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Size of Land Holding and Land Possessed by the Agricultural Households: Haryana, Rajasthan and India

Chhotu Ram[1]

[1]*Research Scholar, University of Rajasthan, Jaipur Department of Economics.*

Abstract

Haryana and Rajasthan is primarily an agricultural state. About 65% of population resides in rural area and engaged in agriculture which is the leading occupation for the residents of the states. In Haryana and Rajasthan, because of vast arid tracts, the resources have not as yet been fully assessed and whatever information is available has not been rationally utilized to upgrade effective utilization of this resource. The present paper deals with land-use in state at different points of time and thus studies the factors affecting land use changes. The objective of the present paper is to find out the land use in different categories and the trend of variations so that the characteristics of land utilization may be analyzed for future planning. The study shows that even after a long period of planned initiatives and different policy measures adopted by a government or non-government organizations in the state, there have not been major changes in land use pattern in Haryana and Rajasthan. Based on secondary data, the study analyses trends of variations in land use pattern in Haryana and Rajasthan and provides policy implications for future planning. Haryana and Rajasthan are now one of important contributors to the country's production of food grains and milk. Haryana and Rajasthan are self-sufficient in food production and the second and third largest contributor to India's central pool of food grains.

Keywords: Landuse, Pattern, Fallow Land and Agricultural.

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Introductions

Development of an economy is determined by efficient utilization of the scarce resources of its society. Land is one of the limited resources which are overburdened by continuously increasing population. Problem of Shortage of food grain in country can be overcome through proper utilization of land under cultivation. Land is the basic resource for agriculture, a primary source of livelihood for majority of India's rural population. Its allocation to different economic adnoun-economic activities depends on the population pressure of both human and livestock, changes in demand for food, feed and fibers, technological changes and pace of economic development that requires land for non-agricultural purposes and intensifies competition for land.

Study Area: India has geographical area of 328.7 million hectares, of which around 42% is currently used for cultivation of various food and non-food crops. Haryana hosts less than 2% of India's population. With an area of 44.2 thousand square Km, this state occupies approximately 1.37% of the total geographical area. Rajasthan is the largest state in terms of area, where 10.41 per cent area, 5.67 per cent of population, 10.70 per cent of live stocks and 8.48 per cent of milk production of India is recorded. Agricultural break through was attained with the intensive use of seed-fertilizer technology during mid nineteen sixties.

Review of Literature

Panday and Ranganathan (2018) analyzed that changing land-use pattern in India with a focus on fallow lands. They were selecting 17 major states for the period 1984-85 to 2011-12. The study reveals that marginal increase in the land for cultivation and the fallow land has expanded in the country. Ahmad et al. (2017) studied that change in land use pattern and factors responsible for variations in current fallow land in Bihar, India. They were used location coefficient method. The study reveals that large concentration of current fallow lands was accounted for Gaya, Patna, Purneea and Manger districts. The non agricultural use of land was identified as the dominant factor for changes in common lands as it affected the current fallows negatively. Mangalagowri and Nagaraj (2016) studied that the changing pattern of land use and its impact on agriculture: A case study of Mysore district. The study concluded that current fallow land is increase and cultivable waste land decrease over the study period. Singh (2015) studied that the dynamics of land use patterns in Punjab. The study reveals that in land use categories

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big imbalances exist in Punjab. Singh and Kumar (2014) studied that changing in land use pattern of Bhinda was wetland in Haryana. The study reveals that the agricultural land dominates the land use in the catchment area. Grasslands followed by water bodies are other largest categories of the land use in the wetland. Forest area converted in to water bodies and grass land in the wetland area. Malik (2012) studied that changing g land use pattern in Haryana from 1995-98 to 2002-05. The study reveals that marginal changes have occurred in all land use categories except proportion of area under forests which has drastically change from 1995-98 to 2002-05. Proportion of net sown area to total area it has decreased over the time period.

However, area under non agricultural uses it has increased. Singh and Islam (2010) studied that the land use planning in western Uttar Pradesh. The study reveals that the major effect of land use on land cover since 1750 has been deforestation. In the sector of agriculture many problem with population growth in western Uttar Pradesh like decreasing size of land holding, decreasing the level of underground water and land fertility.

Objectives of the Study

1. To analyze the changes that is taking place in land use pattern in Haryana and Rajasthan.
2. To examine the trends and pattern of land holding and land size

Research Methodology and Data Collection

The study made use of secondary data to analyse the objectives of the study. For collecting secondary data and literature resources at the Library of the University of Rajasthan, RBI bulletin, Various census reports, reports of the National Sample Survey, Central Statistical Organization, National Income Statistics published by CMIE and various websites. An attempt has been made to tabulate process analyze and interpret the data by applying suitable statistical techniques. To see gini coefficient

Results and Discussion

India's agricultural sector is dominated by marginal and small farm holdings. As per the Agricultural Census data, the number of marginal holdings accounted for about two-thirds of the total operational holdings in 2010-11 (Table 1). The proportion of marginal and small holdings taken together increased considerably from 74.5 per cent in 1980–81 to 85.0 per cent in 2010–11 with

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an addition of about 51 million holdings over three decades.

Table 1: Operational holding and total area operated in India (%)ha

	Size of holding					
Time	**Marginal (<1)**	**Marginal (0.002-1.000)**	**Small (1.000-2.000)**	**Semi-medium(2.000-4.00)**	**Large (10.000->)**	**All Size**
1980-1981	56.4 (12.0)	18.1 (14.1)	14.0 (21.2)	9.1 (29.6)	2.4 (23.0)	100
1990-1991	60.0 (15.0)	18.8 (17.4)	13.1 (23.2)	7.1 (27.0)	1.6 (17.3)	100
2000-2001	63.0 (19.0)	18.9 (20.2)	11.7 (24.0)	6.1 (25.3)	1.0 (13.2)	100
2010-2011	67.0 (22.2)	17.9 (22.1)	10.9 (23.9)	4.4 (21.2)	0.7 (10.9)	100

Source: Agricultural Census (various issues), Government of India

The numbers of semi-medium, medium and large holdings have witnessed secular decline over time. The decline in the share of medium size holdings was the highest followed by the decline in the semi-medium category. In terms of the operated area, large and medium farm size groups shrank by 11.5 per cent and 5.2 per cent, respectively between 1980-81 and 2010-11. The long-term trends in operational holdings and areas operated indicate that there has been a progressive increase in the number of operational holdings and fragmentation of operated area. These trends are likely to continue in the near future due to increasing pressure on land arising from a growing rural population that is dependent on agriculture, land acquisition for industrial purposes and increased demand for real estate purposes. Thus, any policy focus on agriculture should accord priority to improving the conditions of marginal and small peasants.

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Table 2: Size class of land in both states and India

size class of land holding(hectares)	HARYANA		RAJASTHAN		india	
	2002-02	2012-13	2002-02	2012-13	2002-02	2012-13
< 0.01	1688	4323	1163	2873	1380	4420
0.01 - 0.40	2596	8497	1383	5038	1633	3958
0.41 - 1.00	2143	9455	1560	4907	1809	5162
1.01 - 2.00	2919	14163	1650	5910	2493	7829
2.01 - 4.00	4289	15081	1678	7424	3589	11353
4.01 - 10.00	5353	46802	1682	14016	5681	23351
10.00 +	16110	156859	1890	35916	9667	49894
All size	2882	14688	1498	6811	2115	6642

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Acceding to table 2, The estimates of area under household ownership holdings, average size of holding, and number and proportion of landless households are presented in Statement S4.1 for the major States across the last three LHS of NSS. Here, the households owning no land or land less than 0.002 hectares are termed as landless households. The estimated area owned by the rural households in India during 2013 was 92.369 million hectares (mha) with an average size of 0.592 hectare land per ownership holdings. Excluding the landless households, this average turned out to be 0.639 hectares. 7.41 percent of households owned practically no land or a very small holding.

The area of land possessed by the agricultural households is an important indicator as the quantum of agricultural production is dependent on the area of land available for agricultural activities. Even though, the possession of land and its operation for agricultural activities was not a necessary condition for a household to be considered as Agricultural. As per the based table 3 about 69 percent of the agricultural households in rural India were estimated to have possessed land less than 1 hectare. Another 17 percent headland between 1.00 hectare and less than 2.00 hectares. Only 0.4 percent of the agricultural households were estimated to have possessed land 10 hectares or more. The agricultural households with land less than 1.00 hectares were highest in Haryana than Rajasthan These results under the fact that India is a land of marginal and small agricultural household on based

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Table 3: Change in percent of land holding and percentage of area operated by size of land(value in percertag)

Size of land	Haryana				Rajasthan				india			
	2002-03		2012-13		2002-03		2012-13		2002-03		2012-13	
	%		%		%				%		%	
0.002	0.00	0.00	0.0	0.0	0.00	0.00	0.02	0.00	0.00	0.00	0.03	0.00
0.002-1.000	66.3	10.4	63.45	12.76	49.40	9.00	57.24	14.28	69..80	27.71	73.17	27.71
1.000-2.000	12.80	13.50	14.31	17.79	18.50	10.90	19.96	17.14	16.20	23.44	15.30	23.44
2.000-4.00	12.30	26.00	15.15	34.10	15.90	18.60	12.18	20.30	9.00	23.50	8.10	23.50
4.000-10.000	7.80	35.00	6.76	31.29	11.50	28.40	8.89	30.62	4.20	19.33	3.04	19.33
10- >	0.90	15.10	0.32	4.05	4.70	33.10	1.71	17.67	0.80	6.02	0.37	6.02
All	100	100	100	100	100	100	100	100	100	100	100	100

Sources :Nss report no 571

Proportion of landless households: The percentage of landless households as estimated during 1971-72, 1982, 1992, 2003 and 2013 is given in table 3 for the both states all India level, it was observed that the percentage of landless household estimated during 2013 (7.41%) was the lowest in the last five decades. The percentage of landless households had initially increased from 1971-72 to 1982, remained the same in 1992 and thereafter declined in 2003, with a further decline in 2013. Within the state of Rajasthan increasing or decreasing pattern was observed in the percentage of landless households till 1992. However, after 1992 all the states of Rajasthan revealed a declining percentage of landless households. the proportion of landless households have increased fast in Haryana than Rajasthan state .

Table 4: Percentage of landless households in the both states across the last five LHS Surveys of NSS

States	**percentage of landless households**				
	1972-1973	**1982**	**1992**	**2003**	**2013**
Haryana	11.9	6.1	3.7	9.2	1.05
Rajasthan	2.9	8.1	6.4	5.7	3.89
All India	9.6	11.3	11.3	10.0	7.41

Sources: Table 4 of Appendix A 2. Previous years' data: NSS Report No. 491

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The estimates of area under household ownership holdings, average size of holding, and number and proportion of landless households are presented in Statement 4 for the major States across the last three LHS of NSS. Here, the households owning no land or land less than 0.002 hectares are termed as landless households. The estimated area owned by the rural households in India during 2013 was 92.369 million hectares (mha) with an average size of 0.592 hectare land per ownership holdings. Excluding the landless households, this average turned out to be 0.639 hectares. 7.41 percent of households owned practically no land or a very small holding.

Table 5: Average size of household ownership holdings and percentage of landless households during the last three LHS of NSS for both states

States	Average area (ha)owned per household			Percentage of landless households			Average area (ha)owned per household Excluding landless household			Estimated area owned (mha)
	1992	2003	2013	1992	2003	2013	1992	2003	2013	2013
Haryana	1.41	0.833	0.764	3.7	9.21	1.05	1.46	0.917	o.772	1.974
Rajasthan	2.66	2.077	1.483	6.4	5.65	3.89	2.84	2.201	1.543	12.266
All India	1.01	o.725	0.592	11.3	10.04	7.41	1.14	0.806	0.639	92.369

NSS Report No. 399 and 491

Table 6: Percentage distribution of household operational holdings having at least one household member staying away from the village for employment by size category for major states

Percentage distribution of household operational holdings having at least one household member staying away from the village for employment by size category for major states			
size category of land holding (land size in ha)	**Haryana**	**rajasthan**	**India**
landless (<=0.002)	0.0	0.0	0.0
marginal (0.002-1.000)	79.3	62.6	76.8
small (1.000-2.000)	7.9	19.6	16.2
semi-medium (2.000-4.000)	12.8	13.3	5.2
medium (4.000-10.000)	0.0	4.1	1.7
Large (>10.000)	0.0	0.0	0.2

NSS Report No. 571: Household Ownership and Operational Holdings in India

Gives the survey estimates of percentage of tenant holdings and percentage share of tenanted land in operated area for the major states. The corresponding estimates of the last four LHS surveys are also given in the statement to observe trends, if any. At all India level in 2012-13 the tenant holding is 13.7% during the whole agricultural year

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which is higher than its previous two counterparts. 5.5.5 The share of leased in area in tenant holding is 10.2% which is higher than its previous three counterparts. During 2012-13, the percentage of tenant holdings was highest in Andhra Chapter Five 42 NSS Report No. 571: Household Ownership and Operational Holdings in India Pradesh; it was 42.3% during the whole agricultural year, followed by Bihar (28.0%) and West Bengal (21.7%). The percentage of leased in area in tenant holdings in 2012-13 recorded the highest in Andhra Pradesh (34.2%) and lowest for Jammu & Kashmir(0.01%).

Table 7:Percentage of irrigated cultivated area and percentage of household operational holdings using irrigation facilities

state	**irrigated cultivated area**	**household operational holdings using irrigation facilities**	**irrigated cultivated area**	**household operational holdings using irrigation facilities**
Haryana	87	91	93	91
Rajasthan	36	38	71	72
India	49	59	74	75
state	Jul12-dec 12 percentage of		Jan13-jun 13 percentage of	

Sources: NSS Report No. 571

Gives the irrigated cultivated area as percentage of total cultivated area and household operational holdings using irrigation facilities as a percentage of household operational holdings engaged in crop production, for each major state. It may be mentioned here that 'area under cultivation' excludes area under orchards and plantations, and as such is smaller than 'area under crop production'. During Jul'12-Dec'12, 49% of area under cultivation was irrigated, which increased to 74% during Jan'13 – Jun'13. At the national level, 59% of the household operational holdings used irrigation facilities during Jul'12- Dec'12, as against 75% during Jan'13-Jun'13 State-wise average size of household ownership holdings and percentage of landless households, 2003-2013 rural areas 4.1.0.2 The estimates of area under household ownership holdings, average size of holding, and number and proportion of landless households are presented in Statement S4.1 for the major States across the last three LHS of NSS. Here, the households owning no land or land less than 0.002 hectares are termed as landless households. The estimated area owned by

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the rural households in India during 2013 was 92.369 million hectares (mha) with an average size of 0.592 hectare land per ownership holdings. Excluding the landless households, this average turned out to be 0.639 hectares. 7.41 percent of households owned practically no land or a very small holding.

Conclusion

In India, the proportion of *cultivator* households to all rural households during 1971, 1981, 1991, 2002 and 2013 were 72%, 76% , 66% ,60 and 58%, respectively. Keeping aside the estimates for 1971, the declining trend observed in the all-India estimates over the period 1981 to 2002 is generally revealed in most of the major states under consideration. The variability, in terms of range, in the percentage of *cultivator* households to all rural households across the both states were very high variability during 1971 and 1991, and was somewhat moderate during 1981. The said percentage ranged from to 84 (in Rajasthan) in 1971, 57 (in Haryana) in1981, and from 80(in Rajasthan) to 57 (in Haryana) in 1991. As compared to the 1991estimates, there has been a steady fall in the percentage of *cultivator* households in 2002 for both and all India. But during 2012-2013 the share of cultivators increases in Haryana Rajastha where a rise in this percentage is 61%(in Haryana)and 79% (in rajasthan).

Table 8: distributions of land owned per household by social group

indicators	ST	SC	OBC	others	All
Percentage of households	11.89	20.06	44.82	23.23	100.00
Estimated total area of land owned (mha)	12.06	8.52	42.19	29.58	92.36
Percentage area of land owned	13.06	9.23	45.68	32.03	100.00
Average area (ha) owned per household	0.65	0.27	0.60	0.81	0.59

Sources: calculation

Table 9: Gini Coefficient of Ownership Holdings for Each Social Group

Social groups	Ginis coefficient
Schedules tribe (ST)	0.62
Schedules caste (SC)	0.75
OBC	O.71
OTHER	O.72
ALL	0.72

Sources: calculation

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Gini[s] coefficient of concentration for each social group during 2013 .the Lorenz curve for the size distribution of ownership holding among different social groups is given in diagram .It is shows that the lowest disparity was among the ST (0.62),whereas the highest was for the SC (0.75) and for all the social groups combined together was 0.72.

Table 10: Gini coefficient on the size of distribution of operational holding

State	Gini [s] coefficient				
	1970-71	1981-82	1991-92	2002-03	2012-13
Haryana	0.436	0.571	0.645	0.675	0.598
Rajasthan	0.599	0.551	0.590	0.610	0.575
India	0.567	0.596	0.591	0.557	0.516

Sources: calculation

As apparent from the table, for the most agriculturally developed state of Haryana shows the most pronounced increase in the concentration ratio since 1970-71 to 2002-03 and decrease slightly in 2012-13 but they still have higher coefficient of Rajasthan and India. For Rajasthan and India, no clear trend is show. The initial promise of agrarian reforms was to distribute land to the landless and provide title of ownership to the cultivators. However, unfortunately India's agrarian reforms did not ensure egalitarianism in the agricultural community. The persistent policy bias against agriculture, coupled with the rise in population, has adversely affected the availability of land for cultivation. The policy bias has impacted the overall conditions of peasants in terms of declining income, low output prices, and increased dependence on markets for the purchase of inputs.

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