

CHAPTER 12

ANCILLARY ACTIVITIES

The 2001/02 agricultural census also covered the ancillary activities carried out on agricultural holdings in relation to forestry and fishing. The holdings with woodland and forest were estimated to be 204.8 thousand in 2001/02 which was 6.1 percent of the total holdings. Between 1981/82 and 1991/92 there was big increase in the number of holdings with woodland and forest. The number of such holdings had increased from 88.9 thousand to 439.6 thousand holdings, an increase of 394.5 percent in 10 years. The period between 1991/92 and 2001/02 registered decline in woodland and forest area from 439.6 thousand hectares to 204.8

thousand hectares only – a decrease of 46.6 percent.

Along with the number of holdings, area under woodland and forest had also increased in 1991/92 and decreased in 2001/02. In 1991/92, there was a large increase in the area of woodland and forest. From 15.0 thousand hectares in 1981/82 it increased to 108.8 thousand hectares in 1991/92. In 2001/02, the area under this category declined to 37.2 thousand hectares, a decrease of 65.8 percent compared to 1991/92. This area accounted for 23.8 percent of the total area of non-agricultural land in 2001/02.

Table 12.0 Summary Statistics

Description	1981/82	1991/92	2001/02
Holdings with woodland and forest land (' 000)	88.9	439.6	204.8
Total land holdings (' 000)	2,185.7	2,703.9	3,337.4
% with woodland/forest to total holdings	4.1	16.3	6.1
Area of woodland and forest (' 000 ha)	15.0	108.8	37.2
Average area per reporting holding (ha)	0.1687	0.2475	0.1816

12.1 Ancillary activities

The 2001/02 agriculture census covered ancillary activities carried out on the agricultural holdings specifically forestry and fishery activities undertaken simultaneously with agricultural activities.

An agricultural holding is composed of agricultural and non-agricultural lands. Ponds usually used in raising aquatic animals and plants are part of agricultural land while forestry activities are undertaken in the non-agricultural land portion of the holding under woodland and forest.

12.2 Forestry activities

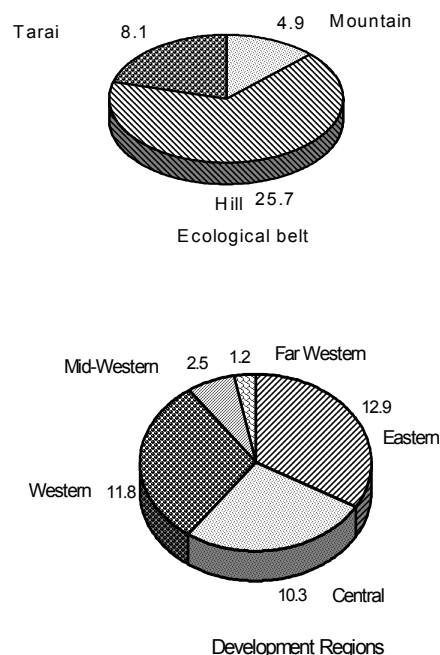
Holdings with forestry activities are those that reported the use of land under woodland and forest during the census years and those holdings that reported some forest trees within the holding. TABLE 12.1 shows the number of agricultural holdings with forestry activities in compact forest area from 1961/62 to 2001/02 or a period of forty years and TABLE 12.2 shows the total number of holdings with forest trees on the holding for 1991/92 and 2001/02.

12.3 Compact forest area

Between 1961/62 to 1971/72, there was a big decrease in the number of holdings with compact forest area not only proportionally to the total number of agricultural holdings but also in the actual number of holdings reporting forestry activities. In 1961/62 there were 150,000 holdings with compact forest area.. This was 9.9% of the total holdings during that year. In 1971/72, or ten years later, the number of holdings with compact forest area decreased to 50,700. This was only 3% of the total holdings during the period but the decrease was 66.2% over the 1961/62 figure. In 1981/82, there was an increase in the number of holdings to 88,900, equivalent to 4.1% of

the total holdings during that year. The increase in the number of holdings between the two census periods was 75.3% or an annual average increment of 7.5%. In 1991/92, a tremendous increase was observed at 439,600 holdings. This was 16.3% of the total holdings during the period and an increase of 394.5% over the number of holdings with compact forest area in 1981/82. In 2001/02 the number of holdings with compact forest area was even less than half that of 1991/92 level (204,800 only vs. 439,600). Except for 1961/62, the proportion of the holdings with compact forest area during the past 30

FIGURE 12.1: NUMBER OF FOREST TREES, 2001/02 (Millions)



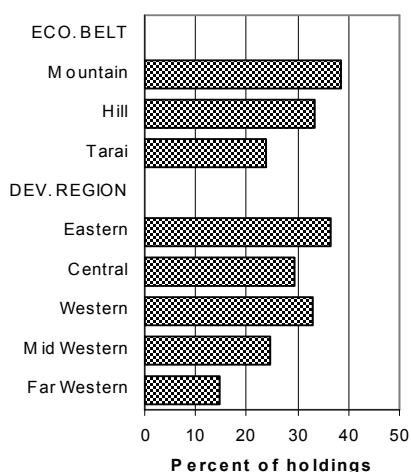
years had been observed to be increasing. However, in 2001/02, there was again a sudden decrease in the proportion of holdings engaged in forestry activities, from 16.3% in 1991/92 to only 6.1% of the total holdings in 2001/02. This 6.1% increase can be considered as within the

trend of previous census years, i.e. 3% in 1971/72; 4.1% in 1981/82. It was only in 1991/92 that there was an abnormal increase in the number of holdings with compact forest area that resulted also in an abnormal increase in the area of woodland and forest at 108,800 hectares compared with only 15,000 hectares of compact forest area in 1981/82 and 37,200 hectares in 2001/02, see TABLE 12.1.

12.4 Holdings with forest trees

In 2001/02, there were 988,700 holdings that reported having forest trees scattered within their agricultural holding. This number represented 29.6% of the total land holdings of 3,337,400 in 2001/02. The proportion of holdings with some forest trees in 1991/92 was higher at 39.9% and the number of holdings with forestry activities was also higher which was more than a million, see TABLE 12.2.

FIGURE 12.2: HOLDINGS WITH FOREST TREES, 1991/92



12.5 Area of woodland and forest

In Chapter 5 Land Use, the non-agricultural land portion of the holdings had been increasing but the trend on the area under woodland and forest did not seem to follow the same trend and can be considered erratic.

The area under woodland and forest is an indication of compact forest area where the trees were systematically planted. Since these are lands within the boundary of the agricultural holding, the compact forest areas therefore were not part of the commercial forest.

In 1961/62 the total area of woodland and forest was 13,800 hectares. This area was 23.4% of the total area of non-agricultural land in Nepal.

In 1971/72, the area under woodland and forest decreased to only 4,700 hectares which was 7.6% only of the total non-agricultural land during the period. In 1981/82, the area increased to 15,000 hectares, which was 14.4% of the total non-agricultural land during the period. However, there was an increase of 219% over the area ten years back.

In 1991/92, there was an abrupt increase in the area under woodland and forest to 108,800 hectares. This area was 53.2% of the total area of non-agricultural land during the year. The increase in area between 1981/82 to 1991/92 was 625.3%, which can be considered as abnormally high. In 2001/02, the area under woodland and forest decreased to 37,200 hectares, a decrease of 65.8% from ten years ago. This area, however, was 23.8% of the total area reported under non-agricultural land in 2001/02.

Except for the data on area in 1991/92, it can be said that in general, there has been a steady increase in the area under woodland and forest as part of the holding in Nepal as indicated by the average area per holding reflected in TABLE 12.1, starting from 0.0920 hectare in 1961/62 to 0.1687 hectare in 1981/82 to 0.1816 hectare in 2001/02. This increasing trend of area of woodland and forest is indicative of the slowly changing structure of the land comprising the agricultural land holding in Nepal.

Among the ecological belt, Tarai belt displayed a big decrease in the number of holdings with forest trees from 407,200 in 1991/92 to 348,500 in 2001/02, a decrease of 14.4% compared with a decrease of only 4% in Hill belt and 7.6% in Mountain belt.

12.6 Distribution of Forest Trees

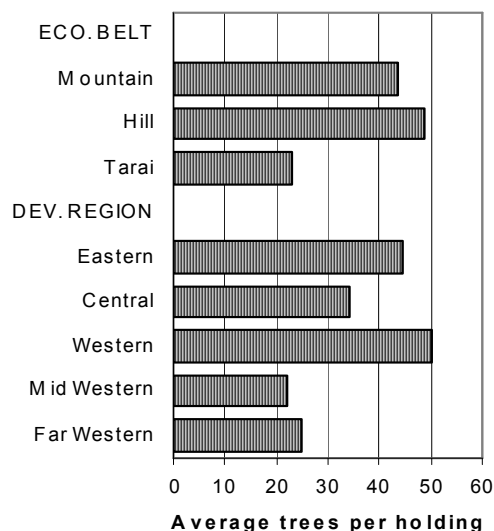
In 2001/02, there were 38.684 million trees reported by holdings not belonging to the compact forest area-type of holding. The density of forested holdings was 39 trees per holding in 2001/02, up by 25% over the 1991/92 density of 31 trees. Hill belt reported the highest average density of 49 trees per holding in 2001/02 followed by Mountain belt with 43 trees per holding. In 1991/92, the highest average was 37 trees per holding also in Hill belt. Mountain and Tarai belts had the same density of 25 forest trees per holding.

The large holdings reported the highest average of forest trees per holding in 2001/02 of 93 trees and the small holdings reported only 16 forest trees per holding.

Proportionally, the large holdings also reported the highest proportion of holdings with forest trees and the small holdings, the lowest.

In terms of the number of trees per holding, about 21.4% of the holdings reported at least 50 forest trees in hill belt while the Mountain belt reported a slightly lower

FIGURE 12.3: AVERAGE TREES PER FORESTED HOLDING, 1991/92



percentage of 21.2%. Tarai belt reported only 9% of the holdings with at least 50 forest trees in their holding.

12.7 Fishery activities

Fishing is not yet popular among agricultural holders in Nepal. Of the 3.337 million holdings only 12,700 holdings has ponds in 2001/02 with an aggregate area of 5,700 hectares. Ten years ago, there were 11,500 holdings with ponds, an increase of 10.4%.

Other fishing activities were reported by 9,500 holdings or 0.3% of the total land holdings in 2001/02. Ten years ago, the number of holdings was 1,500 only.

TABLE 12.1: WOODLAND AND FOREST LAND, NEPAL, 1961/62 TO 2001/02

Particulars	1961/62	1971/72	1981/82	1991/92	2001/02
Holdings with woodland and forest land (' 000)	150.0	50.7	88.9	439.6	204.8
Total land holdings (' 000)	1,518.0	1,707.3	2,185.7	2,703.9	3,337.4
% with woodland/forest to total holdings	9.9	3.0	4.1	16.3	6.1
Area of woodland and forest (' 000 ha)	13.8	4.7	15.0	108.8	37.2
Average area per reporting holding (ha)	0.0920	0.0927	0.1687	0.2475	0.1816
Non-agricultural land ('000 ha)	59	61.7	104.5	204.5	156.3
% to non-agricultural land	23.4	7.6	14.4	53.2	23.8

TABLE 12.2: LAND HOLDINGS WITH COMPACT FOREST AREA AND FOREST TREES BY ECOLOGICAL BELT, NEPAL, 1991/92 AND 2001/02

Particulars	Ecological belt						Nepal	
	Mountain		Hill		Tarai			
	1991/92	2001/02	1991/92	2001/02	1991/92	2001/02	1991/92	2001/02
Woodland and forest land								
Number of holdings ('000)	26.5	13.4	297.3	139.7	115.8	51.7	439.6	204.8
Area ('000 ha)	5.7	2.6	93.2	29.6	9.9	5.1	108.8	37.2
Holding with forest trees								
Number of holdings ('000)	123.2	113.8	548.2	526.3	407.2	348.5	1,078.6	988.7
Percent of all holdings	47.4	38.3	40.6	33.3	37.3	23.9	39.9	29.6
Number of trees ('000)	3,127.7	4,937.2	20,113.3	25,684.2	10,214.2	8,062.6	33,455.2	38,684.0
Average number of trees	25	43	37	49	25	23	31	39
Total land holdings (' 000)	259.9	297.2	1,351.3	1,581.4	1,092.8	1,458.8	2,703.9	3,337.4

TABLE 12.3: LAND HOLDINGS WITH COMPACT FOREST AREA AND FOREST TREES BY DEVELOPMENT REGION, NEPAL, 2001/02

Particulars	Development region					Nepal
	Eastern	Central	Western	Mid Western	Far Western	
Woodland and forest land						
Number of holdings ('000)	61.2	44.0	52.0	33.4	14.2	204.8
Area ('000 ha)	13.9	8.6	7.2	6.0	1.5	37.2
Forest trees on holding						
Number of holdings ('000)	291.1	300.1	233.7	114.8	49.0	988.7
Percent of all holdings	36.4	29.2	32.8	24.6	14.8	29.6
Number of trees ('000)	12,898.2	10,278.3	11,771.1	2,525.2	1,211.1	38,684.0
Average number of trees	44	34	50	22	25	39
Total land holdings (' 000)	799.7	1,026.9	711.7	467.4	331.7	3,337.4

TABLE 12.4: LAND HOLDINGS WITH COMPACT FOREST AREA AND FOREST TREES BY SIZE OF HOLDING, NEPAL, 2001/02

Particulars	Size of holding			
	Less than 0.5 ha	0.5 - 2.0 ha	2.0 ha and over	Total
Woodland and forest land				
Number of holdings ('000)	32.5	133.3	39.0	204.8
Area ('000 ha)	1.8	20.1	15.3	37.2
Forest trees on holding				
Number of holdings ('000)	338.7	536.7	113.3	988.7
Percent of all holdings	21.4	35.7	44.6	29.6
Number of trees ('000)	5,264.8	22,920.1	10,499.1	38,684.0
Average number of trees	16	43	93	39
Total land holdings (' 000)	1,578.9	1,504.3	254.2	3,337.4

TABLE 12.5: NUMBER AND PERCENT OF HOLDINGS WITH FOREST TREES BY NUMBER OF TREES AND ECOLOGICAL BELT, NEPAL 2001/02

Number of trees	Ecological belt			Nepal
	Mountain	Hill	Tarai	
Number of holdings ('000)				
1 - 9	25.0	171.3	201.1	397.4
10 - 49	64.8	242.2	116.2	423.2
50 - 199	21.6	90.6	26.1	138.3
200 and over	2.5	22.3	5.1	29.9
Total	113.8	526.3	348.5	988.7
Percent to total				
1 - 9	21.9	32.5	57.7	40.2
10 - 49	56.9	46.0	33.3	42.8
50 - 199	19.0	17.2	7.5	14.0
200 and over	2.2	4.2	1.5	3.0
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, 2001/02

Number of trees	Development region					Nepal
	Eastern	Central	Western	Mid-Western	Far Western	
Number of holdings ('000)						
1 - 9	121.5	112.5	76.9	60.8	25.7	397.4
10 – 49	116.9	144.5	102.5	41.8	17.4	423.2
50 – 199	42.2	36.9	43.5	10.6	5.1	138.3
200 and over	10.4	6.2	10.9	1.6	0.8	29.9
Total	291.1	300.1	233.7	114.8	49.0	988.7
Percent to total						
1 - 9	41.8	37.5	32.9	53.0	52.4	40.2
10 – 49	40.2	48.2	43.9	36.4	35.6	42.8
50 – 199	14.5	12.3	18.6	9.2	10.4	14.0
200 and over	3.6	2.1	4.7	1.4	1.6	3.0
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, 2001/02

Number of trees	Size of holding			
	Less than 0.5 ha	0.5 - 2.0 ha	2.0 ha and over	Total
Number of holdings ('000)				
1 - 9	187.2	182.3	27.8	397.4
10 - 49	129.9	246.0	47.2	423.2
50 - 199	19.6	90.0	28.7	138.3
200 and over	1.9	18.4	9.6	29.9
Total	338.7	536.7	113.3	988.7
Percent to total				
1 - 9	55.3	34.0	24.6	40.2
10 - 49	38.4	45.8	41.7	42.8
50 - 199	5.8	16.8	25.3	14.0
200 and over	0.5	3.4	8.5	3.0
Total	100.0	100.0	100.0	100.0

TABLE 12.8: LAND HOLDINGS WITH FISHERY ACTIVITIES BY DEVELOPMENT REGION, NEPAL, 1991/92 AND 2001/02

(In thousand except Percent)						
Particulars	Development region					Nepal
	Eastern	Central	Western	Mid Western	Far Western	
1991/92						
Holdings 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
Holdings 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	0.0	2.4
2001/02						
Holdings with fisheries ('000)	13.4	4.6	2.3	1.1	0.8	22.2
Holdings with ponds	7.3	3.0	1.4	0.6	0.4	12.7
Holdings with other fisheries	6.1	1.6	0.9	0.5	0.4	9.5
Total land holdings (' 000)	799.7	1,026.9	711.7	467.4	331.7	3,337.4
Area of fish ponds ('000 ha)	3.2	1.9	0.3	0.1	0.2	5.7
Percent change						
Holdings with fisheries	143.6	7.0	-4.2	57.1	100.0	72.1
Holdings with ponds	37.7	-9.1	-36.4	20.0	100.0	10.4
Holdings with other fisheries	2,950.0	60.0	350.0	400.0	100.0	533.3
Total land holdings	27.2	21.7	18.0	26.9	27.5	23.4
Area of fish ponds	220.0	111.1	0.0	-50.0	100.0	137.5

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