2,258 | 2,450 | 2,206 | 2,667 |
| Hospital/Basic Health Units | 1,817 | 3,007 | 2,491 | 3,086 | 3,588 | 3,513 | 3,287 | 3,392 |
| Total deliveries | 2,314 | 3,807 | 4,661 | 4,924 | 5,846 | 5,963 | 5,438 | 6,059 |
| Child health care attendance | | | | | | | | |
| First visit | 17,734 | 23,996 | 33,240 | 26,090 | 35,784 | 29,450 | 23,954 | 22,081 |
| Re-visit | 93,275 | 90,754 | 163,161 | 136,450 | 151,526 | 180,410 | 147,819 | 159,190 |
| Total attendance | 111,009 | 114,750 | 196,401 | 162,540 | 187,310 | 209,860 | 171,773 | 181,271 |
| Malnourished children (c) | | | | | | | | |
| All malnourished | 12,456 | 9,030 | 15,502 | 8,334 | 10,807 | 12,155 | 11,093 | 10,746 |
| Third degree | 1,250 | 953 | 2,020 | 876 | 1,145 | 2,967 | 767 | 834 |

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

Source: Health Division, Thimphu

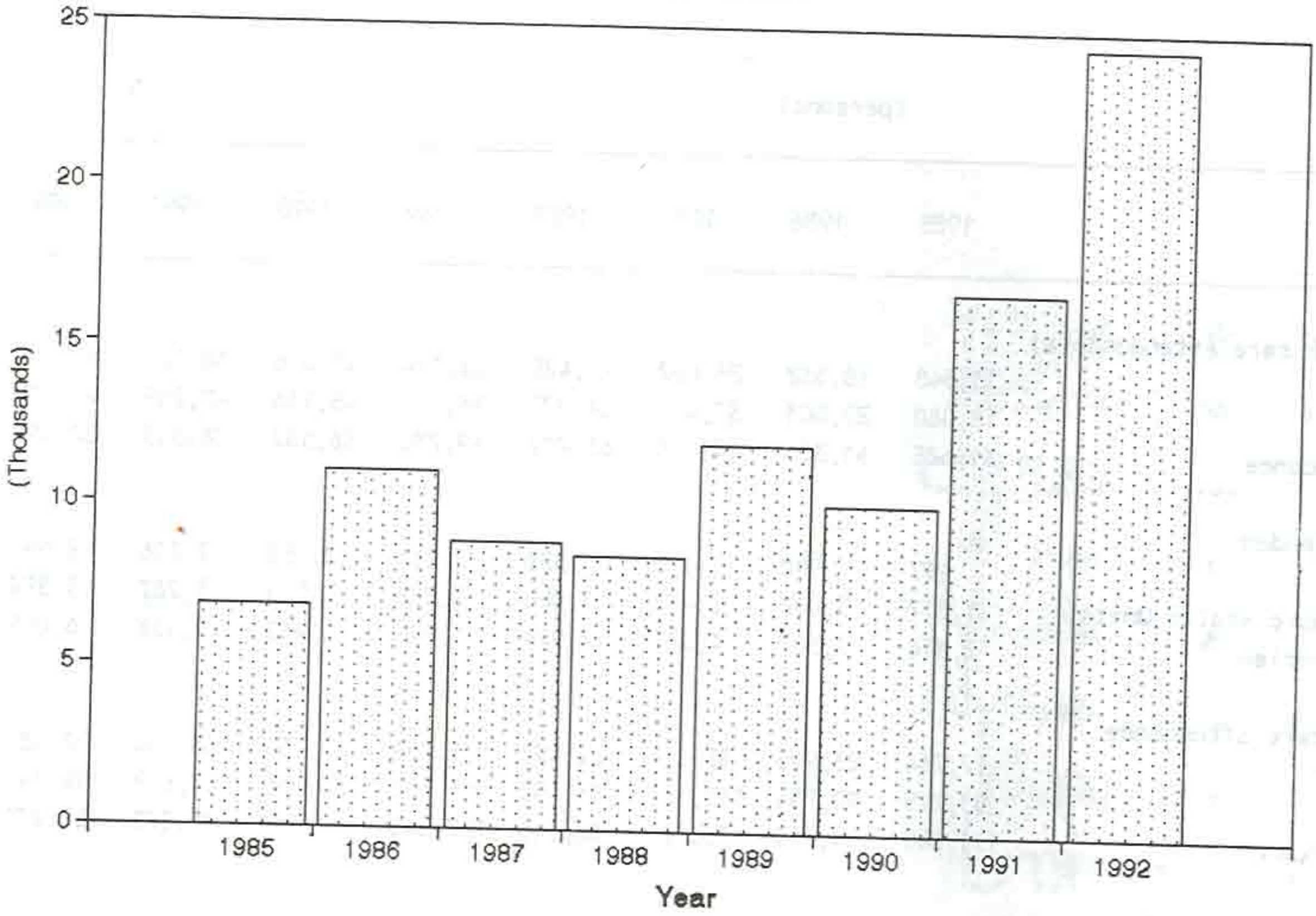
TABLE 2.8: FAMILY PLANNING ACCEPTORS BY TYPE OF METHOD, 1985 TO 1992

(persons)

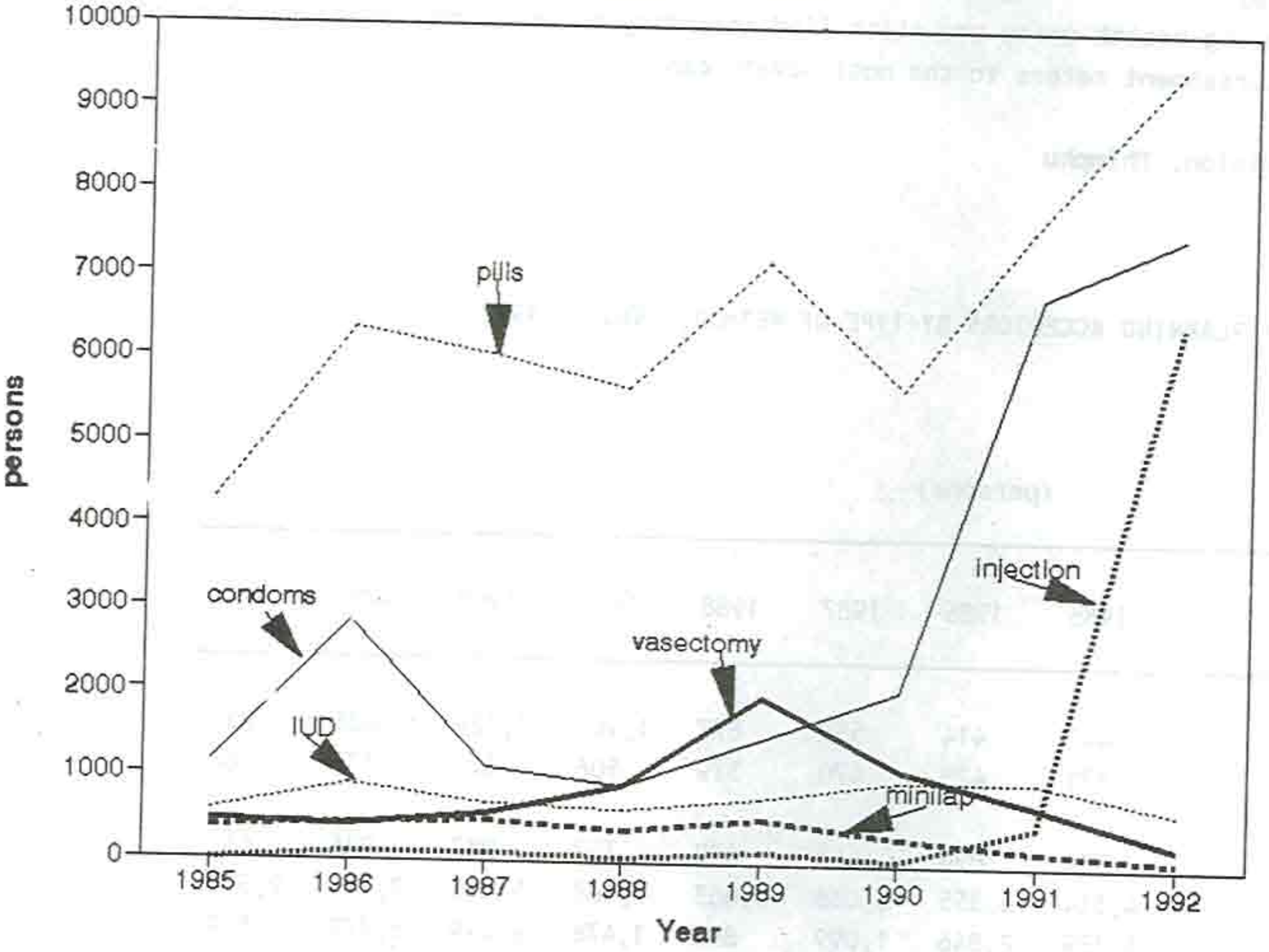
| Method | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|
| Vasectomy | 447 | 414 | 552 | 897 | 1,961 | 1,120 | 685 | 231 |
| Minilap | 371 | 428 | 470 | 379 | 506 | 301 | 177 | 68 |
| Intra uterine device (IUD) | 584 | 896 | 665 | 619 | 757 | 987 | 986 | 637 |
| Pills | 4,314 | 6,355 | 6,036 | 5,663 | 7,168 | 5,675 | 7,721 | 9,572 |
| Condoms | 1,159 | 2,846 | 1,099 | 897 | 1,476 | 2,049 | 6,777 | 7,529 |
| Injection DMPA | - | 81 | 78 | 48 | 125 | 50 | 453 | 6,448 |
| All methods | 6,875 | 11,020 | 8,900 | 8,503 | 11,993 | 10,182 | 16,799 | 24,485 |

Source: Health Division, Thimphu

## Total family planning acceptors, 1985 to 1992




## Family planning acceptors by method, 1985 to 1992



ABLE 2.9: DETAILS OF LEPROSY CONTROL PROGRAMME, 1986 TO 1992.

(persons)

| etails | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|
| atients at beginning of year | 2,233 | 1,674 | 1,018 | 601 | 405 | 245 | 201 |
| ew cases detected | 71 | 88 | 69 | 57 | 58 | 54 | 53 |
| elapse cases | 9 | 6 | 11 | 3 | 12 | 1 | 2 |
| eaths | 33 | 33 | 20 | 12 | 7 | 5 | 5 |
| eleased from control(a) | 546 | 534 | 447 | 282 | 209 | 91 | 55 |
| ost to control(b) | 60 | 18 | 30 | 14 | 11 | 9 | 12 |
| atients at the end of of year | 1,674 | 1,183 | 601 | 353 | 249 | 201 | 162 |

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

Source: Health Division, Thimphu

TABLE 2.10: DETAILS OF MALARIA ERADICATION PROGRAMME, 1985 TO 1992

(numbers)

| Items | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|
| Population in malaria areas | 148,000 | 158,000 | 161,000 | 173,000 | 176,872 | 17,627 | 350,000 | 350,000 |
| Population under control programme | n.a | n.a | n.a | n.a | n.a | n.a | n.a | 176,000 |
| Population without control measures | n.a | n.a | n.a | 52,563 | 35,596 | 35,000 | 174,000 | 174,000 |
| Blood film examined | 69,421 | 82,446 | 69,029 | 51,164 | 71,653 | 33,973 | 67,699 | 73,986 |
| Blood slide positive | 15,999 | 16,523 | 13,134 | 11,314 | 19,162 | 9,497 | 22,126 | 28,900 |
| Deaths due to malaria | n.a | n.a | n.a | n.a | n.a | n.a | n.a | 54 |
| Under insecticide spraying, case detection and treatment | n.a | n.a | n.a | 120,841 | 141,276 | 141,276 | 176,000 | 176,000 |

Source: Health Division, Thimphu

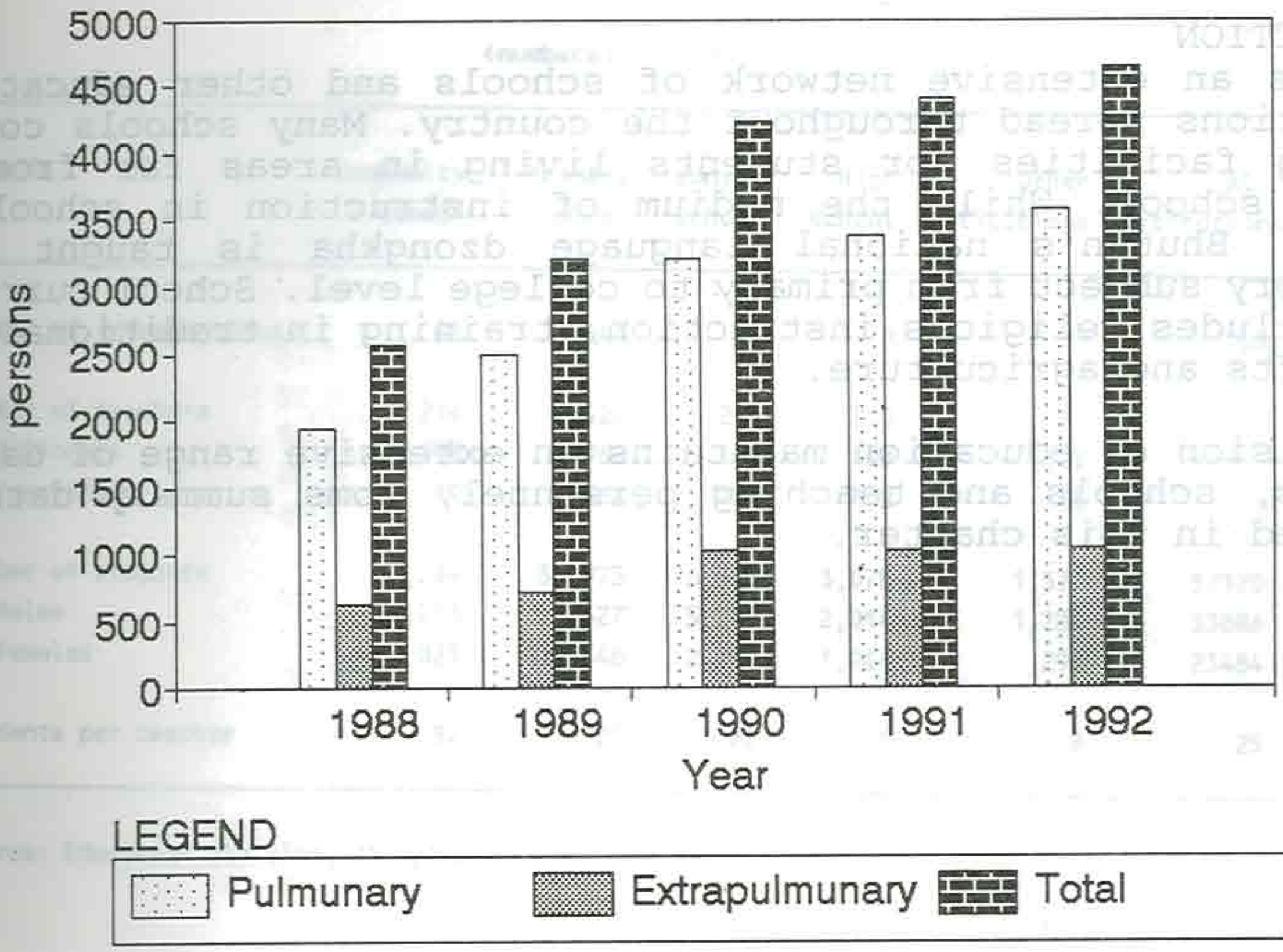
TABLE 2.11: NUMBER OF TUBERCULOSIS CASES BY TYPE, TUBERCULOSIS CONTROL PROGRAMME, 1989 TO 1992

(numbers)

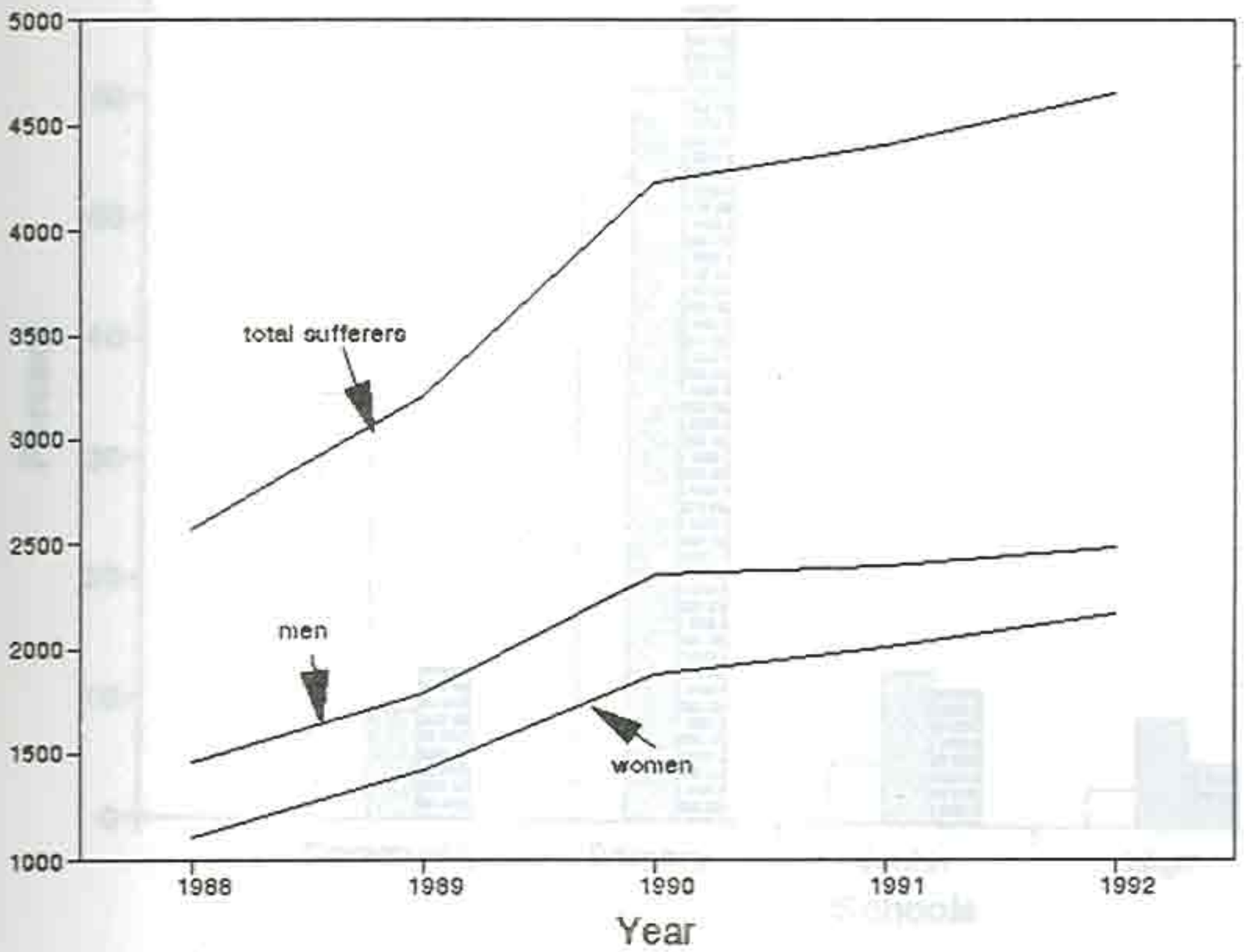
| Description | Pulmonary | | | Extrapulmonary | | | All cases | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Persons | Male | Female | Persons | Male | Female | Persons |
| Cases at start of year | | | | | | | | | |
| 1989 | 1,119 | 821 | 1,940 | 338 | 288 | 626 | 1,457 | 1,109 | 2,566 |
| 1990 | 1,565 | 1,181 | 2,746 | 400 | 380 | 780 | 1,965 | 1,561 | 3,526 |
| 1991 | 1,842 | 1,376 | 3,218 | 513 | 301 | 814 | 2,355 | 1,877 | 4,232 |
| 1992 | 1,898 | 1,487 | 3,385 | 500 | 520 | 1,020 | 2,398 | 2,007 | 4,405 |
| New cases | | | | | | | | | |
| 1989 | 574 | 432 | 1,006 | 167 | 171 | 338 | 741 | 603 | 1,344 |
| 1990 | 423 | 308 | 731 | 185 | 188 | 373 | 608 | 496 | 1,104 |
| 1991 | 367 | 313 | 680 | 111 | 159 | 270 | 478 | 472 | 950 |
| 1992 | 376 | 335 | 711 | 141 | 179 | 320 | 517 | 543 | 1,060 |
| Relapsed cases | | | | | | | | | |
| 1989 | 73 | 80 | 153 | 15 | 13 | 28 | 88 | 93 | 181 |
| 1990 | 30 | 10 | 40 | 4 | 6 | 10 | 34 | 16 | 50 |
| 1991 | 19 | 24 | 43 | 1 | 2 | 3 | 20 | 26 | 46 |
| 1992 | 56 | 41 | 97 | 7 | 11 | 18 | 63 | 52 | 115 |
| Cases of deaths | | | | | | | | | |
| 1989 | 6 | 20 | 26 | 7 | 7 | 14 | 13 | 27 | 40 |
| 1990 | 22 | 10 | 32 | 7 | 7 | 14 | 29 | 17 | 46 |
| 1991 | 18 | 12 | 30 | 3 | 3 | 6 | 21 | 15 | 36 |
| 1992 | 21 | 11 | 32 | 4 | 4 | 8 | 25 | 15 | 40 |
| Completed treatment | | | | | | | | | |
| 1989 | 233 | 151 | 384 | 64 | 66 | 130 | 287 | 217 | 504 |
| 1990 | 82 | 54 | 136 | 30 | 42 | 72 | 112 | 96 | 208 |
| 1991 | 125 | 89 | 214 | 31 | 32 | 63 | 156 | 121 | 277 |
| 1992 | 144 | 99 | 243 | 33 | 58 | 91 | 177 | 157 | 334 |
| Loss of control | | | | | | | | | |
| 1989 | 107 | 86 | 193 | 83 | 52 | 135 | 180 | 138 | 318 |
| 1990 | 72 | 59 | 131 | 39 | 24 | 63 | 111 | 83 | 194 |
| 1991 | 193 | 121 | 314 | 88 | 108 | 196 | 281 | 229 | 510 |
| 1992 | 213 | 148 | 361 | 95 | 118 | 213 | 308 | 266 | 574 |
| Cases at year end | | | | | | | | | |
| 1989 | 1,420 | 1,076 | 2,496 | 366 | 347 | 713 | 1,786 | 1,423 | 3,209 |
| 1990 | 1,842 | 1,376 | 3,218 | 513 | 501 | 1,014 | 2,355 | 1,877 | 4,232 |
| 1991 | 1,898 | 1,487 | 3,385 | 500 | 520 | 1,020 | 2,398 | 2,007 | 4,405 |
| 1992 | 1,952 | 1,625 | 3,577 | 516 | 530 | 1,046 | 2,488 | 2,164 | 4,652 |

Source: Health Division, Thimphu

Total sufferers from tuberculosis
by type, 1988 to 1992(end of year)




Sufferers from tuberculosis by sex,
1988 to 1992(end of year)



# CHAPTER 3: EDUCATION

## INTRODUCTION

There is an extensive network of schools and other educatio
institutions spread throughout the country. Many schools cont
boarding facilities for students living in areas far from
nearest school. While the medium of instruction in schools
english, Bhutan's national language dzongkha is taught as
compulsory subject from primary to college level. School curric
also includes religious instruction, training in traditional a
and crafts and agriculture.

The division of education maintains an extensive range of data
students, schools and teaching personnel, some summary data
presented in this chapter.

TABLE 3.1: NUMBER OF EDUCATIONAL INSTITUTIONS BY TYPE, TEACHERS AND STUDENTS, 1992

(numbers)

| Details | Community school | Primary school | Junior school | High school | Other institutions | All institutions |
|---|---|---|---|---|---|---|
| Number of infrastructure | 95 | 144 | 14 | 8 | 7 | 268 |
| Number of teachers | 214 | 1,424 | 298 | 210 | 187 | 2,333 |
| Nationals | 195 | 960 | 175 | 108 | 122 | 1,560 |
| Foreigners | 19 | 464 | 123 | 102 | 65 | 773 |
| Number of students | 7,239 | 38,973 | 6,503 | 3,078 | 1,577 | 57370 |
| Males | 4,218 | 22,627 | 3,746 | 2,014 | 1,281 | 33886 |
| Females | 3,021 | 16,346 | 2,757 | 1,064 | 296 | 23484 |
| Students per teacher | 34 | 27 | 22 | 15 | 8 | 25 |

Source: Education Division, Thimphu

Percent of institution, teachers and students by type of institution, 1992

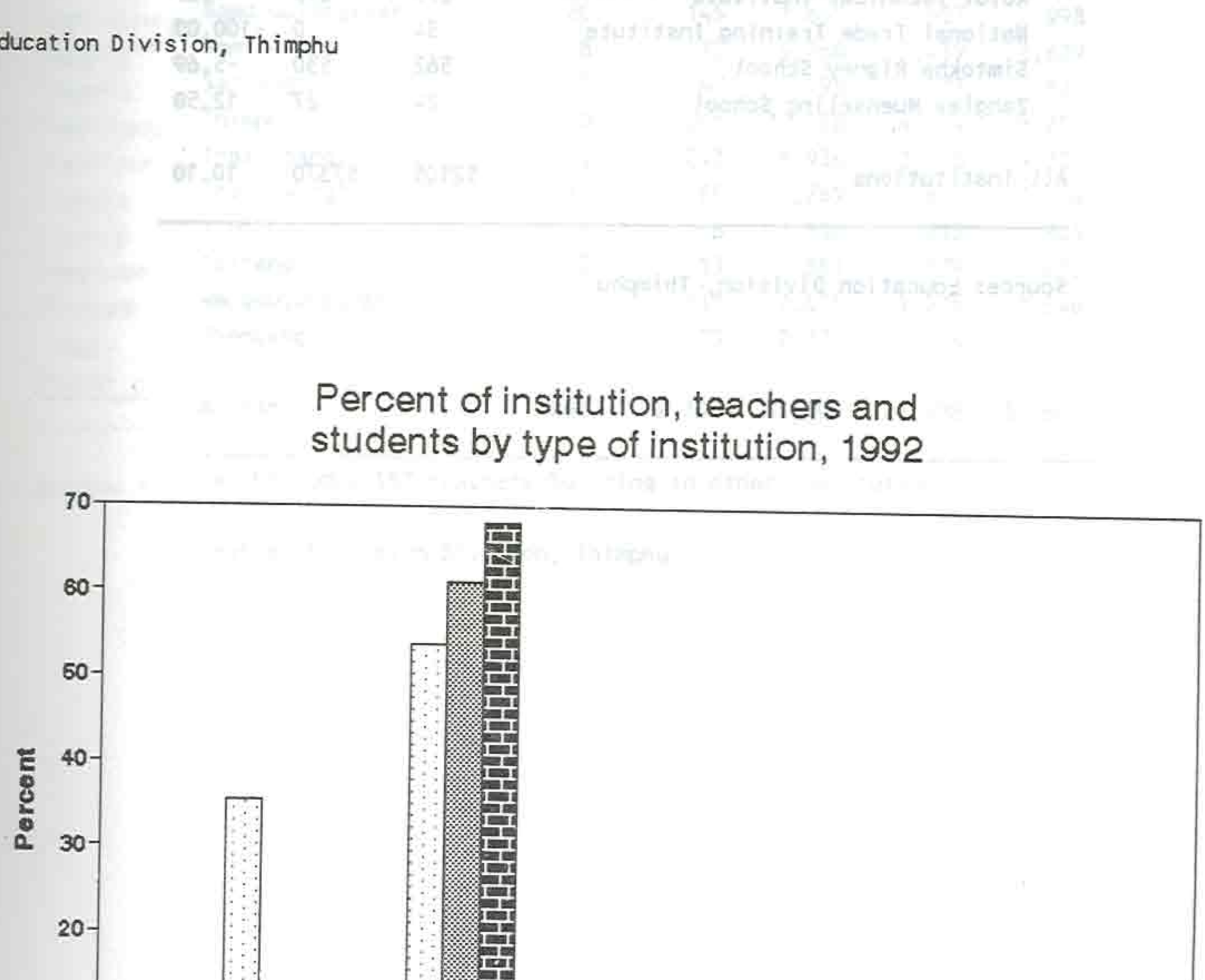


TABLE 3.2: NUMBER OF ENROLMENT IN EDUCATIONAL INSTITUTIONS, BHUTAN, 1991 TO 1992

(numbers)

| Institutions | 1991 | 1992 | Percent change |
|---|---|---|---|
| Schools | 50412 | 55793 | 10.67 |
| Community schools | 5576 | 7239 | 29.82 |
| Primary schools | 34807 | 38973 | 11.97 |
| Junior schools | 7065 | 6503 | -7.95 |
| High schools | 2964 | 3078 | 3.85 |
| Other institutions | 1693 | 1577 | -6.85 |
| Sherubtse college | 383 | 395 | 3.13 |
| National Institute of Education | 185 | 127 | -31.35 |
| Teachers Training Centre | 66 | 61 | -7.58 |
| Royal Bhutan Polytechnic | 164 | 142 | -13.41 |
| Royal Technical Institute | 275 | 295 | 7.27 |
| National Trade Training Institute | 34 | 0 | -100.00 |
| Simtokha Rigney School | 562 | 530 | -5.69 |
| Zangley Muenseling School | 24 | 27 | 12.50 |
| All institutions | 52105 | 57370 | 10.10 |

Source: Education Division, Thimphu

TABLE 3.3: NUMBER OF SCHOOLS, TEACHERS AND STUDENTS BY DZONGKHAG, 1992(a)

(numbers)

| Dzongkhag | Schools | Teachers | Students | | |
|---|---|---|---|---|---|
| | | | Total | Girls | Boys |
| Bjakar | 10 | 70 | 1,784 | 848 | 936 |
| Chhukha | 21 | 163 | 4,331 | 1,817 | 2,514 |
| Dagana | 4 | 32 | 777 | 331 | 446 |
| Gasa | 1 | 8 | 150 | 56 | 94 |
| Haa | 7 | 75 | 1,819 | 817 | 1,002 |
| Lhuntse | 13 | 63 | 1,699 | 584 | 1,115 |
| Mongar | 21 | 133 | 3,257 | 1,140 | 2,117 |
| Paro | 13 | 153 | 4,034 | 1,780 | 2,254 |
| Pemagatshel | 12 | 78 | 2,477 | 909 | 1,568 |
| Punakha | 9 | 90 | 2,176 | 946 | 1,230 |
| Samdrupjongkhar | 20 | 145 | 1,655 | 657 | 998 |
| Samtse | 8 | 72 | 4,068 | 1,439 | 2,629 |
| Sarpang | 7 | 47 | 1,198 | 577 | 621 |
| Thimphu | 20 | 386 | 10,158 | 4,954 | 5,204 |
| Trashigang | 43 | 243 | 6,936 | 2,606 | 4,330 |
| Trashiyangtse | 15 | 69 | 1,769 | 600 | 1,169 |
| Trongsa | 8 | 66 | 1,538 | 735 | 803 |
| Tsirang | 3 | 13 | 381 | 179 | 202 |
| Wangduephodrang | 15 | 117 | 2,815 | 1,275 | 1,540 |
| Zhemgang | 18 | 123 | 2,771 | 938 | 1,833 |
| Bhutan | 268 | 2,146 | 55,793 | 23,188 | 32,605 |

(a) Excludes 187 teachers teaching in other institutions

Source: Education Division, Thimphu

TABLE 3.4: DISTRIBUTION OF EDUCATIONAL INSTITUTIONS BY TYPE AND DZONGKHAG, 1992

(numbers)

| Dzongkhag | Community schools | Primary schools | Junior schools | High schools | Other institutes | All institutions |
|---|---|---|---|---|---|---|
| Bjakar | 5 | 4 | 1 | 0 | 0 | 10 |
| Chhukha | 8 | 10 | 1 | 1 | 1 | 21 |
| Dagana | 0 | 3 | 1 | 0 | 0 | 4 |
| Gasa | 0 | 1 | 0 | 0 | 0 | 1 |
| Haa | 1 | 5 | 1 | 0 | 0 | 7 |
| Lhuntse | 8 | 4 | 1 | 0 | 0 | 13 |
| Mongar | 10 | 10 | 0 | 1 | 0 | 21 |
| Paro | 2 | 8 | 1 | 1 | 1 | 13 |
| Pemagatshel | 6 | 5 | 1 | 0 | 0 | 12 |
| Punakha | 3 | 5 | 0 | 1 | 0 | 9 |
| Samdrupjongkhar | 7 | 11 | 1 | 0 | 1 | 20 |
| Samtse | 0 | 7 | 0 | 0 | 1 | 8 |
| Sarpang | 4 | 3 | 0 | 0 | 0 | 7 |
| Thimphu | 1 | 14 | 2 | 2 | 1 | 20 |
| Trashigang | 19 | 19 | 2 | 1 | 2 | 43 |
| Trashiyangtse | 8 | 7 | 0 | 0 | 0 | 15 |
| Trongsa | 4 | 3 | 1 | 0 | 0 | 8 |
| Tsirang | 0 | 3 | 0 | 0 | 0 | 3 |
| Wangduephodrang | 6 | 8 | 1 | 0 | 0 | 15 |
| Zhemgang | 3 | 14 | 0 | 1 | 0 | 18 |
| Bhutan | 95 | 144 | 14 | 8 | 7 | 268 |

Source: Education Division, Thimphu

TABLE 3.5: NUMBER OF STUDENTS BY TYPE OF SCHOOL AND DZONGKHAG, 1992

(numbers)

| Dzongkhag | Community schools | Primary schools | Junior schools | High schools | All schools | | |
|---|---|---|---|---|---|---|---|
| | | | | | Boys | Girls | Total |
| Bjakar | 261 | 1,150 | 373 | .. | 936 | 848 | 1,784 |
| Chhukha | 600 | 3,250 | 214 | 267 | 2,514 | 1,817 | 4,331 |
| Dagana | .. | 510 | 267 | .. | 446 | 331 | 777 |
| Gasa | .. | 150 | .. | .. | 94 | 56 | 150 |
| Haa | 150 | 1,252 | 417 | .. | 1,002 | 817 | 1,819 |
| Lhuntse | 595 | 801 | 303 | .. | 1,115 | 584 | 1,699 |
| Mongar | 815 | 2,073 | .. | 369 | 2,117 | 1,140 | 3,257 |
| Paro | 142 | 2,980 | 623 | 289 | 2,254 | 1,780 | 4,034 |
| Pemagatshel | 772 | 1,026 | 679 | .. | 1,568 | 909 | 2,477 |
| Punakha | 132 | 1,547 | .. | 497 | 1,230 | 946 | 2,176 |
| Samtse | .. | 1,655 | .. | .. | 998 | 657 | 1,655 |
| Samdrupjongkhar | 601 | 3,197 | 270 | .. | 2,629 | 1,439 | 4,068 |
| Sarpang | 272 | 926 | .. | .. | 621 | 577 | 1,198 |
| Thimphu | 79 | 8,162 | 983 | 934 | 5,204 | 4,954 | 10,158 |
| Trashigang | 1,525 | 3,794 | 1,188 | 429 | 4,330 | 2,606 | 6,936 |
| Trashiyangtse | 367 | 1,402 | .. | .. | 1,169 | 600 | 1,769 |
| Trongsa | 214 | 735 | 589 | .. | 803 | 735 | 1,538 |
| Tsirang | .. | 381 | .. | .. | 202 | 179 | 381 |
| Wangduephodrang | 462 | 1,756 | 597 | .. | 1,540 | 1,275 | 2,815 |
| Zhemgang | 252 | 2,226 | .. | 293 | 1,833 | 938 | 2,771 |
| Bhutan | 7,239 | 38,973 | 6,503 | 3,078 | 32,605 | 23,188 | 55,793 |

Source: Education Division, Thimphu

TABLE 3.6: NUMBER OF STUDENTS BY GRADE AND TYPE OF SCHOOL, 1992

(numbers)

| Grade | Community school | | | Primary school | | | Junior school | | | High school | | | All schools | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Boys | Girls | Total | Boys | Girls | Total | Boys | Girls | Total | Boys | Girls | Total | Boys | Girls | Total |
| Pre primary | 1,931 | 1,561 | 3,492 | 4,931 | 3,818 | 8,749 | 278 | 267 | 545 | .. | .. | .. | 7,140 | 5,646 | 12, |
| I | 1,733 | 1,149 | 2,882 | 4,186 | 3,195 | 7,381 | 299 | 274 | 573 | .. | .. | .. | 6,218 | 4,618 | 10, |
| II | 418 | 207 | 625 | 4,085 | 2,936 | 7,021 | 327 | 292 | 619 | .. | .. | .. | 4,830 | 3,435 | 8, |
| III | 100 | 75 | 175 | 3,215 | 2,126 | 5,341 | 346 | 295 | 641 | .. | .. | .. | 3,661 | 2,496 | 6, |
| IV | 36 | 29 | 65 | 2,932 | 1,969 | 4,901 | 435 | 352 | 787 | .. | .. | .. | 3,403 | 2,350 | 5, |
| V | .. | .. | .. | 1,872 | 1,343 | 3,215 | 521 | 386 | 907 | 14 | 12 | 26 | 2,407 | 1,741 | 4, |
| VI | .. | .. | .. | 1,406 | 959 | 2,365 | 525 | 405 | 930 | 96 | 75 | 171 | 2,027 | 1,439 | 3, |
| VII | .. | .. | .. | .. | .. | .. | 516 | 300 | 816 | 519 | 325 | 844 | 1,035 | 625 | 1, |
| VIII | .. | .. | .. | .. | .. | .. | 499 | 186 | 685 | 411 | 288 | 699 | 910 | 474 | 1, |
| IX | .. | .. | .. | .. | .. | .. | .. | .. | .. | 516 | 198 | 714 | 516 | 198 | |
| X | .. | .. | .. | .. | .. | .. | .. | .. | .. | 458 | 166 | 624 | 458 | 166 | |
| Total | 4,218 | 3,021 | 7,239 | 22,627 | 16,346 | 38,973 | 3,746 | 2,757 | 6,503 | 2,014 | 1,064 | 3,078 | 32,605 | 23,188 | 55, |

Source: Education Division, Thimphu

Enrolment in schools by grade and sex, 1992

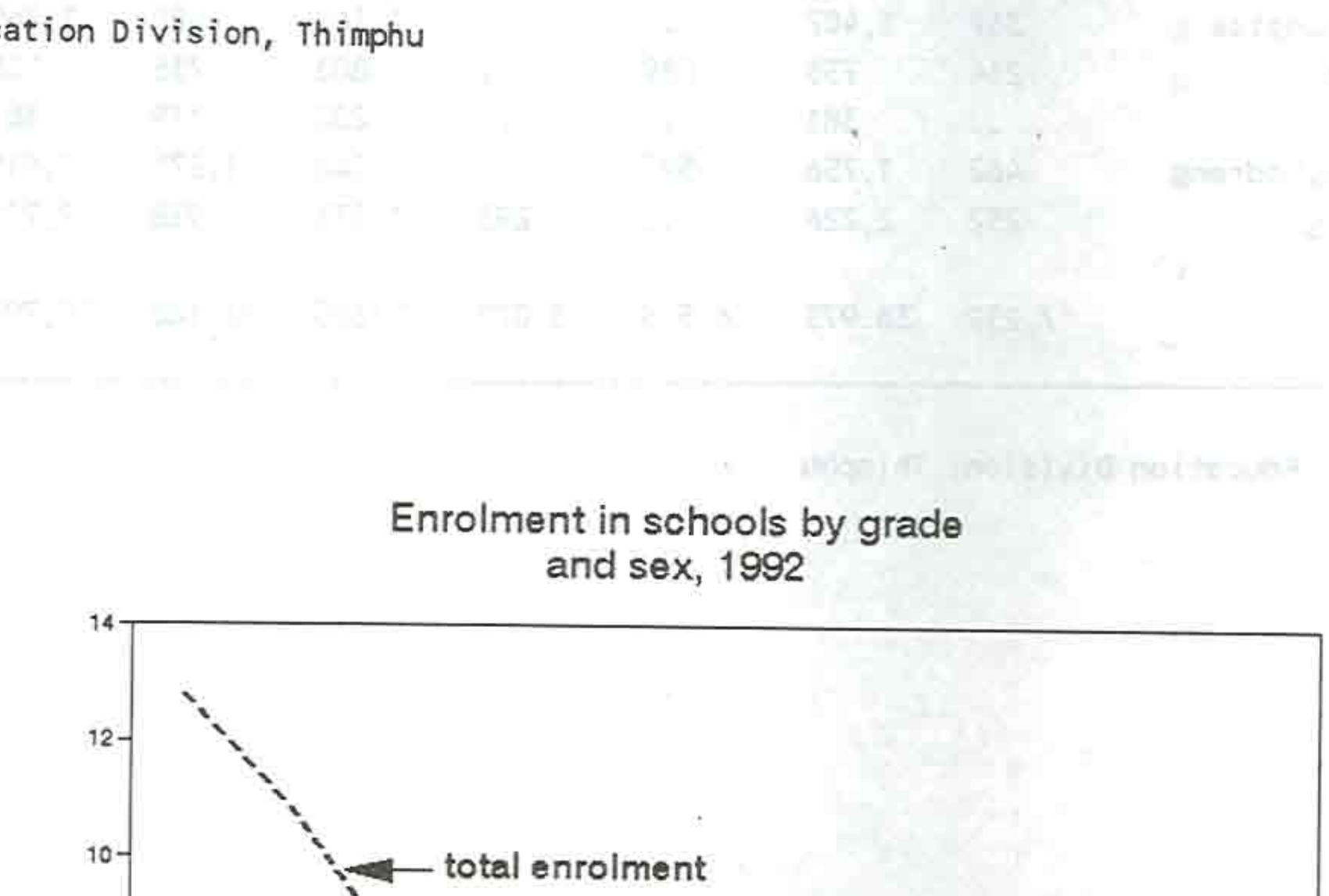


TABLE 3.7: NUMBER OF STUDENTS BY GRADE, 1983 TO 1992

(persons)

| Grade | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|---|---|
| Primary grades | 41,372 | 44,275 | 46,441 | 49,485 | 51,948 | 55,340 | 61,575 | 63,643 | 46,517 | 51,411 |
| Pre-primary | 19,217 | 20,085 | 20,375 | 18,431 | 15,579 | 14,323 | 16,042 | 15,155 | 13,408 | 12,786 |
| I | 7,018 | 7,705 | 8,359 | 9,814 | 13,094 | 13,313 | 13,756 | 13,151 | 8,708 | 10,836 |
| II | 5,307 | 5,668 | 6,064 | 6,760 | 7,365 | 9,423 | 10,798 | 11,385 | 7,087 | 8,265 |
| III | 4,331 | 4,682 | 4,986 | 5,361 | 5,867 | 6,490 | 7,754 | 8,684 | 6,136 | 6,157 |
| IV | 3,147 | 3,426 | 3,690 | 3,957 | 4,257 | 5,048 | 5,815 | 6,888 | 4,905 | 5,753 |
| V | 2,352 | 2,709 | 2,967 | 3,029 | 3,158 | 3,728 | 4,046 | 4,527 | 3,467 | 4,148 |
| VI | - | - | - | 2,133 | 2,628 | 3,015 | 3,364 | 3,853 | 2,807 | 3,466 |
| Junior high grades | 2,628 | 3,053 | 3,184 | 2,203 | 2,107 | 2,419 | 2,793 | 3,112 | 2,590 | 3,044 |
| VI | 1,059 | 1,249 | 1,149 | - | - | - | - | - | - | - |
| VII | 869 | 995 | 1,129 | 1,132 | 1,107 | 1,277 | 1,552 | 1,659 | 1,381 | 1,660 |
| VIII | 700 | 809 | 906 | 1,071 | 1,000 | 1,142 | 1,241 | 1,453 | 1,209 | 1,384 |
| High School grades | 481 | 555 | 686 | 764 | 872 | 1,037 | 1,165 | 1,258 | 1,305 | 1,338 |
| IX | 263 | 336 | 391 | 408 | 528 | 558 | 642 | 698 | 720 | 714 |
| X | 218 | 219 | 295 | 356 | 344 | 479 | 523 | 560 | 585 | 624 |
| Total students | 44,481 | 47,883 | 50,311 | 52,452 | 54,927 | 58,796 | 65,533 | 68,013 | 50,412 | 55,793 |

Source: Education Division, Thimphu

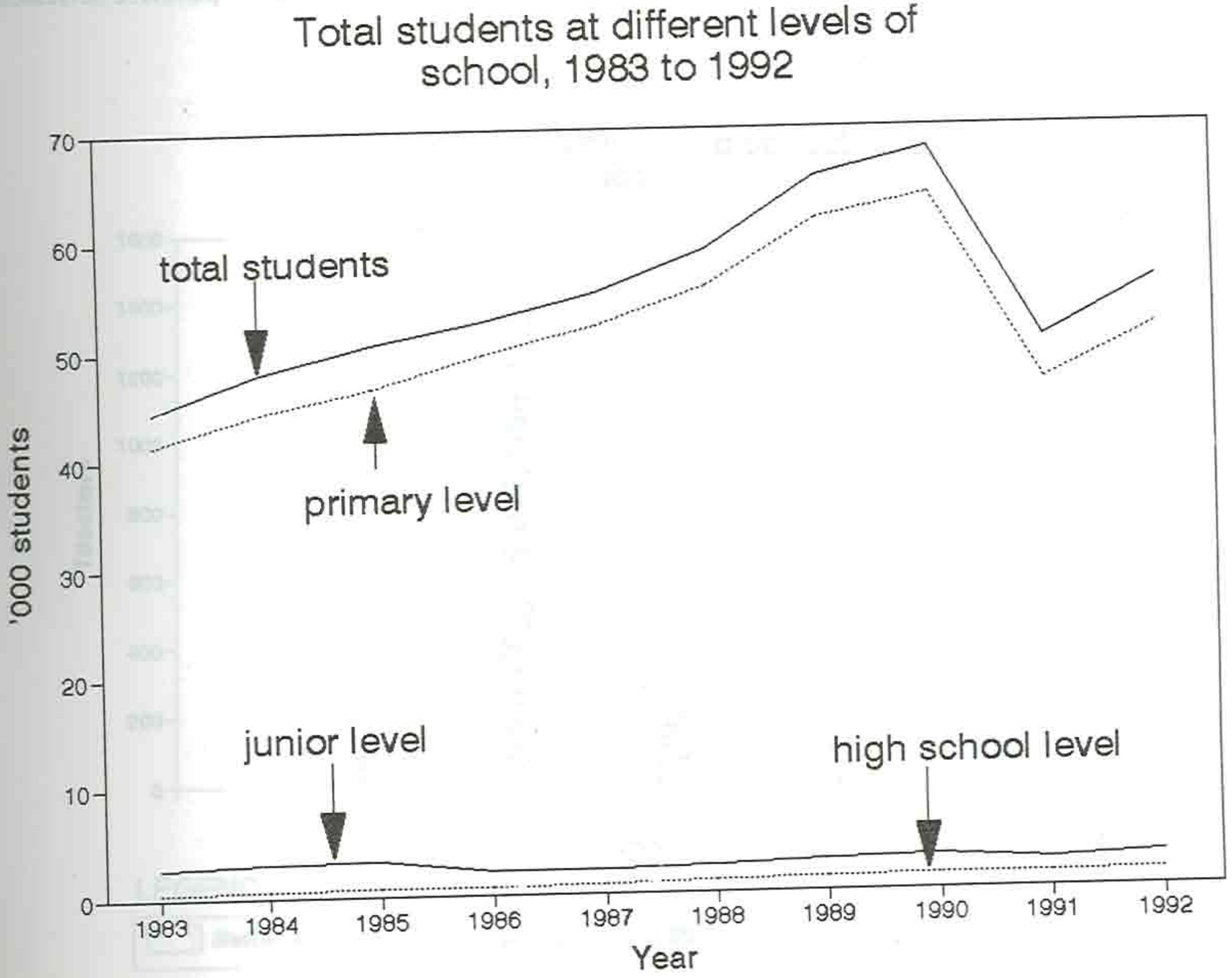


TABLE 3.8: NUMBER OF NON BHUTANESE STUDENTS BY GRADE AND TYPE OF SCHOOLS, 1992

(numbers)

| Grade | Community school | Primary school | Junior school | High school | All schools |
|---|---|---|---|---|---|
| Pre primary | 1 | 146 | 10 | - | 157 |
| I | 2 | 162 | 12 | - | 176 |
| II | - | 167 | 21 | - | 188 |
| III | - | 130 | 16 | - | 146 |
| IV | 1 | 146 | 14 | - | 161 |
| V | - | 140 | 22 | 4 | 166 |
| VI | - | 92 | 32 | 14 | 138 |
| VII | - | - | 20 | 53 | 73 |
| VIII | - | - | 12 | 31 | 43 |
| IX | - | - | - | 20 | 20 |
| X | - | - | - | 30 | 30 |
| Total students | 4 | 983 | 159 | 152 | 1298 |

Source: Education Division, Thimphu

TABLE 3.9: NUMBER OF TEACHERS IN EDUCATIONAL INSTITUTIONS BY NATIONALITY, 1991 TO 1992

| Institutions | 1991 | | | 1992 | | | Foreign teachers(%) | |
|---|---|---|---|---|---|---|---|---|
| | National | Foreigner | Total | National | Foreigner | Total | 1991 | 1992 |
| Schools | 1,483 | 890 | 2,373 | 1,573 | 804 | 2,377 | 37.16 | 32.99 |
| Community school | 135 | 13 | 148 | 195 | 19 | 214 | 8.78 | 8.88 |
| Primary school | 929 | 524 | 1,453 | 960 | 464 | 1,424 | 36.06 | 32.58 |
| Junior school | 192 | 146 | 338 | 175 | 123 | 298 | 43.20 | 41.28 |
| High school | 97 | 117 | 214 | 108 | 102 | 210 | 54.67 | 48.57 |
| Specialised/Professional Institutes | 118 | 66 | 184 | 122 | 65 | 187 | 35.87 | 34.76 |
| Sherubtse college | 12 | 24 | 36 | 13 | 31 | 44 | 66.67 | 70.45 |
| National Institute of Education | 16 | 9 | 25 | 17 | 5 | 22 | 36.00 | 22.73 |
| Teachers Training Centre | 11 | 4 | 15 | 11 | 1 | 12 | 26.67 | 8.33 |
| Royal Bhutan Polytechnic | 16 | 9 | 25 | 14 | 9 | 23 | 36.00 | 39.13 |
| Royal Technical Institute | 23 | 16 | 39 | 30 | 17 | 47 | 41.03 | 36.17 |
| National Trade Training Institute | 7 | 2 | 9 | n.a | n.a | n.a | 22.22 | n.a |
| Simtokha Rigney School | 24 | 2 | 26 | 27 | 2 | 29 | 7.69 | 6.90 |
| Zangley Muenseling School | 9 | 0 | 9 | 10 | 0 | 10 | 0.00 | 0.00 |
| Total teachers | 1,471 | 866 | 2,337 | 1,560 | 773 | 2,333 | 37.06 | 33.13 |

Source: Education Division, Thimphu

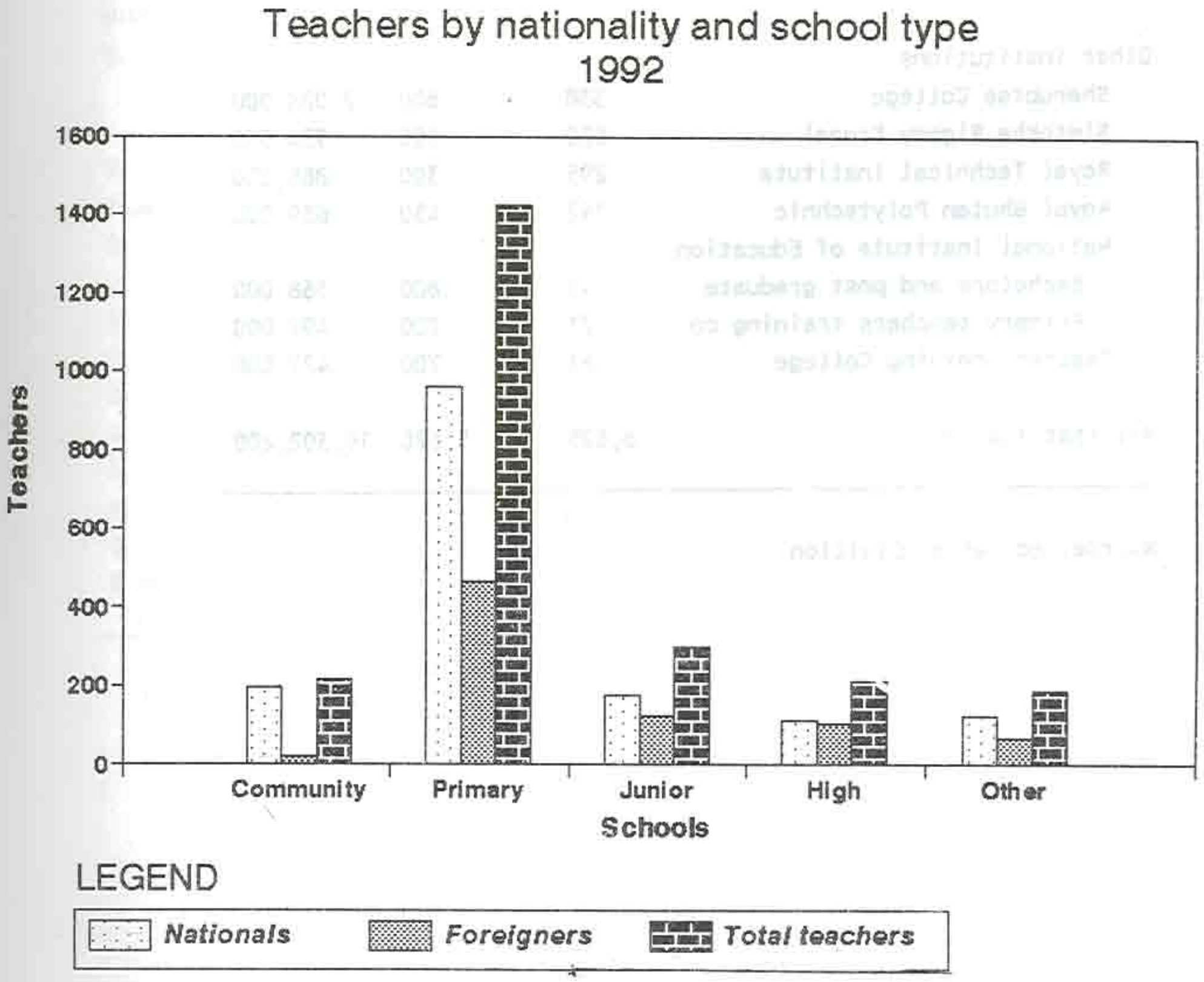


TABLE 3.10: MONTHLY STIPEND FOR BOARDERS IN DIFFERENT EDUCATIONAL INSTITUTIONS, 1992

| Institutions | Boarders (persons) | Stipend (Nu./person) | Total (Nu.) |
|---|---|---|---|
| Schools | | | |
| Primary schools | | | |
| Jyenkhana Primary School | 244 | 60 | 146,400 |
| Gasa Primary School | 150 | 60 | 90,000 |
| Zangkhar Primary School | 115 | 60 | 69,000 |
| Senghdyen Primary School | 140 | 60 | 84,000 |
| Junior schools | | | |
| Haa Junior School | 227 | 90 | 204,300 |
| Daga Junior School | 132 | 90 | 118,800 |
| Bjakar Junior School | 206 | 90 | 185,400 |
| Trongsa Junior School | 240 | 90 | 216,000 |
| Lhuntse Junior School | 110 | 90 | 99,000 |
| Pemagatshel Junior School | 168 | 90 | 151,200 |
| Nganglam Junior School | 266 | 90 | 239,400 |
| Trashigang Junior School | 280 | 90 | 252,000 |
| Wamrong Junior School | 227 | 90 | 204,300 |
| High schools | | | |
| Yangchenphu High School | 164 | 120 | 196,800 |
| Chhukha High School | 201 | 120 | 241,200 |
| Paro High School | 255 | 120 | 306,000 |
| Punakha High School | 463 | 120 | 555,600 |
| Jigme Sherubling High School | 401 | 120 | 481,200 |
| Zhemgang High School | 249 | 120 | 298,800 |
| Mongar High School | 304 | 120 | 364,800 |
| Other institutions | | | |
| Sherubtse College | 338 | 600 | 2,028,000 |
| Simtokha Rigney Scnool | 530 | 180 | 954,000 |
| Royal Technical Institute | 295 | 300 | 885,000 |
| Royal Bhutan Polytechnic | 142 | 450 | 639,000 |
| National Institute of Education | | | |
| Bachelors and post graduate | 46 | 800 | 368,000 |
| Primary teachers training co | 71 | 700 | 497,000 |
| Teacher Training College | 61 | 700 | 427,000 |
| All institutions | 6,025 | 5,620 | 10,302,200 |

Source: Education Division

# CHAPTER 4: HUMAN RESOURCES

## INTRODUCTION

Statistics on human resources are designed to measure the involvement of people in economic activity. Economic activity refers to the production of economic goods and services and includes persons who are self employed (e.g. farmers operating their own land) as well as persons who work for wages (i.e employees)

The economy of Bhutan is characterized by the predominance of people engaged in self employment, particularly those working on their own land. There is also a good deal of small cottage industry often undertaken in the home. The number of persons working for wages is relatively small.

Broadly, a statistical system for human resources or labour should cover topics such as size and characteristics of the labour force, employment, wage rates and conditions of work. Labour statistics may be obtained from three main sources:

a) Household surveys whereby information is obtained from the individual about his or her employment, earning and other aspects of their working activities.

b) Employer surveys whereby information on number of persons employed and wage levels is obtained from employers.

c) Administrative source, whereby various aspects of labour statistics are obtained from administrative sources (e.g. civil service employee data obtained from civil service employment were obtained from administrative records).

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

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

Source: Demographic Sample Survey, CSO, 1984

# Population by type of employment(%)

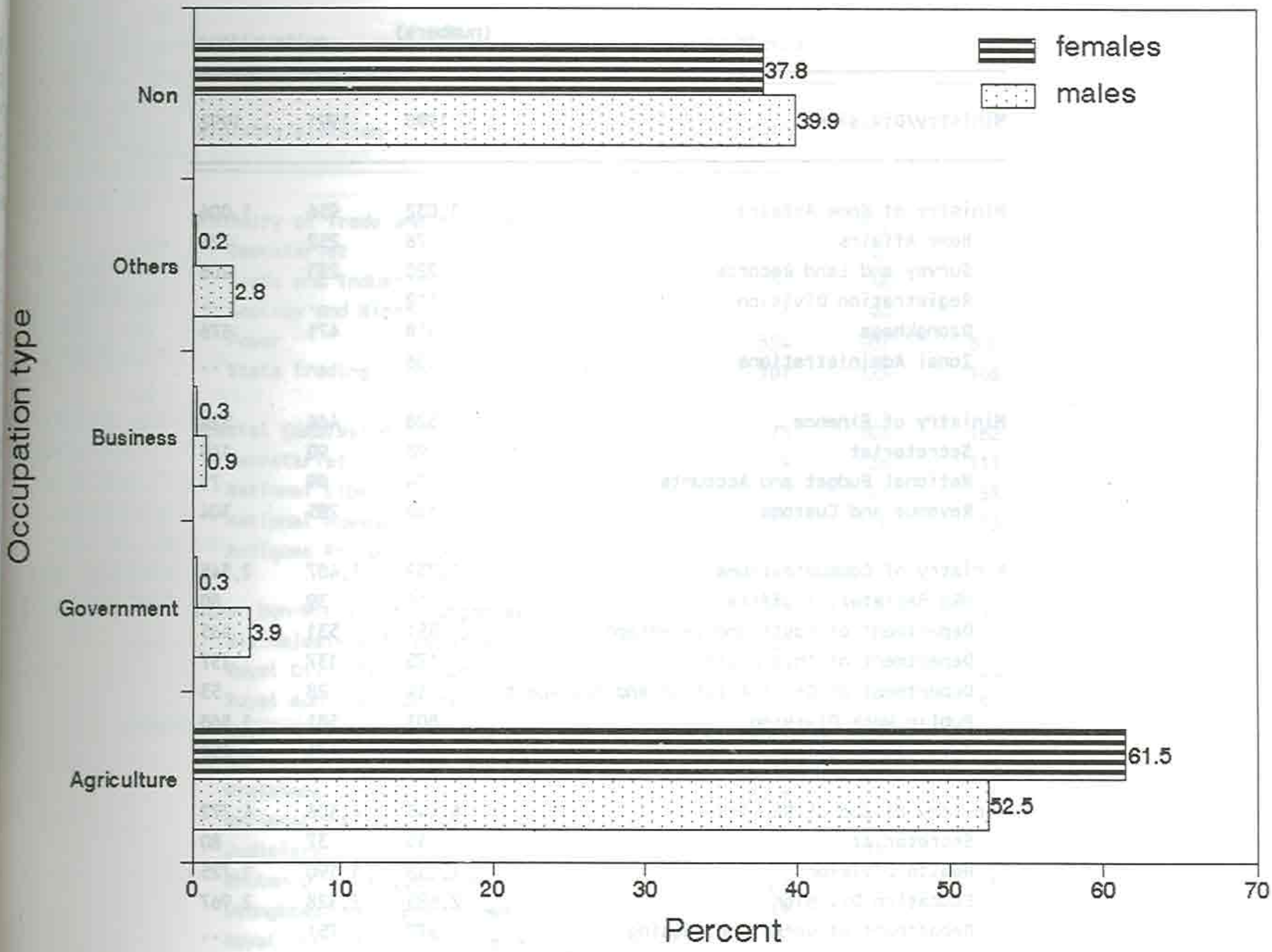


TABLE 4.2: EMPLOYMENT IN CIVIL SERVICE BY MINISTRY AND DIVISION, 1990 TO 1992

(numbers)

| Ministry/Division | 1990 | 1991 | 1992 |
|---|---|---|---|
| Ministry of Home Affairs | 1,032 | 956 | 1,006 |
| Home Affairs | 76 | 252 | 224 |
| Survey and Land Records | 220 | 233 | 206 |
| Registration Division | 112 | .. | .. |
| Dzongkhags | 518 | 471 | 576 |
| Zonal Administrations | 106 | .. | .. |
| Ministry of Finance | 528 | 464 | 524 |
| Secretariat | 98 | 90 | 149 |
| National Budget and Accounts | 74 | 89 | 71 |
| Revenue and Customs | 356 | 285 | 304 |
| Ministry of Communications | 1,732 | 1,487 | 2,545 |
| HRH Secretariat Office | 16 | 39 | 80 |
| Department of Posts and Telegraph | 551 | 531 | 435 |
| Department of Information | 175 | 137 | 157 |
| Department of Civil Aviation and Transport | 14 | 28 | 53 |
| Public Work Division | 801 | 581 | 1,568 |
| Telecommunications | 175 | 171 | 252 |
| Ministry of Social Services | 4,445 | 4,306 | 4,772 |
| Secretariat | 35 | 37 | 80 |
| Health Division | 1,148 | 1,190 | 1,725 |
| Education Division | 2,685 | 2,328 | 2,967 |
| Department of Works and Housing | 577 | 751 | .. |
| Ministry of Agriculture | 2,844 | 2,192 | 1,842 |
| Secretariat | 29 | 52 | 76 |
| Animal Husbandry | 609 | 587 | 623 |
| Forestry | 1,119 | 601 | 609 |
| Food Corporation of Bhutan | 246 | 262 | .. |
| Agriculture | 841 | 690 | 534 |
| Ministry of Planning | 64 | 69 | 85 |
| Ministry of Foreign Affairs | 137 | 124 | 141 |

continues...

TABLE 4.2: EMPLOYMENT IN CIVIL SERVICE BY MINISTRY AND DEPARTMENT, 1990 TO 1992

continuation (numbers)

| Ministry/Division | 1990 | 1991 | 1992 |
|---|---|---|---|
| Ministry of Trade and Industries | 845 | 830 | 1,016 |
| Secretariat | 31 | 40 | 44 |
| Trade and Industries | 67 | 66 | 73 |
| Geology and Mines | 86 | 94 | 93 |
| Power | 554 | 507 | 698 |
| State Trading Corporation of Bhutan | 107 | 123 | 108 |
| Special Commission | 75 | 203 | 162 |
| Secretariat | 9 | 136 | 111 |
| National Library | 42 | 43 | 38 |
| National Museum | 12 | 14 | 13 |
| Antiques Preservation | 12 | 10 | n.a |
| Other Non-Ministerial Organisations | 402 | 597 | 639 |
| His Majesty's Secretariat | 60 | 60 | 55 |
| Royal Civil Service Commission | 35 | 42 | 43 |
| Royal Audit Authority | 83 | 70 | 90 |
| Royal Advisory Council | 11 | 10 | 8 |
| National Assembly | 11 | 12 | 12 |
| Dratshang Lentshog | - | 40 | 36 |
| National Women's Association of Bhutan | 14 | 17 | 35 |
| Judiciary | 114 | 200 | 223 |
| Bhutan Olympic Committee | 22 | 18 | 18 |
| Dzongkhag Development Commission | 21 | 14 | 18 |
| Royal Institute of Management | 31 | 47 | 38 |
| Royal Monetary Authority | | 67 | 63 |
| Total employees | 12,040 | 11,159 | 12,732 |

end

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

Source: Royal Civil Service Commission, Thimphu

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

| Principle economic activity | Male | | Female | | Persons | |
|---|---|---|---|---|---|---|
| | Persons | Percent | Persons | Percent | Persons | Percent |
| Employed | 3,260 | 100 | 2,010 | 100 | 5,270 | 100 |
| Agriculture | * | * | * | * | * | * |
| Private business | 920 | 28 | 440 | 22 | 1,360 | 26 |
| Self-employed | 620 | 19 | 400 | 20 | 1,030 | 20 |
| Paid or unpaid employee | 330 | 10 | * | * | 370 | 7 |
| Government employee | 2,200 | 67 | 660 | 33 | 2,860 | 54 |
| Cottage industries | * | * | 840 | 42 | 840 | 16 |
| Unemployed | 660 | .. | 2,380 | .. | 3,040 | .. |
| Total persons 15 years and over | 3,920 | .. | 4,400 | .. | 8,320 | .. |
| Labour force participation rate (%) | .. | 83 | .. | 46 | .. | 63 |

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

# CHAPTER 5: LAND USE AND AGRICULTURE

## INTRODUCTION

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

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

During 1988 and 1989 the CSO in conjunction with the department of Agriculture undertook a detailed sample survey to collect information on crop areas and livestock inventories in all dzongkhags. Some data from these survey ( together with data from a pilot agriculture census undertaken in Wangduephodrang in 1987) are presented in this chapter. Data from other sources are also presented.

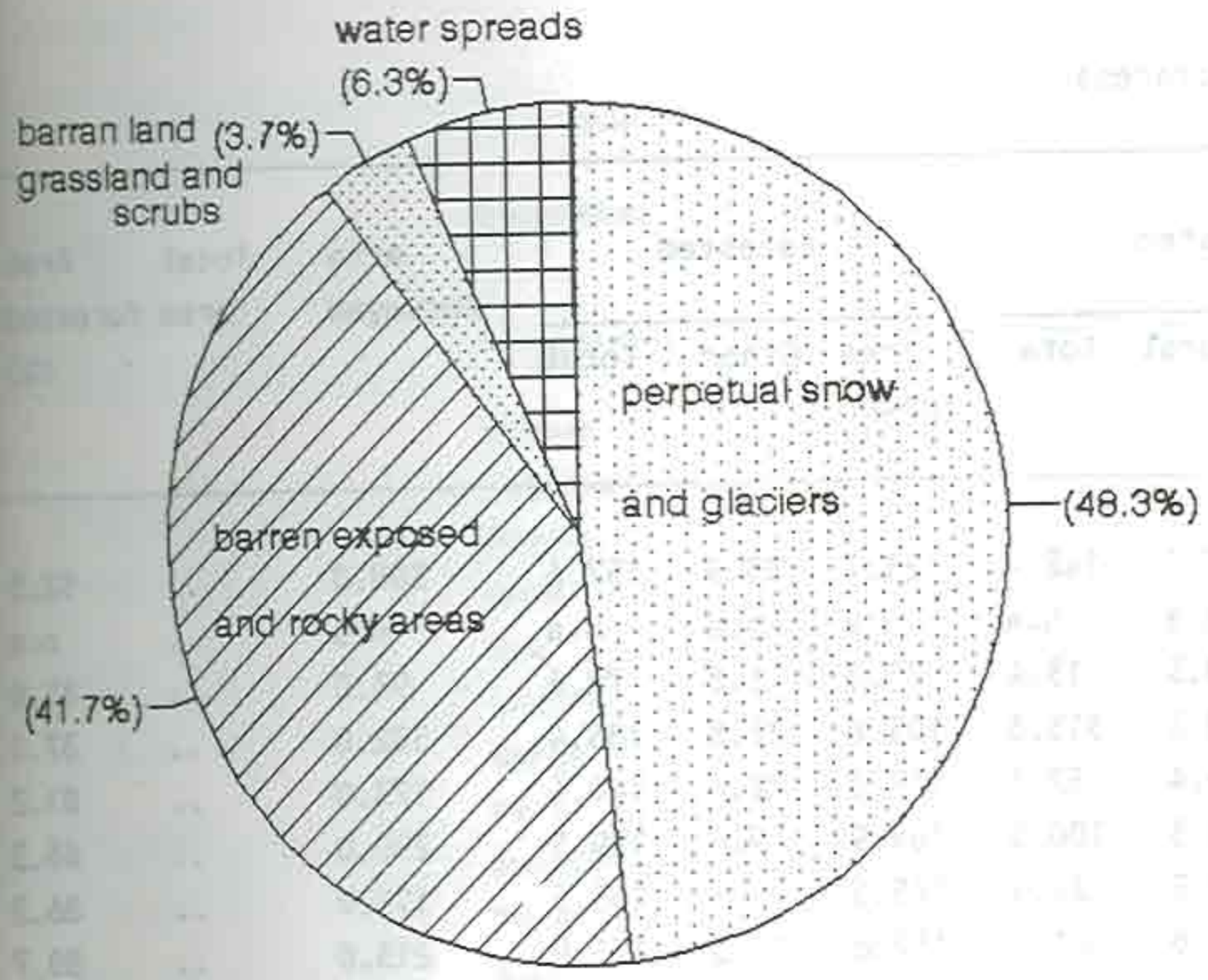
TABLE 5.1: AREA ACCORDING TO LAND-USE AND VEGETATION TYPES.

| Land-use and vegetation types | Area ('000 hectares) | Per cent |
|---|---|---|
| Non-forested | 1,185.1 | 29.4 |
| Non-agricultural | 829.2 | 20.6 |
| Perpetual snow/glaciers | 400.6 | 10.0 |
| Barren exposed and rocky areas (above 3500 m) | 345.6 | 8.6 |
| Barren land, grassland and scrubs(below 3500 m) | 30.7 | 0.7 |
| Water spreads | 52.3 | 1.3 |
| Agricultural(a) | 355.9 | 8.8 |
| Valley cultivation (slope less than 30 percent) | 64.9 | 1.6 |
| Terraced cultivation(slope more than 30 percent) | 175.9 | 4.4 |
| Old shifting cultivation (tsheri) | 115.0 | 2.8 |
| Forested | 2,840.0 | 70.6 |
| Tree cover | 2,573.4 | 64.0 |
| Fir | 295.6 | 7.3 |
| Mixed conifer | 485.4 | 12.1 |
| Blue pine | 75.5 | 1.9 |
| Chir pine | 129.2 | 3.2 |
| Hardwood mixed with conifers | 219.3 | 5.5 |
| Upland hardwood (temperate) | 872.6 | 21.7 |
| Lowland hardwood (tropical and sub-tropical) | 351.4 | 8.7 |
| Degraded forest | 141.6 | 3.5 |
| Plantations | 2.7 | 0.1 |
| Other | 266.6 | 6.6 |
| Alpine pasture/meadows | 74.8 | 1.9 |
| Alpine scrub (rhododendron,juniper scrubs) | 191.8 | 4.7 |
| Total surveyed area | 4,025.0 | 100.0 |
| Area not yet surveyed | 625.0 | .. |
| Total area | 4,650.0 | .. |

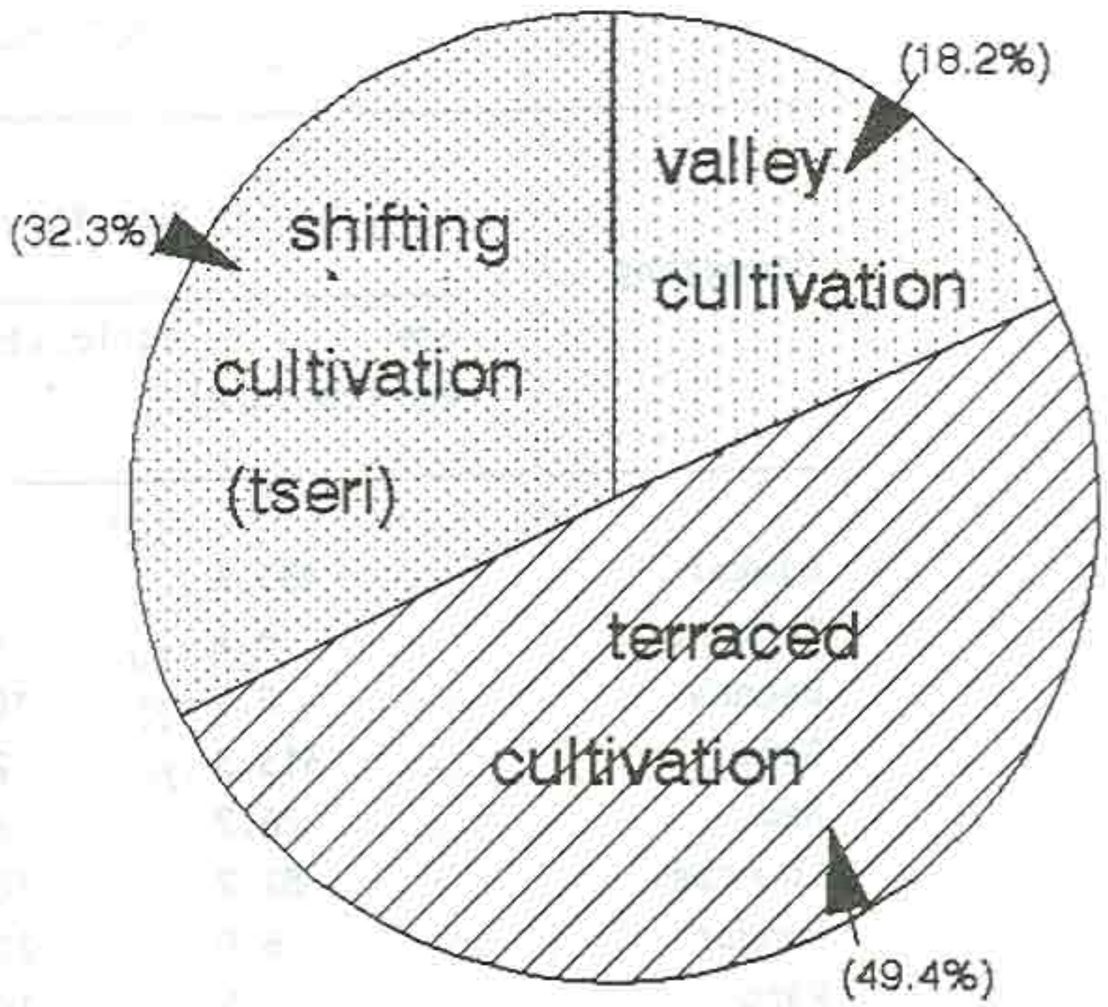
(a) Includes urban centres and other areas which could potentially be used for agricultural purposes.

Source: Land use survey(1983), Forestry Division, Thimphu

## Non agricultural land by type, Bhutan (for details see table 5.1)




## Agricultural land by type (for details see table 5.1)




## Tree cover by type (for details see table 5.1)

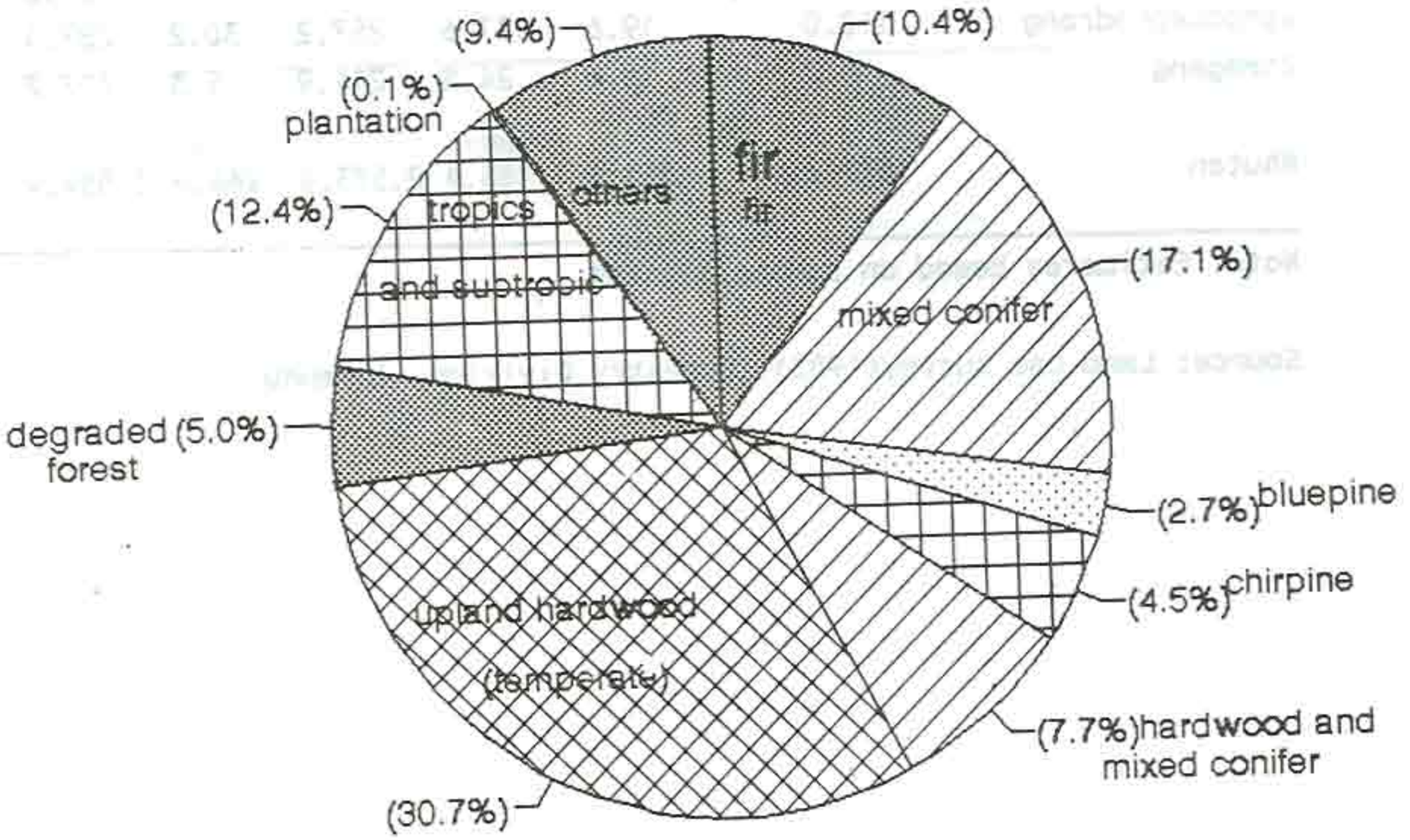


TABLE 5.2: AREA ACCORDING TO DIFFERENT LAND USE BY DZONGKHAG

('000 hectares)

| Dzongkhag | Non-forested | | | Forested | | | Area surveyed |
|---|---|---|---|---|---|---|---|
| | Non agricultural | Agricultural | Total | Tree cover | Other | Total | |
| Bjakar | 135.4 | 7.0 | 142.4 | 123.7 | 33.9 | 157.6 | 300.0 |
| Chhukha | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| Dagana | 2.9 | 10.5 | 13.4 | 77.8 | 1.8 | 79.6 | 93.0 |
| Gasa | 313.3 | 2.3 | 315.6 | 103.6 | 82.8 | 186.4 | 502.0 |
| Haa | 26.2 | 6.4 | 32.6 | 117.8 | 22.6 | 140.4 | 173.0 |
| Lhuntse | 82.2 | 18.3 | 100.5 | 169.9 | 19.6 | 189.5 | 290.0 |
| Mongar | 6.0 | 20.5 | 26.5 | 165.5 | - | 165.5 | 192.0 |
| Paro | 26.5 | 14.6 | 41.1 | 152.6 | 19.3 | 171.9 | 213.0 |
| Pemagatshel | 0.2 | 15.2 | 15.4 | 33.6 | - | .33.6 | 49.0 |
| Samdrupjongkhar | 3.5 | 46.2 | 49.7 | 165.3 | - | 165.3 | 215.0 |
| Samtse | 8.4 | 48.4 | 56.8 | 133.6 | 4.6 | 138.2 | 195.0 |
| Sarpang | 5.1 | 24.2 | 29.3 | 159.7 | - | 159.7 | 189.0 |
| Thimphu | 31.0 | 13.9 | 44.9 | 215.8 | 15.3 | 231.2 | 276.0 |
| Trashigang | 48.0 | 51.3 | 99.3 | 290.6 | 17.1 | 307.7 | 407.0 |
| Trashiyangtse | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| Trongsa | 13.2 | 14.7 | 28.0 | 132.7 | 14.3 | 147.0 | 175.0 |
| Tsirang | 3.2 | 24.0 | 27.2 | 61.8 | - | 61.8 | 89.0 |
| Wangduephodrang | 118.0 | 19.6 | 137.6 | 257.2 | 30.2 | 287.4 | 425.0 |
| Zhemgang | 6.2 | 18.6 | 24.8 | 211.9 | 5.3 | 217.2 | 242.0 |
| Bhutan | 829.2 | 355.9 | 1,185.1 | 2,573.4 | 266.6 | 2,839.9 | 4,025.0 |

Note: Estimates based on remote sensing.

Source: Land use survey(1983), Forestry Division, Thimphu

TABLE 5.3: AREA AND ALTITUDE OF DZONGKHAGS

| Dzongkhag | Area (Sq. Km) | Altitude (metres) |
|---|---|---|
| Bjakar | 3073 | 2690 |
| Chhukha | 2041 | 2220 |
| Dagana | 1249 | 1520 |
| Gasa | n.a | 3659 |
| Haa | 2041 | 2712 |
| Lhuntse | 3350 | 1460 |
| Mongar | 2087 | 1620 |
| Paro | 1949 | 2280 |
| Pemagatshel | 597 | 1200 |
| Punakha | 5664 | 1220 |
| Samdrupjongkhar | 2464 | 160 |
| Samtse | 1775 | 390 |
| Sarpang | 2262 | 210 |
| Thimphu | 2046 | 2320 |
| Trashigang | 4772 | 1040 |
| Trashiyangtse | n.a | 1830 |
| Trongsa | 2100 | 2180 |
| Tsirang | 1142 | 1620 |
| Wangduephodrang | 5060 | 1260 |
| Zhemgang | 2728 | 1916 |

Source: Survey Division, Thimphu

TABLE 5.4: AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1992

(degrees celsius)

| Dzongkhag and station | Temperature | Month | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
| Thimphu | | | | | | | | | | | | |
| Kawangjangsa | Maximum | 13.7 | 13.8 | 21.5 | 24.8 | 24.1 | 25.9 | 29.3 | 24.3 | 24.9 | 21.6 | 19.3 |
| | Minimum | -0.4 | 7.3 | 4.7 | 7.7 | 11.1 | 15.8 | 17.5 | 16.2 | 13.9 | 9.8 | 0.3 |
| Lumitsawa | Maximum | n.a | 7.5 | 14.2 | 10.0 | n.a | 24.5 | 21.5 | 31.5 | 23.5 | 20.9 | 14.4 |
| | Minimum | n.a | 7.2 | 4.9 | 2.1 | n.a | 11.4 | 13.6 | 12.5 | 13.3 | 11.4 | 9.6 |
| Gidakom | Maximum | 14.5 | 13.2 | 20.0 | 22.7 | 21.8 | 24.9 | 24.5 | 22.2 | 24.8 | 22.2 | 20.5 |
| | Minimum | -2.0 | -2.4 | 5.0 | 7.5 | 10.2 | 14.5 | 16.0 | 15.7 | 13.8 | 9.1 | 0.2 |
| Simtokha | Maximum | 15.3 | 14.3 | n.a | 16.4 | 23.1 | 26.0 | 27.9 | 28.0 | 27.6 | 24.9 | 21.7 |
| | Minimum | 1.2 | 1.4 | n.a | 8.7 | 12.5 | 15.6 | 19.0 | 20.4 | 17.5 | 12.9 | 1.6 |
| Yusipang | Maximum | 10.0 | 8.2 | 14.8 | 18.5 | 17.9 | 20.9 | n.a | 20.3 | 21.2 | 19.3 | 16.5 |
| | Minimum | -2.5 | -2.3 | 3.2 | 5.6 | 8.4 | 11.8 | n.a | 13.4 | 11.0 | 6.4 | -3.5 |
| Taba | Maximum | 13.1 | 15.6 | 20.1 | 23.8 | 22.5 | 27.2 | 25.7 | 24.0 | 23.6 | 21.5 | 19.0 |
| | Minimum | -4.4 | -2.9 | -1.7 | 3.1 | 5.2 | 9.5 | 5.5 | 13.2 | 9.9 | 7.2 | 2.9 |
| Chhukha | | | | | | | | | | | | |
| Chhukha | Maximum | 14.8 | 13.4 | 21.4 | 25.6 | 23.2 | 26.5 | 24.4 | 25.3 | 25.6 | 22.4 | 20.3 |
| | Minimum | 6.8 | 4.3 | 9.5 | 11.6 | 14.2 | 17.8 | 17.7 | 16.6 | 16.9 | 12.7 | 9.0 |
| Chapcha | Mazimum | 4.4 | 3.1 | 9.5 | 9.4 | 7.4 | n.a | 8.3 | 9.4 | 11.6 | 11.2 | 8.0 |
| | Mazimum | -4.5 | -4.5 | 0.8 | 4.3 | 6.9 | n.a | 5.3 | 8.7 | 6.2 | 3.9 | 0.7 |
| Gedu | Mazimum | 8.2 | 6.5 | 12.2 | 17.6 | 18.3 | 21.3 | 20.5 | 20.8 | 20.7 | 18.5 | 14.7 |
| | Mazimum | 5.5 | 4.2 | 9.0 | 13.0 | 13.2 | 16.4 | 16.7 | 17.1 | 16.2 | 12.3 | 8.6 |
| Tala | Mazimum | 11.1 | 10.4 | 16.7 | 20.8 | 20.0 | 21.3 | n.a | 22.0 | 21.4 | 19.4 | 13.4 |
| | Mazimum | 5.1 | 4.6 | 10.7 | 13.2 | 14.3 | 16.3 | n.a | 18.4 | 15.8 | 15.0 | 6.7 |
| Dovan gaon | Mazimum | 33.0 | n.a | n.a | 45.0 | 40.3 | 42.8 | 41.3 | 43.6 | 44.9 | 41.6 | 44.0 |
| (Pachhu) | Mazimum | 13.2 | n.a | n.a | 21.0 | 23.2 | 26.0 | 27.0 | 26.8 | 28.3 | 24.0 | 17.4 |
| Haa | | | | | | | | | | | | |
| Namjeyling | Mazimum | 7.0 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | 14.0 |
| | Mazimum | -5.6 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | -5.5 |
| Sambey Dzong | Mazimum | 20.6 | 18.4 | 19.4 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| | Mazimum | 11.6 | 16.9 | 11.4 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| Haa Chu | Mazimum | 9.6 | n.a | 16.9 | 17.0 | 17.0 | 18.3 | 21.3 | 19.6 | 21.0 | n.a | n.a |
| | Mazimum | 0.6 | n.a | 1.2 | 1.2 | 17.1 | 7.9 | 10.6 | 13.2 | 13.8 | n.a | n.a |

continues...

RAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1992

(degrees celsius)

| | Temperature | Month | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| | Maximum | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| | Minimum | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| | Maximum | 14.4 | n.a | n.a | n.a | 23.0 | 25.7 | 25.1 | n.a | n.a | 29.4 | n.a | n.a |
| | Minimum | 7.9 | n.a | n.a | n.a | 8.0 | 11.4 | 13.3 | n.a | n.a | 3.9 | n.a | n.a |
| | Maximum | 10.0 | n.a | n.a | 23.7 | 24.6 | 24.0 | 27.6 | 29.2 | 36.9 | 28.6 | 15.0 | 11.7 |
| | Minimum | 4.6 | n.a | n.a | 12.4 | 12.6 | 12.5 | 16.3 | 20.0 | 25.9 | 19.0 | 10.1 | 6.3 |
| ng | Maximum | n.a | n.a | 18.0 | 29.0 | 28.1 | 32.0 | 31.4 | 29.6 | 13.4 | 22.4 | 17.1 | 9.4 |
| | Minimum | n.a | n.a | 6.3 | 10.4 | 11.5 | 21.0 | 21.4 | 22.5 | 19.6 | 9.0 | -2.1 | -4.4 |
| | Maximum | n.a | n.a | 25.1 | 30.1 | 28.4 | 30.3 | 28.1 | 29.0 | 29.7 | 27.8 | 26.8 | 21.8 |
| | Minimum | n.a | n.a | 18.7 | 22.8 | 21.9 | 24.4 | 24.1 | 24.5 | 23.4 | 20.7 | 19.3 | 15.2 |
| | Maximum | n.a | n.a | 20.2 | 22.9 | 23.2 | 25.3 | 29.0 | 23.4 | 25.2 | 31.0 | 20.2 | 17.5 |
| | Minimum | n.a | n.a | 13.2 | 15.5 | 15.5 | 18.9 | 19.8 | 19.1 | 18.7 | 15.9 | 11.4 | 9.2 |
| | Maximum | 14.5 | 14.0 | 18.2 | 13.8 | 23.3 | 26.5 | 29.9 | 25.5 | 24.7 | n.a | n.a | n.a |
| | Minimum | 3.9 | 5.0 | 9.4 | 13.3 | 13.5 | 15.3 | 16.8 | 17.4 | 16.6 | n.a | n.a | n.a |
| | Maximum | 13.8 | 8.9 | n.a | 20.0 | 28.2 | 30.5 | 34.1 | 29.2 | 27.7 | 26.2 | 26.4 | 21.0 |
| | Minimum | 8.5 | 7.1 | n.a | 15.0 | 13.6 | 10.1 | 10.6 | 12.7 | 12.6 | 15.0 | 22.5 | 13.1 |
| | Maximum | 15.8 | 14.8 | 20.5 | 26.3 | 25.6 | 26.9 | 26.5 | 27.6 | n.a | 24.2 | 22.3 | 18.0 |
| | Minimum | 8.2 | 8.9 | 13.0 | 15.3 | 14.0 | 20.6 | 20.6 | 26.1 | n.a | 13.6 | 11.8 | 8.6 |
| ng | Maximum | 18.5 | 17.3 | 23.1 | 29.3 | 30.0 | 32.1 | 31.2 | 30.5 | 31.1 | 26.5 | 30.0 | 20.3 |
| | Minimum | 5.5 | 7.1 | 11.1 | 15.0 | 15.0 | 20.3 | 20.6 | 20.7 | 21.4 | 19.3 | 7.0 | 3.5 |
| | Maximum | 17.6 | 19.6 | 20.8 | 22.6 | 23.6 | 24.4 | 25.5 | 25.9 | 24.7 | 23.0 | 23.8 | 22.6 |
| | Minimum | 4.9 | 6.9 | 7.5 | 9.9 | 8.4 | 11.6 | 14.0 | 13.7 | 12.2 | 12.3 | 11.5 | 9.0 |
| | Maximum | n.a | n.a | 28.5 | 32.8 | 31.6 | 33.0 | 32.6 | 35.4 | 34.0 | 23.5 | n.a | n.a |
| | Minimum | n.a | n.a | 16.2 | 17.8 | 18.4 | 24.0 | 23.4 | 23.1 | 22.7 | 19.1 | n.a | n.a |
| | Maximum | 5.6 | 5.9 | n.a | 15.1 | 18.1 | 20.8 | 21.8 | 21.9 | 21.8 | 16.2 | 13.1 | 8.2 |
| | Minimum | 1.9 | 4.2 | n.a | 9.3 | 9.2 | 9.8 | 9.5 | 14.0 | 10.8 | 6.8 | 2.8 | 1.3 |

continues...

RAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1992

(degrees celsius)

| | Temperature | Month | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| | Maximum | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| | Minimum | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| | Maximum | 14.4 | n.a | n.a | n.a | 23.0 | 25.7 | 25.1 | n.a | n.a | 29.4 | n.a | n.a |
| | Minimum | 7.9 | n.a | n.a | n.a | 8.0 | 11.4 | 13.3 | n.a | n.a | 3.9 | n.a | n.a |
| | Maximum | 10.0 | n.a | n.a | 23.7 | 24.6 | 24.0 | 27.6 | 29.2 | 36.9 | 28.6 | 15.0 | 11.7 |
| | Minimum | 4.6 | n.a | n.a | 12.4 | 12.6 | 12.5 | 16.3 | 20.0 | 25.9 | 19.0 | 10.1 | 6.3 |
| ng | Maximum | n.a | n.a | 18.0 | 29.0 | 28.1 | 32.0 | 31.4 | 29.6 | 13.4 | 22.4 | 17.1 | 9.4 |
| | Minimum | n.a | n.a | 6.3 | 10.4 | 11.5 | 21.0 | 21.4 | 22.5 | 19.6 | 9.0 | -2.1 | -4.4 |
| | Maximum | n.a | n.a | 25.1 | 30.1 | 28.4 | 30.3 | 28.1 | 29.0 | 29.7 | 27.8 | 26.8 | 21.8 |
| | Minimum | n.a | n.a | 18.7 | 22.8 | 21.9 | 24.4 | 24.1 | 24.5 | 23.4 | 20.7 | 19.3 | 15.2 |
| | Maximum | n.a | n.a | 20.2 | 22.9 | 23.2 | 25.3 | 29.0 | 23.4 | 25.2 | 31.0 | 20.2 | 17.5 |
| | Minimum | n.a | n.a | 13.2 | 15.5 | 15.5 | 18.9 | 19.8 | 19.1 | 18.7 | 15.9 | 11.4 | 9.2 |
| | Maximum | 14.5 | 14.0 | 18.2 | 13.8 | 23.3 | 26.5 | 29.9 | 25.5 | 24.7 | n.a | n.a | n.a |
| | Minimum | 3.9 | 5.0 | 9.4 | 13.3 | 13.5 | 15.3 | 16.8 | 17.4 | 16.6 | n.a | n.a | n.a |
| | Maximum | 13.8 | 8.9 | n.a | 20.0 | 28.2 | 30.5 | 34.1 | 29.2 | 27.7 | 26.2 | 26.4 | 21.0 |
| | Minimum | 8.5 | 7.1 | n.a | 15.0 | 13.6 | 10.1 | 10.6 | 12.7 | 12.6 | 15.0 | 22.5 | 13.1 |
| | Maximum | 15.8 | 14.8 | 20.5 | 26.3 | 25.6 | 26.9 | 26.5 | 27.6 | n.a | 24.2 | 22.3 | 18.0 |
| | Minimum | 8.2 | 8.9 | 13.0 | 15.3 | 14.0 | 20.6 | 20.6 | 26.1 | n.a | 13.6 | 11.8 | 8.6 |
| ng | Maximum | 18.5 | 17.3 | 23.1 | 29.3 | 30.0 | 32.1 | 31.2 | 30.5 | 31.1 | 26.5 | 30.0 | 20.3 |
| | Minimum | 5.5 | 7.1 | 11.1 | 15.0 | 15.0 | 20.3 | 20.6 | 20.7 | 21.4 | 19.3 | 7.0 | 3.5 |
| | Maximum | 17.6 | 19.6 | 20.8 | 22.6 | 23.6 | 24.4 | 25.5 | 25.9 | 24.7 | 23.0 | 23.8 | 22.6 |
| | Minimum | 4.9 | 6.9 | 7.5 | 9.9 | 8.4 | 11.6 | 14.0 | 13.7 | 12.2 | 12.3 | 11.5 | 9.0 |
| | Maximum | n.a | n.a | 28.5 | 32.8 | 31.6 | 33.0 | 32.6 | 35.4 | 34.0 | 23.5 | n.a | n.a |
| | Minimum | n.a | n.a | 16.2 | 17.8 | 18.4 | 24.0 | 23.4 | 23.1 | 22.7 | 19.1 | n.a | n.a |
| | Maximum | 5.6 | 5.9 | n.a | 15.1 | 18.1 | 20.8 | 21.8 | 21.9 | 21.8 | 16.2 | 13.1 | 8.2 |
| | Minimum | 1.9 | 4.2 | n.a | 9.3 | 9.2 | 9.8 | 9.5 | 14.0 | 10.8 | 6.8 | 2.8 | 1.3 |

continues...

TABLE 5.4: AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1992

continuation (degrees celsius)

| Dzongkhag and station | Temperature | Month | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
| Wangduephodrang | | | | | | | | | | | | |
| Gaselo | Maximum | 13.2 | 12.8 | 20.8 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| | Minimum | 3.3 | 3.5 | 8.4 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| CARD | Maximum | 17.8 | 16.1 | 22.7 | 26.9 | 27.1 | 28.2 | 27.9 | 29.2 | 28.2 | 25.7 | 23.2 |
| | Minimum | 4.9 | 7.2 | 11.0 | 13.5 | 15.9 | 19.7 | 19.5 | 19.6 | 18.1 | 14.5 | 6.1 |
| Samtengang | Maximum | 13.9 | 14.4 | 18.7 | 23.5 | 23.5 | n.a | 27.3 | 28.5 | 25.4 | 25.0 | 21.4 |
| | Minimum | 2.8 | 5.1 | 8.2 | 11.2 | 11.1 | n.a | 17.1 | 17.1 | 15.5 | 12.0 | 5.2 |
| Dagauma | Maximum | n.a | n.a | 19.3 | 22.3 | 23.4 | 25.7 | 25.0 | n.a | n.a | n.a | n.a |
| | Minimum | n.a | n.a | 11.5 | 13.8 | 16.1 | 18.4 | 19.0 | n.a | n.a | n.a | n.a |
| Nobding | Maximum | 11.4 | 8.8 | 14.3 | 18.6 | 18.7 | 22.0 | 20.5 | 20.8 | 19.8 | 16.1 | 13.9 |
| | Minimum | -1.5 | 1.6 | 5.9 | 7.6 | 9.2 | 13.0 | 13.2 | 13.9 | 12.2 | 9.5 | 2.8 |
| Phobjekha | Maximum | n.a | n.a | 13.1 | 17.6 | 16.0 | 20.5 | 19.6 | 20.2 | 19.6 | 16.7 | 14.4 |
| | Minimum | n.a | n.a | 1.5 | 3.3 | 4.6 | 8.4 | 10.2 | 11.1 | 9.3 | 2.3 | -5.1 |
| Bachhu | Maximum | 16.2 | n.a | n.a | 26.8 | 26.0 | 28.9 | 26.1 | 26.7 | 27.1 | 22.4 | n.a |
| | Minimum | 9.0 | n.a | n.a | 17.4 | 18.0 | 21.3 | 20.8 | 20.5 | 21.2 | 17.6 | n.a |
| Rurichhu | Maximum | 19.6 | n.a | n.a | 28.2 | 30.1 | 29.8 | 28.0 | 33.5 | n.a | n.a | n.a |
| | Minimum | 2.9 | n.a | n.a | 14.4 | 15.7 | 16.5 | 19.0 | 20.1 | n.a | n.a | n.a |
| Zhemgang | | | | | | | | | | | | |
| Yebilaptsa | Maximum | 21.6 | 20.4 | 28.2 | 29.6 | 29.8 | 32.6 | n.a | 30.3 | 30.2 | 28.0 | 18.2 |
| | Minimum | 8.4 | 8.4 | 12.3 | 15.8 | 17.1 | 20.3 | n.a | 20.7 | 19.3 | 16.1 | 9.9 |
| Zhemgang | Maximum | n.a | n.a | 10.0 | 10.8 | 15.4 | 16.2 | n.a | 18.1 | 20.9 | 19.3 | 12.4 |
| | Minimum | n.a | n.a | 4.4 | 8.1 | 14.1 | 15.6 | n.a | 14.5 | 16.9 | 15.4 | 11.7 |
| Panbang | Maximum | 26.9 | 25.0 | 30.4 | 35.0 | 33.2 | 35.1 | 33.3 | 35.3 | 35.0 | 37.5 | n.a |
| | Minimum | 9.1 | 11.1 | 15.0 | 18.3 | 20.6 | 22.6 | 23.5 | 23.5 | 21.8 | 13.5 | n.a |
| Sarpang | | | | | | | | | | | | |
| Sarpang | Maximum | 21.5 | 20.6 | 24.7 | 28.6 | 26.5 | 31.0 | 29.9 | 30.7 | 30.9 | 27.6 | 27.4 |
| | Minimum | 12.3 | 12.3 | 17.4 | 19.9 | 20.0 | 23.8 | 24.3 | 24.6 | 25.0 | 21.8 | 17.8 |
| Tsirang | | | | | | | | | | | | |
| Sunkosh Dobani | Maximum | 22.6 | n.a | n.a | 31.6 | 31.6 | 33.1 | 30.6 | 31.7 | 31.1 | 28.5 | n.a |
| | Minimum | 8.6 | n.a | n.a | 19.2 | 20.5 | 23.6 | 23.0 | 22.8 | 22.0 | 18.2 | n.a |

continues...

TABLE 5.4: AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1992

continuation (degrees celsius)

| Dzongkhag and station | Temperature | Month | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Trongsa | | | | | | | | | | | | | |
| Mangdichhu | Maximum | 17.2 | n.a | n.a | 25.7 | n.a | 28.3 | 26.7 | 27.7 | 27.0 | 23.0 | n.a | n.a |
| | Minimum | 6.8 | n.a | n.a | 14.1 | n.a | 18.6 | 19.3 | 19.4 | 18.6 | 14.6 | n.a | n.a |
| Trongsa | Maximum | 10.8 | 8.3 | 14.1 | 19.1 | 18.3 | 21.1 | 19.7 | 21.3 | 20.3 | 18.0 | 16.5 | 13.9 |
| | Minimum | 1.4 | 1.3 | 6.2 | 8.1 | 9.4 | 13.8 | 14.5 | 15.1 | 13.3 | 10.0 | 3.0 | 0.8 |
| Kuenga Rabten | Maximum | 18.2 | 13.9 | 21.2 | n.a | 23.7 | 26.9 | 27.1 | 29.1 | n.a | 26.0 | 24.4 | 20.8 |
| | Minimum | 5.0 | 5.1 | 12.2 | n.a | 15.3 | 17.6 | 19.1 | 19.6 | n.a | 13.9 | 10.3 | 5.0 |
| Chendebji | Maximum | n.a | n.a | n.a | 17.0 | 16.7 | 19.5 | 19.7 | 19.4 | 19.4 | 15.2 | 15.2 | 11.0 |
| | Minimum | n.a | n.a | n.a | 7.3 | 10.2 | 14.5 | 15.7 | 15.5 | 14.0 | 11.7 | 12.6 | 1.6 |
| Tangsibji | Maximum | 14.0 | n.a | n.a | 20.4 | 20.1 | 23.4 | 23.2 | 23.8 | 23.3 | 17.2 | n.a | n.a |
| | Minimum | 1.8 | n.a | n.a | 5.0 | 7.0 | 11.0 | 12.0 | 12.1 | 10.7 | 6.3 | n.a | n.a |
| Langthel | Maximum | 20.8 | 19.5 | 25.1 | 28.6 | 29.5 | 31.6 | 29.6 | 31.4 | 30.8 | 30.8 | 27.2 | 22.6 |
| | Minimum | 10.5 | 11.8 | 16.4 | 19.0 | 21.3 | 24.8 | 24.8 | 24.7 | 23.4 | 20.4 | 14.5 | 11.6 |
| Bjakar | | | | | | | | | | | | | |
| Ura | Maximum | 15.1 | 14.0 | n.a | 16.9 | 17.9 | n.a | 22.1 | 22.7 | 22.8 | 10.0 | n.a | n.a |
| | Minimum | n.a | n.a | n.a | n.a | 3.0 | n.a | 12.9 | 15.0 | 14.6 | 4.9 | n.a | n.a |
| Chamkhar chh (Kurjey) | Maximum | 7.0 | n.a | n.a | 18.7 | 24.3 | 21.6 | 21.1 | 21.0 | 20.3 | 17.2 | n.a | n.a |
| | Minimum | 6.0 | n.a | n.a | 4.4 | 15.2 | 10.1 | 11.9 | 12.6 | 10.3 | 6.0 | n.a | n.a |
| Chhumeth | Maximum | n.a | n.a | 13.3 | 15.0 | 18.4 | 19.0 | 20.0 | 21.0 | 20.0 | 18.0 | 15.0 | 11.1 |
| | Minimum | n.a | n.a | 0.9 | 2.8 | 7.4 | 11.0 | 13.0 | 11.0 | 10.0 | 3.0 | 4.0 | 7.3 |
| Chamkhar | Maximum | 11.6 | 9.9 | 18.7 | 19.4 | n.a | n.a | n.a | 22.2 | 20.2 | n.a | 16.0 | 12.0 |
| | Minimum | 5.9 | 1.5 | 5.2 | 6.9 | n.a | n.a | n.a | 13.2 | 11.4 | n.a | -2.0 | -5.0 |
| Trashigang | | | | | | | | | | | | | |
| Khaling | Maximum | 11.3 | 10.4 | 16.6 | 19.2 | 19.1 | 20.2 | 22.4 | 21.3 | 21.3 | 19.6 | 16.8 | 15.7 |
| | Minimum | 3.1 | 3.5 | 8.7 | 10.4 | 11.7 | 15.5 | 17.4 | 16.3 | 15.0 | 11.1 | 12.9 | 14.9 |
| Kanglung | Maximum | n.a | 10.0 | 16.9 | n.a | 21.0 | 24.0 | 22.6 | 23.8 | 21.7 | 20.0 | 17.2 | n.a |
| | Minimum | n.a | 3.0 | 8.1 | n.a | 12.5 | 15.7 | 16.2 | 16.8 | 14.7 | 10.8 | 6.2 | n.a |
| Wamrong | Maximum | 9.8 | 7.9 | 11.8 | 17.5 | 21.5 | 19.7 | 19.1 | 20.3 | 20.5 | 4.9 | 4.9 | 12.6 |
| | Minimum | 2.2 | 1.3 | 5.9 | 10.2 | 12.0 | 14.0 | 14.5 | 14.7 | 13.6 | 2.1 | 2.1 | 2.8 |
| Radhi | Maximum | n.a | n.a | n.a | 24.8 | 24.7 | 29.1 | 28.2 | 28.1 | 27.3 | 26.8 | 28.0 | n.a |
| | Minimum | n.a | n.a | n.a | 14.4 | 16.2 | 18.3 | 18.5 | 19.6 | 17.2 | 15.2 | 9.5 | n.a |
| Thrimshing | Maximum | 15.6 | 15.1 | 22.7 | 26.9 | 26.4 | 30.3 | 28.4 | 29.3 | 28.0 | 26.0 | 23.0 | 19.2 |
| | Minimum | 2.5 | 3.3 | 7.5 | 11.2 | 12.3 | 15.1 | 15.1 | 17.1 | 15.1 | 10.2 | 4.2 | 1.1 |

continues...

TABLE 5.4: AVERAGE MONTHLY TEMPERATURE FOR VARIOUS STATIONS IN BHUTAN, 1992

continuation

(degrees celsius)

| Dzongkhag and station | Temperature | Month | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov |
| Mongar | | | | | | | | | | | | |
| Yadhi | Maximum | 15.0 | 14.0 | 18.0 | 23.0 | 24.0 | 26.0 | 25.0 | 25.0 | 29.0 | 22.0 | 19.0 |
| | Minimum | 3.0 | 5.0 | 8.0 | 12.0 | 14.0 | 17.0 | 17.0 | 18.0 | 16.0 | 12.0 | 7.0 |
| Tsakaling | Maximum | 24.4 | n.a | n.a | n.a | n.a | n.a | 25.8 | 26.6 | 26.5 | 24.4 | n.a |
| | Minimum | 11.1 | n.a | n.a | n.a | n.a | n.a | 18.2 | 18.6 | 17.6 | 14.7 | n.a |
| Linmethang | Maximum | 21.6 | 19.2 | 25.8 | 31.0 | 30.9 | 33.7 | 31.8 | 31.2 | 32.4 | 32.8 | 28.3 |
| | Minimum | 7.3 | 9.8 | 14.1 | 16.7 | 19.3 | 22.2 | 22.2 | 22.0 | 22.2 | 18.8 | 11.4 |
| Trashiyangtse | | | | | | | | | | | | |
| Trashiyangtse | Maximum | 13.3 | n.a | n.a | 21.7 | 22.6 | 25.8 | 25.8 | 26.3 | n.a | 22.7 | n.a |
| | Minimum | 2.5 | n.a | n.a | 11.8 | 13.0 | 16.0 | 16.4 | 16.0 | n.a | 12.4 | n.a |
| Yallang | Maximum | 9.1 | 6.4 | 17.6 | 17.2 | 18.5 | 21.9 | 20.7 | 21.6 | n.a | 13.5 | 15.4 |
| | Minimum | 1.7 | 2.3 | 9.6 | 9.9 | 11.3 | 14.8 | 15.5 | 15.4 | n.a | 9.5 | 6.2 |
| Lhuntse | | | | | | | | | | | | |
| Dungkhar | Maximum | 13.6 | 11.0 | 16.0 | 20.1 | n.a | n.a | 24.6 | 25.2 | 21.0 | 18.0 | 19.0 |
| | Minimum | 2.4 | 3.2 | 8.2 | 10.5 | n.a | n.a | 16.6 | 16.9 | 14.7 | 9.9 | 5.2 |
| Sumpa | Maximum | 16.6 | n.a | n.a | 30.0 | 25.0 | 27.6 | 27.4 | 31.2 | 30.7 | 28.3 | n.a |
| | Minimum | 6.0 | n.a | n.a | 16.6 | 17.4 | 19.0 | 20.1 | 2.2 | 19.4 | 15.5 | n.a |
| Tangmechhu | Maximum | 13.3 | n.a | n.a | 11.8 | 23.2 | 25.5 | 25.1 | 18.0 | n.a | n.a | 18.7 |
| | Minimum | 2.8 | n.a | n.a | 20.0 | 13.5 | 18.1 | 19.7 | 14.0 | n.a | n.a | 5.5 |
| Pemagatshel | | | | | | | | | | | | |
| Yurung | Maximum | 12.5 | 12.0 | 18.2 | 23.9 | 22.9 | 22.0 | 24.2 | 25.8 | 23.4 | 21.9 | 20.0 |
| | Minimum | 5.4 | 5.5 | 10.9 | 14.2 | 5.6 | 19.9 | 19.1 | 19.8 | 16.2 | 14.3 | 9.2 |
| Dungmein | Maximum | n.a | n.a | 19.8 | 25.2 | 25.1 | 27.1 | n.a | 27.2 | 26.3 | 22.7 | 19.5 |
| | Minimum | n.a | n.a | 11.2 | 14.1 | 15.8 | 19.1 | n.a | 19.7 | 17.6 | 13.8 | 4.9 |
| Samdrupjongkhar | | | | | | | | | | | | |
| Nganglam | Maximum | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | 28.0 | 25.5 |
| | Minimum | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | 20.3 | 16.1 |
| Airong | Maximum | 12.9 | 12.4 | 18.5 | 22.8 | 22.4 | 23.9 | 24.0 | 23.9 | 24.2 | 22.0 | 19.4 |
| | Minimum | 8.1 | 7.7 | 13.6 | 16.4 | 16.8 | 19.7 | 20.1 | 20.1 | 18.9 | 16.8 | 13.1 |
| Daifom | Maximum | n.a | 25.6 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| | Minimum | n.a | 16.2 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a |
| Dechheling | Maximum | 15.0 | 14.4 | 20.0 | 23.0 | 22.0 | 24.5 | 25.0 | 25.1 | 24.0 | 21.0 | n.a |
| | Minimum | 7.2 | 7.6 | 13.0 | 17.0 | 18.0 | 20.0 | 21.0 | 20.6 | 19.4 | 16.1 | n.a |

Source: Meteorology Unit, Thimphu

end

MONTHLY RAINFALL FOR VARIOUS STATIONS IN BHUTAN, 1992

(millimetre)

| | Month | | | | | | | | | | | | Total rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | |
| | 1.0 | 6.4 | 0.0 | 0.0 | 35.6 | 62.8 | 197.6 | 143.4 | 69.8 | 9.0 | 0.0 | 3.5 | 529.1 |
| | 0.0 | 0.0 | n.a | 8.1 | 131.0 | 0.0 | 235.0 | 135.4 | 97.3 | 6.4 | 0.0 | 1.0 | 614.2 |
| | 8.2 | 0.0 | 0.0 | 25.8 | 10.6 | 11.0 | 159.0 | 15.8 | 12.2 | 16.0 | 1.0 | n.a | 259.6 |
| ce | 3.0 | 0.0 | 0.0 | 6.3 | 9.7 | 43.4 | 89.6 | 26.9 | 51.6 | 8.2 | 0.0 | 2.0 | 240.7 |
| | 6.4 | 0.8 | 2.4 | 38.2 | 45.6 | 108.0 | 262.6 | 204.0 | 91.2 | n.a | 1.0 | 0.6 | 760.8 |
| | n.a | 0.0 | 0.0 | 0.0 | n.a | 256.0 | 416.0 | 529.0 | 258.0 | 29.0 | 0.0 | 0.0 | 1488.0 |
| | 14.1 | 42.2 | 1.8 | 99.5 | 139.7 | 174.9 | 308.4 | 152.2 | 180.2 | 63.9 | 1.0 | 11.6 | 1189.5 |
| | 56.9 | 140.0 | 41.2 | 204.6 | 384.7 | 444.4 | 884.5 | 319.1 | 423.4 | 276.0 | 0.2 | 31.4 | 3206.4 |
| | 90.4 | 107.8 | 42.4 | 210.5 | 538.7 | 373.0 | 137.6 | 718.6 | 253.4 | 236.4 | 30.2 | 22.6 | 2761.6 |
| | 7.0 | 31.0 | 6.3 | 62.9 | 74.5 | 59.0 | 192.7 | 86.1 | 80.1 | 31.6 | n.a | n.a | 631.2 |
| | 16.0 | 103.2 | 12.9 | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | n.a | 132.1 |
| | 5.0 | n.a | n.a | n.a | 58.0 | 72.0 | 156.5 | n.a | n.a | 0.0 | n.a | n.a | 291.5 |
| | n.a | n.a | 0.0 | 5.0 | 24.7 | 67.6 | 159.2 | 663.5 | 18.1 | 3.0 | 0.0 | 0.0 | 941.1 |
| | n.a | n.a | n.a | 148.2 | 454.9 | 552.0 | 1046.6 | 690.5 | 568.6 | 333.0 | 130.0 | 11.7 | 3935.5 |
| | 0.0 | 0.0 | 25.0 | 23.3 | 264.0 | 366.0 | 746.0 | 1135.0 | 322.0 | 5.0 | 0.0 | 0.0 | 2886.3 |
| | 0.0 | n.a | n.a | 15.7 | 45.1 | 268.3 | 565.8 | 126.6 | 115.8 | 15.6 | n.a | n.a | 1152.9 |
| | 0.0 | 92.3 | n.a | 31.1 | 93.0 | 285.0 | 532.0 | 292.0 | 527.0 | 46.0 | 22.0 | 0.0 | 1920.4 |
| | 12.3 | 31.0 | 0.0 | 20.8 | 66.9 | 364.8 | 584.0 | 131.6 | n.a | 22.3 | 0.0 | 30.0 | 1263.7 |
| | 11.2 | 29.2 | 1.6 | 86.0 | 63.0 | 193.0 | 469.0 | 157.2 | 149.0 | n.a | n.a | n.a | 1159.2 |

continues...

TABLE 5.5: AVERAGE MONTHLY RAINFALL FOR VARIOUS STATIONS IN BHUTAN, 1992

continuation

(millimetres)

| Dzongkhag and station | Month | | | | | | | | | | | | To |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | |
| Punakha | | | | | | | | | | | | | |
| Punakha Dzong | 9.3 | 11.2 | 0.0 | 102.8 | 69.1 | 75.5 | 229.7 | 115.9 | 107.2 | 13.4 | 0.0 | n.a | 73 |
| Shelgana | 0.0 | 91.4 | 0.0 | 22.4 | 337.2 | 1140.3 | 1413.8 | 846.1 | 557.5 | 39.9 | 23.2 | 16.3 | 448 |
| Gasa | | | | | | | | | | | | | |
| Gasakhatey | 5.0 | n.a | n.a | 8.9 | 177.6 | 217.0 | 296.3 | 167.3 | 73.6 | 126.7 | 0.0 | 0.0 | 107 |
| Wangduephodrang | | | | | | | | | | | | | |
| Daga Uma | n.a | n.a | 19.3 | 63.9 | 59.6 | 411.2 | n.a | n.a | n.a | n.a | n.a | n.a | 55 |
| Nobding | 7.2 | 0.0 | 7.5 | 73.8 | 86.6 | 160.4 | 408.9 | 380.7 | 175.4 | 84.2 | 0.0 | 11.6 | 139 |
| Phubjikha | n.a | n.a | n.a | 57.1 | 211.0 | 86.0 | 419.4 | 265.7 | 63.2 | 24.0 | 0.0 | 10.5 | 113 |
| Samtengang | 4.4 | 5.2 | 0.0 | 786.0 | 344.2 | n.a | 365.8 | 183.6 | 1150.0 | 247.0 | 0.0 | 0.0 | 308 |
| Wangdi (CARD) | 9.0 | 1.7 | 1.2 | 62.0 | 43.0 | 103.2 | 117.2 | 101.3 | 49.1 | 10.2 | 0.0 | 0.0 | 497 |
| Bachu | 143.0 | n.a | n.a | 26.0 | 69.1 | 131.8 | 246.3 | 112.5 | 14.3 | 44.5 | n.a | n.a | 787 |
| Gaselo | 6.2 | 8.4 | 1.8 | 76.8 | 49.9 | 116.6 | n.a | n.a | n.a | n.a | n.a | n.a | 259 |
| Sarpang | | | | | | | | | | | | | |
| Sarpang | 12.7 | 68.8 | 0.0 | 105.4 | 282.8 | 571.8 | 1078.0 | 724.2 | 569.0 | 168.2 | 0.0 | 23.1 | 3604 |
| Zhemgang | | | | | | | | | | | | | |
| Panbang | 14.0 | 73.2 | 7.6 | 138.4 | 322.8 | 824.4 | 997.2 | 484.0 | 299.8 | 70.4 | n.a | 12.6 | 3244 |
| Yebilaptsa | 2.6 | 52.2 | 8.6 | 70.2 | 55.2 | 359.4 | n.a | 105.6 | 161.4 | 37.6 | 0.0 | 9.0 | 861 |
| Zhemgang | n.a | n.a | 8.4 | 76.7 | 71.5 | 240.6 | 472.6 | 161.5 | 199.5 | 47.0 | 2.0 | n.a | 1279 |
| Trongsa | | | | | | | | | | | | | |
| Kuengarabten | 6.6 | 30.6 | 1.0 | n.a | 104.0 | 167.2 | 403.2 | 125.0 | n.a | 59.8 | 0.5 | 0.5 | 898 |
| Langthel | n.a | 12.6 | 0.0 | 44.2 | 50.4 | 121.1 | 233.6 | 124.0 | 163.6 | 14.2 | 0.0 | 3.8 | 767 |
| Trongsa | 0.0 | 54.1 | 15.4 | 180.7 | 110.0 | 274.1 | 476.5 | 176.0 | 123.3 | 85.8 | 0.0 | 0.0 | 1495 |
| Mangdi chhu | 2.6 | n.a | n.a | 74.0 | n.a | 201.4 | 328.2 | 187.0 | 135.0 | 40.2 | n.a | n.a | 968 |
| Tangsibji | 9.0 | n.a | n.a | 77.6 | 132.1 | 507.4 | 497.6 | 231.7 | 183.0 | 116.0 | n.a | n.a | 1754 |
| Bjakar | | | | | | | | | | | | | |
| Chamkhar | 0.0 | 0.0 | 0.0 | 32.8 | n.a | n.a | n.a | 24.3 | 85.5 | n.a | 2.0 | 5.0 | 149 |
| Chhumey | n.a | n.a | 22.9 | 48.5 | 90.3 | 123.3 | 501.0 | 164.0 | 99.3 | 5.5 | 0.0 | 0.0 | 1054 |
| Ura | 0.0 | 0.0 | 0.0 | 19.6 | 38.6 | 89.1 | 143.0 | 79.9 | 30.7 | 8.3 | n.a | n.a | 409 |

continues...

E MONTHLY RAINFALL FOR VARIOUS STATIONS IN BHUTAN, 1992

(millimetre)

| Month | | | | | | | | | | | | Total rain |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | |
| 19.8 | n.a | 848.0 | 20.7 | 188.2 | 370.1 | 125.3 | 100.6 | 31.1 | n.a | n.a | n.a | 1703.8 |
| 0.0 | 329.9 | 21.8 | 89.1 | 100.8 | 131.9 | 187.2 | 195.9 | 125.0 | 64.9 | 0.0 | 0.0 | 1246.5 |
| n.a | n.a | n.a | 65.4 | 662.5 | 1687.0 | 118.0 | 1785.0 | 1030.0 | 210.0 | 0.0 | n.a | 5557.9 |
| 3.0 | 48.6 | 16.2 | 91.5 | 86.8 | 212.6 | 205.1 | 15.2 | 102.2 | 42.9 | 0.0 | 2.4 | 826.5 |
| n.a | n.a | n.a | n.a | 159.7 | 267.2 | 355.0 | 203.2 | 183.7 | 57.2 | 0.0 | 0.0 | 1226.0 |
| 0.8 | 37.2 | 29.8 | 107.4 | 91.3 | 184.9 | 272.8 | 181.4 | n.a | 74.1 | 3.2 | 10.2 | 993.1 |
| 86.0 | 24.4 | 63.2 | 29.6 | 126.4 | 138.2 | 265.0 | n.a | 111.2 | 0.0 | 0.0 | n.a | 844.0 |
| 4.4 | 27.0 | 4.8 | 20.2 | 38.4 | 159.3 | 201.6 | 87.9 | 37.2 | 16.8 | 0.0 | 6.4 | 604.0 |
| 3.0 | 41.6 | 0.0 | 29.8 | 56.4 | 195.1 | 205.4 | 88.2 | 85.2 | 38.6 | 0.0 | 18.4 | 761.7 |
| 246.2 | n.a | n.a | n.a | n.a | n.a | 218.1 | 76.3 | 61.7 | 34.7 | n.a | 26.3 | 663.3 |
| 5.0 | 72.0 | 19.4 | 143.2 | n.a | n.a | 295.0 | 8.5 | 160.6 | 120.5 | 0.0 | 5.0 | 829.2 |
| n.a | n.a | n.a | 31.2 | 51.7 | 112.9 | 251.1 | 26.2 | n.a | n.a | 0.0 | 10.4 | 483.5 |
| 5.8 | n.a | n.a | n.a | 102.2 | 129.6 | 240.6 | 92.2 | 55.7 | 23.4 | n.a | n.a | 649.5 |
| 0.0 | 0.0 | 8.5 | 102.5 | 131.4 | 374.6 | n.a | 181.1 | 167.9 | 31.7 | 2.0 | 0.0 | 999.7 |
| 7.4 | 64.1 | 0.0 | 92.6 | 102.4 | 306.4 | 270.2 | 63.2 | 253.8 | 47.0 | 0.0 | 7.2 | 1214.3 |
| 11.5 | 65.0 | 17.0 | 168.0 | 302.5 | 544.0 | 512.0 | 512.0 | 194.0 | 75.0 | 7.0 | 20.0 | 2428.0 |
| 21.0 | 72.8 | 18.0 | 127.0 | 187.4 | 20.0 | 438.5 | 191.0 | 226.0 | 59.0 | 0.0 | 0.0 | 1360.7 |
| 14.8 | 22.4 | 73.2 | 351.8 | 325.2 | 848.4 | 275.2 | 329.2 | 274.2 | 0.0 | 0.0 | 0.0 | 2514.4 |

end

Unit, Thimphu

TABLE 5.6: IRRIGATION SCHEMES COMPLETED BY DZONGKHAG, 1991/92

| Dzongkhag | New construction | | | Renovation | | |
|---|---|---|---|---|---|---|
| | No. of schemes | Length of channel (Km) | Command area (hectares) | No. of schemes | Length of channel (Km) | Command area (hectares) |
| Thimphu | 1 | 3.540 | 222.670 | - | - | - |
| Chhukha | - | - | - | - | - | - |
| Paro | - | - | - | - | - | - |
| Samtse | - | - | - | - | - | - |
| Tsirang | - | - | - | - | - | - |
| Dagana | - | - | - | - | - | - |
| Punakha | - | - | - | - | - | - |
| Wangduephodrang | - | - | - | 1 | 0.777 | 13.080 |
| Bjakar | - | - | - | - | - | - |
| Sarpang | - | - | - | - | - | - |
| Zhemgang | - | - | - | - | - | - |
| Trongsa | - | - | - | - | 1.500 | 10.080 |
| Lhuntse | - | - | - | - | - | - |
| Mongar | - | - | - | - | - | - |
| Pemagatshel | - | - | - | - | - | - |
| Samdrupjongkhar | - | - | - | - | - | - |
| Trashigang | - | - | - | 1 | 1.200 | 54.310 |
| Trashiyangtse | - | - | - | - | - | - |
| Gasa | - | - | - | - | - | - |
| | - | - | - | - | - | - |
| Bhutan | 1 | 3.540 | 222.670 | 2 | 3.477 | 77.470 |

Source: Agriculture Division, Thimphu

TABLE 5.7: LAND UNDER AGRICULTURAL USE BY DZONGKHAG, 1988/89(a)
('000 hectares)

| Dzongkhag | Wet land | Dry land | Tsheri pangshing | Kitchen garden | Orchard & plantation | Others (b) | Total area |
|---|---|---|---|---|---|---|---|
| Bjakar | * | 1.1 | 1.9 | - | - | 14.1 | 17.1 |
| Chhukha | 1.1 | 3.1 | 4.4 | - | 0.7 | 8.2 | 17.5 |
| Dagana | 0.8 | 2.6 | 0.8 | - | 0.2 | 2.7 | 7.1 |
| Gasa | | | | | | | |
| Haa | 0.1 | 0.8 | 0.3 | - | 0.3 | 8.2 | 9.7 |
| Lhuntse | 0.8 | 1.6 | 1.6 | - | - | 1.0 | 5.0 |
| Mongar | 0.4 | 2.9 | 1.9 | - | - | 1.7 | 6.9 |
| Paro | 1.5 | 1.6 | 0.2 | 0.1 | 0.2 | 3.4 | 7.0 |
| Pemagatshel | - | 1.6 | 1.7 | - | - | 0.3 | 3.6 |
| Punakha | 1.6 | 0.4 | - | - | - | 8.3 | 10.3 |
| Samdrupjongkhar(c) | 1.9 | 4.2 | 3.6 | - | 0.1 | 0.4 | 10.2 |
| Samtse | 4.8 | 7.9 | 4.3 | 0.2 | 3.7 | 2.3 | 23.2 |
| Sarpang | 4.8 | 7.5 | 0.9 | 0.2 | 1.8 | 0.3 | 15.5 |
| Thimphu | 0.8 | 0.5 | 0.1 | - | - | 6.9 | 8.3 |
| Trashigang | 2.3 | 8.6 | 6.1 | - | 0.2 | 64.2 | 81.4 |
| Trashiyangtse | | | | | | | |
| Trongsa | 0.7 | 0.8 | 0.8 | - | 0.2 | 4.0 | 6.5 |
| Tsirang | 3.2 | 7.2 | 0.6 | 0.3 | 2.2 | 0.4 | 13.9 |
| Wangduephodrang | 1.3 | 0.9 | 0.3 | 0.1 | - | na | 2.6 |
| Zhemgang | 0.7 | 1.6 | 3.3 | - | 0.3 | 5.6 | 11.5 |
| Bhutan | 24.8 | 52.4 | 29.2 | 0.8 | 9.6 | 126.4 | 243.2 |

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

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

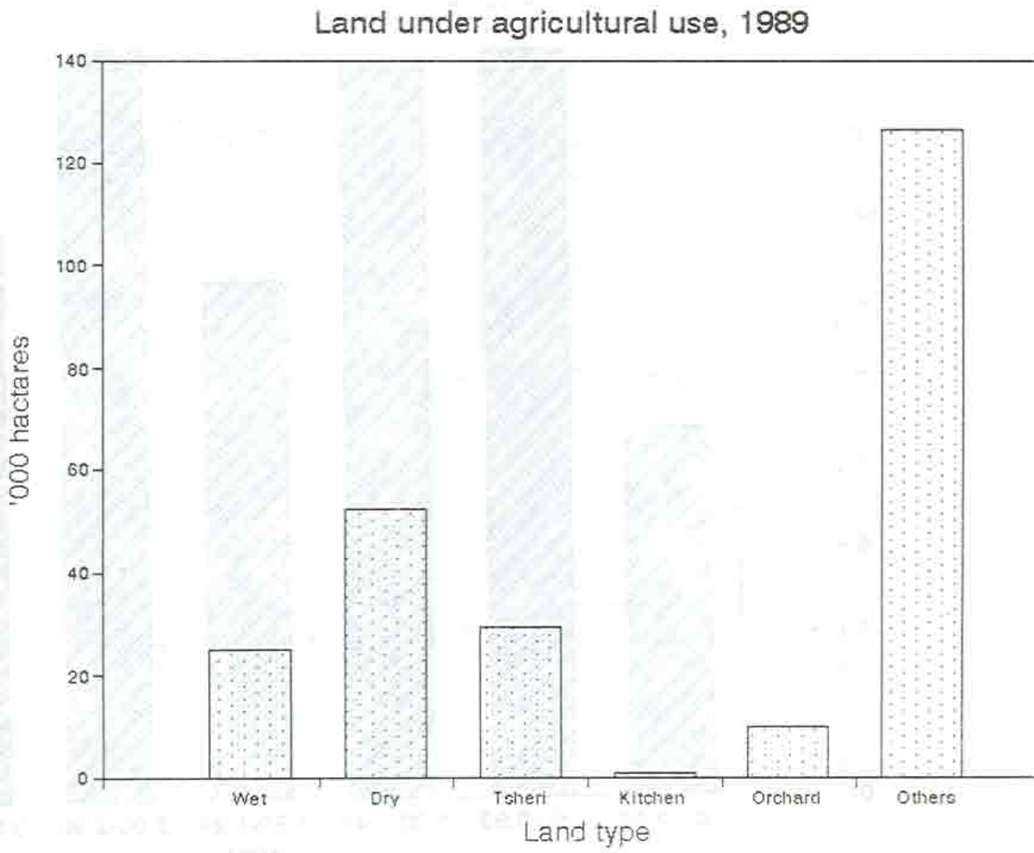


TABLE 5.8: HOLDERS BY SIZE OF HOLDING IN EACH DZONGKHAG, 1988/89(a)

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

(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

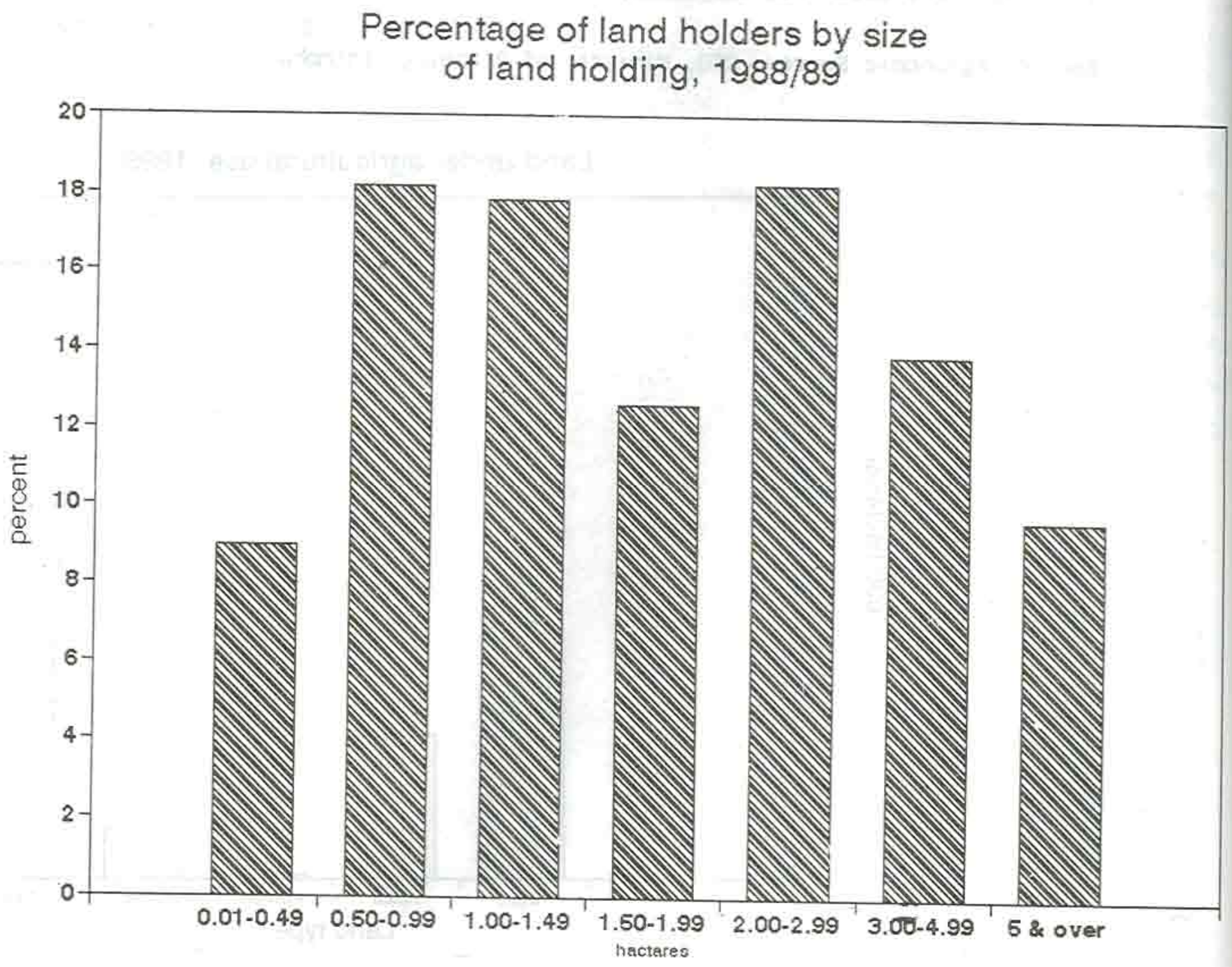


TABLE 5.9: HOLDERS, AREA, PRODUCTION AND YIELD OF MAJOR CROPS BY DZONGKHAG, 1988/89(a)

| Dzongkhag | Paddy | | | | Wheat | | | | Maize | | | | Mustard | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Holders | Area (ha.) | Production (tonnes) | Yield/ha. (Kg.) | Holders | Area (ha.) | Production (tonnes) | Yield/ha. (Kg.) | Holders | Area (ha.) | Production (tonnes) | Yield/ha. (Kg.) | Holders | Area (ha.) | Production (tonnes) | Yield/ha. (Kg.) |
| Bjakar | * | * | * | * | 760 | 260 | 150 | 570 | 130 | 10 | 20 | 1,160 | * | * | * | * |
| Chhukha | 1,820 | 920 | 950 | 1,030 | 1,100 | 310 | 220 | 700 | 2,570 | 1,830 | 680 | 370 | 1,650 | 300 | 80 | 270 |
| Dagana | 1,280 | 790 | 1,070 | 1,360 | 200 | 80 | 40 | 500 | 1,500 | 2,360 | 890 | 380 | 1,180 | 320 | 100 | 310 |
| Gasa | | | | | | | | | | | | | | | | |
| Haa | 150 | 90 | 80 | 880 | 820 | 460 | 230 | 510 | 140 | 70 | 40 | 540 | * | * | * | * |
| Lhuntse | 2,010 | 800 | 1,640 | 2,050 | 580 | 150 | 170 | 1,090 | 2,290 | 1,140 | 2,480 | 2,170 | 380 | 70 | 30 | 440 |
| Mongar | 2,200 | 470 | 470 | 980 | 610 | 130 | 60 | 470 | 4,260 | 2,570 | 4,530 | 1,760 | 450 | 80 | 30 | 400 |
| Paro | 1,790 | 1,460 | 2,400 | 1,640 | 2,110 | 1,250 | 650 | 520 | * | * | * | * | 640 | 120 | 50 | 390 |
| Pemagatshel | 870 | 120 | 110 | 960 | 960 | 160 | 100 | 630 | 2,390 | 860 | 920 | 1,060 | 330 | 30 | 20 | 600 |
| Punakha | 1,680 | 1,600 | 4,290 | 2,670 | 1,540 | 420 | 230 | 560 | 340 | 80 | 60 | 770 | 1,050 | 160 | 50 | 310 |
| Samdrupjongkhar | 2,660 | 2,030 | 2,910 | 1,430 | 460 | 60 | 30 | 490 | 4,900 | 4,700 | 2,650 | 560 | 2,190 | 690 | 180 | 260 |
| Samtse | 5,850 | 4,400 | 5,740 | 1,310 | 1,290 | 250 | 130 | 500 | 7,320 | 7,540 | 2,490 | 330 | 1,670 | 230 | 80 | 340 |
| Sarpang | 4,520 | 4,690 | 7,120 | 1,520 | 1,010 | 390 | 400 | 1,030 | 5,150 | 6,990 | 2,650 | 380 | 1,630 | 560 | 160 | 280 |
| Thimphu | 1,240 | 760 | 1,850 | 2,420 | 1,220 | 400 | 260 | 660 | 240 | 30 | 10 | 500 | 530 | 70 | 20 | 330 |
| Trashigang | 8,420 | 2,210 | 4,930 | 2,230 | 2,890 | 490 | 460 | 940 | 11,460 | 5,810 | 9,230 | 1,590 | 3,780 | 500 | 280 | 550 |
| Trashiyangtse | | | | | | | | | | | | | | | | |
| Trongsa | 1,160 | 600 | 820 | 1,370 | 850 | 270 | 180 | 640 | 970 | 380 | 270 | 720 | 290 | 40 | 10 | 390 |
| Tsirang | 4,110 | 3,050 | 4,510 | 1,480 | 1,880 | 340 | 170 | 490 | 5,550 | 6,380 | 2,910 | 460 | 3,380 | 610 | 170 | 270 |
| Wangduephodrang | 1,740 | 1,250 | na | na | 1,980 | 790 | na | na | 380 | 60 | na | na | 1,030 | 110 | na | na |
| Zhemgang | 1,540 | 770 | 900 | 1,170 | 590 | 200 | 150 | 780 | 1,800 | 1,060 | 1,250 | 1,180 | 430 | 170 | 50 | 290 |
| Bhutan | 39,760 | 23,990 | 38,890 | 1,458 | 18,280 | 5,420 | 3,480 | 606 | 49,210 | 40,750 | 29,830 | 797 | 19,150 | 3,780 | 1,260 | 343 |

(a) See footnote (a) on Table 5.7

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

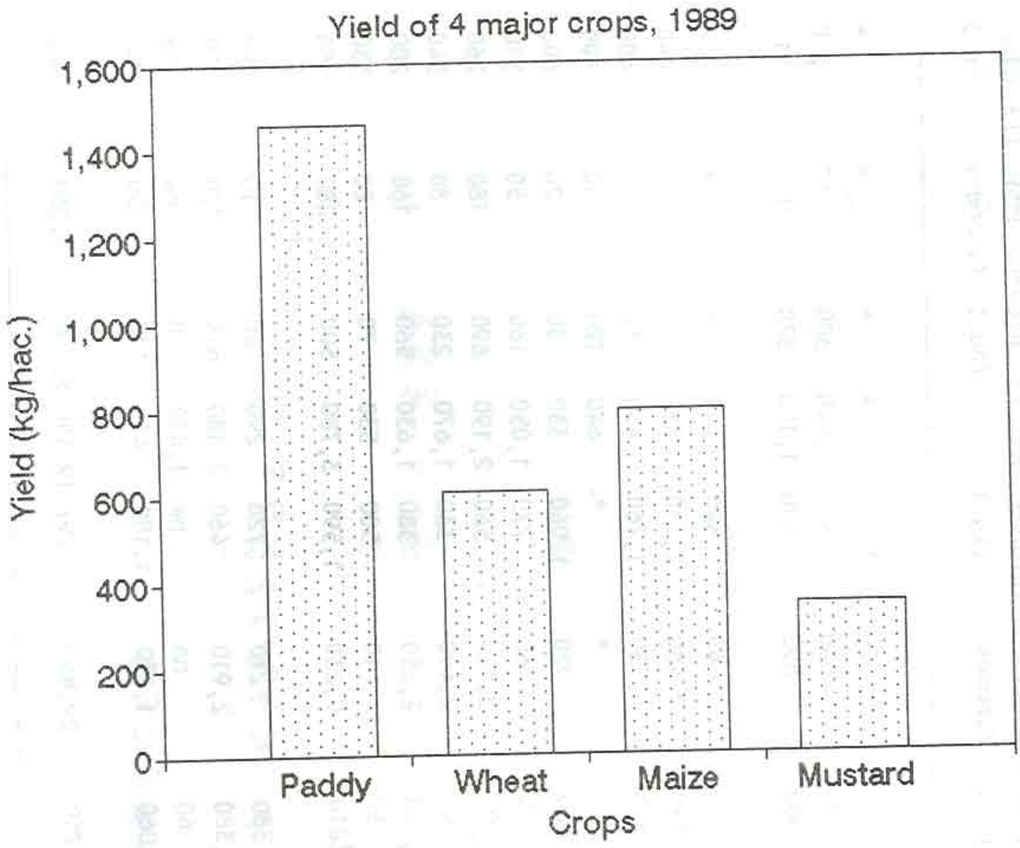



Table 5.10: ANNUAL CROPS, NUMBER OF HOLDERS HARVESTING EACH CROP AND AREA HARVESTED, BHUTAN, 1988/89

| 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 5.11: 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 5.12: HOLDERS BY SIZE OF LIVESTOCK HOLDING, 1988/89

| Number of livestock | Cattle | Yak | Buffalo | Pig | Goat | Sheep | Horse | Donkey/ mule | Chicken |
|---|---|---|---|---|---|---|---|---|---|
| | | | | ('000 holders) | | | | | |
| 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

TABBLE 5.13 NUMBER OF LIVESTOCK BY TYPE AND DZONGKHAG,1992

| Dzongkhag | Cattle | Yak | Mithun | Buffalo | Sheep | Goat | Pig | Horse (a) | Poultry | Dog | Cat |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bjakar | 9.3 | 3.3 | 1.9 | 0.0 | 6.2 | 0.0 | 0.0 | 1.5 | 2.5 | 0.4 | 0.0 |
| Chhukha | 25.1 | 0.0 | 1.8 | 0.0 | 1.1 | 2.3 | 3.6 | 0.6 | 11.8 | 0.0 | 0.0 |
| Dagana | 9.8 | 0.0 | 0.8 | 0.1 | 0.6 | 1.5 | 2.0 | 0.4 | 9.8 | 0.8 | 0.0 |
| Gasa | 0.8 | 2.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.4 | 0.3 | 0.2 | 0.0 |
| Haa | 7.4 | 4.5 | 0.0 | 0.0 | 0.1 | 0.0 | 1.6 | 1.1 | 2.9 | 0.5 | 0.1 |
| Lhuntse | 10.3 | 0.3 | 5.7 | 0.0 | 0.4 | 0.0 | 2.0 | 1.3 | 8.1 | 0.2 | 0.4 |
| Mongar | 16.9 | 0.0 | 11.9 | 0.0 | 0.1 | 0.1 | 4.9 | 2.1 | 15.7 | 0.9 | 0.0 |
| Paro | 11.0 | 3.0 | 0.8 | 0.0 | 0.1 | 0.1 | 3.3 | 1.2 | 3.9 | 1.7 | 0.8 |
| Pemagatshel | 5.6 | 0.0 | 2.7 | 0.0 | 0.0 | 0.1 | 1.9 | 1.1 | 4.9 | 0.6 | 0.3 |
| Punakha | 8.5 | 0.0 | 1.9 | 0.0 | 0.1 | 0.0 | 2.8 | 0.9 | 5.3 | 1.0 | 0.0 |
| Samdrupjongkhar | 15.5 | 0.1 | 17.0 | 0.1 | 0.2 | 0.9 | 3.1 | 1.9 | 11.7 | 1.9 | 0.0 |
| Samtse | 16.1 | 0.0 | 0.0 | 0.4 | 2.2 | 5.4 | 0.7 | 0.2 | 6.3 | 1.8 | 0.0 |
| Sarpang | 9.2 | 0.0 | 0.2 | 0.2 | 0.5 | 1.3 | 0.8 | 0.3 | 6.5 | 1.4 | 0.0 |
| Thimphu | 11.5 | 10.1 | 0.6 | 0.0 | 1.2 | 0.0 | 2.1 | 1.1 | 3.0 | 1.4 | 0.0 |
| Trashigang | 26.6 | 3.2 | 9.2 | 0.0 | 4.9 | 0.0 | 6.3 | 5.2 | 15.9 | 2.3 | 0.4 |
| Trashiyangtse | 10.4 | 0.4 | 3.0 | 0.0 | 0.3 | 0.0 | 2.8 | 1.4 | 6.4 | 0.7 | 0.0 |
| Trongsa | 10.0 | 0.0 | 2.2 | 0.0 | 4.3 | 0.0 | 0.4 | 0.7 | 2.7 | 0.6 | 0.0 |
| Tsirang | 7.3 | 0.0 | 0.0 | 0.2 | 0.5 | 2.5 | 0.8 | 0.2 | 7.8 | 1.4 | 0.0 |
| Wangdiphodrang | 17.9 | 3.1 | 4.0 | 0.0 | 8.2 | 0.1 | 5.8 | 2.7 | 7.1 | 1.2 | 0.0 |
| Zhemgang | 11.3 | 0.0 | 5.7 | 0.0 | 0.0 | 0.0 | 2.1 | 1.1 | 8.3 | 0.3 | 0.0 |
| Bhutan | 240.5 | 30.2 | 69.5 | 0.9 | 31.0 | 14.5 | 47.3 | 25.3 | 141.1 | 19.1 | 2.0 |

(a) Includes mules and donkeys.

Source: Animal Husbandry Division

TABLE 5.14: NUMBER OF LIVESTOCK BY TYPE, 1984 TO 1992

(thousand)

| Livestock | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|---|
| Cattle(a) | 327.7 | 347.4 | 340.3 | 357.0 | 357.4 | 303.5 | 307.7 | 275.0 | 240.5 |
| Yak | 30.7 | 31.3 | 35.7 | 30.1 | 35.6 | 37.1 | 33.0 | 31.5 | 30.2 |
| Mithun cross | n.a | n.a | n.a | n.a | n.a | 46.4 | 51.6 | 60.5 | 69.5 |
| Buffalo | n.a | n.a | n.a | 5.2 | 4.3 | 4.7 | 4.3 | 2.6 | 0.9 |
| Sheep(b) | 44.3 | 52.3 | 43.8 | 36.4 | 46.6 | 47.8 | 45.2 | 36.0 | 31.0 |
| Goat | n.a | n.a | n.a | 40.9 | 36.7 | 32.5 | 36.6 | 25.1 | 14.5 |
| Pig | 58.9 | 60.1 | 88.6 | 70.3 | 65.7 | 63.2 | 60.1 | 54.0 | 47.3 |
| Horse | n.a | n.a | 23.6 | 26.0 | 25.7 | 26.1 | 25.1 | 25.2 | 25.3 |
| Poultry | 172.3 | 179.5 | 211.3 | 218.0 | 237.2 | 210.7 | 214.8 | 170.8 | 141.1 |

Note: 1991 figures are estimated by CSO, Ministry of Plannig

(a) Upto 1988, mithun species was included in cattle

(b) For 1984 to 1986 figure includes both sheep and goat

Source: Animal Husbandry Division, Thimphu

Count of cattle and poultry and pigs, 1984 to 1992

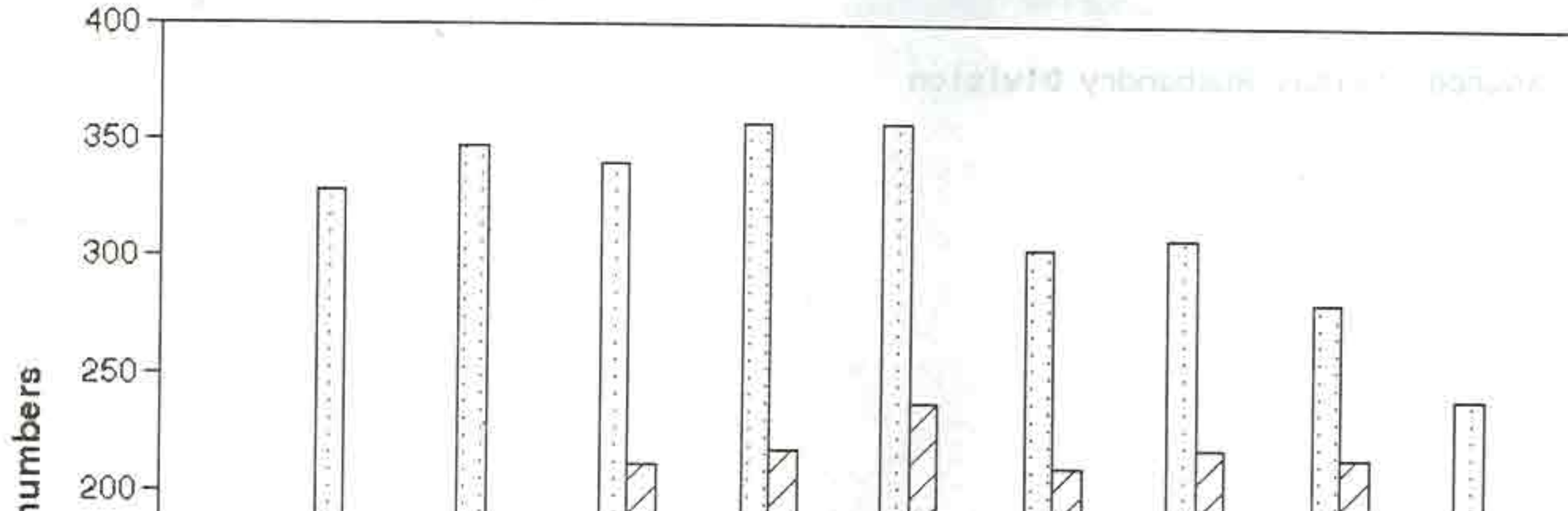


TABLE 5.15: IMPORTS AND DISTRIBUTION OF FOOD ITEMS BY FOOD CORPORATION OF BHUTAN, 1983/84 TO 1991/92

(tonnes)

| Commodity | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 | 1988/89 | 1989/90 | 1990/91 | 1991/92 |
|---|---|---|---|---|---|---|---|---|---|
| Imports | | | | | | | | | |
| Rice | 6,033.0 | 5,388.0 | 7,211.0 | 11,282.0 | 16,750.0 | 11,600.0 | 9,900.0 | 8,776.0 | 10,301.3 |
| Wheat | 2,123.0 | 2,599.0 | 2,450.0 | 3,350.0 | 5,767.0 | 4,990.0 | 2,834.0 | 1,450.0 | 1,469.9 |
| Sugar | 1,800.0 | 1,824.0 | 2,749.0 | 3,574.0 | 4,039.0 | 3,616.0 | 3,040.0 | 3,447.0 | 2,539.5 |
| Salt | 2,326.0 | 3,598.0 | 5,689.0 | 3,516.0 | 5,035.0 | 6,495.0 | 4,619.0 | 4,318.0 | 3,520.9 |
| Oil | 240.0 | 306.0 | 557.0 | 874.0 | 1,280.0 | 400.0 | 340.0 | 270.0 | 559.9 |
| Sales | | | | | | | | | |
| Rice | 4,537.0 | 4,863.0 | 6,956.0 | 11,761.0 | 16,700.0 | 11,197.0 | 8,895.0 | 8,203.0 | 10,504.5 |
| Wheat | 2,230.0 | 2,280.0 | 2,534.0 | 3,346.0 | 5,595.0 | 4,544.0 | 2,964.0 | 1,327.0 | 1,363.5 |
| Sugar | 1,575.0 | 1,996.0 | 2,579.0 | 3,731.0 | 4,078.0 | 3,490.0 | 3,039.0 | 3,001.0 | 3,143.3 |
| Salt | 179.0 | 617.0 | 3,603.0 | 3,513.0 | 5,050.0 | 4,050.0 | 4,887.0 | 4,497.0 | 4,301.0 |
| Oil | 214.0 | 213.0 | 472.0 | 516.0 | 1,082.0 | 435.0 | 416.0 | 237.0 | 301.8 |

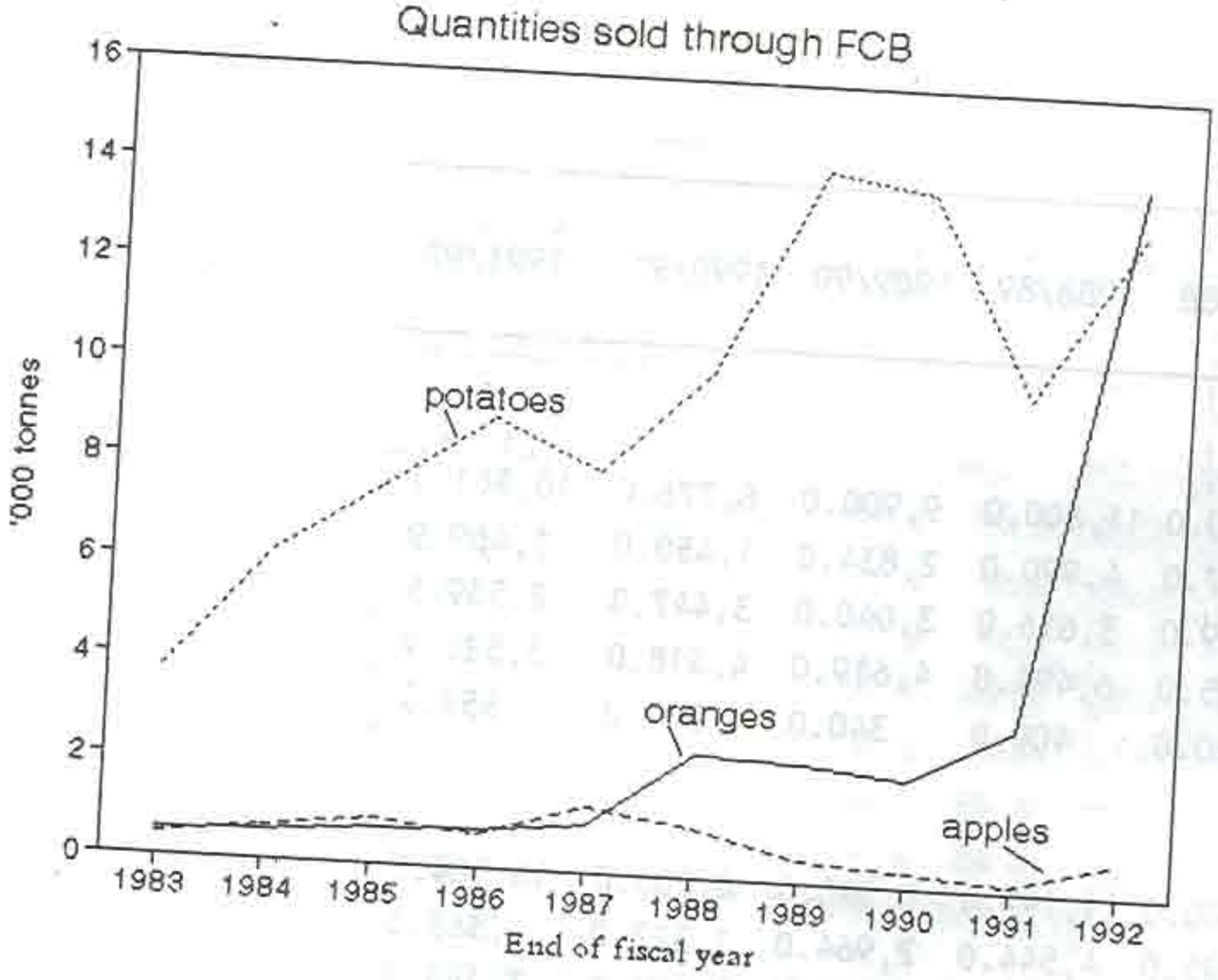
Source: Food Corporation of Bhutan, Thimphu

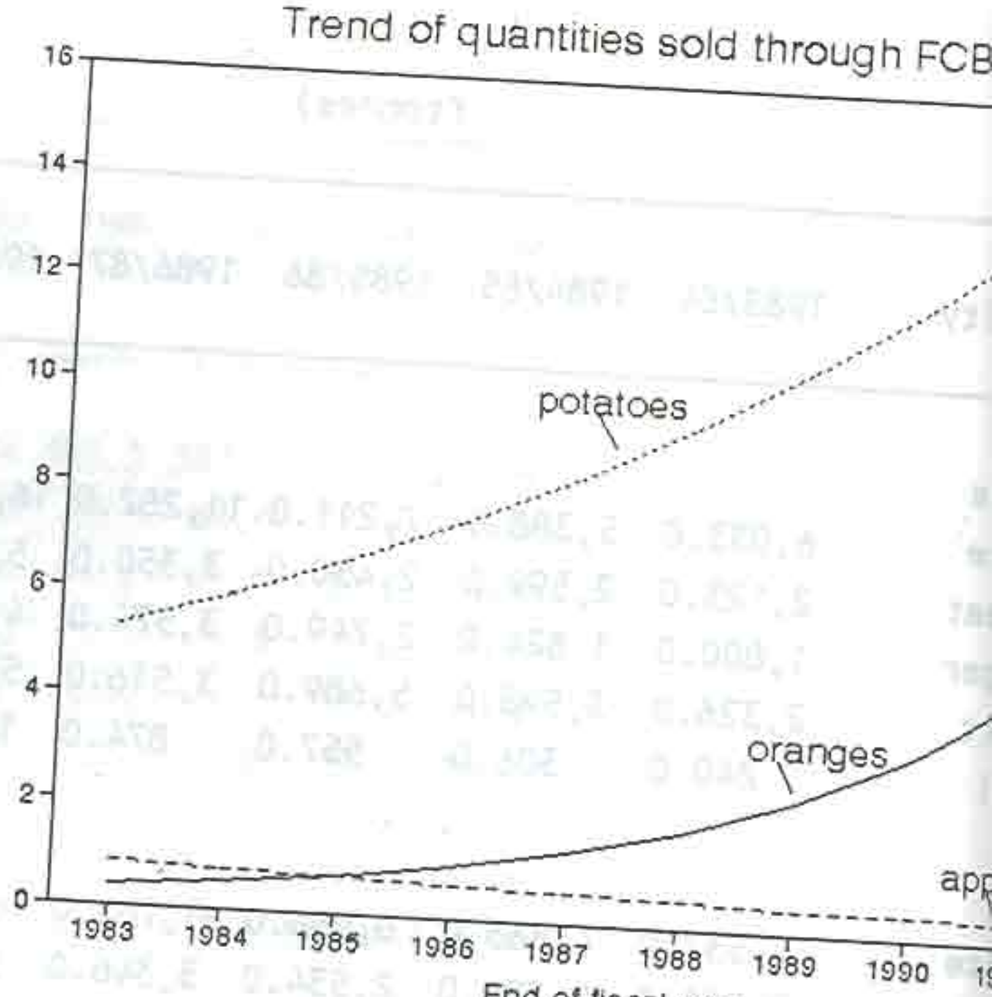
TABLE 5.16: AGRICULTURAL PRODUCE HANDLED BY FOOD CORPORATION OF BHUTAN, 1982/83 TO 1991/92

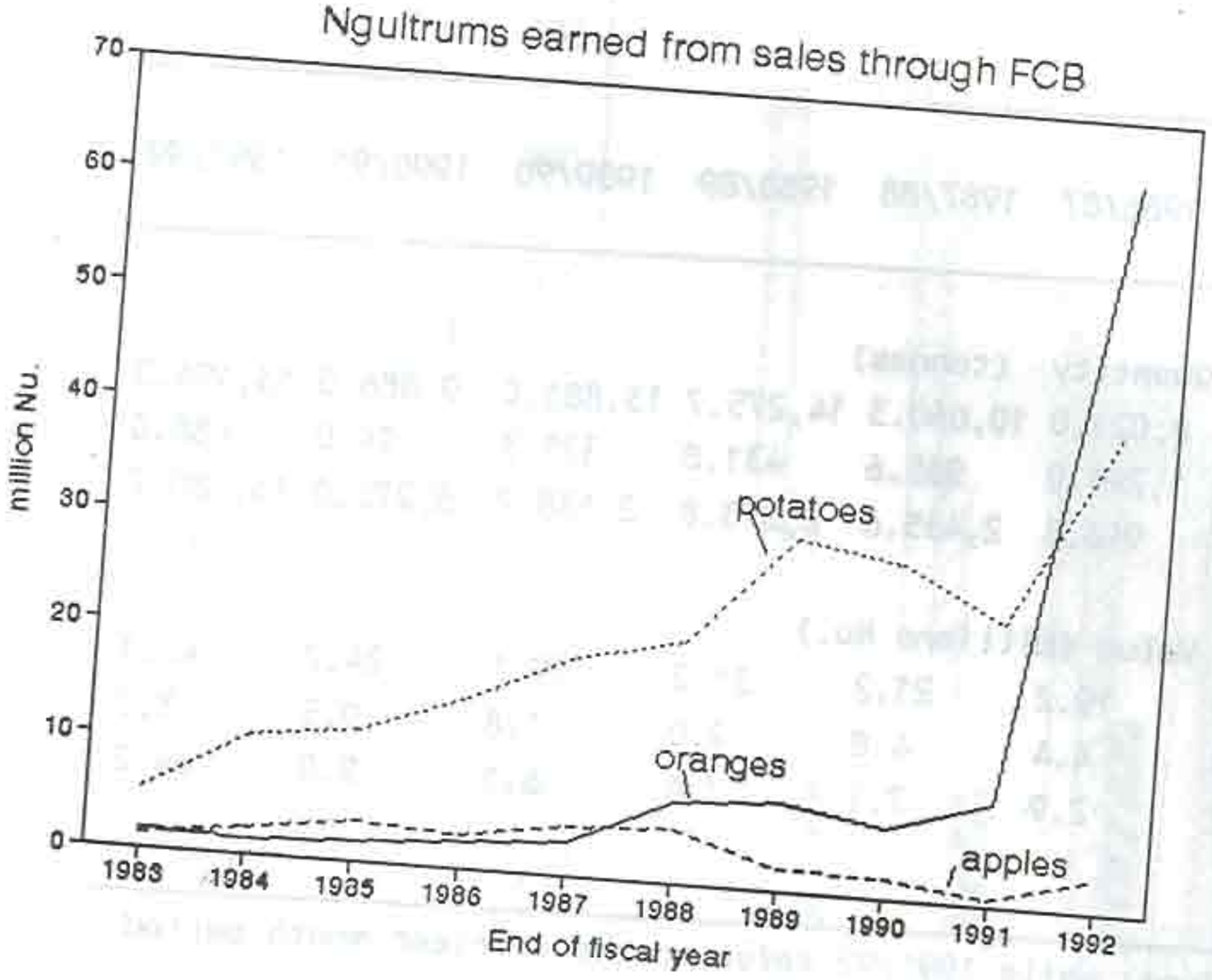
| Commodity | 1982/83 | 1983/84 | 1984/85 | 1985/86 | 1986/87 | 1987/88 | 1988/89 | 1989/90 | 1990/91 | 1991/92 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Quantity (tonnes) | | | | | |
| Potatoes | 3,795.8 | 6,178.9 | 7,571.9 | 8,987.8 | 8,021.0 | 10,060.3 | 14,275.7 | 13,881.0 | 9,886.0 | 13,196.3 |
| Apples | 452.5 | 671.9 | 889.6 | 648.0 | 1,295.0 | 965.6 | 431.8 | 325.3 | 94.0 | 688.0 |
| Oranges | 549.4 | 588.6 | 690.0 | 769.5 | 946.3 | 2,455.6 | 2,373.8 | 2,138.2 | 3,275.0 | 14,180.7 |
| | | | | | Value (millions Nu.) | | | | | |
| Potatoes | 5.2 | 10.5 | 11.5 | 15.0 | 19.2 | 21.2 | 31.2 | 29.5 | 24.7 | 42.1 |
| Apples | 1.4 | 2.4 | 3.5 | 2.8 | 4.4 | 4.8 | 2.0 | 1.8 | 0.5 | 3.0 |
| Oranges | 1.6 | 1.3 | 1.8 | 2.2 | 2.9 | 7.1 | 7.6 | 6.1 | 9.0 | 64.2 |

(a) 1987/88 refers to the 15 month period (April to June) while 1991/92 refer to the thirteen month period (June to June). The remaining years refer to the twelv- month period (April to March).

Source: Food Corporation of Bhutan, Thimphu


Quantities sold through FCB
'000 tonnes
potatoes
oranges
apples
End of fiscal year


Trend of quantities sold through FCB
'000 tonnes
potatoes
oranges
End of fiscal year


Ngultrums earned from sales through FCB
million Nu.
potatoes
oranges
apples
End of fiscal year

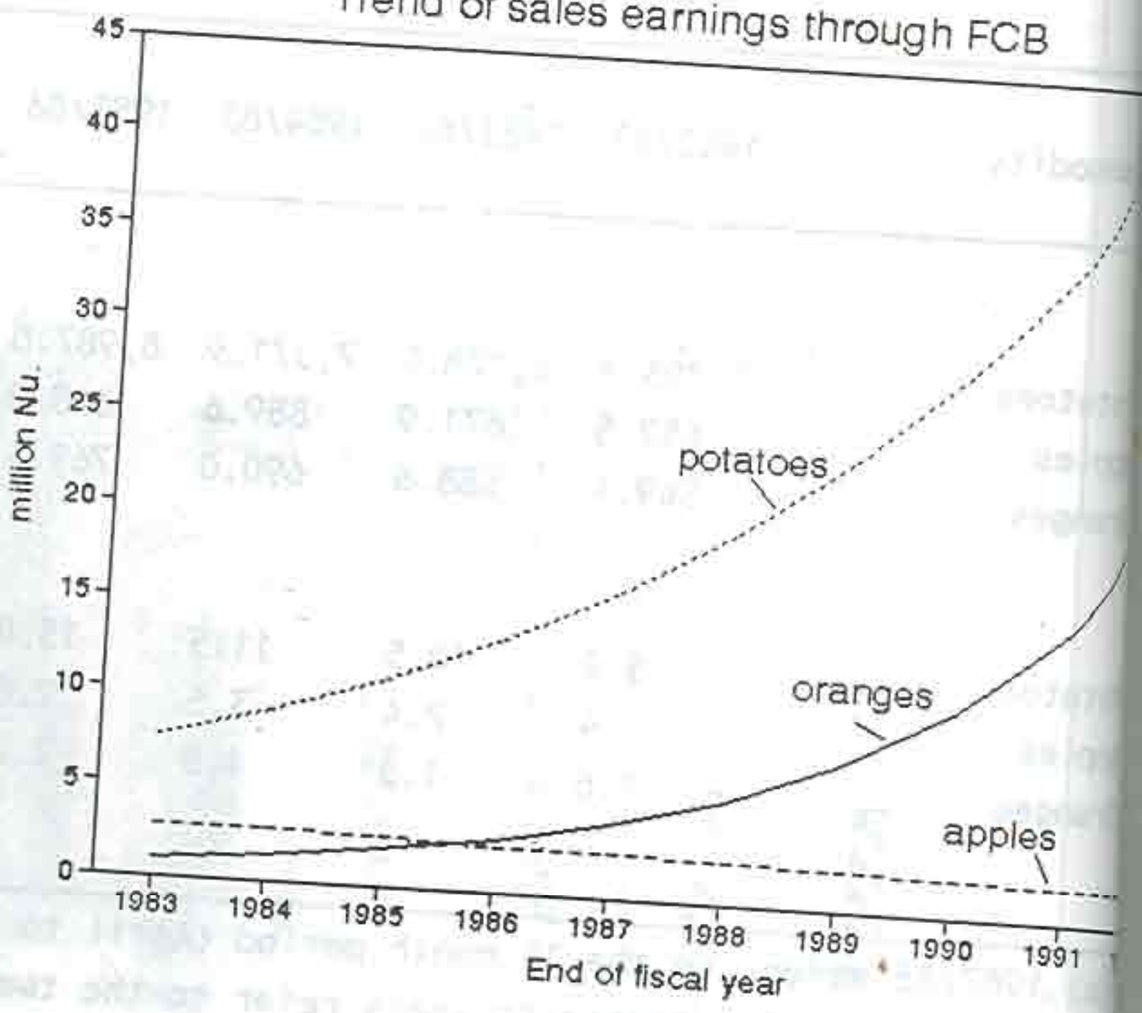

Trend of sales earnings through FCB
million Nu.
potatoes
oranges
apples
End of fiscal year

TABLE 5.17: PRODUCTION OF LOGWOOD, 1984/85 TO 1992(a)

('000 cubic metres)

| Item | 1984/85 | 1985/86 | 1986/87 | 1987/88 (b) | 1988/89 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|---|
| Logwood | 155.1 | 136.8 | 149.1 | 83.7 | 89.4 | 434.1 | 202.7 | 350.1 | 61.5 |
| Commercial logwood | 100.8 | 59.1 | 118.1 | 76.9 | 83.4 | 54.3 | 48.9 | 40.1 | 49.2 |
| Construction and other uses | 54.3 | 77.7 | 31.0 | 6.8 | 6.0 | 379.8 | 153.8 | 310.0 | 12.2 |
| Firewood | 3.3 | 3.4 | 3.5 | 10.5 | 1.6 | 2.2 | 3.0 | 4.2 | 5.3 |
| Total | 158.4 | 140.2 | 152.6 | 94.2 | 91.0 | 436.3 | 205.7 | 354.3 | 66.8 |

(a) Years refer to 1 April to 31 March while 1987/88 refer to fifteen months period April to June For 1988/89 is twelve month 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

Source: Forestry Division, Thimphu

# CHAPTER 6: INDUSTRIES

## INTRODUCTION

The subject 'Industries' covers the whole range of industr activities carried out by businesses in all fields inclu mining, manufacturing, wholesale and retail trade, and o service industries.

The manufacturing industry is dominated by major operators suc the Penden Cement Plant and the Gedu Wood Manufactu Corporation, Bhutan Chemicals and Carbide Ltd. etc. There numerous small manufacturing plants concentrated in the processing and wood products sectors. Cottage industries also a prominent role with its good timber resources and favour agricultural conditions, there is ample scope for expansion of manufacturing sector specially in these areas.

The kingdom has significant deposits of a number of min resources, including limestone, coal, graphite, gypsum, slate dolomite. Most mining activities are carried out in operati involving the mining of limestone, coal, slate and dolomite.

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

TABLE 6.1: NUMBER OF LICENSED FIRMS IN MANUFACTURING AND MINING INDUSTRIES BY SECTOR, 1986 AND 1989

| Industry | 1986 | | | | 1989 | | | |
|---|---|---|---|---|---|---|---|---|
| | Public | Joint | Private | Total | Public | Joint | Private | Total |
| Mining | 4 | n.a | 5 | 9 | 2 | 1 | 8 | 11 |
| Manufacturing | 10 | n.a | 330 | 340 | 16 | 5 | 136 | 157 |
| Food processing/milling | 4 | n.a | 245 | 249 | 7 | 1 | 30 | 38 |
| Textiles and Clothing | - | n.a | 5 | 5 | 1 | 0 | 6 | 7 |
| Wood and Paper Products | 2 | n.a | 53 | 55 | 5 | 2 | 75 | 82 |
| Chemical Products | 1 | n.a | 11 | 12 | 1 | 2 | 17 | 20 |
| Mineral Products | 2 | n.a | 4 | 6 | 1 | 0 | 6 | 7 |
| Other | 1 | n.a | 12 | 13 | 1 | 0 | 2 | 3 |
| Total mining and manufacturing | 14 | n.a | 335 | 349 | 18 | 6 | 144 | 168 |

Source: Ministry of Trade and Industry, Thimphu

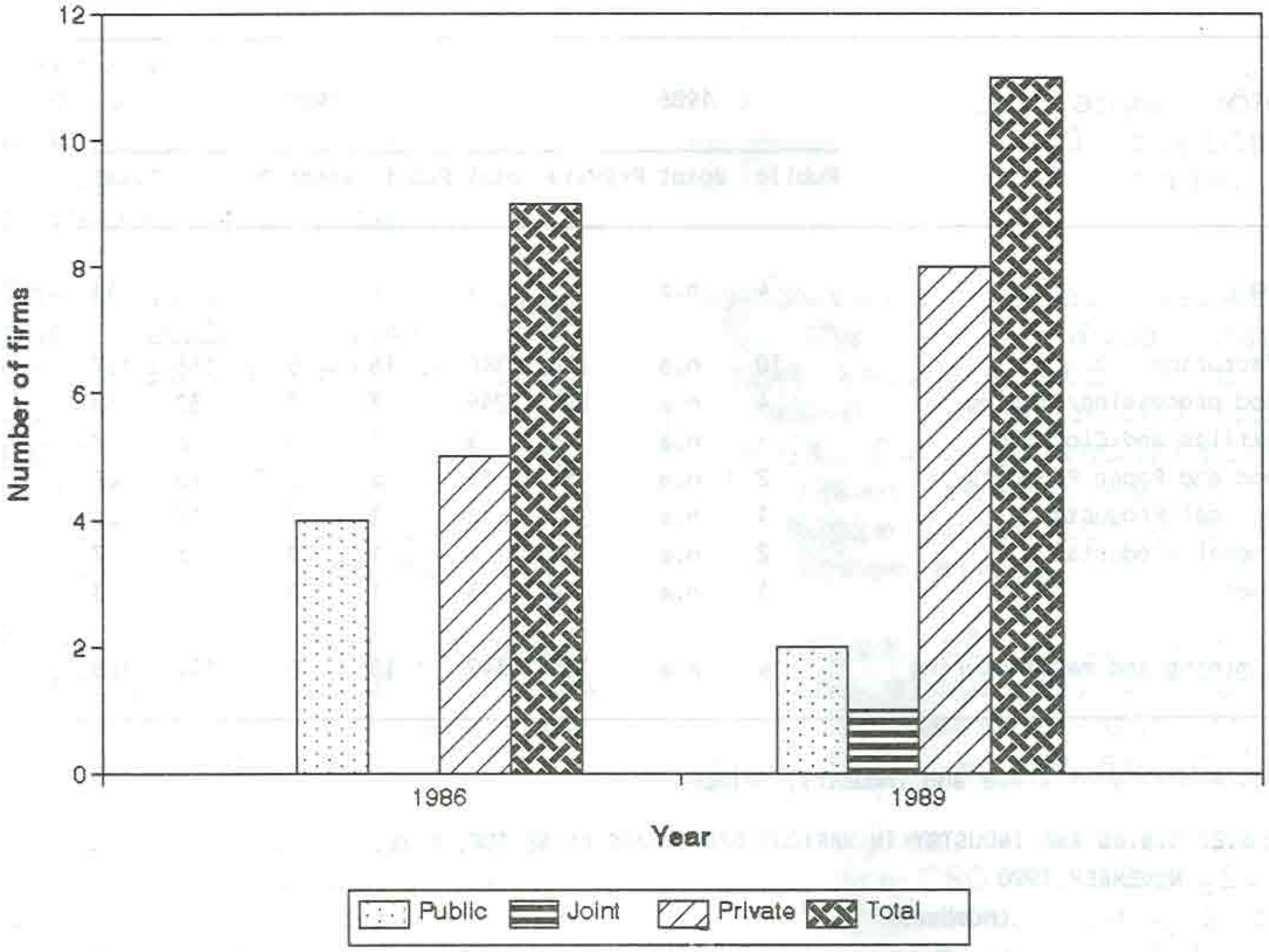
TABLE 6.2: MINING AND INDUSTRY IN VARIOUS DZONGKHAGS BY SECTOR, SIZE, NOVEMBER 1990

(numbers)

| Dzongkhag | Sector | | | | Size | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Private | Public | Joint | Total | Small | Medium | Large | Cottage | Total |
| Bjakar | 17 | 2 | 0 | 19 | 18 | 0 | 0 | 1 | 19 |
| Chhukha | 97 | 2 | 3 | 102 | 62 | 11 | 7 | 22 | 102 |
| Dagana | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gasa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Haa | 21 | 0 | 0 | 21 | 15 | 0 | 0 | 6 | 21 |
| Lhuntse | 7 | 0 | 0 | 7 | 7 | 0 | 0 | 0 | 7 |
| Mongar | 27 | 0 | 0 | 27 | 25 | 0 | 0 | 2 | 27 |
| Paro | 45 | 1 | 0 | 46 | 33 | 1 | 0 | 12 | 46 |
| Pemagatshel | 5 | 0 | 0 | 5 | 3 | 0 | 0 | 2 | 5 |
| Punakha | 11 | 0 | 0 | 11 | 8 | 0 | 0 | 3 | 11 |
| Samdrupjongkhar | 55 | 3 | 1 | 60 | 14 | 1 | 5 | 40 | 60 |
| Samtse | 22 | 2 | 3 | 27 | 15 | 3 | 3 | 6 | 27 |
| Sarpang | 44 | 3 | 0 | 47 | 22 | 1 | 1 | 23 | 47 |
| Thimphu | 196 | 6 | 5 | 207 | 140 | 5 | 3 | 59 | 207 |
| Trashigang | 20 | 1 | 0 | 21 | 10 | 0 | 0 | 11 | 21 |
| Trashiyangtse | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Trongsa | 5 | 0 | 0 | 5 | 1 | 1 | 0 | 3 | 5 |
| Tsirang | 12 | 0 | 0 | 12 | 7 | 0 | 0 | 5 | 12 |
| Wangduephodrang | 10 | 0 | 0 | 10 | 8 | 0 | 0 | 2 | 10 |
| Zhemgang | 9 | 0 | 0 | 9 | 5 | 0 | 0 | 4 | 9 |
| Dzongkhag not identified | 106 | 0 | 0 | 106 | 106 | 0 | 0 | 0 | 106 |
| Total | 710 | 20 | 12 | 742 | 499 | 23 | 19 | 201 | 742 |

Source: Ministry of Trade and Industry, Thimphu

## Number of licensed mining firms




## Number of licensed manufacturing firms

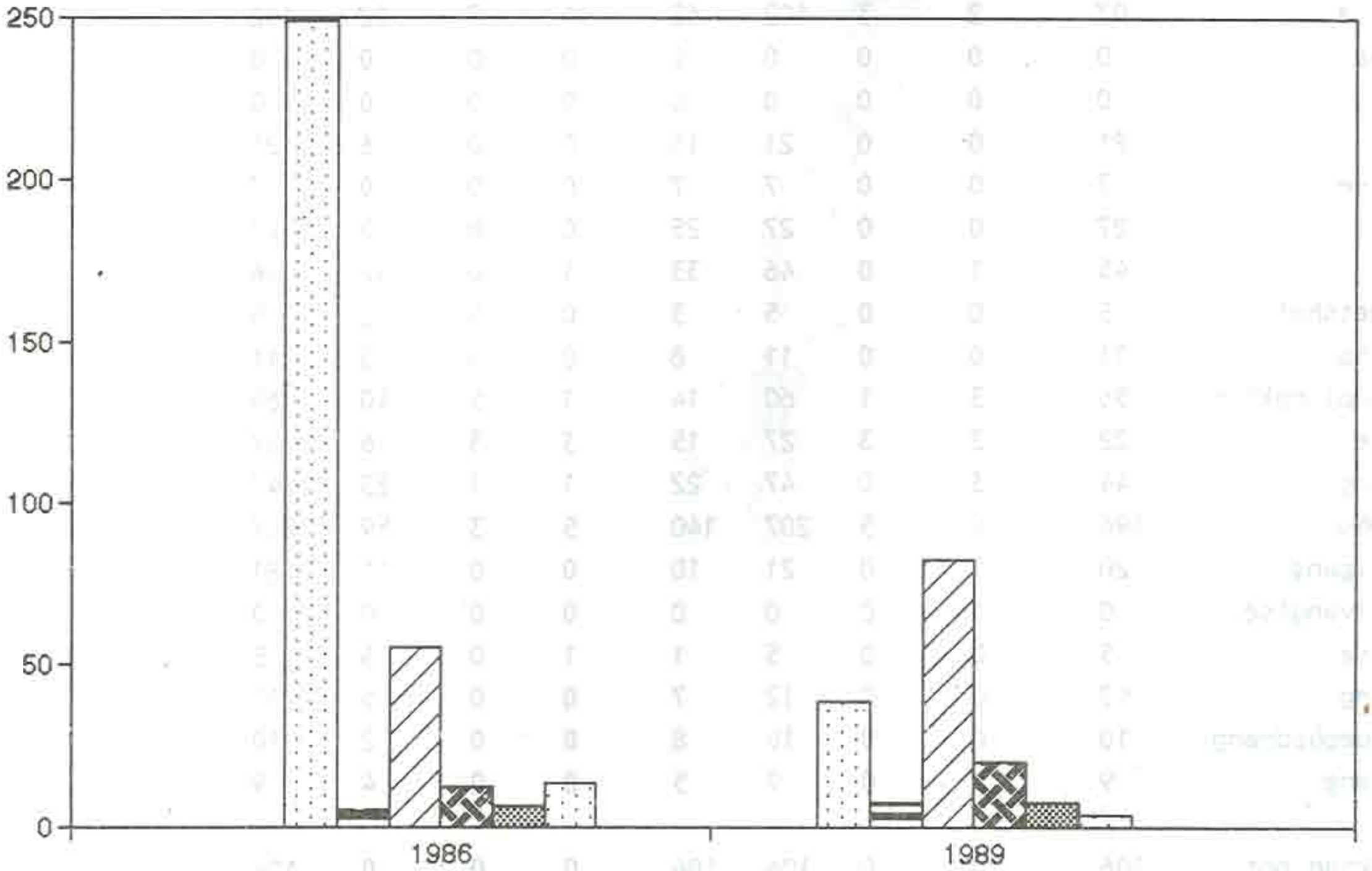


TABLE 6.3: MINING AND MANUFACTURING INDUSTRIES BY TYPE, NOVEMBER 1990

(numbers)

| Dzongkhag | Transport | Agro based | Forest based | Mineral based | Contract | Service | Others | Total |
|---|---|---|---|---|---|---|---|---|
| Bjakar | 0 | 2 | 9 | 0 | 7 | 1 | 0 | 19 |
| Chhukha | 5 | 11 | 27 | 5 | 21 | 17 | 16 | 0 |
| Dagana | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gasa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Haa | 4 | 0 | 7 | 0 | 10 | 0 | 0 | 21 |
| Lhuntse | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 |
| Mongar | 0 | 1 | 3 | 0 | 21 | 1 | 1 | 27 |
| Paro | 1 | 4 | 13 | 1 | 23 | 3 | 1 | 46 |
| Pemagatshel | 0 | 0 | 1 | 0 | 3 | 1 | 0 | 5 |
| Punakha | 0 | 2 | 1 | 0 | 8 | 0 | 0 | 11 |
| Samdrupjongkhar | 2 | 11 | 13 | 7 | 18 | 8 | 1 | 0 |
| Samtse | 0 | 6 | 2 | 11 | 5 | 1 | 2 | 0 |
| Sarpang | 0 | 13 | 9 | 4 | 8 | 8 | 5 | 47 |
| Thimphu | 3 | 6 | 29 | 5 | 135 | 20 | 9 | 0 |
| Trashigang | 0 | 2 | 8 | 0 | 8 | 2 | 1 | 21 |
| Trashiyangtse | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Trongsa | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 5 |
| Tsirang | 0 | 2 | 2 | 0 | 6 | 2 | 0 | 12 |
| Wangduephodrang | 0 | 0 | 1 | 0 | 5 | 2 | 2 | 10 |
| Zhemgang | 0 | 2 | 3 | 0 | 4 | 0 | 0 | 9 |
| Dzongkhag not identified | 0 | 0 | 0 | 0 | 106 | 0 | 0 | 106 |
| Total | 15 | 64 | 131 | 33 | 395 | 66 | 38 | 346 |

Source: Ministry of Trade and Industry, Thimphu

TABLE 6.4: NUMBER OF MINING AND MANUFACTURING INDUSTRIES BY EMPLOYMENT SIZE, 1989

(numbers)

| Industry | Employment size(persons) | | | | | | Total |
|---|---|---|---|---|---|---|---|
| | 1-5 | 6-9 | 10-19 | 20-49 | 50-59 | 100+ | |
| Mining and quarring | 2 | 0 | 0 | 5 | 0 | 4 | 11 |
| Manufacturing | 35 | 21 | 62 | 22 | 6 | 11 | 157 |
| Food, beverage and tobacco | 17 | 5 | 10 | 1 | 1 | 4 | 38 |
| Textile, wearing apparel etc. | 1 | 1 | 2 | 2 | 0 | 1 | 7 |
| Wood, wood products and furniture | 7 | 5 | 39 | 16 | 1 | 3 | 71 |
| Pulp, paper and printing | 3 | 3 | 3 | 1 | 1 | 0 | 11 |
| Chemical, rubber and plastics | 5 | 7 | 4 | 1 | 1 | 2 | 20 |
| Non-metalic mineral products | 2 | 0 | 2 | 0 | 2 | 1 | 7 |
| Metal products and other manufacturing | 0 | 0 | 2 | 1 | 0 | 0 | 3 |
| Total mining and manufacturing | 37 | 21 | 62 | 27 | 6 | 15 | 168 |

Source: Ministry of Trade & Industries, Thimphu

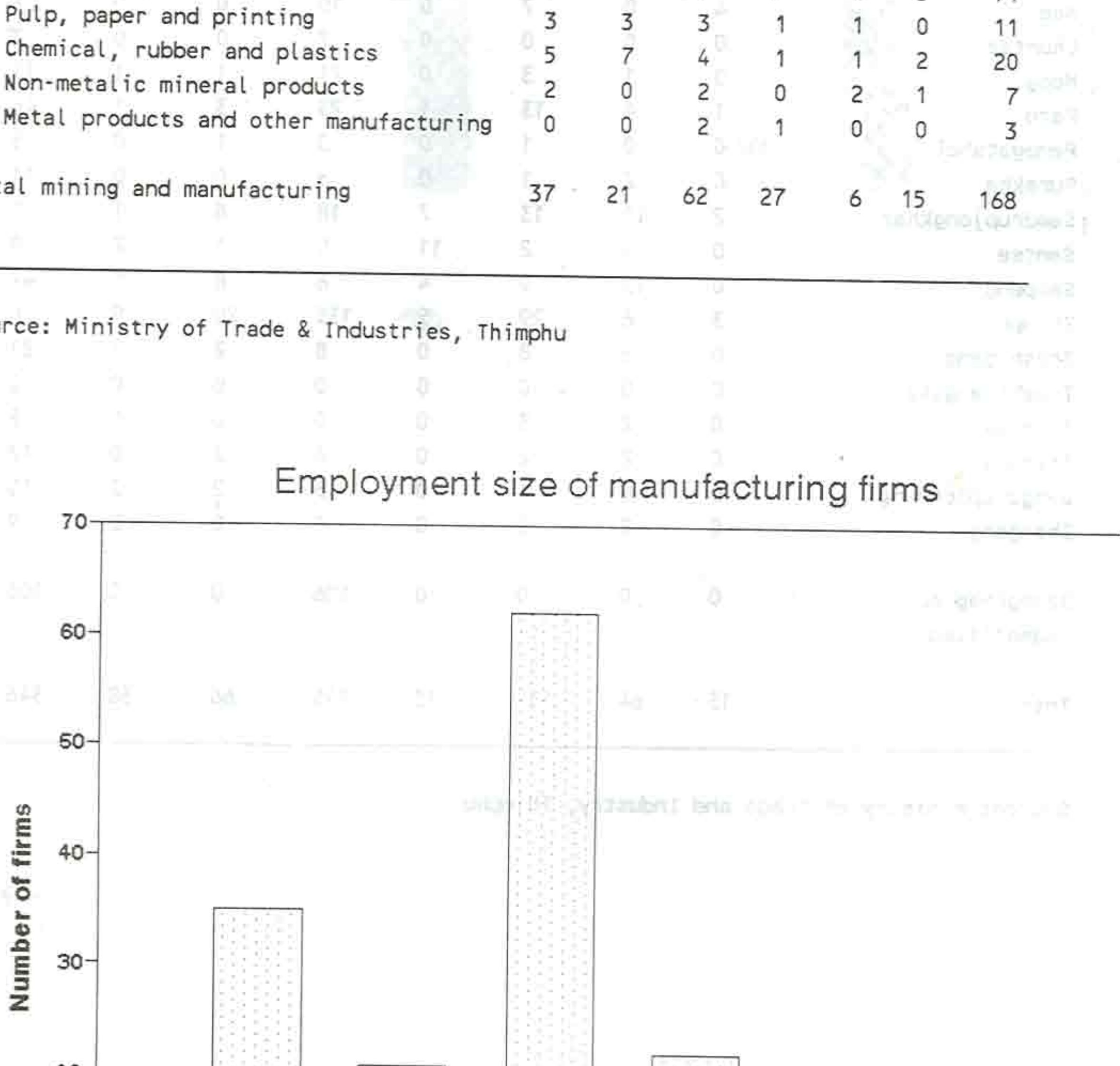


TABLE 6.5: PERCENTAGE OF EMPLOYEES BY NATIONALITY IN MINING AND MANUFACTURING INDUSTRIES, 1989

(percent)

| Industry | Employees | | |
|---|---|---|---|
| | National | Non national | Total |
| Mining and quarrying | 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 |

Source: Ministry of Trade and Industry, Thimphu

TABLE 6.6: PRODUCTION OF MINES AND MINERALS, 1990 TO 1992

('000 metric tonnes)

| Minerals | 1990 | 1991 | 1992 |
|---|---|---|---|
| Dolomites | 190.4 | 273.4 | 284.8 |
| Lime stone | 138.3 | 220.0 | 170.0 |
| Gypsum | 40.0 | 27.0 | 25.0 |
| Slate mines ('000 sq. ft.) | 201.3 | 164.0 | 30.4 |
| Coal mines | 20.1 | 44.8 | 56.2 |
| Marbles | | | |
| Chips | n.a | 10.2 | 8.1 |
| Slabs ('000 sq. ft.) | n.a | 10.0 | 34.9 |

Source: Geology and Mines Division, Thimphu

# CHAPTER 7: TRANSPORT AND COMMUNICATION

## INTRODUCTION

The importance of road transport has grown with the expansion the road network, and there are an extensive bus services betw the most centers in the kingdom. Bus transport combines both pub and private enterprise. Civil aviation arrived in Bhutan with establishment of Druk Air Corporation and its commencement operations in 1983 on the Paro to Calcutta sector. Services w extended to cover the Paro to Dhaka sector in 1986; Paro to De in 1988; Paro to Bangkok and Paro to Kathmandu in 1989.

The postal services has a large network so that the majority of population now have reasonable access to mail services. Teleph services have also been considerably expanded and telex exchan and faxcimile services installed at main centres. An extens civil wireless system also exist servicing many remote centres

TABLE 7.1: ROAD NETWORK IN BHUTAN BY TYPE, 1992

(length km)

| Type of road | National highway | District roads | Feeder roads | All roads |
|---|---|---|---|---|
| Black topped | 1,404.42 | 299.00 | 193.42 | 1,896.84 |
| Non-black topped | 86.58 | 144.00 | 334.16 | 564.74 |
| Total | 1,491.00 | 443.00 | 527.58 | 2,461.58 |

Source: Public Work Divison, Thimphu

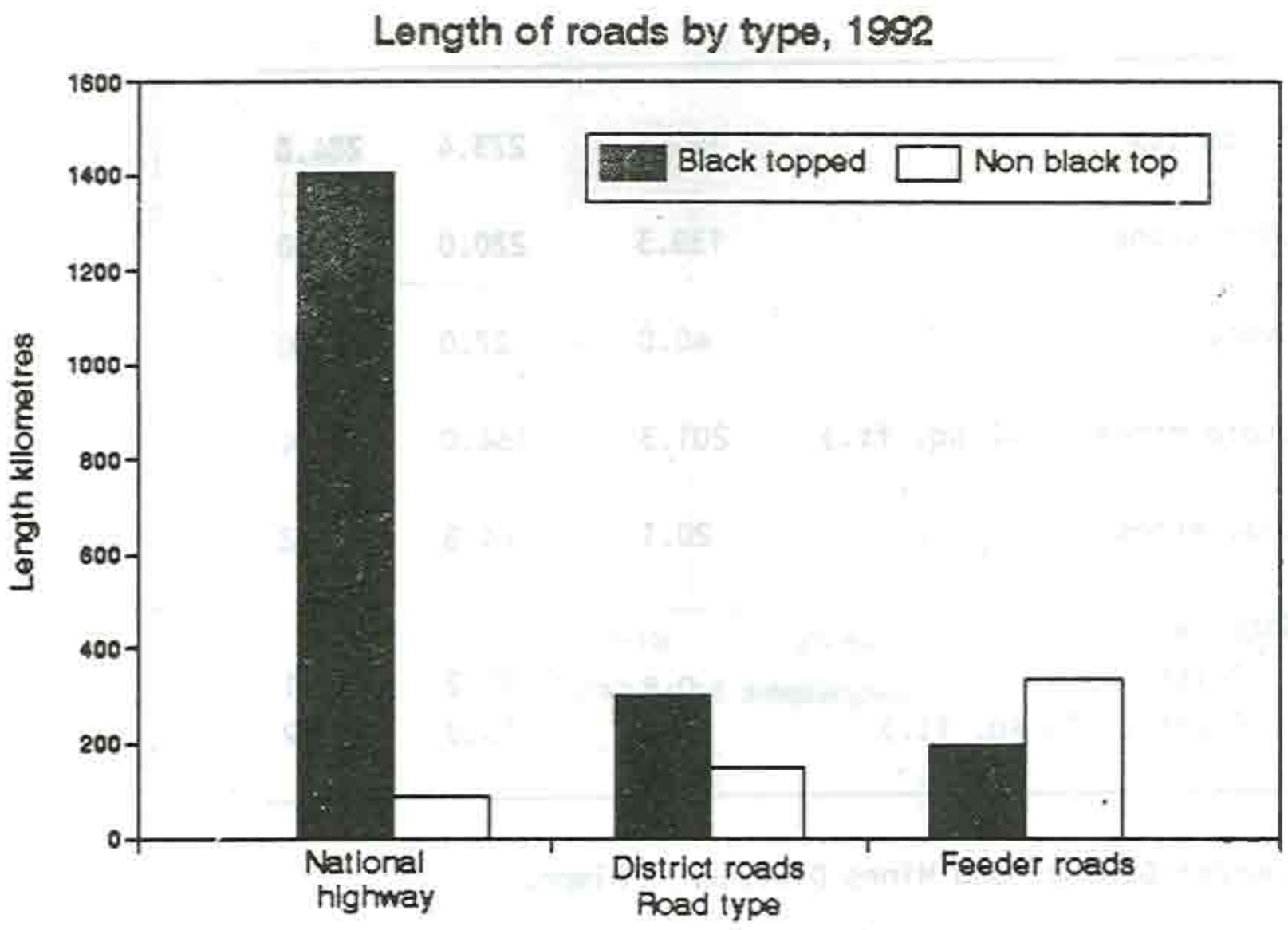
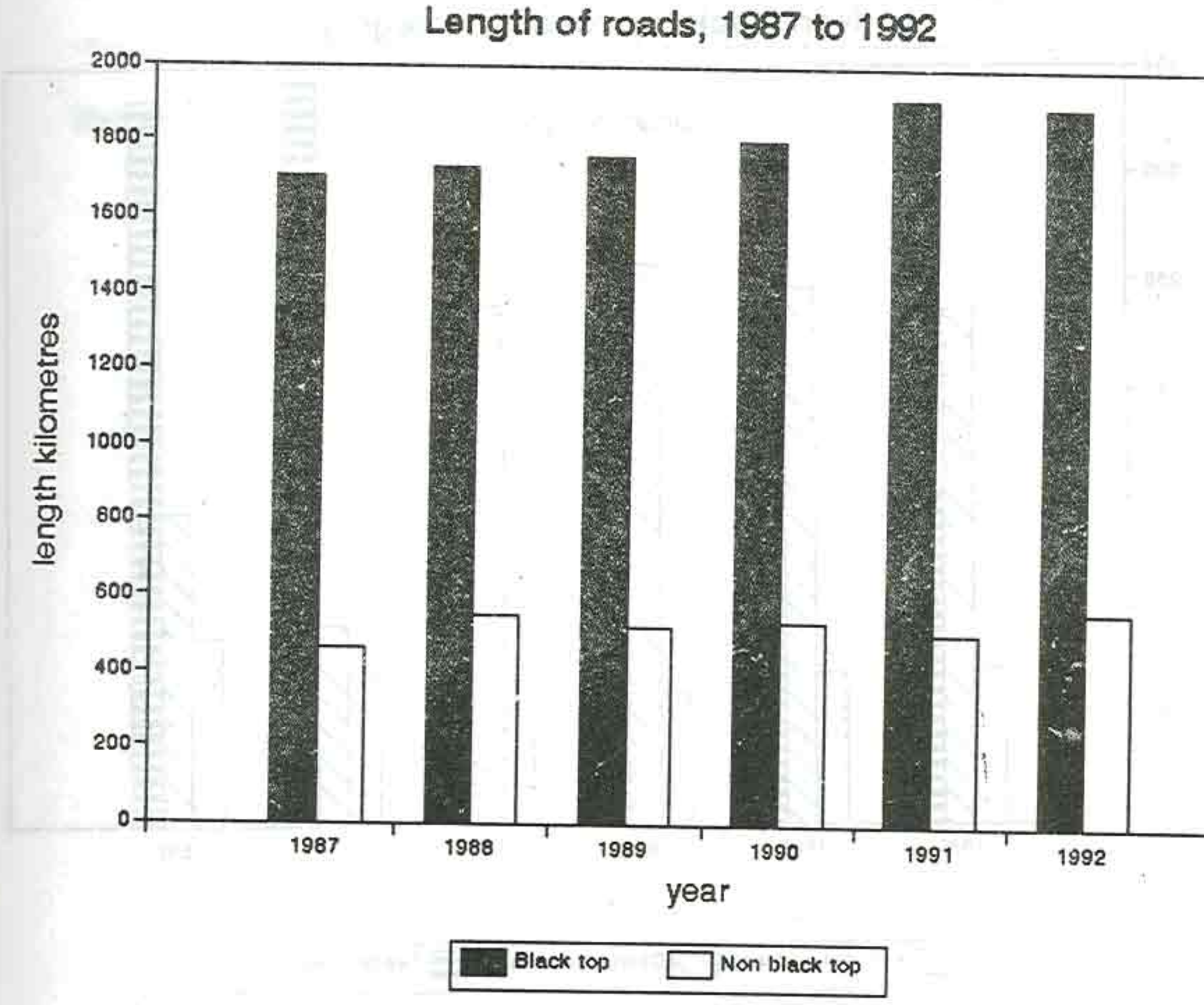


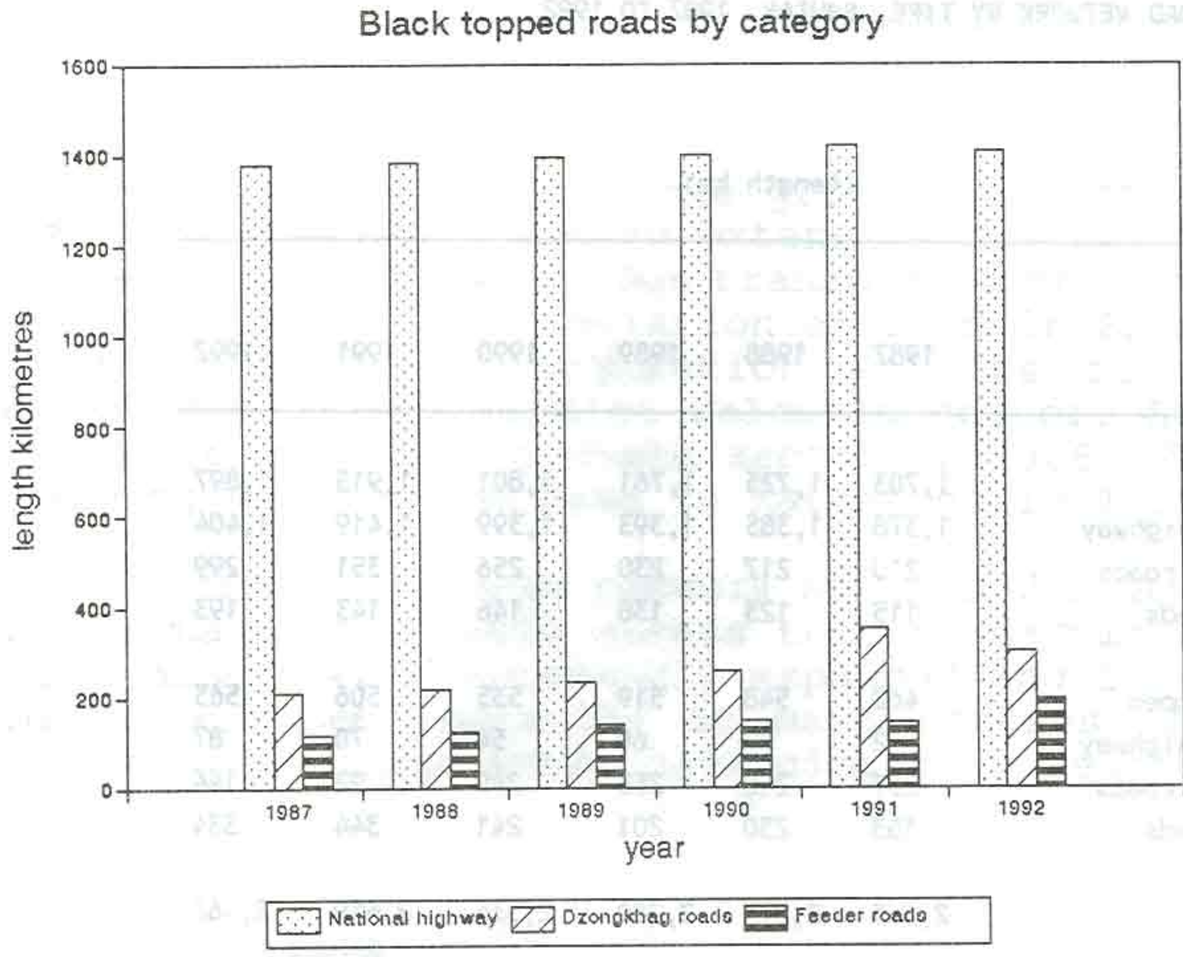
TABLE 7.2: ROAD NETWORK BY TYPE, BHUTAN, 1987 TO 1992

(length km)

| Type of road | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|
| Black topped | 1,703 | 1,725 | 1,761 | 1,801 | 1,913 | 1,897 |
| National highway | 1,378 | 1,385 | 1,393 | 1,399 | 1,419 | 1,404 |
| Dzongkhag roads | 210 | 217 | 230 | 256 | 351 | 299 |
| Feeder roads | 115 | 123 | 138 | 146 | 143 | 193 |
| Non-black topped | 462 | 548 | 519 | 535 | 506 | 565 |
| National highway | 72 | 70 | 60 | 54 | 70 | 87 |
| Dzongkhag roads | 237 | 248 | 258 | 240 | 92 | 144 |
| Feeder roads | 153 | 230 | 201 | 241 | 344 | 334 |
| Total | 2,165 | 2,273 | 2,280 | 2,336 | 2,419 | 2,462 |

Source: Public Work Divison, Thimphu




Black topped roads by category
length kilometres
1600
1400
1200
1000
800
600
400
200
0
1987
1988
1989
1990
1991
1992
year
National highway
Dzongkhag roads
Feeder roads

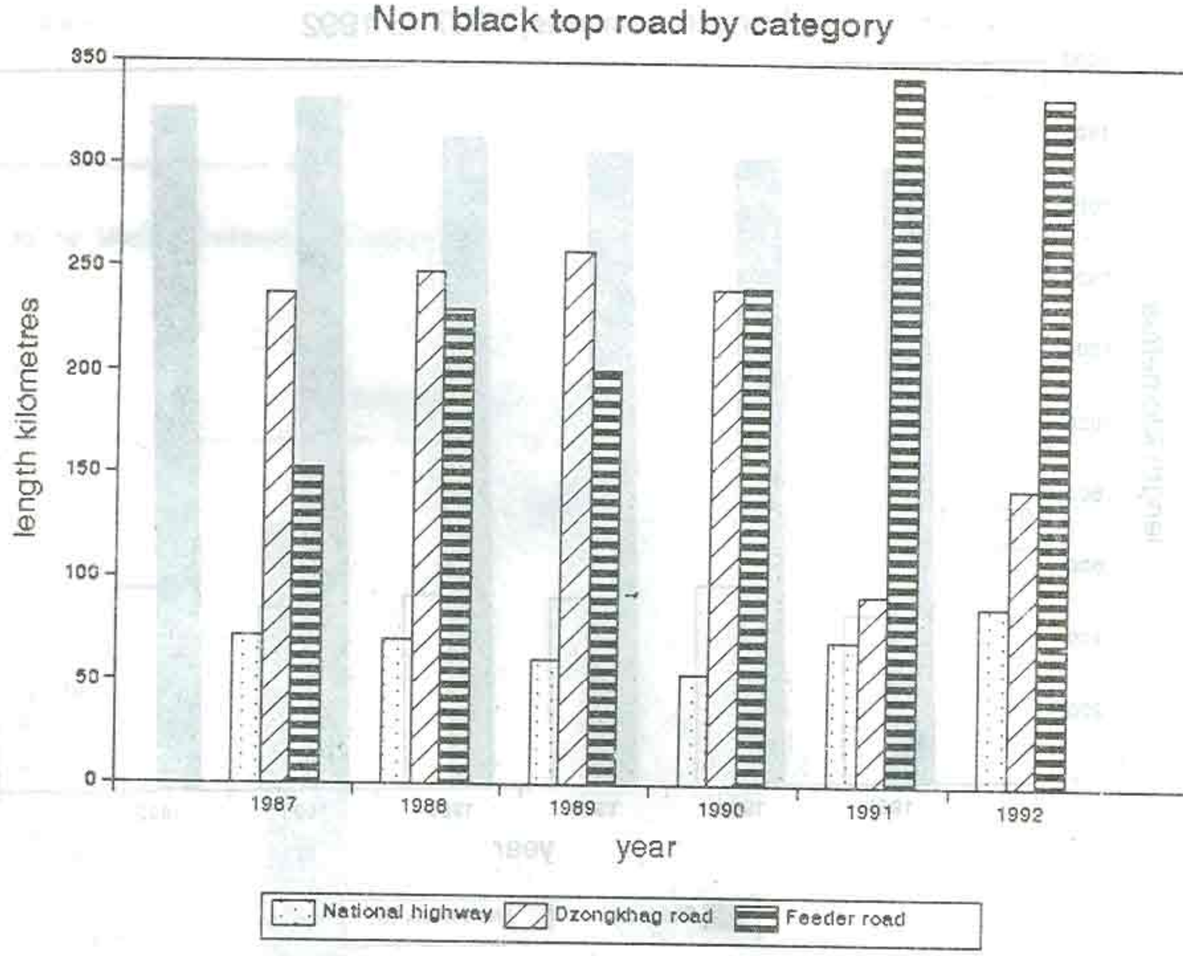

Non black top road by category
length kilometres
350
300
250
200
150
100
50
0
1987
1988
1989
1990
1991
1992
year
National highway
Dzongkhag road
Feeder road

TABLE 7.3: ROAD NETWORK BY TYPE AND DZONGKHAG, BHUTAN, 1992

(length km.)

| Dzongkhag | National highway | District road | Feeder road | All roads |
|---|---|---|---|---|
| Bjakar | 122.00 | - | 25.00 | 147.00 |
| Chhukha | 157.00 | 22.00 | 48.00 | 227.00 |
| Dagana | 22.00 | 87.00 | - | 109.00 |
| Gasa | - | - | 1.50 | 1.50 |
| Haa | 15.00 | 11.00 | 16.00 | 42.00 |
| Lhuntse | - | 47.00 | 10.00 | 57.00 |
| Mongar | 177.00 | 20.00 | 29.00 | 226.00 |
| Paro | 104.00 | 51.00 | 8.50 | 163.50 |
| Pemagatshel | - | 23.00 | 18.38 | 41.38 |
| Punakha | 12.00 | - | 66.00 | 78.00 |
| Samdrupjongkhar | 59.00 | 48.00 | 7.00 | 114.00 |
| Samtse | - | 84.00 | 13.00 | 97.00 |
| Sarpang | 110.00 | - | 40.90 | 150.90 |
| Thimphu | 102.00 | - | 62.50 | 164.50 |
| Trashigang | 141.00 | 10.00 | 92.80 | 243.80 |
| Trashiyangtse | - | 40.00 | 8.00 | 48.00 |
| Trongsa | 145.00 | - | - | 145.00 |
| Tsirang | 64.00 | - | 24.00 | 88.00 |
| Wangduephodrang | 119.00 | - | 57.00 | 176.00 |
| Zhemgang | 142.00 | - | - | 142.00 |
| Bhutan | 1,491.00 | 443.00 | 527.58 | 2,461.58 |

Source: Public Works Divison, Thimphu

TABLE 7.4: NUMBER OF REGISTERED VEHICLES BY REGION, 1990 TO 1992

(numbers)

| Region | Type of Vehicle | | | | |
|---|---|---|---|---|---|
| | Heavy | Light | 2-wheller | Taxi | Total |
| 1990 | 3,059 | 4,372 | 4,100 | 385 | 11,916 |
| Thimphu | 1,604 | 3,092 | 3,678 | 338 | 8,712 |
| Gaylegphug | 143 | 598 | 0 | 14 | 755 |
| Phuentsholing | 1,279 | 671 | 371 | 33 | 2,354 |
| Samdrupjongkhar | 33 | 11 | 51 | 0 | 95 |
| 1991 | 3,259 | 4,857 | 4,681 | 447 | 13,244 |
| Thimphu | 1,671 | 3,471 | 4,100 | 378 | 9,620 |
| Gaylegphug | 143 | 598 | 0 | 14 | 755 |
| Phuentsholing | 1,406 | 780 | 520 | 55 | 2,761 |
| Samdrupjongkhar | 39 | 8 | 61 | 0 | 108 |
| Total | | | | | |
| 1992 | 3,424 | 5,282 | 5,028 | 534 | 14,268 |
| Thimphu | 1,726 | 3,829 | 4,345 | 428 | 10,328 |
| Gaylegphug | 143 | 598 | 0 | 14 | 755 |
| Phuentsholing | 1,516 | 847 | 622 | 92 | 3,077 |
| Samdrupjongkhar | 39 | 8 | 61 | 0 | 108 |

Source: Division of Revenue and Customs, Thimphu

TABLE 7.5: NUMBER OF NEW MOTOR VEHICLE DRIVING LICENCES ISSUED (a) BY TYPE OF VEHICLE, 1985 TO 1992

(numbers)

| Type of vehicle | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|
| Two Wheelers | 105 | 179 | 324 | 163 | 465 | 103 | 523 | 159 |
| Light | 322 | 531 | 507 | 373 | 691 | 606 | 665 | 316 |
| Medium | 30 | 18 | 39 | 41 | 57 | 52 | 51 | 19 |
| Heavy | 87 | 131 | 187 | 65 | 63 | 50 | 77 | 21 |
| Other(b) | 32 | 44 | 34 | 82 | 132 | 161 | 76 | n.a |
| All vehicles | 576 | 903 | 1,091 | 724 | 1,408 | 972 | 1,392 | 515 |

(a) The figures refer to new licences issued during the year excluding renewals. The figures do not refer to the total number of licensed drivers (b) Includes road rollers, tractors and bulldozers.

Source: Royal Bhutan Police

TABLE 7.6: PASSENGERS CARRIED BY BHUTAN GOVERNMENT TRANSPORT SERVICE, 1982/83 TO 1991/92

| Year | Passengers carried ('000) |
|---|---|
| 1982/83 | 1045 |
| 1983/84 | 1149 |
| 1984/85 | 1264 |
| 1985/86 | 1239 |
| 1986/87 | 1142 |
| 1987/88 | 1228 |
| 1988/89 | 1230 |
| 1991/92 | 972 |

Source: Bhutan Government Transport Service

(numbers)

| Traffic division | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|
| Tsimakothi | 31 | 35 | 24 | 14 | 20 | 26 | 11 |
| Geylephug | 12 | 17 | 7 | 19 | 23 | 9 | 12 |
| Mongar | 1 | 5 | 6 | 8 | 4 | 6 | 8 |
| Phuentsholing | 39 | 23 | 14 | 38 | 40 | 19 | 30 |
| Samdrupjongkhar | 15 | 15 | 25 | 21 | 14 | 15 | 21 |
| Samtse | 4 | 8 | 7 | 7 | 8 | 5 | 3 |
| Thimphu | 105 | 144 | 142 | 154 | 105 | 107 | 127 |
| Trashigang | 5 | 11 | 14 | 10 | 6 | 13 | 11 |
| Trongsa | 9 | 9 | 12 | 19 | 27 | 14 | 23 |
| Tsirang | 1 | 8 | 3 | 9 | 5 | 5 | 9 |
| Total accidents | 222 | 275 | 254 | 299 | 252 | 219 | 255 |

Source: Royal Bhutan Police, Thimphu

(numbers)

| Sector | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|
| Passenger carried(a) | 11,625 | 15,831 | 18,144 | 19,041 |
| Paro to Calcutta | 1,782 | 1,745 | 1,390 | 977 |
| Calcutta to Paro | 1,555 | 1,366 | 1,209 | 932 |
| Paro to Bangkok | 843 | 1,558 | 2,488 | 2,689 |
| Bangkok to Paro | 927 | 1,763 | 2,544 | 2,980 |
| Paro to Dhaka | 152 | 398 | 620 | 726 |
| Dhaka to Paro | 211 | 482 | 676 | 722 |
| Paro to Delhi | 2,593 | 3,189 | 2,710 | 2,843 |
| Delhi to Paro | 2,547 | 3,324 | 3,026 | 2,859 |
| Paro to Kathmandu | 513 | 1,059 | 1,846 | 2,181 |
| Kathmandu to Paro | 502 | 947 | 1,635 | 2,132 |
| Number of flights | 697 | 653 | 892 | 902 |
| Paro to Calcutta | 131 | 62 | 53 | 57 |
| Calcutta to Paro | 129 | 63 | 53 | 56 |
| Paro to Bangkok | 40 | 56 | 98 | 101 |
| Bangkok to Paro | 40 | 56 | 98 | 101 |
| Paro to Dhaka | 48 | 55 | 91 | 62 |
| Dhaka to Paro | 48 | 55 | 91 | 66 |
| Paro to Delhi | 95 | 98 | 102 | 111 |
| Delhi to Paro | 95 | 99 | 102 | 111 |
| Paro to Kathmandu | 35 | 54 | 102 | 119 |
| Kathmandu to Paro | 36 | 55 | 102 | 118 |
| Revenue (millions Nu.) | 58.07 | 62.85 | 70.97 | 112.10 |
| Fiscal year | 1988/89 | 1989/90 | 1990/91 | 1991/92 |

(a) Number of passangers include only paying passangers

Source: Druk Air Corporation Ltd., Thimphu

(numbers)

| Traffic division | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|
| Tsimakothi | 31 | 35 | 24 | 14 | 20 | 26 | 11 |
| Geylephug | 12 | 17 | 7 | 19 | 23 | 9 | 12 |
| Mongar | 1 | 5 | 6 | 8 | 4 | 6 | 8 |
| Phuentsholing | 39 | 23 | 14 | 38 | 40 | 19 | 30 |
| Samdrupjongkhar | 15 | 15 | 25 | 21 | 14 | 15 | 21 |
| Samtse | 4 | 8 | 7 | 7 | 8 | 5 | 3 |
| Thimphu | 105 | 144 | 142 | 154 | 105 | 107 | 127 |
| Trashigang | 5 | 11 | 14 | 10 | 6 | 13 | 11 |
| Trongsa | 9 | 9 | 12 | 19 | 27 | 14 | 23 |
| Tsirang | 1 | 8 | 3 | 9 | 5 | 5 | 9 |
| Total accidents | 222 | 275 | 254 | 299 | 252 | 219 | 255 |

Source: Royal Bhutan Police, Thimphu

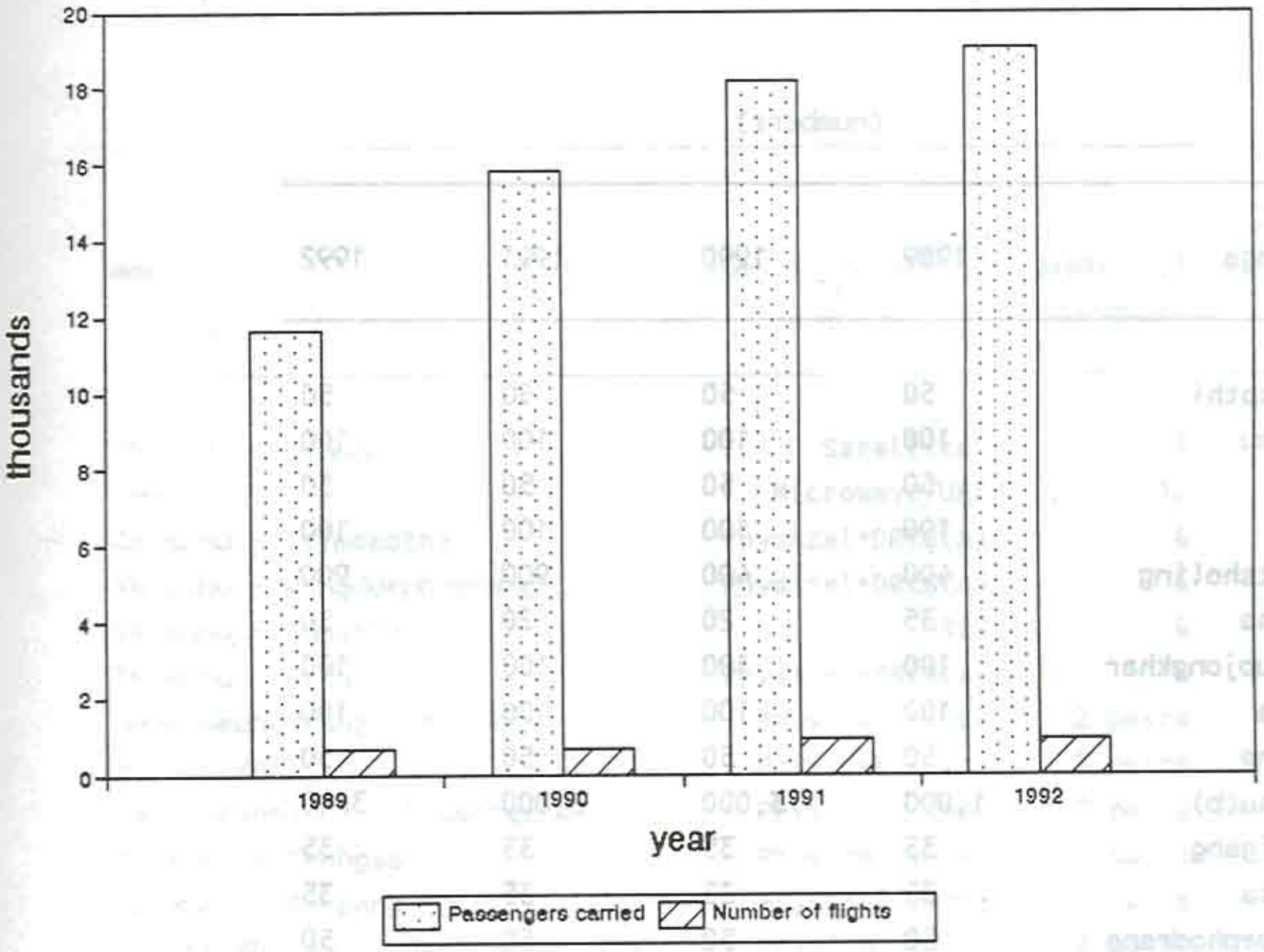
(numbers)

| Sector | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|
| Passenger carried(a) | 11,625 | 15,831 | 18,144 | 19,041 |
| Paro to Calcutta | 1,782 | 1,745 | 1,390 | 977 |
| Calcutta to Paro | 1,555 | 1,366 | 1,209 | 932 |
| Paro to Bangkok | 843 | 1,558 | 2,488 | 2,689 |
| Bangkok to Paro | 927 | 1,763 | 2,544 | 2,980 |
| Paro to Dhaka | 152 | 398 | 620 | 726 |
| Dhaka to Paro | 211 | 482 | 676 | 722 |
| Paro to Delhi | 2,593 | 3,189 | 2,710 | 2,843 |
| Delhi to Paro | 2,547 | 3,324 | 3,026 | 2,859 |
| Paro to Kathmandu | 513 | 1,059 | 1,846 | 2,181 |
| Kathmandu to Paro | 502 | 947 | 1,635 | 2,132 |
| Number of flights | 697 | 653 | 892 | 902 |
| Paro to Calcutta | 131 | 62 | 53 | 57 |
| Calcutta to Paro | 129 | 63 | 53 | 56 |
| Paro to Bangkok | 40 | 56 | 98 | 101 |
| Bangkok to Paro | 40 | 56 | 98 | 101 |
| Paro to Dhaka | 48 | 55 | 91 | 62 |
| Dhaka to Paro | 48 | 55 | 91 | 66 |
| Paro to Delhi | 95 | 98 | 102 | 111 |
| Delhi to Paro | 95 | 99 | 102 | 111 |
| Paro to Kathmandu | 35 | 54 | 102 | 119 |
| Kathmandu to Paro | 36 | 55 | 102 | 118 |
| Revenue (millions Nu.) | 58.07 | 62.85 | 70.97 | 112.10 |
| Fiscal year | 1988/89 | 1989/90 | 1990/91 | 1991/92 |

(a) Number of passangers include only paying passangers

Source: Druk Air Corporation Ltd., Thimphu

## Druk Air flight and passengers carried




## Revenue earned by Druk Air

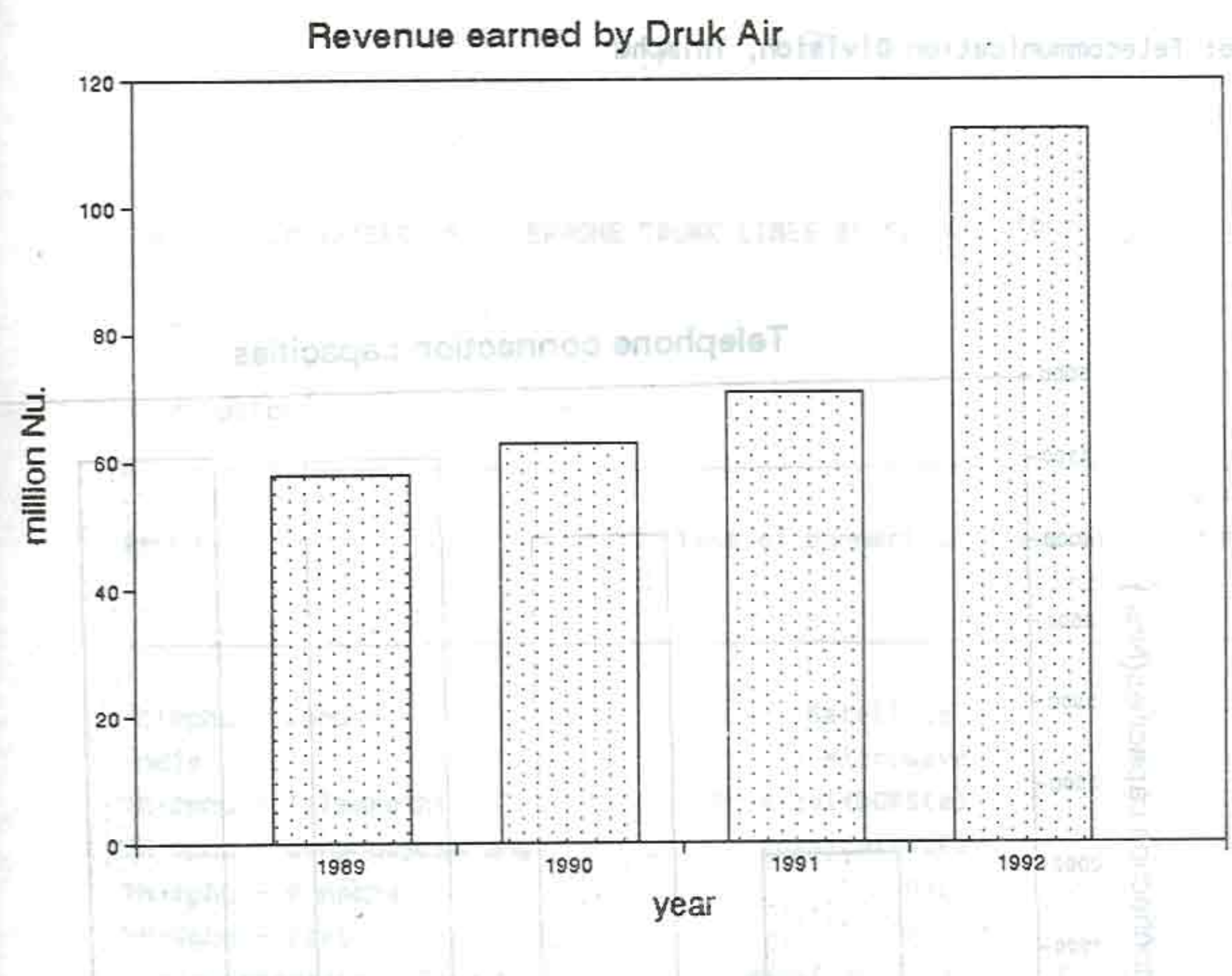


TABLE 7.9: TELEPHONE CONNECTION CAPACITY BY EXCHANGE (a), 1989 TO 1992

(numbers)

| Exchange | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|
| Tsimakothi | 50 | 50 | 50 | 50 |
| Gelephu | 100 | 100 | 100 | 100 |
| Haa | 50 | 50 | 50 | 50 |
| Paro | 100 | 100 | 100 | 100 |
| Phuentsholing | 400 | 400 | 900 | 900 |
| Punakha | 35 | 20 | 20 | 50 |
| Samdrupjongkhar | 100 | 100 | 100 | 100 |
| Samtse | 100 | 100 | 100 | 100 |
| Sarpang | 50 | 50 | 50 | 50 |
| Thimphu(b) | 1,000 | 3,000 | 3,000 | 3000 |
| Trashigang | 35 | 35 | 35 | 35 |
| Trongsa | 35 | 35 | 35 | 35 |
| Wangduephodrang | 50 | 50 | 50 | 50 |
| Total capacity | 2,105 | 4,090 | 4,590 | 4,620 |

(a) While figures refer to connection capacity, they should reasonably reflect the number of telephone sets in use
(b) Actual number of subscribers in 1992 were 2,100 against 3,000 connection capacity

Source: Telecommunication Division, Thimphu

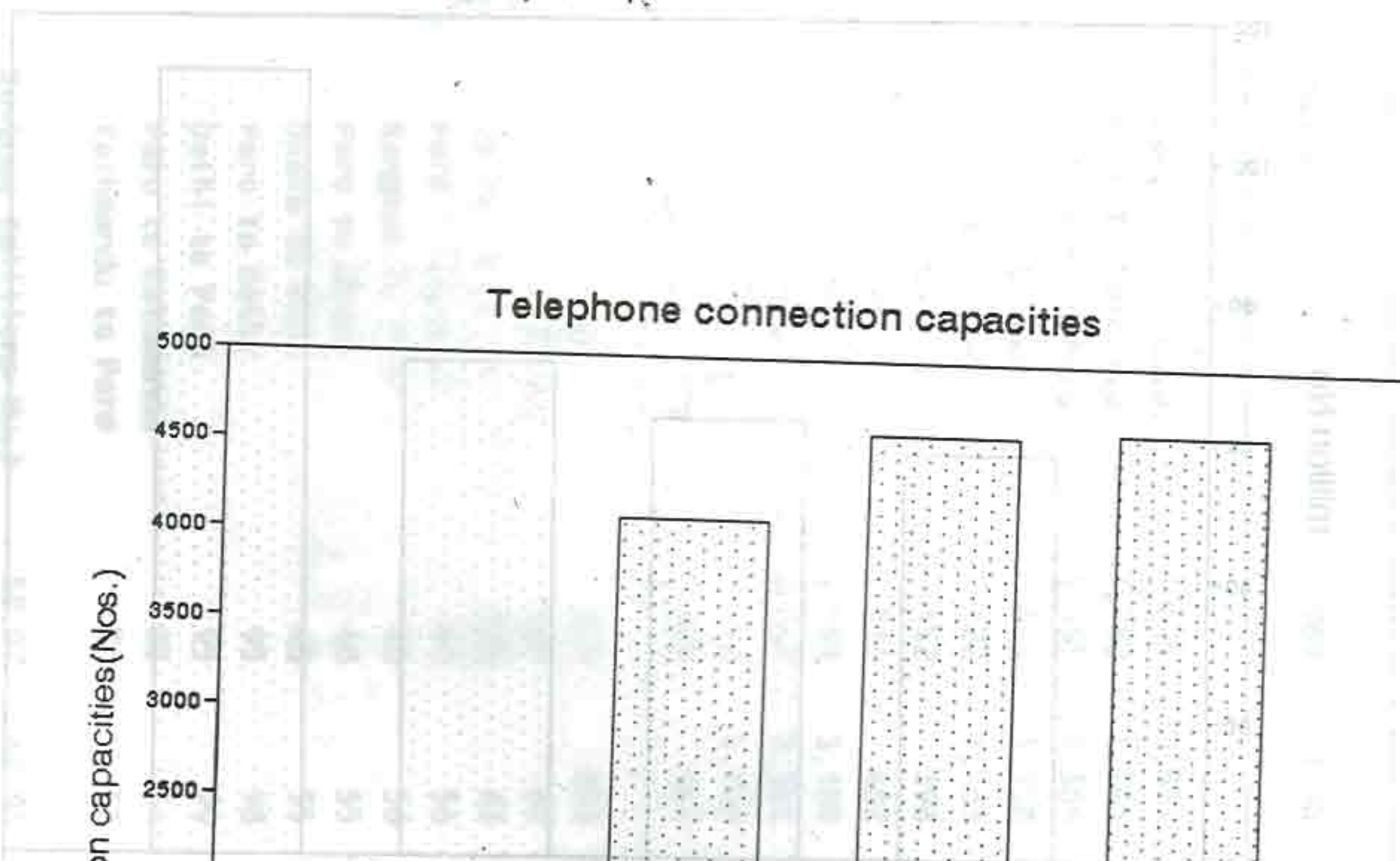


TABLE 7.10: NUMBER OF TELEPHONE TRUNK LINES BY SECTOR, 1991

| Sector | Type of connection | Number of circuits | Distance km (for physical line) |
|---|---|---|---|
| Thimphu - London | Satellite | 3 | .. |
| India | Microwave/UHF | 12 | .. |
| Thimphu - Tsimakothi | Physical+DRCS(a) | 4 | .. |
| Thimphu - Wangduephodrang | Physical+DRCS(a) | 4 | .. |
| Thimphu - Punakha | DRCS | 4 | .. |
| Thimphu - Paro | Physical+DRCS(a) | 4 | .. |
| Wangduephodrang - Punakha | Physical lines | 2 pairs | 10 |
| Paro - Ha | Physical lines | 2 pairs | 30 |
| Samdrupjongkha - Trashigang | Physical lines | 2 pairs | 160 |
| Gelephu - Trongsa | Physical lines | 2 pairs | 200 |
| Gelephu - Sarpang | Physical lines | 2 pairs | 40 |
| Samtse(Bhutan) - Banarhat(India) | Physical lines | 2 pairs | 2 |

(a) DRCS stands for Digital Radio Concentrator System

continues...

Source: Division of Telecommunication, Thimphu

TABLE 7.10: NUMBER OF TELEPHONE TRUNK LINES BY SECTOR, 1992

continuaton

| Sector | Type of connection | Number of circuits | Distance Km (for physical line) |
|---|---|---|---|
| Thimphu - London | Satellite | 6 | .. |
| India | Microwave | 30 | .. |
| Thimphu - Tsimakothi | Physical+DCRS(a) | 1 | n.a |
| Thimphu - Wangduephodrang | Physical+DCRS | 4 | n.a |
| Thimphu - Punakha | DRCS | 4 | .. |
| Thimphu - Paro | DRCS | 5 | .. |
| Wangduephodrang - Punakha | Physical lines | 2 pairs | 10 |
| Paro - Ha | Physical lines | 2 pairs | 30 |
| Samdrupjongkha - Trashigang | Physical lines | 2 pairs | 160 |
| Gelephu - Trongsa | Physical lines | 2 pairs | 200 |
| Gelephu - Sarpang | Physical lines | 2 pairs | 40 |
| Samtse - Banarhat(India) | Physical lines | 2 pairs | 2 |

(a) DRCS stands for Digital Radio Concentrator System

end

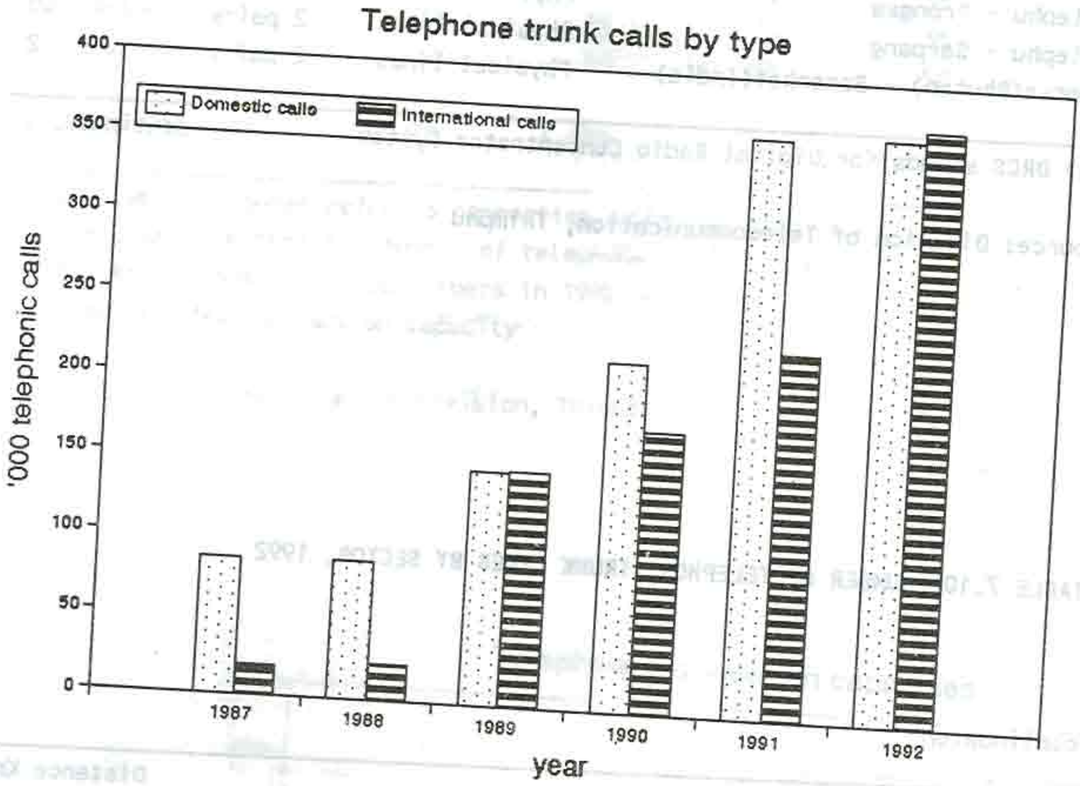
Source: Division of Telecommunication, Thimphu

TABLE 7.11: NUMBER OF TELEPHONE TRUNK CALLS BY TYPE, 1987 TO 1992

(thousand)

| Type of call | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|
| Domestic calls | 85 | 86 | 146 | 218 | 362 | 365 |
| International calls | 18 | 22 | 147 | 176 | 228 | 372 |
| India | 15 | 18 | 97 | 116 | 147 | 232 |
| Other | 3 | 4 | 51 | 60 | 82 | 141 |
| All calls | 103 | 108 | 293 | 394 | 590 | 737 |

Source: Division of Telecommunication, Thimphu



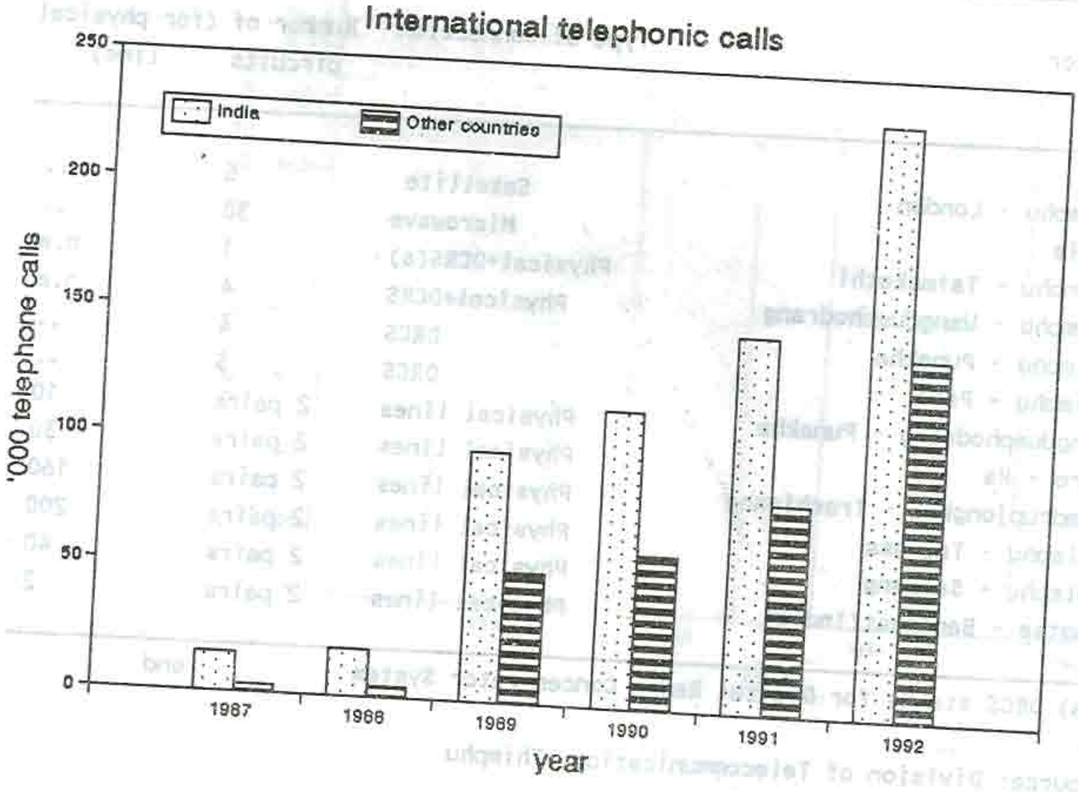



TABLE 7.13: VOLUME OF MAIL TRAFFIC BY TYPE OF SERVICE, 1980 TO 1992

('000 items)

| Type of service | 1980 | 1985 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|
| Domestic | 2,865 | 5,934 | 2,190 | 2,299 | 1,483 |
| International | 1,284 | 3,821 | 1,709 | 1,801 | 356 |
| Dispatch | n.a | n.a | n.a | n.a | 148 |
| Receipt | n.a | n.a | n.a | n.a | 207 |
| Total mail items | 4,149 | 9,755 | 3,899 | 4,099 | 1,839 |

Source: Division of Post & Telegraph, Thimphu

TABLE 7.12: NUMBER OF POST OFFICES AND COMMUNICATION FACILITIES, 1980 TO 1992

(numbers)

| Infrastructure type | 1980 | 1985 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|
| General Post Offices | 2 | 2 | 2 | 2 | 2 |
| Post Offices | 52 | 53 | 59 | 59 | 59 |
| Branch Post Offices | 27 | 29 | 25 | 25 | 22 |
| Agency Post Offices | .. | .. | .. | .. | .. |
| Telegraph or Fax Offices | 8 | 9 | 8 | 8 | 8 |
| Wireless Stations(a) | 28 | 36 | 39 | 39 | 47 |
| Hydromet Stations(b) | 5 | 8 | 27 | 27 | 27 |

(a) Includes three stations installed at New Delhi, Dhaka and Kalimpong. (b) includes 17 part time observations

Source: Division of Post and Telegraph, Thimphu

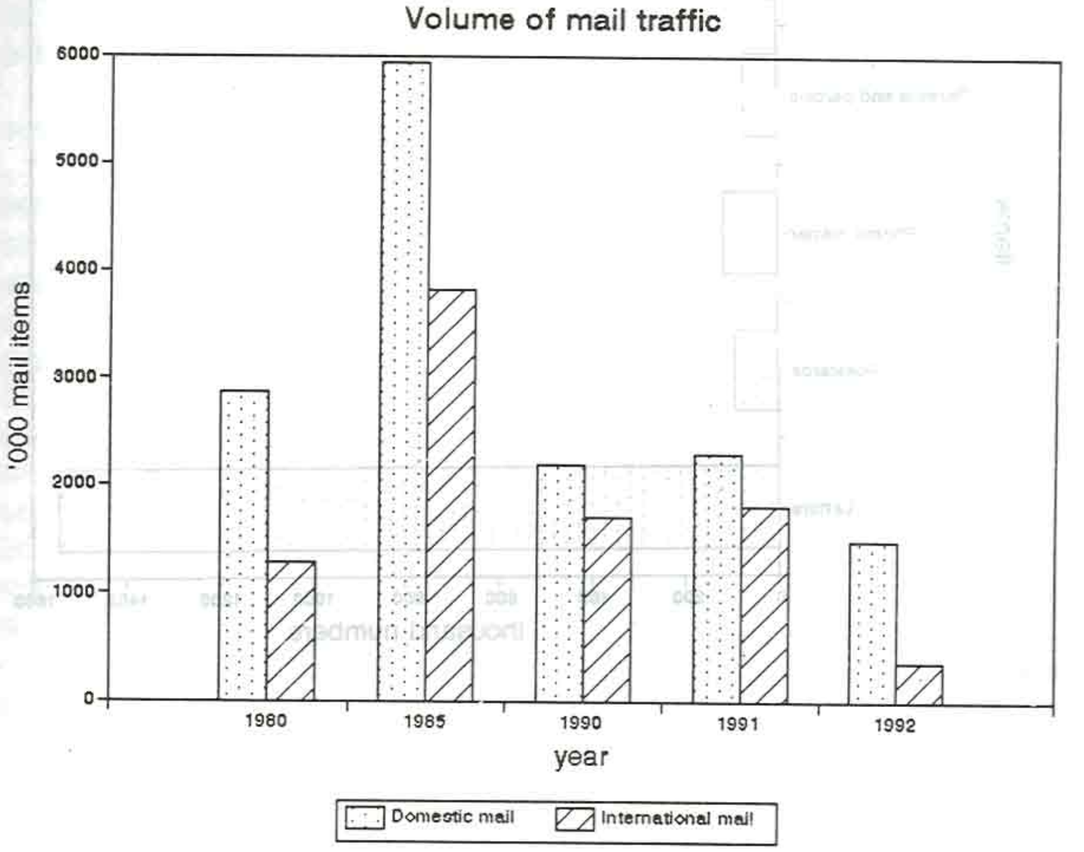


TABLE 7.14: VOLUME OF MAIL HANDLED BY TYPE OF ARTICLE AND DESTINATION, 1992

(thousands)

| Type of mail | Total | Domestic | International |
|---|---|---|---|
| Letters | 1,542 | 1,322 | 220 |
| Ordinary letter | n.a | n.a | n.a |
| Registered items | n.a | n.a | n.a |
| Postcards | 91 | 44 | 47 |
| Printed matter | 116 | 63 | 53 |
| Packets and parcels | 74 | 47 | 27 |
| Monetary items | 17 | 8 | 9 |
| All mail items | 1,839 | 1,483 | 356 |

Source: Division of P & T and Civil Wireless, Thimphu

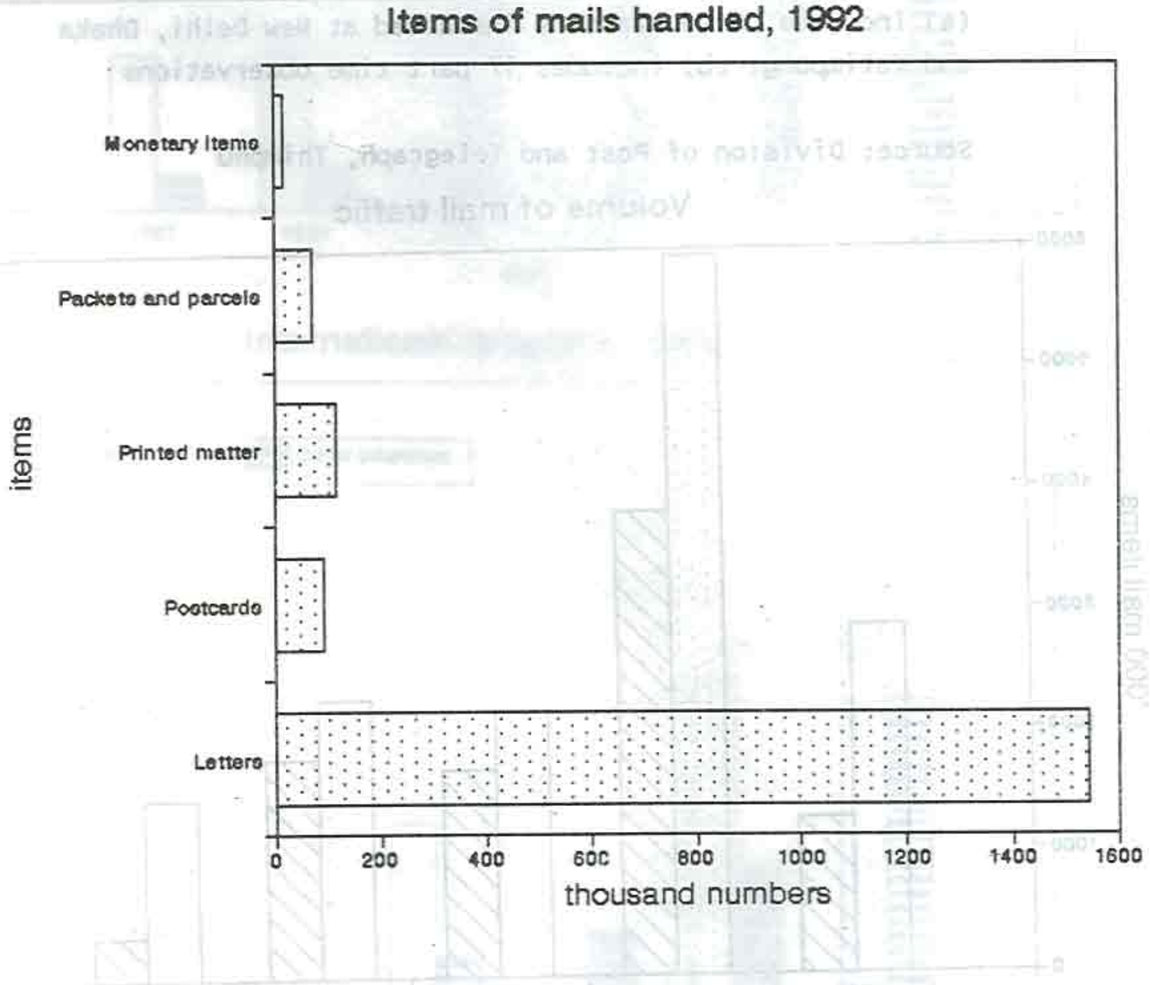


TABLE 7.15: NUMBER AND VALUE OF MONEY ORDER BY TYPE, 1989 TO 1992

| Type | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|
| Total money orders | | | | |
| Number of orders ('000) | 29.6 | 15.7 | 16.0 | 17.1 |
| Amount of orders ('000 Nu.) | 16,714.4 | 8,480.5 | 9,856.4 | 11,267.3 |
| Domestic money order | | | | |
| Number of orders ('000) | 16.0 | 15.1 | 9.0 | 8.3 |
| Amount of orders ('000 Nu.) | 10,459.0 | 8,311.4 | 6,057.0 | 6,282.5 |
| International money order | | | | |
| Dispatched | | | | |
| Number of orders ('000) | 12.8 | 0.6 | 6.4 | 8.5 |
| Amount of orders ('000 Nu.) | 5,757.0 | 164.1 | 3,398.2 | 4,920.7 |
| Receipts | | | | |
| Number of orders ('000) | 0.8 | - | 0.6 | 0.3 |
| Amount of orders ('000 Nu.) | 498.4 | 5.0 | 401.2 | 64.0 |

Note: A dash (-) 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
firewood which is available in abundance from the coun
extensive forests. Firewood still represents a significant s
of energy.

Electricity generation, though still relatively small in compa
with the rest of the world is growing in importance. Up
recently, electricity generation was based on small d
generating and micro hydro stations, providing limited supp
electricity which was supplemented by imports from India. Wi
commissioning Chhukha Hydel Projects, Bhutan substant
increased its electricity generation and became a signi
exporter of electricity to India.

**TABLE 8.1: ELECTRICITY GENERATING STATIONS AND THEIR CAPACITIES, 1990/91 AND 1991/92**

| Generating stations | 1990/91 | | 1991/92 | |
|---|---|---|---|---|
| | Machines & capacities (No. X MW) | Generating capacity (MW) | Machines & capacities (No. X MW) | Generating capacity (MW) |
| Hydrow power stations | .. | 321.990 | .. | 321.990 |
| Chhukha | 4 X 84.00 | 318.000 | 4 X 84.00 | 318.000 |
| Gyetsa (Bjakar) | 3 X 00.50 | 1.500 | 3 X 00.50 | 1.500 |
| Gidakom (Thimphu) | 5 X 00.25 | 0.500 | 5 X 00.25 | 0.500 |
| Jushina (Thimphu) | 4 X 00.09 | 0.180 | 4 X 00.09 | 0.180 |
| Chenari (Trashigang) | 3 X 00.25 | 0.750 | 3 X 00.25 | 0.750 |
| Khaling (Trashigang) | 3 X 00.20 | 0.600 | 3 X 00.20 | 0.600 |
| Khalangzi (Mongar) | 3 X 00.13 | 0.260 | 3 X 00.13 | 0.260 |
| Wangduephodrang | 3 X 00.10 | 0.200 | 3 X 00.10 | 0.200 |
| Micro hydel stations | .. | 0.410 | .. | 1.000 |
| Nagu (Haa) | .. | 0.010 | .. | .. |
| Lhuntse | .. | 0.020 | .. | 0.020 |
| Thinleygang (Thimphu) | .. | 0.030 | .. | 0.030 |
| Rukubji (Wangduephodrang) | .. | 0.040 | .. | 0.040 |
| Tangsibji (Wangdiphodrang) | .. | 0.030 | .. | 0.030 |
| Trongsa | .. | 0.050 | .. | 0.050 |
| Bubja (Trongsa) | .. | 0.030 | .. | 0.030 |
| Tamshing (Bjakar) | .. | 0.030 | .. | 0.030 |
| Ura (Bjakar) | .. | 0.050 | .. | 0.050 |
| Yadi (Mongar) | .. | 0.030 | .. | 0.030 |
| Kekhar (Zhemgang) | .. | 0.020 | .. | 0.020 |
| Surey (Sarpang) | .. | 0.070 | .. | 0.070 |
| Damphu (Tsirang) | .. | .. | .. | 0.200 |
| Tingtibi (Zhemgang) | .. | .. | .. | 0.200 |
| Dagana | .. | .. | .. | 0.200 |

continues...

TABLE 8.1: ELECTRICITY GENERATING STATIONS AND THEIR CAPACITIES, 1990/91 AND 1991/92

continuation

| Generating stations | 1990/91 | | 1991/92 | |
|---|---|---|---|---|
| | Machines (numbers) | Generating capacity (MW) | Machines (numbers) | Generating capacity (MW) |
| Diesel generation stations | 33 | 5.845 | 34 | 5.501 |
| Thimphu | 7 | 3.198 | 7 | 3.198 |
| Paro | 1 | 0.488 | 1 | 0.088 |
| Phuentsholing | 4 | 0.752 | 4 | 0.752 |
| Damphu | 2 | 0.183 | 2 | 0.183 |
| Tongsa | 1 | 0.056 | 1 | 0.056 |
| Gaylegphug | 2 | 0.692 | 2 | 0.692 |
| Sarpang | 1 | 0.250 | 1 | 0.250 |
| Kalikhola | 1 | 0.052 | 1 | 0.052 |
| Zhemgang | 1 | 0.080 | 1 | 0.080 |
| Dagana | 1 | 0.040 | 1 | 0.040 |
| Trashigang | 1 | 0.054 | 1 | 0.054 |
| Bjakar | .. | .. | 1 | 0.056 |
| Other diesel generators | 11 | 6.079 | 11 | 6.079 |
| Penden Cement Authority Ltd. | 4 | 3.600 | 4 | 3.600 |
| Bhutan Board Products Ltd. | n.a | 0.254 | n.a | 0.254 |
| Chhukha Hydro Power Corporation | 5 | 2.000 | 5 | 2.000 |
| Bhutan Chemicals & Carbide Ltd. | 2 | 0.225 | 2 | 0.225 |
| Gedu Wood Manufacturing Corporation | .. | .. | n.a | 0.846 |
| Total capacity | .. | 328.245 | .. | 328.491 |

Note: MW is Mega Watt, unit of electrical energy measurement

end

Source: Division of Power, Thimphu

TABLE 8.2: TOTAL ELECTRICITY GENERATION AND SUPPLY, 1987/88 TO 1991/1992

| Details | 1987/88 (a) | 1988/89 | 1989/90 | 1990/91 | 1991/92 |
|---|---|---|---|---|---|
| Installed capacity (MW) | 262.76 | 346.36 | 348.85 | 349.57 | 349.73 |
| Chhukha hydro power | 252.00 | 336.00 | 336.00 | 336.00 | 336.00 |
| Other hydro power | 5.96 | 5.56 | 5.56 | 5.56 | 6.06 |
| All diesel generators | 4.80 | 4.80 | 7.29 | 7.61 | 7.67 |
| Electricity generation (MU) | 1476.20 | 1544.00 | 1557.00 | 1547.57 | 1551.9 |
| Chhukha hydro power | 1470.50 | 1541.10 | 1554.30 | 1542.41 | 1542.4 |
| Other hydro power | 5.40 | 2.70 | 2.50 | 5.12 | 8.2 |
| All diesel generators | 0.30 | 0.20 | 0.10 | 0.05 | 1.3 |
| Exports (MU) | 1,386.7 | 1,396.0 | 1395.6 | 1374.6 | 1336.9 |
| Imports (MU) | 3.7 | 3.5 | 3.3 | 4.4 | 5.0 |
| Total energy requirement (MU) | 71.0 | 143.0 | 142.3 | 159.3 | 186.7 |
| Total energy sales (MU) | 60.9 | 123.3 | 127.6 | 144.7 | 159.7 |
| Energy losses (MU) | 9.9 | 19.7 | 14.7 | 14.6 | 27.0 |
| Percentage losses (%) | 13.9 | 13.8 | 10.3 | 9.2 | 14.5 |
| Peak system demand (MW) | 16.5 | 24.0 | 22.0 | 22.8 | 19.2 |

Note: MU stands for million unit of electrical energy
(a) Refers to fifteen months period 1 April 1987 to 30 June 1988

Source: Division of Power, Thimphu

TABLE 8.3: MAJOR TRANSMISSION LINES FOR EVACUATING CHHUKHA POWER, 1990/91 and 1991/92

| Station | 1990/91 | | 1991/92 | |
|---|---|---|---|---|
| | 220 KV line(Km) | 66 KV line(Km) | 220 KV line(Km) | 66 KV line(Km) |
| Chhukha - Birpara(India) | 76 (d/c) | - | 76 (d/c) | - |
| Chhukha - Singhigoan | 50 (s/c) | - | 50 (s/c) | - |
| Chhukha - Simtokha | 59 (s/c) | - | 59 (s/c) | - |
| Chhukha - Gedu | - | 21.0 | - | 21.0 |
| Gedu - Phuntsholing | - | 24.0 | - | 24.0 |
| Chhukha - Confluence | - | 44.0 | - | 44.0 |
| Confluence - Simtokha | - | 15.0 | - | 15.0 |
| Confluence - Haa | - | 33.5 | - | 33.5 |
| Confluence - Paro | - | 24.0 | - | 24.0 |
| Simtokha - Wangduephodrang | - | 26.0 | - | 26.0 |
| Phuntsholing - Gomtu | - | 27.0 | - | 27.0 |
| Phuntsholing - Singhigoan | - | 8.4 | - | 8.4 |
| Phuntsholing - Birpara(India) | - | 30.0 | - | 30.0 |
| Total | 76(d/c) 109(s/c) | 253.0 | 76(d/c) 109(s/c) | 253.0 |

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

Source: Division of Power, Thimphu

TABLE 8.4: ELECTRICITY CONSUMPTION, 1987/88 TO 1991/92

| Indicators | 1987/88 | 1988/89 | 1989/90 | 1990/91 | 1991/92 |
|---|---|---|---|---|---|
| Towns electrified (numbers) | 19.0 | 20.0 | 28.0 | 30.0 | 36.0 |
| Villages electrified (numbers) | 141.0 | 171.0 | 221.0 | 254.0 | 270.0 |
| Consumers ('000) | 12.6 | 14.1 | 15.2 | 18.2 | 19.3 |
| Sales of energy (million Nu.) | 22.3 | 34.5 | 37.3 | 36.9 | 41.8 |
| Per capita energy consumption (Units) | 51.0 | 90.0 | 212.7 | 235.9 | 256.1 |

Source: Division of Power, Thimphu

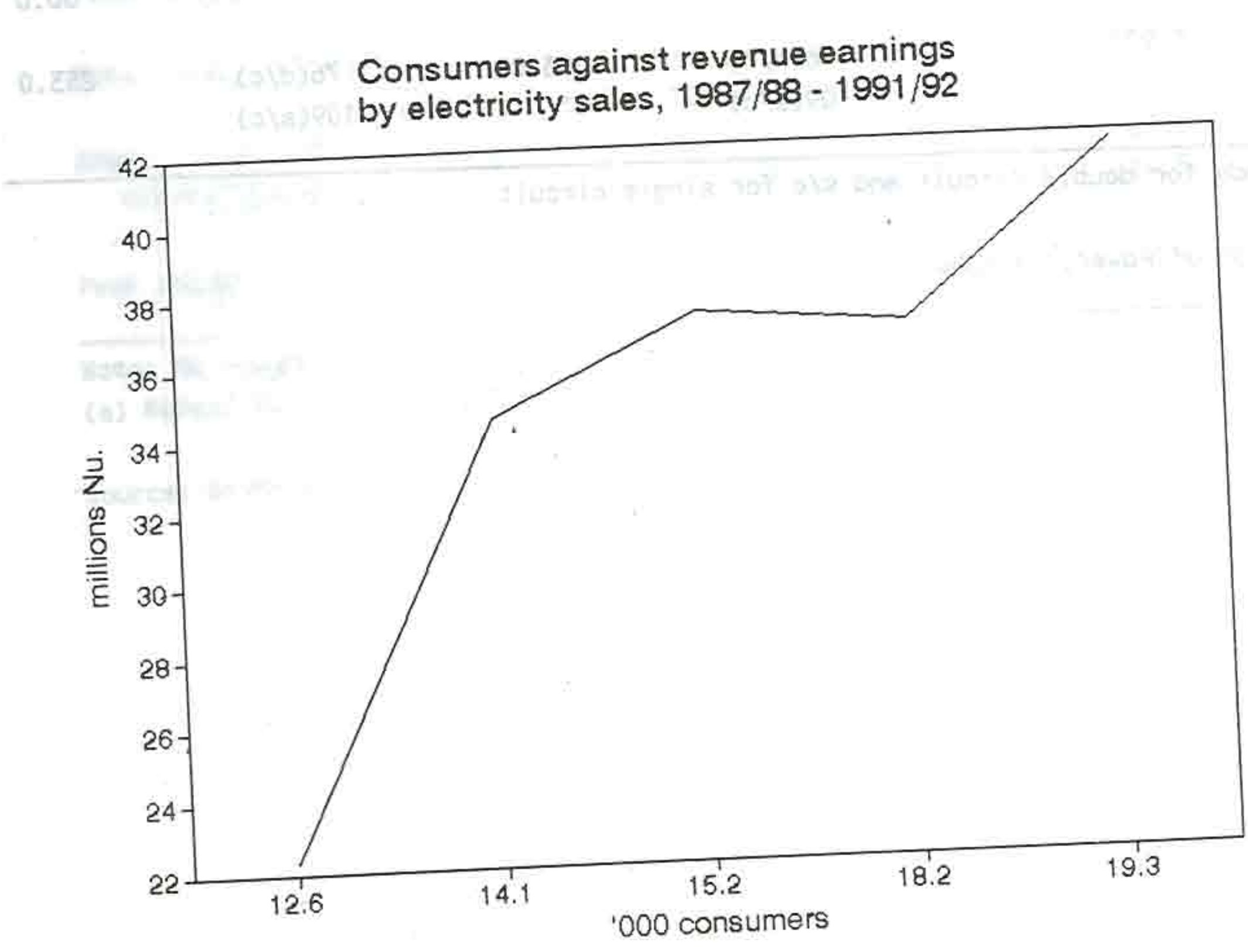
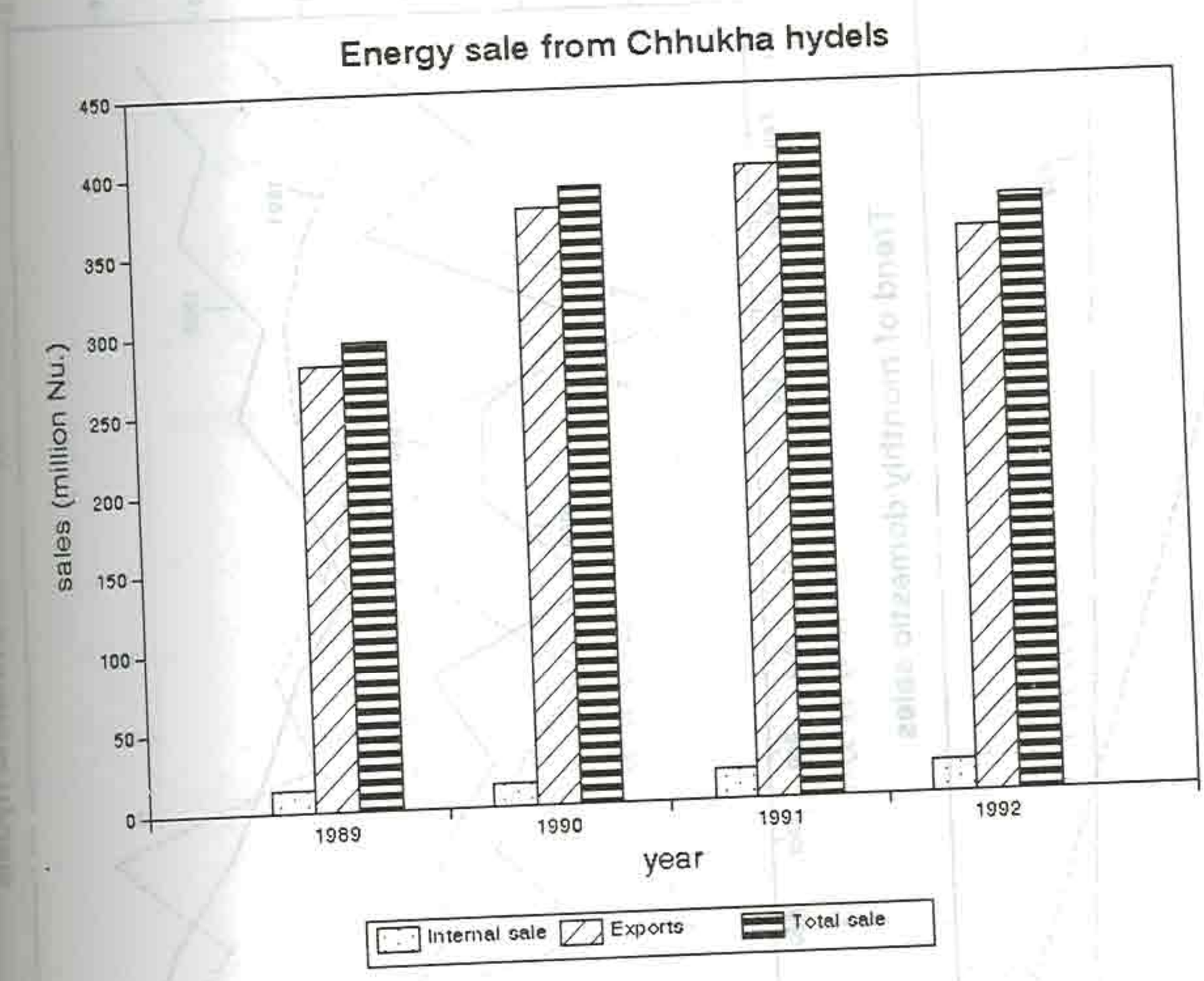


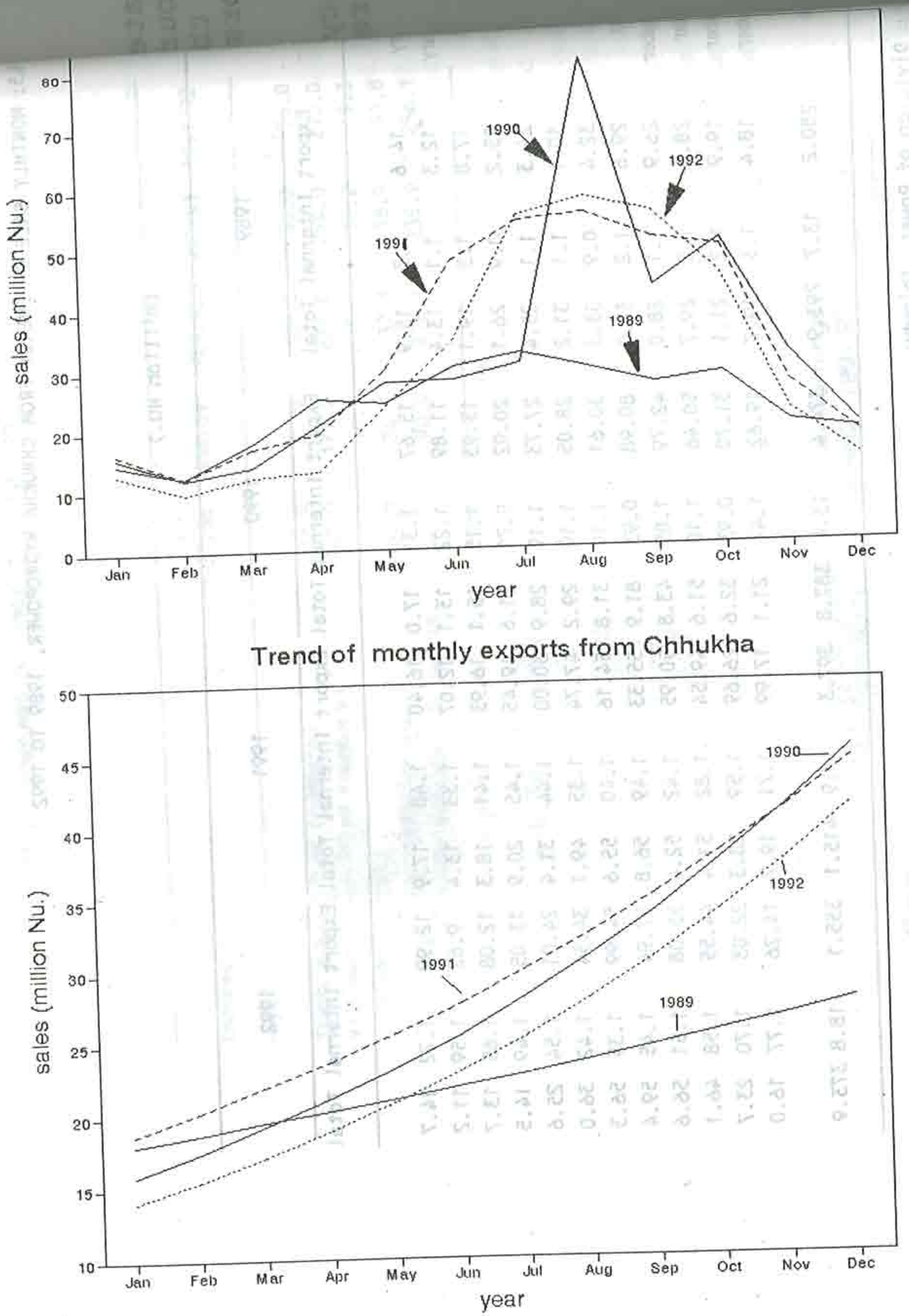
TABLE 8.5: MONTHLY SALE OF ENERGY FROM CHHUKHA HYDROPOWER, 1989 TO 1992

(million Nu.)

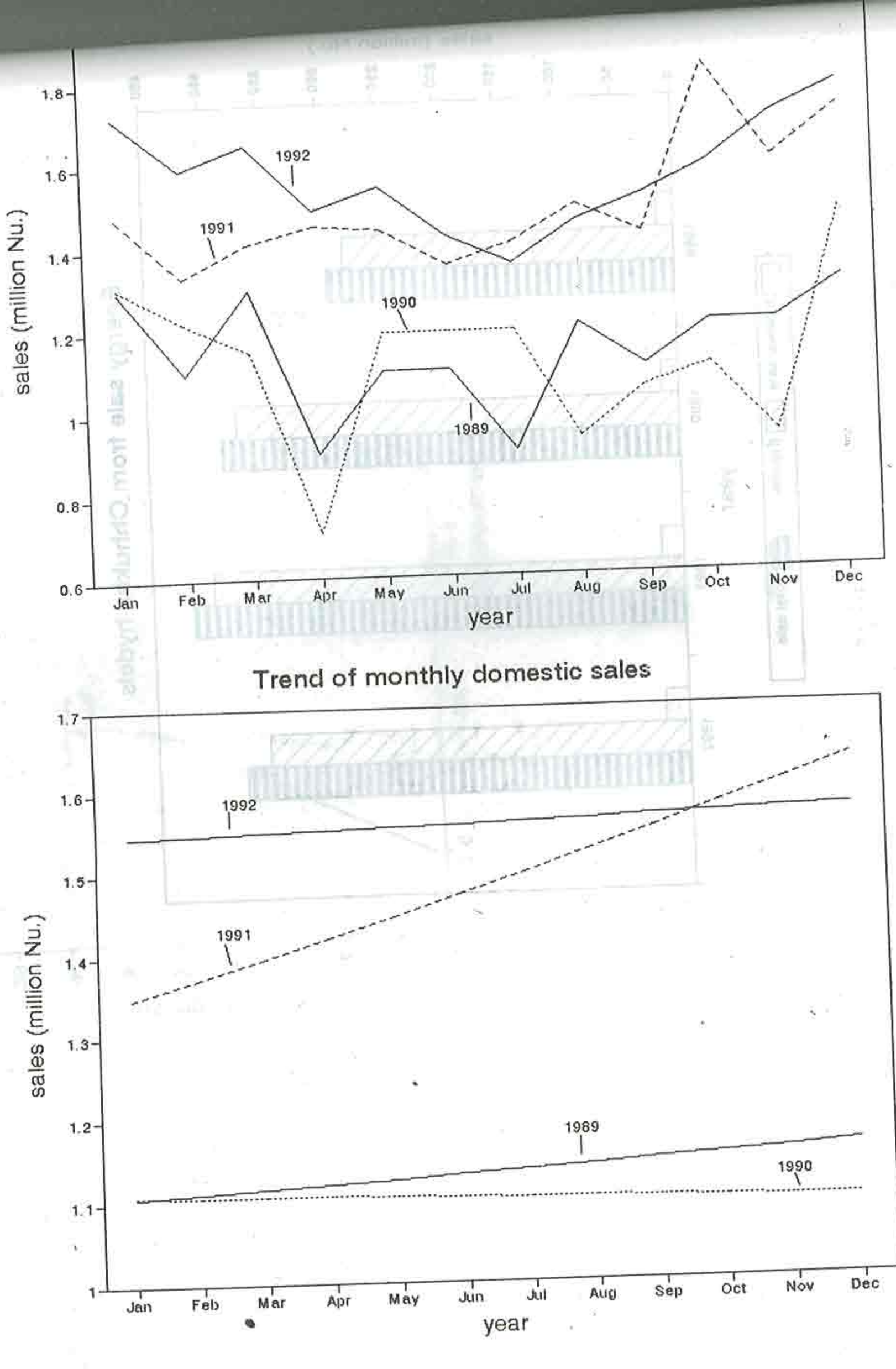
| Month | 1989 | | | 1990 | | | 1991 | | | 1992 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Export | Internal | Total | Export | Internal | Total | Export | Internal | Total | Export | Internal | Total |
| January | 14.6 | 1.3 | 15.9 | 15.67 | 1.31 | 17.0 | 16.40 | 1.48 | 17.9 | 12.99 | 1.72 | 14.7 |
| February | 12.3 | 1.1 | 13.4 | 11.89 | 1.22 | 13.1 | 12.07 | 1.33 | 13.4 | 9.62 | 1.59 | 11.2 |
| March | 17.8 | 1.3 | 19.1 | 13.93 | 1.15 | 15.1 | 16.93 | 1.41 | 18.3 | 12.08 | 1.65 | 13.7 |
| April | 25.2 | 0.9 | 26.1 | 20.92 | 0.71 | 21.6 | 19.45 | 1.45 | 20.9 | 13.05 | 1.49 | 14.5 |
| May | 24.3 | 1.1 | 25.4 | 27.73 | 1.19 | 28.9 | 30.00 | 1.44 | 31.4 | 24.01 | 1.54 | 25.6 |
| June | 30.1 | 1.1 | 31.2 | 28.05 | 1.19 | 29.2 | 47.74 | 1.35 | 49.1 | 34.54 | 1.42 | 36.0 |
| July | 32.4 | 0.9 | 33.3 | 30.61 | 1.19 | 31.8 | 54.16 | 1.40 | 55.6 | 54.99 | 1.35 | 56.3 |
| August | 29.8 | 1.2 | 31.0 | 80.98 | 0.93 | 81.9 | 55.33 | 1.49 | 56.8 | 57.94 | 1.45 | 59.4 |
| September | 26.9 | 1.1 | 28.0 | 42.79 | 1.05 | 43.8 | 50.95 | 1.42 | 52.4 | 55.08 | 1.51 | 56.6 |
| October | 28.5 | 1.2 | 29.7 | 50.46 | 1.10 | 51.6 | 49.54 | 1.82 | 51.4 | 44.55 | 1.58 | 46.1 |
| November | 19.9 | 1.2 | 21.1 | 31.70 | 0.93 | 32.6 | 26.69 | 1.59 | 28.3 | 22.03 | 1.70 | 23.7 |
| December | 18.4 | 1.3 | 19.7 | 19.62 | 1.47 | 21.1 | 17.99 | 1.71 | 19.7 | 14.26 | 1.77 | 16.0 |
| Total | 280.2 | 13.7 | 293.9 | 374.4 | 13.4 | 387.8 | 397.3 | 17.9 | 415.1 | 355.1 | 18.8 | 373.9 |

Source: Division of Power, Thimphu






Trend of monthly exports from Chhukha




Trend of monthly domestic sales

TABLE 8.6: CONSUMPTION OF ELECTRICITY BY TYPE OF CONSUMER, 1989/90 TO 1991/92

| Type of consumer | 1989/1990 | | 1990/91 | | 1991/92 | |
|---|---|---|---|---|---|---|
| | Energy consumed (MU) | Per cent consumed | Energy consumed (MU) | Per cent consumed | Energy consumed (MU) | Per cent consumed |
| Domestic | 9.6 | 7.8 | 18.3 | 12.7 | 18.3 | 11.5 |
| Commercial & Government Offices | 8.2 | 6.7 | 10.7 | 7.4 | 9.9 | 6.2 |
| Industries | 102.3 | 83.0 | 110.6 | 76.5 | 123.9 | 77.6 |
| Bulk supply | 3.0 | 2.4 | 4.9 | 3.4 | 7.4 | 4.6 |
| Public lighting | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 |
| Total | 123.3 | 100.0 | 144.7 | 100.0 | 159.7 | 100.0 |

Source: Division of Power, Thimphu

# CHAPTER 9: TOURISM

## INTRODUCTION

The main statistics of interest in the field of tourism rela
the characteristics of visitors and the details of existing to
facilities, region of origin, and month and season of
arrivals. Earnings of foreign exchange from overseas visito
another important aspect.

Tourism industry has been an important source of hard curren
Bhutan. This sector will continue to be of significance for fo
exchange earnings.

TABLE 9.1: NUMBER OF ANNUAL TOURIST ARRIVALS TO BHUTAN BY COUNTRY OF RESIDENCE, 1989 TO 1992 (persons)

| Country | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|
| Americas | | | | |
| Canada | 34 | 377 | 24 | 45 |
| USA | 445 | n.a | 509 | 571 |
| Brazil | 0 | n.a | 11 | 0 |
| Asia/Pacific | | | | |
| India | 0 | 0 | 4 | 0 |
| Nepal | 0 | 0 | 4 | 0 |
| Other south Asia | 0 | 0 | 25 | 0 |
| Japan | 317 | 445 | 631 | 646 |
| Korea Republic | 0 | 0 | 0 | 26 |
| Thailand | 14 | 0 | 0 | 9 |
| Australia | 4 | 14 | 91 | 35 |
| New Zealand | 0 | 0 | 0 | 12 |
| Europe | | | | |
| Ireland | 0 | 0 | 3 | 0 |
| Sweden | 16 | 0 | 11 | 18 |
| United Kingdom | 167 | n.a | 156 | 269 |
| Italy | 10 | 9 | 113 | 135 |
| Spain | 0 | 0 | 22 | 43 |
| Austria | 4 | 0 | 21 | 105 |
| Belgium | 18 | 0 | 19 | 66 |
| France | 54 | 27 | 109 | 115 |
| Germany | 285 | 161 | 269 | 281 |
| Netherlands | 6 | 0 | 18 | 64 |
| Switzerland | 13 | 417 | 57 | 73 |
| Europeans unspecified | 48 | 0 | 9 | 60 |
| Others not specified | 45 | 88 | 0 | 190 |
| Total tourists | 1,480 | 1,538 | 2,106 | 2,763 |

Source: Tourism Authority of Bhutan, Thimphu

TABLE 9.2: TOURIST ARRIVALS BY COUNTRY OF RESIDENCE AND TOURISM REVENUE RECEIPTS, 1987 TO 1992

(persons)

| Region | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|
| Americas | | | | | | |
| United States of America | 715 | 598 | 445 | 377 | 509 | 571 |
| Other Americas | n.a | n.a | 34 | 0 | 35 | 45 |
| All Americas | 715 | 598 | 479 | 377 | 544 | 616 |
| Asia and Pacific | | | | | | |
| Japan | 379 | 354 | 317 | 445 | 631 | 646 |
| Australia | 40 | - | 4 | 14 | 91 | 35 |
| Other Asia/Pacific | n.a | n.a | 14 | n.a | 35 | 47 |
| All Asia Pacific | 419 | 354 | 335 | 459 | 755 | 728 |
| Europe | | | | | | |
| West Germany | 381 | 475 | 285 | 161 | 269 | 281 |
| France | 125 | 97 | 54 | 27 | 109 | 115 |
| Italy(a) | 105 | - | 10 | 9 | 113 | 135 |
| United Kingdom | 197 | - | 167 | - | 156 | 269 |
| Belgium | 73 | - | 18 | - | 19 | 66 |
| Austria | 80 | - | 4 | n.a | 21 | 105 |
| Other Europe | 190 | 496 | 83 | 417 | 160 | 258 |
| All Europe | 1151 | 1068 | 621 | 614 | 807 | 1229 |
| Others | 239 | 179 | 45 | 88 | - | 190 |
| Total tourists (persons) | 2524 | 1247 | 1480 | 1538 | 2106 | 2763 |
| Tourism revenue receipts | | | | | | |
| Ngultrums (million) | 40. | 27.00 | 25.10 | 48.20 | 52.31 | 77.49 |
| Or | | | | | | |
| US Dollars (million) | - | - | - | - | 2.30 | 2.99 |

(a) Included in other categories in 1988.

Source: Tourism Authority of Bhutan, Thimphu

TABLE 9.3: TOURIST ARRIVALS BY SEASON AND MONTH, 1987 TO 1992

(persons)

| Season and month | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|
| Winter | 424 | 188 | 248 | 343 | 404 | 485 |
| November | 268 | 118 | 179 | 205 | 268 | 300 |
| December | 97 | 44 | 44 | 103 | 111 | 144 |
| January | 59 | 26 | 25 | 35 | 25 | 41 |
| Spring | 651 | 663 | 412 | 445 | 504 | 729 |
| February | 63 | 43 | 41 | 34 | 92 | 118 |
| March | 122 | 390 | 256 | 146 | 260 | 346 |
| April | 466 | 230 | 115 | 265 | 152 | 265 |
| Summer | 252 | 233 | 163 | 155 | 189 | 376 |
| May | 145 | 140 | 91 | 99 | 110 | 140 |
| June | 16 | 31 | 38 | 12 | 32 | 118 |
| July | 91 | 62 | 34 | 44 | 47 | 118 |
| Autumn | 1,197 | 1,115 | 657 | 595 | 1,009 | 1,173 |
| August | 235 | 147 | 133 | 84 | 181 | 117 |
| September | 253 | 298 | 154 | 262 | 402 | 355 |
| October | 709 | 670 | 370 | 249 | 426 | 701 |
| Total tourists | 2,524 | 2,199 | 1,480 | 1,538 | 2,106 | 2,763 |

Source: Tourism Authority of Bhutan, Thimphu

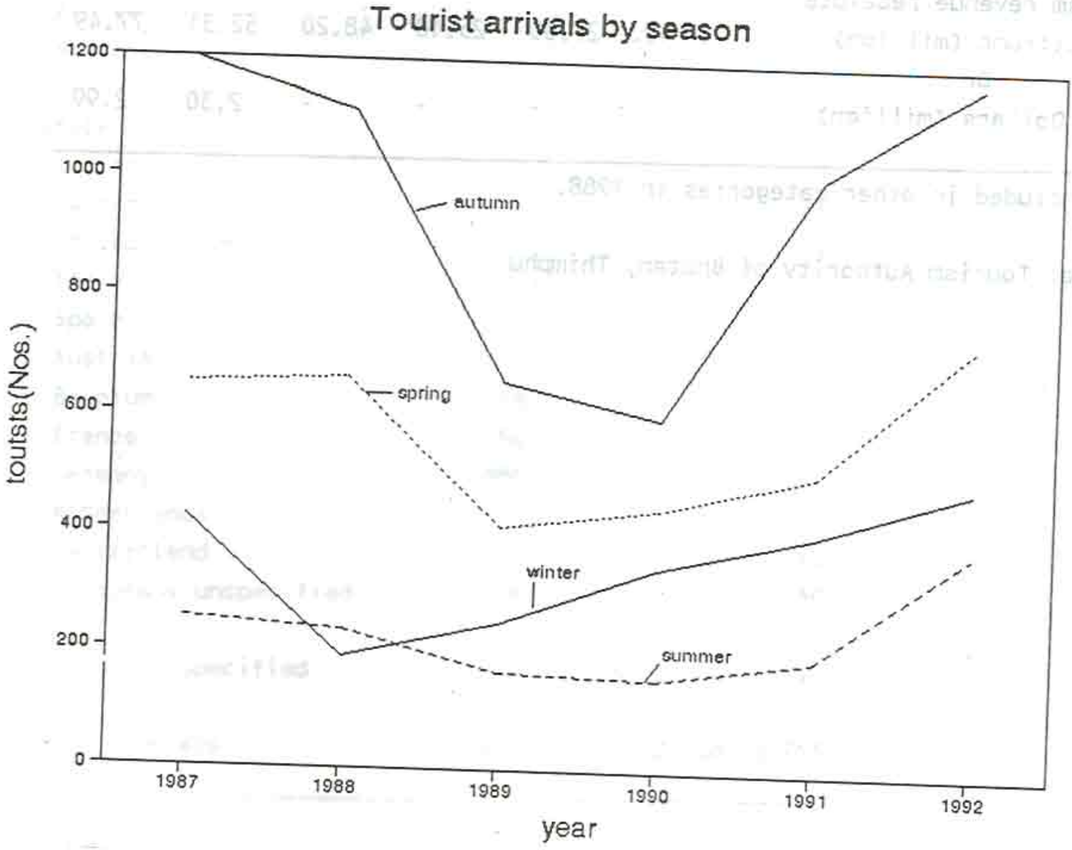


TABLE 9.4: TOURIST ARRIVALS BY PURPOSE OF VISIT, 1987 TO 1992

(persons)

| Purpose | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|
| Tour, holidays and recreation | 2,082 | 1,616 | 1,227 | 1,288 | 1,527 | 2,175 |
| Trekking & mountaineering | 442 | 583 | 253 | 250 | 579 | 588 |
| Total tourists | 2,524 | 2,199 | 1,480 | 1,540 | 2,106 | 2,763 |

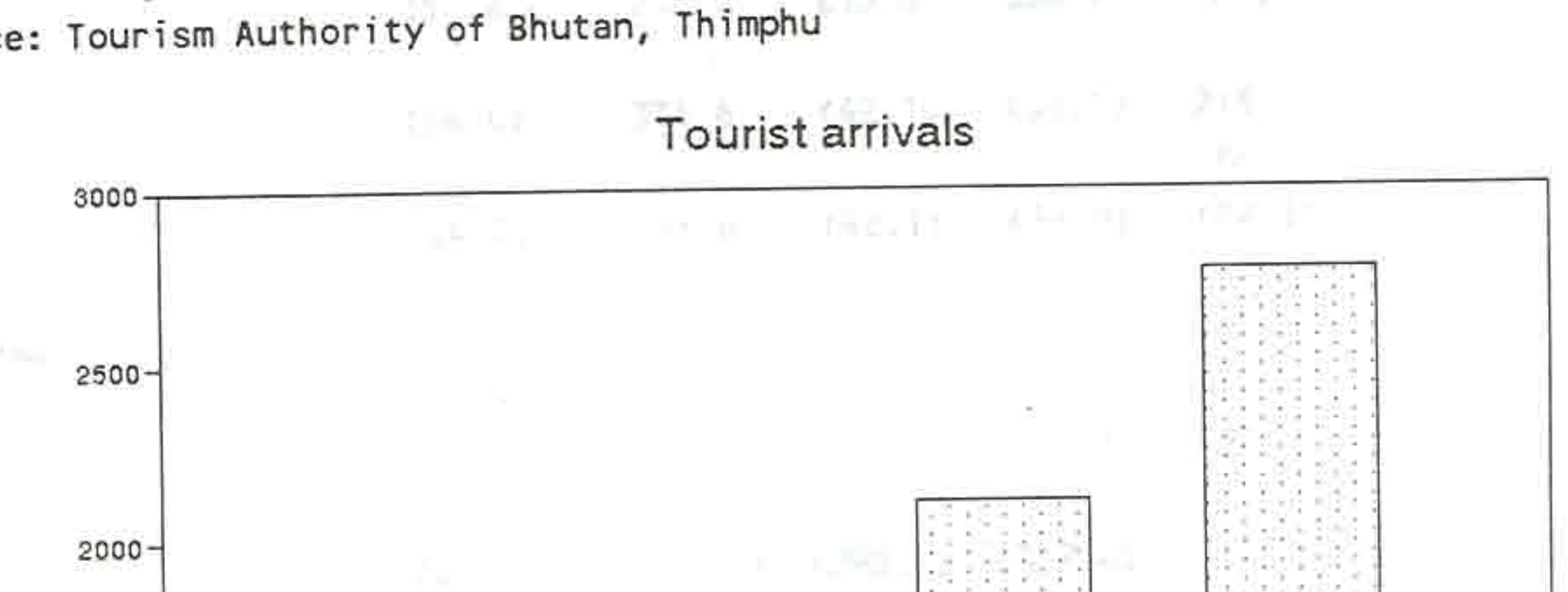
Source: Tourism Authority of Bhutan, Thimphu

TABLE 9.5: TOURIST ARRIVALS BY MODE OF TRANSPORT, 1989 TO 1992

(persons)

| Mode of transport | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|
| Air | 900 | n.a | 1,895 | 2,487 |
| Other | 580 | n.a | 211 | 276 |
| Total tourists | 1,480 | 1,538 | 2,106 | 2,763 |

Source: Tourism Authority of Bhutan, Thimphu



# CHAPTER 10: BALANCE OF PAYMENTS

## INTRODUCTION

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

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

Although economy links with other countries are limit significant amount of aid have been received in recent years this has enabled a substantial increases in imports from th countries. Exports to third countries continue to be very low reliance is placed on inflows of aid for the financing of impor Balance of payments statistics in Bhutan are compiled by the Ro Monetary Authority based on information from its own accounts those of the Bank Of Bhutan, together with information on impo and exports.

TABLE 10.1: BALANCE OF PAYMENTS ESTIMATES, 1987/88 TO 1991/92 (a)

(million Nu.)

| Item | 1987/88 (b) | 1988/89 (c) | 1989/90 | 1990/91 | 1991/92 (pre) |
|---|---|---|---|---|---|
| Exports,fob | 705.2 | 1,040.7 | 1,132.3 | 1,308.5 | 1,632.0 |
| India | 695.7 | 989.3 | 985.9 | 1,129.6 | 1,465.1 |
| Other | 9.5 | 51.5 | 146.4 | 178.9 | 166.8 |
| Imports,cif | (1,194.6) | (1,874.5) | (1,613.9) | (1,525.5) | (2,148.5) |
| India | 970.1 | (1,204.7) | (1,318.8) | (1,254.9) | (1,814.1) |
| Other | (224.5) | (669.8) | (295.1) | (270.5) | (334.4) |
| Trade balance | (489.4) | (833.8) | (481.6) | (217.0) | (516.6) |
| India | (274.4) | (215.5) | (332.9) | (125.4) | (349.0) |
| Other | (215.0) | (618.3) | (148.7) | (91.6) | (167.6) |
| Services & transfer receipts | 301.2 | 365.5 | 478.5 | 464.9 | 583.5 |
| India | 194.7 | 218.5 | 231.6 | 228.7 | 235.1 |
| Other | 106.5 | 147.0 | 246.8 | 236.2 | 348.4 |
| Services & transfer payments | (544.9) | (603.2) | (472.3) | (561.2) | (706.4) |
| India | (373.5) | (394.4) | (265.1) | (342.2) | (402.5) |
| Other | (171.4) | (208.9) | (207.2) | (219.0) | (303.9) |
| Current account balance | (733.1) | (1,071.5) | (475.4) | (313.3) | (639.5) |
| India | (453.2) | (391.3) | (366.3) | (238.8) | (516.4) |
| Other | (279.9) | (680.2) | (109.1) | (74.4) | (123.1) |
| Foreign aid | 1,179.9 | 1,155.2 | 763.6 | 1,037.4 | 990.2 |
| India | 828.7 | 868.6 | 548.1 | 730.4 | 554.6 |
| Other | 351.2 | 286.5 | 215.6 | 306.9 | 435.6 |
| Other loans | (64.0) | 336.6 | (42.1) | (52.0) | 213.7 |
| India | - | - | - | | 286.0 |
| Other | (64.0) | 336.6 | (42.1) | (52.0) | (72.3) |
| Foreign Direct Investment | - | - | - | 7.7 | 22.3 |
| India | - | - | - | - | - |
| Other | - | - | - | 7.7 | 22.3 |
| Errors and omissions | (25.5) | (71.9) | (298.1) | (317.4) | 80.2 |
| India | (181.9) | (389.4) | (540.2) | (664.1) | (472.4) |
| Other | 156.4 | 317.5 | 242.1 | 346.7 | 552.6 |
| Overall balance | 357.3 | 348.3 | (52.0) | 362.4 | 666.9 |
| India | 193.6 | (87.9) | (358.4) | (172.5) | (148.2) |
| Other | 163.7 | 260.4 | 306.4 | 534.9 | 815.1 |

Note: (Pre) stands for preliminary figures

(a) Revised estimates. Total may not add up because of rounding

(b) Fifteen months figures (April 1,1987 -June 30,1988) have been annualized

(c) Starting 1988/89,new fiscal year (July 1-June 30)

Source: Royal Monetary Authority, Thimphu

TABLE 10.2: VALUE OF EXPORTS AND IMPORTS, BHUTAN, 1987 TO 1992

(millions Nu.)

| Item | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|
| Exports | 715.0 | 1042.0 | 1132.3 | 1192.4 | 1478.9 | 1738.2 |
| India | 702.4 | 989.8 | 985.9 | 1011.3 | 1338.0 | 1455.8 |
| Third Countries | 12.6 | 52.2 | 146.4 | 181.1 | 140.9 | 282.4 |
| Imports | 1,124.2 | 1772.7 | 1464.7 | 1368.0 | 2197.2 | 3254.1 |
| India | 899.7 | 1108.9 | 1214.8 | 1143.0 | 1651.5 | 1745.4 |
| Third Countries | 224.5 | 663.8 | 249.9 | 225.0 | 545.7 | 1508.7 |
| Balance of trade | -409.2 | -730.7 | -332.4 | -175.6 | -718.3 | -1515.9 |
| India | -197.3 | -119.1 | -228.9 | -131.7 | -313.5 | -289.6 |
| Third countries | -211.9 | -611.6 | -103.5 | -43.9 | -404.8 | -1226.3 |

Source: Division of Revenue & Customs and CSO, Thimphu

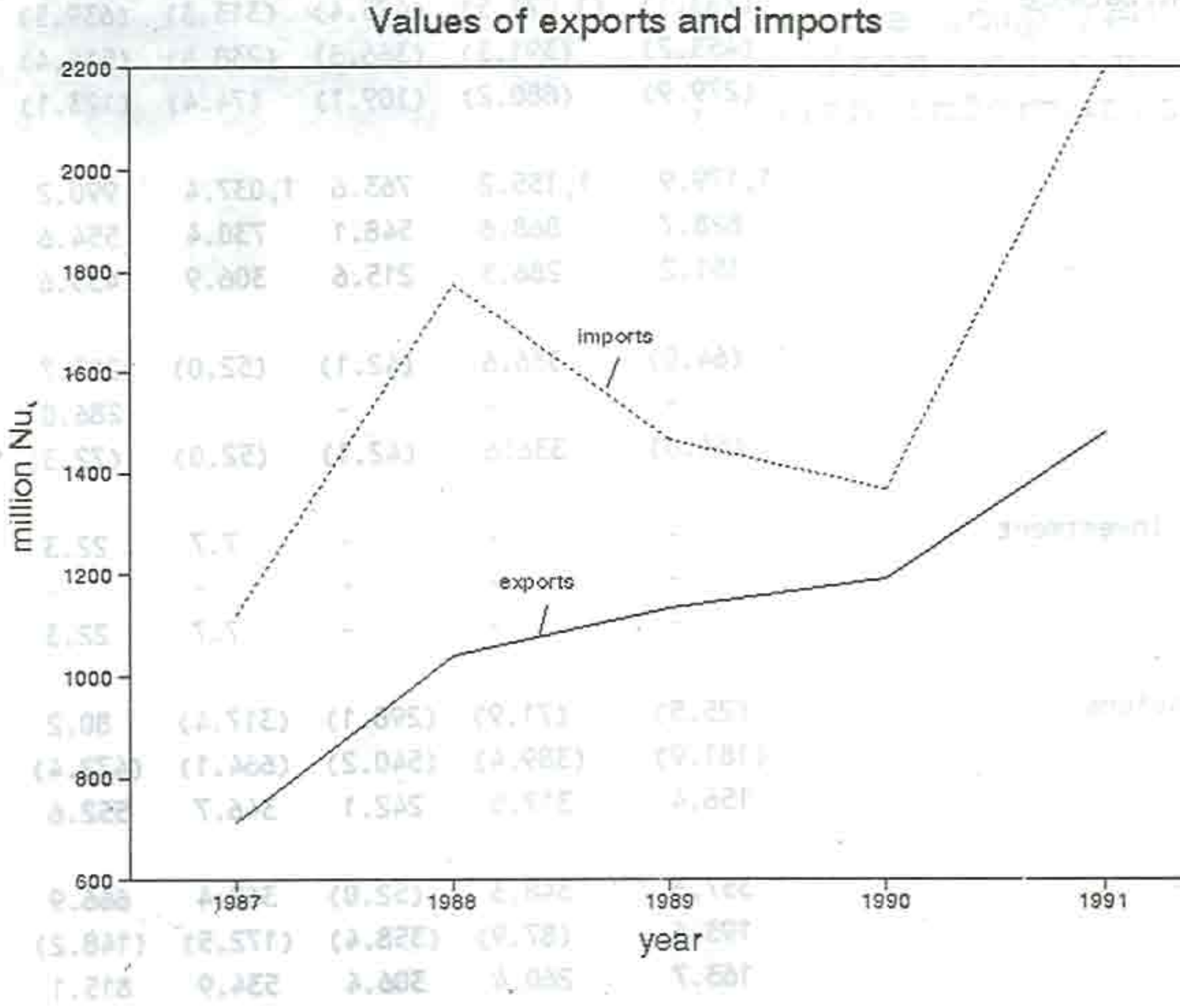


TABLE 10.3: TEN LEADING COMMODITIES OF EXPORT AND IMPORT, BY REGION, CALANDER YEAR 1991

(million Nu.)

| Commodity | India | Third countries | Total value | Share (%) |
|---|---|---|---|---|
| **Exports** | | | | |
| Electric energy | 397.25 | 0.00 | 397.25 | 26.9 |
| Calcium carbide | 289.18 | 0.15 | 289.33 | 19.6 |
| Cement | 140.72 | 4.14 | 144.86 | 9.8 |
| Block boards | 88.63 | 0.00 | 88.63 | 6.0 |
| Cardamom | 34.65 | 29.78 | 64.43 | 4.4 |
| Oranges | 7.53 | 44.56 | 52.09 | 3.5 |
| Sawn timber | 46.39 | 0.85 | 47.24 | 3.2 |
| Particle boards | 45.56 | 0.63 | 46.19 | 3.1 |
| Mixture of fruit & vegetable juices | 41.08 | 3.01 | 44.09 | 3.0 |
| Apples | 0.98 | 35.94 | 36.92 | 2.5 |
| **Imports** | | | | |
| Agriculture equipments | 1.62 | 161.82 | 163.44 | 7.4 |
| Rice | 128.52 | 0.00 | 128.52 | 5.8 |
| Passenger motor cars | 20.66 | 73.62 | 94.28 | 4.3 |
| Diesel | 81.09 | 0.00 | 81.09 | 3.7 |
| Wheat | 80.78 | 5.94 | 86.72 | 3.9 |
| Power project equipment | | 68.96 | 68.96 | 3.1 |
| Truck chassis | 53.08 | 0.00 | 53.08 | 2.4 |
| Beer | 50.64 | 0.00 | 50.64 | 2.3 |
| Petrol | 43.83 | 0.00 | 43.83 | 2.0 |
| Sugar | 41.52 | 0.00 | 41.52 | 1.9 |

Source:-Division of Revenue & Customs and CSO, Thimphu

TABLE 10.4: TEN LEADING COMMODITIES OF EXPORT AND IMPORT WITH INDIA, 1991

| Commodity | Value (million Nu.) | Share (%) |
|---|---|---|
| **Exports** | | |
| Electrical energy | 397.25 | 29.7 |
| Calcium carbide | 289.18 | 21.6 |
| Cement | 140.72 | 10.5 |
| Block board | 88.63 | 6.6 |
| Sawn timber | 46.39 | 3.5 |
| Particle board | 45.37 | 3.4 |
| Mixture of fruit/vegetable juices | 41.08 | 3.1 |
| Cardamom | 34.65 | 2.6 |
| Atta and maida | 31.91 | 2.4 |
| Plywood | 26.27 | 2.0 |
| **Imports** | | |
| Rice | 128.52 | 7.8 |
| Diesel | 81.09 | 4.9 |
| Wheat | 80.78 | 4.9 |
| Truck chassis | 53.08 | 3.2 |
| Beer | 50.64 | 3.1 |
| Petrol | 43.83 | 2.7 |
| Sugar | 41.52 | 2.5 |
| Motor cycle & scootors | 33.85 | 2.0 |
| Tyres, tubes for buses and trucks | 32.32 | 2.0 |
| Cotton fabrics | 29.87 | 1.8 |

Source: Division of Revenue and Customs and CSO, Thimphu

TABLE 10.7: GROSS INTERNATIONAL RESERVES, 1987/88 TO 1991/1992

| Money reserves | 1987/88 | 1988/89 | 1989/90 | 1990/91 | 1991/92 |
|---|---|---|---|---|---|
| Rupee reserves (million) | 689.00 | 776.90 | 418.40 | 246.00 | 97.80 |
| Royal Monetary Authority | 12.34 | 81.05 | 14.85 | 25.77 | 10.86 |
| Bank of Bhutan | 676.61 | 695.83 | 403.59 | 220.18 | 86.94 |
| Convertible currency (million US $) | 40.20 | 50.10 | 65.00 | 78.78 | 95.96 |
| Royal Monetary Authority | 37.93 | 47.57 | 62.46 | 76.66 | 93.32 |
| Royal Government (a) | - | - | - | - | - |
| Bank of Bhutan | 2.27 | 2.49 | 2.53 | 2.11 | 2.64 |
| Royal Insurance Corporation | 0.02 | 0.03 | 0.01 | 0.01 | 0.00 |
| All reserves (million US $) | 89.05 | 97.08 | 88.98 | 90.39 | 99.74 |

(a) Including reserve tranche position in the Fund

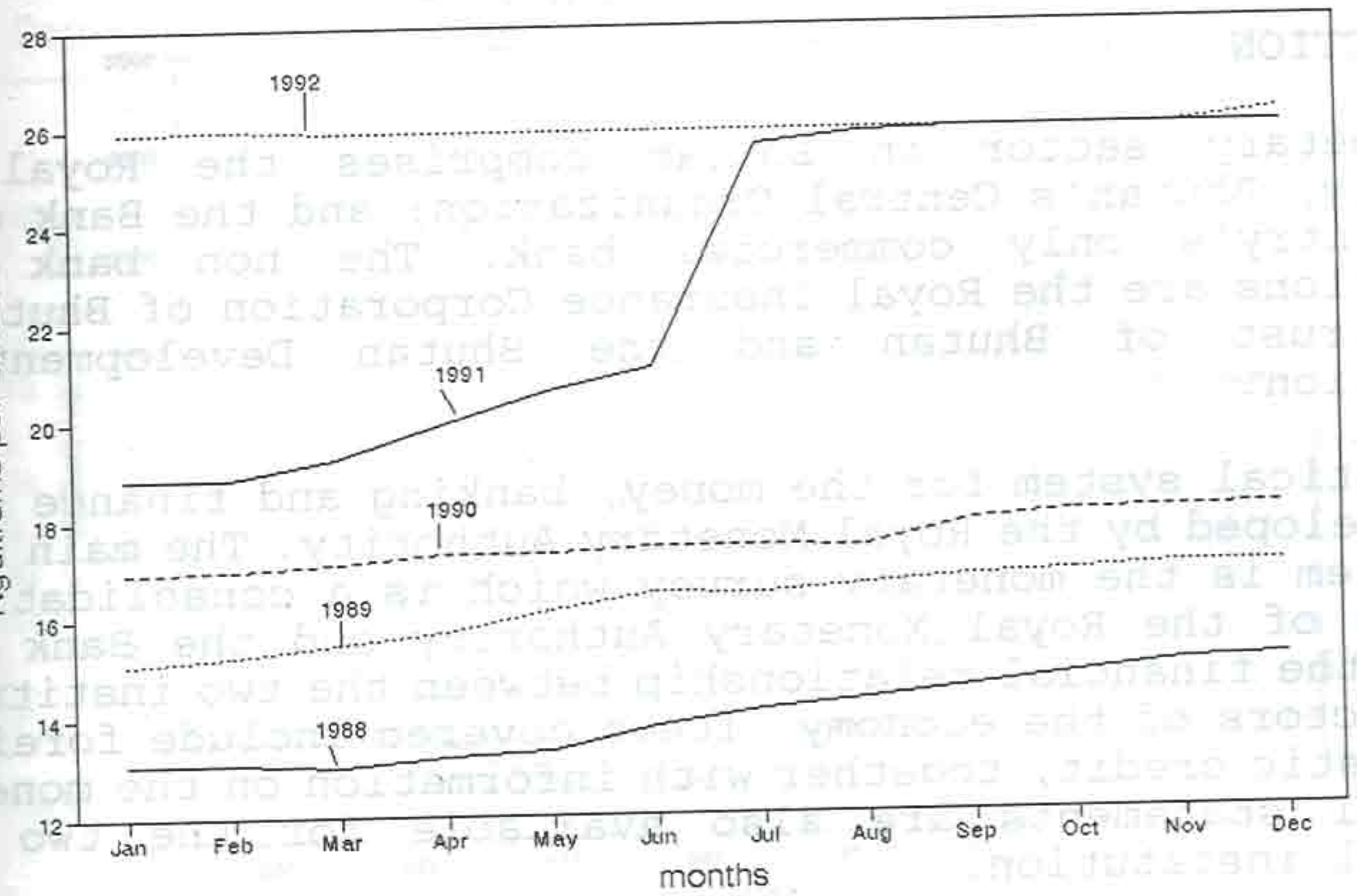
Source: Royal Monetary Authority, Thimphu

TABLE 10.8: MONTHLY AVERAGE EXCHANGE RATES, NGULTRUMS TO US DOLLAR, 1988 TO 1992

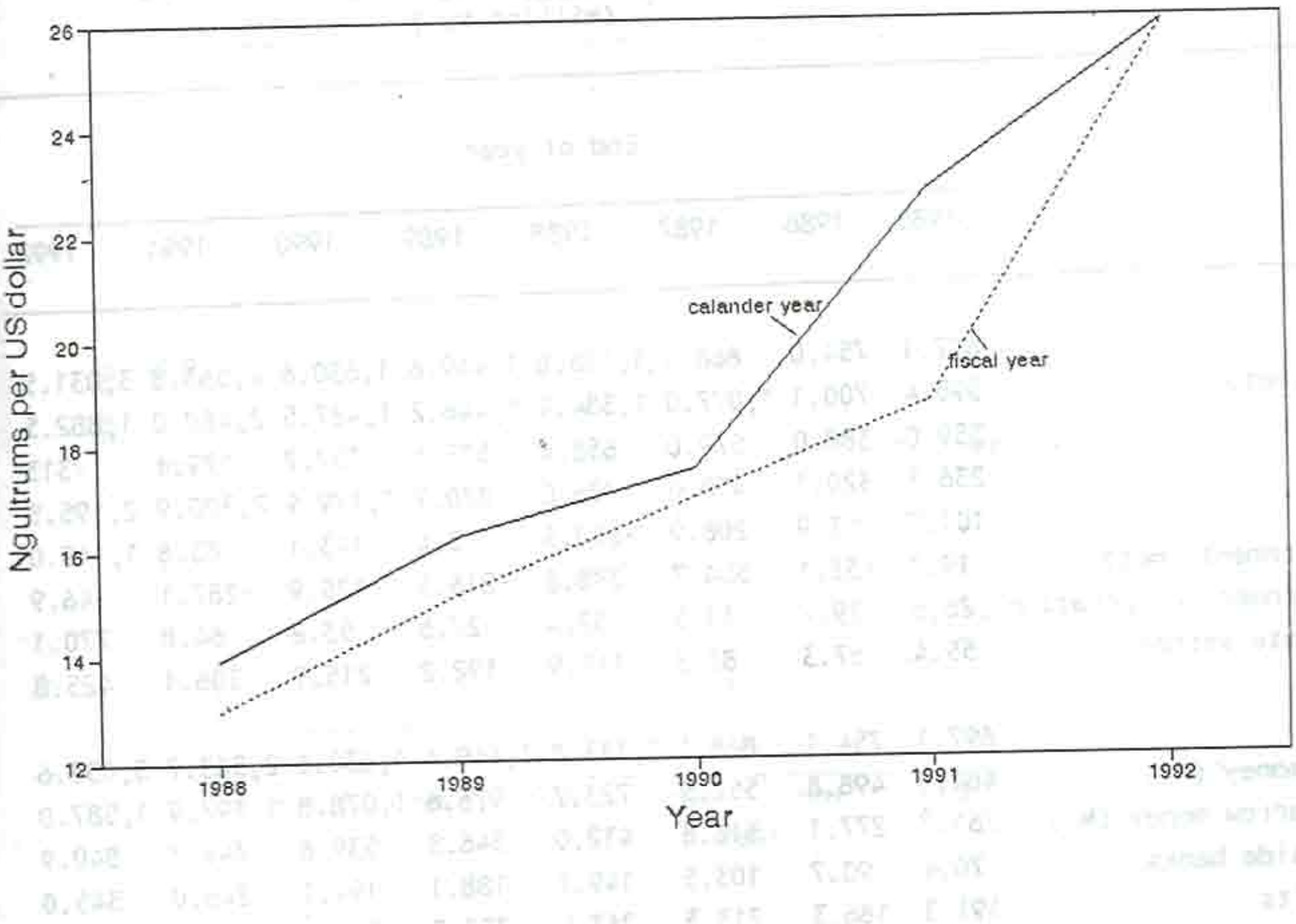
| Month | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|
| January | 13.06 | 15.11 | 16.97 | 18.83 | 25.92 |
| February | 13.07 | 15.25 | 17.00 | 18.85 | 25.93 |
| March | 13.00 | 15.48 | 17.12 | 19.24 | 25.89 |
| April | 13.20 | 15.73 | 17.28 | 19.94 | 25.89 |
| May | 13.31 | 16.12 | 17.32 | 20.58 | 25.89 |
| June | 13.77 | 16.46 | 17.43 | 21.06 | 25.89 |
| July | 14.09 | 16.44 | 17.42 | 25.58 | 25.89 |
| August | 14.25 | 16.61 | 17.38 | 25.81 | 25.89 |
| September | 14.49 | 16.76 | 17.87 | 25.88 | 25.89 |
| October | 14.74 | 16.86 | 18.05 | 25.87 | 25.89 |
| November | 14.98 | 16.94 | 18.09 | 25.89 | 25.89 |
| December | 15.05 | 16.94 | 18.12 | 25.88 | 26.16 |
| Calendar year | 13.92 | 16.23 | 17.50 | 22.74 | 25.92 |
| Fiscal year | 12.97 (1987/88) | 15.15 (1988/89) | 16.97 (1989/90) | 18.74 (1990/91) | 25.86 (1991/92) |

Source: Royal Monetary Authority, Thimphu

## Exchange rates of Ngultrums to US$
(refer table 10.8)




## Exchange rates of Ngultrums to US$
(refer table 10.8)



# CHAPTER 11: MONEY, BANKING, AND STOCKS

## INTRODUCTION

The monetary sector in Bhutan comprises the Royal Mone Authority, Bhutan's Central Organization; and the Bank of Bhu the country's only commercial bank. The non bank finan institutions are the Royal Insurance Corporation of Bhutan and Units Trust of Bhutan and the Bhutan Development Fin Corporation.

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

Royal Securities Exchange was established in 1993 and the st trading turn over since then has been quite encouraging. Securities Exchange of Bhutan will act as a market place w stocks will be issued by companies aiming to raise fund. In ef individuals and parties can invest their excess funds or sav through the purchase of stocks.

TABLE 11.1: MONETARY SURVEY (a), ROYAL MONETARY AUTHORITY AND BANK OF BHUTAN, 1985 TO 1992

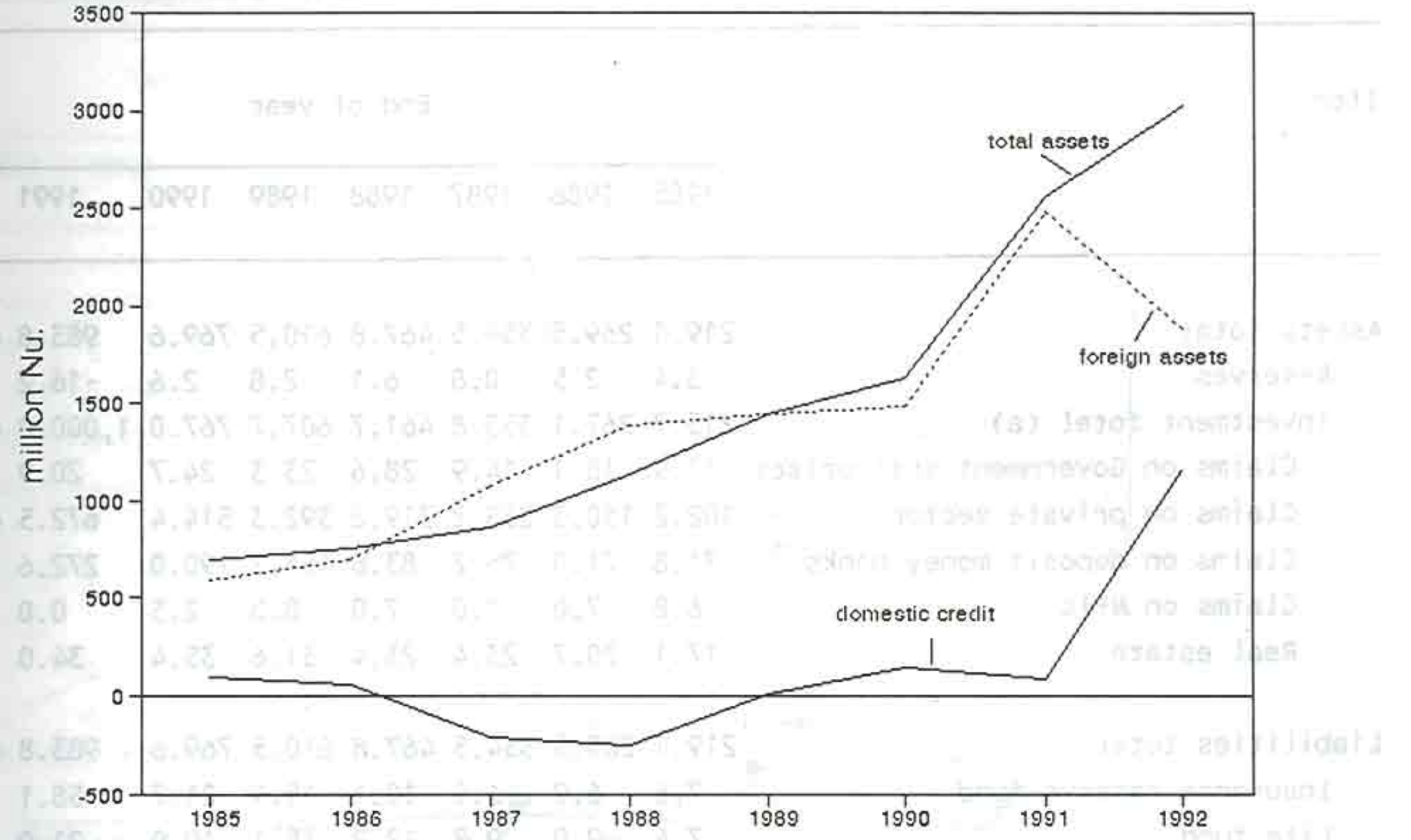
(million Nu.)

| Item | End of year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| Total assets | 697.1 | 754.0 | 868.1 | 1,133.8 | 1,449.6 | 1,630.6 | 2,563.8 | 3,031.5 |
| Foreign assets (net) | 595.4 | 700.1 | 1,077.0 | 1,384.4 | 1,446.2 | 1,487.5 | 2,480.0 | 1,882.5 |
| Rupee | 359.0 | 380.0 | 579.0 | 658.4 | 575.5 | 307.7 | 179.1 | -313 |
| Other | 236.5 | 320.1 | 498.0 | 726.0 | 870.7 | 1,179.9 | 2,300.9 | 2,195.5 |
| Domestic credit | 101.7 | 53.9 | -208.9 | -250.5 | 3.4 | 143.1 | 83.8 | 1,149.0 |
| Claims on Government (net) | 19.7 | -33.1 | -304.7 | -398.8 | -216.5 | -125.9 | -287.1 | -46.9 |
| Claims on Government corporation | 26.6 | 19.7 | 13.5 | 32.4 | 27.6 | 53.2 | 64.8 | 770.1 |
| Claims on private sector | 55.4 | 67.3 | 82.3 | 115.9 | 192.2 | 215.9 | 306.1 | 425.8 |
| Total liabilities | 697.1 | 754.1 | 868.1 | 1,133.8 | 1,449.6 | 1,630.6 | 2,563.7 | 3,031.6 |
| Liquidity-Broad money (M2) | 464.0 | 498.8 | 552.5 | 723.7 | 976.6 | 1,078.8 | 1,397.9 | 1,587.0 |
| Money supply-Narrow money (M1) | 261.7 | 277.1 | 316.8 | 412.0 | 546.3 | 539.6 | 749.7 | 840.9 |
| Currency outside banks | 70.4 | 90.7 | 103.5 | 149.1 | 188.1 | 194.1 | 246.0 | 345.0 |
| Demand deposits | 191.3 | 186.3 | 213.3 | 263.0 | 358.2 | 345.4 | 503.7 | 495.9 |
| Quasi-money | 202.3 | 221.8 | 235.7 | 311.6 | 430.2 | 539.3 | 648.2 | 746.1 |
| Other items (net) | 233.1 | 255.2 | 315.6 | 410.2 | 473.0 | 551.8 | 1,165.8 | 1,444.6 |

(a) Revised data, excluding rupees in circulation

Source: Royal Monetary Authority and Bank of Bhutan

## Assets- Monetary Survey(Royal Monetary Authority and Bank of Bhutan)




## Liabilibilities - Monetary Survey(Royal Monetary Authority & Bank of Bhutan)

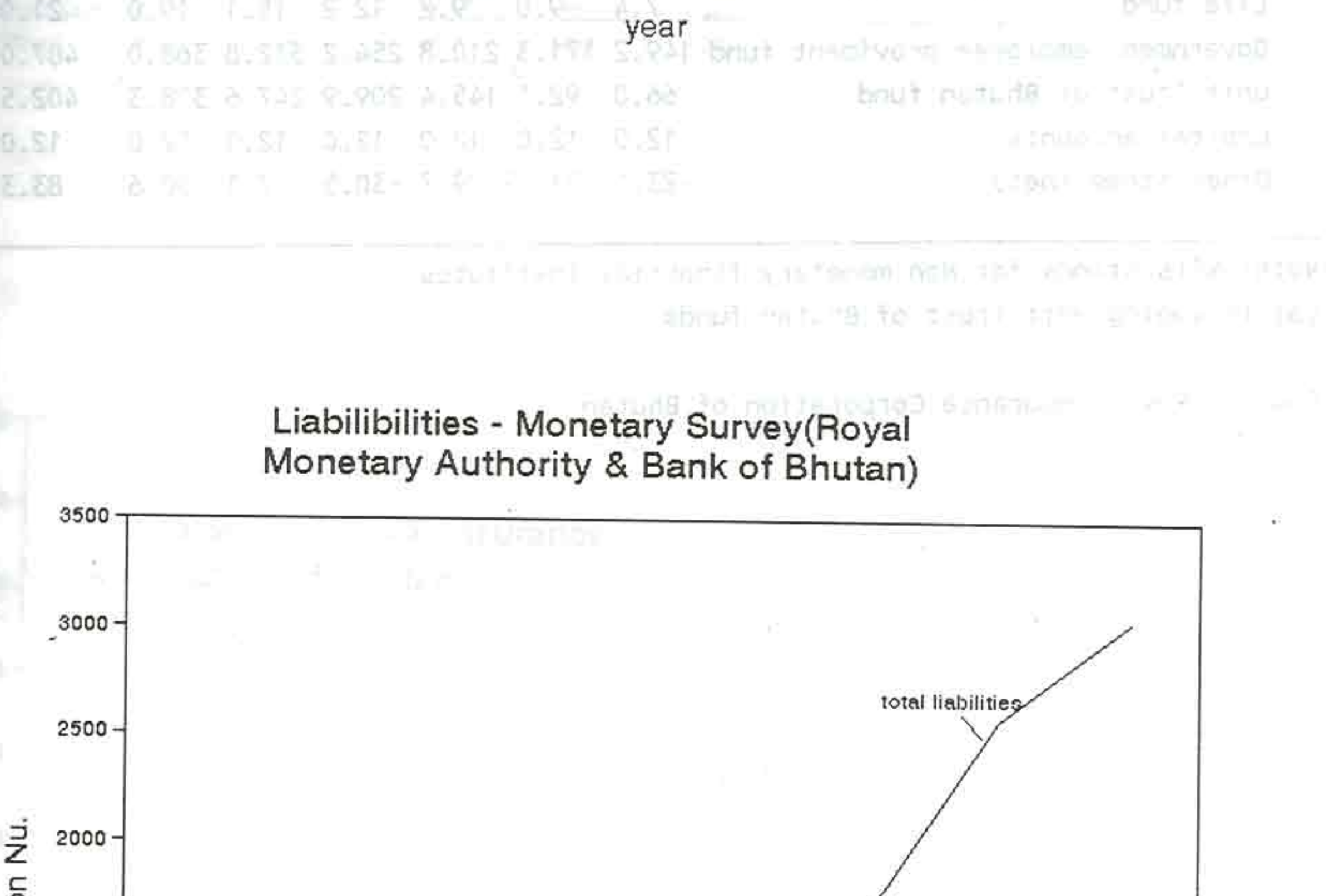
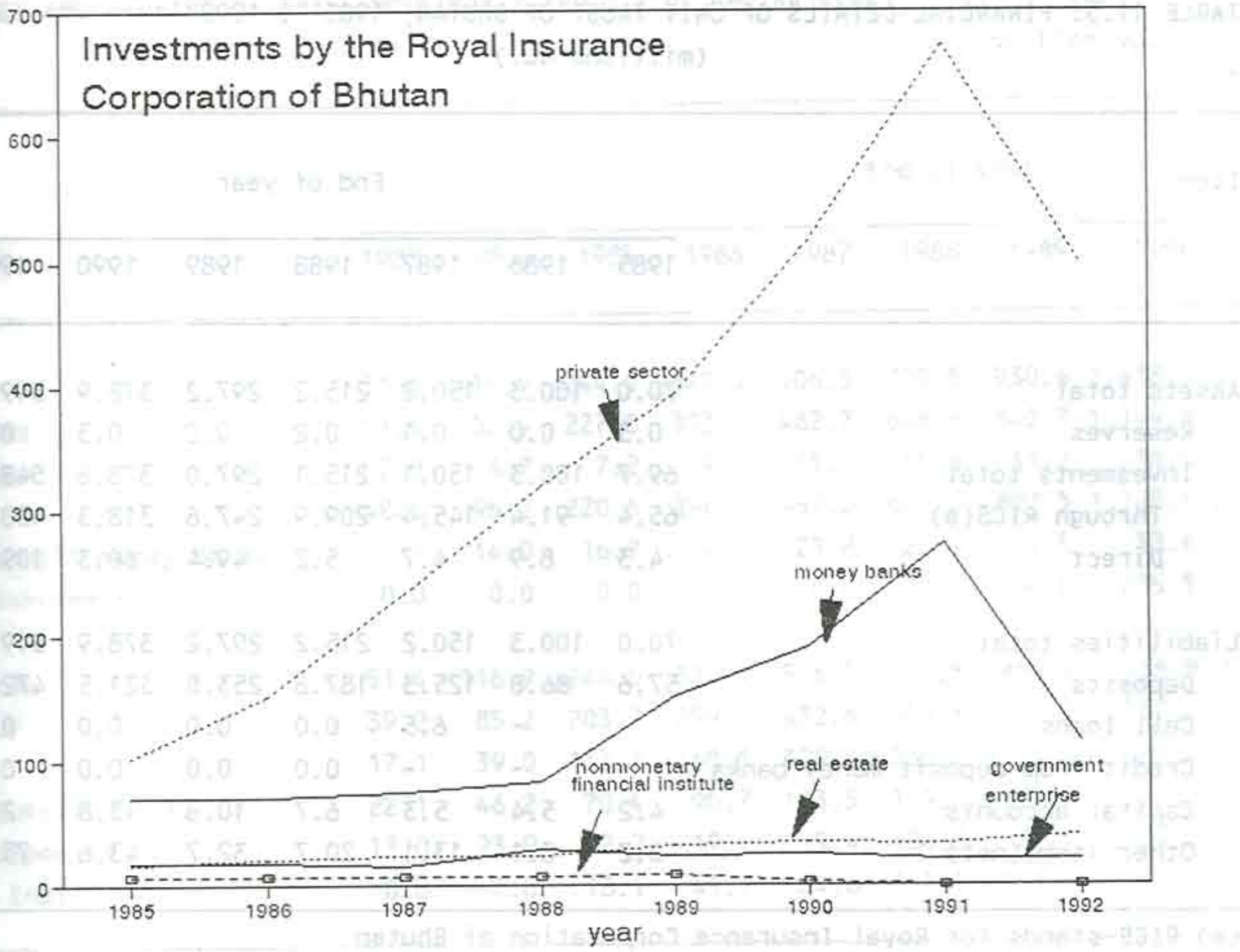


TABLE 11.2: FINANCIAL DETAILS OF ROYAL INSURANCE CORPORATION OF BHUTAN, 1985 TO 1992
(millions Nu.)

| Item | End of year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| Assets total | 219.1 | 269.5 | 354.5 | 467.8 | 610.5 | 769.6 | 983.8 | 675.3 |
| Reserves | 3.4 | 2.5 | 0.8 | 6.1 | 2.8 | 2.6 | -16.2 | 0.6 |
| Investment total (a) | 215.7 | 267.1 | 353.8 | 461.7 | 607.7 | 767.0 | 1,000.0 | 674.7 |
| Claims on Government enterprises | 17.9 | 18.1 | 14.9 | 28.6 | 23.3 | 24.7 | 20.9 | 20.1 |
| Claims on private sector | 102.2 | 150.3 | 233.2 | 319.2 | 392.3 | 514.4 | 672.5 | 498.6 |
| Claims on deposit money banks | 71.8 | 71.0 | 75.2 | 83.6 | 151.7 | 190.0 | 272.6 | 115.5 |
| Claims on NFIs | 6.8 | 7.0 | 7.0 | 7.0 | 8.8 | 2.5 | 0.0 | 0.0 |
| Real estate | 17.1 | 20.7 | 23.4 | 23.4 | 31.6 | 35.4 | 34.0 | 40.5 |
| Liabilities total | 219.1 | 269.5 | 354.5 | 467.8 | 610.5 | 769.6 | 983.8 | 675.3 |
| Insurance reserve fund | 7.6 | 6.9 | 6.9 | 10.1 | 15.9 | 21.7 | 58.1 | 61.2 |
| Life fund | 7.4 | 9.0 | 9.2 | 12.2 | 15.1 | 19.0 | 21.0 | 23.8 |
| Government employee provident fund | 149.2 | 171.3 | 210.8 | 254.2 | 312.8 | 368.0 | 407.0 | 505.8 |
| Unit Trust of Bhutan fund | 66.0 | 92.1 | 145.4 | 209.9 | 247.6 | 318.3 | 402.5 | 0.0 |
| Capital accounts | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| Other items (net) | -23.1 | -21.77 | -29.7 | -30.5 | 7.1 | 30.6 | 83.3 | 72.5 |

Note: NFIs stands for Non monetary financial institutes
(a) Including Unit Trust of Bhutan funds

Source: Royal Insurance Corporation of Bhutan


Investments by the Royal Insurance Corporation of Bhutan
700
600
500
400
300
200
100
0
million Nu.
private sector
money banks
nonmonetary financial institute
real estate
government enterprise
1985
1986
1987
1988
1989
1990
1991
1992
year

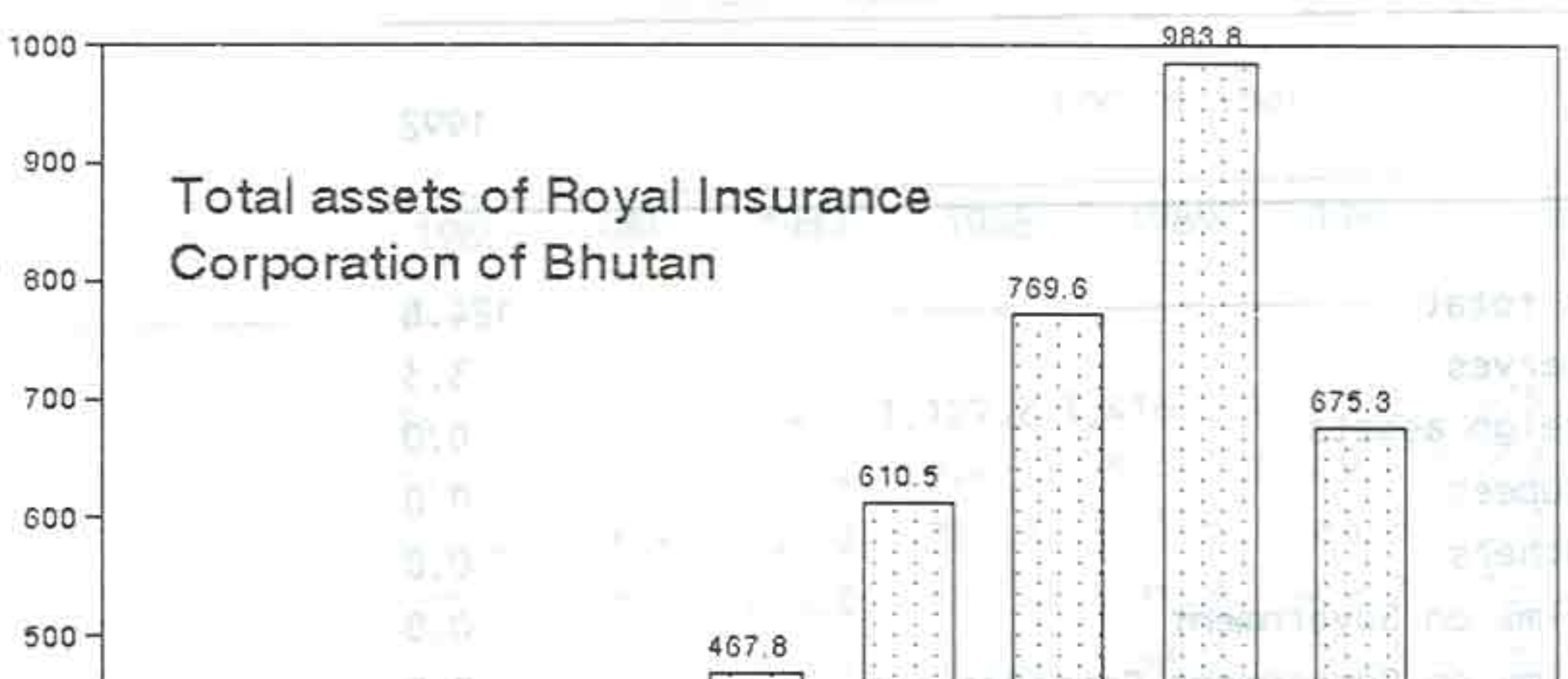

Total assets of Royal Insurance Corporation of Bhutan
1000
900
800
700
600
500
400
300
200
100
0
million Nu.
219.1
269.5
354.5
467.8
610.5
769.6
983.8
675.3
1985
1986
1987
1988
1989
1990
1991
1992
year

TABLE 11.3: FINANCIAL DETAILS OF UNIT TRUST OF BHUTAN, 1985 TO 1992
(millions Nu.)

| Item | End of year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 199 |
| Assets total | 70.0 | 100.3 | 150.2 | 215.2 | 297.2 | 378.9 | 549.1 | 729 |
| Reserves | 0.3 | 0.0 | 0.1 | 0.2 | 0.2 | 0.3 | 0.4 | 0 |
| Invesments total | 69.7 | 100.3 | 150.1 | 215.1 | 297.0 | 378.6 | 548.7 | 728 |
| Through RICB(a) | 65.4 | 91.4 | 145.4 | 209.9 | 247.6 | 318.3 | 438.9 | 0 |
| Direct | 4.3 | 8.9 | 4.7 | 5.2 | 49.4 | 60.3 | 109.8 | 728 |
| Liabilities total | 70.0 | 100.3 | 150.2 | 215.2 | 297.2 | 378.9 | 549.1 | 729 |
| Deposits | 57.6 | 86.8 | 125.3 | 187.8 | 253.8 | 321.5 | 472.8 | 572 |
| Call loans | - | - | 6.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Credit from deposit money banks | - | - | - | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Capital accounts | 4.2 | 5.4 | 5.3 | 6.7 | 10.8 | 13.8 | 2.8 | 2 |
| Other items(net) | 8.2 | 8.1 | 13.1 | 20.7 | 32.7 | 43.6 | 73.5 | 153 |

(a) RICB stands for Royal Insurance Corporation of Bhutan

Source: Unit Trust of Bhutan, Thimphu

TABLE 11.4: MONEY AND BANKING DETAILS OF BHUTAN DEVELOPMENT FINANCE CORPORATION, 1992
(million Nu.)

| Item | 1992 |
|---|---|
| Assets total | 124.8 |
| Reserves | 3.3 |
| Foreign assets | 0.0 |
| Rupees | 0.0 |
| Others | 0.0 |
| Claims on Government | 0.0 |
| Claims on Government Corporations | 0.0 |
| Claims on joimt corporations | 2.3 |
| Claims on private sector | 103.6 |
| Claims on DMBs(a) | 0.0 |
| Claims on other NBFIs(b) | 15.6 |
| Liabilities total | 124.8 |
| Foreign liabilities | 37.3 |
| Credit from RMA | 50.0 |
| Credit from DMB | 0.0 |
| Credit from other NBFIs | 0.0 |
| Grants | 7.9 |
| Capital accounts | 34.4 |
| Other items net | -4.8 |

Note: The summary exclude Agriculture Credit Program
(a) Deposits other than demand deposit
(b) represents purchase of unit shares of UTB

Source: Royal Monetary Authority, Thimphu

TABLE 11.5: MONEY AND BANKING OF ROYAL MONETARY AUTHORITY OF BHUTAN (RMA), 1983 TO 1992

(million Nu.)

| Item | End of year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| Assets total | 51.4 | 116.9 | 244.0 | 320.4 | 506.5 | 720.5 | 930.6 | 1,418.9 | 2,457.0 | 2,241.9 |
| Foreign assets | 51.4 | 102.9 | 227.8 | 303.6 | 482.7 | 696.6 | 840.7 | 1,144.8 | 2,268.1 | 2,027.2 |
| Indian rupee | 2.8 | 6.7 | 7.2 | 9.4 | 15.7 | 15.6 | 33.2 | 16.0 | 28.6 | 21.7 |
| Other | 48.6 | 96.2 | 220.6 | 294.2 | 467.0 | 681.0 | 807.5 | 1,128.8 | 2,239.5 | 2,005.5 |
| Claims on deposit money banks | - | 14.0 | 16.2 | 16.8 | 23.8 | 23.9 | 29.5 | 38.6 | 47.7 | 43.7 |
| Claims on Government | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 60.4 | 235.5 | 141.2 | 171.0 |
| Liabilities total | 51.4 | 116.9 | 244.0 | 320.4 | 506.5 | 720.5 | 930.6 | 1,418.9 | 2,457.0 | 2,241.9 |
| Reserve money | 39.2 | 85.2 | 203.7 | 259.2 | 432.6 | 384.3 | 691.2 | 1,259.6 | 1,592.7 | 1,256.5 |
| With RMA | 17.1 | 39.0 | 133.3 | 168.5 | 329.1 | 235.2 | 503.5 | 1,065.5 | 1,346.7 | 911.5 |
| Currency outside banks | 22.1 | 46.2 | 70.4 | 90.7 | 103.5 | 149.1 | 187.7 | 194.1 | 246.0 | 345.0 |
| Government deposits | 13.0 | 23.9 | 22.2 | 19.4 | 9.4 | 180.3 | 77.5 | 65.0 | 116.4 | 20.2 |
| Other items (net) | -0.8 | 7.8 | 18.1 | 41.7 | 64.6 | 155.8 | 161.9 | 94.4 | 747.9 | 965.2 |

Source: Royal Monetary Authority of Bhutan.

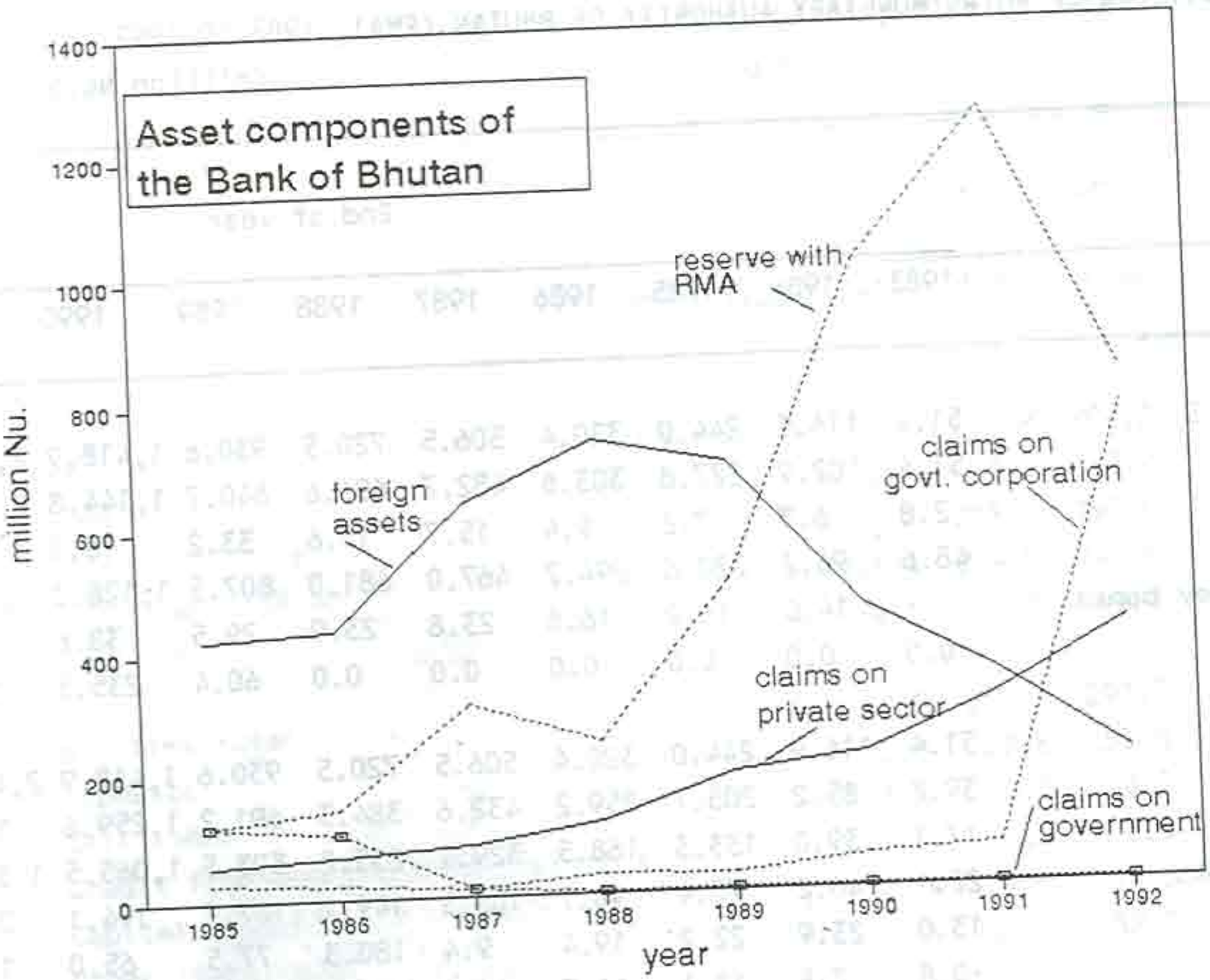
TABLE 11.6: MONEY AND BANKING, BANK OF BHUTAN, 1985 TO 1992

(million Nu.)

| Item | End of year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| Assets total | 741.8 | 768.1 | 1,054.9 | 1,129.2 | 1,416.9 | 1,741.8 | 1,975.2 | 2,238.9 |
| Reserve with RMA | 119.3 | 143.1 | 310.4 | 244.2 | 501.7 | 1,009.4 | 1,252.8 | 827.9 |
| Foreign assets | 420.9 | 433.8 | 637.0 | 733.8 | 692.9 | 460.8 | 348.8 | 212.5 |
| Indian rupee | 405.0 | 407.9 | 606.0 | 688.8 | 629.7 | 409.7 | 287.3 | 22.6 |
| Other | 15.9 | 25.9 | 30.9 | 45.0 | 63.2 | 51.1 | 61.5 | 190.0 |
| Claims on Government | 119.6 | 104.2 | 11.8 | 2.9 | 2.5 | 2.6 | 2.6 | 2.5 |
| Claims on Government Corporation | 26.6 | 19.7 | 13.5 | 32.4 | 27.6 | 53.2 | 64.8 | 770.1 |
| Claims on private sector | 55.4 | 67.3 | 82.3 | 115.9 | 192.2 | 215.9 | 306.1 | 425.8 |
| Liabilities total | 741.8 | 768.1 | 1,054.9 | 1,129.2 | 1,416.9 | 1,741.8 | 1,975.2 | 2,238.9 |
| Demand deposit (a) | 191.3 | 186.3 | 213.3 | 263.0 | 358.2 | 345.4 | 503.7 | 495.9 |
| Time deposit | 201.0 | 212.6 | 223.4 | 289.1 | 415.1 | 515.2 | 622.2 | 691.1 |
| Foreign currency deposits | 1.3 | 9.1 | 12.3 | 22.5 | 15.1 | 24.0 | 26.0 | 55.0 |
| Foreign liabilities | 53.3 | 37.3 | 42.7 | 46.0 | 87.4 | 118.0 | 137.0 | 357.2 |
| Indian rupee | 53.3 | 37.3 | 42.7 | 46.0 | 87.4 | 118.0 | 136.9 | 357.2 |
| Other | - | - | - | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Government deposits | 77.7 | 117.8 | 307.1 | 221.4 | 201.8 | 299.1 | 314.5 | 200.3 |
| Credit from RMA | - | - | - | - | - | - | - | - |
| Capital accounts | 132.6 | 150.1 | 175.9 | 176.9 | 229.2 | 240.1 | 236.0 | 533.9 |
| Other items (net) | 84.7 | 54.8 | 80.3 | 110.3 | 110.0 | 199.9 | 169.0 | -94.4 |

(a) savings deposits included in demand deposits

Source: Royal Monetary Authority, Thimphu


Asset components of the Bank of Bhutan
million Nu.
1400
1200
1000
800
600
400
200
0
reserve with RMA
foreign assets
claims on govt. corporation
claims on private sector
claims on government
1985
1986
1987
1988
1989
1990
1991
1992
year

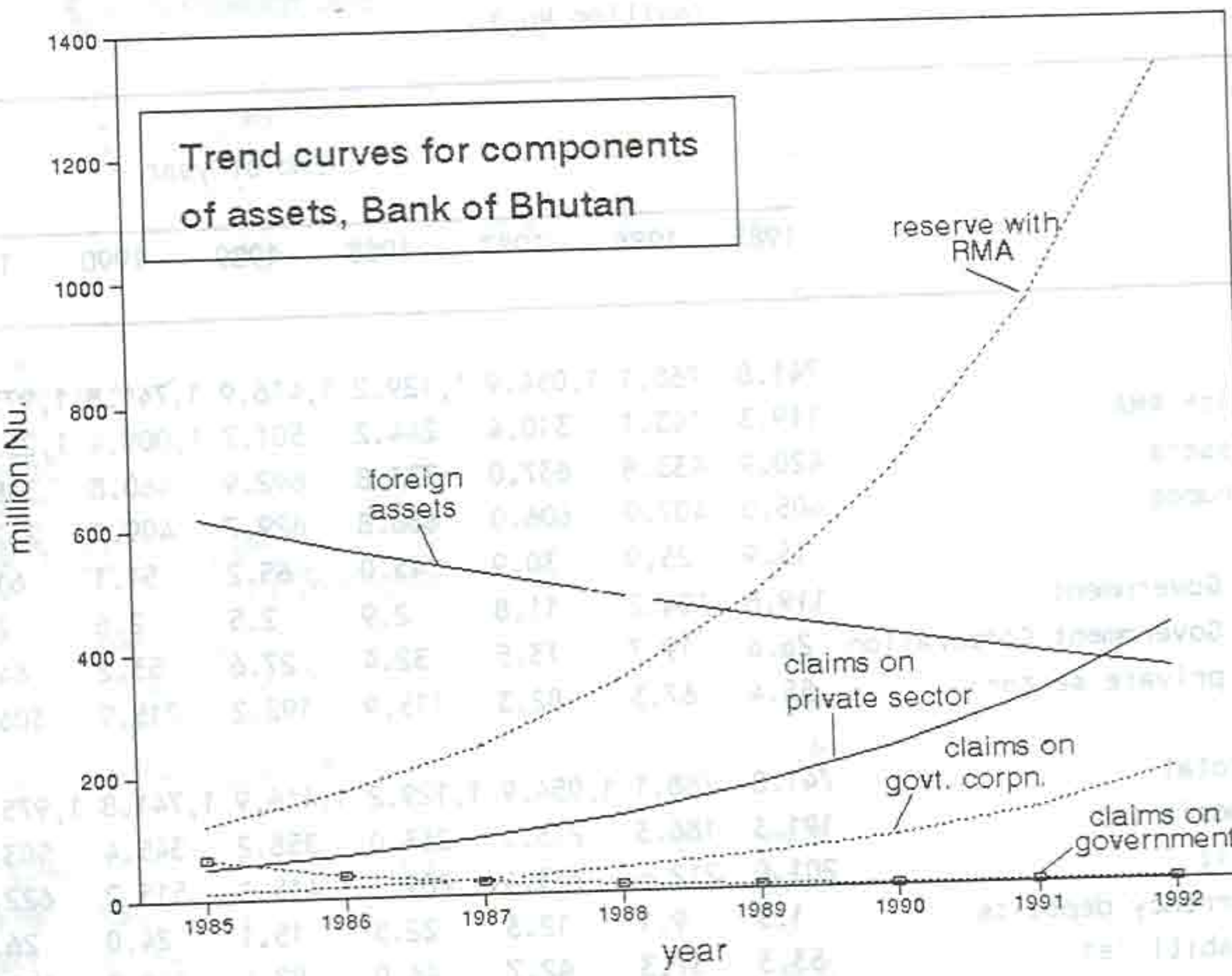

Trend curves for components of assets, Bank of Bhutan
million Nu.
1400
1200
1000
800
600
400
200
0
reserve with RMA
foreign assets
claims on private sector
claims on govt. corpn.
claims on government
1985
1986
1987
1988
1989
1990
1991
1992
year

TABLE 11.7: INVESTMENTS OF FINANCIAL INSTITUTION BY INDUSTRY(a), AMOUNTS OUTSTANDING, 1985 TO 1992

(million Nu.)

| Industry | End of year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
| Agriculture | 15.2 | 18.5 | 21.4 | 21.3 | 26.5 | 35.9 | 55.4 | 86.4 |
| Bank of Bhutan | n.a | n.a | n.a | 3.8 | 4.9 | 5.4 | 4.0 | 6.1 |
| Royal Insurance Corporation of Bhutan | n.a | n.a | n.a | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bhutan Development Finance Corporation | n.a | n.a | n.a | 17.5 | 21.6 | 30.5 | 51.4 | 80.2 |
| Unit Trust of Bhutan | n.a | n.a | n.a | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Industry, Manufacturing | 67.2 | 72.3 | 58.2 | 119.5 | 147.7 | 220.4 | 307.1 | 452.1 |
| Bank of Bhutan | n.a | n.a | n.a | 49.2 | 53.7 | 78.4 | 105.5 | 163.1 |
| Royal Insurance Corporation of Bhutan | n.a | n.a | n.a | 69.5 | 85.3 | 124.3 | 167.8 | 124.6 |
| Bhutan Development Finance Corporation | n.a | n.a | n.a | 0.8 | 8.7 | 17.7 | 33.8 | 57.1 |
| Unit Trust of Bhutan | n.a | n.a | n.a | 0.0 | 0.0 | 0.0 | 0.0 | 107.4 |
| Building and construction | 89.4 | 135.1 | 200.7 | 240.1 | 272.3 | 294.9 | 344.3 | 473.6 |
| Bank of Bhutan | n.a | n.a | n.a | 15.6 | 16.2 | 18.7 | 24.7 | 79.3 |
| Royal Insurance Corporation of Bhutan | n.a | n.a | n.a | 224.5 | 256.1 | 276.2 | 319.6 | 246.9 |
| Bhutan Development Finance Corporation | n.a | n.a | n.a | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 |
| Unit Trust of Bhutan | n.a | n.a | n.a | 0.0 | 0.0 | 0.0 | 0.0 | 146.5 |
| Trade and commerce | 18.0 | 19.8 | 32.8 | 78.0 | 127.8 | 181.7 | 254.9 | 328.1 |
| Bank of Bhutan | n.a | n.a | n.a | 38.5 | 61.6 | 76.0 | 108.2 | 155.1 |
| Royal Insurance Corporation of Bhutan | n.a | n.a | n.a | 38.8 | 66.2 | 105.7 | 146.7 | 112.9 |
| Bhutan Development Finance Corporation | n.a | n.a | n.a | 0.7 | 0.0 | 0.0 | 0.0 | 2.1 |
| Unit Trust of Bhutan | n.a | n.a | n.a | 0.0 | 0.0 | 0.0 | 0.0 | 58.0 |
| Transport | 30.9 | 26.4 | 28.7 | 41.3 | 56.0 | 96.6 | 126.8 | 751.0 |
| Bank of Bhutan | n.a | n.a | n.a | 10.2 | 22.8 | 39.2 | 57.7 | 665.8 |
| Royal Insurance Corporation of Bhutan | n.a | n.a | n.a | 31.1 | 33.2 | 57.4 | 69.1 | 50.2 |
| Bhutan Development Finance Corporation | n.a | n.a | n.a | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Unit Trust of Bhutan | n.a | n.a | n.a | 0.0 | 0.0 | 0.0 | 0.0 | 35.1 |
| Personal and other loans | 30.2 | 37.9 | 32.5 | 93.0 | 167.2 | 166.8 | 249.7 | 281.9 |
| Bank of Bhutan | n.a | n.a | n.a | 73.7 | 102.6 | 93.0 | 117.7 | 184.0 |
| Royal Insurance Corporation of Bhutan | n.a | n.a | n.a | 14.1 | 15.2 | 13.5 | 22.5 | 18.5 |
| Bhutan Development Finance Corporation | n.a | n.a | n.a | 5.2 | 49.4 | 60.3 | 109.8 | 17.4 |
| Unit Trust of Bhutan | n.a | n.a | n.a | 0.0 | 0.0 | 0.0 | 0.0 | 61.9 |
| Total investments | 250.9 | 310.0 | 374.3 | 593.2 | 797.5 | 996.3 | 1,338.2 | 2,373.1 |

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

Source: Royal Monetary Authority, Thimphu

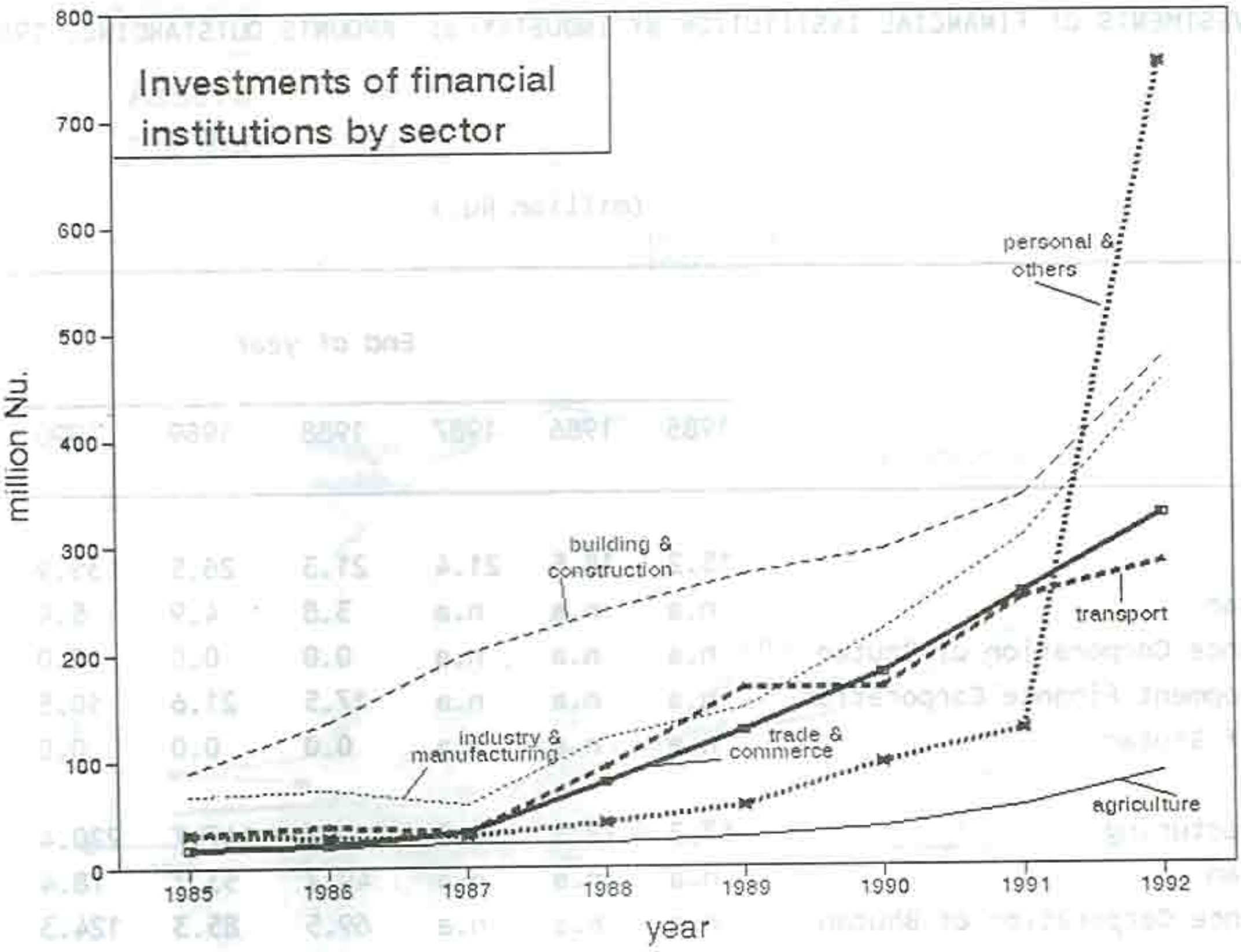



TABLE 11.8: INTEREST RATES FOR DEPOSITS IN FINANCIAL INSTITUTIONS, 1985 TO 1992

(percent per annum)

| Type of deposit | 1985 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|
| Savings | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Fixed deposits for | | | | | | | |
| 3 to 6 months | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 8.0 |
| 6 to 9 months | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 9.0 |
| 9 to 12 months | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 9.0 |
| 12 to 24 months | 8.5 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 10.0 |
| 24 to 36 months | 9.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 11.0 |
| 36 to 60 months | 10.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 13.0 |
| 60 months and over | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 13.0 |

Source: Bank of Bhutan

TABLE 11.9: LENDING RATES BY SECTOR AND TYPE OF LOAN, FINANCIAL INSTITUTIONS, 1991 AND 1992

(percent)

| Sector | 1991 | 1992 | |
|---|---|---|---|
| | Maximum rate | Term loan | Working capital |
| Commercial | | | |
| Export trade to third countries | 12.0 | 13 | 13.0 |
| General trade | 15.0 | 17 | 17.0 |
| Transport | | | |
| Buses, lorries and trucks | 15.0 | 15 | 15.0 |
| Light vehicle and two wheelers | 15.0 | 17 | - |
| Agriculture and Animal Husbandry | .. | | |
| Up to Nu. 20,000 | 10.0 | 14 | 14.0 |
| Nu. 20,000 to Nu. 100,000 | 12.0 | 14 | 14.0 |
| Above Nu. 100,000 | 13.0 | 14 | 14.0 |
| Manufacturing/Industry | | | |
| Up to Nu. 200,000 | 10.0 | 13 | 15.0 |
| Nu. 200,000 to Nu. 1,000,000 | 12.0 | 13 | 15.0 |
| Nu. 1,000,000 to 5,000,000 | 13.0 | 13 | 15.0 |
| Nu. 5,000,000 to Nu.20,000,000 | 14.0 | 14 | 15.0 |
| Above Nu. 20,000,000 | 14.0 | 15.0 | 15.0 |
| Housing & construction | 14.0 | 15 | 15.0 |
| Tourism & other service sector industries | 13.0 | 15 | 15.0 |
| Consumer loan | 15.0 | 17 | - |
| Equity finance | .. | 14 | - |
| Overdraft against fixed deposits | .. 2 % plus deposit rate | | |

Source: Royal Monetary Authority, Thimphu

# CHAPTER 12: PUBLIC FINANCE

## INTRODUCTION

Not so long ago taxes in Bhutan were collected in kind; the levy o
agricultural produce being on an average one fourth of th
production of each farming family and labour contribution of abou
two months for every adult. By 1960, as the government began t
grow, institutionalization of public finance became a necessity.

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

The first budget on modern lines was presented by the Ministry o
Finance in 1971. It was called the Civil Budget as it covered th
needs of the Ministry of Finance, Home Affairs and Foreign Affairs.
The requirements of development oriented Ministries lik
Communication and Tourism, Trade and Industry, Forest an
Development were provided under a separate development budge
administered first by the development secretariat and then by it
successor, the Planning Commission. With the commencement of the
Fifth Five Year Plan the classification of the government budge
into civil and development was replaced by the concept o
Maintenance and Development expenditures. Maintenance or curren
expenditures reflected mostly the current or consumptio
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, 1981/82 TO 1991/92

(millions Nu.)

| Ministry/Non-ministerial Organisation | 1981/82 (revised) | 1985/86 (actual) | 1990/91 (Budget) | 1991/92 (pre) |
|---|---|---|---|---|
| Ministries | | | | |
| Home Affairs | 12.6 | 24.1 | 71.7 | 80.8 |
| Finance | 19.4 | 82.3 | 171.6 | 78.6 |
| Communication & Tourism | 9.5 | 18.1 | 90.6 | 141.6 |
| Planning | 1.0 | 2.6 | 8.5 | 9.4 |
| Social Services | 51.8 | 137.6 | 217.1 | 224.0 |
| Agriculture | 26.4 | 50.7 | 135.8 | 111.6 |
| Foreign Affairs | 7.9 | 21.9 | 50.0 | 72.7 |
| Trade and Industries | 7.0 | 13.0 | 109.5 | 82.7 |
| Non Ministerial organisations | | | | |
| Special Commission | 1.2 | 9.8 | 12.3 | 7.9 |
| Central Monastic Secretariat | - | 0.6 | 24.6 | 28.1 |
| Royal Monetary Authority | - | - | - | - |
| Social and Cultural Division | 0.3 | 0.4 | - | - |
| His Majesty's Secretariat | 1.1 | 4.7 | 4.1 | 4.8 |
| Science and Technology | - | 0.3 | - | - |
| Royal Civil Service Commission | 0.5 | 1.1 | 2.1 | 3.7 |
| Royal Audit Authority | 1.0 | 2.2 | 5.4 | 6.4 |
| Royal Advisory Council | 1.0 | 1.8 | 2.2 | 2.0 |
| National Assembly | 0.6 | 1.6 | 2.3 | 2.5 |
| Urban Development Corporation | 1.2 | 1.0 | - | - |
| National Women's Association | - | 0.3 | 2.1 | 2.2 |
| Judiciary | 1.7 | 5.1 | 12.2 | 12.5 |
| Bhutan Olympic Committee | - | 0.3 | 2.1 | 2.7 |
| Druk Air Corporation | 0.2 | - | - | .. |
| Tourism Corporation | 7.4 | - | - | .. |
| Bhutan Govt. Transport Service | 11.4 | - | - | .. |
| Dzongkhag Development Commission | - | - | 2.9 | 1.7 |
| Zonal Administration, Chhukha | - | - | 2.7 | 40.8 |
| Zonal Administration, Tsirang | - | - | 2.6 | 25.7 |
| Zonal Administration, Yongphula | - | - | 2.2 | 74.4 |
| Zonal Administration, Gelephu | - | - | 2.8 | 28.5 |
| Dzongkhags | 6.6 | 61.7 | 156.1 | - |
| Dzongkhag Administration, Thimphu | - | - | - | 18.5 |
| Common public expenditure | n.a | n.a | - | 364.4 |
| Total current expenditure | 169.7 | 441.5 | 1093.5 | 1428.4 |

(a) 1981/82 & 1985/86 refer to 12 month period 1 April to 31 March

Source: Division of National Budget and Accounts

TABLE 12.2: BUDGETARY DEVELOPMENT EXPENDITURE OF THE GOVERNMENT BY MINISTRY, 1985/86 TO 1991/92

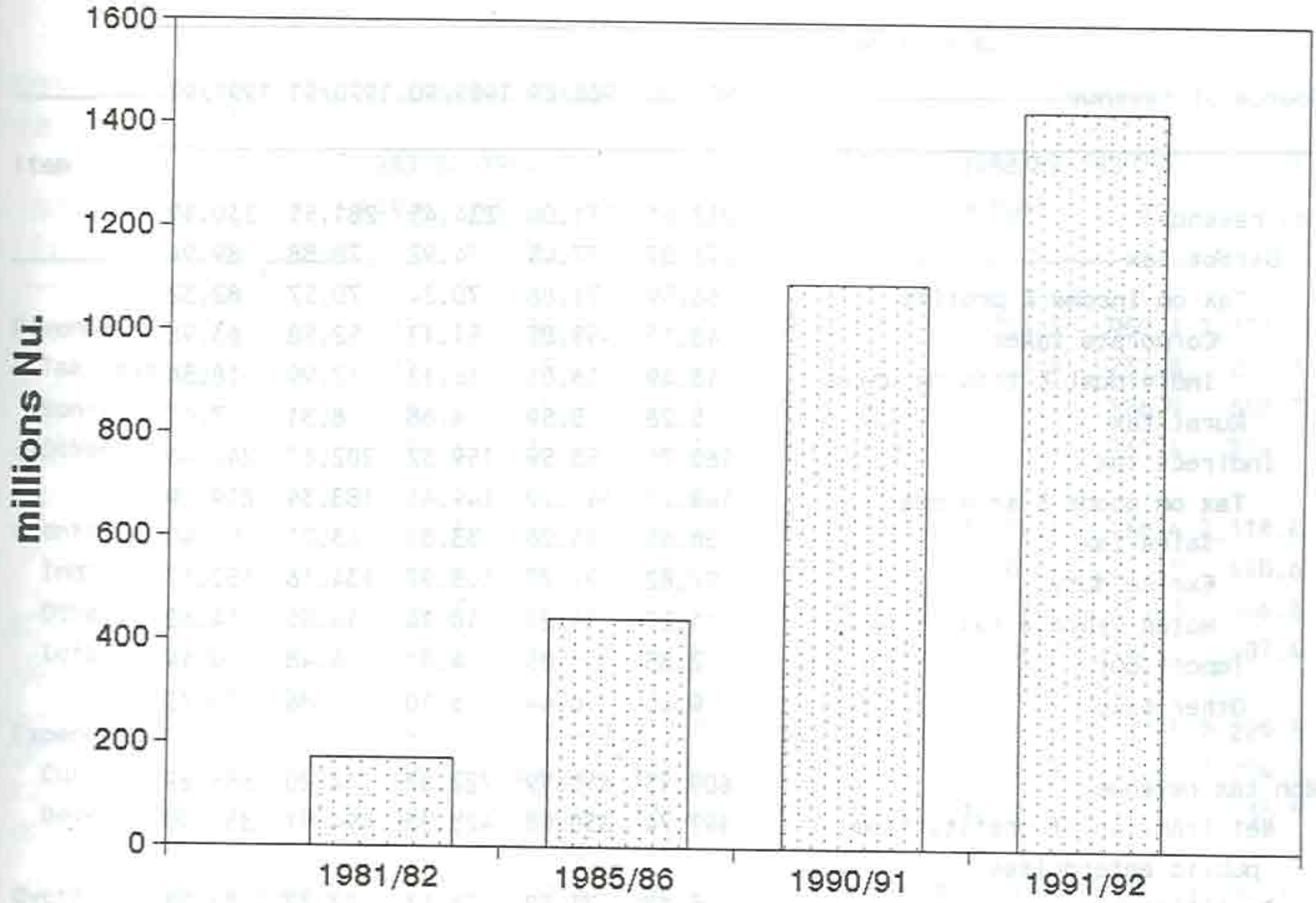
(millions Nu.)

| Ministerial/non ministerial organizations | 1985/86 actual | 1986/87 actual (a) | 1987/88 actual (b) | 1988/89 actual | 1989/90 actual | 1990/91 actual | 1991/92 pre |
|---|---|---|---|---|---|---|---|
| Ministries | | | | | | | |
| Home Affairs | 9.30 | 9.70 | 6.22 | 14.22 | 21.92 | 19.77 | 27.17 |
| Finance | 21.40 | 28.30 | 37.46 | 11.83 | 18.47 | 21.08 | 14.49 |
| Communication & Tourism | 12.10 | 27.60 | 199.54 | 253.80 | 250.31 | 123.39 | 172.53 |
| Social Services | 143.90 | 128.60 | 83.17 | 83.58 | 128.34 | 133.37 | 275.13 |
| Agriculture | 100.10 | 106.30 | 159.07 | 128.93 | 128.41 | 213.78 | 260.11 |
| Foreign Affairs | 5.30 | 5.60 | 0.94 | 2.85 | 0.98 | 1.68 | 1.76 |
| Trade and Industries | 370.60 | 376.10 | 265.54 | 106.13 | 97.66 | 75.19 | 33.87 |
| Planning | 5.00 | 2.60 | 5.86 | 0.50 | 11.21 | 4.93 | 0.24 |
| Non ministerial organizations | | | | | | | |
| Special Commission | 0.90 | 2.40 | 2.37 | 3.71 | 5.29 | 3.30 | 3.73 |
| Central Monastic Sec. | 0.20 | 2.10 | 2.10 | 4.72 | 8.98 | 5.16 | 2.88 |
| Royal Secretariat (HM) | - | 0.30 | 0.10 | 0.20 | 0.97 | 0.39 | 0.04 |
| Science and Technology | 1.20 | 0.90 | 0.48 | - | - | - | |
| Royal Civil Service Commission | 9.80 | 21.10 | 0.71 | 0.37 | 1.80 | 0.81 | 0.11 |
| Royal Audit Authority | 0.20 | 0.70 | 0.51 | 0.45 | 2.19 | 0.33 | 0.03 |
| Royal Advisory Council | 0.30 | 0.20 | 0.05 | 0.01 | 0.02 | 0.03 | 0.07 |
| National Assembly | 0.20 | 0.20 | 0.73 | 1.21 | 0.02 | 0.04 | 0.04 |
| Nat. Urban Dev. Corp. | | | | | | | |
| Nat. Women's Association | 3.80 | 0.90 | 1.30 | 0.77 | 0.21 | 0.76 | 0.13 |
| Judiciary | 0.90 | 0.40 | 0.44 | 1.11 | 0.78 | 1.72 | 0.24 |
| Bhutan Olympic Committee | 1.60 | - | 0.08 | 0.02 | 0.01 | 0.11 | 0.00 |
| Dzongkhag Dév.Commission | .. | .. | 0.35 | 0.40 | 0.32 | 0.07 | 0.21 |
| SAARC Conference complex | | | | | | | |
| Zonal Administration, I | .. | .. | 4.67 | 4.33 | 5.56 | 11.68 | 13.65 |
| Zonal Administration, II | .. | .. | 4.52 | 4.02 | 8.55 | 13.55 | 59.50 |
| Zonal Administration, III | .. | .. | 2.85 | 1.61 | 5.03 | 3.77 | 22.77 |
| Zonal Administration, IV | .. | .. | 3.15 | 3.38 | 6.19 | 5.99 | 10.24 |
| Dzongkhags | 56.1 | 33.0 | - | - | - | - | - |
| Dzongkhag administration, Thimphu | - | - | 1.58 | 1.23 | 3.13 | 2.48 | 0.66 |
| Common public expenses | n.a | n.a | 181.3 | 439.0 | 34.4 | 80.5 | 90.8 |
| Total development expenses (c) | 742.9 | 747.0 | 965.1 | 1,068.4 | 740.7 | 723.9 | 990.5 |

(a) In 1986/87, Nu. 87.9 million of financing was wrongly classified as expenditures.
(b) 1986/87 refer to the twelve month period 1 April to 31 March. 1987/88 refers to 1 April 1987 to 30 June 1988.
(c) Expenditure in 1987/88 and 1988/89 includes lending and equity to public and joint sector corporations.

Source: Division of National Budget and Accounts.

Current budget expenditure, 1981/82 to 1991/92




Development expenditure, 1985/86 to 1991/92

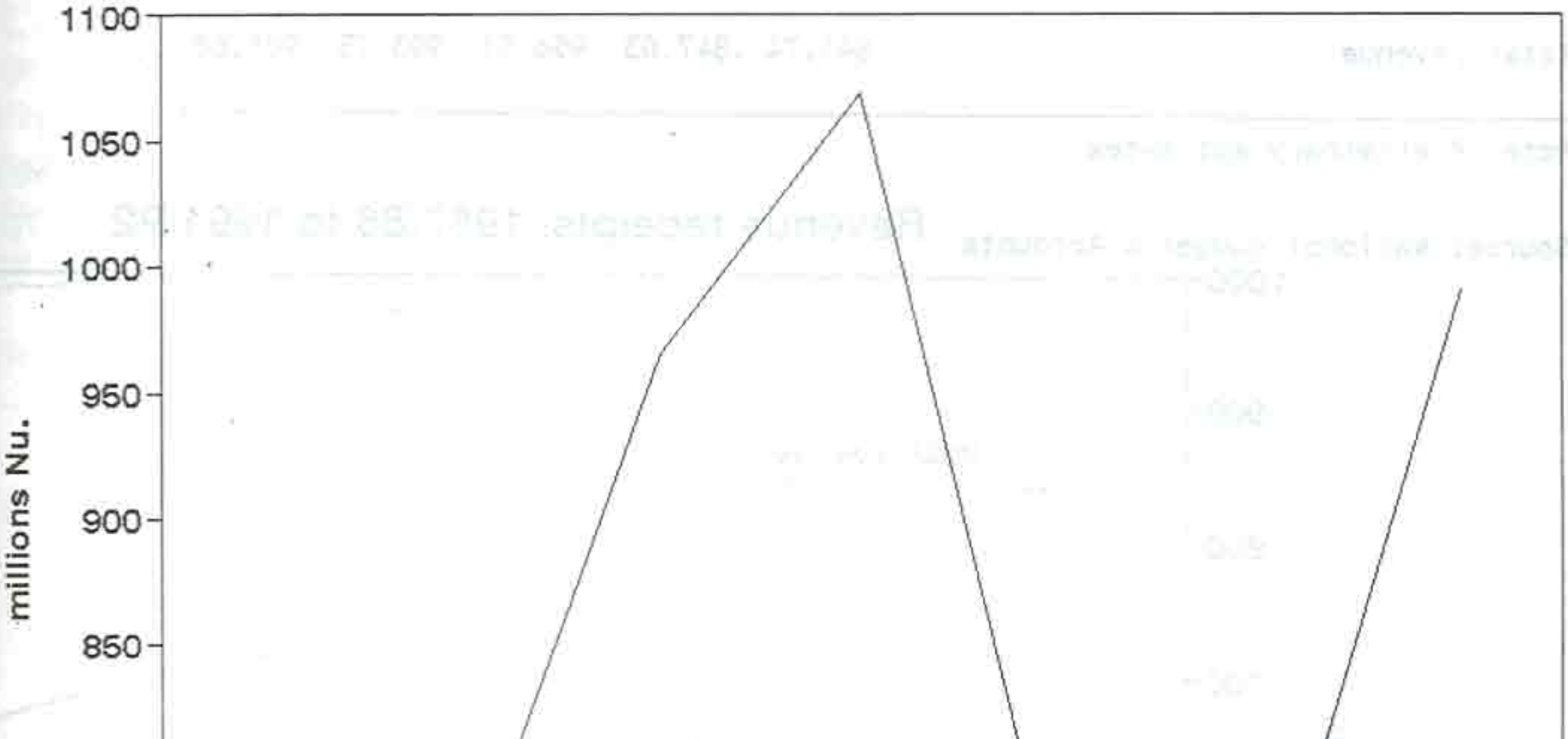


TABLE 12.3 : BUDGETARY RECEIPTS OF THE GOVERNMENT BY SOURCE, 1987/88 TO 1991/92

(millions Nu.)

| Source of revenue | 1987/88 | 1988/89 | 1989/90 | 1990/91 | 1991/92 |
|---|---|---|---|---|---|
| Tax revenue | 232.61 | 231.04 | 234.45 | 281.55 | 330.39 |
| Direct tax | 71.87 | 77.45 | 74.92 | 78.88 | 89.94 |
| Tax on income & profits | 66.59 | 71.86 | 70.24 | 70.57 | 82.32 |
| Corporate taxes | 48.10 | 55.85 | 54.13 | 52.58 | 63.98 |
| Individual & trading units | 18.49 | 16.01 | 16.12 | 17.99 | 18.34 |
| Rural tax | 5.28 | 5.59 | 4.68 | 8.31 | 7.61 |
| Indirect tax | 160.74 | 153.59 | 159.52 | 202.67 | 240.46 |
| Tax on goods & services | 148.27 | 141.29 | 149.41 | 188.34 | 219.19 |
| Sales tax | 38.89 | 34.26 | 33.31 | 43.21 | 52.40 |
| Excise duty | 97.82 | 92.77 | 105.97 | 134.16 | 152.17 |
| Motor vehicle tax | 11.57 | 14.27 | 10.14 | 10.95 | 14.62 |
| Import duty | 2.83 | 5.85 | 4.01 | 6.48 | 10.54 |
| Other taxes | 9.65 | 6.44 | 6.10 | 7.86 | 10.73 |
| Non tax revenue | 609.13 | 615.99 | 722.07 | 712.20 | 655.29 |
| Net transfer of profits from public enterprises | 397.74 | 330.58 | 423.38 | 494.97 | 357.90 |
| Royalties | 45.12 | 71.02 | 28.41 | 27.77 | 31.53 |
| Dividends | 21.28 | 31.28 | 52.43 | 41.30 | 37.40 |
| Administrative fees & charges | 30.74 | 48.40 | 36.30 | 32.41 | 35.01 |
| Sale of government properties | 10.15 | 10.83 | 53.48 | 22.75 | 46.81 |
| Unclassed revenue | 1.96 | 1.34 | 0.71 | 0.64 | 3.31 |
| Receipts from govt. departments | 96.14 | 120.19 | 122.78 | 90.27 | 140.77 |
| Other non revenue receipts | 6.01 | 2.35 | 4.59 | 2.08 | 2.55 |
| Total revenue | 841.74 | 847.03 | 956.51 | 993.75 | 985.68 |

Note: Preliminary estimates

Source: National Budger & Accounts

Revenue receipts, 1987/88 to 1991/92

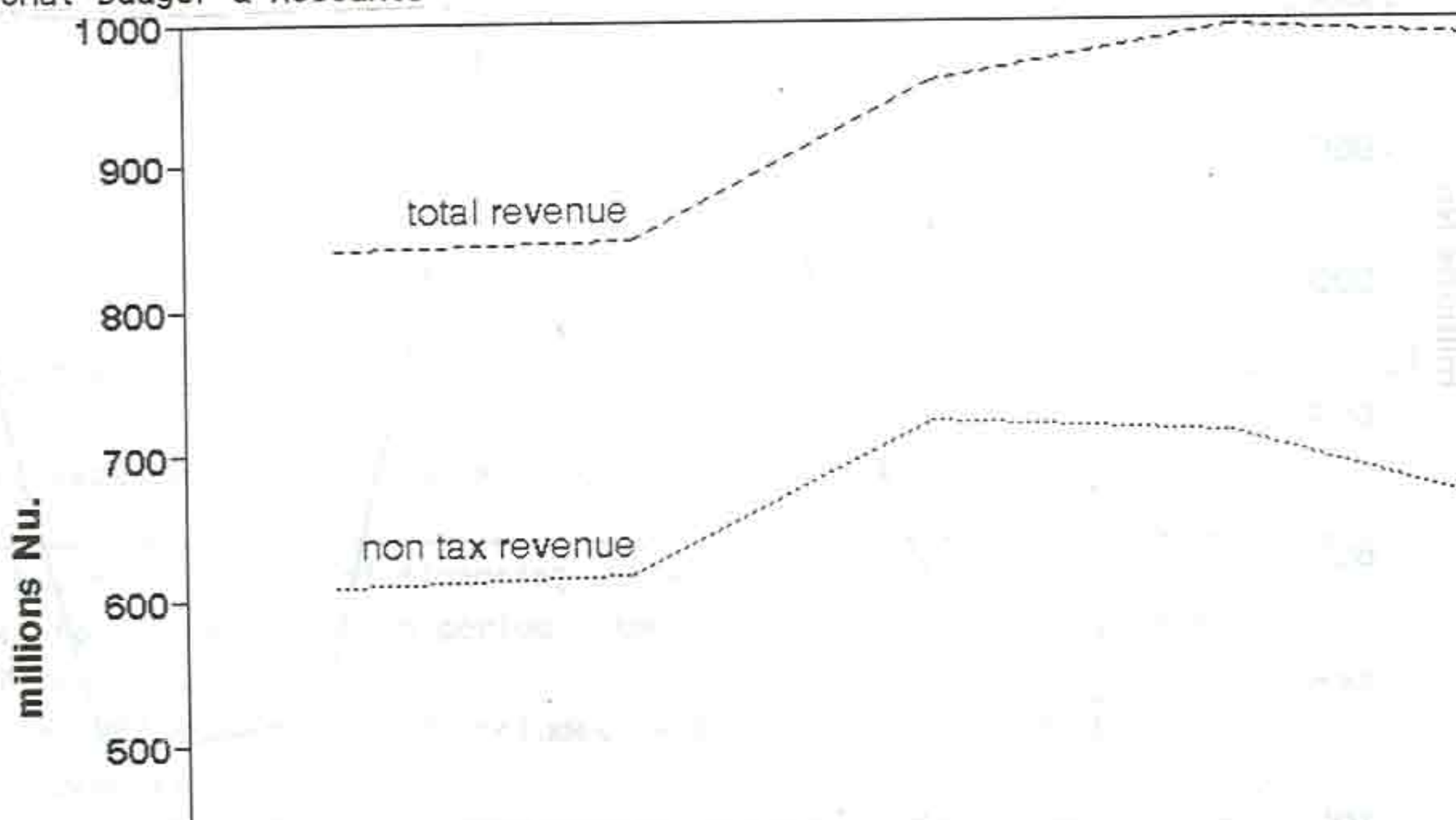


TABLE 12.4: SUMMARY OF BUDGETARY OPERATIONS, 1983/84 TO 1991/92 (a)

(million Nu.)

| Item | 1983/84 actual | 1984/85 actual | 1985/86 actual | 1986/87 actual | 1987/88 actual | 1988/89 actual | 1989/90 pre | 1990/91 pre | 1991/92 pre |
|---|---|---|---|---|---|---|---|---|---|
| Revenue | 196.0 | 276.2 | 257.5 | 340.1 | 753.1 | 733.3 | 980.1 | 1,211.0 | 985.7 |
| Tax revenue | 113.7 | 133.7 | 135.9 | 173.8 | 232.3 | 232.6 | 231.8 | 250.6 | 330.4 |
| Non-tax revenue | 63.2 | 116.2 | 97.3 | 139.3 | 491.6 | 479.8 | 586.9 | 640.7 | 655.3 |
| Other | 19.1 | 26.3 | 24.3 | 27.0 | 29.2 | 20.9 | 161.4 | 319.7 | n.a |
| Grants | 674.3 | 788.3 | 959.2 | 1,122.4 | 1,683.0 | 1,413.4 | 1,468.4 | 2,118.4 | 791.0 |
| India | 256.2 | 355.6 | 334.1 | 486.7 | 708.9 | 501.9 | 290.0 | 440.6 | 237.0 |
| Other | 222.1 | 156.5 | 367.6 | 295.6 | 221.0 | 178.2 | 198.3 | 466.8 | 554.0 |
| Total grants | 478.3 | 512.1 | 701.7 | 782.3 | 929.9 | 680.1 | 488.3 | 907.4 | |
| Expenditure | 699.2 | 758.4 | 1,217.7 | 1,220.7 | 1,739.7 | 2,021.1 | 1,737.5 | 2,229.5 | 2,133.0 |
| Current | 223.2 | 304.0 | 441.5 | 522.6 | 774.6 | 952.8 | 1,068.5 | 1,094.0 | 1,068.0 |
| Development | 476.0 | 454.4 | 776.2 | 698.1 | 965.1 | 1,068.3 | 669.0 | 1,135.5 | 1,065.0 |
| Overall surplus/deficit | (24.9) | 29.9 | (258.5) | (98.3) | (56.7) | (607.7) | (269.1) | (111.1) | (356.3) |

Note: "pre" stands for preliminary estimates
(a) Years refer to period 1 April to 31 March. 1987/88 refers to 15 months period 1 April 1987 to 30 June 1988 while 1988/89 onwards refer to 1 July to 30 June

Source: Ministry of Finance

# CHAPTER 13: PLAN OUTLAYS

## INTRODUCTION

Development planning in Bhutan can be traced back to the year 1 when the first Five Year Plan (1961/62 to 1965/66) was drawn u

Initially, a self contained development secretariat was establis to implement the plan. At the time of preparation of the third p in 1971, the Planning Commission was established headed by the Majesty the King. In the absence of basic economic information skilled manpower, the formulation of the third plan, like earl ones was relatively simple. Major developments in regard to consolidation of the planning process took place in the fourth p period, when the Dzongkhags were involved in the develop process.

Until 1981/82 the responsibility for making plan allocatio rising internal resources, and negotiations, foreign assista etc. lay with the Planning Commission. In 1981/82 a large part the financial responsibilities of the Commission was transferred the Ministry of Finance. The Commission was however, invested wi responsibilities for the formulation of development plans a allocations of investment resources.

A substantial infrastructure for development of the economy h been built up in the successive five year plans. The planni process have gained a good deal of comprehensiveness a sophistication. These two factors enabled the economy to devel the capacity of absorbing much higher volumes of investme resources for development in the later five year plans.

The Sixth Five Year Plan was successfully completed in 1991/92. T seventh five year plan will lay greater emphasis towards attaini progressively higher rates of economic growth associating with better living standards of the people. It also emphasizes up ensuring the spiritual and emotional well being of the people a preservation of Bhutan's cultural heritage and its rich natur resources.

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

(Nu. in millions)

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

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

Source: Ministry of Planning, Thimphu

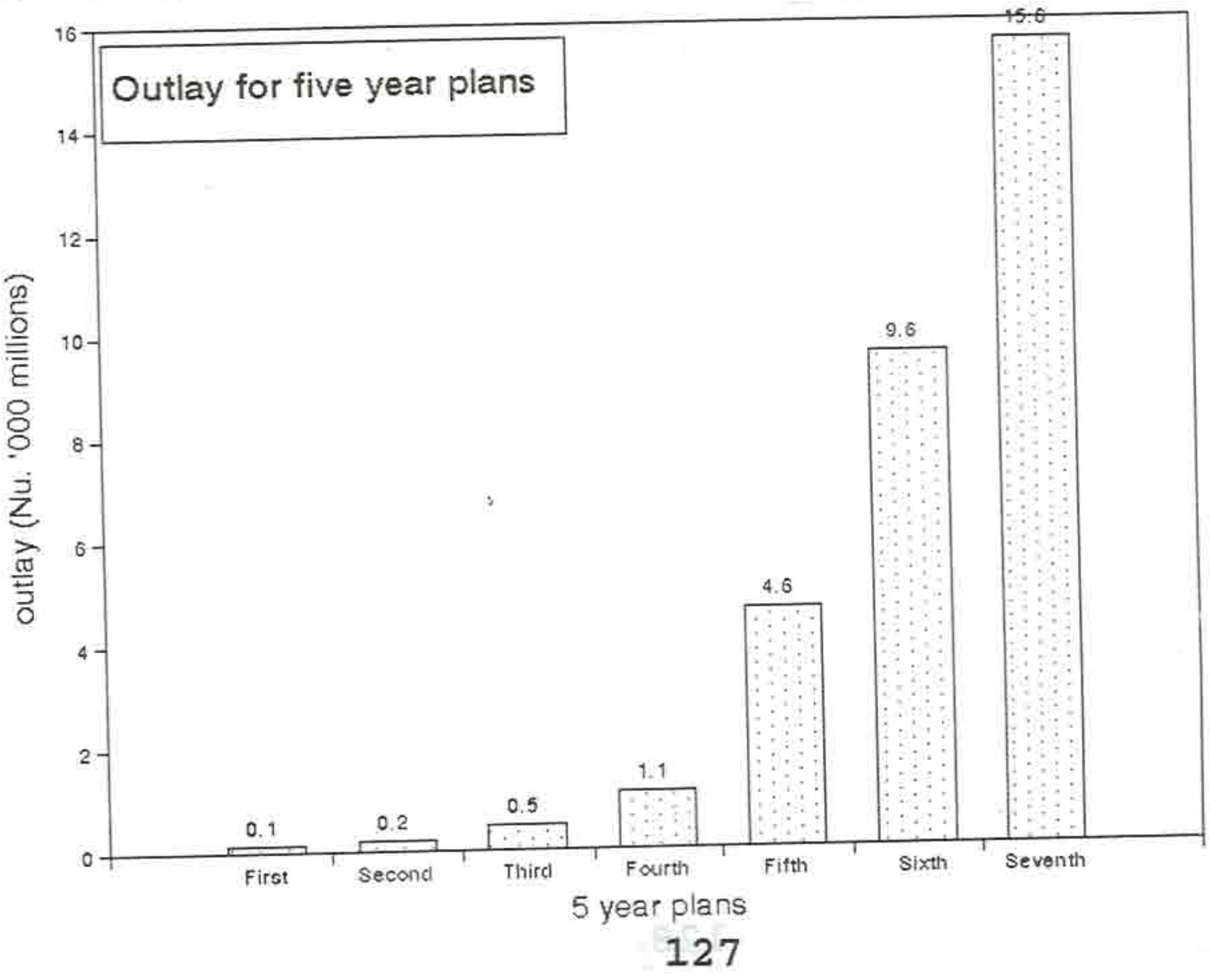


TABLE 13.2: OUTLAYS OF DEVELOPMENT PLANS, PERCENTAGE BY CATEGORY, FIRST PLAN TO SEVENTH PLAN

(percent)

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

(a) See footnotes to Table 13.1.

Source: Ministry of Planning, Thimphu

TABLE 13.3: SIXTH PLAN OUTLAYS BY SECTOR, 1987 TO 1992

(million Nu.)

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

Source: Minisrtry of Planning, Thimphu

# CHAPTER 14: GROSS DOMESTIC PRODUCT

## INTRODUCTION

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

The end result of all the economic activities that has taken pl in an economy during an accounting period is reflected in Gr Domestic Product (GDP). GDP represents the money value of all goods and services that have produced within the territorial lim of the country and are available for final use like consumpti gross capital formation and net exports.

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

TABLE 14.1: GROSS DOMESTIC PRODUCT AT FACTOR COST IN CURRENT PRICES BY KIND OF ACTIVITY, 1980 TO 1992

(million Nu.)

| Activity | 1980 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|---|
| Agriculture, livestock, forestry and fishing | 621.4 | 1,236.2 | 1,399.2 | 1,623.5 | 1,746.3 | 1,924.3 | 2,094.9 | 2,305.1 | 2,460.5 |
| Agriculture | 309.9 | 580.6 | 644.4 | 715.3 | 829.8 | 937.7 | 1,057.6 | 1,180.8 | 1,363.0 |
| Livestock | 139.2 | 276.0 | 322.1 | 372.3 | 395.9 | 441.2 | 474.8 | 528.6 | 487.4 |
| Forestry and logging | 172.3 | 379.6 | 432.7 | 535.9 | 520.6 | 545.4 | 562.5 | 595.7 | 610.1 |
| Fishing | - | - | - | - | - | - | - | - | - |
| Mining and quarrying | 6.8 | 20.2 | 37.4 | 37.0 | 33.4 | 41.8 | 44.8 | 90.0 | 98.8 |
| Manufacturing | 35.8 | 128.3 | 137.1 | 204.7 | 226.5 | 302.5 | 396.7 | 499.5 | 647.4 |
| Electricity and gas | 2.5 | 6.8 | 96.6 | 377.0 | 388.0 | 391.0 | 384.7 | 384.4 | 445.3 |
| Construction | 88.5 | 290.5 | 267.5 | 349.9 | 309.0 | 365.4 | 398.7 | 359.7 | 595.1 |
| Wholesale, retail trade, hotels and restaurants | 121.5 | 203.0 | 234.1 | 248.2 | 258.5 | 282.3 | 321.6 | 382.9 | 479.7 |
| Transport,storage and communications | 47.9 | 104.1 | 114.2 | 126.0 | 180.6 | 235.6 | 346.7 | 398.5 | 471.2 |
| Finance,insurance and real estate | 70.2 | 149.3 | 170.7 | 210.5 | 263.9 | 306.9 | 378.0 | 409.4 | 438.8 |
| Community, social services (government) | 120.4 | 262.2 | 350.8 | 416.0 | 507.8 | 525.1 | 540.5 | 564.4 | 608.9 |
| Less: Imputed bank service charges | -20.0 | -51.0 | -49.0 | -62.0 | -63.1 | -67.0 | -58.4 | -51.8 | -68.1 |
| Gross domestic product | 1,095.0 | 2,349.6 | 2,758.6 | 3,530.8 | 3,850.9 | 4,307.9 | 4,848.2 | 5,342.1 | 6,177.9 |
| Annual growth rate (%) | .. | 14.1 | 17.4 | 28.0 | 9.1 | 11.9 | 12.5 | 10.2 | 15.6 |

Source: CSO, Ministry of Planning, Thimphu

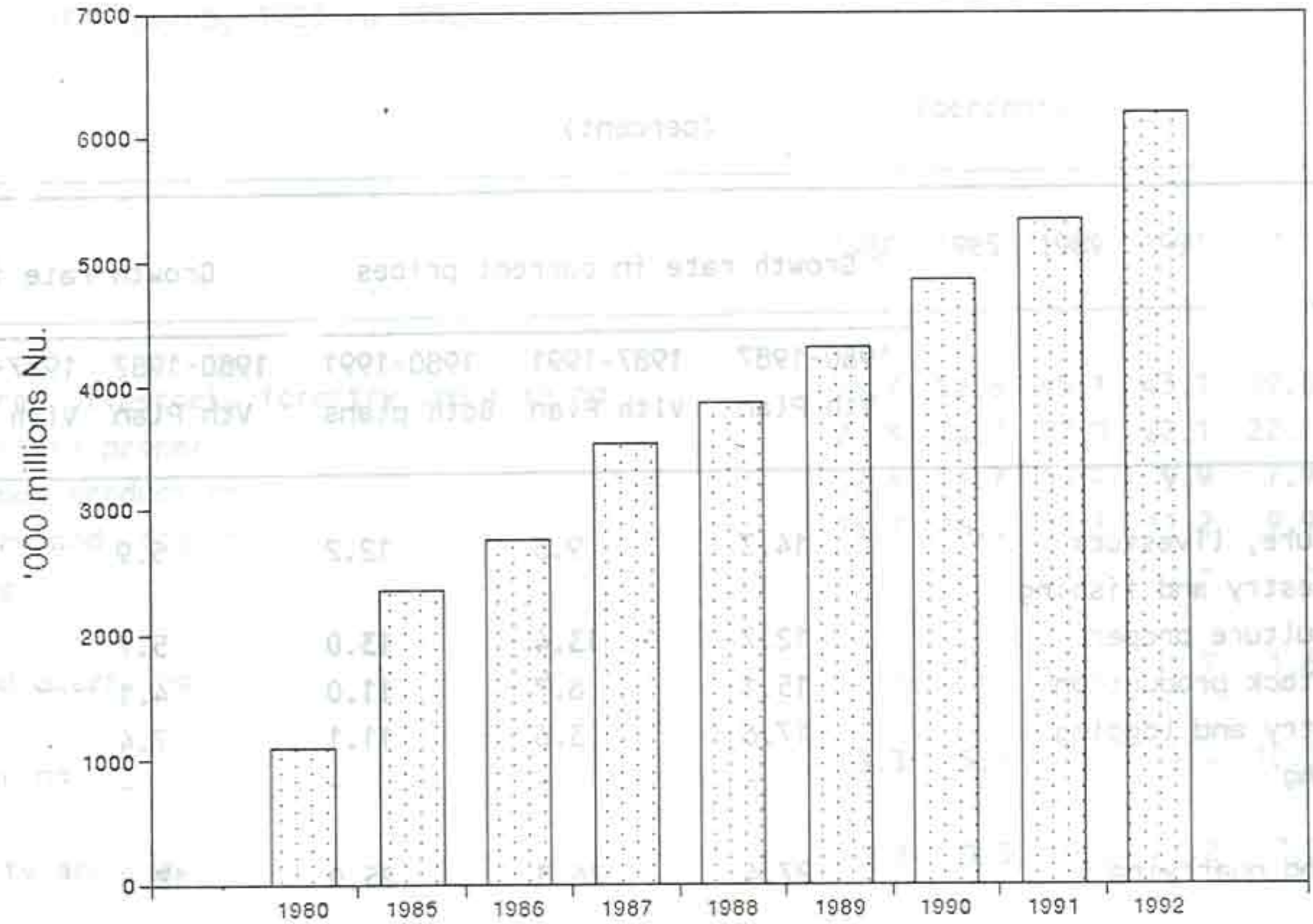
TABLE 14.2: GROSS DOMESTIC PRODUCT AT FACTOR COST IN 1980 PRICES BY KIND OF ACTIVITY, 1980 TO 199

(million Nu.)

| Activity | 1980 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 19 |
|---|---|---|---|---|---|---|---|---|---|
| Agriculture, livestock, forestry and fishery | 621.4 | 833.9 | 881.0 | 925.8 | 939.7 | 962.9 | 992.8 | 1,024.6 | 1,0 |
| Agriculture | 309.9 | 411.6 | 436.3 | 458.1 | 485.6 | 514.7 | 530.9 | 544.8 | 55 |
| Livestock | 139.2 | 168.6 | 177.4 | 184.5 | 191.5 | 201.7 | 212.2 | 221.3 | 23 |
| Forestry and logging | 172.3 | 253.7 | 267.3 | 283.2 | 262.6 | 246.5 | 249.7 | 258.5 | 24 |
| Fishing | - | - | - | - | - | - | - | - | |
| Mining and quarrying | 6.8 | 12.6 | 22.2 | 21.6 | 19.0 | 21.7 | 19.3 | 27.4 | 2 |
| Manufacturing | 35.8 | 75.4 | 71.0 | 105.0 | 110.3 | 129.2 | 158.1 | 186.7 | 20 |
| Electricity and gas | 2.5 | 6.0 | 60.4 | 229.0 | 225.1 | 222.3 | 204.1 | 200.4 | 21 |
| Construction | 88.5 | 169.0 | 141.8 | 152.3 | 129.0 | 136.2 | 136.8 | 116.2 | 15 |
| Wholesale and retail trade, hotels and restaurants | 121.5 | 132.4 | 143.4 | 142.4 | 129.2 | 133.6 | 134.7 | 145.1 | 16 |
| Transport, storage and communications | 47.9 | 79.4 | 83.9 | 91.3 | 122.1 | 142.4 | 172.1 | 182.0 | 19 |
| Finance, insurance and real estate | 70.2 | 110.1 | 126.2 | 135.7 | 141.0 | 162.9 | 212.2 | 208.8 | 21 |
| Community, social and personal services(government) | 120.4 | 126.0 | 168.6 | 200.0 | 210.0 | 217.0 | 223.3 | 233.2 | 25 |
| Less: Imputed bank service charges | -20.0 | -25.0 | -24.0 | -30.0 | 31.8 | -41.1 | -28.8 | -21.0 | -2 |
| Gross domestic product | 1,095.0 | 1,519.8 | 1,674.5 | 1,973.1 | 1,993.6 | 2,087.1 | 2,224.6 | 2,303.4 | 2,39 |
| Annual growth rate (%) | .. | 3.7 | 10.2 | 17.8 | 1.2 | 4.7 | 6.6 | 3.5 | 4 |

Source: CSO, Ministry of Planning,Thimphu

GDP at factor cost in current prices




GDP at factor cost in 1980 prices

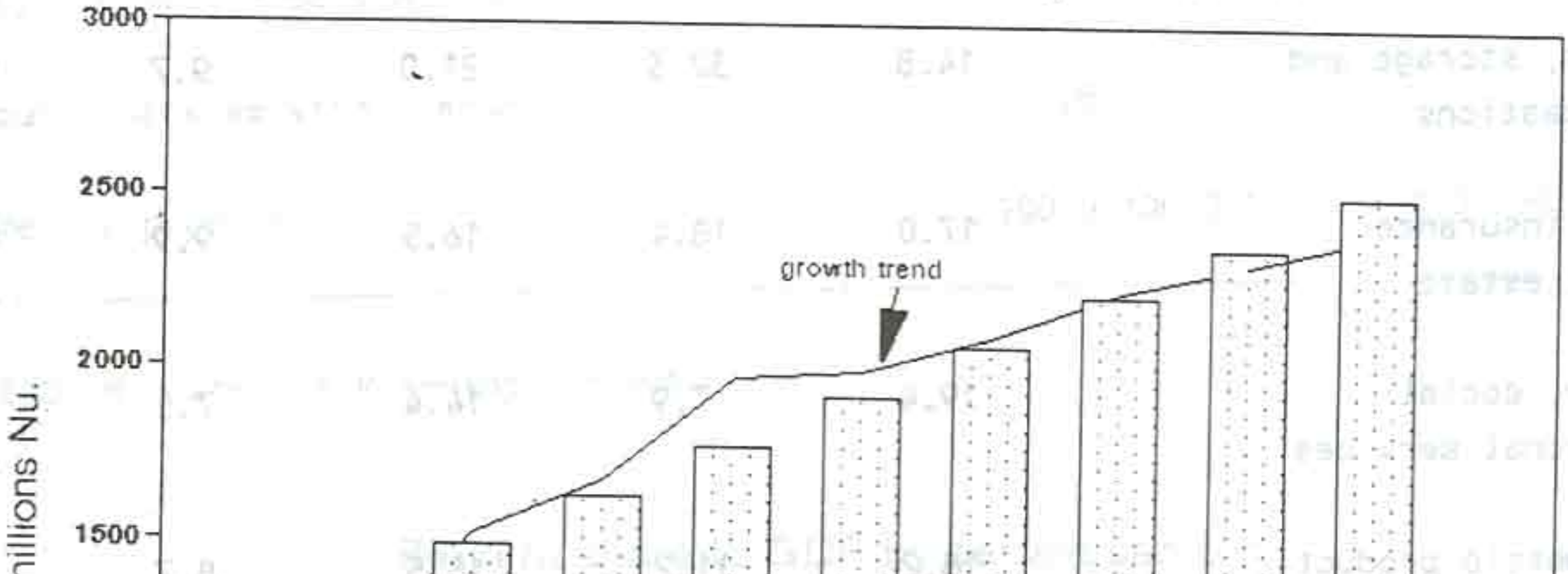


TABLE 14.3: COMPOUND GROWTH RATE OF GROSS DOMESTIC PRODUCT DURING FIFTH AND SIXTH PLAN BY KIND OF ACTIVITY

(percent)

| Activity | Growth rate in current prices | | | Growth rate in 1980 prices | | |
|---|---|---|---|---|---|---|
| | 1980-1987 Vth Plan | 1987-1991 VIth Plan | 1980-1991 Both plans | 1980-1987 Vth Plan | 1987-1991 VIth Plan | 1980-199 Both plans |
| Agriculture, livestock and forestry and fishing | 14.7 | 9.3 | 12.2 | 5.9 | 2.3 | 4.1 |
| Agriculture proper | 12.7 | 13.4 | 13.0 | 5.7 | 4.4 | 5.0 |
| Livestock production | 15.1 | 8.7 | 11.0 | 4.1 | 3.4 | 3.1 |
| Forestry and logging | 17.6 | 3.6 | 11.1 | 7.4 | -2.2 | 3.1 |
| Fishing | - | - | - | - | - | - |
| Mining and quarrying | 27.4 | 26.3 | 25.0 | 18.0 | 6.4 | 10.9 |
| Manufacturing | 28.3 | 25.0 | 27.3 | 16.6 | 13.9 | 15.8 |
| Electricity and gas | 104.7 | 2.7 | 54.0 | 90.7 | -1.8 | 44.2 |
| Construction | 21.7 | 1.4 | 17.2 | 8.1 | -5.9 | 4.9 |
| Wholesale, retail trade, hotels and restaurants | 10.7 | 11.4 | 12.1 | 2.3 | 1.0 | 2.4 |
| Transport, storage and communicaations | 14.8 | 32.3 | 21.0 | 9.7 | 19.5 | 12.3 |
| Finance, insurance and real estate | 17.0 | 18.4 | 16.5 | 9.9 | 12.1 | 9.8 |
| Community, social and personal services | 19.4 | 7.9 | 14.4 | 7.5 | 3.2 | 6.3 |
| Gross domestic product | 18.2 | 11.2 | 15.5 | 8.7 | 3.9 | 6.7 |

Source: CSO, Ministry of Planning, Thimphu

TABLE 14.4: PERCENTAGE COMPOSITION OF GROSS DOMESTIC PRODUCT BY VARIOUS, ACTIVITIES, 1980 TO 1992

(percent)

| Activity | 1980 | 1985 | 1989 | 1991 | 1992 |
|---|---|---|---|---|---|
| Agriculture, Livestock, forestry and fishing | 56.7 | 52.6 | 45.1 | 43.1 | 39.8 |
| Agriculture proper | 28.3 | 24.7 | 22.0 | 22.1 | 22.1 |
| Livestock production | 12.6 | 11.7 | 10.4 | 9.9 | 7.9 |
| Forestry and logging | 15.7 | 16.2 | 12.8 | 11.2 | 9.9 |
| Fishing | - | - | - | - | - |
| Mining and quarrying | 0.6 | 1.0 | 0.8 | 1.7 | 1.6 |
| Manufacturing | 3.3 | 5.5 | 7.0 | 9.4 | 10.5 |
| Electricity and gas | 0.2 | 0.3 | 9.0 | 7.2 | 7.2 |
| Construction | 8.1 | 12.4 | 8.4 | 6.7 | 9.6 |
| Wholesale, retail trade, hotels & restaurants | 11.1 | 8.6 | 6.3 | 7.2 | 7.8 |
| Transport, storage and communications | 4.4 | 4.4 | 5.5 | 7.5 | 7.6 |
| Finance, insurance and real estate | 6.4 | 6.4 | 7.2 | 7.7 | 7.1 |
| Community, social and personal services | 11.0 | 11.2 | 12.3 | 10.6 | 9.9 |
| Less: Imputed bank service charges | -1.8 | -2.2 | -1.6 | -1.0 | -1.1 |
| Gross domestic product | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: CSO, Ministry of Planning, Thimphu

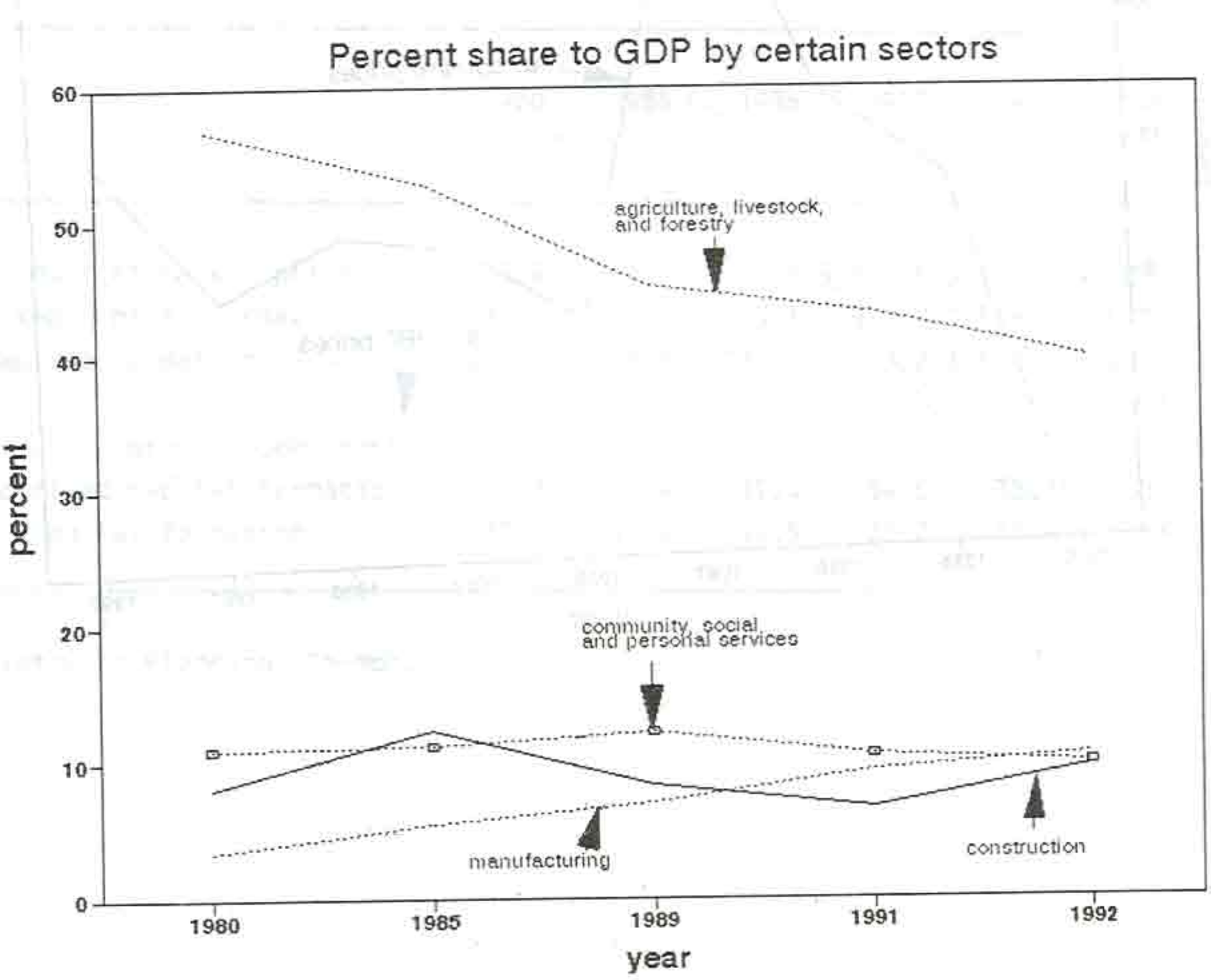


TABLE 14.5: GROSS DOMESTIC PRODUCT AT FACTOR COST BY MAJOR SECTORS, 1980 TO 1992

(million Nu.)

| Sector | 1980 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | Com gro 19 |
|---|---|---|---|---|---|---|---|---|
| In current prices | | | | | | | | |
| Primary | 628.2 | 1,660.5 | 1,779.7 | 1,966.1 | 2,139.7 | 2,395.1 | 2,559.3 | |
| Secondary | 126.8 | 931.6 | 923.5 | 1,058.9 | 1,180.1 | 1,243.6 | 1,687.8 | |
| Tertiary | 360.0 | 1,000.7 | 1,210.8 | 1,349.9 | 1,586.8 | 1,755.2 | 1,998.6 | |
| Less: Imputed bank service charges | (20.0) | (62.0) | (63.1) | (67.0) | (58.4) | (51.8) | (68.1) | |
| Gross domestic product | 1,095.0 | 3,530.8 | 3,850.9 | 4,307.9 | 4,848.2 | 5,342.1 | 6,177.6 | |
| In 1980 prices | | | | | | | | |
| Primary | 628.2 | 947.4 | 958.7 | 984.6 | 1,012.1 | 1,052.0 | 1,029.9 | |
| Secondary | 126.8 | 486.3 | 464.4 | 487.7 | 499.0 | 503.3 | 575.4 | |
| Tertiary | 360.0 | 569.4 | 602.3 | 655.9 | 742.3 | 769.1 | 820.0 | |
| Less: Imputed bank service charges | (20.0) | (30.0) | (31.1) | (41.1) | (28.8) | (21.0) | (28.1) | |
| Gross domestic product | 1095.0 | 1,973.1 | 1994.3 | 2,087.1 | 2,224.6 | 2,303.4 | 2,397.2 | |

Source: CSO, Ministry of Planning, Thimphu

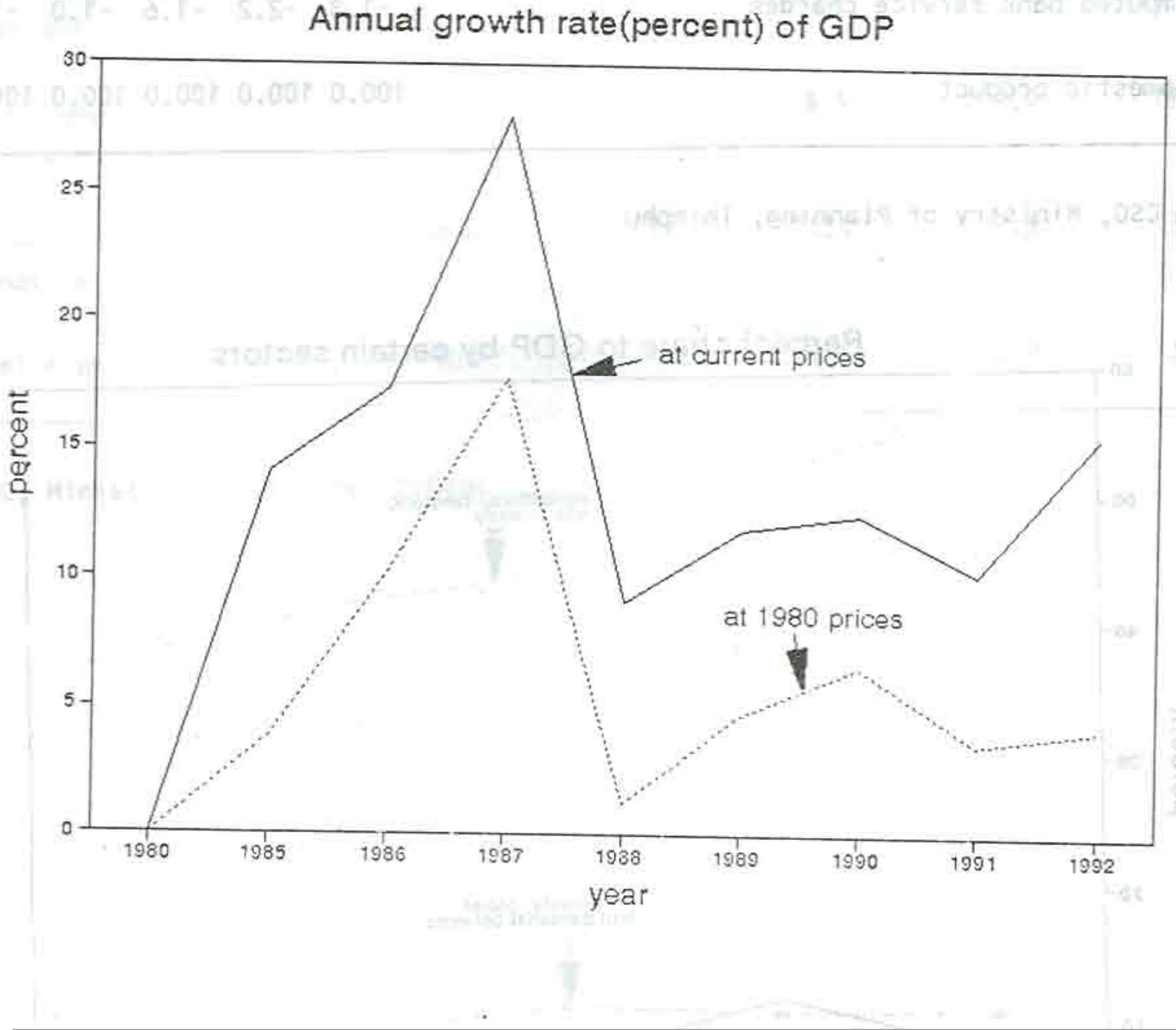


TABLE 14.6: GROSS DOMESTIC CAPITAL FORMATION BY MAJOR COMPONENTS, 1980 TO 1992

(million Nu.)

| Components | 1980 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|---|
| In current prices | | | | | | | | | |
| Construction | 229.6 | 631.8 | 644.8 | 743.8 | 723.5 | 830.4 | 916.6 | 855.6 | 1,314.4 |
| Machinery and equipment | 100.8 | 371.1 | 458.3 | 505.9 | 784.5 | 743.1 | 769.0 | 926.0 | 1,348.7 |
| Gross fixed capital formation | 330.4 | 1,002.9 | 1,103.1 | 1,249.7 | 1,508.0 | 1,573.5 | 1,685.6 | 1,781.6 | 2,663.1 |
| Increase in stock (a) | 14.7 | 81.6 | 32.0 | (161.5) | 10.4 | (121.1) | (33.9) | (71.3) | 351.0 |
| Gross domestic capital formation | 345.1 | 1,084.5 | 1,135.1 | 1,088.2 | 1,518.4 | 1,452.4 | 1,651.7 | 1,710.6 | 3,014.1 |
| In 1980 prices | | | | | | | | | |
| Construction | 229.6 | 366.6 | 244.0 | 319.9 | 296.8 | 298.0 | 306.6 | 278.7 | 425.8 |
| Machinery and equipment | 100.8 | 257.8 | 307.4 | 332.7 | 487.3 | 426.4 | 419.7 | 463.5 | 768.4 |
| Gross fixed capital formation | 330.4 | 624.4 | 551.4 | 652.6 | 784.1 | 724.4 | 726.3 | 742.2 | 1,194.2 |
| Increase in stock (b) | 14.7 | 53.4 | 22.1 | (90.0) | 4.8 | (53.8) | (9.2) | (17.2) | 100.0 |
| Gross domestic capital formation | 345.1 | 677.8 | 573.5 | 562.6 | 788.9 | 670.6 | 717.1 | 727.1 | 1,294.2 |

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

Source: CSO, Ministry of Planning, Thimphu

TABLE 14.7: SHARE OF GROSS DOMESTIC CAPITAL FORMATION IN GDP AT MARKET PRICES, 1980 TO 1992

(million Nu.)

| Components | 1980 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 199 |
|---|---|---|---|---|---|---|---|---|---|
| Gross domestic product at market prices | 1,112.9 | 2,391.4 | 2,801.6 | 3,607.5 | 3,933.7 | 4,381.6 | 4,961.0 | 5,568.9 | 6,353. |
| Gross domestic fixed capital formation | 330.4 | 1,002.9 | 1,103.1 | 1,249.7 | 1,508.0 | 1,573.5 | 1,685.6 | 1,781.6 | 2,363. |
| Gross domestic capital formation | 345.1 | 1,084.5 | 1,135.1 | 1,088.2 | 1,518.4 | 1,452.4 | 1,651.7 | 1,710.6 | 3,014. |
| Share in Gross domestic product (per cent) | | | | | | | | | |
| Gross domestic fixed capital formation | 29.7 | 41.9 | 39.4 | 34.6 | 38.3 | 68.9 | 34.0 | 32.0 | 41. |
| Gross domestic capital formation | 31.0 | 45.4 | 40.5 | 30.2 | 38.6 | 33.1 | 33.3 | 30.7 | 47. |

Source: CSO, Ministry of Planning, Thimphu

TABLE 14.8: GROSS AND NET CAPITAL FORMATION, 1980 TO 1992

(million Nu.)

| Components | 1980 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | |
|---|---|---|---|---|---|---|---|---|---|
| In current prices | | | | | | | | | |
| Gross domestic capital formation | 345.1 | 1,084.5 | 1,135.1 | 1,088.2 | 1,518.4 | 1,452.4 | 1,651.6 | 1,710.6 | 3,0 |
| Consumption of fixed capital(depreciation) | 61.2 | 137.6 | 191.6 | 330.6 | 362.3 | 399.0 | 451.0 | 503.6 | 5 |
| Net domestic capital formation | 283.9 | 946.9 | 943.5 | 757.6 | 1,156.1 | 1,053.4 | 1,200.6 | 1,207.0 | 2,4 |
| Im 1980 prices | | | | | | | | | |
| Gross domestic capital formation | 345.1 | 677.8 | 573.5 | 562.6 | 788.9 | 670.6 | 727.1 | 724.7 | 1,2 |
| Consumption of fixed capital(depreciation) | 61.2 | 93.6 | 121.9 | 197.4 | 201.8 | 215.0 | 217.7 | 233.4 | 2 |
| Net domestic capital formation | 283.9 | 584.2 | 451.6 | 365.2 | 587.1 | 455.6 | 509.4 | 491.3 | 1,0 |

Source: CSO, Ministry of Planning, Thimphu

TABLE 14.9: GROSS AND NET DOMESTIC PRODUCT AND RELATED AGGREGATES, 1980 TO 1992

(million Nu.)

| Aggregates | 1980 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|
| In current prices | | | | | | | |
| Net domestic product at factor cost | 1033.8 | 3200.2 | 3488.6 | 3908.9 | 4397.2 | 4838.5 | 5586.9 |
| Add: Consumption of fixed capital | 61.2 | 330.6 | 362.3 | 399 | 451 | 503.6 | 590.7 |
| Gross domestic product at factor cost | 1095.0 | 3530.8 | 3850.9 | 4307.9 | 4848.2 | 5342.1 | 6177.6 |
| Add: Indirect taxes, less of subsidies (a) | 17.9 | 76.7 | 82.8 | 73.7 | 134.2 | 159.4 | 176 |
| Gross domestic product at market prices | 1112.9 | 3607.5 | 6933.7 | 4381.6 | 4982.4 | 5501.5 | 6353.6 |
| Add: Net factor income from abroad | -200.0 | -349.5 | -344.3 | -171.6 | -296.3 | -439.8 | -645.1 |
| Gross national product at market prices | 912.9 | 3258 | 3589.4 | 4210 | 4686.1 | 5061.7 | 5708.5 |
| In 1980 prices | | | | | | | |
| Net domestic product at factor cost | 1033.8 | 1775.7 | 1791.8 | 1872.1 | 2006.6 | 2078.1 | 2160.9 |
| Add: Consumption of fixed capital | 62.2 | 197.4 | 201.8 | 215 | 218 | 225.3 | 236.3 |
| Gross domestic product at factor cost | 1095.0 | 1973.1 | 1993.6 | 2087.1 | 2224.6 | 2303.4 | 2397.2 |

(a) Excludes excise refunds from Government of India

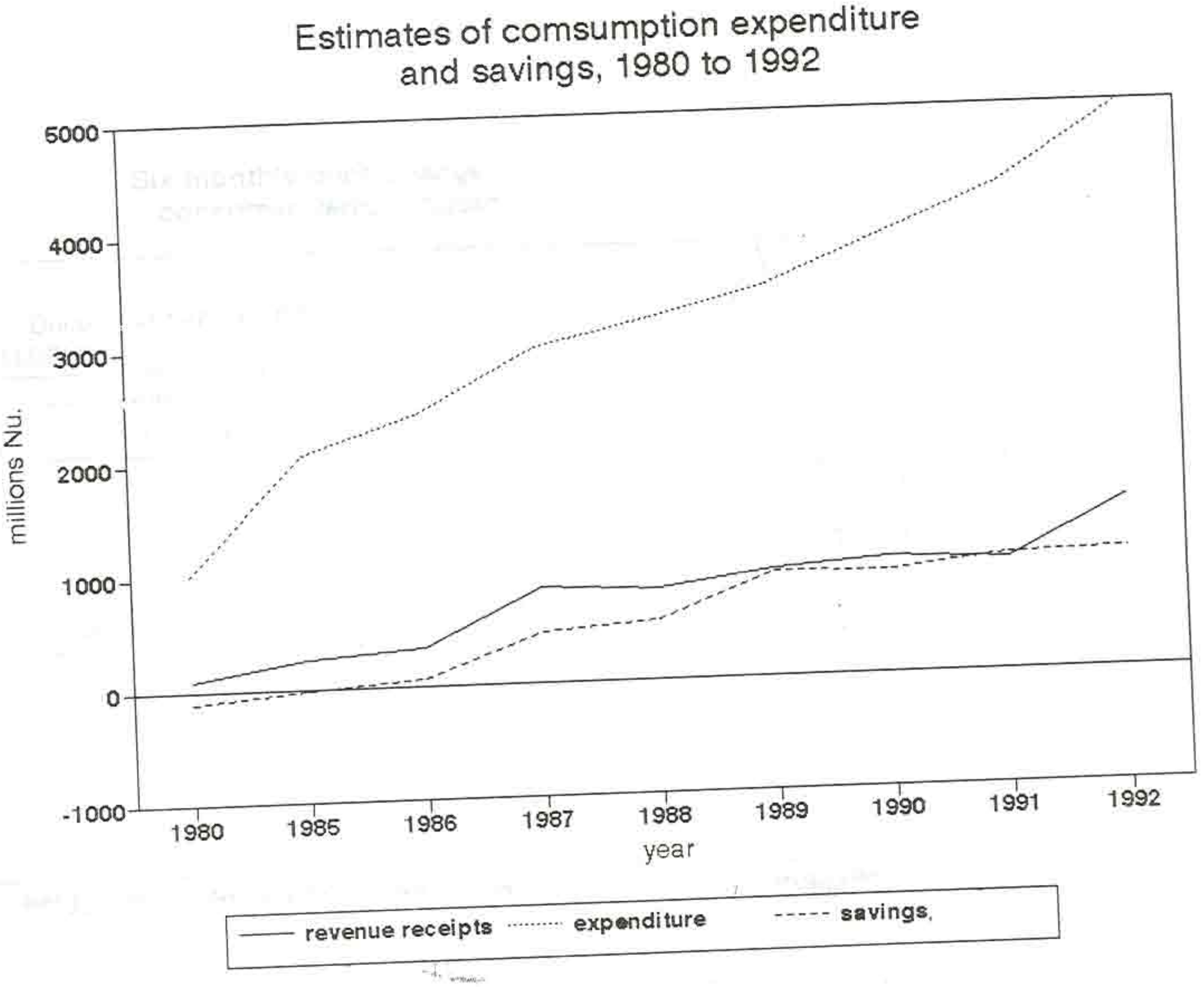
Source: CSO, Ministry of Planning, Thimphu

TABLE 14.10: ESTIMATES OF FINAL CONSUMPTION EXPENDITURE AND SAVINGS AT CURRENT PRICES, 1980 TO 1992

(million Nu.)

| Details | 1980 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|---|---|---|---|
| Revenue receipts | 101.7 | 257.5 | 340.1 | 841.7 | 805.0 | 953.0 | 1,020.0 | 985.7 | 1,493.0 |
| Consumption expenditure | 1,024.5 | 2,067.6 | 2,414.2 | 2,954.6 | 3,199.3 | 3,460.8 | 3,875.0 | 4,307.8 | 4,973.3 |
| Government | 275.9 | 560.9 | 576.3 | 633.6 | 641.1 | 879.0 | 948.7 | 1,015.1 | 1,215.2 |
| Private | 748.6 | 1,506.7 | 1,837.9 | 2,321.0 | 2,558.2 | 2,581.8 | 2,926.3 | 3,292.7 | 3,758.1 |
| Savings | (105.1) | (4.9) | 55.5 | 452.9 | 528.5 | 913.2 | 900.5 | 1,016.8 | 1,060.4 |
| Government | (174.2) | (303.4) | (236.2) | 208.1 | 163.9 | 74.0 | 71.3 | (29.4) | 277.8 |
| Private | 69.1 | 298.5 | 291.7 | 244.8 | 364.6 | 839.2 | 829.2 | 1,046.2 | 782.6 |
| Gross domestic savings | (105.1) | (4.9) | 55.5 | 452.9 | 528.5 | 913.2 | 900.5 | 1,016.8 | 1,060.4 |
| Gross domestic capital formation | 345.1 | 1,084.5 | 1,135.1 | 1,088.2 | 1,518.4 | 1,452.4 | 1,651.7 | 1,710.6 | 3,014.1 |
| Net capital inflow | 450.2 | 1,089.4 | 1,079.6 | 635.3 | 989.9 | 539.2 | 751.2 | 693.8 | 1,953.7 |

Source: CSO, Ministry of Planning, Thimphu



# CHAPTER 15: PRICES

## INTRODUCTION

The only price statistics currently compiled in Bhutan relate t the Consumer Price Indices, often referred to as the CPI. The CP has been produced by the CSO twice a year since December 1979. I addition, a food price index for Thimphu is published each quarte since September 1987.

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

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

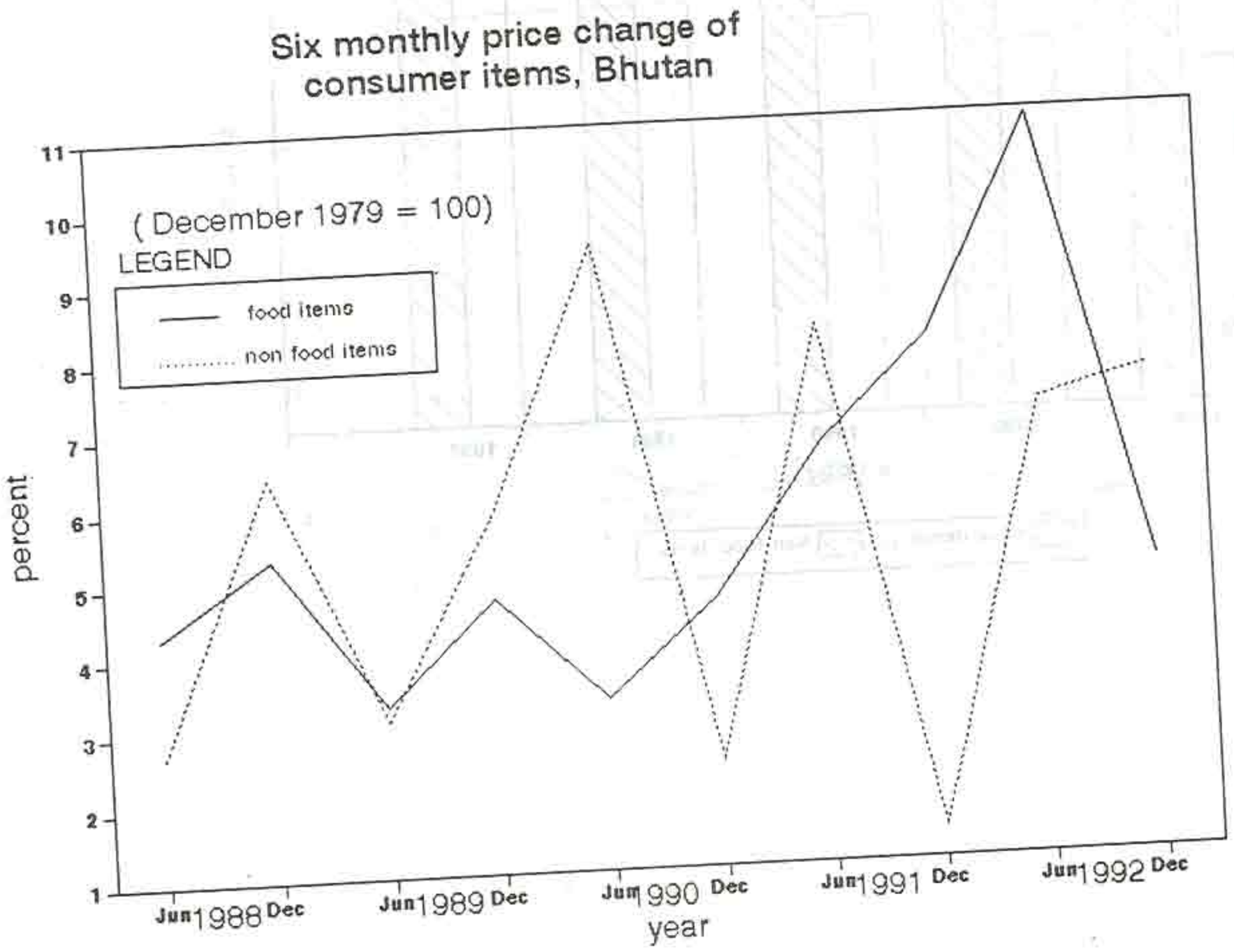
The CPI is presented as Index Numbers, where the indices are measured relative to the base of June 1979 = 100.0. Price change is estimated by measuring change in the Index numbers.

TABLE 15.1: CONSUMER PRICE INDICES FOR FOOD AND NON FOOD COMPONENTS, BHUTAN, 1988 TO 1992

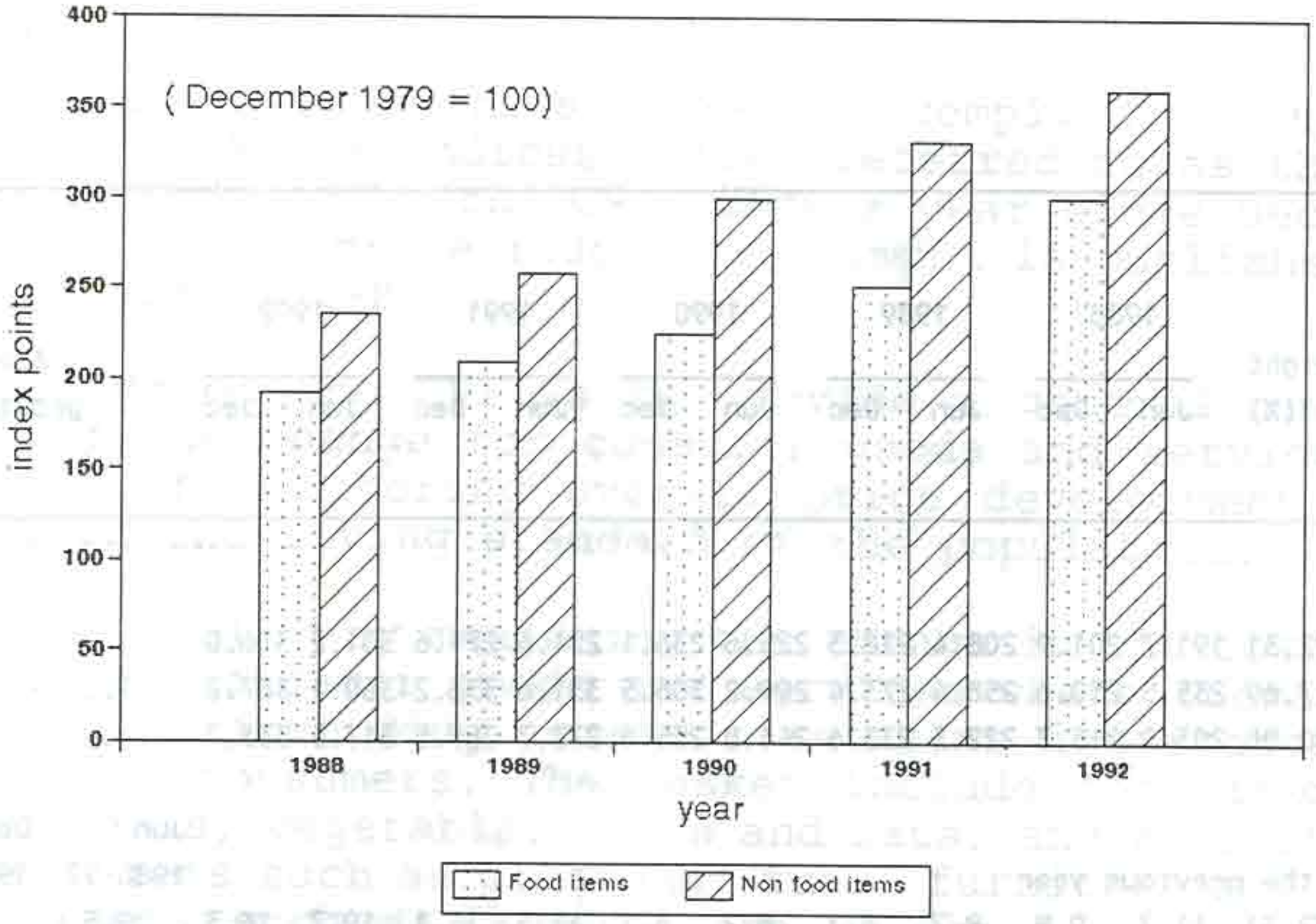
(December 1979 = 100)

| Item | Weight (%) | 1988 Jun | 1988 Dec | 1989 Jun | 1989 Dec | 1990 Jun | 1990 Dec | 1991 Jun | 1991 Dec | 1992 Jun | 1992 Dec | Average growth(%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Index | | | | | | | | | | | | |
| Food | 72.31 | 191.7 | 201.9 | 208.4 | 218.3 | 225.6 | 236.1 | 251.6 | 271.6 | 301.2 | 316.0 | .. |
| Non-food | 27.69 | 235.5 | 250.6 | 258.4 | 273.4 | 299.2 | 306.5 | 331.6 | 336.2 | 360.1 | 387.2 | .. |
| Total | 100.00 | 203.8 | 215.3 | 222.3 | 233.6 | 246.0 | 255.6 | 273.7 | 289.5 | 317.5 | 335.7 | .. |
| | | | | | | | | | | Jun | Dec | |
| | | | | | | | | | | 1980-92 | 1979-92 | |
| Percentage change on the previous year | | | | | | | | | | | | |
| Food | 72.31 | 11.7 | 9.8 | 8.7 | 8.1 | 8.2 | 8.1 | 11.5 | 15.1 | 19.7 | 16.3 | 9.5 | 9.3 |
| Non-food | 27.69 | 8.3 | 9.3 | 9.7 | 9.1 | 15.8 | 12.1 | 10.8 | 9.7 | 8.6 | 15.2 | 10.4 | 11.0 |
| Total | 100.00 | 10.6 | 9.6 | 9.1 | 8.5 | 10.7 | 9.4 | 11.3 | 13.3 | 16.0 | 16.0 | 9.8 | 9.8 |
| | | | | | | | | | | | | 1979-1992 | |
| Percentage change on the previous period | | | | | | | | | | | | | |
| Food | 72.31 | 4.3 | 5.3 | 3.3 | 4.7 | 3.3 | 4.6 | 6.6 | 8.0 | 10.9 | 4.9 | 4.5 | .. |
| Non-food | 27.69 | 2.7 | 6.4 | 3.1 | 5.8 | 9.4 | 2.4 | 8.2 | 1.4 | 7.1 | 7.5 | 5.3 | .. |
| Total | 100.00 | 3.8 | 5.6 | 3.2 | 5.1 | 5.3 | 3.9 | 7.1 | 5.8 | 9.7 | 5.7 | 4.7 | .. |

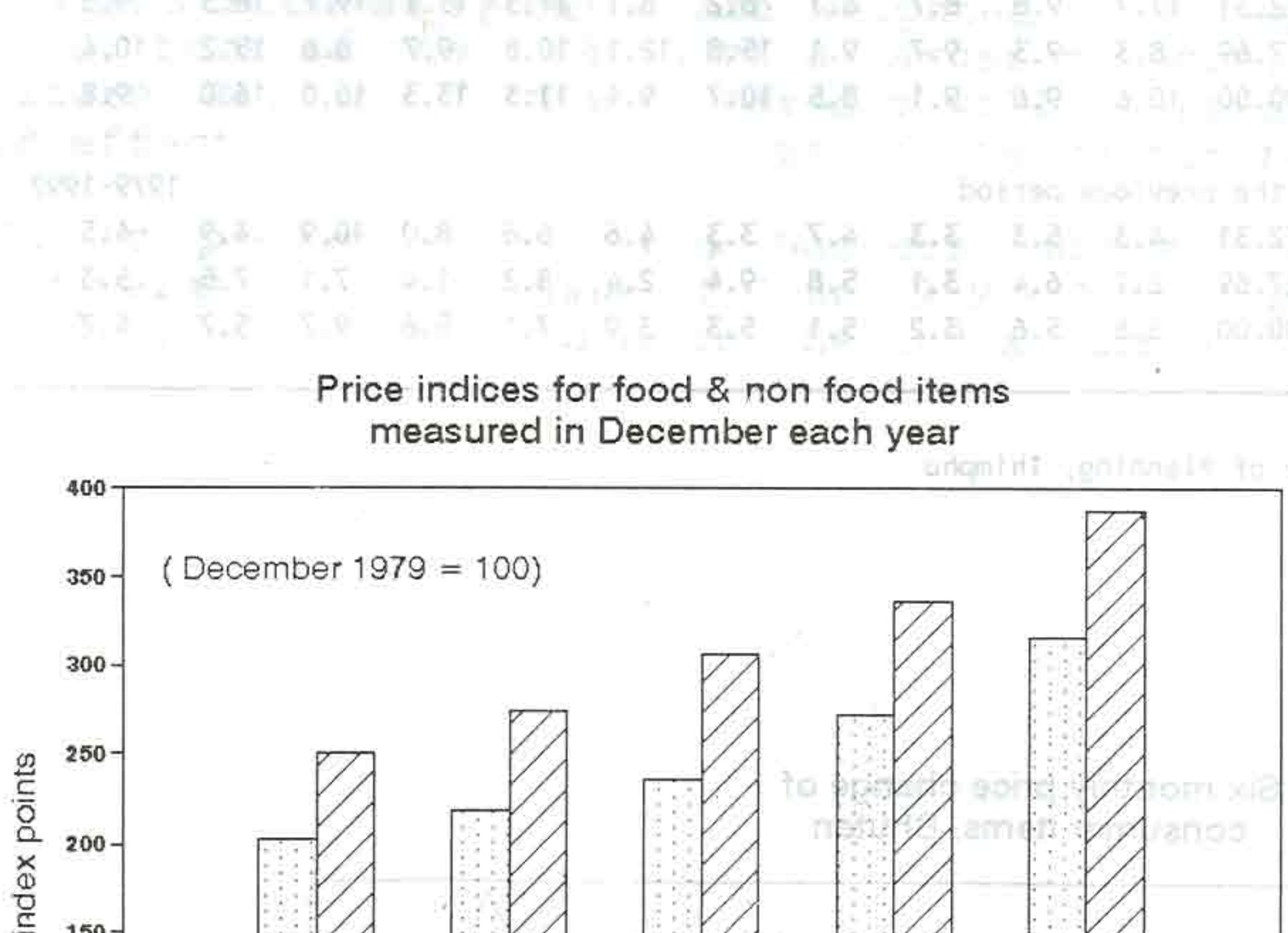
Source: CSO, Ministry of Planning, Thimphu



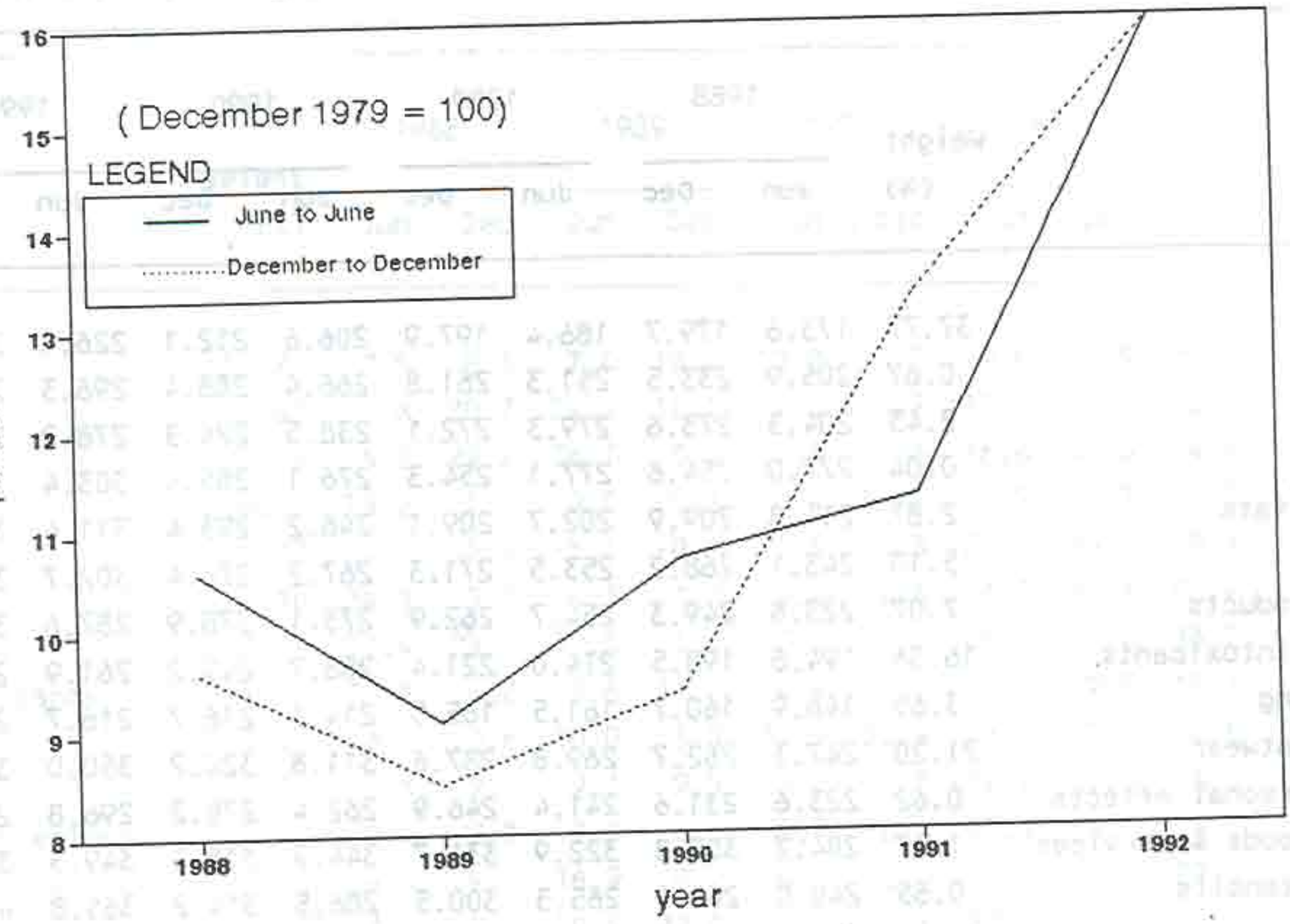
Price indices for food & non food items
measured in June each year




Price indices for food & non food items
measured in December each year



## Yearly price change for consumer items (June to June, December to December)




## Yearly(June-June & Dec to Dec) price change, food and non food items

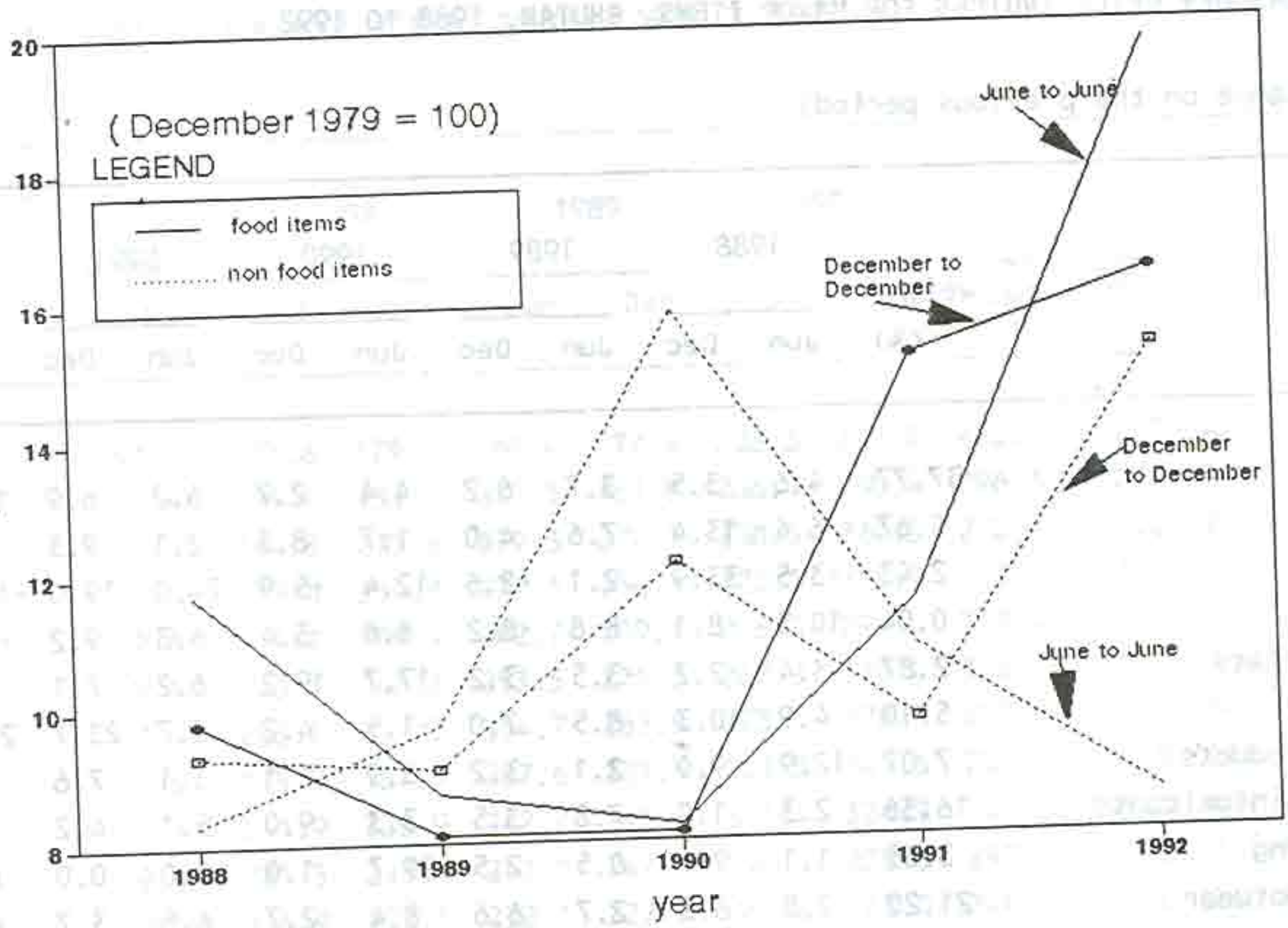


TABLE 15.2: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, 1988 TO 1992
(December 1979 = 100)

| Item | Weight (%) | 1988 | | 1989 | | 1990 | | 1991 | | 1992 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec |
| Cereals | 37.77 | 173.6 | 179.7 | 186.4 | 197.9 | 206.6 | 212.1 | 226.4 | 240.7 | 278.9 | 291.0 |
| Pulses | 0.67 | 205.9 | 233.5 | 251.3 | 261.8 | 266.4 | 288.4 | 296.3 | 322.0 | 313.7 | 307.0 |
| Vetetables | 2.43 | 204.3 | 273.6 | 279.3 | 272.1 | 238.5 | 224.3 | 278.2 | 331.0 | 291.0 | 290.7 |
| Fruits | 0.04 | 277.0 | 254.6 | 277.1 | 254.3 | 276.1 | 285.4 | 303.4 | 331.4 | 313.5 | 473.6 |
| Edible oil and fats | 2.87 | 214.8 | 209.9 | 202.7 | 209.1 | 246.2 | 293.4 | 311.4 | 333.5 | 337.4 | 323.4 |
| Spices | 5.10 | 243.1 | 268.2 | 253.5 | 271.3 | 267.2 | 278.4 | 302.7 | 374.5 | 456.2 | 550.0 |
| Milk and its products | 7.07 | 228.8 | 249.3 | 254.7 | 262.9 | 273.1 | 278.9 | 287.6 | 309.4 | 352.6 | 338.4 |
| Other food and intoxicants | 16.36 | 194.8 | 198.5 | 214.0 | 221.4 | 288.7 | 249.2 | 261.9 | 272.8 | 288.3 | 293.7 |
| Fuel and lighting | 3.65 | 146.9 | 160.7 | 161.5 | 165.5 | 214.6 | 216.7 | 216.7 | 216.7 | 216.7 | 216.7 |
| Clothing and footwear | 21.20 | 247.3 | 262.7 | 269.8 | 287.6 | 311.8 | 320.2 | 350.0 | 354.7 | 378.3 | 411.4 |
| Stationary & personal effects | 0.62 | 223.6 | 231.6 | 241.4 | 246.9 | 262.4 | 278.2 | 296.8 | 294.1 | 299.8 | 364.5 |
| Miscellaneous goods & services | 1.57 | 284.7 | 303.8 | 322.9 | 331.7 | 344.9 | 338.4 | 349.3 | 350.5 | 428.0 | 404.6 |
| Furniture and utensils | 0.65 | 240.0 | 246.4 | 265.3 | 300.5 | 286.5 | 314.2 | 365.8 | 407.0 | 462.9 | 530.8 |
| Total | 100.00 | 203.8 | 215.3 | 222.3 | 233.6 | 246.0 | 255.6 | 273.7 | 289.5 | 317.5 | 335.6 |

Source: CSO, Ministry of Planning, Thimphu

TABLE 15.3: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, 1988 TO 1992

(percentage change on the previous period)

| Item | Weight (%) | 1988 | | 1989 | | 1990 | | 1991 | | 1992 | | Average growth(%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec | 1979-92 |
| Cereals | 37.77 | 4.6 | 3.5 | 3.7 | 6.2 | 4.4 | 2.7 | 6.2 | 6.9 | 15.9 | 4.3 | 4.2 |
| Pulses | 0.67 | 6.4 | 13.4 | 7.6 | 4.0 | 1.7 | 8.3 | 2.1 | 9.3 | -2.6 | -2.1 | 4.7 |
| Vetetables | 2.43 | -3.5 | 33.9 | 2.1 | -2.6 | -12.4 | -5.9 | 24.0 | 19.0 | -12.1 | -0.1 | 4.4 |
| Fruits | 0.04 | 10.3 | -8.1 | 8.8 | -8.2 | 8.6 | 3.4 | 6.3 | 9.2 | -5.4 | 51.1 | 4.7 |
| Edible oil and fats | 2.87 | -3.4 | -2.2 | -3.5 | 3.2 | 17.7 | 19.2 | 6.2 | 7.1 | 1.2 | -4.1 | 5.0 |
| Spices | 5.10 | 4.9 | 10.3 | -8.5 | 7.0 | -1.5 | 4.2 | 8.7 | 23.7 | 21.8 | 20.6 | 6.3 |
| Milk and its products | 7.07 | 12.9 | 9.0 | 2.1 | 3.2 | 3.9 | 2.1 | 3.1 | 7.6 | 5.2 | 3.9 | 4.8 |
| Other food and intoxicants | 16.36 | 2.3 | 1.9 | 7.8 | 3.5 | 3.3 | 9.0 | 5.1 | 4.2 | 5.7 | 1.9 | 4.3 |
| Fuel and lighting | 3.65 | 1.1 | 9.4 | 0.5 | 2.5 | 29.7 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.1 |
| Clothing and footwear | 21.20 | 2.8 | 6.2 | 2.7 | 6.6 | 8.4 | 2.7 | 6.8 | 3.7 | 6.7 | 8.8 | 5.5 |
| Stationary & personal effects | 0.62 | 3.6 | 3.6 | 4.2 | 2.3 | 6.3 | 6.0 | -1.4 | 7.3 | 1.9 | 21.6 | 4.5 |
| Miscellaneous goods & services | 1.57 | 2.6 | 6.7 | 9.6 | -0.4 | 4.0 | -1.9 | 3.2 | 0.3 | 22.1 | -5.5 | 6.0 |
| Furniture and utensils | 0.65 | 4.3 | 2.7 | 7.7 | 13.3 | -4.7 | 9.7 | 16.4 | 11.3 | 13.7 | 14.7 | 6.3 |
| Total | 100.00 | 3.8 | 5.6 | 3.2 | 5.1 | 5.3 | 3.9 | 6.2 | 6.7 | 9.7 | 5.7 | 4.7 |

Source: CSO, Ministry of Planning, Thimphu

TABLE 15.4: CONSUMER PRICE INDICES FOR MAJOR ITEMS, BHUTAN, 1988 TO 1992
(percentage change over the previous year)

| Item | Weight (%) | 1988 | | 1989 | | 1990 | | 1991 | | 1992 | | Average growth (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec | Dec 79-92 |
| Cereals | 37.77 | 7.5 | 8.3 | 7.4 | 10.1 | 10.8 | 7.2 | 9.6 | 13.5 | 23.2 | 20.9 | 8.6 |
| Pulses | 0.67 | 11.8 | 20.7 | 22.1 | 12.1 | 6.0 | 10.2 | 11.2 | 11.6 | 5.9 | -4.7 | 9.0 |
| Vetetables | 2.43 | 6.2 | 29.2 | 36.7 | -0.5 | -14.6 | -17.6 | 16.6 | 47.6 | 4.6 | -12.2 | 8.6 |
| Fruits | 0.04 | 23.2 | 1.3 | 0.0 | -0.1 | -0.4 | 12.2 | 9.9 | 16.1 | 3.3 | 42.9 | 12.7 |
| Edible oil and fats | 2.87 | 24.7 | -5.6 | -5.6 | -0.4 | 21.5 | 40.3 | 26.5 | 13.7 | 8.3 | -3.0 | 9.4 |
| Spices | 5.10 | 24.0 | 15.7 | 4.3 | 1.2 | 5.4 | 2.6 | 13.3 | 34.6 | 50.7 | 46.8 | 14.0 |
| Milk and its products | 7.07 | 21.4 | 23.1 | 11.3 | 5.4 | 7.2 | 6.1 | 5.3 | 11.0 | 13.2 | 9.4 | 9.8 |
| Other food and intoxicants | 16.36 | 10.3 | 4.2 | 9.8 | 11.6 | 6.9 | 12.5 | 14.5 | 9.5 | 10.1 | 7.7 | 8.6 |
| Fuel and lighting | 3.65 | 8.1 | 10.6 | 10.0 | 3.0 | 32.9 | 30.9 | 1.0 | 0.0 | 0.0 | 0.0 | 6.1 |
| Clothing and footwear | 21.20 | 7.8 | 9.2 | 9.1 | 9.5 | 15.6 | 11.3 | 212.2 | 10.8 | 8.1 | 16.0 | 11.5 |
| Stationary & personal effects | 0.62 | 22.4 | 7.3 | 7.9 | 6.6 | 8.7 | 12.6 | 13.1 | 5.7 | 1.0 | 23.9 | 10.5 |
| Miscellaneous goods & services | 1.57 | 9.4 | 9.5 | 16.9 | 9.2 | 6.3 | 2.0 | 1.3 | 3.6 | 22.5 | 15.4 | 11.4 |
| Furniture and utensils | 0.65 | 7.6 | 7.0 | 10.5 | 22.0 | 8.0 | 4.5 | 27.2 | 29.5 | 26.6 | 30.4 | 13.7 |
| Total | 100.00 | 10.6 | 9.6 | 9.1 | 8.5 | 10.7 | 9.4 | 11.3 | 13.3 | 16.0 | 16.0 | 9.8 |

Source: CSO, Ministry of Planning, Thimphu

TABLE 15.5: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, 1988 TO 1992
(December 1979 = 100)

| Item | Weight (%) | 1988 | | 1989 | | 1990 | | 1991 | | 1992 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec |
| Cereals | 37.77 | 173.6 | 179.7 | 186.4 | 197.9 | 206.6 | 212.1 | 226.4 | 240.7 | 278.9 | 291.0 |
| Pulses | 0.67 | 205.9 | 233.5 | 251.3 | 261.8 | 266.4 | 288.4 | 296.3 | 322.0 | 313.7 | 307.0 |
| Vetetables | 2.43 | 204.3 | 273.6 | 279.3 | 272.1 | 238.5 | 224.3 | 278.2 | 311.0 | 291.0 | 290.7 |
| Fruits | 0.04 | 277.0 | 254.6 | 277.1 | 254.3 | 276.1 | 285.4 | 303.4 | 311.4 | 313.5 | 473.6 |
| Edible oil and fats | 2.87 | 214.8 | 209.9 | 202.7 | 209.1 | 246.2 | 293.4 | 311.4 | 333.5 | 337.4 | 323.4 |
| Spices | 5.10 | 243.1 | 268.2 | 253.5 | 271.3 | 267.2 | 278.4 | 302.7 | 374.5 | 456.2 | 550.0 |
| Milk and its products | 7.07 | 288.8 | 249.3 | 254.7 | 261.9 | 273.1 | 278.9 | 287.6 | 309.4 | 325.6 | 338.4 |
| Sugar | 1.03 | 175.7 | 187.9 | 207.6 | 221.5 | 249.8 | 249.6 | 251.7 | 253.9 | 272.8 | 272.6 |
| Beverages | 1.34 | 211.9 | 220.9 | 242.7 | 243.4 | 311.4 | 324.9 | 340.0 | 395.5 | 432.9 | 395.9 |
| Meat and fish | 9.10 | 221.5 | 223.4 | 242.1 | 247.9 | 244.1 | 278.6 | 297.2 | 301.8 | 317.8 | 325.5 |
| Eggs | 0.19 | 216.9 | 223.1 | 222.1 | 227.7 | 262.8 | 243.0 | 244.7 | 274.0 | 260.8 | 305.7 |
| Intoxicants | 3.38 | 142.8 | 143.2 | 146.8 | 159.2 | 166.8 | 170.8 | 172.8 | 179.6 | 188.8 | 201.6 |
| Tobacco | 1.32 | 138.0 | 149.5 | 166.4 | 173.8 | 174.4 | 170.1 | 176.9 | 200.5 | 207.3 | 219.8 |
| Total | 72.31 | 191.7 | 201.9 | 208.4 | 218.3 | 225.6 | 236.1 | 251.6 | 271.6 | 301.2 | 316.0 |

Source: CSO, Ministry of Planning, Thimphu

TABLE 15.6: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, 1988 TO 1992
(percent change over the preceeding year)

| Item | Weight (%) | 1988 | | 1989 | | 1990 | | 1991 | | 1992 | | Average growth(%) 1979-92 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec | |
| Cereals | 37.77 | 7.5 | 8.3 | 7.4 | 10.1 | 10.8 | 7.2 | 9.6 | 13.5 | 23.2 | 20.9 | 8.6 |
| Pulses | 0.67 | 11.8 | 20.7 | 22.1 | 12.1 | 6.0 | 10.2 | 12.2 | 11.6 | 5.9 | -4.7 | 9.0 |
| Vetetables | 2.43 | 6.2 | 29.2 | 36.7 | -0.5 | -14.6 | -17.6 | 16.6 | 47.6 | 4.6 | -12.2 | 8.6 |
| Fruits | 0.04 | 23.2 | 1.3 | 0.0 | -1.0 | -4.0 | 12.2 | 9.9 | 16.1 | 3.3 | 42.9 | 12.7 |
| Edible oil and fats | 2.87 | 24.7 | -5.6 | -5.6 | -4.0 | 21.5 | 40.3 | 6.5 | 13.7 | 8.3 | -3.0 | 9.4 |
| Spices | 5.10 | 24.0 | 15.7 | 4.3 | 1.2 | 5.4 | 2.6 | 13.3 | 34.6 | 50.7 | 46.8 | 14.0 |
| Milk and its products | 7.07 | 21.4 | 23.1 | 11.3 | 5.4 | 7.2 | 6.1 | 5.3 | 11.0 | 13.2 | 9.4 | 9.8 |
| Sugar | 1.03 | 1.0 | 5.4 | 18.1 | 17.9 | 20.3 | 12.7 | 0.8 | 1.7 | 8.4 | 7.4 | 8.0 |
| Beverages | 1.34 | 3.0 | 4.6 | 14.5 | 10.2 | 28.3 | 33.5 | 9.2 | 21.7 | 27.3 | 0.1 | 11.2 |
| Meat and fish | 9.10 | 13.3 | 3.9 | 9.3 | 11.0 | 0.8 | 12.4 | 21.7 | 8.3 | 6.9 | 7.9 | 9.5 |
| Eggs | 0.19 | 14.1 | 2.9 | 2.4 | 2.1 | 18.3 | 6.7 | -6.9 | 12.8 | 6.6 | 11.6 | 9.0 |
| Intoxicants | 3.38 | 4.4 | 1.7 | 2.8 | 11.2 | 13.6 | 7.3 | 3.6 | 5.2 | 9.3 | 12.2 | 5.5 |
| Tobacco | 1.32 | 14.7 | 13.3 | 20.6 | 16.2 | 4.9 | -2.1 | 1.4 | 17.9 | 17.2 | 9.6 | 6.2 |
| Total | 72.31 | 11.7 | 9.8 | 8.7 | 8.1 | 8.2 | 8.1 | 11.5 | 15.1 | 19.7 | 16.3 | 9.3 |

Source: CSO, Ministry of Planning, Thimphu

TABLE 15.7: CONSUMER PRICE INDICES FOR FOOD ITEMS, BHUTAN, 1988 TO 1992
(percent change over the preceeding period)

| Item | Weight (%) | 1988 | | 1989 | | 1990 | | 1991 | | 1992 | | Average growth(%) 1979-92 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec | Jun | Dec | |
| Cereals | 37.77 | 4.6 | 3.5 | 3.7 | 6.2 | 4.4 | 2.7 | 6.7 | 6.3 | 15.9 | 4.3 | 4.2 |
| Pulses | 0.67 | 6.4 | 13.4 | 7.6 | 4.2 | 1.7 | 8.3 | 2.7 | 8.7 | -2.6 | -2.1 | 4.7 |
| Vetetables | 2.43 | -3.5 | 33.9 | 2.1 | -2.6 | -12.4 | -5.9 | 24.0 | 19.0 | -12.1 | -0.1 | 4.4 |
| Fruits | 0.04 | 10.3 | -8.1 | 8.8 | -8.2 | 8.6 | 3.4 | 6.3 | 9.2 | -5.4 | 51.1 | 4.7 |
| Edible oil and fats | 2.87 | -3.4 | -2.4 | -3.5 | 3.2 | 17.7 | 19.2 | 6.2 | 7.1 | 1.2 | -4.1 | 5.0 |
| Spices | 5.10 | 4.9 | 10.3 | -5.5 | 7.0 | -1.5 | 4.2 | 8.7 | 23.7 | 21.8 | 20.6 | 6.3 |
| Milk and its products | 7.07 | 12.9 | 9.0 | 2.1 | 3.2 | 3.9 | 2.1 | 3.1 | 7.6 | 5.2 | 3.9 | 4.8 |
| Sugar | 1.03 | -1.5 | 7.0 | 10.5 | 6.7 | 12.8 | -0.1 | 0.9 | 0.9 | 7.5 | -0.1 | 4.1 |
| Beverages | 1.34 | 0.4 | 4.2 | 9.9 | 0.3 | 27.9 | 4.4 | 4.6 | 16.3 | 9.5 | -8.5 | 6.0 |
| Meat and fish | 9.10 | 3.0 | 0.9 | 8.4 | 2.4 | -1.5 | 14.1 | 6.7 | 1.6 | 5.3 | 2.4 | 4.7 |
| Eggs | 0.19 | 0.0 | 2.9 | -0.5 | 2.5 | 15.4 | -7.5 | 0.7 | 12.0 | -4.8 | 17.2 | 3.9 |
| Intoxicants | 3.38 | 1.4 | 0.3 | 2.5 | 8.4 | 4.8 | 2.4 | 1.2 | 3.9 | 5.1 | 6.8 | 2.6 |
| Tobacco | 1.32 | 4.6 | 8.4 | 11.3 | 4.5 | 0.4 | -2.5 | 4.0 | 13.4 | 3.4 | 6.1 | 3.0 |
| Total | 72.31 | 4.3 | 5.3 | 3.3 | 4.7 | 3.3 | 4.6 | 6.6 | 8.0 | 10.9 | 4.9 | 4.5 |

Source: CSO, Ministry of Planning, Thimphu

TABLE 15.8: QUARTERLY FOOD PRICE INDEX, THIMPHU TOWN, 1988 TO 1992

(December 1979 = 100)

| Period | Cereals and pulses | Vegetables and fruits | Other food items | Total food items |
|---|---|---|---|---|
| Quarter ending: | | | | |
| 1988 | | | | |
| March | 156.7 | 196.1 | 207.8 | 178.4 |
| June | 163.5 | 236.7 | 210.6 | 184.8 |
| September | 170.5 | 192.7 | 220.1 | 190.9 |
| December | 170.2 | 260.6 | 226.8 | 195.9 |
| 1989 | | | | |
| March | 172.8 | 261:8 | 228.3 | 198.0 |
| June | 178.0 | 290.0 | 235.1 | 204.6 |
| September | 180.3 | 292.8 | 239.3 | 207.7 |
| December | 182.5 | 284.9 | 245.9 | 211.3 |
| 1990 | | | | |
| March | 189.8 | 267.7 | 254.6 | 218.2 |
| June | 198.4 | 286.6 | 275.8 | 232.2 |
| September | 201.7 | 263.2 | 261.7 | 227.6 |
| December | 202.9 | 316.4 | 280.6 | 237.7 |
| 1991 | | | | |
| March | 210.8 | 375.1 | 294.1 | 249.7 |
| June | 213.6 | 473.4 | 297.3 | 256.1 |
| September | 227.7 | 447.8 | 300.6 | 264.5 |
| December | 235.7 | 527.4 | 313.6 | 277.1 |
| 1992 | | | | |
| March | 258.4 | 534.4 | 316.7 | 291.5 |
| June | 280.5 | 548.1 | 337.6 | 312.8 |
| September | 285.1 | 550.8 | 344.9 | 318.4 |
| December | 285.1 | 607.3 | 383.6 | 335.8 |

Source: CSO, Ministry of Planning, Thimphu

TABLE 15.9: QUARTERLY FOOD PRICE INDEX, THIMPHU TOWN, 1988 TO 1992

(percentage change over the preceeding quarter)

| Period | Cereals and pulses | Vegetables and fruits | Other food items | Total food items |
|---|---|---|---|---|
| Quarter ending: | | | | |
| 1988 | | | | |
| March | -0.6 | -16.3 | -3.0 | -2.4 |
| June | 4.3 | 20.7 | 1.3 | 3.6 |
| September | 4.3 | -18.6 | 4.5 | 3.3 |
| December | -0.2 | 35.2 | 3.0 | 2.6 |
| 1989 | | | | |
| March | 1.5 | 0.5 | 0.7 | 1.1 |
| June | 3.0 | 10.8 | 3.0 | 3.3 |
| September | 1.3 | 1.0 | 1.8 | 1.5 |
| December | 1.2 | -2.7 | 2.8 | 1.7 |
| 1990 | | | | |
| March | 4.0 | -6.0 | 3.5 | 3.3 |
| June | 4.5 | 7.1 | 8.3 | 6.4 |
| September | 1.7 | -8.2 | -5.1 | -2.0 |
| December | 0.6 | 20.2 | 7.2 | 4.4 |
| 1991 | | | | |
| March | 3.9 | 18.6 | 4.8 | 5.0 |
| June | 1.3 | 26.2 | 1.1 | 2.6 |
| September | 6.6 | -5.4 | 1.1 | 3.3 |
| December | 3.5 | 17.8 | 4.3 | 4.8 |
| 1992 | | | | |
| March | 9.6 | 1.3 | 1.0 | 5.2 |
| June | 8.6 | 2.6 | 6.6 | 7.3 |
| September | 1.6 | 0.5 | 2.2 | 1.8 |
| December | 0.0 | 10.3 | 11.2 | 5.5 |

Source: CSO, Ministry of Planning, Thimphu

ANNEX I

ADMINISTRATIVE UNITS

1. Thimphu Dzongkhag
   Gewog: 1. Bapisa 2. Chang 3. Dagala
   4. Genye 5. Kawang 6. Mewang
   7. Teopisa
   (a) Lingshi Dungkhag
   Gewog: 1. Lingzhi 2. Naro 3. Soe

2. Chhukha Dzongkhag
   Gewog: 1. Bongo 2. Chapchha 3. Dungna
   4. Getana 5. Geyle 6. Bjachho
   7. Metab
   (a) Phuntsholing Dungkhag
   Gewog: 1. Balujora 2. Dala 3. Logchina
   4. Phuntsholing

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

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

5. Samtse Dzongkhag
   Gewog: 1. Pagli 2. Samtse 3. Tading
   (a) Chengmari Dungkhag
   Gewog: 1. Charghare 2. Chengmari 3. Gumaune
   4. Nainital
   (b) Dorokha Dungkhag
   Gewog: 1 Denchhukha 2. Dorokha 3. Dumtoe
   4. Mayona
   (c) Sipsu Dungkhag
   Gewog: 1. Bangra 2. Biru 3. Lahireni
   4. Sipsu 5. Tendru

6. Tsirang Dzongkhag
   Gewog: 1. Tsirangdrangra 2. Dunglegang 3. Gozeling
   4. Kikhothang 5. Patale 6. Phuentenchhu
   7. Semjong 8. Tshokhana
   (a) Lamidangra Dungkhag
   Gewog: 1. Beteni 2. Chaunautre 3. Gairigang
   4. Lamidrangra

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

ADMINISTRATIVE UNITS (continuation)

(a) Dagapela Dungkhag
Gewog: 1. Dorona 2. Emeri 3. Gozhing
4. Suntali 5. Trashiding

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

9. Gasa Dzongkhag
Gewog: 1. Goenkhame 2. Goenkhatoe 3. Laya
4. Lungnana

10. Wangduephodrang Dzongkhag
Gewog: 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

11. Bjaka Dzongkhag
Gewog: 1. Chhoekho 2. Chhume 3. Tang
4. Ura

12. Sarpang Dzongkhag
(a) Geylephug Dungkhag
Gewog: 1. Bhur 2. Danabari 3. Gelephu
4. Lalai 5. Serzhong 6. Surey
7. Taklai
(b) Kalikhola Dungkhag
Gewog: 1. Deorali 2. Kalikhola 3. Nichula
(c) Sarbhang Dzongkhag
Gewog: 1. Doban 2. Hiley 3. Leopani
4. Sarpangtar 5. Senge

13. Zhemgang Dzongkhag
Gewog: 1. Bardo 2. Nangkor 3. Shingkhar
4. Trong
(a) Panbang Dungkhag
Gewog: 1. Bjoka 2. Ngangla 3. Phangkhar

14. Trongsa Dzongkhag
Gewog: 1. Bjakteng 2. Korphu 3. Langthi
4. Nubi 5. Tangsibji

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

ADMINISTRATIVE UNITS (continuation)

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

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

18. Samdrup Jongkha Dzongkhag
Gewog: 1. Orong 2. Gomdar

(a) Dechhenling Dungkhag
Gewog: 1. Dechhenling 2. Norbugang

(b) Bangtar Dungkhag
Gewog: 1. Bakuli 2. Dalim 3. Martshala
4. Samrang

(c) Daifam Dungkhag
Gewog: 1. Hastinapur 2. Shingkharlauri 3. Serthig

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

(a) Sakteng Dungkhag
Gewog: 1. Mera 2. Sakteng

(b) Thrimshing Dungkhag
Gewog: 1. Kangpara 2. Thrimshing

(c) Wamrong Dungkhag
Gewog: 1. Khaling 2. Lumang 3. Nanong

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

TOTAL NUMBER OF DZONGKHAGS = 20
TOTAL NUMBER OF GEWOGS = 197

# BHUTAN

ADMINISTRATIVE MAP

1 : 1000000

0 10 20 30 40 50 km

LEGEND

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

PUNAKHA
Laya
Lunana
Gasa
(Tashi Thongmon Dzong)
Lingshi

PARO
Druqyel Dzong
Atsho Chhubar
Paro
(Rinpung Dzong)
Damthang
Ha

THIMPHU
THIMPHU
(Tashichho Dzong)
Tshalunang

HA
Sangbay

SAMCHI
Sibsu
Dorokha
Chengmari
Samchi

PHODRANG
Dawakha
Punakha
(Punqthang Dechhen Phodrang Dzong)
Wangdiphodrang

WANGDI
Tseshinang
Gangtey Gonpa

DAGA
Chhukha
Daga
(Daga Tashiyangtse Dzong)
Dungna

CHHUKHA
Phuntsholing
Damphu
Lamidangra
Dagapela

CHIRANG
Sarbhang
Kalikhola
Pinkhua

TONGSA
Tongsa
(Chhokhor Rabtentse Dzong)
Ura
Shemgang

GEYLEGPHUG
Geylegphug
Lalai

SHEMGANG
Panbang

BUMTHANG
Kurjey
Nangnang
Jakar

LHUNTSHI
Lhedang
Khenpa Dzong
Lhuntshi
Singye Dzong
Tashi Yangtse

MONGAR
Mongar
Gyepozhing
Dametsi
Radi

TASHIGANG
Tashigang
Sakteng

PEMA-GATSEL
Nganglam
Pemagatsel

SAMDRUP JONGKHAR
Samdrup Jongkhar
Bhangtar
Wamrong
Thrimshing
Daifam

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