

Survey on Land and Livestock Holdings, 1991-92 - A Brief Review *

The Survey on Land and Livestock Holdings 1991-92, carried out in the 48th round of the National Sample Survey Organisation (NSSO), is the fifth in the series of similar surveys conducted. The Survey is one of the main sources of data on livestock and poultry held by the household sector and mechanisation of agriculture. This note attempts to present the major findings of the Survey published in *Sarvekshana*, Vol.XXII, No.1, 76th issue, July-September 1998.

I.0 Household Operational Holdings

Estimates of number of households and operating holdings and area operated in 1991-92 are given in Table 1. The following salient observations can be made from the Table.

- **Of the 158.2 million households in the country, about 103.5 million (or 65.4 per cent) households were engaged in agricultural production.**
- **More than 90 per cent of the operational holdings were in rural area.**
- **Of the total operated area of 131.3 million hectares, 95.3 per cent was in the rural area.**
- **The average size of the operational holding in the rural area was 1.3 hectares - in the urban area it was 0.6 hectares.**

The above findings of the Survey suggests that agriculture continued to be the dominant occupation for around two-thirds of households in India. The continuation of agriculture as a source of livelihood for about two-thirds of population is perhaps indicative of failure of development strategy followed in India.

1.1 Trends in Household Operational Holdings in Rural Area

Estimates of certain key characteristics of household operational holdings in rural area (based on various land holding surveys) are given in Table 2. The table reveals the following points:

- **The number of operating households rose by 76.6 per cent from 52.9 million in 1960-61 to 93.4 million in 1991-92.**
- **Total operated area in the rural sector declined by 6.0 per cent from 133.5 million hectares in 1970-71 to 125.1 million hectares in 1991-92.**
- **Over the last three decades, area operated per operating households in the rural sector declined substantially from 2.5 hectares in 1960-61 to 1.3 hectares in 1991-92.**

The rise in the number of operational holdings and decline in its size over the years may be attributed to the growing pressure of population on land, in-adequate non-farm employment opportunities and breaking up of joint families.

1.2 Size Distribution of Household Operational Holdings in Rural Area

Size-wise distribution of household operational holdings and area operated in the rural area are presented in Tables 3 and 4. The following observations can be made from the Tables :

- **Land holding distribution is characterised by predominance of marginal holdings; in 1991-92 marginal holdings accounted for 48.3 per cent of total number of operational holdings in the rural area.**
- **The percentage share of households with no operating land declined over the years from 26.9 per cent in 1960-61 to 21.8 per cent in 1991-92.**
- **The percentage share of large, medium and semi-medium holdings have been declining steadily since 1960-61; the decline was steepest for the large holdings.**
- **The percentage share of marginal size holdings in operated area more than doubled from 7.1 per cent in 1960-61 to 15.5 per cent in 1991-92.**
- **Marginal and small size holdings together accounts for one-third of total operated area in 1991-92.**
- **Though the share declined, medium-size holdings still account for the highest share (26.5 per cent) in total area operated.**
- **The share of large holdings in total operated area declined from 28.1 per cent in 1960-61 to 15.2 per cent in 1991-92.**

The above findings of the Survey indicate that there is a gradual reduction in skewness in the size of operational holdings. In a nutshell, the Indian agriculture is characterised by the predominance of small and marginal farmers.

2.0 Growth of Livestock and Poultry

Data on number of livestock and poultry in 1971-72, 1981-82 and 1991-92 (based on different rounds of NSS survey) are presented in Table 5. The following observations can be made from the Table:

- **There was a rapid expansion in poultry farming during the period 1971-72 to 1991-92; poultry population grew by 169.0 per cent from 84 million in 1970-71 to 226 million in 1991-92.**
- **There has been a moderate growth (15.9 per cent) in bovine population during the two decades (from 226 million in 1971-72 to 262 million in 1991-92).**
- **The buffalo population rose from 51 million in 1971-72 to 77 million in 1991-92 (51.0 per cent).**
- **Negligible growth in cattle population (just 1.1 per cent) from 175 million in 1971-72 to 177 million in 1991-92.**

The rapid growth of poultry farming during the last two decades was mainly brought about by the rise in poultry stock in the marginal, small and semi- medium holdings.

2.1 Changing Composition of Cattle Population

Data on changing pattern of cattle population are presented in Table 6. From the Table the following observations can be made :

- **There was a fall in the stock of working cattle from 73 million in 1971-72 to 66 million in 1981- 82, but subsequently it rose marginally to 68 millions in 1991-92.**
- **The number of in-milk cattle, too, declined from 27 million in 1971-72 to 19 million in**

1981- 82. However, during 80s there was a rise in the number of in- milk cattles.

One of the probable reasons for the fall in the stock of working cattle in 70s may be on account of the extensive growth of mechanisation in agriculture. Along with the falling requirement of bullock power, it appears that cattle rearing had slackened during the 70's. However, the expansion of the coverage of the 'operation flood' campaign during 80's was accompanied by a concomitant increase in the cattle population with a shift in its composition towards in-milk cattle.

There has been a positive association between in-milk bovine stock and size of household operational holdings. However, the positive association gradually weakened during the last two decades since 1971-72. This may be due to the fact that with the marginal and small holdings becoming less and less viable for crop production, the households with such holdings are turning to dairy farming in greater proportions.

2.2 Changes in Livestock : Inter-State Comparison

Inter-state comparison of changes in livestock reveals the following :

- **Rise in in-milk bovine stock was most pronounced in Punjab, Haryana and Rajasthan.**
- **There was little improvement in in-milk bovine stock in Kerala, Orissa and Tamil Nadu.**

3.0 Mechanisation of Agriculture

Data on the estimated number of agricultural implements and machinery are presented in Table 7. The following inferences can be made from the Table.

- **Rapid rise in use of modern farm equipments during 70s and 80s.**
- **Number of tractors increased from 75 thousand in 1971-72 to 1,363 thousand in 1991-92.**
- **Power-tillers and pumps have also more than doubled in number during 1971-72 to 1991-92.**

The rapid rise in the use of agricultural implements and machinery has implications for financing.

3.1 Changing Pattern of Tractor Ownership

Data on operational holding size- wise ownership of number of tractors in 1971-72, 1981-82 and 1991-92 are given in Table 8. From the Table the following observations can be made regarding the changing pattern of ownership of tractors :

- **Number of tractors per 10,000 hectares rose from a meagre 6 in 1971-72 to 109 in 1991-92.**
- **In 1971-72, tractors were mainly owned by the medium and large households.**
- **By 1981-82 and 1991-92, the number of tractors owned by the marginal, small and semi-medium households increased.**
- **Though there is a positive relationship between the ownership of tractor and the**

operated area, the relationship is getting less and less steep with the passage of time.

One of the possible reasons for the rise in the number of tractors owned by the marginal, small and semi- medium households is on account of the development of hiring out of tractor as an occupation.

3.2 Mechanisation of Agriculture : Inter-state Comparison

Inter-state comparison of mechanisation of agriculture reveals the following :

- In 1991-92, the states with the highest number of tractors per 10,000 hectare were Punjab, Haryana and Uttar Pradesh.
- In all other states the number was less than the national level average
- In the case of power-tillers too the above three states were having highest number.
- In 1991-92, three states with the highest number of pumps (electric and diesel) per 100 hectares were Punjab, Kerala and Tamil Nadu.

The above findings suggest that mechanisation of agriculture has not occurred at an even pace across the states. Appreciable progress was achieved only in few states which are agriculturally developed. Hence, there is a need to promote mechanisation in other states.

* Prepared in the Division of Rural Economics, Department of Economic Analysis and Policy.

Table 1 : Number of Households and Area Operated in 1991-92

Item	Rural	Urban	All-India
1. No.of Households (Million)	116.4	41.8	158.2
2. No.of Operating Households (Million)	93.4	10.1	103.5
3. Percentage of Operating Households (%)	80.2	24.2	65.4
4. Area Operated (Million Hectares)	125.1	6.2	131.3
5. Area Operated per Operating Household (Hectares)	1.34	0.61	1.26

Source : Sarvekshana, Vol.XXII, No.1, 76th Issue, July-September 1998, National Sample Survey Organisation, Govt. of India.

Table 2 : Characteristics of Operational Holdings - Rural

Item	1960-61	1971-72	1981-82	1991-92
1. Number of Households (Million)	72.5	78.4	93.9	116.4
2. Number of Operating Households (Million)	52.9	56.9	69.4	93.4
3. % of Operating Households to all Households	73.0	72.6	73.9	80.2
4. Area Operated (Million Hectares)	133.5	125.7	118.6	125.1
5. Area Operated per Operating Households (Hectares)	2.52	2.21	1.71	1.26

Source : Sarvekshana, Vol.XXII, No.1, 76th Issue, July-September 1998, National Sample Survey Organisation, Govt. of India.

Table 3 : Percentage Distribution of Number of Operational Holdings - Rural

Category of Holdings	% Distribution of Operated Area			
	1960-61	1971-72	1981-82	1991-92
1. Nil (operating no land)	26.9	27.4	26.1	21.8
2. Marginal (less than 1.0 Hect)	30.7	32.9	41.1	48.3
3. Small (1.0 - 2.0 Hect.)	16.2	16.4	14.5	14.2
4. Semi-Medium (2.0 -4.0 Hect)	13.8	12.9	10.6	9.7
5. Medium (4.0 - 10.0 Hect.)	9.4	8.1	6.3	4.9
6. Large (larger than 10.0 Hect.)	3.0	2.2	1.4	1.1

Source : Sarvekshana, Vol.XXII, No.1, 76th Issue, July-September 1998, National Sample Survey Organisation, Govt. of India.

Table 4 : Percentage Distribution of Operational Area - Rural

Category of Holdings	% Distribution of Operated Area			
	1960-61	1971-72	1981-82	1991-92
1. Marginal (less than 1.0 Hect)	7.1	9.3	11.6	15.5
2. Small (1.0 - 2.0 Hect.)	12.7	14.9	16.7	18.6
3. Semi-Medium (2.0 - 4.0 Hect)	21.0	22.6	23.6	24.2
4. Medium (4.0 - 10.0 Hect.)	31.1	30.4	29.9	26.5
5. Large (larger than 10.0 Hect.)	28.1	22.8	18.2	15.2

Source : Sarvekshana, Vol.XXII, No.1, 76th Issue, July-September 1998, National Sample Survey Organisation, Govt. of India.

Table 5 : Number of Livestock and Poultry - All India

Livestock / Poultry	(No. in Million)		
	1971-72	1981-82	1991-92
1. Cattle	175	169	177
2. Buffalo	51	67	77
3. Bovine	226	236	262
4. Sheep and Goat	80	103	111
5. Pig	4	6	6
6. Poultry	84	148	226

Source : Sarvekshana, Vol.XXII, No.1, 76th Issue, July-September 1998, National Sample Survey Organisation, Govt. of India.

Table 6 : Estimated Number of Cattle Population - Rural

(No. in Million)

Type of Cattle	1971-72	1981-82	1991-92
1. Working	73	66	68
2. In-Milk	27	19	30
3. Others	69	76	73
Total	169	161	171

Source : Sarvekshana, Vol.XXII, No.1, 76th Issue, July-September 1998, National Sample Survey Organisation, Govt. of India.

Table 7 : Estimated Number of Selected Agricultural Machinery and Draught Animals in Rural India

Item	1971-72	1981-82	1991-92
1. Tractors (000)	75	486	1363
2. Power-Tillers (000)	-	249	513
3. Pumps (Elect & Diesel) (Mill.)	5	1	16
4. Ploughs (Million)	62	63	66
5. Working Bovine Stock (Mill.)	81	73	73

Source : Sarvekshana, Vol.XXII, No.1, 76th Issue, July-September 1998, National Sample Survey Organisation, Govt. of India.

Table 8 : Number of Tractors by Category of Operational Holdings

(No. Per 10,000 Hectares)

Category of Holdings	1971-72	1981-82	1991-92
1. Marginal	-	6	41
2. Small	-	17	78
3. Semi-Medium	1	34	105
4. Medium	7	63	154
5. Large	12	58	147
All	6	41	109

Source : Sarvekshana, Vol.XXII, No.1, 76th Issue, July-September 1998, National Sample Survey Organisation, Govt. of India.