

NATIONAL SAMPLE CENSUS OF AGRICULTURE

NEPAL, 1991/92

ANALYSIS OF RESULTS

**HIS MAJESTY'S GOVERNMENT
NATIONAL PLANNING COMMISSION SECRETARIAT
CENTRAL BUREAU OF STATISTICS**

Rajesh Dhital

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KATHMANDU, NEPAL

JUNE 1994

PREFACE

This report provides analysis of the results of the National Sample Census of Agriculture, 1991/92. The 1991/92 census was the fourth decennial census of agriculture in Nepal, undertaken by the Central Bureau of Statistics (CBS). Previous censuses were undertaken in 1961/62, 1971/72 and 1981/82.

The report is divided into 17 chapters corresponding to the main topics covered in the census. Each chapter contains a set of summary tables, together with some commentary on the main results and graphical presentations. The statistical presentations feature comparisons between ecological belts and development regions and highlight changes that have taken place since the earlier censuses. The census data have also been analyzed in relation to information from other sources.

This is the second report prepared by the CBS presenting results of the analysis of the 1991/92 Census of Agriculture. The report "National Sample Census of Agriculture, Nepal, 1991/92, Highlights", issued in January 1994, summarized some of the major findings of the census.

Detailed results of the census are contained in a series of 85 reports published by the CBS. In addition to the national level report, reports have also been issued for each ecological belt, development region and district.

In addition, the technical report "National Sample Census of Agriculture, Nepal, 1991/92, Reliability of Data", issued in February 1994, provides a full technical description of the census methodology and an evaluation of the reliability of the census data.

The 1991/92 Census of Agriculture covered all districts in the kingdom and was based on the collection of data from a sample of agricultural holdings. The sample was selected using strict statistical procedures. Some 5,100 "enumeration areas" (wards or groups of wards) were first selected and a sample of between 20 and 30 agricultural holdings were sampled in each selected enumeration area. In total, about 122,000 agricultural holdings (4.5 percent of all holdings) were enumerated in the census. The census enumeration work was conducted between January and June 1992. Data were collected in respect of the twelve month reference period January to December 1991.

CBS was assisted in its work on the 1991/92 Agricultural Census by the UNDP/FAO project National Sample Census of Agriculture, 1991/92 - Project NEP/88/024. I am thankful to FAO for its help in carrying out the project. I would also like to express my appreciation for the financial and technical assistance provided by UNDP. Mr. J. A. Colwell, Data Analysis Adviser from FAO deserves our special thanks for his dedicated and timely work in the analysis of the census result and the preparation of this report. He was ably assisted in the analysis and other works of the project by Mr. Rabi Singh, Mr. T.S. Bastola - Senior Statistical Officers of the Bureau, Mr. R.C. Das and other Statistical Officers and staff of the section. I wish to express my sincere thanks to each one of them for their valuable contribution in making this project a success.

June 1994
Kathmandu, Nepal

K.R. Sharma
Director General a.i.
Central Bureau of Statistics

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GENERAL INFORMATION

Explanation of symbols

The following symbols shown in the tables mean:

..	not applicable
na	not available
-	none or negligible (less than one half the unit indicated)

Area conversion

One hectare is equivalent to 19.66 ropanis, 1.477 bighas or 78.63 matomuris.

Explanatory notes

1. Definitions of terms used in the tables and throughout the report are contained in the Technical Notes given in the main census reports. A technical description of the methodology used in the census and an evaluation of the reliability of the census data are given in the report "National Sample Census of Agriculture, Nepal, 1991/92, Reliability of Data".
2. Tables containing land related data (such as land use, size of holding, crops, and use of inputs refer to agricultural holdings with land. Other tables refer to all holdings (including holdings with livestock but no land). In 1991/92, there were an estimated 2.74 million agricultural holdings in Nepal, out of which 2.70 million were holdings with land.
3. In some cases, minor discrepancies occur in the tables between sums of component items and totals because the data have been rounded. Data on number of holdings are shown to the nearest 100; area data are shown to the nearest 100 hectares.

CHAPTER 1

BACKGROUND

Land area (Table 1.1)

The total land area of Nepal is 147,181 square kilometres. The Mountain belt has total land area of 51,817 square kilometres (35 percent of the total area), the Hill belt has 61,345 square kilometres (42 percent), and 34,019 square kilometres (23 percent) are in the Terai.

The largest development region is Mid Western Region with an area of 42,378 square kilometres.

Population (Table 1.2)

The total population of Nepal, as recorded in the 1991 Population Census, was 18.5 million.

Some 8.6 million people (47 percent of the total population) live in the Terai. Of these, 5.7 million live in the Eastern and Central Terai areas.

Some 8.4 million people live in the Hill belt, the majority in the central and western areas. Only 1.4 million people (8 percent of the population) live in the Mountain belt.

FIGURE 1.1
POPULATION DISTRIBUTION, 1991
('000)

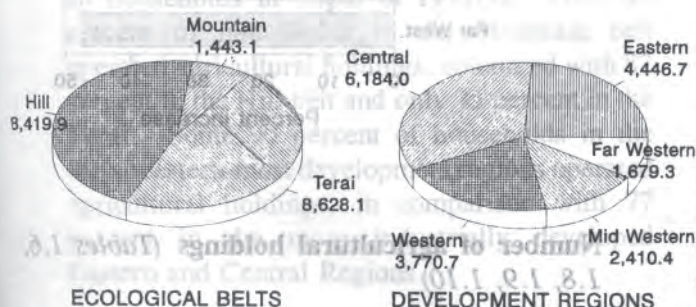
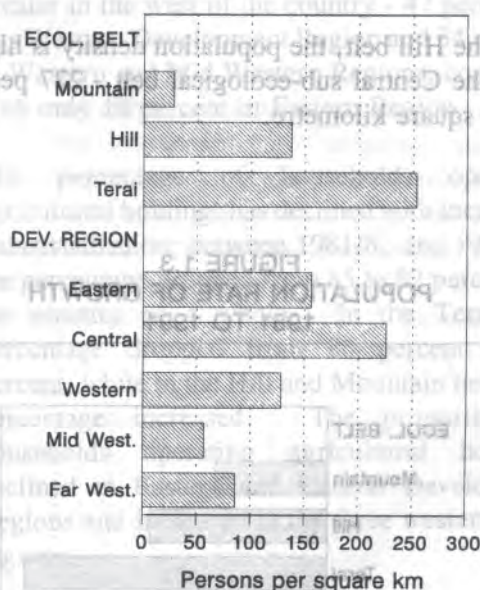


FIGURE 1.2
POPULATION DENSITY, 1991



Amongst development regions, the largest population is in Central Region (6.2 million). Mid and Far Western Development Regions have populations of 2.4 million and 1.7 million respectively, together accounting for just over one fifth of the total population.

Population density (Table 1.3)

In 1991, the population density for the country as a whole was 126 persons per square kilometre.

The population density is much higher in the Terai than in the Hill and Mountain belts - 254 persons per square kilometre in the Terai, compared with 137 per square kilometre in the Hill belt and only

28 per square kilometre in the Mountain belt.

In the Terai, the population is heavily concentrated in the eastern part of the country. There are 366 persons per square kilometre in Eastern Terai and 325 per square kilometre in Central Terai. This compares with only 127 persons per square kilometre in Mid Western Terai and 140 per square kilometre in Far Western Terai.

In the Hill belt, the population density is highest in the Central sub-ecological belt - 227 persons per square kilometre.

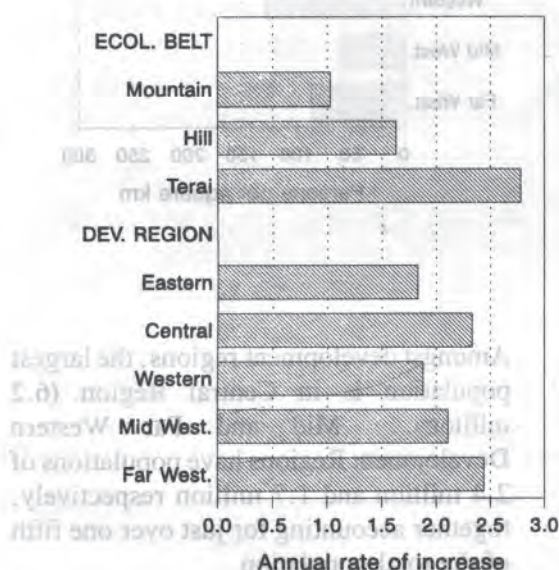
grew at a faster rate than in eastern areas; 4.7 percent in Far Western Terai, compared with 2.3 percent in Eastern Terai and 2.4 percent in Central Terai.

In the Hill belt, the annual rate of population increase was highest in the Central sub-ecological belt (2.4 percent). In other hill areas, the population increased at less than 1.6 percent per year. The population declined in Western Mountain sub-ecological belt.

Number of households (Table 1.5)

The total number of households in Nepal recorded in the 1991 Population Census was 3.3 million. The average household size for the country as a whole was 5.6.

**FIGURE 1.3
POPULATION RATE OF GROWTH
1981 TO 1991**

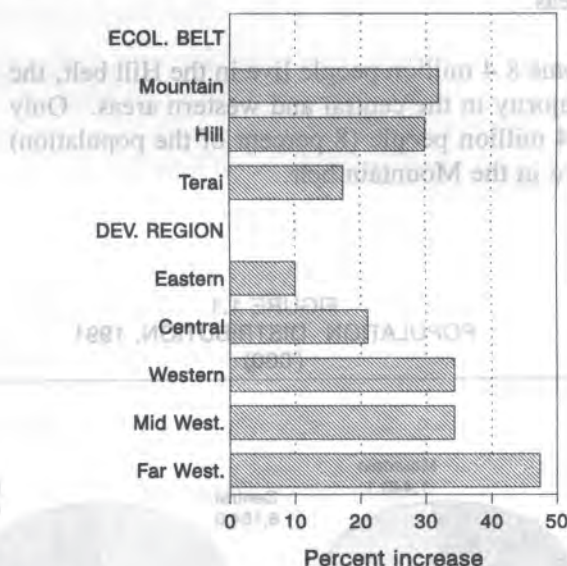


Population growth (Table 1.4)

The population of Nepal grew at an annual rate of 2.1 percent during the 10 year period between the 1981 and 1991 Population Censuses. The rate of population increase was higher in the Terai (2.8 percent), than in the Hill belt (1.6 percent) or the Mountain belt (1.0 percent).

The population in western areas of the Terai

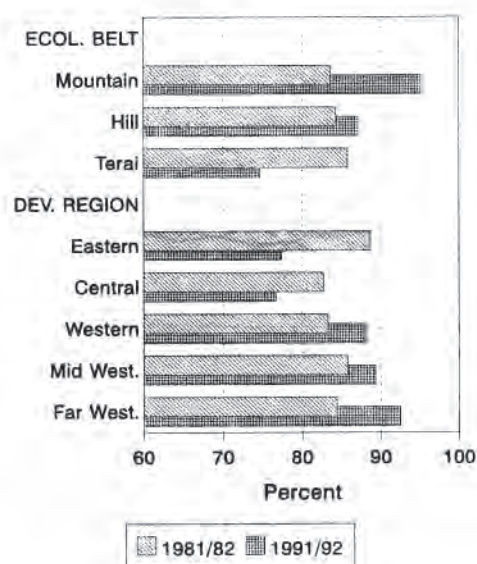
**FIGURE 1.4
NUMBER OF AGRICULTURAL HOLDINGS
INCREASE 1981/82 TO 1991/92**



Number of agricultural holdings (Tables 1.6, 1.8, 1.9, 1.10)

An agricultural holding was defined for the purposes of the 1991/92 Agricultural Census as an economic unit of agricultural production under

FIGURE 1.5
HOLDINGS AS PERCENT OF HOUSEHOLDS
1981/82 AND 1991/92



single management, covering both land and livestock. An agricultural holding can be considered equivalent to a farm household.

In the 1991/92 Agricultural Census, there were an estimated 2.74 million agricultural holdings in Nepal. Of these, 1.12 million were in the Terai, 1.36 million in the Hill belt and 260,700 were in the Mountain belt. Amongst development regions, the largest number of holdings were in Central Region (855,300), while the smallest number were in Far Western Region (264,100).

Agricultural holdings represented 82 percent of all households in Nepal in 1991/92. Over 95 percent of households in the Mountain belt operated agricultural holdings, compared with 87 percent in the Hill belt and only 75 percent in the Terai. Some 90 percent of households in the three western-most development regions operated agricultural holdings, in comparison with 77 percent in the more industrially developed Eastern and Central Regions.

The number of agricultural holdings in Nepal has grown steadily over the last thirty years. In the first Agricultural Census in 1961/62, there were

1.54 million agricultural holdings in the country, 1.20 million less than in 1991/92.

In the ten years to 1991/92, the number of agricultural holdings in Nepal increased by 25 percent. In the Mountain and Hill belts, the increase was 32 and 30 percent respectively; in the Terai, the increase was only 17 percent. Amongst development regions, the increase in number of holdings over the ten years was greater in the west of the country - 47 percent in Far Western Development Region and 34 percent in Western and Mid Western Regions, compared with only 10 percent in Eastern Region.

The percentage of households operating agricultural holdings has declined with increasing industrialization; between 1981/82 and 1991/92, the percentage dropped from 85 to 82 percent for the country as a whole. In the Terai, the percentage dropped from 86 percent to 75 percent, while in the Hill and Mountain belts, the percentage increased. The proportion of households operating agricultural holdings declined in Eastern and Central Development Regions and increased in the three western-most regions.

Farm population (Tables 1.7, 1.8, 1.9, 1.10)

The total farm population - that is, household members of persons operating agricultural holdings - estimated from the 1991/92 Agricultural Census, was 16.3 million persons. This represents 88 percent of the total population. (Household members of persons working in agriculture but not operating an agricultural holding are not included in this number).

In the three western-most development regions, the farm population constitutes some 95 percent of the total population; this compares with only 83 percent in the two eastern regions. The farm population comprises 82 percent of the total population in the Terai.

Agricultural production index (Table 1.11)

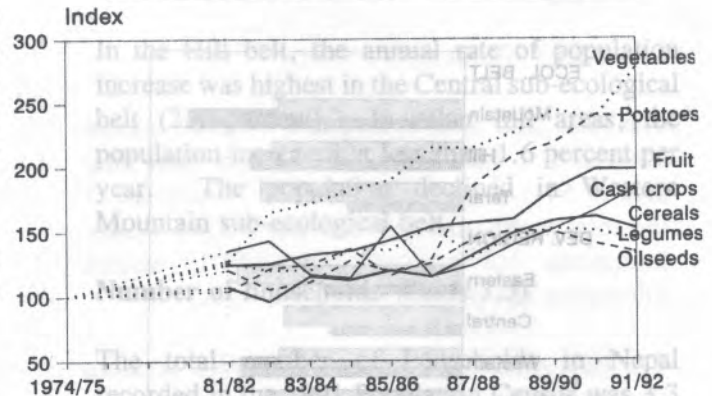
The agricultural production index, compiled by the CBS, provides an overall measure of the

change in production for given agricultural commodities. The base year for the index is 1974/75.

Between 1981/82 and 1991/92, the index grew by 42 percent for cereal grains. The increase for rice was less than for the other main cereal crops - 26 percent for rice, compared with 60 percent for maize and 48 percent for wheat.

Amongst non-cereal crops, the increase in the production index has been greatest for vegetables and potatoes (which more than doubled in the ten years to 1991/92). The index for cash crops increased by 35 percent over the ten year period. Smaller increases were recorded for legumes (14 percent) and oilseeds (11 percent).

FIGURE 1.6
AGRICULTURAL PRODUCTION INDEXES
NEPAL, 1981/82 TO 1991/92



The production index increased by 59 percent over the ten years for fruit crops. The overall livestock production increased by 52 percent.

FIGURE 1.7
NUMBER OF AGRICULTURAL HOLDINGS
IN NEPAL, 1981/82 TO 1991/92

In the 1991/92 Agricultural Census, there were an estimated 2.74 million agricultural holdings in Nepal. Of these, 1.12 million were in the Terai, 1.36 million in the Hill belt and 260,700 were in the Mountain belt. Amongst development regions, the largest number of holdings were in the Central Region (852,200); while the smallest number were in the Far Western Region (264,100).

Agricultural holdings represented 82 percent of all households in Nepal in 1991/92. Over 92 percent of households in the Mountain belt operated agricultural holdings, compared with 87 percent in the Hill belt and only 75 percent in the Terai. Some 90 percent of households in the three western-most development regions operated agricultural holdings, in comparison with 77 percent in the more industrially developed Eastern and Central Regions. (0.1, 9.1, 8.1)

The number of agricultural holdings in Nepal has grown steadily over the last thirty years. In the first Agricultural Census in 1961/62 there were

Farm population (Table 1.7, Nepal 1.10)

The total farm population - that is, household members of persons operating agricultural holdings - estimated from the 1991/92 Agricultural Census, was 16.3 million persons. This represents 88 percent of the total population. (Household members of persons working in agriculture but not operating an agricultural holding are not included in this number).

In the three western-most development regions, the farm population constitutes some 92 percent of the total population, this compares with only 82 percent in the two eastern regions. The farm population comprises 82 percent of the total population in the Terai, 90 percent in the Hill belt and 92 percent in the Mountain belt. (Table 1.11)

The agricultural production index, compiled by the CBS, provides an overall measure of the

TABLE 1.1: TOTAL LAND AREA BY SUB-ECOLOGICAL BELT

(square kms)

Development region	Ecological belt			
	Mountain	Hill	Terai	Total
Eastern	10,438	10,749	7,269	28,456
Central	6,277	11,805	9,328	27,410
Western	5,819	18,319	5,260	29,398
Mid Western	21,351	13,710	7,317	42,378
Far Western	7,932	6,762	4,845	19,539
Total	51,817	61,345	34,019	147,181

TABLE 1.2: POPULATION BY SUB-ECOLOGICAL BELT, 1991

('000)

Development region	Ecological belt			
	Mountain	Hill	Terai	Total
Eastern	359.2	1,429.1	2,658.5	4,446.7
Central	471.0	2,679.6	3,033.4	6,184.0
Western	19.7	2,420.9	1,330.1	3,770.7
Mid Western	260.5	1,219.6	930.3	2,410.4
Far Western	332.8	670.7	675.8	1,679.3
Total	1,443.1	8,419.9	8,628.1	18,491.1

Source: 1991 Population Census.

TABLE 1.3: POPULATION DENSITY BY SUB-ECOLOGICAL BELT, 1991

(persons per square km)

Development region	Ecological belt			
	Mountain	Hill	Terai	Total
Eastern	34.4	133.0	365.7	156.3
Central	75.0	227.0	325.2	225.6
Western	3.4	132.2	252.9	128.3
Mid Western	12.2	89.0	127.2	56.9
Far Western	42.0	99.2	139.5	85.9
Total	27.9	137.3	253.6	125.6

Source: 1991 Population Census.

TABLE 1.4: ANNUAL RATE OF POPULATION INCREASE BY SUB-ECOLOGICAL BELT,
1981 TO 1991

(percent per year)

Development region	Ecological belt			
	Mountain	Hill	Terai	Total
Eastern	0.60	1.29	2.32	1.83
Central	1.32	2.43	2.42	2.33
Western	-0.15	1.19	3.34	1.88
Mid Western	0.72	1.58	3.33	2.11
Far Western	1.43	1.05	4.70	2.44
Total	1.03	1.63	2.78	2.10

Source: 1981 and 1991 Population Censuses.

TABLE 1.5: NUMBER OF HOUSEHOLDS BY SUB-ECOLOGICAL BELT, 1991

('000)

Development region	Ecological belt			
	Mountain	Hill	Terai	Total
Eastern	67.5	262.9	491.4	821.8
Central	94.3	484.0	537.1	1,115.4
Western	4.5	465.5	220.2	690.2
Mid Western	47.6	221.8	146.5	415.8
Far Western	60.2	124.3	101.0	285.5
Total	274.1	1,558.5	1,496.1	3,328.7

Source: 1991 Population Census.

TABLE 1.6: NUMBER OF AGRICULTURAL HOLDINGS BY SUB-ECOLOGICAL BELT,
1991/92

('000)

Development region	Ecological belt			
	Mountain	Hill	Terai	Total
Eastern	63.7	245.8	326.9	636.4
Central	89.9	360.8	404.6	855.3
Western	3.4	422.0	183.4	608.8
Mid Western	46.0	209.8	115.6	371.5
Far Western	57.7	119.2	87.2	264.1
Total	260.7	1,357.7	1,117.6	2,736.1

TABLE 1.7: FARM POPULATION BY SUB-ECOLOGICAL BELT, 1991/92

('000)

Development region	Ecological belt			
	Mountain	Hill	Terai	Total
Eastern	343.0	1,374.4	1,995.3	3,712.8
Central	482.6	2,100.2	2,478.2	5,061.0
Western	15.8	2,411.3	1,190.9	3,618.0
Mid Western	254.0	1,196.5	792.2	2,242.7
Far Western	351.3	665.5	607.0	1,623.8
Total	1,446.6	7,747.9	7,063.6	16,258.2

TABLE 1.8: CHARACTERISTICS OF POPULATION AND HOLDINGS, NEPAL, 1961/62 TO 1991/92

	1961/62	1971/72	1981/82	1991/92
Total population (a)				
No. of persons ('000)	9,413.0	11,556.0	15,022.8	18,491.1
No. of households ('000)	2,588.9	2,084.1	2,585.2	3,328.7
Farm population (b)				
No. of persons ('000)	8,410.0	na	12,877.6	16,258.2
No. of holdings ('000)	1,540.0	1,721.2	2,194.0	2,736.1
Av. household size	5.5	na	5.9	5.9
Farm population as % of total population	89.3	na	85.7	87.9
Holdings as % of all households	59.5	82.6	84.9	82.2

(a) Source: 1991 Population Census. (b) Source: 1991/92 Agricultural Census.

TABLE 1.9: CHARACTERISTICS OF POPULATION AND HOLDINGS BY ECOLOGICAL BELT,
1981/82 AND 1991/92

	Ecological belt			
	Mountain	Hill	Terai	Nepal
1981/82				
Total population (a)				
No. of persons ('000)	1,302.9	7,163.1	6,556.8	15,022.8
No. of households ('000)	236.3	1,240.4	1,108.4	2,585.2
Farm population (b)				
No. of persons ('000)	1,097.5	6,022.6	5,757.6	12,877.6
No. of holdings ('000)	197.6	1,045.2	951.2	2,194.0
Av. household size	5.6	5.8	6.1	5.9
Farm population as % of total population	84.2	84.1	87.8	85.7
Holdings as % of all households	83.6	84.3	85.8	84.9
1991/92				
Total population (a)				
No. of persons ('000)	1,443.1	8,419.9	8,628.1	18,491.1
No. of households ('000)	274.1	1,558.5	1,496.1	3,328.7
Farm population (b)				
No. of persons ('000)	1,446.6	7,747.9	7,063.6	16,258.2
No. of holdings ('000)	260.7	1,357.7	1,117.6	2,736.1
Av. household size	5.5	5.7	6.3	5.9
Farm population as % of total population	(c) 100.0	92.0	81.9	87.9
Holdings as % of all households	95.1	87.1	74.7	82.2

(a) Source: 1991 Population Census. (b) Source: 1991/92 Agricultural Census.
(c) Farm population from Agricultural Census estimated to be greater than total population from Population Census.

TABLE 1.10: CHARACTERISTICS OF POPULATION AND HOLDINGS BY DEVELOPMENT REGION, 1981/82 AND 1991/92

	Development region					
	Eastern	Central	Western	Mid West.	Far West.	Nepal
1981/82						
Total population (a)						
No. of persons ('000)	3,708.9	4,909.4	3,128.9	1,955.6	1,320.1	15,022.8
No. of households ('000)	651.8	854.5	544.3	322.3	212.2	2,585.2
Farm population (b)						
No. of persons ('000)	3,398.4	4,160.2	2,635.2	1,634.4	1,049.3	12,877.6
No. of holdings ('000)	578.3	706.4	453.3	276.7	179.2	2,194.0
Av. household size	5.9	5.9	5.8	5.9	5.9	5.9
Farm population as % of total population	91.6	84.7	84.2	83.6	79.5	85.7
Holdings as % of all households	88.7	82.7	83.3	85.8	84.5	84.9
1991/92						
Total population (a)						
No. of persons ('000)	4,446.7	6,184.0	3,770.7	2,410.4	1,679.3	18,491.1
No. of households ('000)	821.8	1,115.4	690.2	415.8	285.5	3,328.7
Farm population (b)						
No. of persons ('000)	3,712.8	5,061.0	3,618.0	2,242.7	1,623.8	16,258.2
No. of holdings ('000)	636.4	855.3	608.8	371.5	264.1	2,736.1
Av. household size	5.8	5.9	5.9	6.0	6.1	5.9
Farm population as % of total population	83.5	81.8	96.0	93.0	96.7	87.9
Holdings as % of all households	77.4	76.7	88.2	89.3	92.5	82.2

(a) Source: 1991 Population Census. (b) Source: 1991/92 Agricultural Census.

TABLE 1.11: AGRICULTURAL PRODUCTION INDEXES BY COMMODITY, NEPAL, 1981/82 TO 1991/92

Commodity	1974/75	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92
Cereal grains	100.0	107.0	96.1	115.5	112.7	119.8	114.9	131.3	148.4	158.1	161.0	151.8
Rice	100.0	104.4	74.7	112.4	110.5	114.4	96.7	121.6	133.9	138.2	142.8	131.4
Wheat	100.0	159.0	198.5	191.6	161.3	180.8	211.9	225.1	250.9	258.4	252.7	235.5
Maize	100.0	90.9	86.9	92.1	99.2	105.7	105.0	109.1	129.6	145.3	148.9	145.7
Millet	100.0	87.0	86.6	82.2	89.0	98.6	98.4	107.3	130.9	160.6	165.6	163.5
Barley	100.0	91.1	82.7	87.0	92.3	91.5	96.4	94.9	105.6	107.0	108.8	108.0
Legumes	100.0	125.7	120.0	120.0	135.7	135.7	154.4	130.0	145.7	151.7	150.0	143.7
Potatoes	100.0	104.0	121.3	124.6	136.6	116.0	128.5	184.4	208.4	218.5	240.0	238.3
Cash crops (a)	100.0	135.4	143.1	116.8	114.2	153.8	115.2	123.4	139.2	151.6	165.8	182.8
Oilseeds	100.0	120.1	105.5	111.1	127.4	119.4	125.3	143.3	150.6	148.9	139.9	133.4
Vegetables	100.0	127.6	164.9	171.8	182.1	189.9	214.8	214.6	226.3	243.8	238.1	276.8
Permanent fruit crops	100.0	124.4	125.2	132.3	135.0	143.3	153.7	156.5	159.2	182.4	197.8	197.6
Livestock	100.0	118.8	126.0	132.7	136.7	145.6	144.9	151.9	156.4	174.4	180.0	180.6

Source: Food and Agricultural Marketing Services Department and Jute Development Trading Corporation. Weights based on 1976/77 value added.

(a) Cash crops include sugar cane, tobacco and jute only. Indexes given in other CBS publications also include potatoes and oilseeds.

CHAPTER 2

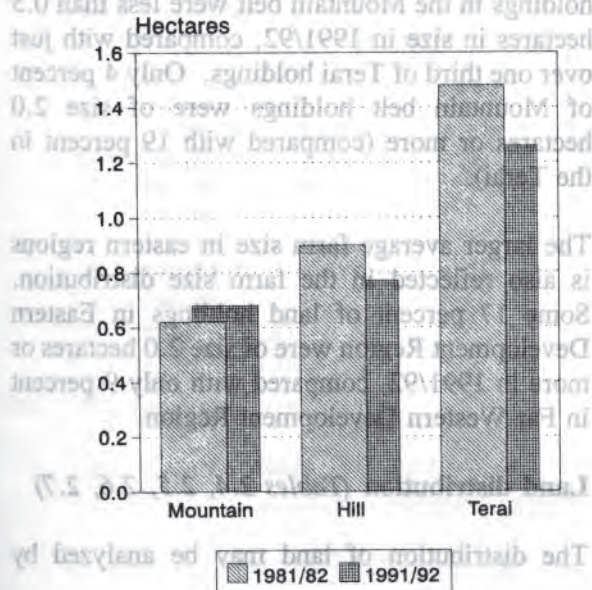
SIZE OF HOLDING

Land holdings (Tables 2.1, 2.2, 2.3, 2.8)

Of the 2.74 million agricultural holdings in Nepal in 1991/92, there were 2.70 million holdings with land and 32,100 holdings without land. For the purposes of the 1991/92 Agricultural Census, "holdings with land" are those which cultivated 0.01 hectares or more of land during 1991. "Holdings with no land" are those with two or more cattle (or the equivalent of other livestock) and less than 0.01 hectares of land under cultivation. All analysis of land and crop data from the Agricultural Census shown in this report relate to land holdings only.

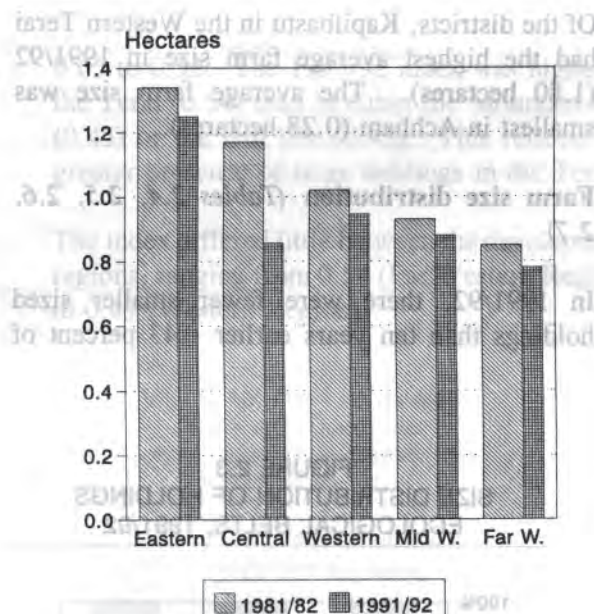
The total area of all land holdings increased by 54 percent over the last thirty years, from 1.69 million hectares in 1961/62 to 2.60 million hectares in 1991/92. Holding numbers have

FIGURE 2.1
AVERAGE SIZE OF HOLDING
ECOLOGICAL BELTS



risen faster than this, with the result that there has been a decline in farm sizes.

FIGURE 2.2
AVERAGE SIZE OF HOLDING
DEVELOPMENT REGIONS



Average farm size (Tables 2.1, 2.2, 2.3, 2.8)

In 1961/62, the average size of land holding for Nepal was 1.11 hectares. This was little changed by 1981/82 (1.13 hectares), but decreased to 0.96 hectares by 1991/92. The reduction may have resulted from the breakup of holdings under the existing laws of inheritance.

Farm sizes tend to be larger in the Terai; in 1991/92, the average size of holding in the Terai was 1.26 hectares, compared with 0.77 hectares in the Hill belt and only 0.68 hectares in the Mountain belt. The decline in farm sizes

between 1981/82 and 1991/92 was most pronounced in the Terai - the average farm size declining from 1.48 to 1.26 hectares. In the Mountain belt, the average farm size increased slightly.

Farm sizes are smaller in the west of the country. In 1991/92, the average size of holding in Eastern Development Region was 1.25 hectares, while in Far Western Development Region it was only 0.78 hectares. The largest decline in average farm size occurred in Central Development Region - from 1.17 hectares in 1981/82 to 0.85 hectares in 1991/92. This was largely the result of extensive diversion of agricultural land to other uses.

Of the districts, Kapilbastu in the Western Terai had the highest average farm size in 1991/92 (1.80 hectares). The average farm size was smallest in Achham (0.28 hectares).

Farm size distribution (Tables 2.4, 2.5, 2.6, 2.7)

In 1991/92, there were fewer smaller sized holdings than ten years earlier - 43 percent of

FIGURE 2.3
SIZE DISTRIBUTION OF HOLDINGS
ECOLOGICAL BELTS, 1991/92

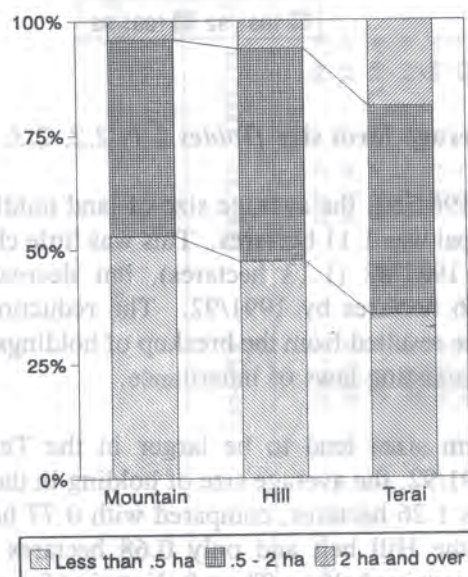
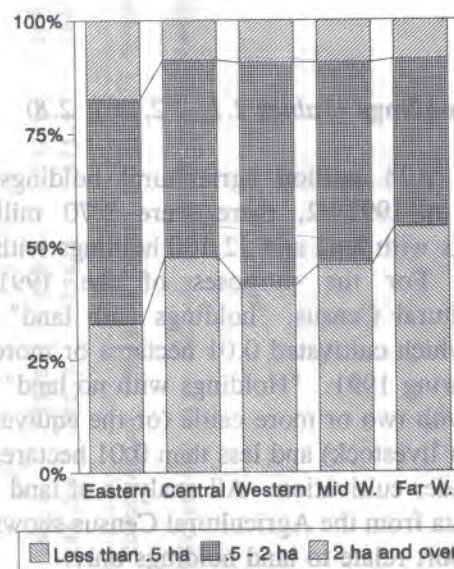


FIGURE 2.4
SIZE DISTRIBUTION OF HOLDINGS
DEVELOPMENT REGIONS, 1991/92



land holdings in 1991/92 were less than 0.5 hectares in size, compared with 50 percent in 1981/82. There were also fewer large sized holdings - holdings with 2.0 hectares or more of land constituted 11 percent of land holdings in 1991/92, compared with 16 percent in 1981/82.

There are more small holdings in the mountains than in the hill and Terai areas - over one half of holdings in the Mountain belt were less than 0.5 hectares in size in 1991/92, compared with just over one third of Terai holdings. Only 4 percent of Mountain belt holdings were of size 2.0 hectares or more (compared with 19 percent in the Terai).

The larger average farm size in eastern regions is also reflected in the farm size distribution. Some 17 percent of land holdings in Eastern Development Region were of size 2.0 hectares or more in 1991/92, compared with only 9 percent in Far Western Development Region.

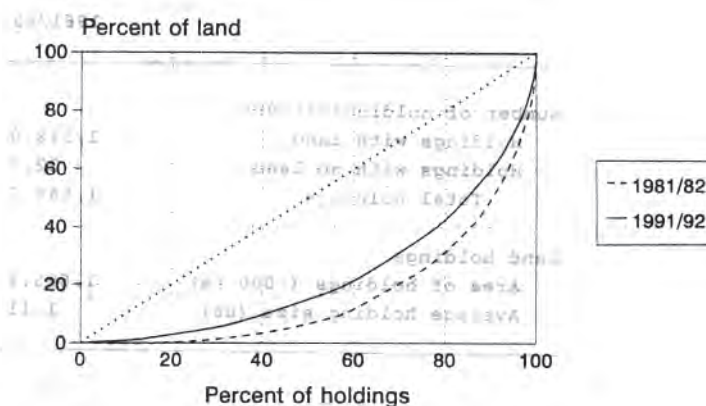
Land distribution (Tables 2.4, 2.5, 2.6, 2.7)

The distribution of land may be analyzed by

constructing a "Lorentz curve" (Figure 2.5) and calculating the "concentration index".

FIGURE 2.5
LAND DISTRIBUTION
NEPAL, 1981/82 AND 1991/92

The Lorentz curve shows the percentage of land operated by a given percentage of agricultural holdings. In 1991/92, the smallest 50 percent of holdings operated only 16 percent of the land. This was more equitable than 10 years earlier - in 1981/82, the smallest 50 percent of holdings operated only 6 percent of the land. This reflects the decrease in farm size over the period and the reduced numbers of large sized holdings.



The concentration index is the area between Lorentz curve and the diagonal as a proportion of the total area under the diagonal. The higher the concentration index the less equitable is the land distribution.

0.65 to 0.52. The 1991/92 index was higher in the Terai (0.54) than in either the Mountain belt (0.45) or the Hill belt (0.43). This reflects the greater presence of large holdings in the Terai.

The concentration index for Nepal as a whole declined between 1981/82 and 1991/92 - from

The index differed little between the development regions, ranging from 0.54 (Far Western Region) to 0.49 (Western Region).

TABLE 2.1: NUMBER AND AREA OF HOLDINGS, NEPAL, 1961/62 TO 1991/92

	1961/62	1971/72	1981/82	1991/92
Number of holdings ('000)				
Holdings with land	1,518.0	1,707.3	2,185.7	2,703.9
Holdings with no land	22.0	13.9	8.2	32.1
Total holdings	1,540.0	1,721.2	2,194.0	2,736.1
Land holdings				
Area of holdings ('000 ha)	1,685.4	1,654.0	2,463.7	2,597.4
Average holding size (ha)	1.11	0.97	1.13	0.96

TABLE 2.2: NUMBER AND AREA OF HOLDINGS BY ECOLOGICAL BELT, 1981/82 AND 1991/92

	Mountain	Hill	Terai	Nepal
Number of holdings ('000)				
Holdings with land	197.1	1,041.9	946.8	2,185.7
Holdings with no land	0.5	3.3	4.4	8.2
Total holdings	197.6	1,045.2	951.2	2,194.0
Land holdings				
Area of holdings ('000 ha)	122.6	939.7	1,401.4	2,463.7
Average holding size (ha)	0.62	0.90	1.48	1.13
Number of holdings ('000)				
Holdings with land	259.9	1,351.3	1,092.8	2,703.9
Holdings with no land	0.8	6.4	24.9	32.1
Total holdings	260.7	1,357.7	1,117.6	2,736.1
Land holdings				
Area of holdings ('000 ha)	176.8	1,046.2	1,374.3	2,597.4
Average holding size (ha)	0.68	0.77	1.26	0.96

Less than 0.5 ha 0.5 - 2 ha 2 ha and over

Land distribution (Tables 2.4, 2.5, 2.6, 2.7)

The distribution of land may be analyzed by

TABLE 2.3: NUMBER AND AREA OF HOLDINGS BY DEVELOPMENT REGION, 1981/82 AND 1991/92

	Development region					
	Eastern	Central	Western	Mid West.	Far West	Nepal
1981/82	1981/82	1981/82	1981/82	1981/82	1981/82	1981/82
Number of holdings ('000)						
Holdings with land	576.2	705.9	452.7	276.6	174.3	2,185.7
Holdings with no land	2.0	0.5	0.6	0.1	4.9	8.2
Total holdings	578.3	706.4	453.3	276.7	179.2	2,194.0
Land holdings						
Area of holdings ('000 ha)	771.0	823.3	463.6	258.2	147.6	2,463.7
Average holding size (ha)	1.34	1.17	1.02	0.93	0.85	1.13
1991/92	1991/92	1991/92	1991/92	1991/92	1991/92	1991/92
Number of holdings ('000)						
Holdings with land	628.5	843.7	603.3	368.3	260.1	2,703.9
Holdings with no land	7.8	11.6	5.5	3.1	4.0	32.1
Total holdings	636.4	855.3	608.8	371.5	264.1	2,736.1
Land holdings						
Area of holdings ('000 ha)	783.2	719.7	566.4	324.7	203.3	2,597.4
Average holding size (ha)	1.25	0.85	0.94	0.88	0.78	0.96

TABLE 2.4: NUMBER AND AREA OF LAND HOLDINGS BY SIZE OF HOLDING, NEPAL, 1991/92

Size of holding	Holdings			Area of holdings		
	Number ('000)	Percent	Cumulative percent	Area ('000 ha)	Percent	Cumulative percent
Under 0.1 ha	173.0	6.4	6.4	9.6	0.4	0.4
0.1 - 0.2 ha	263.8	9.8	16.2	38.0	1.5	1.9
0.2 - 0.5 ha	729.3	27.0	43.1	244.8	9.4	11.3
0.5 - 1.0 ha	711.7	26.3	69.4	499.5	19.2	30.5
1.0 - 2.0 ha	529.5	19.6	89.0	716.5	27.6	58.1
2.0 - 3.0 ha	168.4	6.2	95.3	400.2	15.4	73.5
3.0 - 4.0 ha	59.6	2.2	97.5	202.4	7.8	81.3
4.0 - 5.0 ha	28.6	1.1	98.5	125.7	4.8	86.1
5.0 - 10.0 ha	32.0	1.2	99.7	209.3	8.1	94.2
10.0 ha & over	8.2	0.3	100.0	151.3	5.8	100.0
Total land holdings	2,703.9	100.0	100.0	2,597.4	100.0	100.0

TABLE 2.5: DISTRIBUTION OF NUMBER AND AREA OF LAND HOLDINGS BY SIZE OF HOLDING, NEPAL, 1961/62 TO 1991/92

Size of holding	(percent)							
	1961/62		1971/72		1981/82		1991/92	
	Holdings	Area	Holdings	Area	Holdings	Area	Holdings	Area
Under 0.1 ha	56.1	11.9	62.7	13.8	50.3	6.4	6.4	0.4
0.1 - 0.2 ha	11.9	11.9	11.1	17.4	17.3	10.8	9.8	1.5
0.2 - 0.5 ha	18.8	12.2	14.9	12.1	16.3	27.0	27.0	9.4
0.5 - 1.0 ha	11.9	15.4	11.1	17.4	17.3	19.9	19.6	27.6
1.0 - 2.0 ha	5.2	11.7	5.0	13.4	7.2	15.4	6.2	15.4
2.0 - 3.0 ha	2.7	8.6	2.3	8.6	3.5	10.8	2.2	7.8
3.0 - 4.0 ha	1.5	6.2	1.2	5.7	1.9	7.7	1.1	4.8
4.0 - 5.0 ha	2.6	16.4	2.1	15.5	2.7	15.8	1.2	8.1
5.0 - 10.0 ha	1.0	17.7	0.7	13.7	0.7	13.1	0.3	5.8
10.0 ha & over								
Total land holdings	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Concentration index (a)	0.64	0.64	0.63	0.63	0.65	0.65	0.52	0.52

(a) See Page 13 for explanation of concentration index.

TABLE 2.6: DISTRIBUTION OF NUMBER AND AREA OF LAND HOLDINGS BY SIZE OF HOLDING AND ECOLOGICAL BELT, 1991/92

Size of holding	(percent)							
	Mountain		Hill		Terai		Nepal	
	Holdings	Area	Holdings	Area	Holdings	Area	Holdings	Area
Under 0.1 ha	5.2	0.5	5.6	0.4	7.7	0.3	6.4	0.4
0.1 - 0.2 ha	11.2	2.4	10.7	2.0	8.2	1.0	9.8	1.5
0.2 - 0.5 ha	36.5	18.2	31.0	13.4	19.7	5.3	27.0	9.4
0.5 - 1.0 ha	29.1	30.0	29.2	26.4	22.1	12.4	26.3	19.2
1.0 - 2.0 ha	13.8	27.2	17.4	30.4	23.7	25.5	19.6	27.6
2.0 - 3.0 ha	2.5	8.7	3.9	12.0	10.0	18.8	6.2	15.4
3.0 - 4.0 ha	0.8	3.9	1.2	5.3	3.8	10.2	2.2	7.8
4.0 - 5.0 ha	0.3	2.0	0.4	2.3	2.0	7.1	1.1	4.8
5.0 - 10.0 ha	0.4	3.4	0.4	3.1	2.4	12.4	1.2	8.1
10.0 ha & over	0.1	3.7	0.2	4.6	0.5	7.0	0.3	5.8
Total land holdings	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Concentration index (a)	0.45	0.45	0.43	0.43	0.54	0.54	0.52	0.52

(a) See Page 13 for explanation of concentration index.

TABLE 2.7: DISTRIBUTION OF NUMBER AND AREA OF LAND HOLDINGS BY SIZE OF HOLDING AND DEVELOPMENT REGION, 1991/92

Size of holding	(percent)			
	Eastern	Central	Mid Western	Far Western
	Holdings	Area	Holdings	Area
Under 0.1 ha	6.3	0.4	0.3	0.4
0.1 - 0.2 ha	6.8	1.9	1.3	1.6
0.2 - 0.5 ha	19.9	11.5	9.9	11.2
0.5 - 1.0 ha	25.2	21.7	21.6	21.4
1.0 - 2.0 ha	24.5	26.7	30.3	27.5
2.0 - 3.0 ha	9.8	13.9	13.9	14.2
3.0 - 4.0 ha	3.5	7.3	6.4	7.6
4.0 - 5.0 ha	1.8	4.4	3.3	5.0
5.0 - 10.0 ha	1.8	8.1	6.7	7.0
10.0 ha & over	0.5	4.0	6.3	4.1
Total land holdings	100.0	100.0	100.0	100.0
Concentration index (a)	..	0.51	0.49	0.54

(a) See Page 13 for explanation of concentration index.

TABLE 2.8: NUMBER AND AREA OF LAND HOLDINGS BY DISTRICT, 1991/92

District	Holdings ('000)	Area ('000 ha)
Eastern Hill	100.0	100.0
Eastern Terai	100.0	100.0
Central Mountain	100.0	100.0
Central Hill	100.0	100.0
Central Terai	100.0	100.0
Mid Western	100.0	100.0
Far Western	100.0	100.0
Nepal	100.0	100.0

TABLE 2.8: NUMBER AND AREA OF HOLDINGS BY DISTRICT, 1991/92

District	Number of holdings ('000)	Land holdings ('000)	Area of holdings ('000 ha)	Average hold. size (ha)
EASTERN MOUNTAIN				
Taplejung	20.2	20.2	24.2	1.20
Sankhuwasabha	25.4	25.3	22.4	0.89
Solukhumbu	18.0	18.0	14.6	0.81
Total Eastern Mountain	63.7	63.5	61.2	0.96
EASTERN HILL				
Panchthar	29.9	29.9	38.2	1.28
Ilam	37.9	37.3	54.1	1.45
Dhankuta	24.6	24.5	27.7	1.13
Tehrathum	17.2	17.2	26.4	1.53
Bhojpur	35.7	35.7	36.1	1.01
Okhaldhunga	25.8	25.7	28.7	1.12
Khotang	39.4	39.4	39.6	1.00
Udayapur	35.3	35.3	30.9	0.88
Total Eastern Hill	245.8	245.0	281.8	1.15
EASTERN TERAI				
Jhapa	74.7	73.6	105.1	1.43
Morang	77.9	76.7	110.9	1.45
Sunsari	43.7	42.5	64.2	1.51
Saptari	65.2	63.8	83.1	1.30
Siraha	65.3	63.4	76.9	1.21
Total Eastern Terai	326.9	320.0	440.2	1.38
CENTRAL MOUNTAIN				
Dolakha	34.2	34.1	21.9	0.64
Sindhupalchok	49.3	49.2	30.7	0.62
Rasuwa	6.4	6.4	5.9	0.91
Total Central Mountain	89.9	89.8	58.4	0.65
CENTRAL HILL				
Sindhuli	36.0	35.8	29.7	0.83
Ramechhap	33.8	33.7	33.3	0.99
Kavre	53.9	53.7	43.3	0.81
Lalitpur	29.0	28.8	10.6	0.37
Bhaktapur	22.7	22.6	7.1	0.31
Kathmandu	45.5	45.1	12.8	0.28
Nuwakot	43.0	42.9	32.0	0.75
Dhading	48.3	48.2	35.3	0.73
Makwanpur	48.7	48.3	31.5	0.65
Total Central Hill	360.8	359.1	235.6	0.66

cont.

TABLE 2.8 (cont.): NUMBER AND AREA OF HOLDINGS BY DISTRICT, 1991/92

District	Number of holdings	Land holdings	Area of holdings	Average hold. size
(ad)	(000)	('000)	('000 ha)	(ha)
CENTRAL TERAI				
Dhanusha	70.0	68.0	73.6	1.08
Mahottari	58.0	57.5	63.7	1.11
Sarlahi	65.7	62.2	75.1	1.21
Rautahat	63.4	62.1	66.0	1.06
Bara	53.5	52.6	61.0	1.16
Parsa	40.5	39.3	43.5	1.11
Chitwan	53.4	53.0	42.8	0.81
Total Central Terai	404.6	394.8	425.7	1.08
WESTERN MOUNTAIN				
Manang	0.9	0.9	0.8	0.90
Mustang	2.5	2.5	1.2	0.48
Total Western Mountain	3.4	3.4	2.0	0.59
WESTERN HILL				
Gorkha	46.1	45.3	31.2	0.69
Lamjung	28.4	28.0	19.1	0.68
Tanahu	45.3	44.9	33.9	0.75
Syangja	51.0	51.0	31.1	0.61
Kaski	44.0	43.8	25.1	0.57
Myagdi	18.9	18.8	13.6	0.72
Parbat	26.2	26.1	28.3	1.09
Baglung	42.4	42.4	31.9	0.75
Gulmi	47.9	47.8	50.5	1.06
Palpa	38.3	38.1	35.5	0.93
Arghakhanchi	33.4	33.3	29.0	0.87
Total Western Hill	422.0	419.5	329.2	0.78
WESTERN TERAI				
Nawalparasi	64.2	63.8	71.6	1.12
Rupandehi	67.8	66.3	73.2	1.10
Kapilbastu	51.4	50.3	90.4	1.80
Total Western Terai	183.4	180.4	235.1	1.30
MID WESTERN MOUNTAIN				
Dolpa	4.6	4.6	3.6	0.77
Jumla	13.0	13.0	8.8	0.67
Kalikot	15.8	15.8	6.0	0.38
Mugu	6.7	6.7	3.1	0.46
Humla	5.9	5.9	3.1	0.52
Total Mid Western Mountain	46.0	45.9	24.4	0.53

cont.

TABLE 2.8 (cont.): NUMBER AND AREA OF HOLDINGS BY DISTRICT, 1991/92

District	Area of holdings ('000 ha)	Number of holdings ('000)	Land holdings ('000)	Area of holdings ('000 ha)	Average holding size (ha)
MID WESTERN HILL					
Pyuthan	31.8	31.8	34.4	1.08	
Rolpa	32.2	32.1	21.3	0.66	
Rukum	28.0	28.0	12.7	0.45	
Salyan	30.1	29.9	24.2	0.81	
Surkhet	34.6	34.5	26.6	0.77	
Dailekha	32.9	32.8	12.4	0.38	
Jajarkot	20.2	20.0	12.5	0.62	
Total Mid Western Hill	209.8	209.4	144.1	0.69	
MID WESTERN TERAI					
Dang	48.1	47.3	56.4	1.19	
Banke	35.9	35.2	49.1	1.39	
Bardiya	31.6	30.8	50.7	1.64	
Total Mid Western Terai	115.6	113.4	156.2	1.38	
FAR WESTERN MOUNTAIN					
Bajura	16.8	16.7	10.5	0.63	
Bajhang	24.1	23.7	9.1	0.38	
Darchula	16.8	16.8	11.2	0.67	
Total Far Western Mountain	57.7	57.2	30.8	0.54	
FAR WESTERN HILL					
Achham	38.3	38.1	10.7	0.28	
Doti	29.2	29.2	11.5	0.39	
Dadeldhura	17.6	17.5	12.1	0.69	
Baitadi	34.0	33.8	21.2	0.63	
Total Far Western Hill	119.2	118.6	55.5	0.47	
FAR WESTERN TERAI					
Kailali	51.9	49.4	70.1	1.42	
Kanchanpur	35.2	34.8	47.0	1.35	
Total Far Western Terai	87.2	84.2	117.0	1.39	
WESTERN MOUNTAIN					
Lalitpur	23.0	22.8	17.0	0.73	
Shaktapur	12.8	12.8	1.7	0.13	
Kathmandu	12.8	12.8	1.7	0.13	
Nuwakot	12.8	12.8	1.7	0.13	
Dhading	12.8	12.8	1.7	0.13	
Makwanpur	12.8	12.8	1.7	0.13	
Total Western Mountain	68.2	68.2	39.8	0.58	

cont.

cont.

CHAPTER 3

LAND FRAGMENTATION

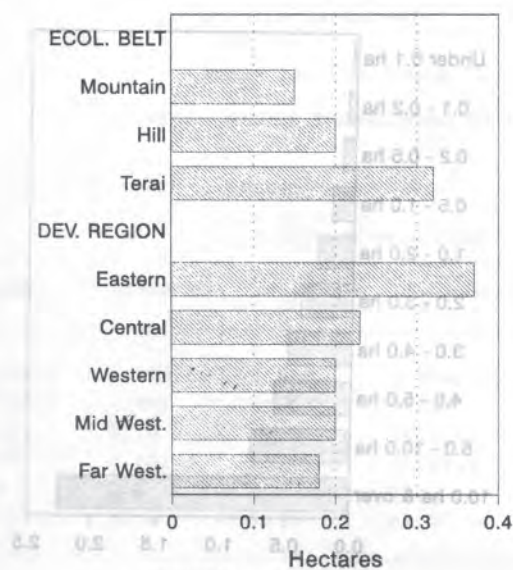
Number of parcels (Tables 3.1, 3.2, 3.3)

Land has become more fragmented over the years with the breakup of holdings through inheritance and other factors. Information on the parcels making up each agricultural holding was collected in each of the Agricultural Censuses.

For the purposes of the Agricultural Census, a parcel is defined as a piece of land physically separated from other land in the same holding. A parcel may consist of one or more adjacent fields. The census parcel may be different from the parcel concept used in cadastral work.

The total number of parcels in the country as a whole increased from 9.5 million to 10.8 million between 1981/82 and 1991/92.

FIGURE 3.1
AVERAGE PARCEL SIZE
1991/92

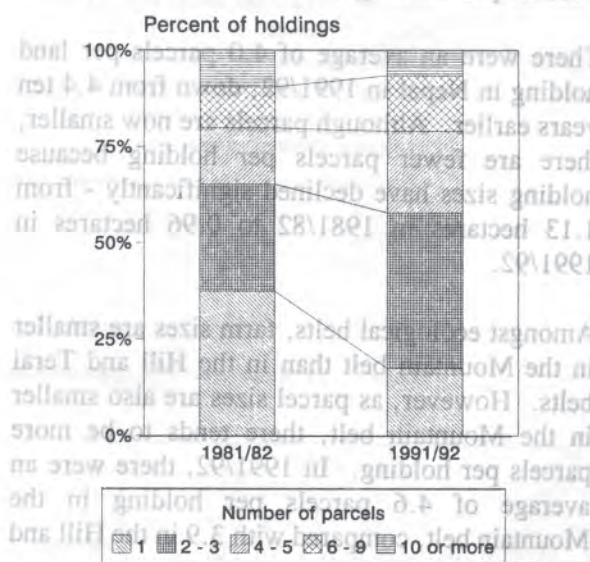


Parcel size (Tables 3.1, 3.2, 3.3)

The average parcel size declined from 0.26 hectares to 0.24 hectares between 1981/82 and 1991/92.

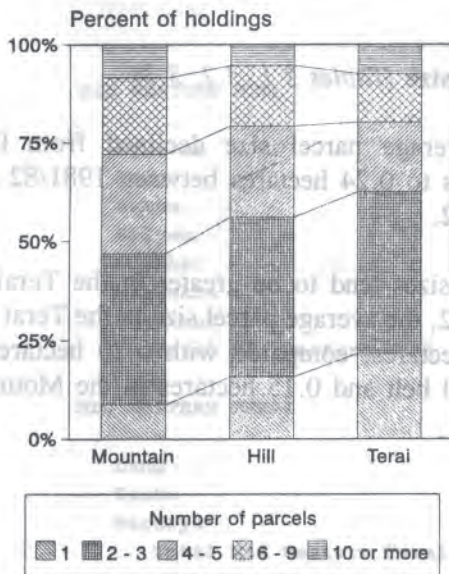
Parcel sizes tend to be greater in the Terai; in 1991/92, the average parcel size in the Terai was 0.32 hectares, compared with 0.20 hectares in the Hill belt and 0.15 hectares in the Mountain belt.

FIGURE 3.2
NUMBER OF PARCELS PER HOLDING
NEPAL, 1981/82 and 1991/92



Parcel sizes also tend to be smaller in the west of the country; the average parcel size in Eastern Development Region in 1991/92 was 0.37 hectares, compared with 0.18 hectares in Far Western Region and 0.20 hectares in Western and Mid Western Regions.

FIGURE 3.3
NUMBER OF PARCELS PER HOLDING
ECOLOGICAL BELTS, 1991/92



Parcels per holding (Tables 3.1, 3.2, 3.3)

There were an average of 4.0 parcels per land holding in Nepal in 1991/92, down from 4.4 ten years earlier. Although parcels are now smaller, there are fewer parcels per holding because holding sizes have declined significantly - from 1.13 hectares in 1981/82 to 0.96 hectares in 1991/92.

Amongst ecological belts, farm sizes are smaller in the Mountain belt than in the Hill and Terai belts. However, as parcel sizes are also smaller in the Mountain belt, there tends to be more parcels per holding. In 1991/92, there were an average of 4.6 parcels per holding in the Mountain belt, compared with 3.9 in the Hill and Terai belts.

The same is true in western regions of the country. In Far Western Development Region, there were an average of 4.2 parcels per holding (making up an average holding size of 0.78 hectares), compared with 3.4 parcels per holding in Eastern Development Region (with an average holding size of 1.25 hectares).

Parcel number distribution (Tables 3.4, 3.5, 3.6, 3.7)

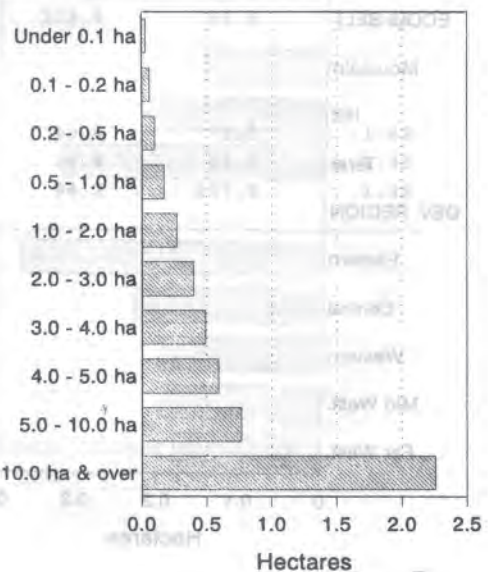
The greater fragmentation of land is highlighted by the distribution of holdings according to the number of parcels on the holding (Table 3.4). There are two elements involved.

First, land is increasingly being subdivided, with the result that there are now significantly fewer single parcel agricultural holdings - only 17 percent of holdings in 1991/92, compared with 37 percent ten years earlier. More holdings consist of two or more parcels than ten years ago.

Second, farm sizes are declining and this will tend to depress the number of parcels on holdings. In 1991/92, 177,000 holdings (7 percent) consisted of 10 or more parcels, down from 208,100 (10 percent) in 1981/82.

Single parcel holdings comprise only 9 percent of holdings in the Mountain belt, compared with 16 percent in the Hill belt and 22 percent in the Terai. This highlights the greater fragmentation of land in mountain areas.

FIGURE 3.4
AVERAGE PARCEL SIZE BY
SIZE OF HOLDING, NEPAL, 1991/92



Amongst development regions, single parcel holdings are most common in Eastern Development Region, where they comprise 25 percent of all land holdings. Only 15 percent of holdings in Eastern Region consist of six or more parcels, compared with 26 percent of Far Western holdings.

Comparison of small and large holdings
(Tables 3.7, 3.8)

Small holdings tend to have smaller parcel sizes than large holdings. In 1991/92, holdings less

than 0.5 hectares in size had an average of 2.8 parcels, with an average parcel size of only 0.09 hectares. The average parcel size increases with size of holding. Holdings with between 5 and 10 hectares of land have an average parcel size of 0.77 hectares, while those with 10 hectares or more of land have parcels of land averaging 2.3 hectares in size.

In 1991/92, 29 percent of small holdings (less than 0.5 hectares in size) consisted of a single parcel, compared with 4 percent of large holdings (2.0 hectares or more in size).

TABLE 3.1: AREA AND FRAGMENTATION OF HOLDINGS, NEPAL, 1961/62 TO 1991/92

	1961/62	1971/72	1981/82	1991/92
No. of holdings with land ('000)	1,518.0	1,707.3	2,185.7	2,703.9
Area of holdings ('000 ha)	1,685.4	1,654.0	2,463.7	2,597.4
Average holding size (ha)	1.11	0.97	1.13	0.96
Number of parcels ('000)	10,318.2	12,282.5	9,516.4	10,806.2
Average parcels/holding	6.8	7.2	4.4	4.0
Average parcel size (ha)	0.16	0.13	0.26	0.24

TABLE 3.2: AREA AND FRAGMENTATION OF HOLDINGS BY ECOLOGICAL BELT, 1991/92

	Ecological belt			
	Mountain	Hill	Teral	Nepal
No. of holdings with land ('000)	259.9	1,351.3	1,092.8	2,703.9
Area of holdings ('000 ha)	176.8	1,046.2	1,374.3	2,597.4
Average holding size (ha)	0.68	0.77	1.26	0.96
Number of parcels ('000)	1,207.1	5,317.7	4,281.4	10,806.2
Average parcels/holding	4.6	3.9	3.9	4.0
Average parcel size (ha)	0.15	0.20	0.32	0.24

TABLE 3.3: AREA AND FRAGMENTATION OF HOLDINGS BY DEVELOPMENT REGION, 1991/92

	Development region					
	Eastern	Central	Western	Mid West.	Far West.	Nepal
No. of holdings with land ('000)	628.5	843.7	603.3	368.3	260.1	2,703.9
Area of holdings ('000 ha)	783.2	719.7	566.4	324.7	203.3	2,597.4
Average holding size (ha)	1.25	0.85	0.94	0.88	0.78	0.96
Number of parcels ('000)	2,123.6	3,195.1	2,797.4	1,585.2	1,105.0	10,806.2
Average parcels/holding	3.4	3.8	4.6	4.3	4.2	4.0
Average parcel size (ha)	0.37	0.23	0.20	0.20	0.18	0.24

TABLE 3.4: NUMBER AND PERCENT OF LAND HOLDINGS BY NUMBER OF PARCELS, NEPAL, 1981/82 AND 1991/92

Number of parcels	No. of holdings ('000)		Percent of holdings	
	1981/82	1991/92	1981/82	1991/92
1 parcel	817.0	471.3	37.4	17.4
2 - 3 parcels	607.0	1,092.0	27.8	40.4
4 - 5 parcels	319.3	571.2	14.6	21.1
6 - 9 parcels	234.3	392.5	10.7	14.5
10 or more parcels	208.1	177.0	9.5	6.5
Total land holdings	2,185.7	2,703.9	100.0	100.0

TABLE 3.5: NUMBER AND PERCENT OF LAND HOLDINGS BY NUMBER OF PARCELS AND ECOLOGICAL BELT, 1991/92				
Number of parcels	Ecological belt			
	Mountain	Hill	Terai	Nepal
1 parcel	22.6	212.3	236.4	471.3
2 - 3 parcels	99.4	546.1	446.4	1,092.0
4 - 5 parcels	65.3	312.5	193.4	571.2
6 - 9 parcels	50.3	207.6	134.5	392.5
10 or more parcels	22.3	72.7	82.0	177.0
Total land holdings	259.9	1,351.3	1,092.8	2,703.9

NUMBER OF HOLDINGS ('000)				
1 parcel	22.6	212.3	236.4	471.3
2 - 3 parcels	99.4	546.1	446.4	1,092.0
4 - 5 parcels	65.3	312.5	193.4	571.2
6 - 9 parcels	50.3	207.6	134.5	392.5
10 or more parcels	22.3	72.7	82.0	177.0
Total land holdings	259.9	1,351.3	1,092.8	2,703.9

PERCENT				
1 parcel	8.7	15.7	21.6	17.4
2 - 3 parcels	38.3	40.4	40.9	40.4
4 - 5 parcels	25.1	23.1	17.7	21.1
6 - 9 parcels	19.4	15.4	12.3	14.5
10 or more parcels	8.6	5.4	7.5	6.5
Total	100.0	100.0	100.0	100.0

PERCENT				
1 parcel	3.9	15.7	21.6	17.4
2 - 3 parcels	15.2	30.0	40.9	40.4
4 - 5 parcels	12.3	15.2	17.7	21.1
6 - 9 parcels	7.2	7.6	12.3	14.5
10 or more parcels	2.8	1.3	7.5	6.5
Total	100.0	100.0	100.0	100.0

TABLE 3.6: NUMBER AND PERCENT OF LAND HOLDINGS BY NUMBER OF PARCELS AND DEVELOPMENT REGION, 1991/92

Development region						
Number of parcels	Eastern	Central	Western	Mid West.	Far West.	Nepal
NUMBER OF HOLDINGS ('000)						
1 parcel	156.2	129.4	84.7	51.6	49.4	471.3
2 - 3 parcels	266.8	367.7	221.3	146.8	89.4	1,092.0
4 - 5 parcels	108.9	191.0	135.4	82.3	53.7	571.2
6 - 9 parcels	68.5	116.3	103.7	57.4	46.5	392.5
10 or more parcels	28.1	39.3	58.1	30.3	21.1	177.0
Total land holdings	628.5	843.7	603.3	368.3	260.1	2,703.9

TABLE 3.7: AREA AND FRAGMENTATION OF HOLDINGS PERCENT

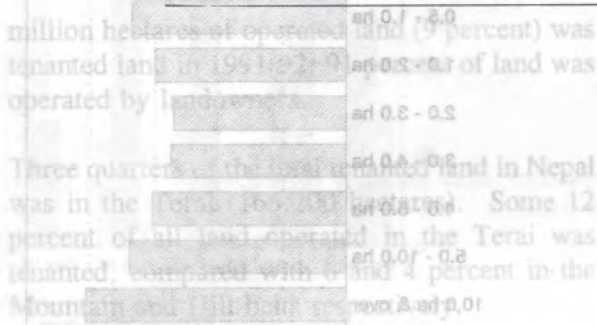
1 parcel	24.8	15.3	14.0	14.0	19.0	17.4
2 - 3 parcels	42.4	43.6	36.7	39.8	34.4	40.4
4 - 5 parcels	17.3	22.6	22.4	22.3	20.6	21.1
6 - 9 parcels	10.9	13.8	17.2	15.6	17.9	14.5
10 or more parcels	4.5	4.7	9.6	8.2	8.1	6.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 3.7: NUMBER AND PERCENT OF LAND HOLDINGS BY NUMBER OF PARCELS AND SIZE OF HOLDING, NEPAL, 1991/92

Number of parcels	Size of holding				Total
	Less than .5 ha	.5 - 2 ha	2 ha and over		
1 parcel	335.0	123.3	13.1		471.3
2 - 3 parcels	535.8	481.3	74.9		1,092.0
4 - 5 parcels	184.1	314.6	72.6		571.2
6 - 9 parcels	88.8	228.6	75.1		392.5
10 or more parcels	22.4	93.5	61.1		177.0
Total land holdings	1,166.0	1,241.1	296.8		2,703.9
PERCENT					
1 parcel	28.7	9.9	4.4		17.4
2 - 3 parcels	46.0	38.8	25.2		40.4
4 - 5 parcels	15.8	25.3	24.5		21.1
6 - 9 parcels	7.6	18.4	25.3		14.5
10 or more parcels	1.9	7.5	20.6		6.5
Total	100.0	100.0	100.0		100.0

TABLE 3.8: NUMBER OF PARCELS BY SIZE OF HOLDING, NEPAL, 1991/92

Size of holding	Number of parcels ('000)	Percent of parcels	Average parcels per holding	Average parcel size (ha)
Under 0.1 ha	280.4	2.6	1.6	0.03
0.1 - 0.2 ha	637.6	5.9	2.4	0.06
0.2 - 0.5 ha	2,381.3	22.0	3.3	0.10
0.5 - 1.0 ha	2,910.4	26.9	4.1	0.17
1.0 - 2.0 ha	2,631.8	24.4	5.0	0.27
2.0 - 3.0 ha	998.7	9.2	5.9	0.40
3.0 - 4.0 ha	414.6	3.8	7.0	0.49
4.0 - 5.0 ha	213.7	2.0	7.5	0.59
5.0 - 10.0 ha	270.9	2.5	8.5	0.77
10.0 ha & over	66.9	0.6	8.1	2.26
Total	10,806.2	100.0	4.0	0.24



The majority of the tenant land is in Eastern and Central Development Regions. In 1991/92, there were 162,400 hectares of tenant land in these two regions - 73 percent of all tenant land. Only 10 percent of agricultural holdings in Eastern Region were fully owned in 1991/92; the highest figure was 89 percent in Western Development Region.

TABLE 3.9: AREA OF RENTED LAND, NEPAL, 1991/92

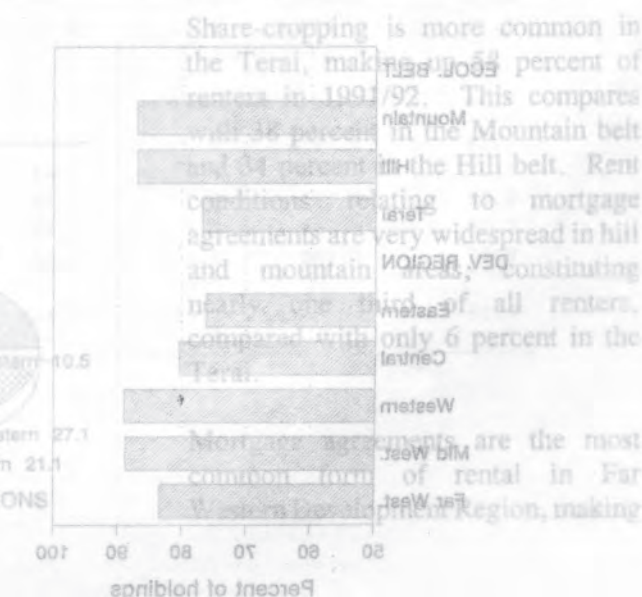
For holdings of 3.0 hectares or more, the larger the holding size, the more common it is for holdings to rent land. Over one in five holdings between 3.0 and 3.9 hectares in size in 1991/92 had a mixture of owned and rented land, compared with about one in eight holdings less than 0.5 hectares in size. Very large holdings tend to be fully owned - less than one in ten holdings with 10 or more hectares of land had both owned and rented land.

TABLE 3.10: AREA OF RENTED LAND, NEPAL, 1991/92

In all, 221,200 hectares out of a total of 2.60

million hectares of land was rented in 1991/92. Renting of land was more common in the Terai than in northern areas of the country. In 1991/92, only 73 percent of Terai holdings were fully owned compared with 89 percent in the Mountain and Hill belts.

Amongst development regions, renting of land was more common in the east of the country. Sharecropping was accounted for 57 percent of total land rented in 1991/92. The average amount rented by sharecroppers (0.63 hectares) is larger than for other types of renters (0.44 hectares for those renting for a fixed amount of produce and 0.31 hectares for those renting as part of a mortgage).



CHAPTER 4

LAND TENURE

Holdings by tenure (Tables 4.1, 4.3, 4.5)

The majority of agricultural holdings in Nepal are operated by owners. Of the 2.70 million land holdings operated in 1991/92, 2.24 million (83 percent) were fully owned. A total of 400,600 land holdings (15 percent) comprised land which was partly owned and partly rented. Only 47,000 land holdings (2 percent) were operated under full tenancy conditions.

Renting of land was more common in the Terai than in northern areas of the country. In 1991/92, only 77 percent of Terai holdings were fully owned, compared with 87 percent in the Mountain and Hill belts.

Amongst development regions, renting of land was more common in the east of the country.

FIGURE 4.1
HOLDINGS WITH FULL OWNERSHIP OF LAND
1991/92

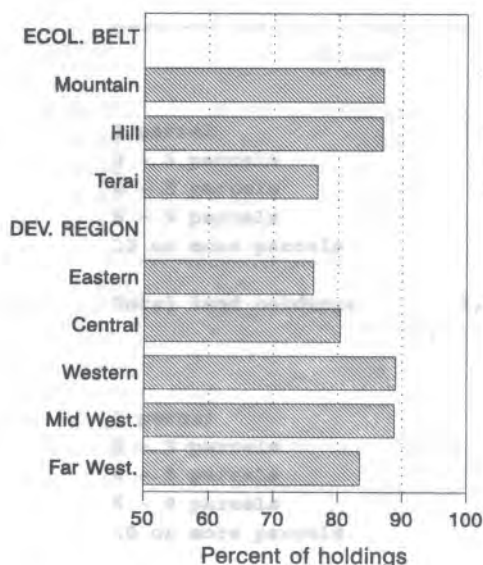
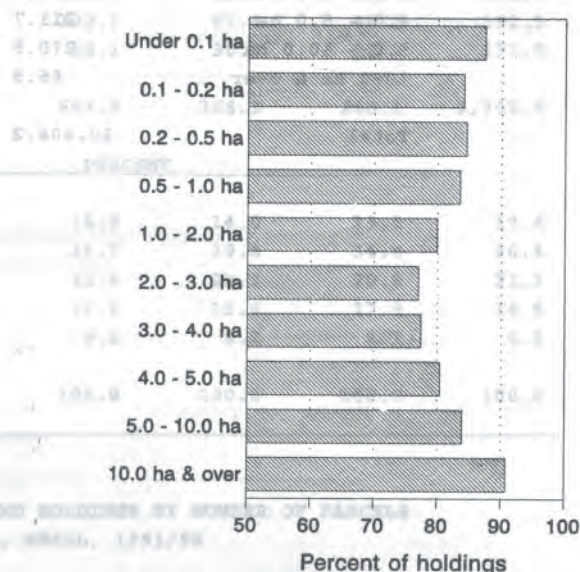


FIGURE 4.2
HOLDINGS WITH FULL OWNERSHIP OF LAND
SIZE OF HOLDING: NEPAL, 1991/92



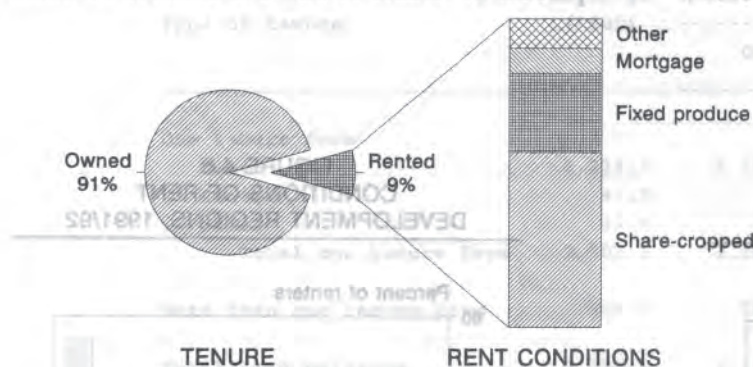
Only 76 percent of agricultural holdings in Eastern Region were fully owned in 1991/92; the highest figure was 89 percent in Western Development Region.

For holdings up to about 3.0 hectares in size, the larger the holding size, the more common it is for holdings to rent land. Over one in five holdings between 2.0 and 3.0 hectares in size in 1991/92 had a mixture of owned and rented land, compared with about one in eight holdings less than 0.5 hectares in size. Very large holdings tend to be fully owned - less than one in ten holdings with 10 or more hectares of land had both owned and rented land.

Area by tenure (Tables 4.1, 4.2, 4.4, 4.6)

In all, 221,200 hectares out of a total of 2.60

FIGURE 4.3
LAND TENURE, NEPAL, 1991/92
AREA OF LAND

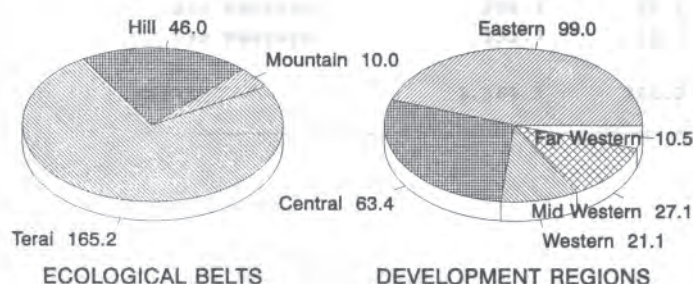


million hectares of operated land (9 percent) was tenanted land in 1991/92; 91 percent of land was operated by landowners.

Three quarters of the total tenanted land in Nepal was in the Terai (165,200 hectares). Some 12 percent of all land operated in the Terai was tenanted, compared with 6 and 4 percent in the Mountain and Hill belts respectively.

The majority of the tenanted land is in Eastern and Central Development Regions. In 1991/92, there were 162,400 hectares of tenanted land in these two regions - 73 percent of all tenanted land. Some 13 percent of land in Eastern Region

FIGURE 4.4
AREA OF RENTED LAND, NEPAL, 1991/92
('000 ha)



and 9 percent in Central Region was tenanted.

The average amount of land rented per tenant was 0.52 hectares for the country as a whole.

Between 1961/62 and 1991/92, there was a decline in the area of land operated by part owner/tenants. This may be partly because of the implementation of ceilings in land ownership.

Conditions of rent (Tables 4.6, 4.7, 4.8, 4.9)

In all, there were 429,200 land holdings which rented some land in 1991/92. Share-cropping is the most common method of renting land, representing 47 percent of all renters. Renting of land for a fixed quantity of produce is also widespread (30 percent) as is rental in connection with mortgage agreements (18 percent).

Share-cropped land accounted for 57 percent of total land rented in 1991/92. The average amount rented by share-croppers (0.63 hectares) is larger than for other types of renters (0.44 hectares for those renting for a fixed amount of produce and 0.23 hectares for those renting as part of a mortgage arrangement).

Share-cropping is more common in the Terai, making up 58 percent of renters in 1991/92. This compares with 38 percent in the Mountain belt and 34 percent in the Hill belt. Rent conditions relating to mortgage agreements are very widespread in hill and mountain areas, constituting nearly one third of all renters, compared with only 6 percent in the Terai.

Mortgage agreements are the most common form of rental in Far Western Development Region, making

up 76 percent of all holdings renting land.

Share-cropping is more common amongst larger holdings - 58 percent of renters of size 2.0 hectares or more, compared with only 32 percent

of renters less than 0.5 hectares in size. Mortgage agreements tend to be more important for smaller holdings - 22 percent of renters less than 0.5 hectares in size, compared with 13 percent of renters of size 2.0 hectares or more.

FIGURE 4.5
CONDITIONS OF RENT
ECOLOGICAL BELTS, 1991/92

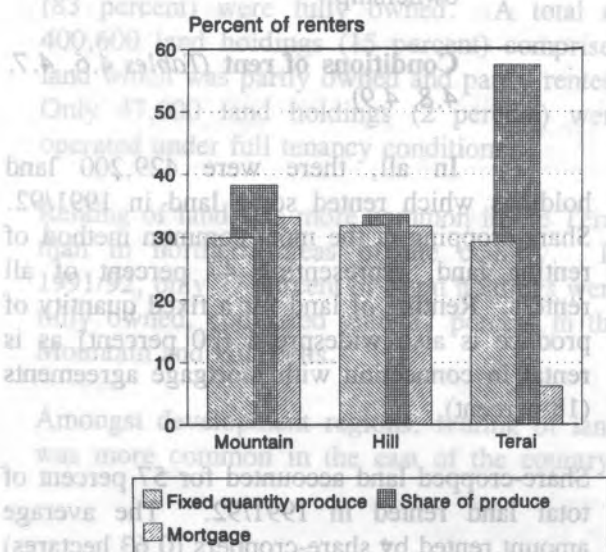


FIGURE 4.6
CONDITIONS OF RENT
DEVELOPMENT REGIONS, 1991/92

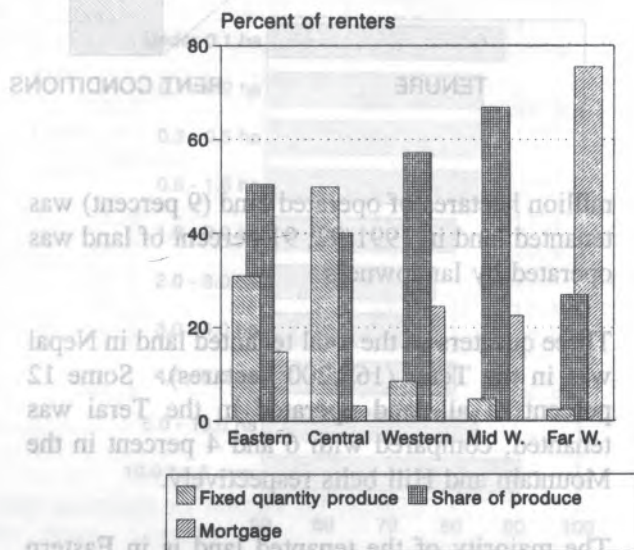


FIGURE 4.7
AREA OF RENTED LAND, NEPAL, 1991/92



TABLE 4.1: NUMBER AND AREA OF LAND HOLDINGS, BY TYPE OF TENURE, NEPAL, 1991/92

Type of tenure	Holdings ('000)		Area ('000 ha)			
	Total	Owned	Rented	Other	Total	
One tenure form						
Owned	2,239.1	2,109.5	..	..	2,109.5	
Rented	47.0	..	36.1	..	36.1	
Other	17.3	..	..	7.1	7.1	
Total one tenure form	2,303.3	2,109.5	36.1	7.1	2,152.7	
More than one tenure form						
	400.6	252.6	185.1	7.0	444.7	
Total land holdings	2,703.9	2,362.1	221.2	14.1	2,597.4	
ECOLOGICAL BELTS						
Mountain	167.5	167.5	..	..	167.5	
Hill	118.7	118.7	..	..	118.7	
Terai	117.4	117.4	..	..	117.4	
DEVELOPMENT REGIONS						
Eastern	167.5	167.5	..	..	167.5	
Central	118.7	118.7	..	..	118.7	
Western	117.4	117.4	..	..	117.4	
Mid Western	117.4	117.4	..	..	117.4	
Far Western	117.4	117.4	..	..	117.4	

TABLE 4.2: AREA OF LAND HOLDINGS BY TYPE OF TENURE - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

TABLE 4.3: PERCENT OF LAND OWNED BY TYPE OF TENURE AND SIZE OF HOLDING, NEPAL, 1991/92

		Type of tenure - area ('000 ha)				Percent	
		Owned	Rented	Other	Total	land owned	
ECOLOGICAL BELTS							
Mountain	167.5	167.5	..	..	167.5	94.2	
Hill	118.7	118.7	..	..	118.7	95.4	
Terai	117.4	117.4	..	..	117.4	87.1	
DEVELOPMENT REGIONS							
Eastern	167.5	167.5	..	..	167.5	87.0	
Central	118.7	118.7	..	..	118.7	90.8	
Western	117.4	117.4	..	..	117.4	95.0	
Mid Western	117.4	117.4	..	..	117.4	91.2	
Far Western	117.4	117.4	..	..	117.4	94.8	
NEPAL		2,362.1	221.2	14.1	2,597.4	90.9	

TABLE 4.3: NUMBER AND PERCENT OF LAND HOLDINGS BY TYPE OF TENURE - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

Total	Other	One tenure form			More than one tenure form		Total
		Owned	Rented	Other	Total	form	
ECOLOGICAL BELTS							
Mountain		226.2	2.7	-	228.9	31.0	259.9
Hill		1,174.2	15.8	1.7	1,191.7	159.6	1,351.3
Terai		838.8	28.5	15.5	882.8	210.0	1,092.8
DEVELOPMENT REGIONS							
Eastern		479.2	27.2	3.5	509.9	118.7	628.5
Central		678.6	13.3	2.2	694.0	149.7	843.7
Western		537.2	2.3	9.9	549.4	54.0	603.3
Mid Western		327.1	1.9	1.6	330.7	37.7	368.3
Far Western		217.0	2.4	-	219.4	40.7	260.1
NEPAL		2,239.1	47.0	17.3	2,303.3	400.6	2,703.9
PERCENT							
ECOLOGICAL BELTS							
Mountain		87.0	1.0	-	88.1	11.9	100.0
Hill		86.9	1.2	0.1	88.2	11.8	100.0
Terai		76.8	2.6	1.4	80.8	19.2	100.0
DEVELOPMENT REGIONS							
Eastern		76.2	4.3	0.6	81.1	18.9	100.0
Central		80.4	1.6	0.3	82.3	17.7	100.0
Western		89.0	0.4	1.6	91.1	8.9	100.0
Mid Western		88.8	0.5	0.4	89.8	10.2	100.0
Far Western		83.4	0.9	-	84.4	15.6	100.0
NEPAL		82.8	1.7	0.6	85.2	14.8	100.0

TABLE 4.4: AREA OF LAND HOLDINGS BY TYPE OF TENURE AND SIZE OF HOLDING, NEPAL, 1991/92

Size of holding (ha)	Type of tenure - area ('000 ha)				Percent land owned
	Owned	Rented	Other	Total	
Under 0.1 ha	8.6	0.8	0.2	9.6	89.8
0.1 - 0.2 ha	33.8	3.7	0.5	38.0	88.8
0.2 - 0.5 ha	222.9	19.3	2.6	244.8	91.1
0.5 - 1.0 ha	457.7	37.6	4.2	499.5	91.6
1.0 - 2.0 ha	642.7	69.8	4.1	716.5	89.7
2.0 - 3.0 ha	353.7	44.9	1.7	400.2	88.4
3.0 - 4.0 ha	182.3	19.6	0.4	202.4	90.1
4.0 - 5.0 ha	115.1	10.6	0.1	125.7	91.5
5.0 - 10.0 ha	197.5	11.4	0.4	209.3	94.4
10.0 ha & over	147.9	3.5	-	151.3	97.7
Total	2,362.1	221.2	14.1	2,597.4	90.9

TABLE 4.5: PERCENT OF LAND HOLDINGS BY TYPE OF TENURE AND SIZE OF HOLDING, NEPAL, 1991/92

(percent of holdings)

Size of holding	One tenure form				More than one tenure form	Total	Total holdings ('000)
	Owned	Rented	Other	Total			
Under 0.1 ha	87.4	4.8	1.7	93.9	6.1	100.0	173.0
0.1 - 0.2 ha	84.1	2.4	1.1	87.5	12.5	100.0	263.8
0.2 - 0.5 ha	84.5	1.5	0.8	86.8	13.2	100.0	729.3
0.5 - 1.0 ha	83.5	1.0	0.6	85.1	14.9	100.0	711.7
1.0 - 2.0 ha	79.9	1.6	0.3	81.8	18.2	100.0	529.5
2.0 - 3.0 ha	77.0	2.4	0.1	79.5	20.5	100.0	168.4
3.0 - 4.0 ha	77.4	1.3	-	78.7	21.3	100.0	59.6
4.0 - 5.0 ha	80.4	0.9	-	81.3	18.7	100.0	28.6
5.0 - 10.0 ha	83.9	0.5	-	84.4	15.6	100.0	32.0
10.0 ha & over	90.5	0.2	-	90.7	9.3	100.0	8.2
Total	82.8	1.7	0.6	85.2	14.8	100.0	2,703.9

TABLE 4.6: HOLDINGS RENTING LAND AND AREA OF LAND RENTED BY CONDITIONS OF RENT, NEPAL, 1991/92

Conditions of rent (a)	Holdings		Area of rented land		
	Number ('000)	Percent	Area ('000 ha)	Percent	Average (ha)
Fixed amount of money	27.3	6.4	12.4	5.6	0.45
Fixed quantity of produce	129.9	30.3	56.8	25.7	0.44
Share of produce	199.6	46.5	125.1	56.6	0.63
Exchange for service	16.4	3.8	3.7	1.7	0.22
Mortgage	78.7	18.3	18.2	8.2	0.23
Other	16.9	3.9	5.0	2.3	0.30
Total holdings renting land	429.2	100.0	221.2	100.0	0.52

(a) Some holdings are included against more than one condition.

TABLE 4.7: NUMBER OF HOLDINGS RENTING LAND BY CONDITIONS OF RENT AND ECOLOGICAL BELT, 1991/92

Conditions of rent (a)	Ecological belt			
	Mountain	Hill	Terai	Nepal
Fixed amount of money	1.9	8.2	17.2	27.3
Fixed quantity of produce	9.9	53.9	66.1	129.9
Share of produce	12.7	56.9	130.0	199.6
Exchange for service	0.5	4.5	11.5	16.4
Mortgage	11.1	53.9	13.8	78.7
Other	0.5	5.1	11.3	16.9
Total holdings renting land	33.2	169.7	226.2	429.2
PERCENT				
Fixed amount of money	5.7	4.8	7.6	6.4
Fixed quantity of produce	29.9	31.8	29.2	30.3
Share of produce	38.3	33.5	57.5	46.5
Exchange for service	1.5	2.6	5.1	3.8
Mortgage	33.2	31.7	6.1	18.3
Other	1.6	3.0	5.0	3.9
Total	100.0	100.0	100.0	100.0

(a) Some holdings are included against more than one condition.

TABLE 4.8: NUMBER OF HOLDINGS RENTING LAND BY CONDITIONS OF RENT AND DEVELOPMENT REGION, 1991/92

Conditions of rent (a)	Development region					
	Eastern	Central	Western	Mid West.	Far West.	Nepal
NUMBER OF HOLDINGS ('000)						
Fixed amount of money	11.2	3.7	1.3	1.6	27.3	
Fixed quantity of produce	78.8	4.0	1.8	1.1	129.9	
Share of produce	63.4	27.3	25.2	11.6	199.6	
Exchange for service	6.6	1.9	1.2	1.2	16.4	
Mortgage	21.2	5.1	11.6	8.4	78.7	
Other	8.0	4.5	2.4	1.5	16.9	
Total holdings renting land	143.1	157.9	47.7	37.6	42.9	429.2
PERCENT						
Fixed amount of money	6.7	7.1	7.8	3.4	6.4	
Fixed quantity of produce	30.9	49.9	8.5	4.7	30.3	
Share of produce	50.4	40.1	57.2	66.9	46.5	
Exchange for service	3.9	4.2	4.0	3.1	3.8	
Mortgage	14.8	3.2	24.4	22.5	18.3	
Other	5.6	2.8	5.1	3.9	3.9	
Total	100.0	100.0	100.0	100.0	100.0	100.0

(a) Some holdings are included against more than one condition.

TABLE 4.9: PERCENT OF HOLDINGS RENTING LAND BY CONDITIONS OF RENT AND SIZE OF HOLDING, NEPAL, 1991/92

(percent of renters)

Conditions of rent (a)	Size of holding			
	Less than .5 ha	.5 - 2 ha	2 ha and over	Total
Fixed amount of money	5.6	6.1	9.0	6.4
Fixed quantity of produce	34.4	27.3	29.9	30.3
Share of produce	32.3	54.0	57.8	46.5
Exchange for service	7.0	2.1	1.8	3.8
Mortgage	22.1	17.1	13.0	18.3
Other	4.3	3.7	3.8	3.9
Total	100.0	100.0	100.0	100.0
Holdings renting land ('000)	158.7	209.3	61.2	429.2

(a) Some holdings are included against more than one condition.

CHAPTER 5

LAND USE

Land use types (Tables 5.1, 5.2, 5.3, 5.6)

The total area of land operated by all agricultural holdings with land in 1991/92 was 2.60 million hectares. For the purposes of Agricultural Censuses, all land operated by agricultural holdings is classified as either agricultural land or non-agricultural land. Some 2.39 million hectares out of the total land operated by agricultural holdings in 1991/92 was agricultural land, while 204,500 hectares was non-agricultural land.

Non-agricultural land consists of woodland and forest (108,800 hectares); land which unused and undeveloped, but is potentially productive (12,300 hectares); and land on holdings occupied by buildings and other open spaces (83,400 hectares). Non-agricultural land in this context covers only the land operated by agricultural holdings; i.e. households cultivating some land. There is much non-agricultural land not being operated by agricultural holdings which is not included in these figures.

The area under woodland and forest increased from 15,000 hectares to 108,800 hectares in the ten years to 1991/92. This was mainly due to the increase from 11,100 to 93,200 hectares in the Hill belt.

Agricultural land is sub-divided into arable land and other agricultural land. Of the 2.39 million hectares of agricultural land in 1991/92, a total of 2.32 million hectares was arable land. The remaining agricultural land consisted of 29,400 hectares of permanent crops, 36,900 hectares of permanent pasture and 3,300 hectares under permanent standing water.

The area under permanent crops remained almost unchanged between 1981/82 and 1991/92; the area of permanent pasture decreased slightly.

Arable land (Tables 5.1, 5.2, 5.3, 5.4)

Arable land comprises all land normally used for the cultivation of temporary crops. The amount of arable land is therefore the key factor in food production.

The majority of arable land was actually used for the cultivation of temporary crops in 1991/92 - 2.28 million hectares out of 2.32 million hectares of arable land. The remaining arable land was either temporarily fallow (28,700 hectares), unable to be cultivated because of flooding or other factors (2,500 hectares), or under temporary meadows (7,700 hectares).

Some 56 percent of the total arable land is in the Terai, while 38 percent is in the Hill belt. Less than 7 percent is in the Mountain belt. A total of 59 percent of arable land is in Eastern and Central Development Regions. Only 8 percent is in Far Western Development Region.

FIGURE 5.1
DISTRIBUTION OF ARABLE LAND
1991/92

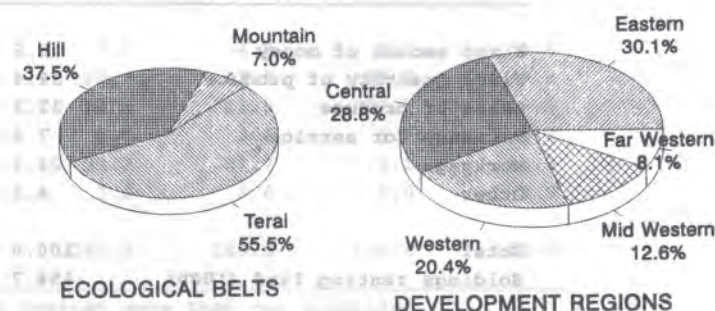
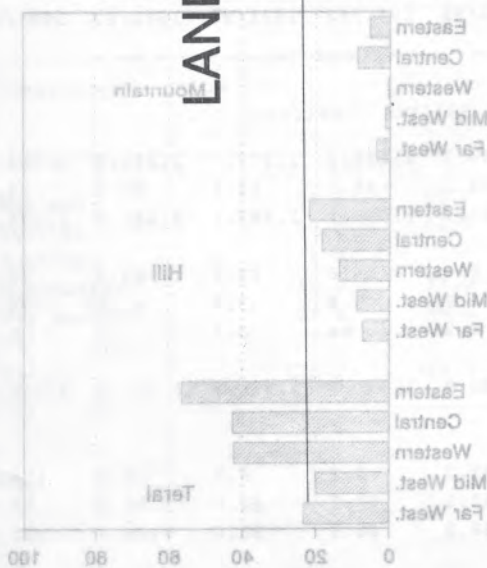


FIGURE 5.2
LAND USE, NEPAL, 1991/92
('000 ha)



Total area
2,597.4

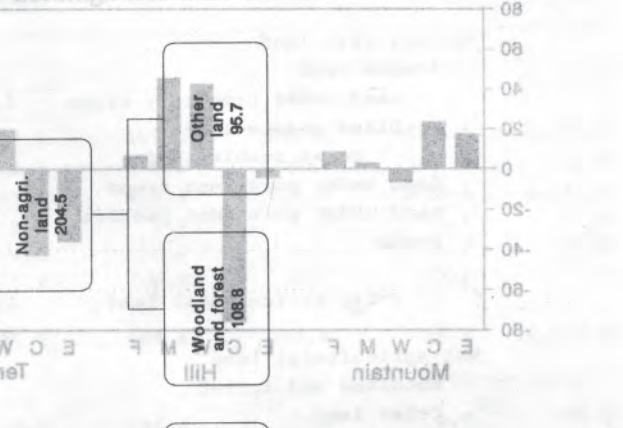
There is considerable variation in the extent of land use across the different sub-ecological belts. In the Terai, there were increases in arable land in western areas as much as 43 percent in the Far West. The area of arable land declined sharply in the Hill and Mountain belts (8 and 10 percent respectively). Overall, the area of arable land in the Terai declined by 25,600 hectares in the ten years to 1991/92.

Percent of land cultivated (Table 5.2)

In 1991/92, 28 percent of the total land area of the Terai was arable, compared with 14 percent in the Hill belt and only 3 percent in the Mountain belt. Overall, arable land constitutes 16 percent of the total land area of Nepal.

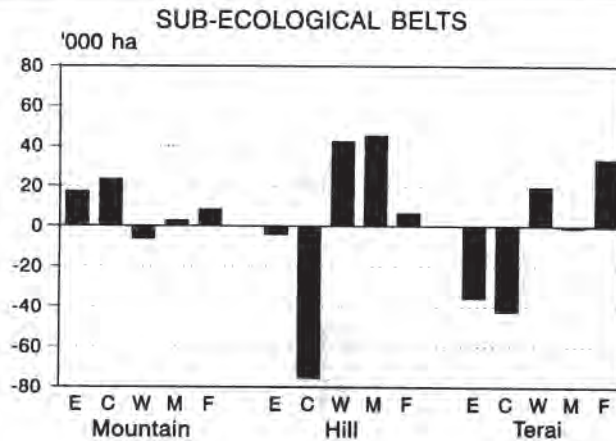
In the Terai, there were significant increases in arable land between 1981/82 and 1991/92. There were significant increases in arable land in the Terai, the area of arable land increased by only 14,800 hectares between 1981/82 and 1991/92. In the Hill belt, the area of arable land increased by only 35,900 hectares during the ten years to 1991/92.

The total area of arable land in Nepal increased by only 35,900 hectares during the ten years to 1991/92.



Land operated by large sized holdings is predominantly small sized; and land operated by large sized holdings is predominantly small sized. In the Terai, the area of arable land declined sharply in the Hill and Mountain belts (8 and 10 percent respectively). Overall, the area of arable land in the Terai declined by 25,600 hectares in the ten years to 1991/92.

FIGURE 5.3
CHANGE IN ARABLE LAND
1981/82 TO 1991/92



The total area of arable land in Nepal increased by only 35,900 hectares during the ten years to 1991/92.

In the Mountain belt, the area of arable land increased from 115,700 hectares to 162,300 hectares over the ten year period - the main increases being in eastern and central areas.

In the Hill belt, the area of arable land increased by only 14,800 hectares between 1981/82 and 1991/92. There were significant increases in western areas and a decline in the Central Hill sub-ecological belt.

In the Terai, there were increases in arable land in western areas - as much as 43 percent in the Far West. The area of arable land declined sharply in the Eastern and Central Terai (8 and 10 percent respectively). Overall, the area of arable land in the Terai decreased by 25,600 hectares in the ten years to 1991/92.

Percent of land cultivated (Table 5.5)

In 1991/92, 38 percent of the total land area of the Terai was arable, compared with 14 percent in the Hill belt and only 3 percent in the Mountain belt. Overall, arable land constitutes 16 percent of the total land area of Nepal.

There is considerable variation in the extent of

cultivation across the Terai. Much more land is cultivated in the eastern areas - 57 percent of the land area in Eastern Terai in 1991/92 (down from 62 percent ten years earlier). A total of 43 percent of land in Central Terai was cultivated in 1991/92 (down from 47 percent in 1981/82). The extent of cultivation in Western Terai is now almost on a par with Central Terai (42 percent of land being arable), following increases in arable land over the ten year period. The percentage of land cultivated in Mid and Far Western Terai areas in 1991/92 was 20 and 23 percent respectively.

For the Hill belt, around one fifth of the total land area in the Eastern and Central Hill sub-ecological belts was cultivated in 1991/92, compared with less than 10 percent the Mid and Far Western sub-ecological belts.

FIGURE 5.4
ARABLE LAND, 1991/92
PERCENT OF LAND AREA

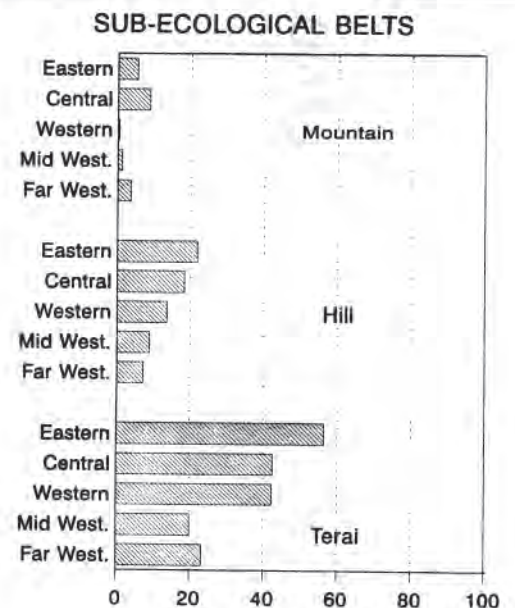


TABLE 5.1: AREA OF LAND HOLDINGS BY LAND USE, NEPAL, 1961/62 TO 1991/92

('000 hectares)

Land use	1961/62	1971/72	1981/82	1991/92
Agricultural land				
Arable land				
Land under temporary crops	1,550.5	1,537.1	2,250.2	2,284.6
Other arable land	41.4	29.9	37.3	38.8
Total arable land	1,591.9	1,567.0	2,287.5	2,323.4
Land under permanent crops	12.2	15.0	29.2	29.4
Land under permanent pasture	22.3	10.3	42.5	36.9
Ponds	na	na	na	3.3
Total agricultural land	1,626.4	1,592.3	2,359.2	2,392.9
Non-agricultural land				
Woodland and forest	13.8	4.7	15.0	108.8
Other land	45.2	57.1	89.5	95.7
Total non-agricultural land	59.0	61.7	104.5	204.5
Total area of holdings	1,685.4	1,654.0	2,463.7	2,597.4
Total land area	14,718.1	14,718.1	14,718.1	14,718.1
Arable land as % of total area	10.8	10.6	15.5	15.8

TABLE 5.2: AREA OF LAND HOLDINGS BY LAND USE AND ECOLOGICAL BELT, 1981/82 AND 1991/92

('000 hectares)

Land use	Mountain		Hill		Terai		Nepal	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
Agricultural land								
Arable land								
Temporary crops	113.5	158.7	840.5	848.2	1,296.2	1,277.7	2,250.2	2,284.6
Other arable land	2.2	3.7	16.0	23.1	19.1	12.1	37.3	38.8
Total arable land	115.7	162.3	856.5	871.3	1,315.3	1,289.7	2,287.5	2,323.4
Land under perm. crops	0.8	0.7	8.6	6.7	19.8	22.0	29.2	29.4
Land under perm. pasture	0.7	1.2	36.5	31.7	5.4	3.9	42.5	36.9
Ponds	na	-	na	0.2	na	3.1	na	3.3
Total agric. land	117.2	164.3	901.5	909.9	1,340.5	1,318.7	2,359.2	2,392.9
Non-agricultural land								
Woodland and forest	0.7	5.7	11.1	93.2	3.3	9.9	15.0	108.8
Other land	4.7	6.8	27.2	43.1	57.7	45.7	89.5	95.7
Total non-agric. land	5.4	12.5	38.2	136.3	60.9	55.6	104.5	204.5
Total area of holdings	122.6	176.8	939.7	1,046.2	1,401.4	1,374.3	2,463.7	2,597.4
Total land area	5,181.7	5,181.7	6,134.5	6,134.5	3,401.9	3,401.9	14,718.1	14,718.1
Arable land % of total area	2.2	3.1	14.0	14.2	38.7	37.9	15.5	15.8

TABLE 5.3: AREA OF LAND HOLDINGS BY LAND USE AND DEVELOPMENT REGION, 1991/92
('000 hectares)

Land use	Development region						Nepal
	Eastern	Central	Western	Mid West	Far West		
Agricultural land	718.9	685.2	499.6	298.4	190.8		2,392.9
Arable land	684.4	659.8	467.4	286.7	186.3		2,284.6
Land under temporary crops	15.3	8.5	6.9	5.3	2.8		38.8
Other arable land	699.8	668.3	474.3	292.0	189.1		2,323.4
Total arable land	12.3	9.4	5.4	1.5	0.8		29.4
Land under permanent crops	5.5	6.3	19.5	4.7	0.9		36.9
Land under permanent pasture	1.3	1.2	0.5	0.2	0.1		3.3
Ponds							
Total agricultural land							
Non-agricultural land	34.5	9.3	46.6	13.8	4.5		108.8
Woodland and forest	29.8	25.2	20.1	12.6	8.0		95.7
Other land	64.3	34.5	66.7	26.3	12.6		204.5
Total non-agricultural land							
Total area of holdings	783.2	719.7	566.4	324.7	203.3		2,597.4
Total land area	2,845.6	2,741.0	2,939.8	4,237.8	1,953.9		14,718.1
Arable land as % of total area	24.6	24.4	16.1	6.9	9.7		15.8

TABLE 5.4: AREA OF ARABLE LAND BY SUB-ECOLOGICAL BELT, 1981/82 AND 1991/92
('000 hectares)

Development region	Mountain		Hill		Terai		Total	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
Eastern	37.4	55.0	238.1	233.9	446.8	410.8	722.3	699.8
Central	30.7	54.4	292.2	216.4	440.2	397.5	763.0	668.3
Western	8.2	1.7	207.3	249.9	202.7	222.7	418.2	474.3
Mid Western	19.9	23.0	77.1	122.6	147.3	146.4	244.3	292.0
Far Western	19.5	28.2	41.7	48.6	78.4	112.3	139.6	189.1
Total	115.7	162.3	856.5	871.3	1,315.3	1,289.7	2,287.5	2,323.4

TABLE 5.5: ARABLE LAND AS PERCENT OF TOTAL LAND BY SUB-ECOLOGICAL BELT, 1981/82 AND 1991/92

(percent)

Development region	Mountain		Hill		Terai		Total	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
Eastern	3.6	5.3	22.2	21.8	61.5	56.5	25.4	24.6
Central	4.9	8.7	24.8	18.3	47.2	42.6	27.8	24.4
Western	1.4	0.3	11.3	13.6	38.5	42.3	14.2	16.1
Mid Western	0.9	1.1	5.6	8.9	20.1	20.0	5.8	6.9
Far Western	2.5	3.6	6.2	7.2	16.2	23.2	7.1	9.7
Total	2.2	3.1	14.0	14.2	38.7	37.9	15.5	15.8

TABLE 5.6 : NUMBER AND PERCENT OF LAND HOLDINGS WITH EACH LAND USE TYPE BY SIZE OF HOLDING, NEPAL, 1991/92

Land use	Size of holding			
	Less than .5 ha	.5 - 2 ha	2 ha and above	Total
Arable land				
Temporary crops				
Arable land				
Other agricultural land				
Permanent crops				
Permanent pasture				
Ponds				
Non-agricultural land				
Woodland and forest				

NUMBER OF HOLDINGS ('000)

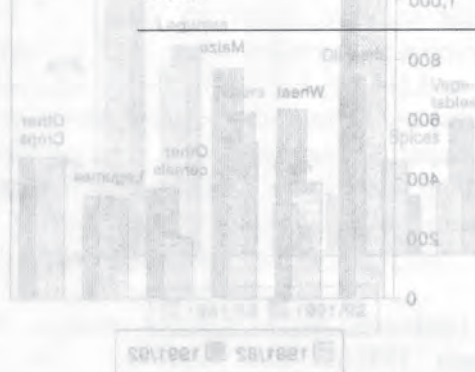
Arable land				
Temporary crops	1,164.4	1,240.9	296.7	2,701.9
Arable land	1,164.5	1,240.9	296.7	2,702.2
Other agricultural land				
Permanent crops	46.0	148.6	86.7	281.4
Permanent pasture	21.1	63.4	20.3	104.8
Ponds	1.0	5.6	11.4	18.0
Non-agricultural land				
Woodland and forest	94.4	254.2	91.1	439.6
Total land holdings	1,166.0	1,241.1	296.8	2,703.9
PERCENT				
Arable land				
Temporary crops	99.9	100.0	100.0	99.9
Arable land	99.9	100.0	100.0	99.9
Other agricultural land				
Permanent crops	3.9	12.0	29.2	10.4
Permanent pasture	1.8	5.1	6.8	3.9
Ponds	0.1	0.4	3.8	0.7
Non-agricultural land				
Woodland and forest	8.1	20.5	30.7	16.3
Total land holdings	100.0	100.0	100.0	100.0
Total area of holdings	122.8	136.8	1,401.4	1,557.4
Total land area	1,161.7	1,240.9	1,401.4	1,471.1
Arable land % of total area	2.1	14.0	14.2	15.5

TABLE 5.7: AREA OF LAND HOLDINGS BY TYPE OF LAND - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

	Area ('000 ha)		Percent	
	Wet land	Dry land	Total	wet land
ECOLOGICAL BELTS				
Mountain	45.4	131.4	176.8	25.7
Hill	312.6	733.7	1,046.2	29.9
Terai	1,213.6	160.8	1,374.3	88.3
DEVELOPMENT REGIONS				
Eastern	511.1	272.1	783.2	65.3
Central	464.6	255.1	719.7	64.6
Western	307.6	258.8	566.4	54.3
Mid-western	155.1	169.6	324.7	47.8
Far Western	133.1	70.2	203.3	65.5
NEPAL	1,571.5	1,025.9	2,597.4	60.5

TABLE 5.8: AREA OF LAND HOLDINGS BY TYPE OF LAND AND SIZE OF HOLDING, NEPAL, 1991/92

Size of holding	Area ('000 ha)		Percent	
	Wet land	Dry land	Total	wet land
Less than 0.5 ha	129.8	162.6	292.3	44.4
0.5 - 2.0 ha	672.1	543.9	1,216.1	55.3
2.0 ha and over	769.6	319.4	1,089.0	70.7
Total	1,571.5	1,025.9	2,597.4	60.5



CHAPTER 6

TEMPORARY CROPS

In 1991/92, a total of 2.28 million hectares of land was used for growing temporary crops, out of a total of 2.32 million hectares of arable land. The area of land used for temporary crops was little changed from ten years earlier - an increase of only 34,400 hectares.

Although the amount of land under cultivation has changed little in the last ten years, existing land has been cropped more intensively. The total area of temporary crops sown increased by 23 percent between 1981/82 and 1991/92 - from 3.32 million hectares to 4.06 million hectares. (Table 6.1)

Rice

Rice continues to be the most important crop in Nepal, although the area under rice has remained fairly stable in recent years. In 1991/92, the area of rice planted was 1.48 million hectares, an increase of only 87,100 hectares (or 6.2 percent) over the previous ten years. (Table 6.1)

The increase in rice area occurred mainly in the hill and mountain areas, especially in the west and far west of the country. In the Terai, the area under rice was almost unchanged between 1981/82 and 1991/92; in the Hill belt, the increase was from 284,000 hectares to 335,200 hectares (an increase of 18 percent). (Table 6.3)

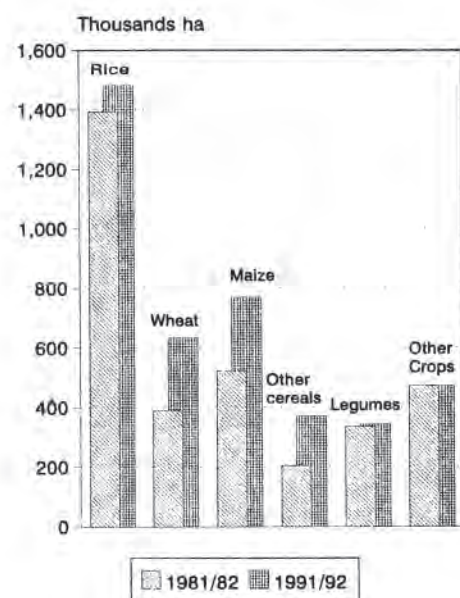
In Far Western Development Region, the area under rice increased from 74,100 hectares to 121,300 hectares over the ten year period, while in Western Region, the increase was from 253,300 hectares to 290,600 hectares. The area under rice changed little over the ten year period in the other regions. (Table 6.7)

In 1991/92, 64 percent of the arable land throughout the country was used for rice growing. Some 85 percent of arable land in the

Terai was used for rice growing, compared with 39 percent of arable land in the Hill belt. Only 45 percent of land in Mid Western Development Region was used for rice growing; the figure was over 60 percent in other regions. (Tables 6.3, 6.7)

Although the increase in area under rice over the ten year period was quite small, the number of rice producers increased sharply - from 1.02 million in 1981/82 (47 percent of all agricultural holdings) to 2.04 million in 1991/92 (75 percent of holdings). Some 87 percent of Terai holdings were rice growers in 1991/92, compared with 67 percent in the Hill belt. The percentage of holdings in Far Western Development Region growing rice in 1991/92 was also 87 percent - higher than in other regions. (Tables 6.2, 6.6)

FIGURE 6.1
CROP AREAS, NEPAL



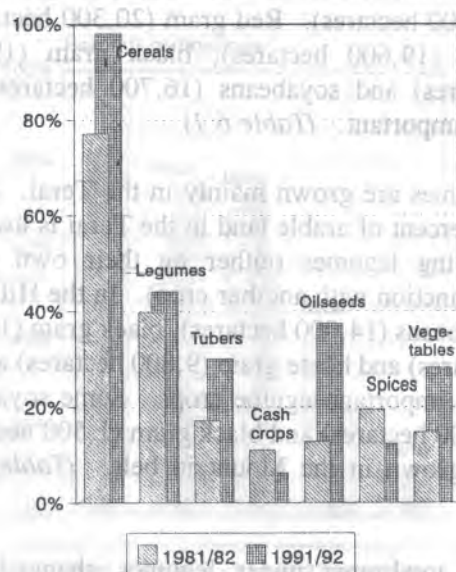
The large increase in numbers of rice growers may have been the result of a combination of effects. The fragmentation of land is one factor. There has also been increasing land brought under irrigation and this may have predominantly involved small holdings.

Rice growers planted an average of 1.36 hectares of rice in 1981/82, compared with 0.73 hectares in 1991/92. (Tables 6.5, 6.9)

Some 92 percent of holdings of size 2.0 hectares or more and 82 percent of holdings between 0.5 and 1.0 hectares in size were rice producers in 1991/92. Only 64 percent of holdings less than 0.5 hectares in size planted rice in 1991/92. The number of small rice producers did increase over the previous ten years - up from 35 percent in 1981/82. (Table 6.10)

An estimated 73 percent of arable land on holdings of size 2.0 hectares or more was used for rice production in 1991/92, compared with only 49 percent for holdings less than 0.5 hectares in size. (Table 6.11)

FIGURE 6.2
CROP PRODUCERS, NEPAL
PERCENT OF ALL HOLDINGS



Wheat

Although rice continues to be the major crop in Nepal, other cereal grains, especially wheat, have become increasingly important. The area under wheat grew from 389,200 hectares in 1981/82 to 633,100 hectares in 1991/92, an increase of 63 percent. Wheat is now grown on 27 percent of the arable land in the country. (Tables 6.1, 6.3, 6.7)

Wheat is now widely grown across the whole country, with significant increases in plantings having occurred in western areas in the last ten years. The area under wheat more than doubled in Mid and Far Western Development Regions over the ten years to 1991/92. Over one third of the country's 1991/92 wheat crop was in these two regions. About 45 percent of arable land in the two regions was used for the cropping of wheat. (Tables 6.3, 6.7)

Some 1.64 million holdings planted some wheat in 1991/92 - 61 percent of all holdings. Ten years earlier there were only 649,500 wheat growers (30 percent of holdings). Over 90 percent of holdings in Far Western Development Region and 82 percent of holdings in Mid Western Region planted wheat in 1991/92; the number of wheat producers in these two regions trebled over the ten year period. (Tables 6.2, 6.6)

Wheat is more commonly grown by larger farmers. In 1991/92, 75 percent of holdings of size 2.0 hectares and above planted some wheat, compared with 52 percent of holdings less than 0.5 hectares in size. However, the number of wheat growers amongst these small holdings has increased in recent years; in 1981/82, only 22 percent of these holdings produced some wheat. (Table 6.10)

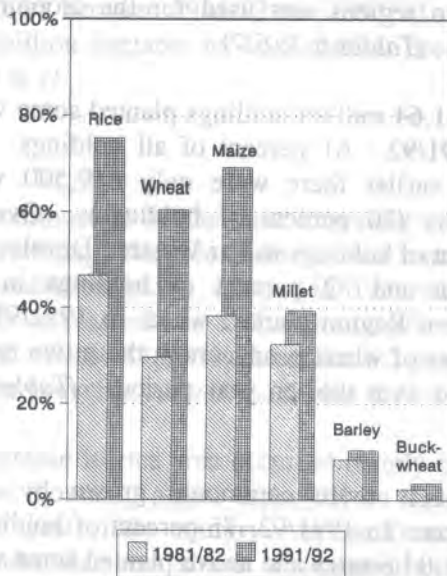
Maize

Maize has become an increasingly important crop, especially in hill areas. The area under maize in 1991/92 was 768,700 hectares, up from 522,500 hectares ten years earlier (an increase of 47 percent). Most of the maize is grown as a summer crop - 674,300 hectares in 1991/92, 88

percent of the total crop. One third of the arable land in the country is now used for growing maize. (Tables 6.1, 6.3)

Two thirds of the maize crop is grown in the Hill belt - 515,300 hectares in 1991/92. Some 59 percent of the arable land in the Hill belt is used for maize cultivation. Across development regions, the biggest increases in maize area between 1981/82 and 1991/92 took place in Eastern Development Region - from 124,900 hectares to 224,200 hectares. (Tables 6.3, 6.7)

FIGURE 6.3
CEREAL PRODUCERS, NEPAL
PERCENT OF ALL HOLDINGS



In all, 1.87 million holdings produced some maize in 1991/92 - 69 percent of all holdings. Some 94 percent of holdings in the Hill belt were maize producers. Overall, the number of maize producers more than doubled over the ten year period. The average maize area per maize producer declined from 0.62 hectares to 0.40 hectares over the same period. (Tables 6.2, 6.5, 6.6, 6.9)

Maize production is more common amongst small holdings - 69 percent of holdings less than

0.5 hectares in size produced some maize in 1991/92, compared with only 56 percent for holdings 2.0 hectares and over in size. Large holdings tend to be more diversified into other crops such as wheat. (Table 6.10)

Other cereals

The most important other cereal crops are millet (301,500 hectares in 1991/92), barley (46,200 hectares) and buckwheat (16,300 hectares). The area under millet doubled in the ten years to 1991/92. There were also significant increases for other cereal crops. (Table 6.1)

In 1991/92, there were 1.07 million millet growers (39 percent of all holdings) and 279,300 barley growers. Most millet and barley producers are in the hill areas; nearly 60 percent of holdings in the Hill belt produced some millet in 1991/92. (Tables 6.2, 6.6)

Like maize, millet is more common amongst small farmers. In 1991/92, 40 percent of holdings less than 0.5 hectares in size grew millet, compared with 26 percent for holdings of size 2.0 hectares or more. (Table 6.10)

Legumes

The total area of all types of legumes in 1991/92 was 340,400 hectares. The main legume crops are lentils (160,700 hectares) and grass pea (56,600 hectares). Red gram (20,300 hectares), gram (19,600 hectares), black gram (19,200 hectares) and soyabeans (16,700 hectares) are also important. (Table 6.1)

Legumes are grown mainly in the Terai. Some 21 percent of arable land in the Terai is used for growing legumes (either on their own or in conjunction with another crop). In the Hill belt, soyabeans (14,000 hectares), black gram (14,100 hectares) and horse gram (9,800 hectares) are the most important legume crops. Some soyabeans (2,400 hectares) and black gram (1,500 hectares) are grown in the Mountain belt. (Tables 6.3, 6.7)

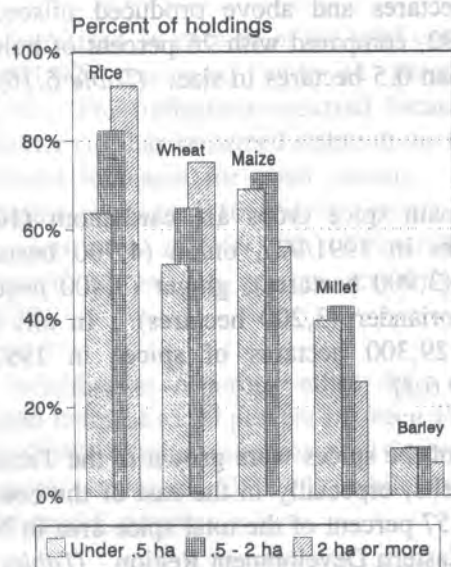
The total area under legumes changed little between 1981/82 and 1991/92. The area

declined slightly in the Terai but increased in the Hill belt (from 38,900 hectares to 57,600 hectares). The legume area declined in Eastern and Central Development Regions but increased in the west of the country. In Central Development Region, the area under legumes declined by 26 percent to 127,000 hectares. In the three western-most regions, the area increased by about two thirds. (Tables 6.3, 6.7)

Overall, 1.19 million holdings in Nepal grow some legumes - 44 percent of all holdings. Although the area under legumes has been stable in recent years, the number of legume producers has increased significantly - by 37 percent during the ten years to 1991/92. Some 57 percent of holdings in the Terai grow some legumes. (Tables 6.2, 6.6)

The production of legume crops is much more common amongst larger farmers. In 1991/92, 65 percent of holdings of size 2.0 hectares or more sowed legume crops, compared with only 33 percent for holdings less than 0.5 hectares in size. (Table 6.10)

FIGURE 6.4
CEREAL PRODUCERS BY SIZE OF HOLDING
NEPAL, 1991/92



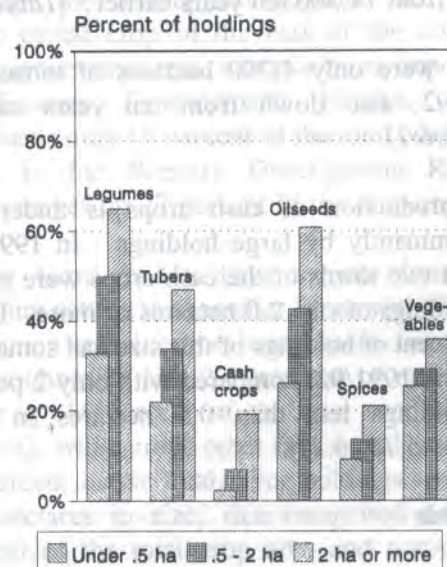
Tubers

Some 70,500 hectares of potatoes were grown in 1991/92 - 40,000 hectares as a winter crop and 30,500 hectares in the summer. There were also 8,700 hectares of other tubers - mainly colocasia and sweet potato. (Table 6.1)

Potatoes are grown mainly in the east of the country - 40 percent of the total area under tuber crops is in Eastern Development Region, while a further 30 percent is in Central Development Region. One half of the area is in the Hill belt, with 19 percent in the Mountain belt and 31 percent in the Terai. Some 13 percent of arable land in the Mountain belt is used for growing potatoes. (Tables 6.3, 6.7)

Overall, there were 814,500 tuber growers in Nepal in 1991/92 - 30 percent of all holdings. This number rose sharply over the previous ten years, suggesting that potatoes are becoming more widely planted as a secondary crop. In the Terai, 64,000 tuber producers planted 17,000 hectares of tubers in 1981/82 (an average of 0.27

FIGURE 6.5
CROP PRODUCERS, NON-CEREAL CROPS
SIZE OF HOLDINGS, NEPAL, 1991/92



hectares per grower); in 1991/92, there were 340,300 growers with only 24,400 hectares (an average of 0.07 hectares per grower). Across the whole country, the average tuber area per grower declined from 0.23 hectares to 0.10 hectares during the ten year period. (Tables 6.2, 6.5, 6.6, 6.9)

The production of potatoes and other tuber crops is less common amongst smaller holdings - only 22 percent of holdings less than 0.5 hectares in size grew potatoes in 1991/92, compared with 47 percent of holdings of size 2.0 hectares or more. (Table 6.10)

Cash crops

The main cash crops in Nepal are sugar cane (36,600 hectares in 1991/92) and jute (20,500 hectares). These are grown mainly in the Eastern and Central Terai areas. Four fifths of the total area of cash crops are in Eastern and Central Development Regions, while a further 17 percent is in Western Development Region. Almost no cash crops are grown in the two western-most regions. (Tables 6.1, 6.3, 6.7)

The area under sugar cane increased by 13 percent between 1981/82 and 1991/92. The number of sugar cane growers increased by 37 percent to 82,600. The area under jute declined by more than one half over the ten years. The number of jute growers was 52,100 in 1991/92, down from 74,500 ten years earlier. (Table 6.1)

There were only 4,700 hectares of tobacco in 1991/92, also down from ten years earlier. (Table 6.1)

The production of cash crops is undertaken predominantly by large holdings. In 1991/92, almost two thirds of the cash crops were grown by holdings of size 2.0 hectares or more. In all, 19 percent of holdings of this size had some cash crops in 1991/92, compared with only 2 percent of holdings less than 0.5 hectares in size. (Tables 6.10, 6.11)

Oilseeds

The main oilseed crops are mustard and linseed.

In 1991/92, 182,400 hectares of mustard and 67,700 hectares of linseed were sown. Some sesame and groundnut is also grown. (Table 6.1)

Oilseeds are grown across all the Terai and parts of the hill areas. Some 15 percent of arable land in the Terai is used for oilseed production. The three western development regions accounted for 41 percent of the total oilseed area in 1991/92, compared with 36 percent in 1981/82. (Tables 6.3, 6.7)

The total area of all oilseed crops in 1991/92 was 260,100 hectares, an increase of 16 percent over the previous ten years. The area under mustard increased by 19 percent and linseed by 15 percent. The area of oilseed crops did not change significantly in Eastern and Central Development Regions. The largest increases were recorded in Western and Far Western Regions. (Tables 6.1, 6.3, 6.7)

Overall, 1.01 million holdings in Nepal had oilseeds in 1991/92 - 37 percent of all holdings. This was substantially higher than the number ten years earlier (281,400). The average crop area per oilseed grower was 0.26 hectares in 1991/92, compared with 0.80 hectares in 1981/82. (Tables 6.2, 6.5, 6.6, 6.9)

Oilseed production is carried out predominantly by larger farmers; 61 percent of holdings of size 2.0 hectares and above produced oilseeds in 1991/92, compared with 26 percent of holdings less than 0.5 hectares in size. (Table 6.10)

Spices

The main spice crops are cardamom (10,600 hectares in 1991/92), onion (4,700 hectares), chilli (3,900 hectares), ginger (3,400 hectares) and coriander (3,200 hectares). In all, there were 29,300 hectares of spices in 1991/92. (Table 6.1)

Most of the spices were grown in the Terai and Hill belts, especially in the east of the country. Some 57 percent of the total spice area in Nepal is in Eastern Development Region. (Tables 6.3, 6.7)

Over one half of the spice crop is grown by holdings of size 2.0 hectares and above. In 1991/92, 21 percent of these holdings produced some spices, compared with only 9 percent of holdings less than 0.5 hectares in size. (Table 6.10, 6.11)

Vegetables

Between 1981/82 and 1991/92, the number of holdings producing vegetables increased from 324,200 (15 percent of holdings) to 763,100 (28 percent of holdings). The area of vegetables planted in 1991/92 was 39,500 hectares, up from 17,200 hectares ten years earlier. Some 24,400 hectares were grown as a winter crop, while 15,100 hectares were a summer crop. (Table 6.1)

Vegetable production increased across all areas and is now common throughout the country. Small holdings are increasingly growing vegetables; the percentage of holdings less than 0.5 hectares in size who were vegetable growers increased from 11 percent to 25 percent between 1981/82 and 1991/92. (Tables 6.2, 6.6, 6.10)

Composition of crops (Tables 6.1, 6.4, 6.8, 6.12)

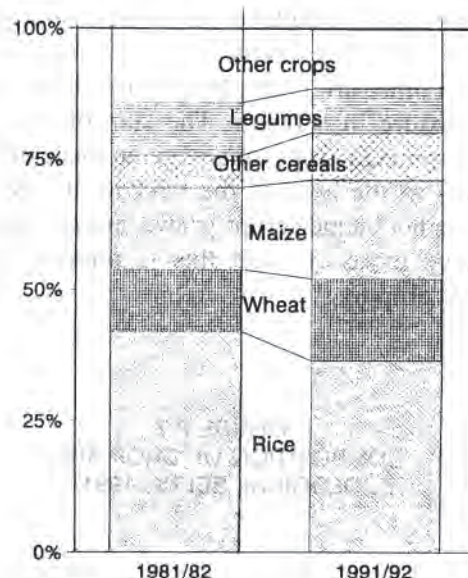
Cereal grains constituted 80 percent of the total crop area in 1991/92 (up from 76 percent ten years earlier).

Rice comprised 36 percent of the total crop area in 1991/92, compared with 42 percent in 1981/82. This reduction occurred because the area under rice has remained stable in the face of significant increases for other cereals. Wheat and maize comprised 16 and 19 percent of the total crop area in 1991/92, compared with figures of 12 and 16 percent respectively in 1981/82.

The contribution of crops other than cereals declined from 24 to 20 percent between 1981/82 and 1991/92. Legumes represented 8 percent of all crops sown in 1991/92, while oilseeds represented 6 percent.

Cropping is more diversified in the Terai than in

FIGURE 6.6
COMPOSITION OF CROP AREA
NEPAL, 1981/82 and 1991/92



the Hill and Mountain belts. In the Terai, 26 percent of the total crop area consists of crops other than cereals, double the figure in the Mountain and Hill belts. Rice constitutes less than one half of the crops sown in the Terai; legumes and oilseeds represent over one fifth of the crop area.

Amongst the development regions, rice is the major cereal crop in the east of the country, while in western areas, wheat is more important. In Eastern Development Region, wheat represents only 10 percent of the total crop area, while in Far Western Development Region, wheat makes up 27 percent of the crop area.

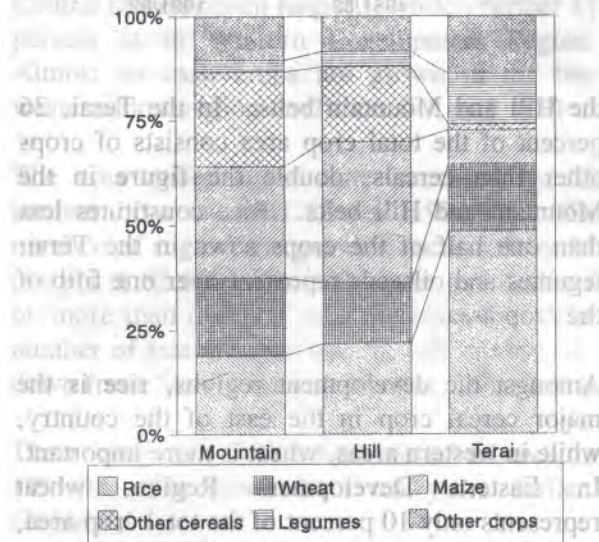
Larger farms tend to have a more diversified cropping pattern than smaller farms with rice and other non-cereal crops being more important. For holdings of size 2.0 hectares or more, rice made up 44 percent of the total crop area in 1991/92, while crops other than cereals made up 24 percent of the total. For holdings less than 0.5 hectares in size, rice comprised only 26 percent of the total crop area and non-cereals comprised 17 percent. Maize (25 percent) and

millet (12 percent) are more important crops for small farmers.

Mixed cropping (Table 6.15)

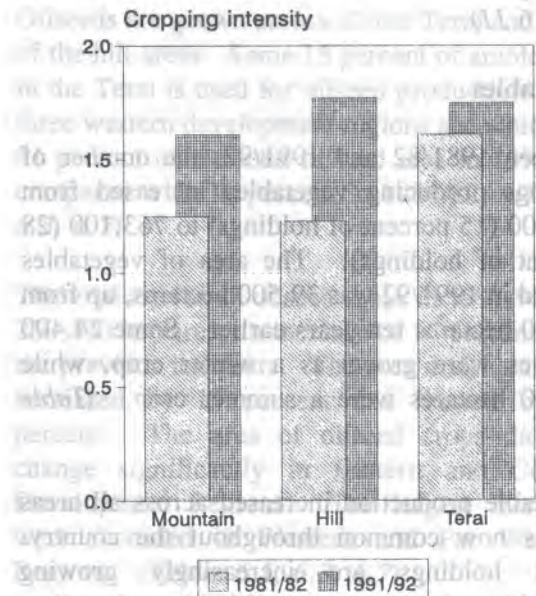
Mixed cropping is the growing of two or more different crops simultaneously in the same field or plot. Mixed crops may be interplanted between other crops or planted unsystematically as a mixture in a field. The sum of the crop areas for mixed crops on any given piece of land is equal to the area of the land itself. Mixed crops do not include crops grown successively on the same piece of land; this is referred to as "double cropping".

FIGURE 6.7
COMPOSITION OF CROP AREA
ECOLOGICAL BELTS, 1991/92



Mixed cropping is not common in Nepal - in 1991/92, only 7 percent of the total crop area was grown under mixed crop conditions. Mixed cropping was most common in the Mountain belt (12 percent of crop area, compared with only 5 percent in the Terai). In Mid Western Region, mixed crops constituted 13 percent of the total crop area, more than double the figure in the other regions.

FIGURE 6.8
CROPPING INTENSITY



Cropping intensity (Tables 6.16, 6.17, 6.18)

Cropping intensity refers to the extent to which existing arable land is used for the cultivation of temporary crops. It is measured by the ratio of the area of all temporary crops sown on arable land to the total area of all arable land. In measuring the total crop area, the area of each crop sown is counted - that is, double cropped land is counted twice.

For Nepal as a whole, cropping intensity increased from 1.45 in 1981/82 to 1.75 in 1991/92. This means that in 1991/92, there were 1.75 hectares of temporary crops sown for each hectare of arable land.

The increase in cropping intensity over the ten years has been most marked in hill and mountain areas. In the Hill belt, cropping intensity increased from 1.23 to 1.77 over the ten year period, the result of extensive plantings of winter crops, especially wheat. The increase in the Terai was more moderate - from 1.61 to 1.75.

Farmers with small land holdings crop more

intensively than large holdings - in 1991/92, the cropping intensity for holdings less than 0.5 hectares in size was 1.88, in comparison with

1.79 for holdings between 0.5 and 2.0 hectares in size and 1.66 for those of size 2.0 hectares or more.

FIGURE 8.10
WHEAT AREA, 1991/92
PERCENT OF ARABLE LAND

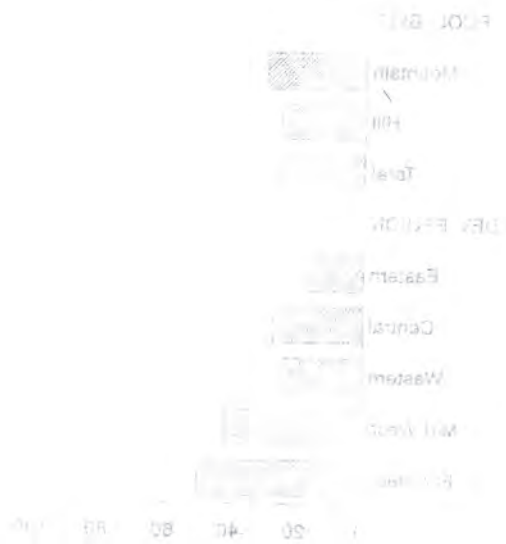


FIGURE 8.9
RICE AREA, 1991/92
PERCENT OF ARABLE LAND

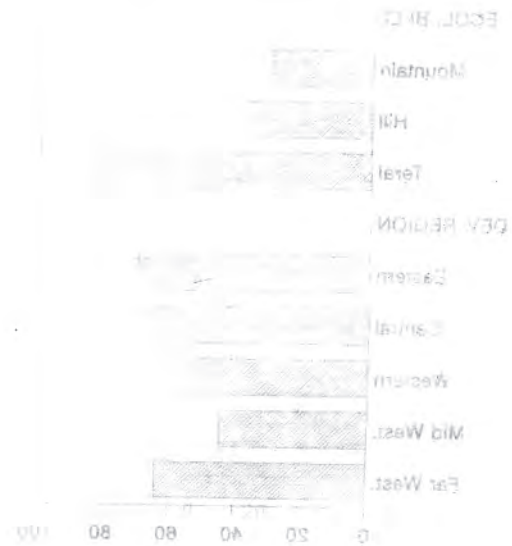
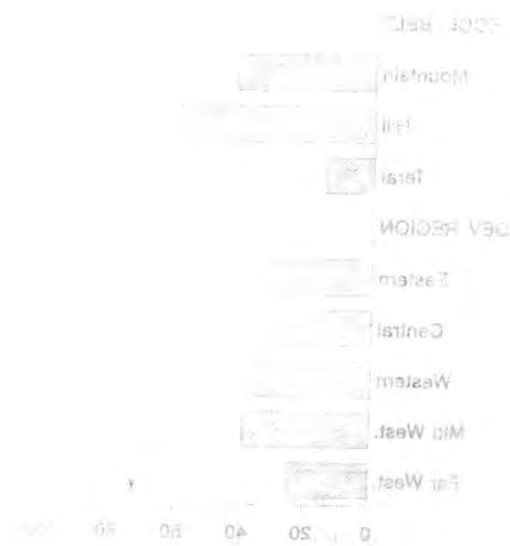


FIGURE 8.12
SUMMER AREA, 1991/92
PERCENT OF ARABLE LAND



FIGURE 8.11
MAIZE AREA, 1991/92
PERCENT OF ARABLE LAND



1.79 for holdings between 0.5 and 2.0 hectares in size and 1.06 for those of size 2.0 hectares or more.

FIGURE 6.9
RICE AREA, 1991/92
PERCENT OF ARABLE LAND

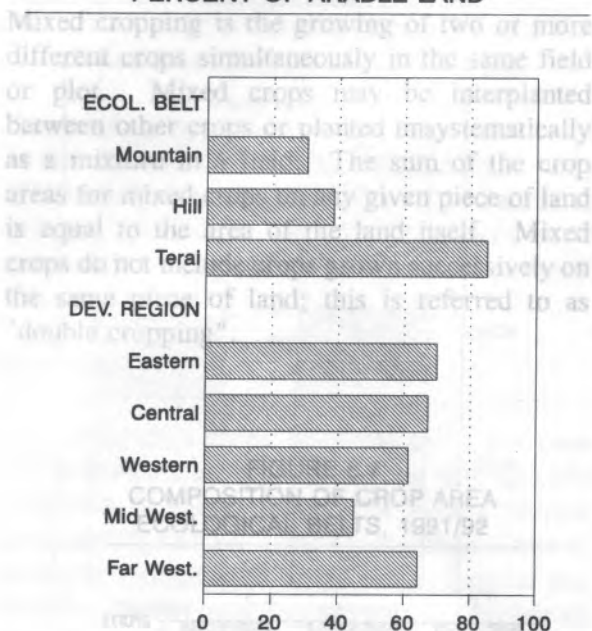
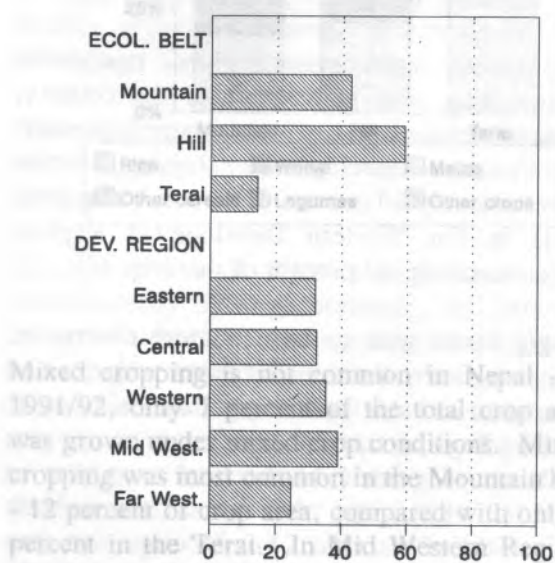
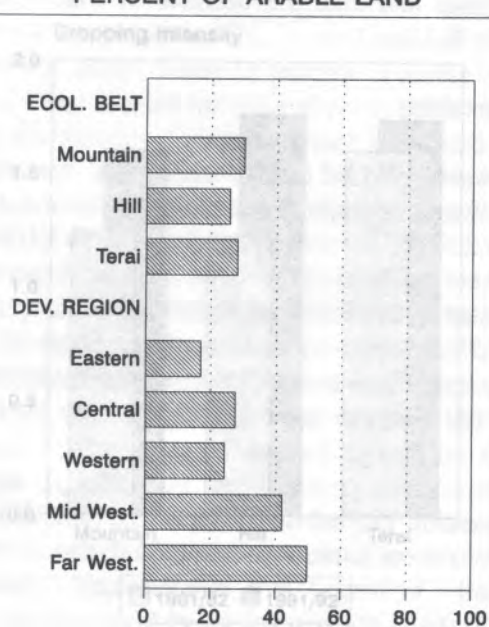


FIGURE 6.11
MAIZE AREA, 1991/92
PERCENT OF ARABLE LAND



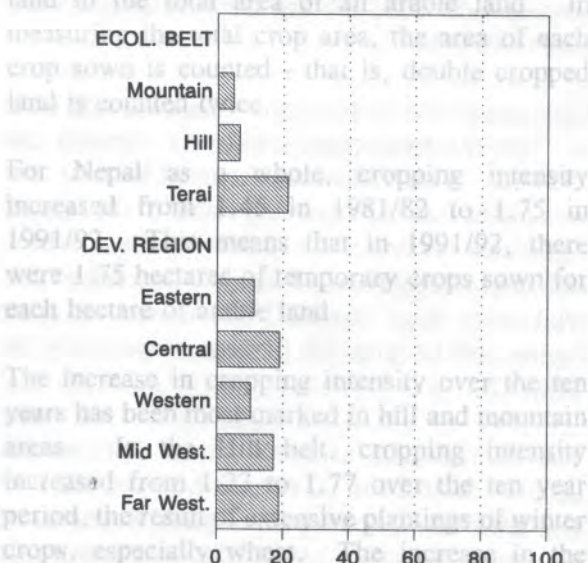
Mixed cropping is the growing of two or more different crops simultaneously in the same field or plot. Mixed crops may be interplanted between other crops or planted systematically as a minor crop on the same piece of land. Mixed crops do not have to be grown on the same piece of land; this is referred to as 'double cropping'.

FIGURE 6.10
WHEAT AREA, 1991/92
PERCENT OF ARABLE LAND



Cropping intensity (Tables 6.16, 6.17, 6.18)

FIGURE 6.12
LEGUMES AREA, 1991/92
PERCENT OF ARABLE LAND



Farmers with small land holdings crop more

FIGURE 6.13
RICE GROWERS, 1991/92
PERCENT OF HOLDINGS

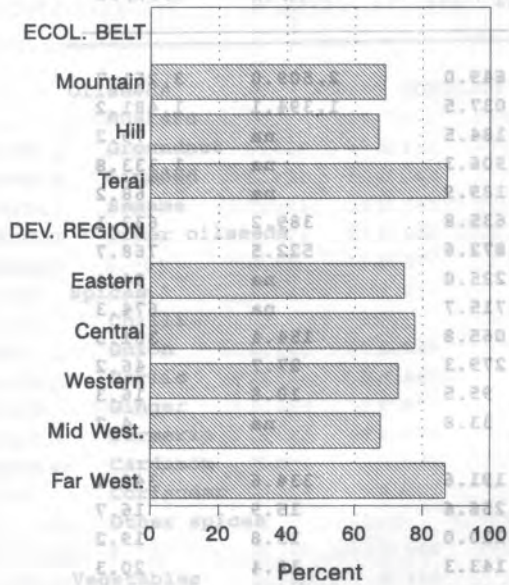


FIGURE 6.14
WHEAT GROWERS, 1991/92
PERCENT OF HOLDINGS

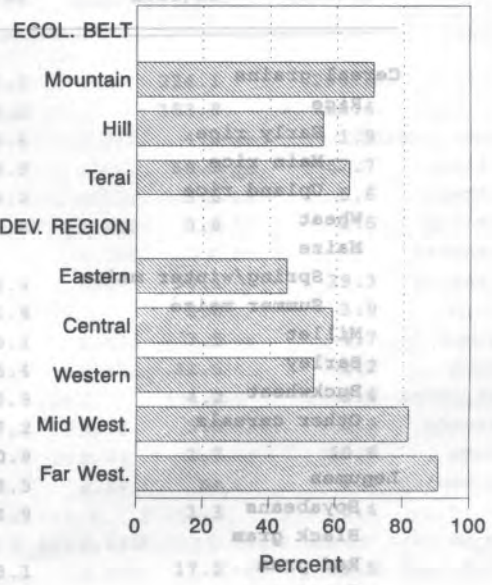


FIGURE 6.15
MAIZE GROWERS, 1991/92
PERCENT OF HOLDINGS

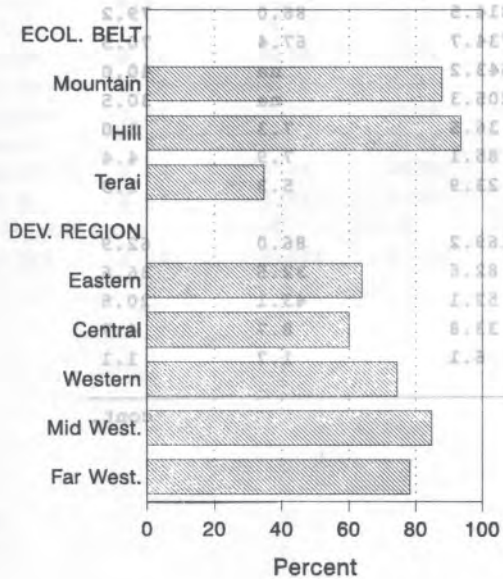


FIGURE 6.16
LEGUME GROWERS, 1991/92
PERCENT OF HOLDINGS

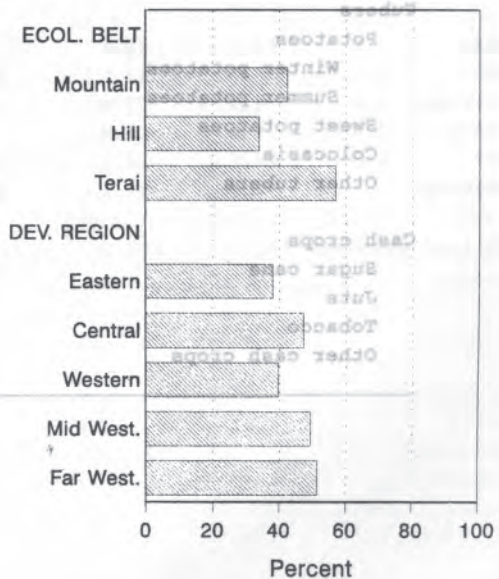


TABLE 6.1: NUMBER OF HOLDINGS WITH TEMPORARY CROPS AND CROP AREA SOWN BY CROP TYPE, NEPAL, 1981/82 AND 1991/92

Crop	Holdings ('000)		Crop area ('000 ha)	
	1981/82	1991/92	1981/82	1991/92
Cereal grains	1,685.6	2,649.0	2,509.0	3,251.7
Rice	1,021.7	2,037.5	1,394.1	1,481.2
Early rice	na	184.5	na	79.2
Main rice	na	1,906.3	na	1,333.8
Upland rice	na	189.9	na	68.2
Wheat	649.5	1,635.8	389.2	633.1
Maize	838.6	1,872.6	522.5	768.7
Spring/winter maize	na	225.0	na	94.4
Summer maize	na	1,715.7	na	674.3
Millet	709.0	1,065.8	154.4	301.5
Barley	183.8	279.3	27.7	46.2
Buckwheat	48.0	95.5	10.8	16.3
Other cereals	na	33.8	na	4.7
Legumes	870.0	1,191.6	334.6	340.4
Soyabeans	244.6	256.6	15.9	16.7
Black gram	215.0	210.0	13.8	19.2
Red gram	111.2	143.3	18.4	20.3
Grass pea	260.2	145.2	110.1	56.6
Lentils	278.7	513.1	102.8	160.7
Gram	181.5	92.1	51.1	19.6
Peas	89.0	109.5	6.6	12.7
Green gram	na	17.8	na	4.2
Horse gram	100.8	88.7	7.4	14.2
Cow pea	na	134.3	na	5.9
Other legumes	63.1	131.9	6.7	10.3
Tubers	376.5	814.5	86.0	79.2
Potatoes	193.2	734.7	67.4	70.5
Winter potatoes	na	543.2	na	40.0
Summer potatoes	na	205.3	na	30.5
Sweet potatoes	68.2	36.5	7.3	3.0
Colocasia	147.7	85.1	7.9	4.4
Other tubers	26.1	23.9	5.3	1.3
Cash crops	242.0	169.2	86.0	62.9
Sugar cane	60.2	82.6	32.5	36.6
Jute	74.5	52.1	43.1	20.5
Tobacco	116.4	33.8	8.7	4.7
Other cash crops	15.1	6.1	1.7	1.1

cont.

TABLE 6.1 (cont.): NUMBER OF HOLDINGS WITH TEMPORARY CROPS AND CROP AREA SOWN BY CROP TYPE, NEPAL, 1981/82 AND 1991/92

Crop	Mountain		Hill		Terai		Nepal	
	Holdings ('000)	Crop area ('000 ha)	Holdings ('000)	Crop area ('000 ha)	Holdings ('000)	Crop area ('000 ha)	Holdings ('000)	Crop area ('000 ha)
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
Oilseeds								
Mustard	226.7	107.8	281.4	1,013.2	224.1	260.1		
Groundnut	59.0	18.8	59.0	18.8	153.8	182.4		
Linseed	190.8	209.9	190.8	209.9	58.9	67.7		
Sesame	48.8	36.2	48.8	36.2	13.5	5.6		
Other oilseeds	25.5	18.2	25.5	18.2	3.6	2.5		
Spices								
Chilli	7.1	264.6	7.1	264.6	8.0	3.9		
Onion	15.2	182.9	15.2	182.9	7.5	4.7		
Garlic	34.0	186.1	34.0	186.1	31.5	2.2		
Ginger	13.6	109.5	13.6	109.5	4.2	3.4		
Turmeric	22.2	131.7	22.2	131.7	3.9	0.8		
Cardamom	12.2	4.1	12.2	4.1	1.7	10.6		
Coriander	3.7	na	3.7	na	na	3.2		
Other spices	1.1	35.1	1.1	35.1	1.3	0.4		
Vegetables								
Winter vegetables	na	588.5	na	588.5	na	24.4		
Summer vegetables	na	398.0	na	398.0	na	15.1		
Holdings with temporary crops	2,157.4	2,701.9	2,157.4	2,701.9	2,157.4	2,701.9		
Total land holdings	2,185.7	2,703.9	2,185.7	2,703.9	2,185.7	2,703.9		
Area of all temporary crops	3,315.0	4,063.0	3,315.0	4,063.0	3,315.0	4,063.0		
Percentage of total land	151.2	150.3	151.2	150.3	151.2	150.3		

TABLE 6.2: NUMBER AND PERCENT OF HOLDINGS WITH TEMPORARY CROPS BY CROP TYPE AND ECOLOGICAL BELT,
1981/82 AND 1991/92

[illegible]

TABLE 6.3: AREA UNDER TEMPORARY CROPS BY CROP TYPE AND ECOLOGICAL BELT, 1981/82 AND 1991/92

[illegible]

TABLE 6.4: AVERAGE AREA UNDER TEMPORARY CROPS BY CROP TYPE AND ECOLOGICAL BELT, 1991/92 AND 1981/82

Crop	Mountain		Hill		Terai		Nepal	
	Av. area	Percent	Av. area	Percent	Av. area	Percent	Av. area	Percent
	(ha)		(ha)		(ha)		(ha)	
(000 ha) AREA								
Cereal grains	0.87	86.6	1.00	87.9	1.53	73.9	1.20	80.0
Rice	0.19	18.8	0.25	21.8	0.33	15.9	0.55	36.5
Wheat	0.19	18.6	0.17	14.5	0.33	15.9	0.23	15.6
Maize	0.27	26.5	0.38	33.5	0.17	8.1	0.28	18.9
Millet	0.16	15.7	0.17	15.3	0.02	1.1	0.11	7.4
Barley	0.05	4.9	0.02	2.0	0.01	0.1	0.02	1.1
Legumes	0.03	3.0	0.04	3.7	0.25	12.2	0.13	8.4
Tubers	0.06	5.8	0.03	2.6	0.02	1.1	0.03	1.9
Cash crops	0.11	10.1	0.11	9.8	0.06	2.7	0.02	1.5
Oilseeds	0.02	1.5	0.05	4.0	0.18	8.6	0.10	6.4
Spices	0.02	1.8	0.01	0.8	0.01	0.6	0.01	0.7
Vegetables	0.01	1.2	0.01	0.9	0.02	1.0	0.01	1.0
Total temp. crops	1.01	100.0	1.14	100.0	2.07	100.0	1.50	100.0
Av. size of holding	0.68		0.77		1.26		0.96	

NOTE: The figures refer to the average over all holdings.

TABLE 6.5: AVERAGE AREA SOWN PER CROP PRODUCER BY CROP TYPE AND ECOLOGICAL BELT, 1981/82 AND 1991/92								
Crop	Mountain		Hill		Terai		Nepal	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
(hectares)								
Cereal grains	0.69	0.88	1.06	1.01	1.24	1.19	1.49	1.23
Rice	0.51	0.28	0.81	0.37	1.75	1.15	1.36	0.73
Wheat	0.44	0.26	0.48	0.30	0.71	0.52	0.60	0.39
Maize	0.45	0.30	0.58	0.41	0.87	0.48	0.62	0.41
Millet	0.18	0.23	0.23	0.29	0.22	0.32	0.22	0.28
Barley	0.22	0.18	0.11	0.16	0.19	0.17	0.15	0.17
Legumes	0.09	0.07	0.11	0.13	0.67	0.44	0.38	0.29
Tubers	0.28	0.14	0.21	0.11	0.27	0.07	0.23	0.10
Cash crops	0.07	0.05	0.16	0.06	0.41	0.45	0.36	0.37
Oilseeds	0.15	0.11	0.46	0.14	0.96	0.35	0.80	0.26
Spices	0.04	0.13	0.06	0.08	0.26	0.08	0.14	0.09
Vegetables	0.05	0.03	0.03	0.04	0.10	0.07	0.05	0.05

NOTE: The figures refer to the average area sown for holdings with the crop.

TABLE 6.6 (cont.): NUMBER AND PERCENT OF HOLDINGS WITH TEMPORARY CROPS BY CROP TYPE AND DEVELOPMENT REGION, 1981/82 AND 1991/92

Crop	Eastern		Central		Western		Mid Western		Far Western		Nepal	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
Cereal grains	67.3	96.4	75.5	98.0	87.0	98.7	83.0	98.5	80.9	99.3	477.1	798.0
Rice	40.6	74.5	53.9	77.7	50.2	72.8	38.3	67.6	42.4	86.8	346.7	7075.4
Wheat	15.0	45.2	36.0	58.6	33.7	53.1	35.0	81.7	34.4	90.9	329.7	160.5
Maize	22.3	63.9	33.9	60.0	58.4	74.4	51.5	84.8	36.7	78.2	338.4	869.3
Millet	26.1	43.1	22.2	36.2	49.7	52.7	41.6	24.5	35.5	31.1	832.4	1739.4
Barley	3.2	1.9	5.6	2.1	6.2	8.9	24.7	31.6	16.8	30.4	8.4	10.3
Legumes	34.2	38.0	42.5	47.3	35.6	39.6	47.7	49.2	45.9	51.3	139.8	1044.1
Tubers	16.6	38.4	11.5	24.0	22.5	30.9	25.5	31.6	15.7	326.4	817.2	1030.1
Cash crops	17.2	3.7	8.2	6.2	6.6	4.6	15.2	30.0	27.2	336.6	211.1	1036.3
Oilseeds	8.6	34.8	11.7	35.3	12.2	38.5	21.8	41.4	15.8	342.9	1012.9	3037.5
Spices	17.5	16.7	10.6	10.4	21.3	29.3	34.8	11.7	34.4	317.1	1019.6	3012.4
Vegetables	13.8	35.2	8.7	26.5	15.7	22.7	27.5	31.0	20.8	25.9	14.8	28.2
Total land holdings	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Crop	Eastern		Central		Western		Mid Western		Far Western		Nepal	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
Cereal grains	67.3	96.4	75.5	98.0	87.0	98.7	83.0	98.5	80.9	99.3	477.1	798.0
Rice	40.6	74.5	53.9	77.7	50.2	72.8	38.3	67.6	42.4	86.8	346.7	7075.4
Wheat	15.0	45.2	36.0	58.6	33.7	53.1	35.0	81.7	34.4	90.9	329.7	160.5
Maize	22.3	63.9	33.9	60.0	58.4	74.4	51.5	84.8	36.7	78.2	338.4	869.3
Millet	26.1	43.1	22.2	36.2	49.7	52.7	41.6	24.5	35.5	31.1	832.4	1739.4
Barley	3.2	1.9	5.6	2.1	6.2	8.9	24.7	31.6	16.8	30.4	8.4	10.3
Legumes	34.2	38.0	42.5	47.3	35.6	39.6	47.7	49.2	45.9	51.3	139.8	1044.1
Tubers	16.6	38.4	11.5	24.0	22.5	30.9	25.5	31.6	15.7	326.4	817.2	1030.1
Cash crops	17.2	3.7	8.2	6.2	6.6	4.6	15.2	30.0	27.2	336.6	211.1	1036.3
Oilseeds	8.6	34.8	11.7	35.3	12.2	38.5	21.8	41.4	15.8	342.9	1012.9	3037.5
Spices	17.5	16.7	10.6	10.4	21.3	29.3	34.8	11.7	34.4	317.1	1019.6	3012.4
Vegetables	13.8	35.2	8.7	26.5	15.7	22.7	27.5	31.0	20.8	25.9	14.8	28.2
Total land holdings	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

NOTE: The figures refer to average area sown for holdings with the crop.

TABLE 6.7: AREA UNDER TEMPORARY CROPS BY CROP TYPE AND DEVELOPMENT REGION, 1981/82 AND 1991/92

Crop	Eastern		Central		Western		Mid Western		Far Western		Nepal	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
Cereal grains	100.0	100.0	100.0	100.0	AREA ('000 ha)		100.0	100.0	100.0	100.0	100.0	100.0
Wheat	699.0	941.4	856.2	950.1	494.0	673.2	305.4	407.1	154.4	279.9	2,509.0	3,251.7
Rice	463.4	489.0	465.7	449.3	253.3	290.6	137.6	131.0	74.1	121.3	1,394.1	1,481.2
Wheat	62.0	118.4	163.2	183.1	77.7	114.9	51.4	122.6	34.8	94.0	389.2	633.1
Maize	124.9	224.2	171.5	216.7	109.8	167.5	82.7	113.7	33.7	46.6	522.5	768.7
Millet	43.0	100.6	43.1	92.1	42.1	85.9	16.1	13.4	10.0	9.6	154.4	301.5
Barley	2.7	2.7	8.4	13.1	0.5	10.7	7.1	21.9	3.9	7.8	27.7	46.2
Cash crops	83.9	78.8	170.9	127.0	26.1	48.5	34.3	50.3	19.4	35.7	334.6	340.4
Legumes	37.2	31.6	25.9	23.4	11.8	13.8	8.1	6.5	3.1	4.0	86.0	79.2
Tubers	51.1	23.7	23.6	25.5	9.3	12.0	11.8	0.8	0.9	1.8	86.0	62.9
Cash crops	65.3	74.6	77.9	79.3	18.2	45.1	43.2	32.9	19.5	28.2	224.1	260.1
Oilseeds	11.0	16.7	5.4	5.7	3.0	3.4	5.2	1.7	4.9	1.7	58.1	29.3
Spices	9.5	13.6	2.6	12.9	1.7	5.2	1.9	4.3	1.5	3.5	17.2	39.5
Vegetables												
Total temp. crops	957.0	1,180.5	1,162.6	1,223.9	592.5	800.2	399.2	503.7	203.7	354.7	3,315.0	4,063.0
Arable land	722.3	699.8	763.0	668.3	418.2	474.3	244.3	292.0	139.6	189.1	2,287.5	2,323.4
Global	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 6.7 (cont.): AREA UNDER TEMPORARY CROPS BY CROP TYPE AND DEVELOPMENT REGION, 1981/82 AND 1991/92

TABLE 6.7 (cont.): AREA UNDER TEMPORARY CROPS BY CROP TYPE AND DEVELOPMENT REGION, 1981/82 AND 1991/92

Crop	Eastern		Central		Western		Mid Western		Far Western		Nepal	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
PERCENT OF ARABLE LAND												
Cereal grains	64.2	69.9	61.0	67.2	60.6	61.3	56.3	44.9	53.1	64.2	60.9	63.8
Rice	16.9	16.9	21.4	27.4	18.6	24.2	21.0	42.0	25.0	49.7	17.0	27.2
Wheat	17.3	32.0	22.5	32.4	26.2	35.0	33.8	39.0	24.1	24.6	22.8	33.1
Maize	17.3	32.0	22.5	32.4	26.2	35.0	33.8	39.0	24.1	24.6	22.8	33.1
Millet	17.3	32.0	22.5	32.4	26.2	35.0	33.8	39.0	24.1	24.6	22.8	33.1
Barley	17.3	32.0	22.5	32.4	26.2	35.0	33.8	39.0	24.1	24.6	22.8	33.1
Legumes	11.6	11.3	22.4	19.0	16.2	10.2	14.0	17.2	13.9	18.9	14.6	14.6
Tubers	15.2	10.4	13.4	13.5	12.8	12.9	13.3	12.2	12.2	12.1	12.3	12.4
Cash crops	17.1	13.4	13.1	13.8	12.2	12.3	10.5	11.3	10.6	11.0	10.8	10.7
Oilseeds	19.0	10.7	10.2	11.9	14.3	11.9	17.7	11.3	14.0	14.9	9.8	11.2
Spices	11.5	12.4	10.7	10.9	12.7	10.7	12.1	13.0	13.5	10.9	12.5	11.3
Vegetables	11.3	11.9	10.3	11.9	10.4	11.1	10.8	11.5	11.1	11.8	10.8	11.7
Arable land	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 6.1: AREA UNDER TEMPORARY CROPS BY CROP TYPE AND DEVELOPMENT REGION, 1981/82 AND 1991/92

TABLE 6.8: AVERAGE AREA UNDER TEMPORARY CROPS BY CROP TYPE AND DEVELOPMENT REGION, 1991/92

Crop	Eastern		Central		Western		Mid Western		Far Western		Nepal	
	Av. area (ha)	Percent	Av. area (ha)	Percent	Av. area (ha)	Percent	Av. area (ha)	Percent	Av. area (ha)	Percent	Av. area (ha)	Percent
Cereal grains	1.50	79.7	1.13	77.6	1.12	84.1	1.11	80.8	1.08	78.9	1.20	80.0
Rice	0.78	41.4	0.53	36.7	0.48	36.3	0.36	26.0	0.47	34.2	0.55	36.5
Wheat	0.19	10.0	0.22	15.0	0.19	14.4	0.33	24.3	0.36	26.5	0.23	15.6
Maize	0.36	19.0	0.26	17.7	0.28	20.9	0.31	22.6	0.18	13.1	0.28	18.9
Millet	0.16	8.5	0.11	7.5	0.14	10.7	0.04	2.7	0.04	2.7	0.11	7.4
Barley	0.35	0.2	0.3	0.3	0.02	1.3	0.06	4.3	0.03	2.2	0.02	1.1
Legumes	0.13	6.7	0.15	10.4	0.08	6.1	0.14	10.0	0.14	10.1	0.13	8.4
Tubers	0.05	2.7	0.03	1.9	0.02	1.7	0.02	1.3	0.02	1.1	0.03	1.9
Cash crops	0.04	2.0	0.03	2.1	0.02	1.4	0.02	1.2	0.01	0.5	0.02	1.5
Oilseeds	0.12	6.3	0.09	6.5	0.07	5.6	0.09	6.5	0.11	8.0	0.10	6.4
Spices	0.03	1.4	0.01	0.5	0.01	0.4	0.01	0.3	0.01	0.5	0.01	0.7
Vegetables	0.02	1.1	0.02	1.1	0.01	0.6	0.01	0.9	0.01	1.0	0.01	1.0
Total temp. crops	1.88	100.0	1.45	100.0	1.33	100.0	1.37	100.0	1.36	100.0	1.50	100.0
Av. size of holding	1.25	..	0.85	..	0.94	..	0.88	..	0.78	..	0.96	..

NOTE: The figures refer to the average over all holdings.

(percent)

Eastern		Central		Western		Mid Western		Far Western		Nepal	
Av. area (ha)	Percent	Av. area (ha)	Percent	Av. area (ha)	Percent	Av. area (ha)	Percent	Av. area (ha)	Percent	Av. area (ha)	Percent
1.50	79.7	1.13	77.6	1.12	84.1	1.11	80.8	1.08	78.9	1.20	80.0
0.78	41.4	0.53	36.7	0.48	36.3	0.36	26.0	0.47	34.2	0.55	36.5
0.19	10.0	0.22	15.0	0.19	14.4	0.33	24.3	0.36	26.5	0.23	15.6
0.36	19.0	0.26	17.7	0.28	20.9	0.31	22.6	0.18	13.1	0.28	18.9
0.16	8.5	0.11	7.5	0.14	10.7	0.04	2.7	0.04	2.7	0.11	7.4
0.35	0.2	0.3	0.3	0.02	1.3	0.06	4.3	0.03	2.2	0.02	1.1
0.13	6.7	0.15	10.4	0.08	6.1	0.14	10.0	0.14	10.1	0.13	8.4
0.05	2.7	0.03	1.9	0.02	1.7	0.02	1.3	0.02	1.1	0.03	1.9
0.04	2.0	0.03	2.1	0.02	1.4	0.02	1.2	0.01	0.5	0.02	1.5
0.12	6.3	0.09	6.5	0.07	5.6	0.09	6.5	0.11	8.0	0.10	6.4
0.03	1.4	0.01	0.5	0.01	0.4	0.01	0.3	0.01	0.5	0.01	0.7
0.02	1.1	0.02	1.1	0.01	0.6	0.01	0.9	0.01	1.0	0.01	1.0
1.88	100.0	1.45	100.0	1.33	100.0	1.37	100.0	1.36	100.0	1.50	100.0
1.25	..	0.85	..	0.94	..	0.88	..	0.78	..	0.96	..

TABLE 6.8: AVERAGE AREA UNDER TEMPORARY CROPS BY CROP TYPE AND DEVELOPMENT REGION, 1991/92

TABLE 6.9: AVERAGE AREA SOWN PER CROP PRODUCER BY CROP TYPE AND DEVELOPMENT REGION, 1981/82 AND 1991/92

Crop	(hectares)																			
	Eastern				Central				Western				Far Western				Nepal			
	1981/82		1991/92		1981/82		1991/92		1981/82		1991/92		1981/82		1991/92		1981/82		1991/92	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
PER HECTARE OF ARABLE LAND																				
Cereal grains	1.80	1.55	1.42	1.15	1.25	1.13	1.33	1.12	1.09	1.08	1.49	1.23								
Rice	1.98	1.04	1.22	0.69	1.12	0.66	1.30	0.53	1.00	0.54	1.36	0.73								
Wheat	0.72	0.42	0.64	0.37	0.51	0.36	0.53	0.41	0.58	0.40	0.60	0.39								
Maize	0.97	0.56	0.72	0.43	0.42	0.37	0.58	0.36	0.53	0.23	0.62	0.41								
Millet	0.29	0.37	0.28	0.30	0.19	0.27	0.14	0.15	0.16	0.12	0.22	0.28								
Barley	0.15	0.22	0.21	0.17	0.20	0.20	0.10	0.19	0.13	0.10	0.15	0.17								
Legumes	0.43	0.33	0.57	0.32	0.16	0.20	0.26	0.28	0.24	0.27	0.38	0.29								
Tubers	0.39	0.13	0.32	0.12	0.12	0.07	0.11	0.06	0.11	0.06	0.23	0.10								
Cash crops	0.51	0.39	0.41	0.49	0.31	0.39	0.03	0.07	0.07	0.11	0.36	0.37								
Oilseeds	1.17	0.34	0.94	0.27	0.33	0.19	0.72	0.22	0.71	0.25	0.80	0.26								
Spices	0.11	0.16	0.07	0.06	0.33	0.06	0.05	0.04	0.08	0.04	0.14	0.09								
Vegetables	0.12	0.06	0.04	0.06	0.02	0.04	0.03	0.04	0.04	0.05	0.05	0.05								

NOTE: Figures refer to the average per holding with the crop.

NOTE: Figures refer to the average per holding with the crop.

TABLE 9:8: AVERAGE WEEKLY UNDER-EMPLOYMENT RATES BY SEX AND DEVELOPMENTAL REGION, 1981/82

TABLE 6.10: NUMBER AND PERCENT OF HOLDINGS WITH TEMPORARY CROPS BY CROP TYPE AND SIZE OF HOLDING
NEPAL, 1981/82 AND 1991/92

Crop	Size of holding								Total
	Less than 0.5 ha		0.5 ha - 2.0 ha		2.0 ha and over		Total		
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92			
NUMBER OF HOLDINGS ('000)									
Cereal grains	767.5	1,116.6	595.8	1,236.8	322.2	295.6	1,685.6	2,649.0	
Rice	380.3	743.2	386.6	1,020.5	254.9	273.8	1,021.7	2,037.5	
Wheat	243.1	608.2	253.6	804.5	152.8	223.1	649.5	1,635.8	
Maize	396.7	804.9	297.9	901.3	144.0	166.4	838.6	1,872.6	
Millet	356.6	460.2	246.3	529.4	106.2	76.2	709.0	1,065.8	
Barley	95.0	122.9	60.1	134.3	28.7	22.1	183.8	279.3	
Legumes	323.3	381.9	337.1	617.1	209.6	192.6	870.0	1,191.6	
Tubers	163.8	256.0	140.8	419.3	71.9	139.1	376.5	814.5	
Cash crops	49.3	27.1	88.1	85.0	104.6	57.0	242.0	169.2	
Oilseeds	52.0	304.5	108.6	528.3	120.7	180.5	281.4	1,013.2	
Spices	166.5	106.1	154.7	167.8	106.6	62.5	427.7	336.4	
Vegetables	121.1	295.9	123.5	361.2	79.6	106.0	324.2	763.1	
H'ings with crops	1,079.9	1,164.4	728.1	1,240.9	349.2	296.7	2,157.4	2,701.9	
Total land h'ings	1,099.7	1,166.0	734.5	1,241.1	351.6	296.8	2,185.7	2,703.9	
PERCENT									
Cereal grains	69.8	95.8	81.1	99.7	91.6	99.6	77.1	98.0	
Rice	34.6	63.7	52.6	82.2	72.5	92.3	46.7	75.4	
Wheat	22.1	52.2	34.5	64.8	43.5	75.2	29.7	60.5	
Maize	36.1	69.0	40.6	72.6	40.9	56.1	38.4	69.3	
Millet	32.4	39.5	33.5	42.7	30.2	25.7	32.4	39.4	
Barley	8.6	10.5	8.2	10.8	8.2	27.4	8.4	10.3	
Legumes	29.4	32.8	45.9	49.7	59.6	64.9	39.8	44.1	
Tubers	14.9	22.0	19.2	33.8	20.5	46.9	17.2	30.1	
Cash crops	4.5	2.3	12.0	6.9	29.7	19.2	11.1	6.3	
Oilseeds	4.7	26.1	14.8	42.6	34.3	60.8	12.9	37.5	
Spices	15.1	9.1	21.1	13.5	30.3	21.1	19.6	12.4	
Vegetables	11.0	25.4	16.8	29.1	22.7	35.7	14.8	28.2	
Total land h'ings	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

NOTE: The figures refer to the average size used for holdings with the crop.

TABLE 6.11: AREA UNDER TEMPORARY CROPS BY CROP TYPE AND SIZE OF HOLDING, NEPAL, 1981/82 AND 1991/92

[illegible]

TABLE 6.12: AVERAGE AREA UNDER TEMPORARY CROPS BY CROP TYPE AND SIZE OF HOLDING, NEPAL, 1991/92

Crop	Less than 0.5 ha		0.5 ha - 2.0 ha		2.0 ha and over		Total	
	Av. area (ha)	Percent	Av. area (ha)	Percent	Av. area (ha)	Percent	Av. area (ha)	Percent
Cereal grains	20.35	67.83	1.31	82.21	4.11	76.30	1.20	80.00
Rice	0.11	0.35	0.52	32.91	2.37	44.00	0.55	36.50
Wheat	0.08	0.25	0.25	15.9	0.77	14.28	0.23	15.60
Maize	0.10	0.32	0.35	22.20	0.70	13.00	0.28	18.90
Millet	0.05	0.11	0.14	9.1	0.22	4.0	0.11	7.40
Barley	0.01	0.19	0.02	1.4	0.03	0.6	0.02	1.10
Legumes	0.02	0.06	0.12	7.31	0.56	10.50	0.13	0.80
Tubers	0.01	0.26	0.03	2.11	0.09	1.60	0.03	1.90
Cash crops	-	0.05	0.02	1.01	0.14	2.50	0.02	1.00
Oilseeds	0.02	0.06	0.09	5.1	0.40	7.40	0.10	0.60
Spices	-	0.06	0.01	0.50	0.05	1.00	0.01	0.70
Vegetables	0.01	0.03	0.01	0.90	0.04	0.70	0.01	0.10
Total temp crops	0.42	100.0	1.59	100.00	5.39	100.00	1.50	100.00
Av. holding size	0.25	1.10	0.98	0.00	3.67	0.00	0.96	0.00

NOTE: The figures refer to the average over all holdings.

Crop	Less than 0.5 ha		0.5 ha - 2.0 ha		2.0 ha and over		Total	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
Cereal grains	0.25	0.37	1.22	1.31	4.93	4.13	1.49	1.23
Rice	0.16	0.17	0.91	0.64	3.85	2.57	1.36	0.73
Wheat	0.13	0.15	0.49	0.39	1.53	1.02	0.60	0.39
Maize	0.15	0.15	0.59	0.49	2.00	1.25	0.62	0.41
Millet	0.08	0.12	0.25	0.34	0.59	0.58	0.22	0.28
Barley	0.06	0.08	0.17	0.20	0.41	0.45	0.15	0.17
Legumes	0.12	0.08	0.28	0.23	0.96	0.87	0.38	0.29
Tubers	0.07	0.05	0.20	0.10	0.63	0.18	0.23	0.10
Cash crops	0.08	0.09	0.18	0.24	0.63	0.70	0.36	0.37
Oilseeds	0.13	0.08	0.48	0.22	1.36	0.56	0.80	0.26
Spices	0.07	0.03	0.15	0.06	0.22	0.25	0.14	0.09
Vegetables	0.05	0.03	0.04	0.05	0.08	0.11	0.05	0.05

NOTE: The figures refer to the average area sown for holdings with the crop.

TABLE 6.14: NUMBER OF PRODUCERS AND AREA OF MAIN CEREAL CROPS BY DISTRICT, 1991/92

District	No. of land holdings ('000)	Rice		Wheat		Maize	
		Arable land ('000 ha)	Producers ('000)	Area sown ('000 ha)	Producers ('000)	Area sown ('000 ha)	Producers ('000)
EASTERN MOUNTAIN							
Taplejung	20.2	20.9	13.1	6.1	7.9	2.5	20.1
Sankhuwasabha	25.3	20.8	18.6	10.4	10.8	2.8	24.6
Solukhumbu	18.0	13.4	4.4	1.4	11.9	3.9	14.8
Total	63.5	55.0	36.1	17.9	30.6	9.3	59.5
EASTERN HILL							
Panchthar	29.9	30.8	18.3	9.9	9.9	2.5	29.4
Ilam	37.3	42.5	19.6	13.5	13.8	6.1	33.2
Dhankuta	24.5	24.0	12.9	8.8	6.0	1.7	24.3
Tehrathum	17.2	19.9	12.8	8.0	6.5	2.5	16.9
Bhojpur	35.7	34.0	21.6	14.8	8.6	1.9	35.5
Okhaldhunga	25.7	23.2	13.9	5.2	11.7	3.6	25.6
Khotang	39.4	31.6	26.5	9.5	18.5	4.3	39.1
Udayapur	35.3	27.9	23.4	16.1	6.0	1.8	31.1
Total	245.0	233.9	149.0	85.7	81.1	24.4	235.0
EASTERN TERAI							
Jhapa	73.6	95.8	62.4	91.5	22.4	6.8	57.1
Morang	76.7	105.6	66.2	100.6	34.4	21.1	32.5
Sunsari	42.5	60.9	34.8	54.2	26.5	20.1	8.8
Saptari	63.8	77.5	61.2	74.9	45.7	20.4	1.6
Siraha	63.4	71.0	58.8	64.2	43.1	16.4	7.2
Total	320.0	410.8	283.4	385.4	172.2	84.7	107.1
CENTRAL MOUNTAIN							
Dolakha	34.1	20.6	23.4	4.5	28.8	8.1	33.9
Sindhupalchok	49.2	28.2	36.0	10.6	29.4	6.8	48.6
Rasuwa	6.4	5.6	2.7	1.4	3.1	1.1	6.3
Total	89.8	54.4	62.2	16.5	61.2	15.9	88.7
CENTRAL HILL							
Sindhuli	35.8	26.8	23.1	12.2	18.2	3.0	35.1
Ramechhap	33.7	27.5	19.7	5.8	18.9	4.6	32.9
Kavre	53.7	39.9	33.8	12.4	33.2	11.0	52.2
Lalitpur	28.8	9.8	21.1	4.3	19.7	3.8	21.1
Bhaktapur	22.6	6.7	22.0	5.0	21.2	4.6	11.1
Kathmandu	45.1	11.9	35.8	7.3	30.3	5.6	32.4
Nuwakot	42.9	30.5	34.6	16.2	25.0	8.4	41.8
Dhading	48.2	33.5	33.8	15.3	11.3	2.9	47.0
Makwanpur	48.0	29.8	18.8	8.5	10.0	3.2	46.5
Total	359.1	216.1	242.6	87.0	177.8	47.1	319.9

NOTE: The figures refer to the average area sown for holdings with the crop.

TABLE 6.14 (cont.): NUMBER OF PRODUCERS AND AREA OF MAIN CEREAL CROPS BY DISTRICT, 1991/92

District	No. of land holdings	Rice		Wheat		Maize	
		Arable land	Producers	Area sown	Producers	Area sown	Producers
		('000 ha)	('000)	('000 ha)	('000)	('000 ha)	('000)
CENTRAL TERAI							
Dhanusha	68.0	67.9	64.2	58.4	49.2	17.5	5.1
Mahottari	57.5	58.8	54.0	53.8	42.6	19.0	6.9
Sarlahi	62.2	70.0	54.3	55.2	36.0	19.1	18.0
Rautahat	62.1	62.0	54.7	54.6	40.0	18.8	11.0
Bara	52.6	57.7	47.9	50.2	37.7	21.5	9.1
Parsa	39.3	41.0	37.1	41.4	30.5	16.6	2.5
Chitwan	53.0	40.1	38.4	32.2	19.3	7.7	45.2
Total	394.8	397.5	350.5	345.8	255.5	120.1	97.8
WESTERN MOUNTAIN							
Manang	0.9	0.7	0.3	0.3	0.6	0.2	0.3
Mustang	2.5	1.0	0.1	0.1	0.2	0.0	0.4
Total	3.4	1.7	0.4	0.4	0.8	0.2	0.6
WESTERN HILL							
Gorkha	45.3	29.0	33.8	13.8	11.0	2.3	42.5
Lamjung	28.0	16.7	24.2	10.0	5.3	0.6	27.6
Tanahu	44.9	32.0	32.9	15.6	11.1	2.6	42.7
Syangja	51.0	25.7	34.3	10.6	20.6	3.5	50.5
Kaski	43.8	22.6	31.9	14.5	15.2	3.6	40.2
Myagdi	18.8	12.4	10.0	3.0	10.9	2.7	18.6
Parbat	26.1	13.3	20.6	6.4	13.2	2.1	25.7
Baglung	42.4	24.1	23.3	6.9	27.0	6.8	41.6
Gulmi	47.8	28.7	23.2	8.1	26.6	7.4	47.3
Palpa	38.1	28.7	21.1	8.8	18.9	6.7	37.2
Arghakhanchi	33.3	16.7	17.8	5.0	29.5	9.3	33.1
Total	419.5	249.9	273.2	102.7	189.5	47.8	407.1
WESTERN TERAI							
Nawalparasi	63.8	67.6	52.5	45.7	36.9	21.2	24.7
Rupandehi	66.3	69.1	64.8	63.0	51.3	21.1	11.8
Kapilbastu	50.3	85.9	48.6	79.2	41.9	24.6	4.5
Total	180.4	222.7	165.9	187.9	130.1	66.9	40.9
MID-WESTERN MOUNTAIN							
Dolpa	4.6	3.3	0.9	0.1	2.2	0.4	3.3
Jumla	13.0	8.2	11.0	2.0	10.7	1.5	11.5
Kalikot	15.8	5.7	14.4	2.0	15.1	3.1	14.3
Mugu	6.7	2.9	4.7	0.6	4.9	1.1	1.4
Humla	5.9	2.9	3.1	0.3	4.2	0.6	1.6
Total	45.9	23.0	34.1	5.0	37.1	6.6	32.2

cont.

TABLE 6.14 (cont.): NUMBER OF PRODUCERS AND AREA OF MAIN CEREAL CROPS BY DISTRICT, 1991/92

District	No. of land holdings	Arable land	Rice Producers	Rice Area sown	Wheat Producers	Wheat Area sown	Maize Producers	Maize Area sown
(ad 000)	(000)	(000 ha)	(000)	(000 ha)	(000)	(000 ha)	(000)	(000 ha)
MID-WESTERN HILL								
Pyuthan	1.2	31.8	25.1	18.4	5.4	26.0	8.9	31.4
Rolpa	2.3	32.1	18.7	14.4	2.1	28.4	9.3	12.9
Rukum	0.8	28.0	10.8	12.1	1.6	25.4	27.0	8.1
Salyan	0.1	29.9	20.8	21.7	7.5	29.6	29.2	10.8
Surkhet	1.1	34.5	23.8	25.8	9.7	29.5	14.5	32.1
Dailekha	2.5	32.8	11.6	29.3	5.8	31.8	6.3	31.8
Jajarkot	2.2	20.0	11.7	14.1	3.4	18.8	7.8	19.3
Total	8.7	209.1	122.6	135.9	35.6	189.3	70.0	201.8
MID-WESTERN TERAI								
Dang	0.0	47.3	51.1	29.0	26.8	30.1	17.7	44.3
Banke	4.0	35.2	47.4	28.6	31.4	24.8	15.4	12.2
Bardiya	0.0	30.8	47.9	21.4	32.3	19.4	12.8	21.8
Total	4.0	113.4	146.4	78.9	90.4	74.3	45.9	78.3
FAR WESTERN MOUNTAIN								
Bajura	2.2	16.7	9.9	15.2	4.0	15.6	5.4	12.0
Bajhang	1.5	23.7	8.5	19.4	3.5	23.0	5.4	19.1
Darchula	2.0	16.8	9.8	12.2	2.4	16.2	5.8	16.1
Total	5.7	57.2	28.2	46.8	9.9	54.8	16.6	47.2
FAR WESTERN HILLS								
Achham	0.7	38.1	10.3	34.7	5.2	37.7	7.1	31.0
Doti	0.7	29.2	10.9	27.4	5.9	28.7	7.5	22.5
Dadheldhura	0.3	17.5	10.9	16.0	5.7	17.1	7.4	14.0
Baitadi	1.0	33.8	16.5	26.5	7.5	33.7	12.2	32.1
Total	2.7	118.6	48.6	104.7	24.3	117.2	34.2	99.6
FAR WESTERN TERAI								
Kailali	8.1	49.4	67.4	43.3	56.6	34.1	20.8	32.0
Kanchanpur	2.4	34.8	44.9	31.1	30.6	30.2	22.3	24.6
Total	10.5	84.2	112.3	74.3	87.2	64.2	43.2	56.6
Other districts								
Bara	2.7	22.2	11.0	22.0	11.0	22.0	11.0	22.0
Chitwan	2.1	22.2	11.0	22.0	11.0	22.0	11.0	22.0
Palpa	2.1	22.2	11.0	22.0	11.0	22.0	11.0	22.0
Paragana	2.1	22.2	11.0	22.0	11.0	22.0	11.0	22.0
Pythandaha	2.1	22.2	11.0	22.0	11.0	22.0	11.0	22.0
Surkhet	2.1	22.2	11.0	22.0	11.0	22.0	11.0	22.0
Total	12.2	134.8	65.0	134.0	65.0	134.0	65.0	134.0

TABLE 6.15: MIXED CROPPING, TEMPORARY CROPS, ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

('000 hectares)

	Single crop cultivated alone	Mixed crop (a)	Total crop area sown	Percent mixed crop
NEPAL				
ECOLOGICAL BELTS				
Mountain	231.6	30.2	261.8	11.5
Hill	1,402.3	135.9	1,538.2	8.8
Terai	2,144.8	118.1	2,262.9	5.2
DEVELOPMENT REGIONS				
Eastern	1,121.5	59.0	1,180.5	5.0
Central	1,141.6	82.3	1,223.9	6.7
Western	747.9	52.3	800.2	6.5
Mid Western	437.6	66.1	503.7	13.1
Far Western	330.1	24.6	354.7	6.9
NEPAL	3,778.7	284.3	4,063.0	7.0

(a) Crops grown simultaneously with other temporary or permanent crops.

TABLE 6.16: CROPPING INTENSITY (a) BY ECOLOGICAL BELT, 1981/82 AND 1991/92

	Mountain	Hill	Terai	Nepal
1981/82				
Arable land ('000 ha)	115.7	856.5	1,315.3	2,287.5
Land under temporary crops ('000 ha)	113.5	840.5	1,296.2	2,250.2
Temporary crops sown ('000 ha)	144.3	1,056.6	2,114.2	3,315.0
Cropping intensity	1.25	1.23	1.61	1.45
1991/92				
Arable land ('000 ha)	162.3	871.3	1,289.7	2,323.4
Land under temporary crops ('000 ha)	158.7	848.2	1,277.7	2,284.6
Temporary crops sown ('000 ha)	261.8	1,538.2	2,262.9	4,063.0
Cropping intensity	1.61	1.77	1.75	1.75

(a) Area of temporary crops on arable land divided by area of arable land.

TABLE 6.17: CROPPING INTENSITY (a) BY DEVELOPMENT REGION, 1981/82 AND 1991/92

		Development region					Nepal
District	Percent Mixed crop	Eastern	Central	Western	Mid West.	Far West.	
1981/82							
Arable land ('000 ha)							
Land under temporary crops ('000 ha)							
Temporary crops sown ('000 ha)							
Cropping intensity							
1991/92							
Arable land ('000 ha)							
Land under temporary crops ('000 ha)							
Temporary crops sown ('000 ha)							
Cropping intensity							
(a) Area of temporary crops on arable land divided by area of arable land							

TABLE 6.18: CROPPING INTENSITY (a) BY SIZE OF HOLDING, NEPAL, 1991/92

[illegible]

CHAPTER 7

PERMANENT CROPS

Permanent crops are crops with a greater than one year growing cycle. For the purpose of the 1991/92 Agricultural Census, permanent crops cover all fruit trees, together with tea. Some additional information is shown for thatch, fodder trees and bamboo.

Compact and scattered crops (Tables 7.1, 7.9)

Although permanent crops have become more common in Nepal in recent years, the area under compact plantation remains very small - only 29,400 hectares in 1991/92. This is little changed from ten years earlier. However, the number of holdings with a compact permanent crop plantation increased over the ten year period - from 148,500 (7 percent of all holdings) to 281,400 (10 percent of all holdings). The average plantation area for these holdings in 1991/92 was only 0.1 hectares.

Planting of fruit trees scattered around the holding has become more common in recent years. In 1991/92, nearly one half of all holdings had some permanent crops on their

holding. Well over one half of all orange, apple and many other fruit trees are scattered trees rather than being in a compact plantation. However, the majority of mangoes and pineapples are grown in compact plantations - 65 percent of mango trees and 86 percent of pineapple trees.

Ecological belt comparisons (Tables 7.1, 7.3, 7.6)

Three quarters of the permanent crop plantation area is in the Terai belt (22,000 hectares). Some 17 percent of holdings in the Terai have permanent crop plantations.

In the Hill belt, there are 6,700 hectares under compact crop plantation, with some 6 percent of holdings having such plantations. There are less than 1,000 hectares of permanent crop plantations in the Mountain belt; these are operated by only 5 percent of holdings.

While the majority of the compact fruit plantations are in the Terai, scattered trees are common in all areas. Over one half of all holdings in the Hill and Mountain belts had some fruit trees in 1991/92 - this is actually higher than in the Terai (42 percent).

The main fruit crops in the Terai are mangoes, bananas and other tropical fruits (guavas, jackfruit, lychees and papaya). Some 30 percent of Terai holdings have some mangoes (scattered or compact).

The main fruit crops in the Hill belt are oranges and bananas. Some 18 percent of holdings have some orange trees (scattered or compact), while 25 percent have some banana trees.

FIGURE 7.1
COMPACT PERMANENT CROP PLANTATIONS, 1991/92
('000 ha)

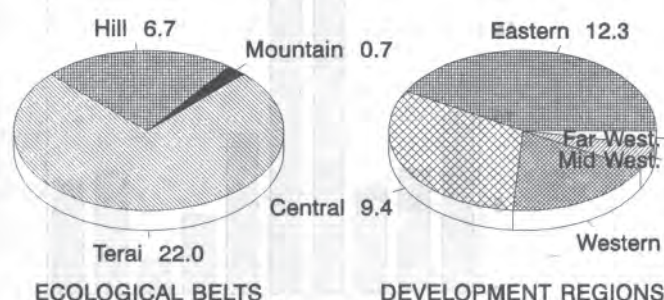
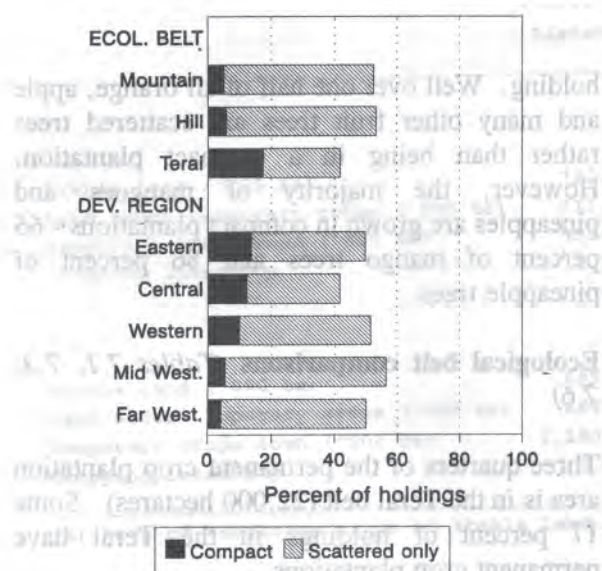


FIGURE 7.2
HOLDINGS WITH PERMANENT CROPS
1991/92



Oranges and bananas are grown in the lower areas of the Mountain belt. Apples and plums are also common - 10 percent of holdings have some apple trees while 17 percent have some plum trees.

Development region comparisons (Tables 7.2, 7.4, 7.7)

The majority of the permanent crop plantations are in the east of the country - Eastern Development Region (12,300 hectares) and Central Development Region (9,400 hectares) contain nearly three quarters of the country's permanent crop area.

While compact fruit plantations are not common in the west of the country, farmers increasingly have some scattered fruit trees. Over one half of all holdings in the three western regions have some permanent crops - more, in fact, than in the two eastern-most regions.

Oranges, mangoes and bananas are grown widely across all regions. Pineapples are mainly found

in the three eastern-most regions. Apples are an important crop in Mid Western Region and can also be found in other regions.

Comparison of small and large holdings
(Tables 7.5, 7.8)

Compact permanent crop plantations are more common amongst larger holdings - 29 percent of holdings of size 2.0 hectares and above have a compact permanent crop plantation, compared with only 4 percent of holdings less than 0.5 hectares in size.

However, scattered fruit crops are increasingly common amongst small holdings - in all, 40 percent had fruit trees on their holding in 1991/92. Almost 9 percent had some orange trees, the same percentage had mango trees, and 16 percent had banana trees.

Productive/non-productive trees (Table 7.10)

Of the 29,400 hectares of compact permanent crops, 21,800 hectares are under fruit bearing trees and 7,600 contain trees not yet of fruit bearing age. Approximately 40 percent of

FIGURE 7.3
HOLDINGS WITH PERMANENT CROPS
TYPE OF CROP, NEPAL, 1991/92

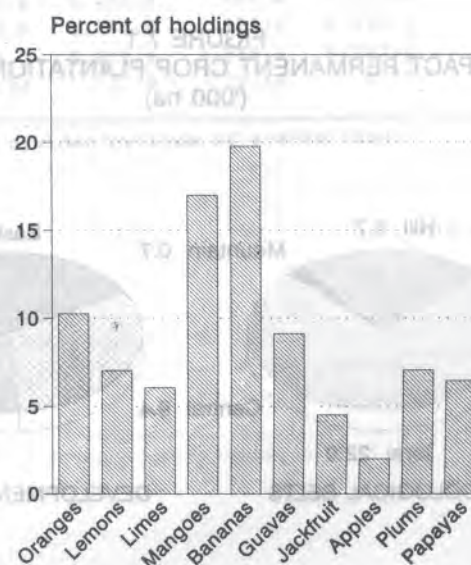


FIGURE 7.4
COMPACT AND SCATTERED TREES
NEPAL, 1991/92

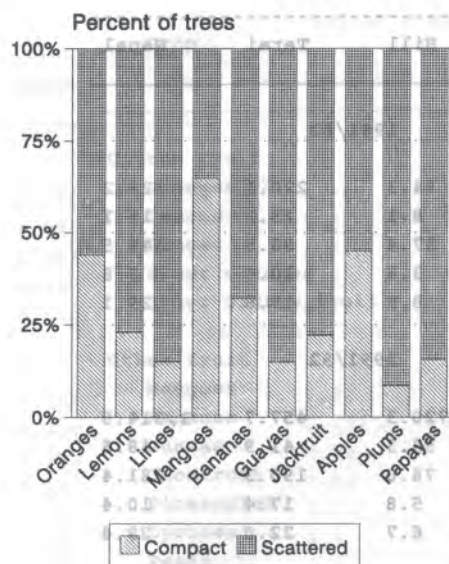
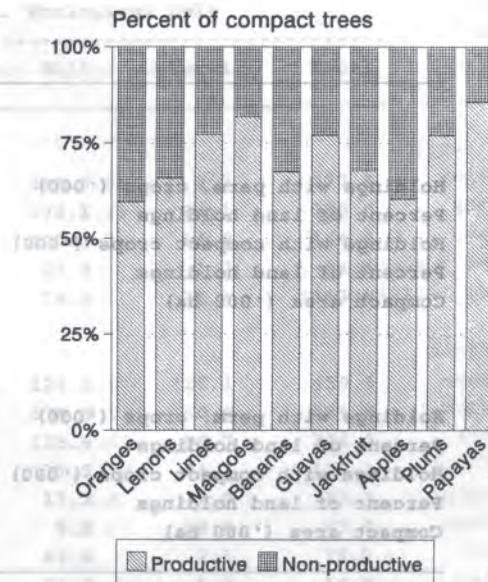


FIGURE 7.5
PRODUCTIVE AND NON-PRODUCTIVE TREES
COMPACT CROPS, NEPAL, 1991/92



orange and apple trees are not yet bearing fruit, while only 18 percent of mango trees are not yet productive.

Thatch, fodder trees and bamboo (Table 7.11)

There were a total of 66,400 hectares of thatch on agricultural holdings in 1991/92. The bulk of this was in the Hill belt (60,400 hectares). Approximately one in seven holdings in the Hill

belt have some land under thatch.

Fodder trees are common in hill and mountain areas, usually scattered around the holding. Over one third of holdings in the Hill and Mountain belts had some fodder trees on their holding in 1991/92.

There were 6,000 hectares of bamboo on holdings throughout the country in 1991/92.

1991/92					
22.5	37.8	22.5	66.8	22.1	Holdings with some crops ('000)
17.1	21.8	10.7	16.8	17.3	Percent of land holdings
14.8	11.7	14.1	16.3	11.9	Holdings with compact crops ('000)
8.8	8.8	8.1	2.9	8.0	Percent of land holdings
12.1	1.0	0.8	3.9	8.8	Compact area ('000 ha)
1991/92					
1,314.8	100.0	207.4	11.1	323.1	Holdings with some crops ('000)
18.8	20.0	26.4	81.8	41.7	Percent of land holdings
201.4	11.1	20.2	80.8	183.7	Holdings with compact crops ('000)
10.4	4.3	2.2	2.2	12.3	Percent of land holdings
22.8	0.8	1.2	2.8	2.8	Compact area ('000 ha)

TABLE 7.1: NUMBER OF HOLDINGS WITH PERMANENT CROPS AND COMPACT AREA BY
ECOLOGICAL BELT, 1981/82 AND 1991/92

	Ecological belt			
	Mountain	Hill	Terai	Nepal
1981/82				
Holdings with perm. crops ('000)	24.8	84.3	220.1	329.2
Percent of land holdings	12.6	8.1	23.2	15.1
Holdings with compact crops ('000)	12.6	37.4	98.5	148.5
Percent of land holdings	6.4	3.6	10.4	6.8
Compact area ('000 ha)	0.8	8.5	19.8	29.1
1991/92				
Holdings with perm. crops ('000)	136.5	720.3	457.7	1,314.5
Percent of land holdings	52.5	53.3	41.9	48.6
Holdings with compact crops ('000)	13.1	78.0	190.3	281.4
Percent of land holdings	5.0	5.8	17.4	10.4
Compact area ('000 ha)	0.7	6.7	22.0	29.4

TABLE 7.2: NUMBER OF HOLDINGS WITH PERMANENT CROPS AND COMPACT AREA BY DEVELOPMENT REGION, 1981/82
AND 1991/92

	Development region					
	Eastern	Central	Western	Mid West.	Far West.	Nepal
1981/82						
Holdings with perm. crops ('000)	99.1	96.5	66.1	29.5	37.9	329.2
Percent of land holdings	17.2	13.7	14.6	10.7	21.8	15.1
Holdings with compact crops ('000)	51.9	44.3	26.9	14.1	11.3	148.5
Percent of land holdings	9.0	6.3	5.9	5.1	6.5	6.8
Compact area ('000 ha)	9.6	14.0	3.9	0.5	1.0	29.1
1991/92						
Holdings with perm. crops ('000)	313.3	352.2	311.1	207.8	130.0	1,314.5
Percent of land holdings	49.9	41.7	51.6	56.4	50.0	48.6
Holdings with compact crops ('000)	86.4	103.7	60.0	20.2	11.1	281.4
Percent of land holdings	13.8	12.3	9.9	5.5	4.3	10.4
Compact area ('000 ha)	12.3	9.4	5.4	1.5	0.8	29.4

TABLE 7.3: NUMBER OF HOLDINGS WITH PERMANENT CROPS BY CROP TYPE AND ECOLOGICAL BELT, 1991/92

('000)

Crop	Development region				Ecological belt		Nepal
	Far West	Mid West	Central	Mountain	Hill	Terai	
Citrus fruit							
Oranges	277.5	49.2	5.02	29.9	244.9	2.7	277.5
Lemons	190.0	32.8	40.0	16.9	138.1	35.1	190.0
Limes	164.2	18.1	28.2	18.0	120.3	25.9	164.2
Sweet oranges	24.4	3.2	2.2	1.7	21.4	1.2	24.4
Other citrus fruit	113.9	22.3	22.3	15.9	76.6	21.4	113.9
Other fruit							
Mangoes	459.5	46.3	89.2	4.9	128.5	326.1	459.5
Bananas	534.9	101.2	122.2	45.7	338.3	150.9	534.9
Guavas	246.5	40.0	63.2	14.2	135.6	96.7	246.5
Jackfruit	122.1	10.7	31.2	0.3	37.5	84.3	122.1
Pineapples	25.7	0.2	7.7	1.4	17.3	7.0	25.7
Lychees	43.0	1.6	6.2	0.9	9.3	32.8	43.0
Pears	75.7	10.2	24.4	11.6	61.9	2.1	75.7
Apples	54.4	23.6	9.1	26.7	27.7	0.0	54.4
Plums	190.2	42.8	42.0	43.8	132.1	14.2	190.2
Papayas	174.3	27.6	24.0	1.3	104.2	68.9	174.3
Pomegranate	22.9	4.1	4.1	3.6	13.2	6.1	22.9
Other fruit	149.5	26.2	19.2	26.7	40.9	82.0	149.5
Tea							
Tea	7.6	1.0	1.0	2.4	4.6	0.6	7.6
Holdings with perm. crops							
Holdings with compact crops	281.4	60.0	13.1	78.0	190.3	281.4	281.4
Total land holdings	2,703.9	171.1	259.9	1,351.3	1,092.8	2,703.9	2,703.9

TABLE 7.4: NUMBER OF HOLDINGS WITH PERMANENT CROPS BY CROP TYPE AND DEVELOPMENT REGION,

Ecological belt							
Crop	Development region						Nepal
	Western	Central	Mid West.	Far West.			
1981/82							
Citrus fruit							
Oranges	45.5	60.4	90.2	49.9	31.4	277.5	
Lemons	42.2	48.1	40.0	35.8	23.9	190.0	
Limes	26.3	45.5	58.2	18.1	16.0	164.2	
Sweet oranges	1.3	3.2	2.9	3.0	14.0	24.4	
Other citrus fruit	20.5	22.0	22.3	29.4	19.7	113.9	
1991/92							
Other fruit							
Mangoes	142.0	145.5	89.5	46.3	36.2	459.5	
Bananas	137.2	117.5	122.5	101.2	56.4	534.9	
Guavas	47.6	57.0	63.9	40.0	37.9	246.5	
Jackfruit	36.1	37.1	31.2	10.7	7.1	122.1	
Pineapples	5.3	11.3	7.7	0.9	0.5	25.7	
Lychees	19.9	13.6	6.9	1.6	1.0	43.0	
Pears	18.0	19.8	24.4	10.5	3.1	75.7	
Apples	8.5	7.6	9.1	23.6	5.5	54.4	
Plums	29.1	43.7	45.0	45.8	26.5	190.2	
Papayas	25.9	43.7	54.0	27.6	23.1	174.3	
Pomegranate	4.4	6.6	4.1	4.1	3.7	22.9	
Other fruit	69.0	23.3	19.3	26.5	11.4	149.5	
TABLE 7.2: NUMBER OF HOLDINGS WITH PERMANENT CROPS AND COMPACT AREA BY DEVELOPMENT REGION, 1981/82							
Tea	4.7	0.2	2.6	0.1	0.1	7.6	
1991/92							
Holdings with perm. crops	313.3	352.2	311.1	207.8	130.0	1,314.5	
Holdings with compact crops	86.4	103.7	60.0	20.2	11.1	281.4	
Total land holdings	628.5	843.7	603.3	368.3	260.1	2,703.9	

TABLE 7.2: NUMBER OF HOLDINGS WITH PERMANENT CROPS AND COMPACT AREA BY DEVELOPMENT REGION, 1981/82

	Western	Central	Western	Mid West	Far West	Nepal
1981/82						
Holdings with perm. crops ('000)	99.1	96.5	66.1	39.8	37.9	329.2
Percent of land holdings	17.2	13.7	14.6	10.7	11.3	15.1
Holdings with compact crops ('000)	51.9	44.3	26.9	14.1	11.3	148.8
Percent of land holdings	9.0	6.3	5.9	5.1	6.5	6.8
Compact area ('000 ha)	9.6	14.0	3.9	8.5	1.0	39.1
1991/92						
Holdings with perm. crops ('000)	313.3	352.2	311.1	207.8	130.0	1,314.5
Percent of land holdings	49.9	41.7	51.6	56.4	50.0	48.6
Holdings with compact crops ('000)	86.4	103.7	60.0	20.2	11.1	281.4
Percent of land holdings	13.8	12.3	9.9	5.5	4.3	10.4
Compact area ('000 ha)	12.9	9.4	5.4	1.5	0.8	29.4

TABLE 7.5: NUMBER OF HOLDINGS WITH PERMANENT CROPS BY CROP TYPE AND SIZE OF HOLDING, NEPAL, 1991/92

('000)

Crop	Size of holding			Total
	Less than .5 ha	.5 - 2 ha	2 ha and over	
Citrus fruit				
Oranges	104.8	150.3	22.3	277.5
Lemons	59.5	104.9	25.6	190.0
Limes	50.9	93.0	20.3	164.2
Sweet orange	10.1	12.0	2.2	24.4
Other citrus fruit	42.8	57.3	13.9	113.9
Other fruit				
Mangoes	103.1	238.7	117.6	459.5
Bananas	183.3	287.4	64.2	534.9
Guavas	79.9	131.9	34.6	246.5
Jackfruit	25.2	63.4	33.5	122.1
Pineapples	5.4	15.4	4.9	25.7
Lychees	7.7	20.4	14.9	43.0
Pears	23.1	43.8	8.8	75.7
Apples	21.1	28.4	4.9	54.4
Plums	73.3	99.0	17.9	190.2
Papayas	63.2	90.1	21.0	174.3
Pomegranate	7.8	11.0	4.0	22.9
Other fruit	45.3	73.1	31.1	149.5
Tea	1.4	4.1	2.1	7.6
Holdings with perm. crops	464.5	667.0	182.9	1,314.5
Holdings with compact crops	46.0	148.6	86.7	281.4
Total land holdings	1,166.0	1,241.1	296.8	2,703.9

TABLE 7.6: NUMBER OF PERMANENT CROP TREES BY CROP TYPE AND
ECOLOGICAL BELT, 1991/92

('000 trees)
(('000))

Crop	Crop	Ecological belt					Nepal
		Mountain	Hill	Terai	Nepal		
Citrus fruit							
Citrus fruit	Oranges	119.9	1,273.5	14.5	1,407.9		
Oranges	Lemons	43.2	419.5	83.1	545.9		277.5
Lemons	Limes	31.5	259.9	59.0	350.3		190.0
Limes	Sweet oranges	8.1	62.5	4.1	74.7		164.2
Sweet oranges	Other citrus fruit	38.6	169.7	88.9	297.2		24.4
Other citrus fruit							113.9
Other fruit							
Other fruit	Mangoes	8.6	350.1	2,012.6	2,371.3		
Mangoes	Bananas	229.2	3,176.2	2,190.0	5,595.4		459.5
Bananas	Guavas	43.5	414.3	265.0	722.8		534.9
Guavas	Jackfruit	0.4	66.9	159.7	226.9		246.8
Jackfruit	Pineapples	26.2	1,925.5	1,640.2	3,591.9		122.1
Pineapples	Lychees	1.9	22.7	84.8	109.4		25.7
Lychees	Pears	23.9	160.9	3.8	188.6		43.0
Pears	Apples	175.4	159.8	0.0	335.2		75.7
Apples	Plums	107.6	293.1	29.1	429.8		54.4
Plums	Papayas	7.3	259.8	227.9	495.1		190.2
Papayas	Pomegranate	8.4	32.8	15.9	57.2		174.3
Pomegranate	Other fruit	80.2	326.4	1,529.9	1,936.4		22.9
Other fruit							149.5
Tea							
Tea							7.6
Holdings with perma. crops							
Holdings with perma. crops		313.3	352.2	311.1	207.8		1,314.5
Holdings with temp. crops		86.0	103.8	60.0	130.0		281.4
Total land holdings		399.3	456.0	371.1	337.8		1,595.9

TABLE 7.7: NUMBER OF PERMANENT CROP TREES BY CROP TYPE AND DEVELOPMENT REGION, 1991/92

('000 trees)

Crop	Development region					Nepal
	Eastern	Central	Western	Mid West.	Far West.	
Citrus fruit						
Oranges	293.4	392.3	444.0	150.8	127.5	1,407.9
Lemons	167.8	114.7	109.1	89.7	64.6	545.9
Limes	56.5	87.8	137.8	36.3	31.9	350.3
Sweet oranges	2.6	11.4	8.6	7.3	44.8	74.7
Other citrus fruit	77.9	58.2	49.2	59.6	52.3	297.2
Other fruit						
Mangoes	739.6	428.1	939.9	168.3	95.5	2,371.3
Bananas	1,619.7	1,156.3	1,310.4	897.5	611.5	5,595.4
Guavas	153.3	160.3	181.7	117.5	110.0	722.8
Jackfruit	68.5	72.9	54.9	18.3	12.5	226.9
Pineapples	840.1	1,726.1	847.6	80.7	97.3	3,591.9
Lychees	52.6	34.6	15.6	4.4	2.3	109.4
Pears	39.1	46.5	68.2	27.0	7.7	188.6
Apples	85.5	40.0	68.1	112.6	29.0	335.2
Plums	64.6	91.7	95.7	110.4	67.4	429.8
Papayas	79.5	147.0	129.3	70.3	68.9	495.1
Pomegranate	11.8	12.8	12.2	11.3	9.0	57.2
Other fruit	1,620.0	92.6	86.1	96.6	41.0	1,936.4
Tea	..	..	..	..	..	..

TABLE 7.8: NUMBER OF PERMANENT CROP TREES BY CROP TYPE AND SIZE OF HOLDING, NEPAL, 1991/92
('000 trees)

Crop	Size of holding			Total
	Less than .5 ha	.5 - 2 ha	2 ha and over	
Citrus fruit				
Oranges	335.6	808.1	264.3	1,407.9
Lemons	132.5	302.9	110.5	545.9
Limes	87.9	201.6	60.8	350.3
Sweet oranges	26.5	37.6	10.6	74.7
Other citrus fruit	85.0	144.1	68.1	297.2
Other fruit				
Mangoes	245.6	928.3	1,197.5	2,371.3
Bananas	1,251.1	3,049.8	1,294.4	5,595.4
Guavas	185.7	395.1	142.0	722.8
Jackfruit	38.5	111.1	77.3	226.9
Pineapples	206.0	1,571.3	1,814.6	3,591.9
Lychees	14.1	46.4	48.9	109.4
Pears	46.2	116.8	25.7	188.6
Apples	77.9	181.2	76.1	335.2
Plums	144.4	233.4	51.9	429.8
Papayas	148.1	256.9	90.0	495.1
Pomegranate	15.4	27.1	14.7	57.2
Other fruit	218.4	749.8	968.3	1,936.4
Tea	..	..	..	..

TABLE 7.9: PERMANENT CROPS - COMPACT AREA AND NUMBER OF COMPACT AND SCATTERED TREES, NEPAL, 1981/82 AND 1991/92

Crop	Percent of total land	Number of trees ('000)	1981/82		1991/92		Total
			Compact area ('000 ha)	Scattered area ('000 ha)	Compact area ('000 ha)	Scattered area ('000 ha)	
Citrus fruit	0.001	2.2	0.6	2.4	0.4	0.2	1.0
Oranges	0.001	0.8	0.4	0.4	0.4	0.4	0.8
Lemons	0.001	1.0	0.4	0.4	0.4	0.4	0.8
Limes	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Sweet oranges	0.001	0.8	0.4	0.4	0.4	0.4	0.8
Other citrus fruit	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Other fruit	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Mangoes	0.001	0.8	0.4	0.4	0.4	0.4	0.8
Bananas	0.001	0.8	0.4	0.4	0.4	0.4	0.8
Guavas	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Jackfruit	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Pineapples	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Lychées	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Pears	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Apples	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Plums	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Papayas	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Pomegranate	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Other fruit	0.001	0.4	0.4	0.4	0.4	0.4	0.8
Tea	0.001	0.4	0.4	0.4	0.4	0.4	0.8

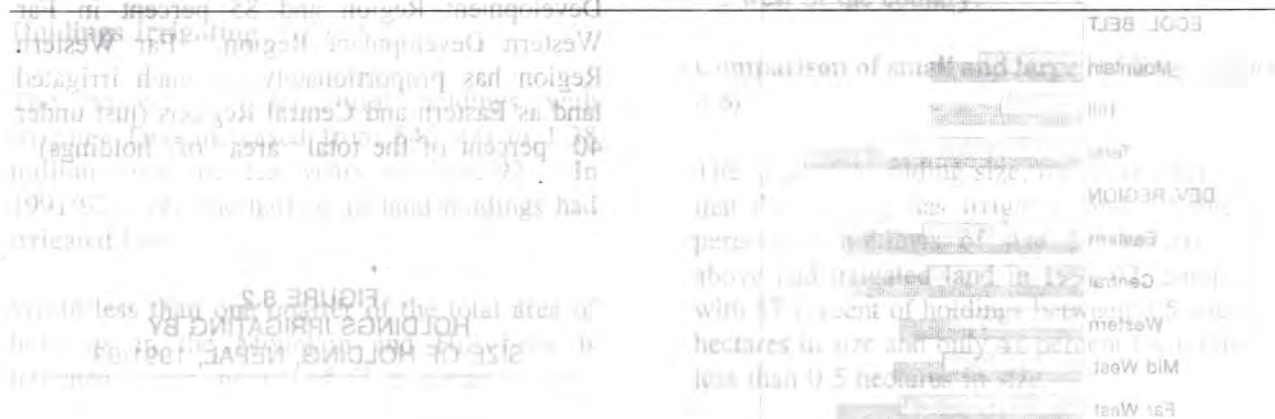
TABLE 7.10: COMPACT PERMANENT CROPS - PRODUCTIVE AND NON-PRODUCTIVE TREES, NEPAL, 1991/92

Crop	Number of trees ('000)			Percent of total		
	Product.	Non-prod.	Total	Product.	Non-prod.	Total
Citrus fruit						
Oranges	368.7	250.9	619.5	59.5	40.5	100.0
Lemons	81.9	42.8	124.7	65.7	34.3	100.0
Limes	40.4	11.8	52.3	77.3	22.7	100.0
Sweet oranges	216.7	7.2	13.9	48.0	52.0	100.0
Other citrus fruit	58.5	14.6	73.0	80.1	19.9	100.0
Other fruit						
Mangoes	1,259.7	278.7	1,538.4	81.9	18.1	100.0
Bananas	1,209.8	586.4	1,796.2	67.4	32.6	100.0
Guavas	82.7	24.7	107.4	77.0	23.0	100.0
Jackfruit	34.1	16.2	50.3	67.8	32.2	100.0
Pineapples	1,112.5	960.9	2,073.5	68.7	31.3	100.0
Lychees	28.6	16.2	44.8	63.8	36.2	100.0
Pears	10.7	23.5	34.3	31.3	68.7	100.0
Apples	90.9	60.0	150.9	60.2	39.8	100.0
Plums	28.0	8.4	36.5	76.9	23.1	100.0
Papayas	65.6	11.0	76.7	85.6	14.4	100.0
Pomegranate	10.7	6.4	17.2	62.5	37.5	100.0
Other fruit	433.5	867.5	1,301.1	33.3	66.7	100.0
Tea (a)	..	..	..	88.1	11.9	100.0
Compact area ('000 ha)	21.8	7.6	29.4	74.0	26.0	100.0

(a) Percent of area.

TABLE 7.11: PLANTATION FEATURES OF THATCH, FODDER TREES AND BAMBOO - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

	Total land holdings ('000)	Number of holdings ('000)			Compact area ('000 ha)		
		Thatch	Fodder tree	Bamboo	Thatch	Fodder tree	Bamboo
ECOLOGICAL BELTS							
Mountain	259.9	9.5	89.0	49.2	3.0	0.1	0.5
Hill	1,351.3	197.4	461.0	238.1	60.4	2.2	3.2
Terai	1,092.8	10.6	22.6	117.8	3.0	0.2	2.4
DEVELOPMENT REGIONS							
Eastern	628.5	41.8	147.9	176.3	13.7	0.9	3.8
Central	843.7	11.9	117.4	80.0	3.2	0.2	1.2
Western	603.3	109.1	185.1	101.1	34.1	1.0	0.7
Mid-western	368.3	41.6	107.6	43.9	11.0	0.3	0.3
Far Western	260.1	13.1	14.4	3.7	4.3	-	-
NEPAL	2,703.9	217.6	572.5	405.1	66.4	2.5	6.0



Land irrigated (Table 8.2)

Land under irrigation increased by 31 percent between 1981/82 and 1991/92 - from 583,900 hectares to 882,400 hectares. Some 64 percent of the total area of holdings was irrigated in 1991/92, up from 24 percent in 1981/82.

The increase in irrigated land has occurred across all areas of the country. In the Hill belt, the area

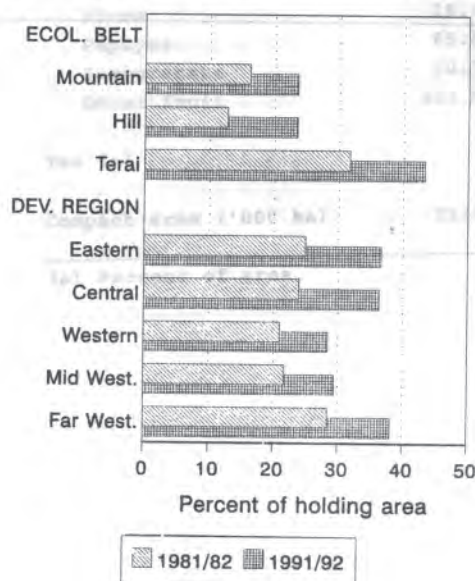
Percent of holdings

CHAPTER 8

IRRIGATION

For the purpose of the Agricultural Census, irrigation refers to purposively providing land with water, other than rain, for crop production. Natural flooding of land by rainfall or overflow of rivers is not considered as irrigation. Rainwater collected for later use is considered irrigation.

FIGURE 8.1
AREA OF LAND IRRIGATED
1981/82 AND 1991/92



Land irrigated (Table 8.2)

Land under irrigation increased by 51 percent between 1981/82 and 1991/92 - from 583,900 hectares to 882,400 hectares. Some 34 percent of the total area of holdings was irrigated in 1991/92, up from 24 percent in 1981/82.

The increase in irrigated land has occurred across all areas of the country. In the Hill belt, the area

of irrigated land more than doubled in the ten years to 1991/92 - from 119,200 hectares to 245,500 hectares. The increase in the Terai was 34 percent - from 444,900 hectares to 595,100 hectares. In 1981/82, 76 percent of irrigated land was in the Terai and 20 percent was in the Hill belt; in 1991/92, 67 percent of irrigated land was in the Terai and 28 percent was in the Hill belt.

Amongst development regions, increases in the area of land irrigated were greatest in the three western-most regions - 66 percent in Western Development Region, 70 percent in Mid Western Development Region and 85 percent in Far Western Development Region. Far Western Region has proportionately as much irrigated land as Eastern and Central Regions (just under 40 percent of the total area of holdings).

FIGURE 8.2
HOLDINGS IRRIGATING BY
SIZE OF HOLDING, NEPAL, 1991/92

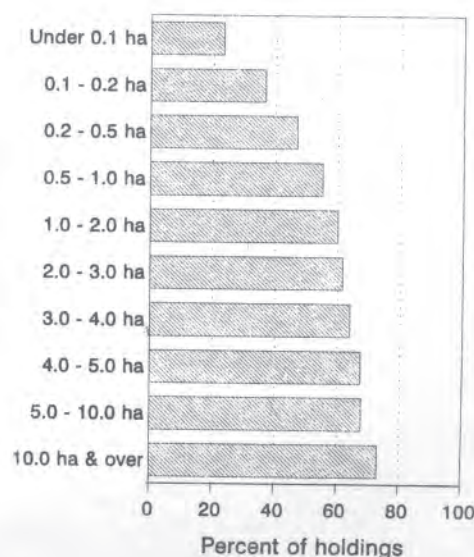
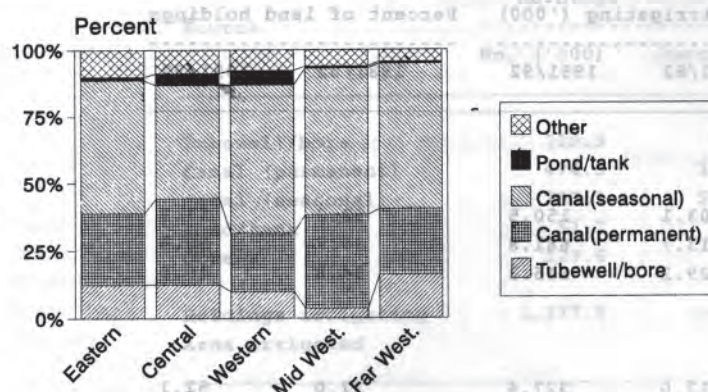


FIGURE 8.3
SOURCE OF IRRIGATION, NEPAL, 1991/92
PERCENT OF IRRIGATED LAND



Less than 30 percent of holding area in Western and Mid Western Regions are irrigated.

Holdings irrigating (Table 8.1)

The number of agricultural holdings with irrigated land increased from 845,800 to 1.38 million over the ten years to 1991/92. In 1991/92, over one half of all land holdings had irrigated land.

While less than one quarter of the total area of holdings in the Mountain and Hill belts is irrigated, over one half of all holdings in these

areas have some irrigated land. Holdings which irrigated in the Terai during 1991/92 had an average of 1.09 hectares of irrigated land, in comparison with 0.36 hectares in the Hill belt and 0.28 hectares in the Mountain belt.

Source of irrigation (Tables 8.3, 8.4, 8.5, 8.6, 8.7)

Canals are the most common method of irrigation. In 1991/92, over three quarters of land irrigated used perennial or seasonal water from canals, while 11 percent of land irrigated was supplied from tubewells or bores.

Almost all land irrigated via tubewells and bores was in the Terai - more in eastern regions than in the west of the country.

Comparison of small and large holdings (Table 8.8)

The larger the holding size, the more likely it is that the holding has irrigated land. Some 64 percent of holdings of size 2.0 hectares and above had irrigated land in 1991/92, compared with 57 percent of holdings between 0.5 and 2.0 hectares in size and only 41 percent for holdings less than 0.5 hectares in size.

TABLE 8.1: NUMBER AND PERCENT OF LAND HOLDINGS IRRIGATING - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1981/82 AND 1991/92

	Number irrigating ('000)		Percent of land holdings	
	1981/82	1991/92	1981/82	1991/92
ECOLOGICAL BELTS				
Mountain	103.1	150.5	52.3	57.9
Hill	413.7	681.8	39.7	50.5
Terai	329.1	545.3	34.8	49.9
DEVELOPMENT REGIONS				
Eastern	213.0	327.4	37.0	52.1
Central	263.9	421.7	37.4	50.0
Western	187.5	300.0	41.4	49.7
Mid Western	105.3	189.7	38.1	51.5
Far Western	76.0	138.8	43.6	53.4
NEPAL	845.8	1,377.5	38.7	50.9

TABLE 8.2: AREA AND PERCENT OF LAND IRRIGATED - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1981/82 AND 1991/92

	Area irrigated ('000 ha)		Percent of holding area	
	1981/82	1991/92	1981/82	1991/92
ECOLOGICAL BELTS				
Mountain	19.8	41.8	16.2	23.6
Hill	119.2	245.5	12.7	23.5
Terai	444.9	595.1	31.7	43.3
DEVELOPMENT REGIONS				
Eastern	192.2	287.0	24.9	36.6
Central	196.4	261.4	23.9	36.3
Western	97.2	161.0	21.0	28.4
Mid Western	56.1	95.6	21.7	29.4
Far Western	41.9	77.4	28.4	38.1
NEPAL	583.9	882.4	23.7	34.0

TABLE 8.3: NUMBER OF HOLDINGS IRRIGATING AND AREA IRRIGATED BY SOURCE OF IRRIGATION, NEPAL, 1991/92

Source of irrigation	Holdings irrigating		Area irrigated	
	No. ('000)	Percent	'000 ha	Percent
Tubewell/bore	119.9	8.7	99.8	11.3
Canal (permanent)	474.3	34.4	245.8	27.9
Canal (seasonal)	787.1	57.1	436.7	49.5
Pond/tank	51.7	3.8	25.4	2.9
Others	129.6	9.4	74.7	8.5
Holdings irrigating	1,377.5	100.0	882.4	100.0
Area irrigated				

Source of irrigation (a)	Ecological belt			
	Mountain	Hill	Terai	Nepal
Tubewell/bore	0.6	5.1	114.2	119.9
Canal (permanent)	55.6	259.7	159.0	474.3
Canal (seasonal)	102.6	439.0	245.5	787.1
Pond/tank	1.9	9.2	40.5	51.7
Others	11.5	42.5	75.6	129.6
Holdings irrigating	150.5	681.8	545.3	1,377.5

Source of irrigation (a)	PERCENT			
	Mountain	Hill	Terai	Nepal
Tubewell/bore	0.4	0.8	20.9	8.7
Canal (permanent)	37.0	38.1	29.2	34.4
Canal (seasonal)	68.2	64.4	45.0	57.1
Pond/tank	1.3	1.4	7.4	3.8
Others	7.7	6.2	13.9	9.4
Holdings irrigating	100.0	100.0	100.0	100.0

(a) Some holdings are included against more than one source.

(a) Some holdings are included against more than one source.

TABLE 8.5: AREA OF HOLDINGS IRRIGATED BY SOURCE OF IRRIGATION AND ECOLOGICAL BELT, 1991/92

Source of irrigation	Ecological belt			
	Mountain	Hill	Terai	Nepal
AREA IRRIGATED ('000 ha)				
Tubewell/bore	0.1	0.9	98.8	99.8
Canal (permanent)	13.7	84.1	148.0	245.8
Canal (seasonal)	24.5	144.0	268.2	436.7
Pond/tank	0.5	1.8	23.2	25.4
Others	3.0	14.8	56.9	74.7
Area irrigated	41.8	245.5	595.1	882.4
PERCENT				
Tubewell/bore	0.2	0.4	16.6	11.3
Canal (permanent)	32.9	34.2	24.9	27.9
Canal (seasonal)	58.6	58.7	45.1	49.5
Pond/tank	1.1	0.7	3.9	2.9
Others	7.2	6.0	9.6	8.5
Area irrigated	100.0	100.0	100.0	100.0

TABLE 8.6: NUMBER AND PERCENT OF HOLDINGS IRRIGATING BY SOURCE OF IRRIGATION AND DEVELOPMENT REGION, 1991/92

Source of irrigation (a)	Development region					
	Eastern	Central	Western	Mid West.	Far West.	Nepal
NUMBER OF HOLDINGS ('000)						
Tubewell/bore	39.9	42.7	23.2	4.7	9.5	119.9
Canal (permanent)	104.6	161.2	84.2	74.3	50.2	474.3
Canal (seasonal)	178.0	218.0	194.3	112.7	84.1	787.1
Pond/tank	9.7	20.3	17.4	2.6	1.7	51.7
Others	41.9	43.2	26.5	13.4	4.7	129.6
Holdings irrigating	327.4	421.7	300.0	189.7	138.8	1,377.5
PERCENT						
Tubewell/bore	12.2	10.1	7.7	2.5	6.8	8.7
Canal (permanent)	31.9	38.2	28.1	39.2	36.1	34.4
Canal (seasonal)	54.4	51.7	64.8	59.4	60.6	57.1
Pond/tank	3.0	4.8	5.8	1.4	1.2	3.8
Others	12.8	10.2	8.8	7.1	3.4	9.4
Holdings irrigating	100.0	100.0	100.0	100.0	100.0	100.0

(a) Some holdings are included against more than one source.

TABLE 8.7: AREA OF HOLDINGS IRRIGATED BY SOURCE OF IRRIGATION AND DEVELOPMENT REGION, 1991/92

Source of irrigation	Development region					
	Eastern	Central	Western	Mid West.	Far West	Nepal
AREA IRRIGATED ('000 ha)						
Tubewell/bore	35.5	32.3	16.0	3.4	12.5	99.8
Canal (permanent)	75.9	83.3	34.7	33.1	18.8	245.8
Canal (seasonal)	142.4	111.0	88.8	52.4	42.0	436.7
Pond/tank	3.8	11.6	8.9	0.6	0.6	25.4
Others	29.4	23.2	12.5	6.0	3.6	74.7
Area irrigated	287.0	261.4	161.0	95.6	77.4	882.4
PERCENT						
Tubewell/bore	12.4	12.4	9.9	3.6	16.1	11.3
Canal (permanent)	26.4	31.9	21.6	34.7	24.3	27.9
Canal (seasonal)	49.6	42.4	55.2	54.8	54.3	49.5
Pond/tank	1.3	4.4	5.5	0.6	0.7	2.9
Others	10.2	8.9	7.8	6.3	4.6	8.5
Area irrigated	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 8.8: NUMBER AND PERCENT OF LAND HOLDINGS IRRIGATING BY SIZE OF HOLDING, NEPAL, 1991/92

Size of holding	Holdings irrigating ('000)	Percent of holdings irrigating
Under 0.1 ha	40.2	23.2
0.1 - 0.2 ha	97.1	36.8
0.2 - 0.5 ha	341.8	46.9
0.5 - 1.0 ha	392.2	55.1
1.0 - 2.0 ha	317.5	60.0
2.0 - 3.0 ha	103.7	61.6
3.0 - 4.0 ha	38.1	64.0
4.0 - 5.0 ha	19.3	67.5
5.0 - 10.0 ha	21.7	67.8
10.0 ha & over	6.0	73.1
Total holdings irrigating	1,377.5	50.9

CHAPTER 9

USE OF INPUTS

The use of improved cultivation practices has increased in Nepal in recent years.

Rice (Tables 9.1, 9.2, 9.3)

Almost one half of rice growers in Nepal used chemical fertilizers during 1991/92. The area of rice crop fertilized was 683,000 hectares (46 percent of the total rice area). Nearly a quarter of rice producers used improved seeds, while 13 percent used pesticides.

Chemical fertilizers and improved seeds are more extensively used in the Terai. Some 66 percent of Terai rice growers used chemical fertilizers in 1991/92, compared with 35 percent in the Hill belt and 26 percent in the Mountain belt. Chemical fertilizers were applied to over one half of the rice crop in the Terai, compared with just

FIGURE 9.2
CHEMICAL FERTILIZERS, AREA TREATED
NEPAL, 1991/92

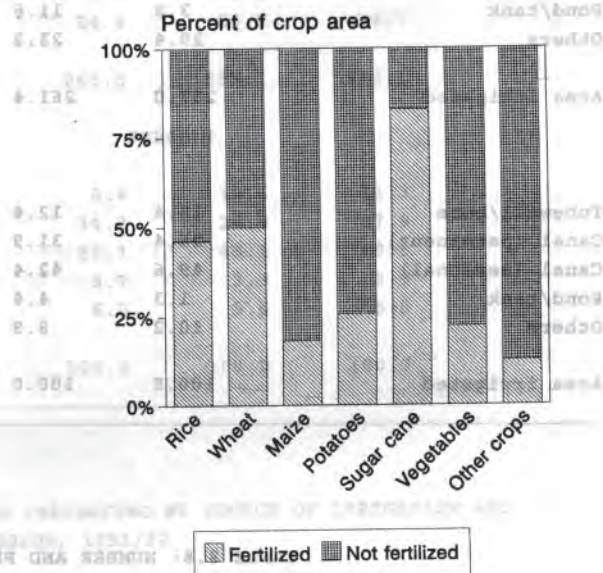
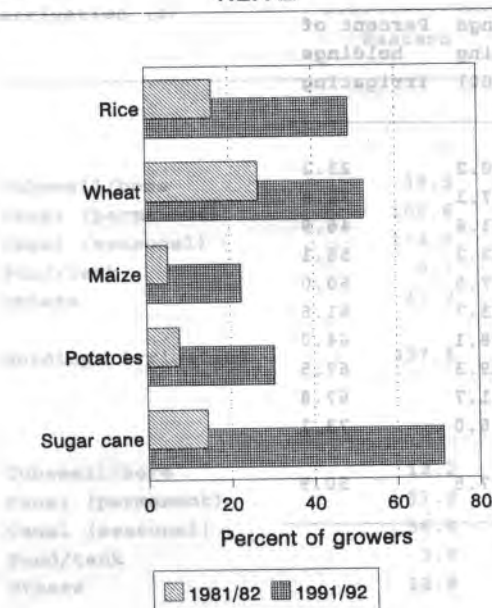


FIGURE 9.1
GROWERS USING CHEMICAL FERTILIZER
NEPAL



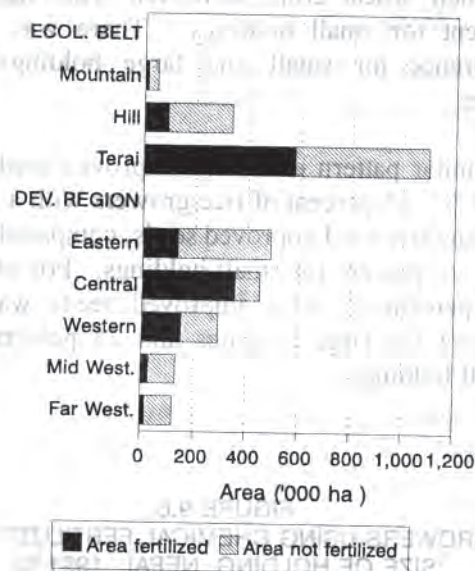
over one quarter in the other belts.

Improved seeds are also used more commonly in the Terai than elsewhere. In 1991/92, 37 percent of Terai rice growers used improved seeds, compared with only 14 percent in the Hill belt.

Improved cultivation practices for rice are most common in Central Development Region and least prevalent in the western regions. Nearly 88 percent of rice growers in Central Development Region used chemical fertilizers in 1991/92, with some 79 percent of the rice crop being fertilized. By contrast, only 10 percent of rice growers in Far Western Development Region used chemical fertilizers, with only 14 percent of the rice area being fertilized.

Improved seeds were also common in Central Region. In 1991/92, 35 percent of rice growers in Central Development Region used improved seeds, compared with 24 percent in Eastern Development Region, 18 percent in Western Region, 17 percent in the Mid West, and 13 percent in the Far West.

FIGURE 9.3
CHEMICAL FERTILIZERS, RICE AREA TREATED
1991/92



Wheat (Tables 9.1, 9.2, 9.4)

Some 52 percent of wheat growers used chemical fertilizers in 1991/92 on an area of 316,300 hectares, one half of the total wheat area. Nearly one third used improved seeds. Only 5 percent used pesticides.

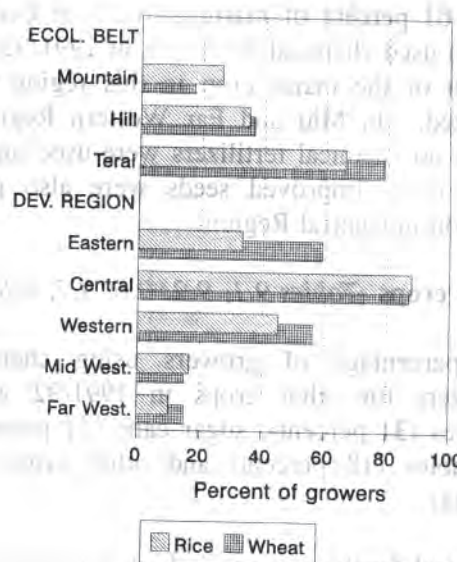
Chemical fertilizers are used more extensively in the Terai. Some 79 percent of Terai wheat growers used chemical fertilizers in 1991/92, compared with 37 percent of wheat producers in the Hill belt and 17 percent in the Mountain belt. Chemical fertilizers were applied to 70 percent of the wheat crop in the Terai, compared with 26 percent in the Hill belt and 14 percent in the Mountain belt.

Improved seeds are also used more commonly in the Terai. In 1991/92, 46 percent of Terai wheat growers used improved seeds, compared with only 22 percent in the Hill belt.

The use of chemical fertilizers is less common in the west of the country; some 87 percent of wheat growers in Central Region used chemical fertilizers in 1991/92, compared with only 15 percent in Mid and Far Western Regions. Four fifths of the wheat crop in Central Region was fertilized, compared with less than one fifth in the two western-most regions.

Over 40 percent of holdings in Eastern and Central Regions used improved seeds in 1991/92; the corresponding figures for Mid and Far Western Regions were 17 and 16 percent respectively.

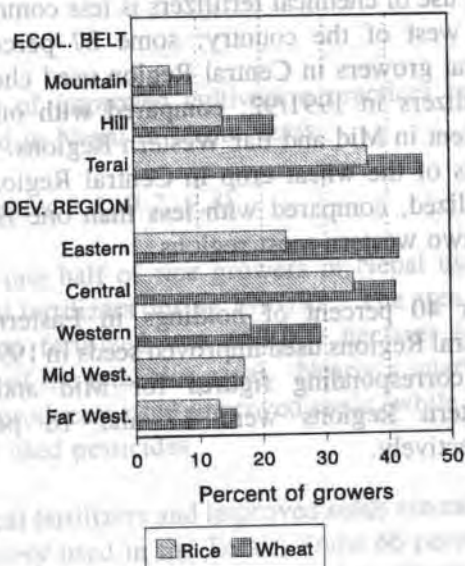
FIGURE 9.4
GROWERS USING CHEMICAL FERTILIZER
1991/92



Maize (Tables 9.1, 9.2, 9.5)

Some 23 percent of maize growers used chemical fertilizers in 1991/92 on an area of 140,500 hectares, 18 percent of the total maize area. Only 12 percent used improved seeds and less

FIGURE 9.5
GROWERS USING IMPROVED SEEDS
1991/92



than 3 percent used pesticides.

Some 61 percent of maize growers in Central Region used chemical fertilizers in 1991/92; 47 percent of the maize crop in this region was fertilized. In Mid and Far Western Regions, almost no chemical fertilizers were used on the maize crop. Improved seeds were also most common in Central Region.

Other crops (Tables 9.1, 9.2, 9.6, 9.7, 9.8)

The percentage of growers using chemical fertilizers for other crops in 1991/92 were: potatoes (31 percent), sugar cane (71 percent), vegetables (18 percent) and other crops (16 percent).

Chemical fertilizer usage is higher in the Terai for potatoes and vegetables. One half of the potato crop and 41 percent of the vegetable crop in Central Region was fertilized in 1991/92, compared with national figures of 26 percent for potatoes and 22 percent for vegetables.

Comparison of small and large holdings (Table 9.9)

Chemical fertilizers are more widely used by larger sized holdings. In 1991/92, 59 percent of rice growers with holdings of size 2.0 hectares or more used chemical fertilizers; for small holdings (less than 0.5 hectares in size), the figure was only 45 percent.

The difference was even more pronounced for wheat growers - 80 percent of wheat growers with large size of holding used chemical fertilizer on their wheat crop, compared with only 42 percent for small holdings. There was little difference for small and large holdings for maize.

A similar pattern exists for improved seeds. In 1991/92, 35 percent of rice growers with a large holding size used improved seeds, compared with only 20 percent for small holdings. For wheat, the percentage using improved seeds was 43 percent for large holdings and 24 percent for small holdings.

FIGURE 9.6
GROWERS USING CHEMICAL FERTILIZER BY
SIZE OF HOLDING, NEPAL, 1991/92

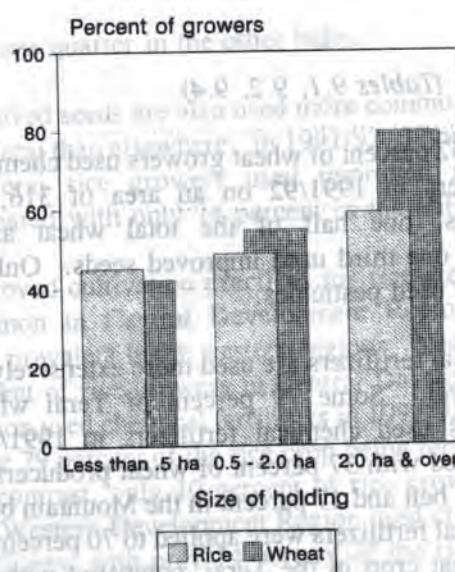


TABLE 9.1: HOLDINGS USING DIFFERENT INPUTS FOR SELECTED CROPS, NEPAL, 1981/82 AND 1991/92

Crop	Holdings with crop (('000))		Improved seeds (% of growers)		Pesticides (% of growers)		Chemical fertilizer (% of growers)	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
Rice	1,021.7	2,037.5	3.2	24.0	0.8	13.2	16.0	48.8
Wheat	649.5	1,635.8	4.8	30.7	1.0	5.4	26.9	52.4
Maize	838.6	1,872.6	2.4	11.9	0.9	2.8	5.1	22.6
Potato	193.2	734.7	1.0	17.9	0.5	10.7	7.7	30.5
Sugar cane	60.2	82.6	3.0	31.8	0.4	23.5	14.3	71.2
Vegetables	324.2	763.1	na	19.2	na	7.1	na	18.3
Other crops	na	2,246.6	na	4.7	na	1.9	na	15.5
Total land holdings	2,185.7	2,703.9	..	..	..	..	..	..

TABLE 9.2: USE OF CHEMICAL FERTILIZER FOR SELECTED CROPS, NEPAL, 1991/92

Crop	Holdings using chemical fertilizer (('000))		Percent using fertilizer	Area of crop fertilized (('000 ha))		Percent of crop fertilized
	with crop	using chemical fertilizer		crop	fertilized	
Rice	2,037.5	994.5	48.8	1,481.2	683.0	46.1
Wheat	1,635.8	857.4	52.4	633.1	316.3	50.0
Maize	1,872.6	422.8	22.6	768.7	140.5	18.3
Potato	734.7	224.2	30.5	70.5	18.2	25.8
Sugar cane	82.6	58.8	71.2	36.6	30.3	82.7
Vegetables	763.1	139.7	18.3	39.5	8.8	22.3
Other crops	2,246.6	348.9	15.5	1,033.4	130.5	12.6

TABLE 9.3: RICE GROWERS' USE OF SELECTED INPUTS - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

	Holdings with rice	Area of rice sown	Improved seeds	Pest-icides	Chemical fertilizers
	(#)	('000 ha)	(% growers)	(% growers)	(% crop area)
ECOLOGICAL BELTS					
Mountain	179.1	49.3	5.9	2.0	26.3
Hill	905.4	335.2	14.0	7.4	35.0
Tera	953.0	1,096.8	36.9	20.9	66.2
DEVELOPMENT REGIONS					
Eastern	468.4	489.0	23.9	11.2	33.4
Central	655.2	449.3	34.5	18.9	87.8
Western	439.1	290.6	18.1	16.5	45.2
Mid Western	248.9	131.0	17.0	6.2	16.6
Far Western	225.8	121.3	13.0	2.4	10.1
NEPAL	2,037.5	1,481.2	24.0	13.2	48.8

TABLE 9.4: WHEAT GROWERS' USE OF SELECTED INPUTS - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

	Holdings with wheat	Area of wheat sown	Improved seeds	Pest-icides	Chemical fertilizers
	(#)	('000 ha)	(% growers)	(% growers)	(% crop area)
ECOLOGICAL BELTS					
Mountain	184.5	48.7	9.3	1.0	17.2
Hill	755.0	223.5	22.2	3.5	36.7
Tera	696.3	360.8	45.7	8.7	78.7
DEVELOPMENT REGIONS					
Eastern	283.8	118.4	41.8	7.8	59.0
Central	494.5	183.1	41.2	8.2	86.9
Western	320.4	114.9	29.1	5.4	56.1
Mid Western	300.8	122.6	16.7	1.9	15.0
Far Western	236.3	94.0	15.6	1.3	15.1
NEPAL	1,635.8	633.1	30.7	5.4	52.4

TABLE 9.5: MAIZE GROWERS, USE OF SELECTED INPUTS - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

	Holdings with maize (' 000)	Area of maize sown (' 000 ha)	Improved seeds (% growers)	Pest- icides (% growers)	Chemical fertilizers (% growers) (% crop area)	
ECOLOGICAL BELTS						
Mountain	228.3	122.69.3	11.6.3	0.6	25.2	22.0
Hill	1,263.5	515.3	11.1	2.5	23.8	18.9
Terai	380.8	184.1	17.8	5.1	16.9	15.1
DEVELOPMENT REGIONS						
Eastern	401.7	224.2	16.8	2.0	11.0	9.9
Central	506.5	216.7	21.1	5.4	61.4	46.6
Western	448.7	167.5	12.1	2.7	12.6	8.6
Mid Western	312.3	113.7	6.1	0.8	2.1	1.6
Far Western	203.4	46.6	7.0	0.9	2.1	2.2
NEPAL	1,872.6	768.7	11.9	2.8	22.6	18.3

TABLE 9.6: POTATO GROWERS, USE OF SELECTED INPUTS - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

	H'ings with potatoes (('000)	Area of potatoes (('000 ha)	Improved seeds (% growers)	Pest- icides (% growers)	Chemical fertilizers (% growers) (% crop area)	
ECOLOGICAL BELTS						
Mountain	101.8	14.6	4.4	1.0	8.9	5.7
Hill	307.4	34.7	12.4	7.7	26.0	21.7
Terai	325.5	21.2	27.4	16.7	41.5	46.5
DEVELOPMENT REGIONS						
Eastern	225.2	29.3	15.5	6.9	22.8	16.1
Central	187.1	21.2	27.2	20.6	60.2	50.0
Western	156.4	11.0	18.1	13.3	33.9	22.0
Mid Western	100.1	5.3	12.3	3.5	5.7	7.7
Far Western	65.9	3.6	8.0	0.9	2.3	1.6
NEPAL	734.7	70.5	17.9	10.7	30.5	25.8

TABLE 9.7: SUGAR CANE GROWERS, USE OF SELECTED INPUTS - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

	H'ings with sugar cane (# growers) (# crop area)	Area of sugar cane ('000 ha)	Improved seeds (% growers)	Pest- icides (% growers)	Chemical fertilizers (% growers) (% crop area)
ECOLOGICAL BELTS					
Mountain	2.2	2.1	1.1	3.2	5.1 13.4
Hill	2.2	1.1	0.5	1.6	6.1 10.1
Terai	1.2	67.4	38.9	28.4	85.9 85.0
DEVELOPMENT REGIONS					
Eastern	0.1	3.8	29.8	15.7	41.0 61.8
Central	4.1	40.9	39.7	25.3	88.6 85.2
Western	2.1	26.6	32.7	30.7	76.1 88.3
Mid Western	0.0	1.2	2.8	14.2	1.4 -
Far Western	0.0	10.1	3.2	2.8	8.2 32.4
NEPAL	2.2	82.6	31.8	23.5	71.2 82.7

TABLE 9.8: VEGETABLE GROWERS, USE OF SELECTED INPUTS - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

	H'ings with vegetables (# growers) (# crop area)	Area of vegetables ('000 ha)	Improved seeds (% growers)	Pest- icides (% growers)	Chemical fertilizers (% growers) (% crop area)
ECOLOGICAL BELTS					
Mountain	2.2	88.6	3.4	1.0	4.8 3.5
Hill	0.2	356.9	14.4	4.3	17.1 16.4
Terai	2.1	317.5	29.0	12.0	23.5 28.6
DEVELOPMENT REGIONS					
Eastern	0.2	221.3	15.6	4.5	12.9 15.6
Central	0.0	223.2	21.3	19.7	35.4 41.2
Western	0.0	137.0	23.8	19.9	16.6 17.9
Mid Western	0.0	114.2	15.6	5.0	5.4 7.7
Far Western	0.0	67.3	20.6	4.8	4.8 2.9
NEPAL	0.0	763.1	19.2	7.1	18.3 22.3

in the Terai. Threshers and sprayers are found in the Terai. Threshers and sprayers are found in the Terai. Threshers and sprayers are found in the Terai.

TABLE 9.9: RICE, WHEAT AND MAIZE GROWERS, USE OF SELECTED INPUTS BY SIZE OF HOLDING, NEPAL, 1991/92

Size of holding	Holdings with crop ('000)	Area of crop ('000 ha)	Improved seeds (% growers)	Pest-icides (% growers)	Chemical fertilizers (% growers)	Chemical fertilizers (% crop area)
RICE						
Less than 0.5 ha	743.2	127.9	19.5	9.1	45.1	47.0
0.5 - 2.0 ha	1,020.5	649.2	24.4	13.6	48.8	45.1
2.0 ha and over	273.8	704.2	34.7	23.0	59.1	46.9
Total	2,037.5	1,481.2	24.0	13.2	48.8	46.1
WHEAT						
Less than 0.5 ha	608.2	90.7	24.1	3.9	42.1	72.4
0.5 - 2.0 ha	804.5	314.4	32.3	5.6	54.8	46.4
2.0 ha and over	223.1	227.9	43.0	9.0	79.5	59.1
Total	1,635.8	633.1	30.7	5.4	52.4	50.0
MAIZE						
Less than 0.5 ha	804.9	121.9	9.4	1.9	21.5	33.0
0.5 - 2.0 ha	901.3	438.2	13.0	3.1	23.7	9.5
2.0 ha and over	166.3	208.7	17.6	5.4	21.7	14.8
Total	1,872.6	768.7	11.9	2.8	22.6	18.3

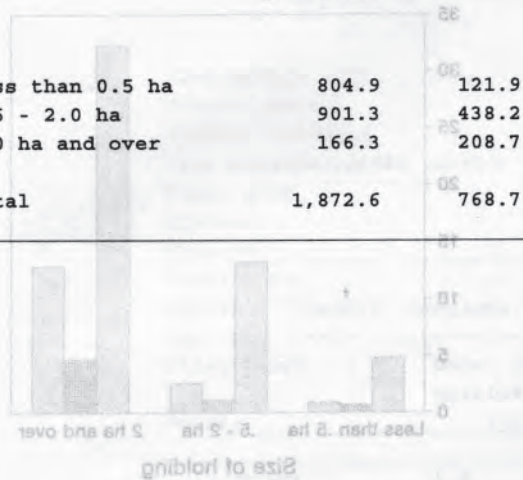
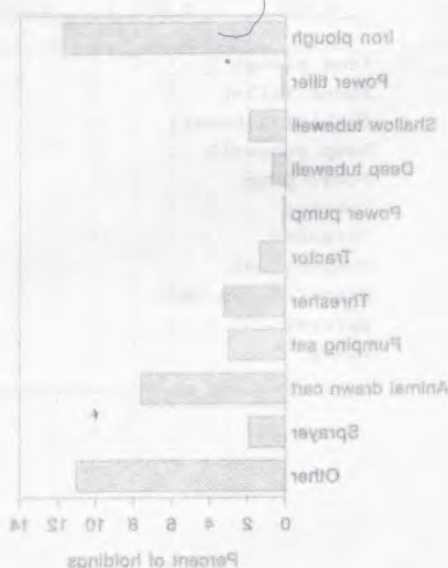


FIGURE 10.1
USE OF AGRICULTURAL EQUIPMENT
NEPAL, 1991/92



Regional comparisons (Tables 10.3, 10.4, 10.5, 10.6)

Farmers in hill and mountain areas generally use much more traditional types of farm equipment than in the Terai. The majority of the mechanised equipment is found in Terai areas. Over 90 percent of the iron ploughs, tractors and pumping sets were in the Terai belt in 1991/92. Animal drawn carts are also predominantly found

CHAPTER 10

AGRICULTURAL EQUIPMENT

Types of equipment (Tables 10.1, 10.2)

The degree of mechanisation on agricultural holdings in Nepal is very low.

Only 315,100 agricultural holdings (12 percent of all holdings with land) used an iron plough in 1991/92. At the time of the census, there were 354,500 iron ploughs on holdings throughout Nepal.

Only 35,200 holdings (1.3 percent of all holdings) used a tractor during 1991/92. The number of tractors on holdings at the time of the census was 5,500.

Around 3 percent of all holdings used a thresher and about the same number used a pumping set. The number of threshers was 19,900 and the

number of pumping sets was 41,300.

In 1991/92, 204,600 holdings used an animal drawn cart for agricultural work on the holding; the number of carts at the time of the census was 198,100.

FIGURE 10.2
USE OF AGRICULTURAL EQUIPMENT BY
SIZE OF HOLDING, NEPAL, 1991/92

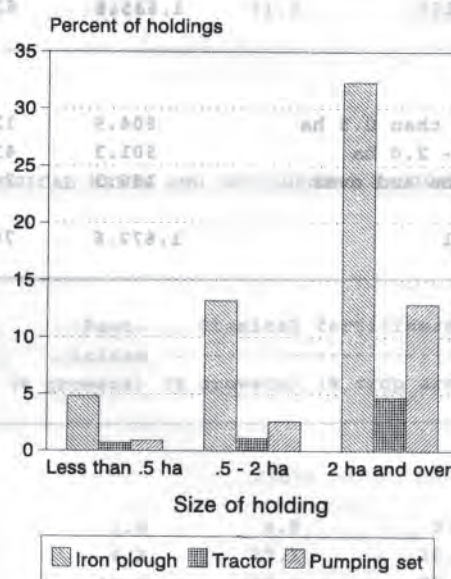
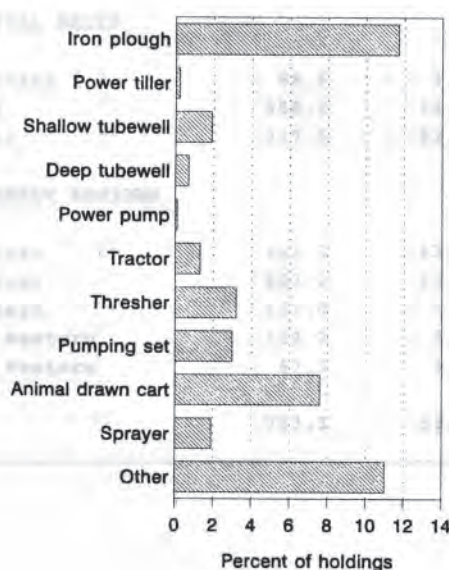


FIGURE 10.1
USE OF AGRICULTURAL EQUIPMENT
NEPAL, 1991/92



Regional comparisons (Tables 10.3, 10.4, 10.5, 10.6)

Farmers in hill and mountain areas generally use much more traditional types of farm equipment than in the Terai. The majority of the mechanised equipment is found in Terai areas. Over 90 percent of the iron ploughs, tractors and pumping sets were in the Terai belt in 1991/92. Animal drawn carts are also predominantly found

in the Terai. Threshers and sprayers are found in both the Hill and Terai belts. Some 27 percent of Terai holdings used an iron plough in 1991/92 (compared with 1.5 percent of holdings in the Hill belt). Some 18 percent of Terai holdings used an animal drawn cart.

Amongst development regions, tractors and threshers were most commonly used in Central Region. Shallow and deep tubewells and pumping sets were most prevalent in Eastern and Central Regions.

Comparisons of small and large holdings
(Table 10.7)

Large holdings make more extensive use of modern farm equipment than small holdings. In 1991/92, 32 percent of holdings of size 2.0 hectares or more used an iron plough, compared with only 5 percent of holdings less than 0.5 hectares in size. Some 13 percent of large holdings used a pumping set and 5 percent used a tractor; less than 1 percent of small holdings used these items.

TABLE 10.1: USE OF AGRICULTURAL EQUIPMENT BY LAND HOLDINGS BY TYPE, NEPAL, 1991/92

Type of equipment	Holdings using equipment		Number of items ('000)
	No. ('000)	Percent	
Iron plough	315.1	11.7	354.5
Power tiller	5.6	0.2	1.6
Shallow tubewell	50.9	1.9	48.2
Deep tubewell	20.1	0.7	15.7
Power pump	3.5	0.1	3.8
Tractor	35.2	1.3	5.5
Thresher	85.6	3.2	19.9
Pumping set	81.3	3.0	41.3
Animal drawn cart	204.6	7.6	198.1
Sprayer	50.2	1.9	23.4
Other	296.5	11.0	878.4
Total land holdings	2,703.9	100.0	..

NOTE: Use of equipment refers to use during 1991/92. Number of items is the number on the holding at the time of the census.

TABLE 10.2: NUMBER OF EQUIPMENT ITEMS BY SOURCE, NEPAL, 1991/92

('000)

Type of equipment	Number of equipment items		
	Owned by holding	Not owned by holding	Total
Iron plough	350.1	4.3	354.5
Power tiller	1.0	0.6	1.6
Shallow tubewell	46.6	1.6	48.2
Deep tubewell	14.6	1.2	15.7
Power pump	3.3	0.5	3.8
Tractor	4.7	0.8	5.5
Thresher	19.2	0.8	19.9
Pumping set	40.0	1.3	41.3
Animal drawn cart	194.1	4.0	198.1
Sprayer	22.1	1.3	23.4
Other	872.0	6.3	878.4

TABLE 10.3: NUMBER AND PERCENT OF LAND HOLDINGS USING AGRICULTURAL EQUIPMENT BY TYPE OF EQUIPMENT USED AND ECOLOGICAL BELT, 1991/92

Equipment type	Ecological belt			
	Mountain	Hill	Terai	Nepal
NUMBER OF HOLDINGS ('000)				
Iron plough	0.3	20.1	294.7	315.1
Power tiller	-	4.9	0.7	5.6
Shallow tubewell	-	0.4	50.4	50.9
Deep tubewell	-	0.3	19.8	20.1
Power pump	-	0.6	2.8	3.5
Tractor	-	3.5	31.6	35.2
Thresher	-	42.8	42.8	85.6
Pumping set	-	3.8	77.5	81.3
Animal drawn cart	-	3.1	201.5	204.6
Sprayer	1.0	19.3	29.9	50.2
Other	2.5	148.0	146.0	296.5
Total land holdings	259.9	1,351.3	1,092.8	2,703.9
PERCENT				
Iron plough	0.1	1.5	27.0	11.7
Power tiller	-	0.4	0.1	0.2
Shallow tubewell	-	-	4.6	1.9
Deep tubewell	-	-	1.8	0.7
Power pump	-	-	0.3	0.1
Tractor	-	0.3	2.9	1.3
Thresher	-	3.2	3.9	3.2
Pumping set	-	0.3	7.1	3.0
Animal drawn cart	-	0.2	18.4	7.6
Sprayer	0.4	1.4	2.7	1.9
Other	1.0	11.0	13.4	11.0
Total	100.0	100.0	100.0	100.0

TABLE 10.4: NUMBER AND PERCENT OF LAND HOLDINGS USING AGRICULTURAL EQUIPMENT BY TYPE OF EQUIPMENT USED AND DEVELOPMENT REGION, 1991/92

Equipment type	Development region						Nepal
	Eastern	Central	Western	Mid West	Far West		
	NUMBER OF HOLDINGS ('000)						
Iron plough	84.6	69.7	71.5	41.4	47.9		315.1
Power tiller	0.2	5.2	0.2	0.1	0.1		5.6
Shallow tubewell	31.2	10.4	3.9	1.8	3.5		50.9
Deep tubewell	10.2	6.7	2.5	0.2	0.5		20.1
Power pump	1.7	1.0	0.1	0.5	1.0		3.5
Tractor	1.5	23.1	9.2	0.3	1.1		35.2
Thresher	6.8	56.8	17.4	0.6	4.0		85.6
Pumping set	24.2	30.4	16.6	3.0	7.0		81.3
Animal drawn cart	61.7	53.8	38.4	21.6	29.1		204.6
Sprayer	16.4	23.0	6.9	3.4	5.5		50.2
Other	11.7	104.0	93.6	34.1	53.1		296.5
Total land holdings	628.5	843.7	603.3	368.3	260.1		2,703.9
	PERCENT						
Iron plough	13.5	8.3	11.9	11.2	18.4		11.7
Power tiller	0.4	0.6	-	-	0.2		0.2
Shallow tubewell	5.0	1.2	0.6	0.5	1.3		1.9
Deep tubewell	1.6	0.8	0.4	0.1	0.2		0.7
Power pump	0.3	0.1	-	0.1	0.1		0.1
Tractor	0.2	2.7	1.5	0.1	0.4		1.3
Thresher	1.1	6.7	2.9	0.2	1.5		3.2
Pumping set	3.9	3.6	2.8	0.8	2.7		3.0
Animal drawn cart	9.8	6.4	6.4	5.9	11.2		7.6
Sprayer	2.6	2.7	1.1	0.9	2.1		1.9
Other	1.9	12.3	15.5	9.2	20.4		11.0
Total	100.0	100.0	100.0	100.0	100.0		100.0
Iron plough	13.5	8.3	11.9	11.2	18.4		11.7
Power tiller	0.4	0.6	-	-	0.2		0.2
Shallow tubewell	5.0	1.2	0.6	0.5	1.3		1.9
Deep tubewell	1.6	0.8	0.4	0.1	0.2		0.7
Power pump	0.3	0.1	-	0.1	0.1		0.1
Tractor	0.2	2.7	1.5	0.1	0.4		1.3
Thresher	1.1	6.7	2.9	0.2	1.5		3.2
Pumping set	3.9	3.6	2.8	0.8	2.7		3.0
Animal drawn cart	9.8	6.4	6.4	5.9	11.2		7.6
Sprayer	2.6	2.7	1.1	0.9	2.1		1.9
Other	1.9	12.3	15.5	9.2	20.4		11.0

TABLE 10.5: NUMBER OF EQUIPMENT ITEMS BY TYPE AND ECOLOGICAL BELT, 1991/92

Equipment type	Ecological belt			
	Mountain	Hill	Terai	Nepal
Iron plough	0.3	31.2	323.0	354.5
Power tiller	0.3	0.3	1.3	1.6
Shallow tubewell	0.5	0.5	47.7	48.2
Deep tubewell	0.4	0.4	15.4	15.7
Power pump	0.5	0.5	3.3	3.8
Tractor	0.4	0.4	5.1	5.5
Thresher	5.5	5.5	14.4	19.9
Pumping set	1.0	1.0	40.3	41.3
Animal drawn cart	2.8	2.8	195.2	198.1
Sprayer	6.1	6.1	16.8	23.4
Other	533.8	533.8	326.9	878.4

TABLE 10.6: NUMBER OF EQUIPMENT ITEMS BY TYPE AND DEVELOPMENT REGION, 1991/92

Equipment type	Development region					Nepal
	Eastern	Central	Western	Mid West	Far West	
Iron plough	88.6	70.8	80.2	50.8	64.1	354.5
Power tiller	0.3	0.6	0.2	0.6	0.6	1.6
Shallow tubewell	30.0	10.1	2.8	2.1	3.2	48.2
Deep tubewell	9.6	3.4	1.6	0.8	0.3	15.7
Power pump	1.9	0.7	0.2	0.9	0.1	3.8
Tractor	0.9	2.0	1.6	0.6	0.3	5.5
Thresher	2.6	9.5	6.3	1.0	0.6	19.9
Pumping set	10.8	12.5	8.9	3.2	5.9	41.3
Animal drawn cart	58.4	52.9	29.2	22.7	34.8	198.1
Sprayer	8.5	7.8	4.0	2.7	0.5	23.4
Other	23.8	371.5	301.7	88.3	93.1	878.4

Cattle Bull Goats Sheep Pigs Chickens

1981/82 1991/92

Larger sized holdings were found in the Terai region, 93 percent of holdings of size 2.0 hectares or

TABLE 10.7: NUMBER AND PERCENT OF LAND HOLDINGS USING AGRICULTURAL EQUIPMENT BY TYPE OF EQUIPMENT USED AND SIZE OF HOLDING, NEPAL, 1991/92

Equipment type	Size of holding				Total
	Less than .5 ha	.5 - 2 ha	2 ha and over		
NUMBER OF HOLDINGS ('000)					
Iron plough	55.7	163.6	95.7	315.1	
Power tiller	3.9	1.3	0.4	5.6	
Shallow tubewell	6.9	24.7	19.3	50.9	
Deep tubewell	2.4	8.3	9.5	20.1	
Power pump	0.9	1.3	1.3	3.5	
Tractor	7.7	13.5	13.9	35.2	
Thresher	36.6	28.3	20.7	85.6	
Pumping set	10.9	32.2	38.2	81.3	
Animal drawn cart	12.0	89.0	103.6	204.6	
Sprayer	11.9	21.6	16.8	50.2	
Other	118.8	131.2	46.5	296.5	
Total land holdings	1,166.0	1,241.1	296.8	2,703.9	
PERCENT					
Iron plough	4.8	13.2	32.3	11.7	
Power tiller	0.3	0.1	0.1	0.2	
Shallow tubewell	0.6	2.0	6.5	1.9	
Deep tubewell	0.2	0.7	3.2	0.7	
Power pump	0.1	0.1	0.4	0.1	
Tractor	0.7	1.1	4.7	1.3	
Thresher	3.1	2.3	7.0	3.2	
Pumping set	0.9	2.6	12.9	3.0	
Animal drawn cart	1.0	7.2	34.9	7.6	
Sprayer	1.0	1.7	5.6	1.9	
Other	10.2	10.6	15.7	11.0	
Total	100.0	100.0	100.0	100.0	

CHAPTER 11

LIVESTOCK AND POULTRY

Cattle

Total cattle numbers on agricultural holdings increased from 6.50 million to 7.36 million between 1981/82 and 1991/92, an increase of 13 percent. The number of holdings with cattle increased from 1.26 million (58 percent of all holdings) to 2.07 million (76 percent of all holdings) over the same ten year period. The average herd size was 5.2 head in 1981/82; this had fallen to 3.6 by 1991/92. (Table 11.1)

Cattle ownership is high in mountain areas; 83 percent of holdings in the Mountain belt kept cattle in 1991/92, compared with 75 and 74 percent in the Hill and Terai belts respectively. Herd sizes also tend to be higher in mountain areas; the average herd size in the Mountain belt was 3.9 in 1991/92, compared with 3.6 in the

FIGURE 11.1
LIVESTOCK NUMBERS, NEPAL
1981/82 AND 1991/92

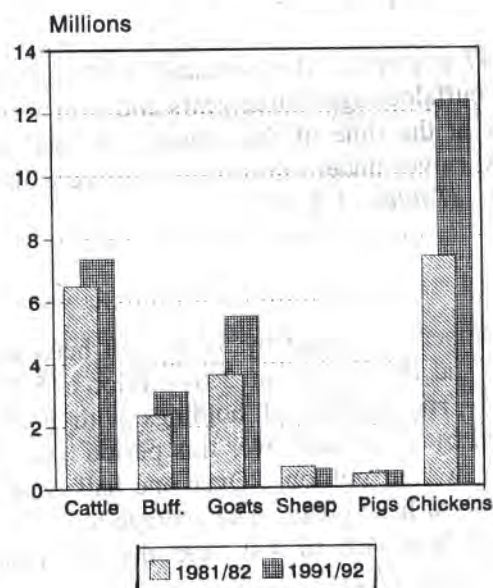
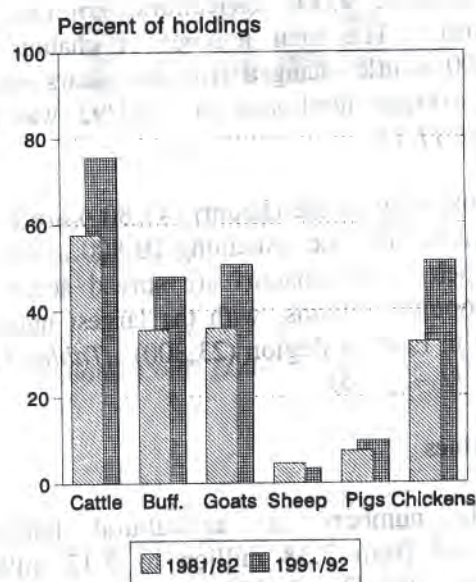


FIGURE 11.2
HOLDINGS WITH LIVESTOCK, NEPAL
1981/82 AND 1991/92



Hill belt and 3.4 in the Terai. Some 11 percent of cattle are in the Mountain belt, 50 percent are in the Hill belt, and 39 percent are in the Terai. (Tables 11.2, 11.3)

Cattle ownership is high in Mid and Far Western Development Regions (85 and 89 percent of holdings respectively), and low in Central and Western Regions (69 percent in each region). Herd sizes are also higher in western areas. The average herd sizes in Mid and Far Western Regions in 1991/92 were 4.8 and 4.1 respectively, compared with only 2.8 in Central Region. (Tables 11.4, 11.5)

Larger sized holdings more commonly own cattle - 93 percent of holdings of size 2.0 hectares or

more kept cattle in 1991/92, compared with only 62 percent of holdings less than 0.5 hectares in size. The average herd size for large holdings was 5.1, compared with 2.9 for small holdings. (Tables 11.6, 11.7)

Of the 7.36 million cattle on agricultural holdings in 1991/92, 2.27 million were female cattle aged three years and over. 36 percent of these were in milk at the time of the census. A total of 832,200 calves under one year of age were also present. (Tables 11.8, 11.10)

Chaunri

In 1991/92, 9,000 agricultural holdings had chaunri. The total number of chaunri was 58,600 - little changed from ten years earlier. The average herd size in 1991/92 was 6.5. (Table 11.1)

The majority of the chaunri (47,800) are in the Mountain belt; the remaining 10,800 are in the Hill belt. The chaunri are spread across all development regions, with the largest numbers being in Eastern Region (23,300). (Tables 11.2, 11.3, 11.4, 11.5)

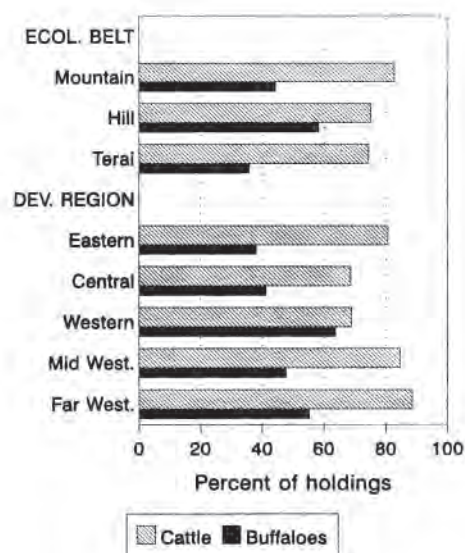
Buffaloes

Buffalo numbers on agricultural holdings increased from 2.38 million to 3.12 million between 1981/82 and 1991/92; an increase of 31 percent. The number of holdings with buffaloes increased from 778,600 (35 percent of all holdings) to 1.31 million (48 percent of all holdings) over the same ten year period. The average herd size fell from 3.1 in 1981/82 to 2.4 in 1991/92. (Table 11.1)

Buffalo ownership is highest in the Hill belt - 58 percent of holdings in the Hill belt kept buffaloes in 1991/92, compared with 36 percent in the Terai. There is little difference in average herd sizes across the three ecological belts. (Tables 11.2, 11.3)

Western Development Region has the highest rate of buffalo ownership - 64 percent of holdings. Only 38 percent of holdings in Eastern Development Region kept buffaloes in 1991/92.

FIGURE 11.3
HOLDINGS WITH CATTLE AND BUFFALOES
1991/92



There is little difference in herd sizes between development regions. (Tables 11.4, 11.5)

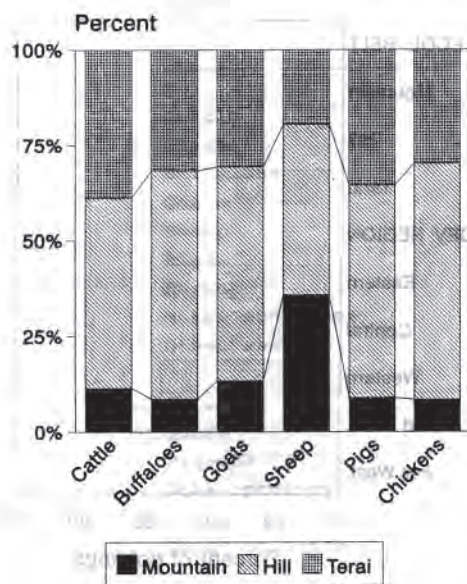
Buffalo ownership increases with size of holding - 64 percent of holdings of size 2.0 hectares or more kept buffaloes in 1991/92, compared with 37 percent of holdings less than 0.5 hectares in size. The average herd size for large holdings was 3.2, compared with 1.9 for small holdings. (Tables 11.6, 11.7)

Some 47 percent of the estimated 1.69 million female buffaloes aged three years and over were in milk at the time of the census. A total of 573,700 calves under one year of age were also present. (Tables 11.8, 11.10)

Goats

Goat numbers increased by 51 percent between 1981/82 and 1991/92 - from 3.64 million to 5.52 million. The number of holdings with goats increased by 76 percent over this period - from 787,000 to 1.38 million. Over one half of all holdings now have goats. The average herd size decreased from 4.6 to 4.0 over the ten year period. (Table 11.1)

FIGURE 11.4
LIVESTOCK NUMBERS
ECOLOGICAL BELTS, 1991/92



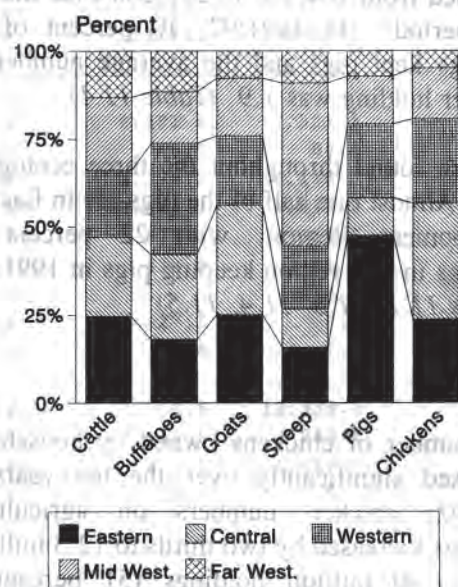
Goats are common throughout the country. In 1991/92, 55 percent of holdings in the Mountain belt kept goats, compared with 53 percent in the Hill belt and 47 percent in the Terai. Herd sizes tended to be larger in northern areas; an average of 5.1 in the Mountain belt, compared with 4.3 in the Hill belt and only 3.2 in the Terai. (Tables 11.2, 11.3)

The largest numbers of goats are found in eastern areas of the country. Some 57 percent of holdings in Eastern Development Region kept goats in 1991/92, compared with only 40 percent in Far Western Development Region. (Tables 11.4, 11.5)

Larger sized holdings more commonly keep goats - 58 percent of holdings of size 2.0 hectares or more kept goats in 1991/92, compared with 43 percent for holdings less than 0.5 hectares in size. (Tables 11.6, 11.7)

Of the total population of goats in the country at the time of the 1991/92 Agricultural Census, 1.52 million (27 percent of the total) were less

FIGURE 11.5
LIVESTOCK NUMBERS
DEVELOPMENT REGIONS, 1991/92



than six months old. (Table 11.12)

Sheep

The number of sheep declined by 11 percent to 602,800 between 1981/82 and 1991/92. Only 92,700 holdings throughout the country kept sheep in 1991/92 - just over 3 percent of all holdings. The average flock size was 6.5. (Table 11.1)

The majority of sheep are found in the Mountain and Hill belts (36 and 45 percent of 1991/92 sheep numbers respectively). Flock sizes were much larger in mountain areas - averaging 12.8 in 1991/92. (Tables 11.2, 11.3)

Over 46 percent of total sheep numbers are in Mid Western Development Region; 11 percent of holdings in this region kept sheep in 1991/92. (Tables 11.4, 11.5)

At the time of the 1991/92 Census, there were 135,700 lambs under six months of age - 23 percent of total sheep numbers. (Table 11.12)

Pigs

Between 1981/82 and 1991/92, pig numbers increased by 14 percent from 433,600 to 495,800. The number of holdings with pigs increased from 164,100 to 267,500 over the ten year period. In 1991/92, 10 percent of all holdings kept pigs and the average number of pigs per holding was 1.9. (Table 11.1)

Pigs are found throughout the three ecological belts. Almost one half of the pigs are in Eastern Development Region, with 22 percent of holdings in that region keeping pigs in 1991/92. (Tables 11.2, 11.3, 11.4, 11.5)

Chickens

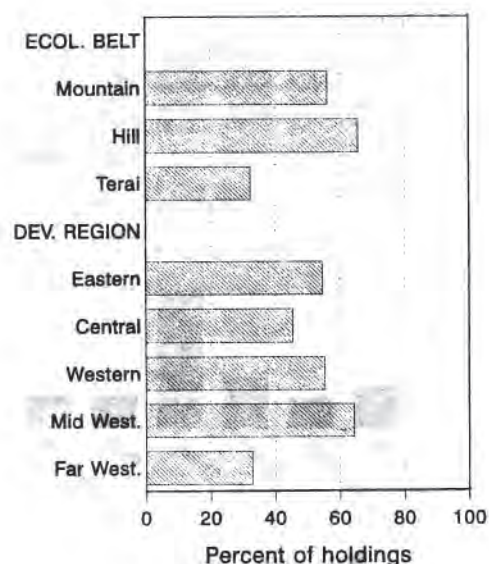
The number of chickens owned by households increased significantly over the ten years to 1991/92; chicken numbers on agricultural holdings increased by two thirds to 12.3 million. Some 1.40 million holdings (51 percent of holdings) had some chickens in 1991/92, compared with only 716,900 (33 percent) in 1981/82. The average number of chickens per holding in 1991/92 was 8.8. (Table 11.1)

Chickens are most commonly found in the hill areas; in 1991/92, 66 percent of holdings in the Hill belt had chickens, compared with only 32 percent of holdings in the Terai. (Tables 11.2, 11.3)

Amongst development regions, chickens are most common in Mid Western Region. In 1991/92, 64 percent of holdings in Mid Western Region kept chickens, compared with 55 percent in each of Eastern and Western Regions, 46 percent in Central Region, and only 33 percent in Far Western Region. (Tables 11.4, 11.5)

Keeping chickens is common amongst both small and large holdings. In 1991/92, 48 percent of

FIGURE 11.6
HOLDINGS WITH CHICKENS
1991/92



holdings less than 0.5 hectares in size kept chickens, little different from the percentage for larger holdings. Small holdings often had quite significant numbers of chickens - the average per holding being 7.4. (Tables 11.6, 11.7)

Ducks

Duck numbers doubled between 1981/82 and 1991/92 to 280,300. Some 92,600 holdings kept ducks (3 percent of all holdings) - up from 37,200 ten years earlier. (Table 11.1)

Pigeons

In 1991/92, there were 1.42 million pigeons owned by agricultural holdings. Some 215,800 holdings (8 percent of holdings) kept pigeons in 1991/92. (Table 11.1)

TABLE 11.1: NUMBER OF HOLDINGS WITH LIVESTOCK AND LIVESTOCK NUMBERS
BY LIVESTOCK TYPE, NEPAL, 1981/82 AND 1991/92

Livestock type	Holdings ('000)		Livestock ('000)	
	1981/82	1991/92	1981/82	1991/92
Cattle	1,261.9	2,067.1	6,501.6	7,359.3
Chaunri	6.9	9.0	55.5	58.6
Buffaloes	778.6	1,307.8	2,379.7	3,116.3
Goats	787.0	1,382.8	3,643.7	5,515.5
Sheep	99.9	92.7	677.1	602.8
Pigs	164.1	267.5	433.6	495.8
Horses		9.0		14.3
Mules and asses	16.1	1.2	27.5	5.3
Other animals	16.6	3.5	36.8	7.3
Chickens	716.9	1,400.4	7,368.6	12,333.1
Ducks	37.2	92.6	142.3	280.3
Pigeons	116.8	215.8	830.7	1,419.9
Other poultry	7.8	3.9	20.4	9.2
Total holdings	2,194.0	2,736.1	..	..

TABLE 11.2: NUMBER AND PERCENT OF HOLDINGS WITH LIVESTOCK BY MAIN LIVESTOCK TYPE AND ECOLOGICAL BELT, 1991/92

Livestock type	Ecological belt			
	Mountain	Hill	Terai	Nepal
NUMBER OF HOLDINGS ('000)				
Cattle	215.7	1,019.6	831.9	2,067.1
Chaunri	7.5	1.6	-	9.0
Buffaloes	115.6	791.9	400.3	1,307.8
Goats	144.2	715.1	523.4	1,382.8
Sheep	16.9	55.4	20.4	92.7
Pigs	26.7	161.6	79.1	267.5
Chickens	146.5	892.4	361.6	1,400.4
Ducks	4.2	26.7	61.7	92.6
Pigeons	10.5	93.2	112.1	215.8
Total holdings	260.7	1,357.7	1,117.6	2,736.1
PERCENT				
Cattle	82.7	75.1	74.4	75.6
Chaunri	2.9	0.1	-	0.3
Buffaloes	44.3	58.3	35.8	47.8
Goats	55.3	52.7	46.8	50.5
Sheep	6.5	4.1	1.8	3.4
Pigs	10.3	11.9	7.1	9.8
Chickens	56.2	65.7	32.4	51.2
Ducks	1.6	2.0	5.5	3.4
Pigeons	4.0	6.9	10.0	7.9
Total	100.0	100.0	100.0	100.0

TABLE 11.3: LIVESTOCK NUMBERS BY MAIN LIVESTOCK TYPE AND ECOLOGICAL BELT, 1991/92

('000)

Livestock type	Ecological belt			
	Mountain	Hill	Terai	Nepal
Cattle	844.5	3,663.7	2,851.1	7,359.3
Chaunri	47.8	10.8	-	58.6
Buffaloes	267.8	1,860.1	988.4	3,116.3
Goats	736.6	3,087.8	1,691.1	5,515.5
Sheep	216.3	268.6	118.0	602.8
Pigs	44.6	275.1	176.1	495.8
Chickens	1,040.3	7,615.4	3,677.4	12,333.1
Ducks	10.4	65.6	204.3	280.3
Pigeons	42.1	363.9	1,013.9	1,419.9

TABLE 11.4: NUMBER AND PERCENT OF HOLDINGS WITH LIVESTOCK BY MAIN LIVESTOCK TYPE AND DEVELOPMENT REGION, 1991/92

Livestock type	Development region					Nepal
	Eastern	Central	Western	Mid West.	Far West.	
NUMBER OF HOLDINGS ('000)						
Cattle	512.9	586.9	419.3	314.4	233.7	2,067.1
Chaunri	3.9	1.2	1.8	1.8	0.4	9.0
Buffaloes	242.3	353.5	388.4	177.7	145.9	1,307.8
Goats	360.8	480.3	269.9	165.5	106.3	1,382.8
Sheep	15.8	14.1	12.5	42.4	8.0	92.7
Pigs	140.5	24.7	53.4	30.9	17.9	267.5
Chickens	348.3	388.9	337.1	239.2	86.9	1,400.4
Ducks	33.8	26.5	19.0	7.4	5.9	92.6
Pigeons	111.9	42.8	55.1	4.9	1.1	215.8
Total holdings	636.4	855.3	608.8	371.5	264.1	2,736.1
PERCENT						
Cattle	80.6	68.6	68.9	84.6	88.5	75.6
Chaunri	0.6	0.1	0.3	0.5	0.1	0.3
Buffaloes	38.1	41.3	63.8	47.8	55.2	47.8
Goats	56.7	56.2	44.3	44.6	40.2	50.5
Sheep	2.5	1.7	2.1	11.4	3.0	3.4
Pigs	22.1	2.9	8.8	8.3	6.8	9.8
Chickens	54.7	45.5	55.4	64.4	32.9	51.2
Ducks	5.3	3.1	3.1	2.0	2.2	3.4
Pigeons	17.6	5.0	9.1	1.3	0.4	7.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 11.5: LIVESTOCK NUMBERS BY MAIN LIVESTOCK TYPE AND DEVELOPMENT REGION, 1991/92

('000)

Livestock type	Development region					Nepal
	Eastern	Central	Western	Mid West.	Far West.	
Cattle	1,812.2	1,651.8	1,403.4	1,523.7	968.2	7,359.3
Chaunri	23.3	9.8	14.1	10.4	1.0	58.6
Buffaloes	563.4	749.4	987.0	455.3	361.3	3,116.3
Goats	1,383.3	1,712.1	1,087.1	902.6	430.4	5,515.5
Sheep	94.7	65.8	107.8	279.0	55.5	602.8
Pigs	235.6	52.7	104.4	66.9	36.2	495.8
Chickens	2,929.2	4,052.3	2,963.5	1,777.3	610.9	12,333.1
Ducks	95.3	91.4	58.3	19.8	15.6	280.3
Pigeons	709.7	330.9	312.7	59.1	7.6	1,419.9

TABLE 11.6: NUMBER AND PERCENT OF HOLDINGS WITH LIVESTOCK BY
MAIN LIVESTOCK TYPE AND SIZE OF HOLDING, NEPAL, 1991/92

Livestock type	Size of holding				Total
	No land	Less than .5 ha	.5 - 2 ha	2 ha and over	
NUMBER OF HOLDINGS ('000)					
Cattle	21.6	719.3	1,050.6	275.6	2,067.1
Chaunri	-	4.1	4.1	0.7	9.0
Buffaloes	9.3	431.1	676.8	190.6	1,307.8
Goats	16.0	495.9	699.3	171.6	1,382.8
Sheep	0.6	30.7	46.1	15.3	92.7
Pigs	3.4	92.5	134.1	37.5	267.5
Chickens	12.6	563.5	683.7	140.7	1,400.4
Ducks	1.5	25.6	40.1	25.4	92.6
Pigeons	1.1	42.4	115.0	57.3	215.8
Total holdings	32.1	1,166.0	1,241.1	296.8	2,736.1
PERCENT					
Cattle	67.2	61.7	84.7	92.9	75.6
Chaunri	-	0.4	0.3	0.2	0.3
Buffaloes	29.0	37.0	54.5	64.2	47.8
Goats	49.8	42.5	56.3	57.8	50.5
Sheep	2.0	2.6	3.7	5.2	3.4
Pigs	10.6	7.9	10.8	12.6	9.8
Chickens	39.2	48.3	55.1	47.4	51.2
Ducks	4.7	2.2	3.2	8.6	3.4
Pigeons	3.3	3.6	9.3	19.3	7.9
Total	100.0	100.0	100.0	100.0	100.0

TABLE 11.7: LIVESTOCK NUMBERS BY MAIN LIVESTOCK TYPE AND SIZE OF HOLDING,
NEPAL, 1991/92

('000)

Livestock type	Size of holding				Total
	No land	Less than .5 ha	.5 - 2 ha	2 ha and over	
Cattle	66.3	2,062.9	3,818.0	1,412.0	7,359.3
Chaunri	1.3	24.6	27.0	5.7	58.6
Buffaloes	18.7	829.4	1,660.8	607.5	3,116.3
Goats	65.0	1,677.8	2,950.3	822.4	5,515.5
Sheep	5.6	172.3	310.6	114.4	602.8
Pigs	13.3	154.8	241.2	86.5	495.8
Chickens	498.9	4,178.2	5,766.7	1,889.4	12,333.1
Ducks	10.3	64.9	107.6	97.5	280.3
Pigeons	10.2	211.5	601.0	597.2	1,419.9

TABLE 11.8: NUMBERS OF CATTLE, CHAUNRI AND BUFFALOES BY SEX AND AGE, NEPAL, 1981/82 AND 1991/92

1991/92

ANCILLARY ACTIVITIES

('000)

Sex and age	Cattle		Chaunri		Buffaloes	
	1981/82	1991/92	1981/82	1991/92	1981/82	1991/92
MALES						
Under one year	na	415.6	na	4.3	na	249.1
One to three years	525.0	511.2	5.7	3.3	175.9	155.1
Three years and over	2,148.7	3,207.7	8.8	11.7	170.7	274.8
Total males	na	4,134.4	na	19.2	na	679.0
FEMALES						
Under one year	na	416.6	na	4.4	na	324.6
One to three years	614.7	534.4	6.7	3.4	389.3	427.7
Three years and over	2,661.4	2,273.9	23.4	31.6	1,367.8	1,685.0
Total females	na	3,224.9	na	39.4	na	2,437.3
TOTAL						
Under one year	551.8	832.2	10.9	8.6	276.0	573.7
One to three years	1,139.7	1,045.5	12.4	6.7	565.3	582.9
Three years and over	4,810.1	5,481.6	32.2	43.2	1,538.5	1,959.8
Total	6,501.6	7,359.3	55.5	58.6	2,379.7	3,116.3

A total of 439,600 agricultural holdings (16 percent) had some woodland and forest land in 1991/92; 22 percent of holdings had forest land.

TABLE 11.9: NUMBERS OF GOATS AND SHEEP BY SEX AND AGE, NEPAL, 1991/92

('000)

Sex and age	Goats	Sheep
Males		
Under six months	727.8	64.5
Six months and over	960.2	140.6
Total	1,688.0	205.2
Females		
Under six months	788.8	71.2
Six months and over	3,038.7	326.4
Total	3,827.5	397.6
Total		
Under six months	1,516.7	135.7
Six months and over	3,998.9	467.1
Total	5,515.5	602.8

TABLE 11.10: NUMBERS OF ADULT FEMALE CATTLE, CHAUNRI AND BUFFALOES AND WHETHER IN MILK, NEPAL, 1991/92

Sex and age	Cattle	Chaunri	Buffaloes
Females aged 3 years and over ('000)	2,273.9	31.6	1,685.0
Number in milk ('000)	824.2	12.0	789.1
Percent in milk	36.2	37.9	46.8

CHAPTER 12

ANCILLARY ACTIVITIES

In addition to agricultural activities, the 1991/92 Agricultural Census also covered ancillary activities carried out on agricultural holdings in relation to forestry and fishing. The census focused on activities undertaken on agricultural holdings and their relationship with agricultural activities; this represents only a small component of the total forestry and fishing industries.

Compact forest area (Tables 12.1, 12.2, 12.3, 12.4)

In 1991/92, the area of compact woodland and forest area forming part of agricultural holdings was 108,800 hectares. This is up from only 15,000 hectares 10 years earlier. The majority of this land (93,200 hectares) is in the Hill belt. Eastern and Western Development Regions have large areas of forest land on agricultural holdings (34,500 and 46,600 hectares respectively).

A total of 439,600 agricultural holdings (16 percent) had some woodland and forest land in 1991/92; 22 percent of holdings in the Hill belt

FIGURE 12.1
NUMBER OF FOREST TREES, 1991/92
(millions)

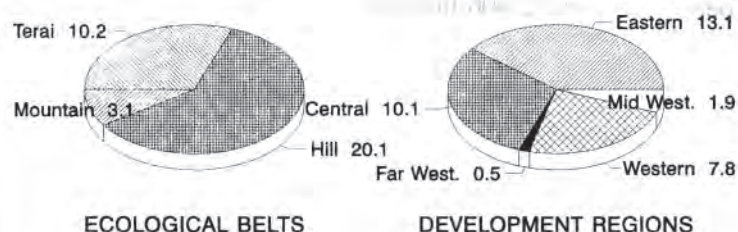
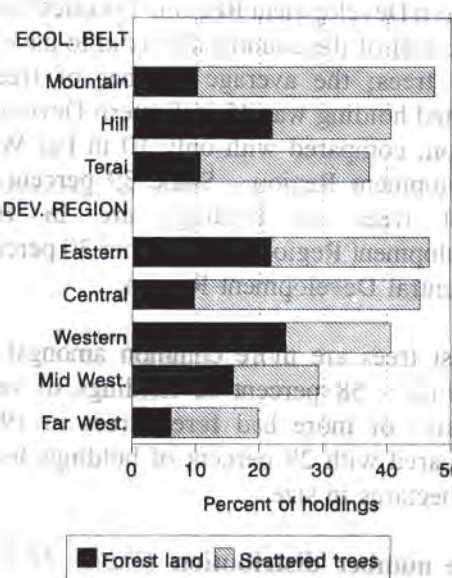


FIGURE 12.2
HOLDINGS WITH FOREST TREES
1991/92



had forest land. An estimated 31 percent of holdings with 2.0 hectares or more of land had some forest land.

All forestry activities (Tables 12.2, 12.3, 12.4)

Many agricultural holdings do not have a compact forest area, but have forest trees scattered throughout the holding. In all, 1.08 million agricultural holdings had some forest trees in 1991/92 - 40 percent of all holdings.

While the bulk of the compact forest land is in the Hill belt, the presence of scattered forest trees on agricultural holdings is more common in the Mountain belt; 47 percent of holdings in

the Mountain belt had some forest trees in 1991/92, compared with 41 percent in the Hill belt. However, there tends to be fewer trees per forested holding in the Mountain belt - 25 compared with 37 in the Hill belt. Over 60 percent of all forest trees on agricultural holdings are in the Hill belt.

The presence of forest trees on agricultural holdings becomes less common as one moves westward. In 1991/92, 47 percent of holdings in Eastern Development Region had some forest trees, compared with only 20 percent in Far Western Development Region. Forested holdings in the east of the country also tend to have many more trees; the average number of trees per forested holding was 45 in Eastern Development Region, compared with only 10 in Far Western Development Region. Some 39 percent of all forest trees on holdings are in Eastern Development Region and a further 30 percent are in Central Development Region.

Forest trees are more common amongst larger holdings - 58 percent of holdings of size 2.0 hectares or more had forest trees in 1991/92, compared with 28 percent of holdings less than 0.5 hectares in size.

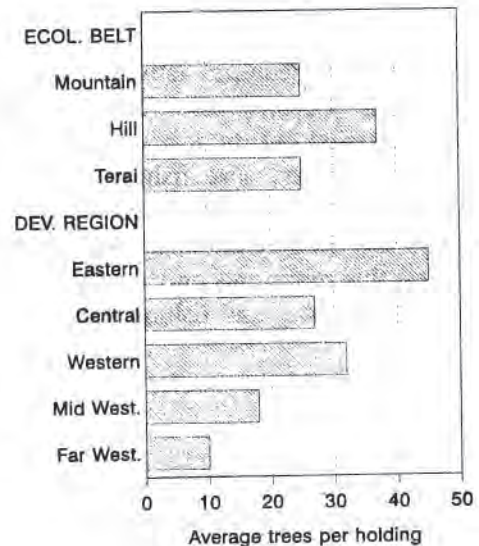
Tree number distribution (Tables 12.5, 12.6, 12.7)

In 1991/92, 44 percent of agricultural holdings with forest trees had fewer than 10 trees. Only 16 percent had 50 or more trees.

In the Hill belt, some 20 percent of holdings with forest trees had 50 or more trees, compared with only 14 percent in the Mountain belt.

Almost 70 percent of Far Western holdings with forest trees had fewer than 10 trees; only 3 per-

FIGURE 12.3
AVERAGE TREES PER FORESTED HOLDING
1991/92



cent had 50 or more trees. In Eastern Development Region, only 37 percent had fewer than 10 trees, while 21 percent had 50 or more trees.

Fisheries (Table 12.8)

Information on fisheries collected in the 1991/92 Agricultural Census refers to fishing activities in ponds or paddy fields on land which is part of agricultural holdings.

In 1991/92, 12,900 agricultural holdings had some fisheries activities on the holding. Nearly 95 percent were in the three eastern-most regions. The total area of fish ponds on holdings was 2,400 hectares.

TABLE 12.1: WOODLAND AND FOREST LAND, NEPAL, 1961/62 TO 1991/92

	1961/62	1971/72	1981/82	1991/92
Holdings with woodland and forest land ('000)	150.0	50.7	88.9	439.6
Total land holdings ('000)	1,518.0	1,707.3	2,185.7	2,703.9
Area of woodland and forest land ('000 ha)	13.8	4.7	15.0	108.8

TABLE 12.2: CHARACTERISTICS OF FORESTRY ACTIVITIES ON LAND HOLDINGS BY ECOLOGICAL BELT, 1991/92

	Ecological belt			
	Mountain	Hill	Terai	Nepal
Woodland and forest land				
Number of holdings ('000)	26.5	297.3	115.8	439.6
Area ('000 ha)	5.7	93.2	9.9	108.8
Forest trees on holding				
Number of holdings ('000)	123.2	548.2	407.2	1,078.6
Percent of all holdings	47.4	40.6	37.3	39.9
Number of trees ('000)	3,127.7	20,113.3	10,214.2	33,455.2
Average number of trees	25	37	25	31
Total land holdings ('000)	259.9	1,351.3	1,092.8	2,703.9

TABLE 12.3: CHARACTERISTICS OF FORESTRY ACTIVITIES ON LAND HOLDINGS BY DEVELOPMENT REGION, 1991/92

	Development region					Nepal
	Eastern	Central	Western	Mid West.	Far West.	
Woodland and forest land						
Number of holdings ('000)	137.0	82.3	145.6	58.6	16.0	439.6
Area ('000 ha)	34.5	9.3	46.6	13.8	4.5	108.8
Forest trees on holding						
Number of holdings ('000)	293.1	381.3	244.8	107.8	51.7	1,078.6
Percent of all holdings	46.6	45.2	40.6	29.3	19.9	39.9
Number of trees ('000)	13,118.2	10,133.9	7,750.2	1,912.7	540.2	33,455.2
Average number of trees	45	27	32	18	10	31
Total land holdings ('000)	628.5	843.7	603.3	368.3	260.1	2,703.9

TABLE 12.4: CHARACTERISTICS OF FORESTRY ACTIVITIES ON LAND HOLDINGS BY SIZE OF HOLDING, NEPAL, 1991/92

	Size of holding			Total
	Less than .5 ha	.5 - 2 ha	2 ha and over	
Woodland and forest land				
Number of holdings ('000)	94.4	254.2	91.1	439.6
Area ('000 ha)	5.5	44.6	58.7	108.8
Forest trees on holding				
Number of holdings ('000)	328.2	576.9	173.6	1,078.6
Percent of all holdings	28.1	46.5	58.5	39.9
Number of trees ('000)	3,293.1	15,916.5	14,245.6	33,455.2
Average number of trees	10	28	82	31
Total land holdings ('000)	1,166.0	1,241.1	296.8	2,703.9

TABLE 12.5: NUMBER AND PERCENT OF HOLDINGS WITH FOREST TREES
BY NUMBER OF TREES AND ECOLOGICAL BELT, 1991/92

Number of trees	Ecological belt			
	Mountain	Hill	Terai	Nepal
NUMBER OF HOLDINGS ('000)				
1 - 9	47.6	198.7	230.4	476.6
10 - 49	58.6	242.1	131.6	432.4
50 - 199	15.3	91.1	37.0	143.4
200 and over	1.8	16.2	8.2	26.2
Total	123.2	548.2	407.2	1,078.6
PERCENT				
1 - 9	38.6	36.2	56.6	44.2
10 - 49	47.6	44.2	32.3	40.1
50 - 199	12.4	16.6	9.1	13.3
200 and over	1.4	3.0	2.0	2.4
Total	100.0	100.0	100.0	100.0

TABLE 12.6: NUMBER AND PERCENT OF HOLDINGS WITH FOREST TREES BY NUMBER OF TREES AND
DEVELOPMENT REGION, 1991/92

Number of trees	Development region					
	Eastern	Central	Western	Mid West.	Far West.	Nepal
NUMBER OF HOLDINGS ('000)						
1 - 9	107.5	168.8	102.9	61.3	36.0	476.6
10 - 49	124.7	157.7	98.7	37.3	14.1	432.4
50 - 199	48.2	47.6	37.8	8.3	1.4	143.4
200 and over	12.7	7.2	5.4	0.8	0.2	26.2
Total	293.1	381.3	244.8	107.8	51.7	1,078.6
PERCENT						
1 - 9	36.7	44.3	42.0	56.9	69.7	44.2
10 - 49	42.5	41.4	40.3	34.6	27.2	40.1
50 - 199	16.5	12.5	15.4	7.7	2.7	13.3
200 and over	4.3	1.9	2.2	0.7	0.3	2.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 12.7: NUMBER AND PERCENT OF HOLDINGS WITH FOREST TREES
BY NUMBER OF TREES AND SIZE OF HOLDING, NEPAL, 1991/92

Number of trees	Size of holding			
	Less than .5 ha	.5 - 2 ha	2 ha and over	Total
NUMBER OF HOLDINGS ('000)				
1 - 9	201.0	228.1	47.5	476.6
10 - 49	123.4	242.6	66.4	432.4
50 - 199	3.7	99.0	40.7	143.4
200 and over	0.1	7.2	18.9	26.2
Total	328.2	576.9	173.6	1,078.6
PERCENT				
1 - 9	61.2	39.5	27.4	44.2
10 - 49	37.6	42.1	38.3	40.1
50 - 199	1.1	17.2	23.4	13.3
200 and over	-	1.2	10.9	2.4
Total	100.0	100.0	100.0	100.0

TABLE 12.8: CHARACTERISTICS OF FISHERIES ACTIVITIES ON HOLDINGS BY DEVELOPMENT REGION, 1991/92

	Development region					Nepal
	Eastern	Central	Western	Mid West.	Far West.	
H'ings with fisheries ('000)	5.5	4.3	2.4	0.7	-	12.9
Holdings with ponds	5.3	3.3	2.2	0.5	-	11.5
H'ings with other fisheries	0.2	1.0	0.2	0.1	-	1.5
Total land holdings ('000)	628.5	843.7	603.3	368.3	260.1	2,703.9
Area of fish ponds ('000 ha)	1.0	0.9	0.3	0.2	-	2.4

CHAPTER 13

NON-RESIDENTIAL BUILDINGS

The 1991/92 Agricultural Census collected information for each agricultural holding on the use of non-residential buildings on the holding for agricultural purposes.

In 1991/92, there were 1.24 million agricultural holdings (46 percent of all holdings) containing a non-residential building used mainly for keeping livestock. An estimated 96,600 holdings (3.6 percent) had a building used for keeping poultry, 91,100 (3.4 percent) had a building used for storage of agricultural produce and 132,000 (4.9 percent) had a building used for other purposes.

In all, there were 1.41 million non-residential buildings on agricultural holdings in 1991/92 used for keeping livestock, 101,900 used for keeping poultry, 101,600 used for storage of agricultural produce, and 142,700 used for other purposes.

FIGURE 13.1
TYPES OF NON-RESIDENTIAL BUILDINGS
NEPAL, 1991/92

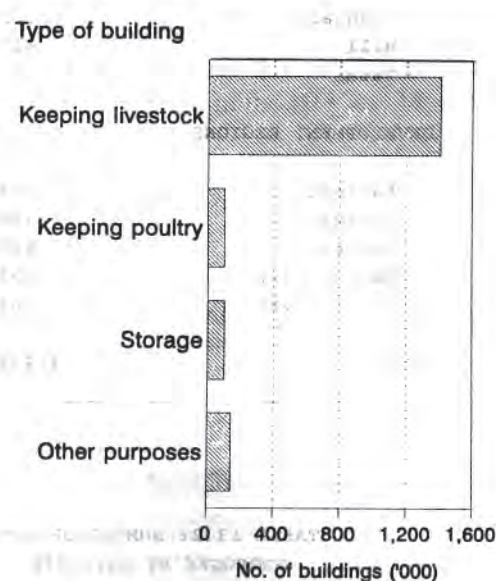


TABLE 13.1: NUMBER OF LAND HOLDINGS WITH NON-RESIDENTIAL BUILDINGS USED FOR AGRICULTURAL PURPOSES BY MAIN USE - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

('000)

	Main use				Total land holdings
	Keeping livestock	Keeping poultry	Storage of ag. produce	Other purposes	
ECOLOGICAL BELTS					
Mountain	129.0	5.3	4.8	15.8	259.9
Hill	619.7	41.0	37.9	47.6	1,351.3
Terai	489.5	50.3	48.4	68.6	1,092.8
DEVELOPMENT REGIONS					
Eastern	328.6	44.6	24.1	57.2	628.5
Central	335.2	15.2	26.7	32.7	843.7
Western	295.8	22.6	22.3	29.1	603.3
Mid Western	193.8	7.6	11.1	8.8	368.3
Far Western	84.8	6.7	6.8	4.2	260.1
NEPAL	1,238.2	96.6	91.1	132.0	2,703.9

TABLE 13.2: NUMBER OF NON-RESIDENTIAL BUILDINGS USED FOR AGRICULTURAL PURPOSES BY MAIN USE - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

('000)

	Main use			
	Keeping livestock	Keeping poultry	Storage of ag. produce	Other purposes
ECOLOGICAL BELTS				
Mountain	145.6	5.7	5.1	16.5
Hill	732.9	42.6	39.6	49.8
Terai	529.3	53.6	56.9	76.4
DEVELOPMENT REGIONS				
Eastern	384.2	46.9	25.8	60.8
Central	366.9	16.6	31.4	37.5
Western	342.3	23.6	24.2	30.1
Mid Western	219.4	8.0	12.8	9.6
Far Western	95.0	6.8	7.4	4.6
NEPAL	1,407.9	101.9	101.6	142.7

CHAPTER 14

AGRICULTURAL CREDIT

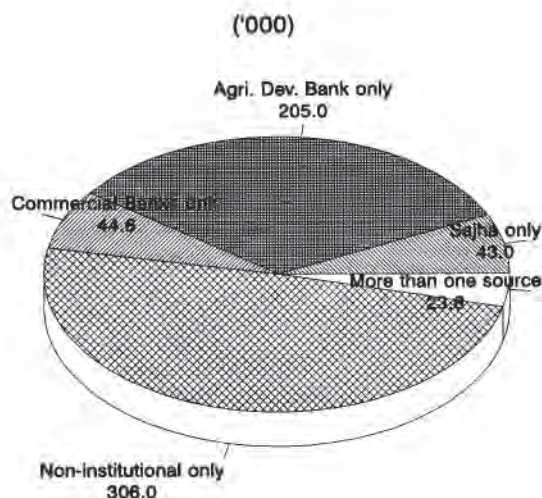
Information was collected in the 1991/92 Agricultural Census on whether each agricultural holding had an existing agricultural loan.

Source of credit (Table 14.3)

At the time of the 1991/92 Agricultural Census, 622,000 agricultural holdings (23 percent of all holdings) had an existing agricultural loan. Almost one half of these (306,000 holdings) received credit solely from non-institutional sources (money lenders, relatives, etc.).

A total of 228,000 holdings (37 percent of those with credit) received credit through the Agricultural Development Bank, Nepal - 205,000 of these received credit only from the Bank; the remaining 23,000 had credit from other sources as well.

FIGURE 14.1
HOLDINGS WITH CREDIT, NEPAL, 1991/92
SOURCE OF CREDIT

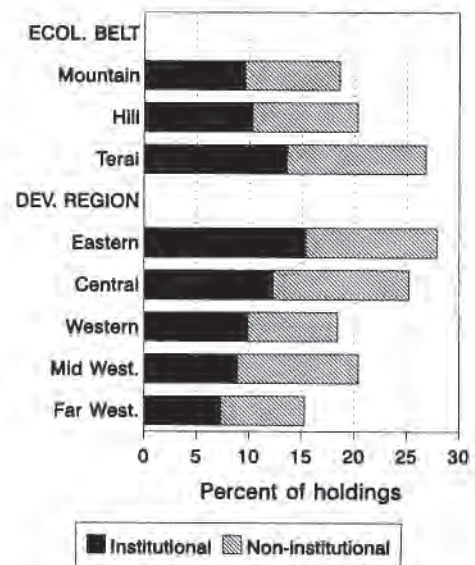


Sajha and the commercial banks provided credit to 111,200 holdings.

Regional comparisons (Tables 14.1, 14.2)

Agricultural credit is more common in the Terai than in hill and mountain areas. In 1991/92, 27 percent of Terai holdings had credit, compared with 20 and 19 percent in the Hill and Mountain belts respectively.

FIGURE 14.2
HOLDINGS WITH AGRICULTURAL CREDIT
1991/92



The non-institutional share of credit is similar across the three ecological belts; in each of the Mountain, Hill and Terai belts, just under one half of those with credit relied solely on non-institutional sources.

Fewer holdings in western regions of the country

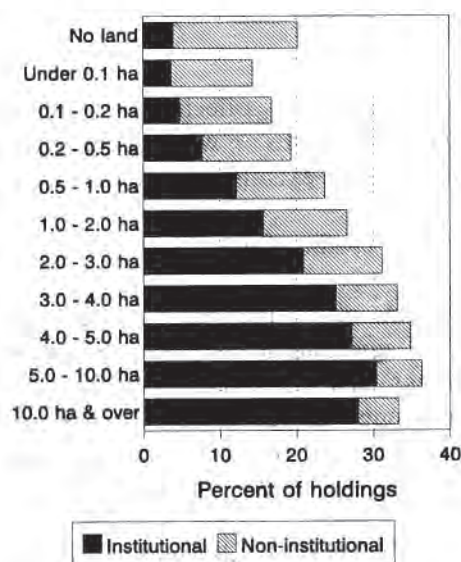
receive credit than in eastern areas. Only 15 percent of agricultural holdings in Far Western Development Region had credit in 1991/92. In Western and Mid Western Regions, the figures were 18 and 20 percent respectively. This compares with 28 percent of holdings with credit in Eastern Development Region and 25 percent in Central Development Region.

Agricultural holdings in the west of the country rely more on non-institutional sources of credit than in eastern areas. In 1991/92, 55 percent of holdings with credit in Eastern Region used lending institutions. The percentage using lending institutions was 48 percent in Far Western Region and only 44 percent in Mid Western Region.

Comparison of small and large holdings (Table 14.4)

Small holdings rely more on non-institutional sources for agricultural credit than do larger holdings. In 1991/92, only 6 percent of holdings less than 0.5 hectares in size had credit from a lending institution, compared with 24 percent for holdings of size 2.0 hectares or more. Some 12

FIGURE 14.3
HOLDINGS WITH CREDIT BY
SIZE OF HOLDING, NEPAL, 1991/92



percent of small holdings had credit only from a non-institutional source, compared with 9 percent for large holdings.

TABLE 14.1: NUMBER AND PERCENT OF HOLDINGS BY WHETHER HAVE AGRICULTURAL CREDIT AND ECOLOGICAL BELT, 1991/92

Source of credit	Ecological belt			
	Mountain	Hill	Terai	Nepal
NUMBER OF HOLDINGS ('000)				
Holdings with credit	48.5	274.5	299.0	622.0
Institutional sources	25.0	139.4	151.6	316.0
Non-institutional sources	23.5	135.1	147.4	306.0
Holdings without credit	212.2	1,083.2	818.6	2,114.0
Total holdings	260.7	1,357.7	1,117.6	2,736.1
PERCENT				
Holdings with credit	18.6	20.2	26.8	22.7
Institutional sources	9.6	10.3	13.6	11.6
Non-institutional sources	9.0	10.0	13.2	11.2
Holdings without credit	81.4	79.8	73.2	77.3
Total holdings	100.0	100.0	100.0	100.0

TABLE 14.2: NUMBER AND PERCENT OF HOLDINGS BY WHETHER HAVE AGRICULTURAL CREDIT AND DEVELOPMENT REGION, 1991/92

Source of credit	Development region					
	Eastern	Central	Western	Mid West.	Far West.	Nepal
NUMBER OF HOLDINGS ('000)						
Holdings with credit	177.4	216.2	112.1	75.9	40.4	622.0
Institutional sources	97.8	105.5	60.5	33.0	19.2	316.0
Non-institutional sources	79.7	110.7	51.6	42.9	21.2	306.0
Holdings without credit	458.9	639.2	496.7	295.6	223.7	2,114.0
Total holdings	636.4	855.3	608.8	371.5	264.1	2,736.1
PERCENT						
Holdings with credit	27.9	25.3	18.4	20.4	15.3	22.7
Institutional sources	15.4	12.3	9.9	8.9	7.3	11.6
Non-institutional sources	12.5	12.9	8.5	11.5	8.0	11.2
Holdings without credit	72.1	74.7	81.6	79.6	84.7	77.3
Total holdings	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 14.3: NUMBER AND PERCENT OF HOLDINGS WITH AGRICULTURAL CREDIT BY SOURCE OF CREDIT, NEPAL, 1991/92

Source of credit	Holdings with credit ('000)	Percent
Sajha only	43.0	6.9
Agricultural Development Bank only	205.0	32.9
Commercial Banks only	44.6	7.2
Sajha & Agric. Development Bank	20.1	3.2
Agric. Dev. Bank & Commercial Banks	2.3	0.4
Sajha & Commercial Banks	0.6	0.1
Sajha, Agric. Dev. Bank & Comm. Banks	0.3	-
Sajha, Comm. Bank, Agric. Dev. Bank & non-institutional	0.3	-
Non-institutional only	306.0	49.2
Total holdings with credit	622.0	100.0

TABLE 14.4: NUMBER AND PERCENT OF HOLDINGS WITH AGRICULTURAL CREDIT BY SOURCE OF CREDIT AND SIZE OF HOLDING, NEPAL, 1991/92

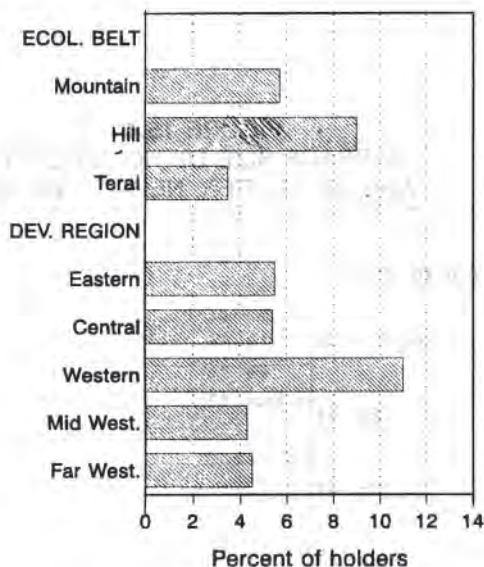
Size of holding	Institutional source		Non-instit. source		All holdings	
	Holdings ('000)	Percent	Holdings ('000)	Percent	Holdings ('000)	Percent
No land	1.3	4.0	5.2	16.2	32.1	100.0
Under 0.1 ha	6.4	3.7	18.3	10.6	173.0	100.0
0.1 - 0.2 ha	12.7	4.8	31.6	12.0	263.8	100.0
0.2 - 0.5 ha	56.2	7.7	84.4	11.6	729.2	100.0
0.5 - 1.0 ha	86.6	12.2	82.2	11.5	711.7	100.0
1.0 - 2.0 ha	83.0	15.7	57.9	10.9	529.5	100.0
2.0 - 3.0 ha	35.2	20.9	17.2	10.2	168.4	100.0
3.0 - 4.0 ha	15.0	25.1	4.7	8.0	59.6	100.0
4.0 - 5.0 ha	7.8	27.2	2.2	7.6	28.6	100.0
5.0 - 10.0 ha	9.7	30.4	1.9	5.9	32.0	100.0
10.0 ha & over	2.3	28.0	0.4	5.2	8.2	100.0
Total	316.0	11.6	306.0	11.2	2,736.1	100.0

CHAPTER 15

CHARACTERISTICS OF AGRICULTURAL HOLDERS

The agricultural holder is the person in the agricultural holding who exercises management control over the operations of the holding. The holder is usually the same person as the household head - 96 percent of all holders in the 1991/92 Agricultural Census. The holder was identified on the basis of the person acknowledged by household members as the primary decision maker on matters relating to the operations of the agricultural holding.

FIGURE 15.1
FEMALE HOLDERS
1991/92



Sex of holder (Tables 15.1, 15.2, 15.3, 15.4, 15.5)

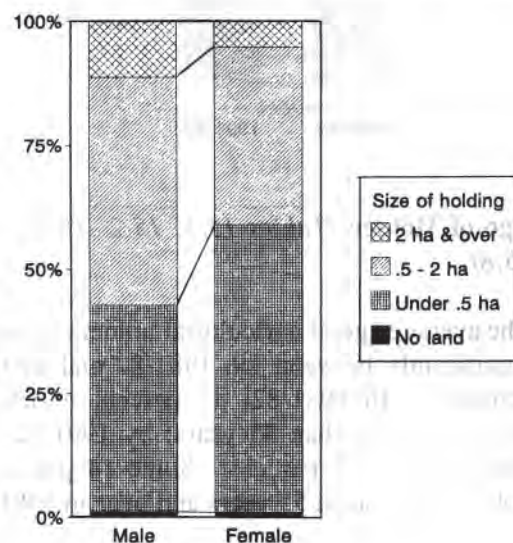
While women are actively involved in all aspects of farm work, the overwhelming majority of holders were identified as males. In 1991/92,

there were 175,600 female holders, representing just 6.4 percent of all agricultural holders. The percentage of female holders was almost the same as in 1981/82.

There are some geographical differences in the incidence of female holders. Amongst ecological belts, female holders were more prevalent in the Hill belt (9.0 percent of holders). In the Mountain belt, 5.7 percent of holders were females. Only 3.5 percent of Terai holders were females.

Amongst development regions, the proportion of female holders was highest in Western Development Region (11 percent). Fewer than 6 percent of holders were females in each of the other regions.

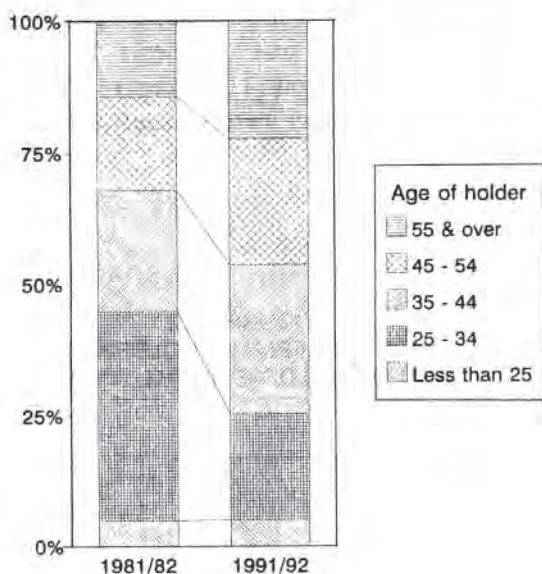
FIGURE 15.2
MALE AND FEMALE HOLDERS BY
SIZE OF HOLDING, NEPAL, 1991/92



Agricultural holdings headed by females tend to be much smaller than those of male holders. The average size of holding for female holders was 0.66 hectares in 1991/92, compared with 0.98 hectares for males. Some 58 percent of female holders had less than 0.5 hectares of land; only 42 percent of male holders had holdings of this size.

Female holders tend to be a little older than their male counterparts - in 1991/92, 52 percent of female holders were 45 years of age or older, compared with 46 percent of male holders.

FIGURE 15.3
HOLDERS BY AGE, NEPAL
1981/82 AND 1991/92



Age of Holder (Tables 15.1, 15.2, 15.6, 15.7, 15.8)

The average age of agricultural holders increased significantly between the 1981/82 and 1991/92 censuses. In 1981/82, 45 percent of holders were aged less than 35 years; by 1991/92, this had fallen to 25 percent. Some 14 percent of holders were aged 55 years and over in 1981/82;

this had increased to 22 percent by 1991/92.

The age structure of agricultural holders is similar across ecological belts. However, holders tend to be younger in Mid Western and Far Western Development Regions; in 1991/92, 29 percent of all holders in these regions were aged less than 35 years, compared with 26 percent in Eastern and Central Regions. In Western Development Region, there were significantly fewer young holders (only 21 percent were aged less than 35 years).

Around 17 percent of holders in Mid and Far Western Regions were aged 55 years and over, compared with 22 percent in Eastern and Central Regions. In Western Region, 27 percent of holders were at least 55 years old.

The younger the holder, the less land he or she is likely to operate. The average size of holding for holders aged less than 35 years was 0.73 hectares in 1991/92; holders 65 years of age and over averaged 1.25 hectares and those between 55 and 64 years of age averaged 1.17 hectares.

FIGURE 15.4
AVERAGE SIZE OF HOLDING BY
AGE OF HOLDER, NEPAL, 1991/92

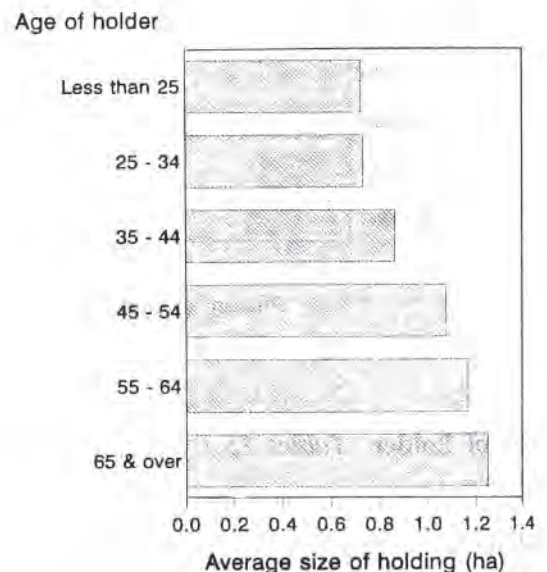


TABLE 15.1: NUMBER AND PERCENT OF HOLDERS BY SEX AND BY AGE, NEPAL, 1981/82 AND 1991/92

	No. of holders ('000)		Percent of holders		Ave. size of holding (ha)
	1981/82	1991/92	1981/82	1991/92	1991/92
Sex of holder					
Male	2,055.1	2,560.5	93.7	93.6	0.98
Female	138.8	175.6	6.3	6.4	0.66
Total holders	2,194.0	2,736.1	100.0	100.0	0.96
Age of holder					
Less than 25	108.2	139.6	4.9	5.1	0.73
25-34	877.4	556.6	40.0	20.3	0.74
35-44	505.3	774.6	23.0	28.3	0.87
45-54	390.5	656.1	17.8	24.0	1.08
55-64	312.5	406.8	14.2	14.9	1.17
65 and over	312.5	202.4	14.2	7.4	1.25
Total holders	2,194.0	2,736.1	100.0	100.0	0.96

TABLE 15.2: NUMBER OF HOLDERS BY SEX AND AGE, NEPAL, 1991/92

('000)

Age of holder	Sex of holder		
	Males	Females	Persons
Less than 25	132.9	6.7	139.6
25-34	526.5	30.1	556.6
35-44	727.4	47.2	774.6
45-54	610.6	45.6	656.1
55-64	376.1	30.7	406.8
65 and over	186.9	15.5	202.4
Total holders	2,560.5	175.6	2,736.1

TABLE 15.3: NUMBER AND PERCENT OF HOLDERS BY SEX AND ECOLOGICAL BELT, 1991/92

Sex of holder	Ecological belt			
	Mountain	Hill	Teral	Nepal
NUMBER OF HOLDERS ('000)				
Male	245.9	1,236.0	1,078.6	2,560.5
Female	14.8	121.8	39.0	175.6
Total holders	260.7	1,357.7	1,117.6	2,736.1
PERCENT				
Male	94.3	91.0	96.5	93.6
Female	5.7	9.0	3.5	6.4
Total holders	100.0	100.0	100.0	100.0

TABLE 15.4: NUMBER AND PERCENT OF HOLDERS BY SEX AND DEVELOPMENT REGION, 1991/92

Sex of holder	Development region					
	Eastern	Central	Western	Mid West.	Far West.	Nepal
NUMBER OF HOLDERS ('000)						
Male	601.4	809.5	541.8	355.5	252.2	2,560.5
Female	35.0	45.9	67.0	16.0	11.8	175.6
Total holders	636.4	855.3	608.8	371.5	264.1	2,736.1
PERCENT						
Male	94.5	94.6	89.0	95.7	95.5	93.6
Female	5.5	5.4	11.0	4.3	4.5	6.4
Total holders	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 15.5: NUMBER AND PERCENT OF HOLDERS BY SEX AND SIZE OF HOLDING, NEPAL, 1991/92

Sex of holder	Size of holding				
	No land	Less than .5 ha	.5 - 2 ha	2 ha and over	Total
NUMBER OF HOLDERS ('000)					
Male	30.3	1,064.2	1,178.2	287.7	2,560.5
Female	1.8	101.8	62.9	9.1	175.6
Total holders	32.1	1,166.0	1,241.1	296.8	2,736.1
PERCENT					
Male	94.3	91.3	94.9	96.9	93.6
Female	5.7	8.7	5.1	3.1	6.4
Total holders	100.0	100.0	100.0	100.0	100.0

TABLE 15.6: NUMBER AND PERCENT OF HOLDERS BY AGE AND ECOLOGICAL BELT, 1991/92

Age of holder	Ecological belt			
	Mountain	Hill	Terai	Nepal
NUMBER OF HOLDERS ('000)				
Less than 25	15.0	72.8	51.8	139.6
25-34	55.9	271.2	229.5	556.6
35-44	73.1	361.5	339.9	774.6
45-54	61.9	326.2	268.0	656.1
55-64	37.9	213.9	155.0	406.8
65 and over	16.8	112.1	73.5	202.4
Total holders	260.7	1,357.7	1,117.6	2,736.1
PERCENT				
Less than 25	5.8	5.4	4.6	5.1
25-34	21.5	20.0	20.5	20.3
35-44	28.1	26.6	30.4	28.3
45-54	23.8	24.0	24.0	24.0
55-64	14.5	15.8	13.9	14.9
65 and over	6.4	8.3	6.6	7.4
Total holders	100.0	100.0	100.0	100.0

TABLE 15.7: NUMBER AND PERCENT OF HOLDERS BY AGE AND DEVELOPMENT REGION, 1991/92

Age of holder	Development region					Nepal
	Eastern	Central	Western	Mid West.	Far West.	
NUMBER OF HOLDERS ('000)						
Less than 25	29.8	42.5	23.5	25.7	18.2	139.6
25-34	131.5	179.4	103.3	85.3	57.1	556.6
35-44	182.2	242.7	162.8	107.7	79.3	774.6
45-54	152.0	199.3	152.4	89.1	63.4	656.1
55-64	93.6	126.5	105.7	46.9	34.1	406.8
65 and over	47.4	65.0	61.2	16.7	12.1	202.4
Total holders	636.4	855.3	608.8	371.5	264.1	2,736.1
PERCENT						
Less than 25	4.7	5.0	3.9	6.9	6.9	5.1
25-34	20.7	21.0	17.0	23.0	21.6	20.3
35-44	28.6	28.4	26.7	29.0	30.0	28.3
45-54	23.9	23.3	25.0	24.0	24.0	24.0
55-64	14.7	14.8	17.4	12.6	12.9	14.9
65 and over	7.4	7.6	10.0	4.5	4.6	7.4
Total holders	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 15.8: NUMBER AND PERCENT OF HOLDERS BY AGE AND SIZE OF HOLDING, NEPAL, 1991/92

Age of holder	Size of holding				Total
	No land	Less than .5 ha	.5 - 2 ha	2 ha and over	
NUMBER OF HOLDERS ('000)					
Less than 25	1.7	74.1	55.1	8.6	139.6
25-34	8.0	285.6	225.7	37.3	556.6
35-44	10.7	346.1	347.9	69.9	774.6
45-54	6.5	250.3	314.5	84.7	656.1
55-64	3.9	140.6	199.1	63.2	406.8
65 and over	1.3	69.2	98.9	33.0	202.4
Total holders	32.1	1,166.0	1,241.1	296.8	2,736.1
PERCENT					
Less than 25	5.3	6.4	4.4	2.9	5.1
25-34	24.8	24.5	18.2	12.6	20.3
35-44	33.2	29.7	28.0	23.6	28.3
45-54	20.3	21.5	25.3	28.5	24.0
55-64	12.2	12.1	16.0	21.3	14.9
65 and over	4.1	5.9	8.0	11.1	7.4
Total holders	100.0	100.0	100.0	100.0	100.0

CHAPTER 16

CHARACTERISTICS OF FARM POPULATION

This chapter presents information on the characteristics of the farm population. The farm population consists of all household members of agricultural holders. Additional information on farm population, especially in relation to the total population, is given in Chapter 1.

In 1991/92, the total farm population in Nepal was estimated to be 16.3 million, 88 percent of the total population.

Age and sex composition (Tables 16.1, 16.2, 16.3)

Children aged less than 10 years comprised 27 percent of the total farm population in 1991/92. The proportion is slightly higher in the Terai (28 percent) and in Mid and Far Western Regions (29 percent).

Persons of prime working age (aged 15 to 64 years) represented 57 percent of the total farm population in Nepal in 1991/92. The percentage was slightly lower in the Terai and in Mid and Far Western Development Regions, reflecting the

FIGURE 16.1
AGE OF FARM POPULATION, NEPAL
1991/92

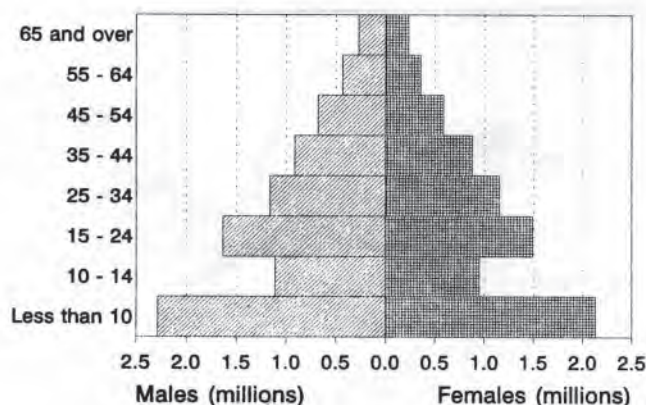
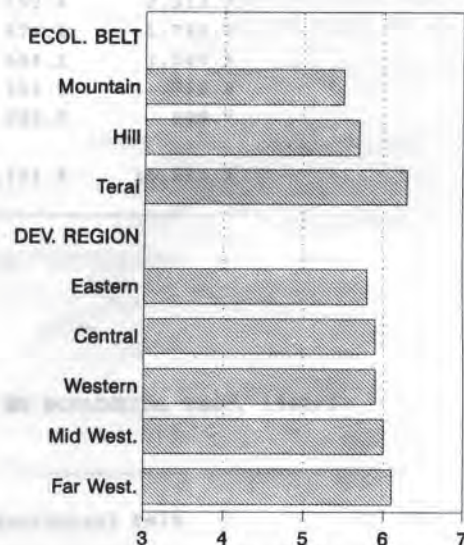


FIGURE 16.2
AVERAGE HOUSEHOLD SIZE
1991/92



higher proportion of children in these areas.

Only 3 percent of the total farm population was aged 65 years and over in 1991/92.

Overall, there were 109.5 males recorded in the 1991/92 Agricultural Census for every 100 females. This figure seems to be high and may have been partly the result of enumeration problems.

Household size (Tables 16.2, 16.3)

The average household size of farm households in 1991/92 was 5.9. Farm household sizes were larger in the Terai (6.3) than in the Mountain and Hill belts (5.5 and 5.7 respectively). Household

sizes were also slightly larger in the west of the country (6.1 in Far Western Region, compared to 5.8 in Eastern Region).

Comparison of small and large holdings (Table 16.4)

Holders with large holdings tend to have larger household sizes. In 1991/92, the average household size for holdings of size 2.0 hectares or more was 8.3, compared with 5.1 for holdings less than 0.5 hectares in size. This reflects the younger age of holders for small holdings. In

1991/92, 31 percent of holders with holding size less than 0.5 hectares were less than 35 years of age, double the figure for holdings of size 2.0 hectares or more.

Smaller holdings also tend to have fewer adult household members than large holdings (again because the holder is usually younger). Thus, they are also likely to have a higher percentage of children in their farm households; 28 percent for holdings less than 0.5 hectares in size, compared with 26 percent for holdings of size 2.0 hectares or more.



Figure 16.1: Distribution of farm population by region, 1991/92

The average household size of farm households in 1991/92 was 5.1. This is lower than the national average of 5.8. The average household size was higher in the lowlands (6.1) and lower in the highlands (4.7).

The average household size of farm households in 1991/92 was 5.1. This is lower than the national average of 5.8. The average household size was higher in the lowlands (6.1) and lower in the highlands (4.7).

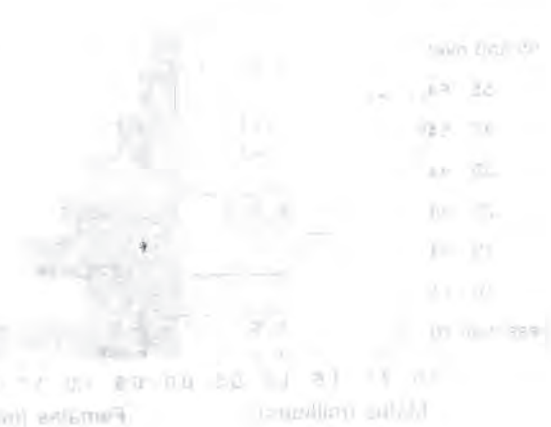
In 1991/92, the total farm population in Ethiopia was estimated to be 10.7 million, 88 percent of the total population.

The age and sex composition (Table 16.2)

Children aged less than 10 years comprised 23 percent of the total farm population in 1991/92. The proportion is slightly higher in the Tigray (28 percent) and in the Amhara and Western Regions (25 percent).

Persons of prime working age (aged 15 to 64 years) comprised 57 percent of the total farm population in 1991/92. The proportion was slightly lower in the Tigray and in the Amhara and Western Regions, reflecting the

Figure 16.2: Age and sex composition of farm population, 1991/92



Development region

TABLE 16.4: FARM POPULATION CHARACTERISTICS BY SIZE OF HOLDING, NEPAL.

TABLE 16.2: FARM POPULATION CHARACTERISTICS BY ECOLOGICAL BELT, 1991/92

Ecological belt

28.4	27.2
40.6	39.8
56.6	57.1
2.9	3.1
6.3	5.9

sizes were also slightly larger in the west of the country (6.1 in Far Western Region, compared to 5.8 in Eastern Region).

TABLE 16.3: FARM POPULATION CHARACTERISTICS BY DEVELOPMENT REGION, 1991/92

Comparison of small and large holdings (Table 16.4)

	Development region					Nepal
	Eastern	Central	Western	Mid West.	Far West	
Males per 100 females	109.6	112.1	106.2	109.1	109.0	109.5
Percent of population aged:						
Less than 10	26.2	27.5	25.9	29.0	28.6	27.2
Less than 15	39.2	39.6	38.8	42.0	41.3	39.8
15 to 64	57.6	57.3	57.4	55.8	56.4	57.1
65 and over	3.2	3.1	3.8	2.1	2.3	3.1
Average household size	5.8	5.9	5.9	6.0	6.1	5.9

TABLE 16.4: FARM POPULATION CHARACTERISTICS BY SIZE OF HOLDING, NEPAL, 1991/92

	Size of holding					Total
	No land	Less than .5 ha	.5 - 2 ha	2 ha and over		
Males per 100 females	113.5	108.4	108.8	113.8		109.5
Percent of population aged:						
Less than 10	28.6	28.1	26.8	25.9		27.2
Less than 15	39.9	40.5	39.8	38.4		39.8
15 to 64	57.9	56.9	57.0	57.9		57.1
65 and over	2.2	2.7	3.2	3.7		3.1
Average household size	5.4	5.1	6.2	6.3		5.9

CHAPTER 17

FARM LABOUR

Labour used on holdings (Tables 17.6, 17.13, 17.14)

In 1991/92, 7.91 million people did some work on their household's own farm holdings - 4.34 million males and 3.57 million females. In addition, 301,700 paid agricultural workers were employed permanently on agricultural holdings during 1991/92 - 230,300 males and 71,400 females. (A permanent worker is one who did paid work on the holding for six months or more during the year).

Some 936,400 agricultural holdings employed some occasional workers during 1991/92. This includes only those who worked for payment in cash or in kind. Work done in exchange for labour or otherwise without pay provides an additional important component of farm labour, but is not considered here.

Labour force status of farm population (Tables 17.2, 17.3, 17.4)

The overall participation of a given population in

FIGURE 17.1
FARM LABOUR, NEPAL, 1991/92
('000)

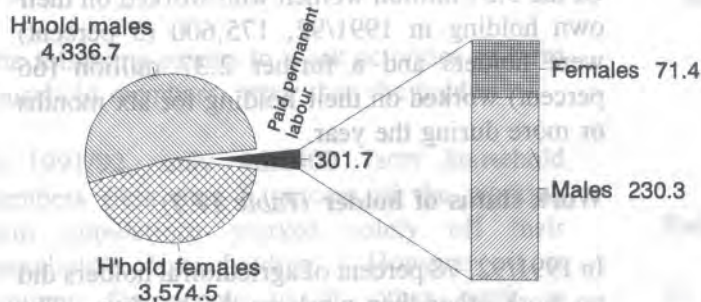
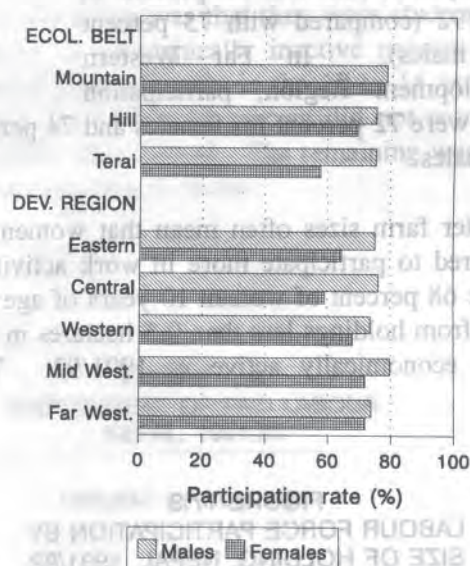


FIGURE 17.2
LABOUR FORCE PARTICIPATION
1991/92



the labour force is measured by the "labour force participation rate". The labour force participation rate is the percentage of the population of working age who are "economically active"; i.e. engaged in formal work activities such as farm work, paid job, own business, etc. (but excluding "non-economic work" such as work in a person's own house). The population of working age is normally taken to be those aged 15 years and above; in the present analysis, labour force activity is measured in relation to persons aged 10 years and over.

The overall farm population labour force participation rate in 1991/92 was

76 percent for males and 65 percent for females. Amongst ecological belts the female participation rate was highest in the Mountain belt (78 percent) - almost the same as for males. By contrast in the Terai, the female participation rate was only 58 percent, much lower than for males (75 percent).

The participation of women in work activities is higher in the western regions of the country. In Eastern Development Region, the female participation rate was 65 percent in 1991/92 (compared with 75 percent for males). In Far Western Development Region, participation rates were 72 percent for females and 74 percent for males.

Smaller farm sizes often mean that women are required to participate more in work activities. Some 68 percent of women 10 years of age and over from holdings less than 0.5 hectares in size were economically active in 1991/92. This

FIGURE 17.3
LABOUR FORCE PARTICIPATION BY
SIZE OF HOLDING, NEPAL, 1991/92

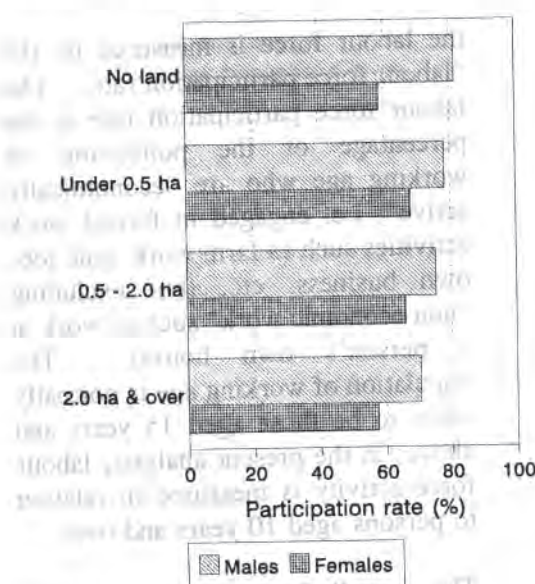
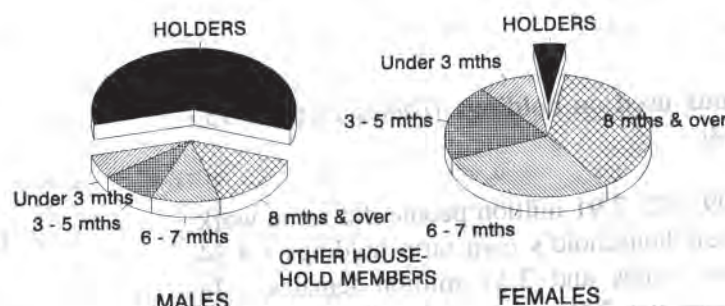


FIGURE 17.4
DURATION OF WORK ON HOLDING
HOUSEHOLD MEMBERS, NEPAL, 1991/92



compares with 57 percent for women from holdings of size 2.0 hectares and over.

Household members' farm work (Tables 17.5, 17.6)

Of the 7.91 million persons who did some work on their household's agricultural holding during 1991/92, 2.74 million were the holders - i.e. the persons having overall management control over the operations of the holding (usually the household head). Of the remaining 5.18 million household members, 1.69 million worked for less than six months on the holding during 1991/92, while 3.49 million worked for six months or more.

In 1991/92, 63 percent of women aged 10 years and over did some work on their household's agricultural holding, compared with 70 percent of males. Women commonly contribute significant labour to the household's farm work. Of the 3.57 million women who worked on their own holding in 1991/92, 175,600 (5 percent) were holders and a further 2.37 million (66 percent) worked on their holding for six months or more during the year.

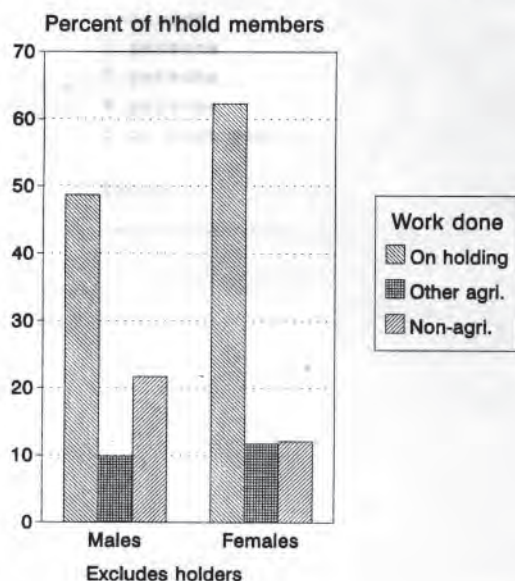
Work status of holder (Table 17.7)

In 1991/92, 78 percent of agricultural holders did no work other than work on the holding. The

remaining 22 percent worked both on and off the holding. For 14 percent of holders, work outside of agriculture was considered to be their main economic activity.

The smaller the holding size, the greater is the need for holders to work off their own holding. In 1991/92, 29 percent of holders with less than 0.5 hectares of land did other work off the holding, compared with only 11 percent for holders with 2.0 hectares or more of land. Work outside of agriculture was the main economic activity for more than one in five small farmers.

FIGURE 17.5
TYPE OF WORK DONE
HOUSEHOLD MEMBERS, NEPAL, 1991/92



Household members outside work (Tables 17.8, 17.9)

The following relates to work activities of farm household members, other than the holder.

In 1991/92, only 468,400 farm household members (less than 6 percent of the working farm population) worked solely off their household's farm holding. However, it is common for people to do other work in conjunction with work on their own farm. Some

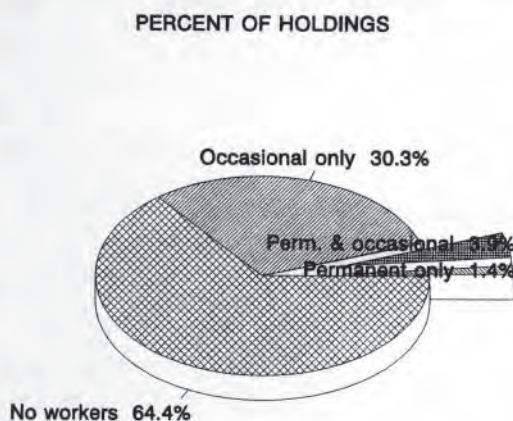
1.00 million farm household members did other agricultural work during 1991/92 and 1.45 million did other non-agricultural work.

Of those doing other agricultural work, 69 percent worked for less than six months in that work during 1991/92. Non-agricultural work tends to be more in the nature of long-term jobs - over one third of those doing non-agricultural work worked for eight months or more in that work during 1991/92.

Persons not economically active (Table 17.10)

The main reason for persons not being economically active was that they were students (56 percent of economically inactive persons). These were predominantly in the 10 to 14 year age group. A further 11 percent did not work because they were too old. The remaining were unable or unwilling to work.

FIGURE 17.6
EMPLOYMENT OF PAID LABOUR
NEPAL, 1991/92



Paid labour (Tables 17.11, 17.12, 17.13, 17.14)

In 1991/92, 36 percent of agricultural holdings employed some paid labour. The majority of

percent employed permanent workers.

ecological belts.

Development Regions, compared with only 19

percent in Far Western Development Region.

almost all only used occasional labour.

Eastern and Central Development Regions.



Household numbers outside work (Table 17)

TABLE 17.1: NUMBER AND PERCENT OF HOLDINGS BY NUMBER OF ECONOMICALLY ACTIVE
HOUSEHOLD MEMBERS AND SIZE OF HOLDING, NEPAL, 1991/92

		Size of holding				
Number of economically active household members		No land	Less than .5 ha	.5 - 2 ha	2 ha and over	Total
NUMBER OF HOLDINGS ('000)						
1 person		176.9	152.8	37.4	373.0	
2 persons		465.1	381.7	60.9	919.4	
3 persons		243.3	274.2	54.3	578.1	
4 persons		144.5	204.8	49.3	402.4	
5 or more persons		123.6	237.9	97.5	463.1	
Total		32.1	1,166.0	1,241.1	296.8	2,736.1
PERCENT						
1 person		18.2	15.2	12.3	12.6	13.6
2 persons		36.8	39.9	30.8	20.5	33.6
3 persons		19.4	20.9	22.1	18.3	21.1
4 persons		12.0	12.4	16.5	16.6	14.7
5 or more persons		13.0	10.6	19.2	32.8	16.9
Total		100.0	100.0	100.0	100.0	100.0

TABLE 17.2: FARM POPULATION AGED 10 YEARS AND ABOVE BY LABOUR FORCE STATUS, SEX AND ECOLOGICAL BELT, 1991/92

('000)

Labour force status during 1991/92	Ecological belt			
	Mountain	Hill	Terai	Nepal
MALES				
Economically active	433.7	2,209.6	2,053.1	4,696.4
Not economically active	119.4	724.2	669.5	1,513.0
Total males	553.1	2,933.7	2,722.6	6,209.4
Participation rate (a) (%)	78.4	75.3	75.4	75.6
FEMALES				
Economically active	392.8	1,937.6	1,352.7	3,683.2
Not economically active	113.3	852.5	984.9	1,950.8
Total females	506.2	2,790.2	2,337.7	5,634.0
Participation rate (a) (%)	77.6	69.4	57.9	65.4
PERSONS				
Economically active	826.6	4,147.2	3,405.9	8,379.6
Not economically active	232.7	1,576.7	1,654.4	3,463.8
Total persons	1,059.3	5,723.9	5,060.3	11,843.5
Participation rate (a) (%)	78.0	72.5	67.3	70.8

(a) Participation rate is the number of economically active persons as a percent of the total.

TABLE 17.3: FARM POPULATION AGED 10 YEARS AND ABOVE BY LABOUR FORCE STATUS, SEX AND DEVELOPMENT REGION, 1991/92

('000)

Labour force status during 1991/92	Development region					Nepal
	Eastern	Central	Western	Mid West.	Far West.	
MALES						
Economically active	1,077.0	1,484.7	1,020.4	666.9	447.5	4,696.4
Not economically active	355.8	463.8	365.3	169.0	159.1	1,513.0
Total males	1,432.8	1,948.5	1,385.7	835.8	606.6	6,209.4
Participation rate (a) (%)	75.2	76.2	73.6	79.8	73.8	75.6
FEMALES						
Economically active	843.0	1,018.5	880.9	543.5	397.4	3,683.2
Not economically active	464.1	704.5	415.2	212.1	155.0	1,950.8
Total females	1,307.1	1,723.0	1,296.1	755.5	552.3	5,634.0
Participation rate (a) (%)	64.5	59.1	68.0	71.9	71.9	65.4
PERSONS						
Economically active	1,919.9	2,503.2	1,901.3	1,210.3	844.9	8,379.6
Not economically active	819.9	1,168.3	780.5	381.0	314.1	3,463.8
Total persons	2,739.9	3,671.5	2,681.8	1,591.4	1,159.0	11,843.5
Participation rate (a) (%)	70.1	68.2	70.9	76.1	72.9	70.8

(a) Participation rate is the number of economically active persons as a percent of the total.

TABLE 17.4: FARM POPULATION AGED 10 YEARS AND ABOVE BY LABOUR FORCE STATUS, SEX AND SIZE OF HOLDING, NEPAL, 1991/92

('000)

Labour force status during 1991/92	Size of holding				
	No land	Less than .5 ha	.5 - 2 ha	2 ha and over	Total
MALES					
Economically active	53.9	1,739.9	2,216.3	686.3	4,696.4
Not economically active	12.1	483.2	728.7	288.9	1,513.0
Total males	66.0	2,223.2	2,945.0	975.3	6,209.4
Participation rate (a) (%)	81.6	78.3	75.3	70.4	75.6
FEMALES					
Economically active	33.9	1,386.9	1,773.2	489.2	3,683.2
Not economically active	24.0	654.5	908.7	363.6	1,950.8
Total females	57.9	2,041.3	2,681.9	852.9	5,634.0
Participation rate (a) (%)	58.6	67.9	66.1	57.4	65.4
PERSONS					
Economically active	87.8	3,126.8	3,989.5	1,175.5	8,379.6
Not economically active	36.1	1,137.7	1,637.4	652.6	3,463.8
Total persons	123.9	4,264.5	5,627.0	1,828.1	11,843.5
Participation rate (a) (%)	70.9	73.3	70.9	64.3	70.8

(a) Participation rate is the number of economically active persons as a percent of the

TABLE 17.5: FARM POPULATION AGED 10 YEARS AND OVER BY SEX AND WHETHER WORKED ON HOLDING, NEPAL, 1991/92

	Males		Females		Persons	
	'000	Percent	'000	Percent	'000	Percent
Economically active	4,696.4	75.6	3,683.2	65.4	8,379.6	70.8
Worked on holding	4,336.7	69.8	3,574.5	63.4	7,911.3	66.8
Did not work on holding	359.7	5.8	108.7	1.9	468.4	4.0
Not economically active	1,513.0	24.4	1,950.8	34.6	3,463.8	29.2
Total farm population aged 10 years and over	6,209.4	100.0	5,634.0	100.0	11,843.5	100.0

TABLE 17.6: FARM POPULATION AGED 10 YEARS AND OVER WHO WORKED ON THE HOLDING BY SEX AND DURATION OF WORK, NEPAL, 1991/92

Duration of work on holding	Males		Females		Persons	
	'000	Percent	'000	Percent	'000	Percent
Holders	2,560.5	59.0	175.6	4.9	2,736.1	34.6
Holder's household members						
Worked less than 3 months	271.4	6.3	311.4	8.7	582.7	7.4
Worked 3 to 5 months	387.9	8.9	715.2	20.0	1,103.1	13.9
Worked 6 to 7 months	463.0	10.7	1,024.0	28.6	1,487.0	18.8
Worked 8 months and over	654.0	15.1	1,348.4	37.7	2,002.4	25.3
Total	1,776.3	41.0	3,398.9	95.1	5,175.2	65.4
Total working on holding	4,336.7	100.0	3,574.5	100.0	7,911.3	100.0

TABLE 17.7: NUMBER AND PERCENT OF HOLDERS BY WORK STATUS AND SIZE OF HOLDING, NEPAL, 1991/92

Holder's work status	Size of holding				Total
	No land	Less than .5 ha	.5 - 2 ha	2 ha and over	
NUMBER OF HOLDERS ('000)					
Only work on holding	12.8	829.8	1,038.1	263.7	2,144.3
Also do other work off the holding					
Main work in agriculture	3.8	106.7	193.7	15.8	220.1
Main work not in agriculture	15.5	229.5	109.3	17.2	371.6
Total	19.4	336.2	203.1	33.1	591.7
Total holders	32.1	1,166.0	1,241.1	296.8	2,736.1
PERCENT					
Only work on holding	39.7	71.2	83.6	88.9	78.4
Also do other work off the holding					
Main work in agriculture	11.9	9.1	7.6	5.3	8.0
Main work not in agriculture	48.3	19.7	8.8	5.8	13.6
Total	60.3	28.8	16.4	11.1	21.6
Total holders	100.0	100.0	100.0	100.0	100.0

TABLE 17.8: HOUSEHOLD MEMBERS AGED 10 YEARS AND OVER BY SEX AND WORK DONE, NEPAL, 1991/92

Type of work done	Males		Females		Persons	
	'000	Percent	'000	Percent	'000	Percent
Economically active						
Worked on holding	1,776.3	48.7	3,398.9	62.3	5,175.2	56.8
Worked on other's holding	363.0	9.9	638.3	11.7	1,001.2	11.0
Non-agricultural work	790.2	21.7	662.6	12.1	1,452.8	16.0
Total econ. active	2,136.0	58.5	3,507.6	64.3	5,643.6	62.0
Not economically active	1,513.0	41.5	1,950.8	35.7	3,463.8	38.0
Total household members aged 10 years and over	3,649.0	100.0	5,458.4	100.0	9,107.4	100.0

NOTE: Table does not include holders.

TABLE 17.9: HOUSEHOLD MEMBERS AGED 10 YEARS AND OVER BY WORK DONE OFF THE HOLDING BY DURATION OF WORK, NEPAL, 1991/92

Duration of work	Other agricultural work		Non-agricultural work	
	'000	Percent	'000	Percent
Less than 3 months	355.2	35.5	325.7	22.4
3 to 5 months	334.8	33.4	355.1	24.4
6 to 7 months	178.3	17.8	283.3	19.5
8 months and over	132.9	13.3	488.8	33.6
Total	1,001.2	100.0	1,452.8	100.0

NOTE: Table does not include holders.

TABLE 17.10: FARM POPULATION AGED 10 YEARS AND OVER WHO ARE NOT ECONOMICALLY ACTIVE BY REASON, NEPAL, 1991/92

Reason	Number ('000)	Percent
Student	1,922.1	55.5
Aged	377.1	10.9
Home-maker	918.4	26.5
Handicapped	39.1	1.1
Does not want to work	25.5	0.7
Other	181.7	5.2
Total	3,463.8	100.0

TABLE 17.11: NUMBER AND PERCENT OF HOLDINGS BY EMPLOYMENT OF AGRICULTURAL WORKERS AND ECOLOGICAL BELT, 1991/92

Employment of workers	Ecological belt			
	Mountain	Hill	Terai	Total
NUMBER OF HOLDINGS ('000)				
Employ permanent workers only	2.9	13.0	22.9	38.8
Employ perm. and occasional workers	2.7	24.8	78.7	106.2
Employ occasional workers only	72.7	376.4	381.2	830.2
Do not employ workers	182.4	943.5	634.9	1,760.8
Total	260.7	1,357.7	1,117.6	2,736.1
PERCENT				
Employ permanent workers only	1.1	1.0	2.0	1.4
Employ perm. and occasional workers	1.1	1.8	7.0	3.9
Employ occasional workers only	27.9	27.7	34.1	30.3
Do not employ workers	70.0	69.5	56.8	64.4
Total	100.0	100.0	100.0	100.0

TABLE 17.12: NUMBER AND PERCENT OF HOLDINGS BY EMPLOYMENT OF AGRICULTURAL WORKERS AND DEVELOPMENT REGION, 1991/92

Employment of workers	Development region					
	Eastern	Central	Western	Mid West.	Far West.	Nepal
NUMBER OF HOLDINGS ('000)						
Employ permanent workers only	7.1	6.7	7.0	5.6	12.3	38.8
Employ perm. and occasional workers	30.2	44.7	19.1	7.1	5.1	106.2
Employ occasional workers only	230.8	333.1	159.3	75.5	31.5	830.2
Do not employ workers	368.3	470.9	423.4	283.3	215.1	1,760.8
Total	636.4	855.3	608.8	371.5	264.1	2,736.1
PERCENT						
Employ permanent workers only	1.1	0.8	1.2	1.5	4.7	1.4
Employ perm. and occasional workers	4.8	5.2	3.1	1.9	1.9	3.9
Employ occasional workers only	36.3	38.9	26.2	20.3	11.9	30.3
Do not employ workers	57.9	55.0	69.5	76.3	81.5	64.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 17.13: NUMBER OF HOLDINGS BY EMPLOYMENT OF AGRICULTURAL WORKERS AND SIZE OF HOLDING, NEPAL, 1991/92

Employment of workers	Size of holding				Total
	No land	Less than .5 ha	.5 - 2 ha	2 ha and over	
NUMBER OF HOLDINGS ('000)					
Employ permanent workers only	0.4	9.4	16.5	12.4	38.8
Employ perm. and occasional workers	-	8.7	38.5	59.0	106.2
Employ occasional workers only	1.9	234.2	461.4	132.7	830.2
Do not employ workers	29.8	913.7	724.7	92.7	1,760.8
Total	32.1	1,166.0	1,241.1	296.8	2,736.1
PERCENT					
Employ permanent workers only	1.3	0.8	1.3	4.2	1.4
Employ perm. and occasional workers	0.1	0.7	3.1	19.9	3.9
Employ occasional workers only	6.0	20.1	37.2	44.7	30.3
Do not employ workers	92.7	78.4	58.4	31.2	64.4
Total	100.0	100.0	100.0	100.0	100.0

TABLE 17.14: NUMBER OF PERMANENT AGRICULTURAL WORKERS EMPLOYED BY SEX - ECOLOGICAL BELTS AND DEVELOPMENT REGIONS, 1991/92

('000)

	Sex of worker		
	Males	Females	Persons
ECOLOGICAL BELTS			
Mountain	6.3	4.1	10.4
Hill	61.2	21.8	83.0
Terai	162.8	45.5	208.2
DEVELOPMENT REGIONS			
Eastern	59.7	10.4	70.1
Central	80.5	20.9	101.4
Western	38.6	10.9	49.5
Mid Western	23.7	9.7	33.4
Far Western	27.8	19.5	47.3
NEPAL	230.3	71.4	301.7