# Distributionof Operational Holdings in Himachal Pradesh since 1970-71 to 2010-11: An Empirical Study

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## Abstract

Land being an important factor of production in all the stages of economy and it plays a diabolical role in the life of rural people.In India, over 70 per cent of the population resides in rural areas with majority dependent on land based activities for their livelihood. There are lot of studies going on land related issues but the present would be based on an empirical study of distribution of operational holdings in Himachal Pradesh. The paper tries to look at various aspects of (growth in total number and area, inequality in the distribution) individually owned operational holdings in Himachal Pradesh for a period spanning from 1970-71 to 2010-11. To look at change in individually owned operational land holdings(growth rate in terms of both total number and area under different size class) in Himachal Pradesh,for the above-mentioned period. Further, it is concluded that the number of operational holdings increased significantly in all the districts in Himachal Pradesh and the area operated has also increased marginally at the aggregate level. The annual compound growth rate for number and operational holdings indicates that marginal, small and semi-medium farmers have positive and increasing trends while medium and large farmers have decreased during the study period. Same trend was observed in case of the area of operational holdings. The gini value indicated a reduction of inequalities in the distribution of operational holdings. Various statistical, graphical and cartographical techniques have been used to analyse the data of Agriculture Census of 1970-71 to 2010-11. In this state, average size of holding has decreased rapidly from 1.5 hectare in 1970-71 to 1.2 hectare in 2010-11 census.

## I. Introduction

The increase in the population has put enormous pressure on production resources. The land is one of the fundamental factors of production,and the effect of increase in population has been most severely felt on this resource. This has led to the fragmentation of holdings in the rural areas on two accounts. One, it is primarily due to the operation of the law of succession resulting into the diversion and fragmentation of operation holdings and secondly due to willful attempt of people to circumvent certain provisions of ceiling laws. This has resulted in an increase in the number of marginal and small farms and a reduction in the size of operated holdings of the farmers.The extent of profitability of agricultural operation and its efficiency will ultimately depend upon the size of the unit of cultivation. Although new agricultural technology is neutral to the size of farmers, still depending upon nature of the soil and other factors, there is a minimum size of the farm below which farming becomes unprofitable, whatever the technology be. Hence, the policies mustbe designed according to the existing distribution of operation holdings,or the structure of the distribution must be altered to the requirements of the strategies to activate the agricultural sectors.

An Operational land holding is a techno-economic land unit used entirely or partially for agricultural production,and it can be run by one person alone or with the assistance of others, free of regard to title, size or location. An operational land holding is the determinant factor of the economic status of a family in an agrarian economy. Economically weaker sections of the society include farm families having a small and marginal holding. Increasing interest for the poor, economic conditions of small and marginal farmers have been shown by the planner, policy makers, economists,and social activists since the beginning of the planning era. The family division that results in division and fragmentation of holdings and population growth has increased in a number of small and marginal farms. The land is an essential asset in all situations; it determines the economic and social status of a family in the rural domains. An analysis of distribution holdings aids in decision-making and policy framing for programmes for agricultural development. Serveral researches have made attempt to examine the land reforms.

**Boyce, Rosset, Stanton (2005)** studied land reform and sustainable development. He concluded that indigenous communities to lands,forests,water, and other common property resources could be guaranted and protected their right tomanage them using customary law and tradition.**Bardhan and Mookherjee (2008)** studied "An Empirical Analysis of Land Reforms in Eastern India: State of West Bengal." The study covered 25 years period from 1974 to 1998. They used regression method.**Ramseyer (2012)**studied "The Fable of Land Reform: Expropriation and Retribution in occupied Japan." He examined the reduction in rural poverty due to the land reforms in Japan and was of the opinion that land reforms needed not just reduction in rural poverty, but productivity could be raised, and civic engagement could also be promoted.**Rahimzadeh (2018)**focused on political ecology of land reforms in Kinnaur. He used primary data which was collected from 35 villages of Kinnaur by eleven months of fieldwork from 2010 to 2014. He examined that a series of land reforms were implemented in the Kinnaur district of Himachal Pradesh in the Indian Himalayas throughout the 20th century.

## II. Objectives

The main objectives of this paper are to:

- study the number of operation holdings and area operated in India,
- to analyse the distribution of number and area of operational holding in Himachal Pradesh and,
- to study the trends of operational holding in different agriculture census.

## III. Methodology and Techniques of Analysis

The Agriculture Census data regarding operational holdings, ownership holdings, tenancy status, land utilization, irrigation status are analyzed district-wise and census-wise. The analysis was carried out for the five classes of farmers, viz. marginal (having operational holding below 1 hectare), small (1-2 hectare), semi-medium (2-4 hectares), medium (4-10 hectares), and large farmers (having operational holding above ten hectares) respectively.

In general, to make the analysis simple and more understandable, tabular analysis have been used. However, in some places where the need arose, sophisticated statistical tools have also been used. For example, compound growth rates and Gini

coefficient are used to examine the behavior of operational holdings. The compound growth rate of number and area is calculated to see the changes over the period. The Gini coefficient is used to measure the concentration of operational holdings over the period. To achieve the above objectives, relevant statistical techniques are as follows:

### 3.1 Compound Growth Rate (CGR)

Compound growth rates of various items were estimated by the least square technique of fitting the exponential function of the form:

$$Y = ab^t$$

and C.G. R= (b-1)100

b= Antilog of log b

$$\text{Where } \log b = \frac{N\Sigma (t \log y) - \Sigma t \Sigma \log y}{N\Sigma t^2 - (\Sigma t)^2}$$

Y= variable under consideration such as number, area of operational holdings etc.

t= time variable

a= constant

n= number of observations

### 3.2 Gini Coefficient

Gini coefficient is most widely used measure of inequality as it is straight forward, easy to understand and less complicated to calculate. Its value ranges from 0 to 1, being 0 the value of perfect equality and 1 of maximum inequality.Another advantage of Gini coefficient is that it can be easily represented in Lorenz graph. The following formulation is used to obtain the Gini coefficient:

$$\text{Gini Coefficient} = \frac{1}{10000}\left[\Sigma(X_i Y_{i+1}) - \Sigma(Y_i X_{i+1})\right]$$

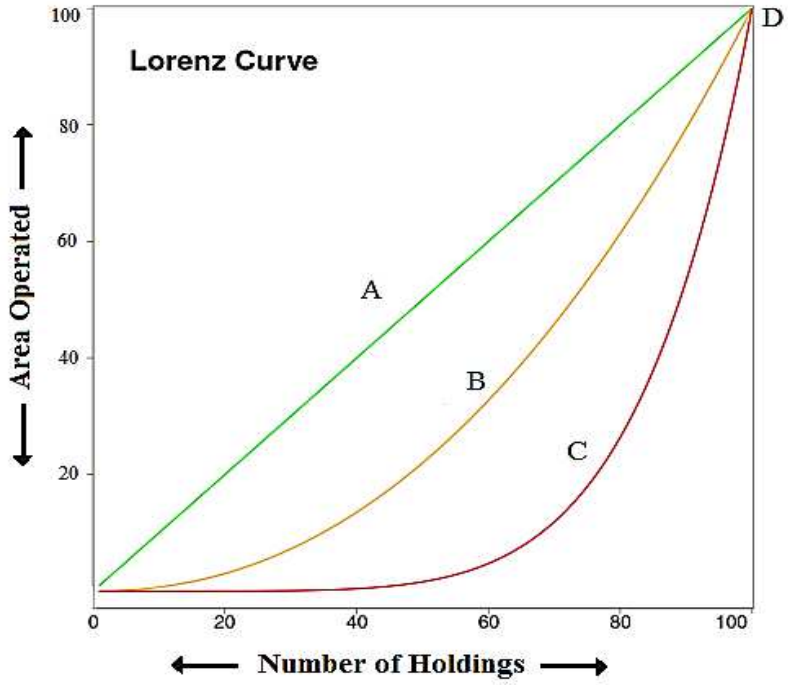
where Xi and Yi are the cumulative percentages of variable.

### 3.3 Lorenz Curve

It is a graphical method of measuring dispersion. It is widely used in the study of income distribution, land distribution, wages distribution and distribution of profits amongst different groups of business, etc. Dr Lorenz devised it for measuring the inequalities in the distribution of income, land and wages. The technique of drawing Lorenz curve is very simple. In it the size of items and the frequencies are both cumulated and taking the total as 100, percentages are calculated for the various cumulated values. These percentages are plotted on a graph paper as shown in figure 1.1. If there is the proportionately equal distribution of the frequencies over variousvalues of a variate, the points will lie in a straight line. This is called the "Line of Equal Distribution." If, however,the distribution os items is not proportionatly equal, it indicates variability,and the curve would be away from the line of

distribution. The farther the curve is from the line, the greater is the variability in the series.

**Figure 1.1**




### 3.4 Sources of Data

For the present study required data collected entirely from secondary resources. Further, the data used on operational holdings have been collected from agriculture census for the years 1970-71, 1976-77, 1980-81, 1990-91, 1995-96, 2000-01, 2005-06, and 2010-11. Main reliance on obtaining data has been on the publication of the Planning Department, Directorate of Economics and Statistics and Directorate of Land Record of the Himachal Pradesh. Apart of these departments, various research institutes relating to research and development of the agriculture sector have also been approached for obtaining published/unpublished data. Annual Season and Crop Report, Five Year Plan Document have invariably been consulted, and the relevant portion of these reports have also been taken. After collecting the data/information, the most important task was to select the appropriate research techniques to analyze the research problem meaningfully and identify the drawback for backward districts/regions. By findings of the study, a specific action plan for ameliorating the backward regions has been suggested.

## IV. Results and Discusssions

### 4.1 Marginalization of Holdings and Distribution of Operated Area inIndia

The structure of land holdings has been recognized as an essential determinant of equity and efficiency in the agriculture sector. Existing structure sets a pre-condition to the way in which the resources would be used in a region or the sector. Given this, a number of operational holdings and area operated by size classes in the entire country for the year 2000-01 and 2010-11 has been presented in Table 1.1. Table

gives detail on the size and number of holdings and area operated by them. It shows that the average size of holdings is minimal in the area. It was merely 1.33 hectares in 2000-01,and this fell further to 1.16 hectares in 2010-11. As is evident from col. (4) of the table, 67.0 per cent operational holdings in 2010-11 were marginal. If small and marginal holdingsare taken together, we find that as many as 84.9 per cent holdings belonged to this category and they had 44.3 per cent operated area (calculated from col. 6) under them. Thus, while more than four-fifths of operational holdings in India were small and marginal in 2010-11 andarea operated by them was just about 44 per cent.

**Table 1.1**
**Number of Operational Holdings and Area Operated by Size Classes**
**All India (2000-01 and 2010-11)**

| S.No. | Category of Holdings | Number of Holdings (millions) | | Total Area Operated (million hectares) | | Average size of Holding (hectares) | |
|---|---|---|---|---|---|---|---|
| | | 2000-01 | 2010-11 | 2000-01 | 2010-11 | 2000-01 | 2010-11 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1 | Marginal (Less than 1 hectare) | 75.41 (62.7) | 92.36 (67.0) | 29.81 (17.7) | 35.41 (22.2) | 0.40 | 0.38 |
| 2 | Small (1.0 to 2.0 hectares) | 22.69 (19.0) | 24.71 (17.9) | 32.14 (20.5) | 35.14 (22.1) | 1.42 | 1.42 |
| 3 | Semi-medium (2.0 to 4.0 hectares) | 14.02 (11.8) | 13.84 (10.1) | 38.19 (24.0) | 37.55 (23.6) | 2.72 | 2.71 |
| 4 | Medium (4.0 to 10 hectares) | 6.58 (5.5) | 5.86 (4.3) | 38.22 (24.0) | 33.71 (21.2) | 5.81 | 5.76 |
| 5 | Large (10.0 hectares and above) | 1.23 (1.0) | 1.00 (0.7) | 21.07 (13.8) | 17.38 (10.9) | 17.1 | 17.37 |
| Total | | 119.93 (100.0) | 137.76 (100.0) | 159.44 (100.0) | 159.18 (100.0) | 1.33 | 1.16 |

Note: Figures in parentheses indicate the percentage to total.
Source: Government of India, Agricultural Statistics at a Glance, 2012 (Various issues), Table 15.1, p. 305.

### 4.2 Marginalization of Holdings and Distribution of Operated Area in Himachal Pradesh

Distribution of operational holding in Himachal Pradesh both number and area has been presented in table 1.2. This table reveals that a total number of holdings in Himachal Pradesh has increased from 6,09,145 hectares in 1970-71 to 9,60,765hectares in 2010-11 which indicates that there is 57.7 per cent increase in the number of holdings during 1970-71 to 2010-11 in Himachal Pradesh. Similarly, the total number of marginal holdings has also increased in the same manner from

3,44,625 hectares in 1970-71 to 6,70,425 hectares in the same period. A crowding of holdings into the marginal category with the progress of time is apparent in table 1.2.

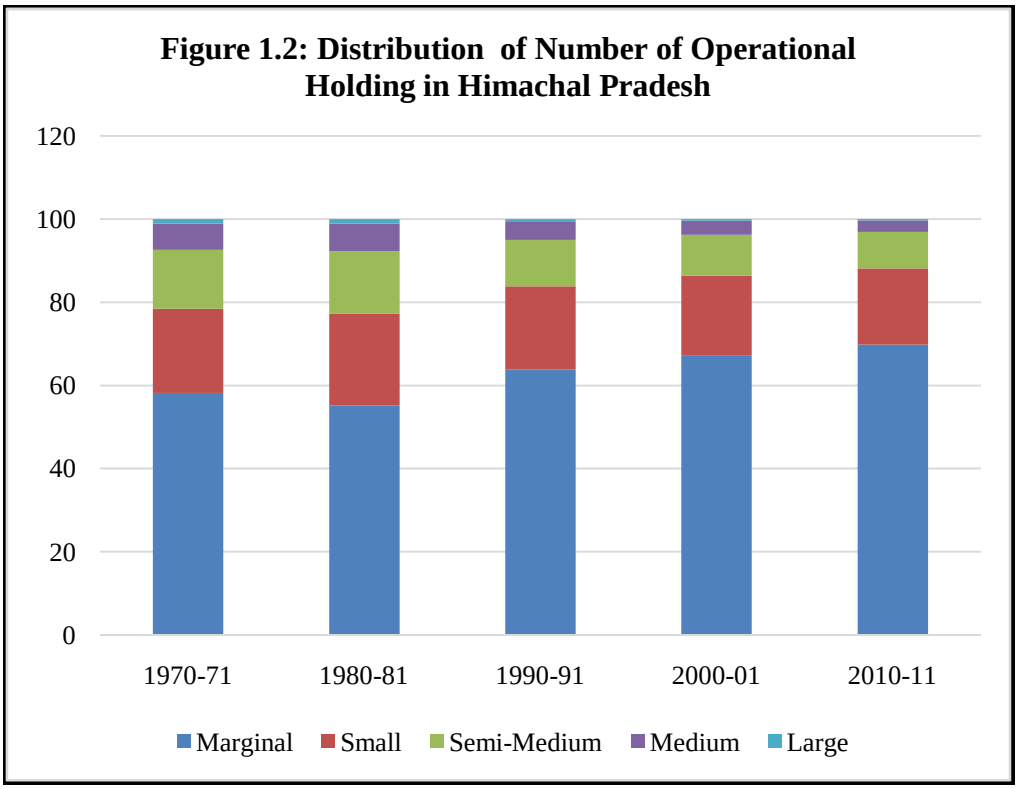
**Table 1.2**
**Distribution of Number and Area of Operational Holdings in Himachal Pradesh**
**(Area in Hectares)**

| S. No. | Size of Class | Number of Operational Holdings | | | | | Area of Operational Holdings | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 |
| 1. | Marginal (Below 1 hec) | 344625 (58.2) | 352291 (55.2) | 532134 (63.8) | 614942 (67.3) | 670425 (69.8) | 135462 (14.5) | 146255 (14.9) | 214719 (21.3) | 251772 (25.7) | 273269 (28.6) |
| 2. | Small (1-2 hec) | 123368 (20.2) | 140365 (22.0) | 166410 (20.0) | 174230 (19.1) | 174596 (18.3) | 176537 (19.0) | 200337 (20.7) | 235144 (23.3) | 244629 (25.0) | 243943 (25.6) |
| 3. | Semi – Medium (2-4 hec) | 86274 (14.2) | 96592 (15.1) | 93916 (11.2) | 89873 (9.8) | 84868 (8.8) | 238872 (25.7) | 265485 (27.1) | 257616 (25.5) | 243316 (24.8) | 230469 (24.1) |
| 4. | Medium (4-10 hec) | 38146 (6.3) | 41879 (6.6) | 35811 (4.3) | 30899 (3.4) | 27606 (2.8) | 220664 (23.7) | 243715 (24.9) | 205199 (20.3) | 175879 (18.0) | 156459 (16.4) |
| 5. | Large (10 hec & above) | 6732 (1.1) | 6954 (1.1) | 5522 (0.7) | 3970 (0.4) | 3270 (0.3) | 159326 (17.1) | 124633 (12.4) | 97088 (9.6) | 63160 (6.5) | 50510 (5.3) |
| 6. | Total | 609145 (100.0) | 638081 (100.0) | 833793 (100.0) | 913914 (100.0) | 960765 (100.0) | 930861 (100.0) | 980425 (100.0) | 1009766 (100.0) | 978756 (100.0) | 954651 (100.0) |

Note: Figures in parenthesis are denote percentage to the total.
Source: Government of Himachal Pradesh, Report of Agriculture census, Directorate of Land Records, Shimla 1970-71 to 2010-11 (various issues).

The percentage of the number of operational holdings in this category has increased from 58.2 per cent in 1970-71 to 69.8 per cent in 2010-11. In the case of percentage distribution of a number ofsmall holdings, the same has slightly decreased from 20.2 per cent in 1970-71 to 18.3 per cent in 2010-11. While the percentage distribution of the number of semi-medium holdings has alsoreduced considerably from 14.2 per cent in 1970-71 to 8.8 per cent in 2010-11.Similarly, the total number of medium holding, has declined from 38,146 hectares in 1970-71 to 27,606 hectares in 2010-11 and their share in percentage distribution of small, semi-medium, medium and large have been declining steadily since 1970-71, the decline being the steepest for large holdings where the percentage share dropped from 1.1 per cent in 1970-71 to 0.3 per cent in 2010-11. A similar picture emerged in the distribution of a number ofoperational holding which is shown in figure 1.2. Thus, the pattern of a number ofoperational holding in Himachal Pradesh may also bevisualized from this figure. In brief, it is observed that there is a declining trend in the number of operational holdings in Himachal Pradesh.

**Figure 1.2: Distribution of Number of Operational Holding in Himachal Pradesh**

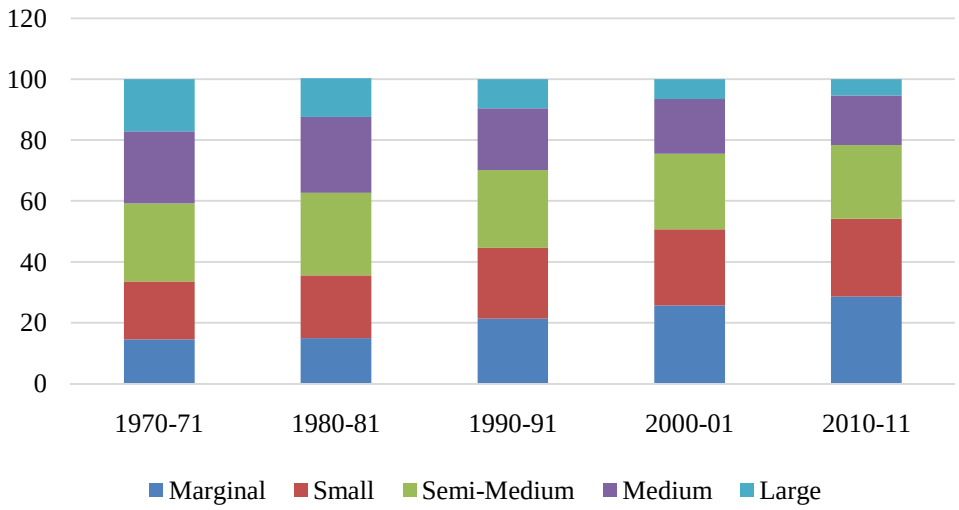



Source: Based on table 1.2

On the other hand, in case of the area of operational holdings during 1970-71 to 2010-11, which is presented in the table 1.2, which shows that the total area of operational holdings has increased marginally from 9,30,861 hectares in 1970-71 to 9,54,651 hectares in 2010-11. The share of marginal holdings in the total operated area, which was 14.5 per cent in 1970-71, has risen rapidly over the last five decades to 28.6 per cent in 2010-11. The total area operated of small holdings has increased from 1,76,537 hectares in 1970-71 to 2,43,943 hectares in 2010-11,and their share in a percentage of total area has increasedfrom 19 per cent to 25.6 per cent during this period. The share of area operated by semi-medium holding has declined steadily but more moderately,i.e., 25.7 per cent in 1970-71 to 24.1 per cent in 2010-11. Again, the

areaoperated under medium category has also declined substantially from 2,20,664 hectares in 1970-71 to 1,56,459 hectares in 2010-11 and their share in percentage term has declined from 23.7 per cent to 16.4 per cent during the same period, while the share of large holdings (range of 10 hectares and above) has been steadily declining from 17.1 per cent in 1970-71, to 5.3 per cent in 2010-11. With the help of the chart given in figure 1.3, an effort has also been made to show the pattern of number of operational holdings in the state.

**Figure 1.3: Distribution of Area of Operational Holding in Himachal Pradesh**




Source: Based on Table 1.2

It is imperative to explain the changing pattern in the distribution of number and area of operational holding over a period in the state. Operational holdings size has thus been declining every year leading to increased number of marginal holdings and fall in the number of small, semi-medium, medium and large holdings. These have resulted in fragmentation and continuous sub-division of land holdings in the state. There are some causes of growing sub-division and fragmentation of operational holding in Himachal Pradesh. One of the crucial factors is population pressure. The population is increasing day by day,and the pressure of population on land is increasing. Given near absence of the growth of alternative occupations, people started to put much pressure on agriculture leading to continuous sub-division of land. Secondly, the law of inheritance made provision for an equal share of the ancestral property among the children. Due to the application of this law, there is a continuous split in the size of farms with every new generation.

Thirdly, there was no need to sub-divide the size of agriculture holding under the joint family system. However, the joint family is breaking up rapidly leading to a sub-division of agriculture holdings under the impact of industrialization and urbanization. Many big landowners lease out their land to tenants instead of cultivating their own. Therefore, big landowners deliberately divided the land among the number of tenants and in this way, avoid land reform laws. Thus, in this way a number of small uneconomic operational holdings were formed from deliberated reduction of large operational holding.

To look into the extent of inequalities in operational holdings, the same has been examined with the help of 'Lorenz Curves.' Dispersion inequalities in operational holding can also be explained graphically with the help of the Lorenz Curve. It is one of the relevantmethods of studying dispersion inequality. The Lorenz curves for the successive agriculture censuses show that the curves are approaching the line of equality which leads to an equitable distribution of land in figure 1.4, 1.5, 1.6, 1.7 and 1.8. In 1970-71, about 78.4 per cent of the number of operational holdings were in marginal and small farmers possessing only 33.5 per cent of the area. The farmers share in total number in 1980-81 was about 77.2 per cent while 35.6 per cent area was owned by them. In 2010-11, share in the total number was 88.1per cent, while 54.2 per cent owned by them. In 1990-91 and 2000-01, the numberofareas operated by these farmers has increased to 83.8 per cent, 86.4 per cent and 44.6 per cent, 50.7 per cent respectively.

**Table 1.3**

**Cumulative Percentage Distribution of Number and Area of Operational Holding in Himachal Pradesh**

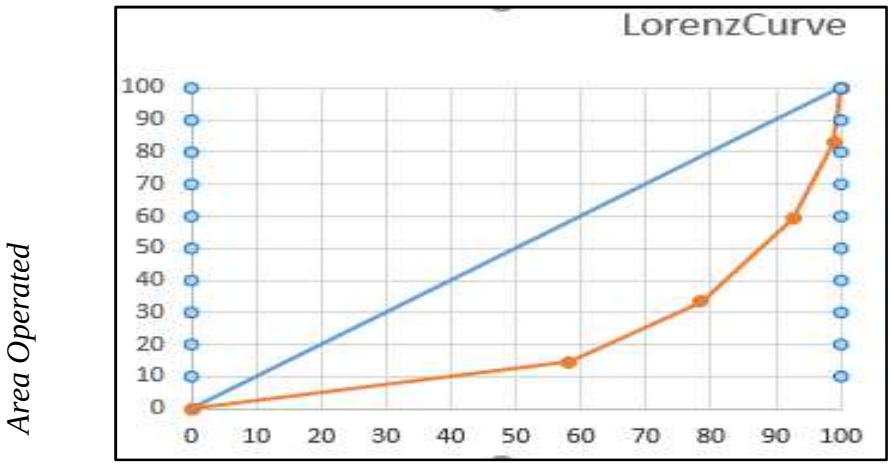
| Sr. No. | Size of Class | Number of Operational Holdings | | | | | Area of Operational Holdings | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 |
| 1 | Marginal (Below 1 hec.) | 58.2 | 55.2 | 63.8 | 67.3 | 69.8 | 14.5 | 14.9 | 21.3 | 25.7 | 28.6 |
| 2 | Small (1-2 hec.) | 78.4 | 77.2 | 83.8 | 86.4 | 88.1 | 33.5 | 35.6 | 44.6 | 50.7 | 54.2 |
| 3 | Semi – Medium (2-4 hec.) | 92.6 | 92.3 | 95.0 | 96.2 | 96.9 | 59.2 | 62.7 | 70.1 | 75.7 | 78.3 |
| 4 | Medium (4-10 hec.) | 98.9 | 98.9 | 99.3 | 99.6 | 99.7 | 82.9 | 87.6 | 90.4 | 93.5 | 94.7 |
| 5 | Large (10 hec.& above) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Source: Based on Table 1.2

Bythe above analysis,it is observedthat the gap between the number and area in marginal and small farmers has come down significantly. Similarly, the gap between the number and area in other categories of farmers have alsobeen reduced due to the implementation of strict land reforms measures and other agrarian legislation in this regard. Hence, the inequality in the distribution of land holdings has been brought down substantially during 40 years under study.

**Figure 1.4**

**Distribution of Operational Holding in Himachal Pradesh in 1970-71**



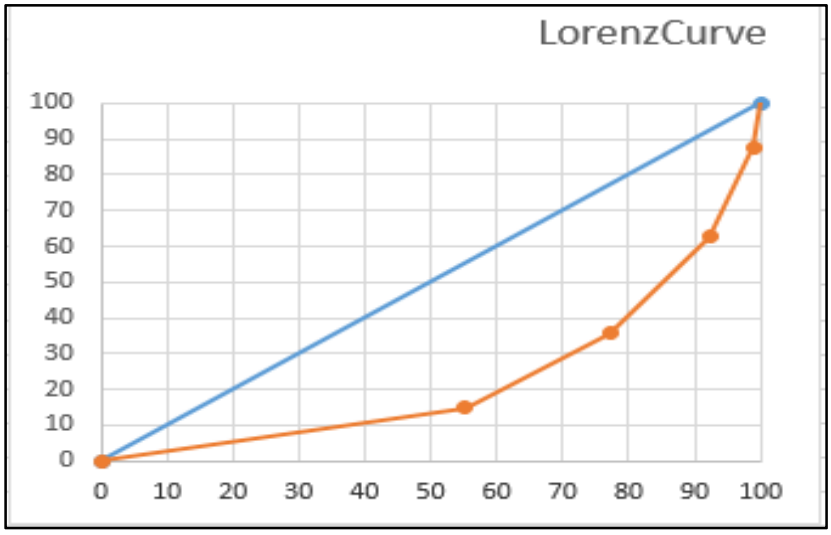

*Area Operated*

*Number of Operational Holdings*

Source: Based on Table 1.3

**Figure 1.5**

**Distribution of Operational Holding in Himachal Pradesh in 1980-81**



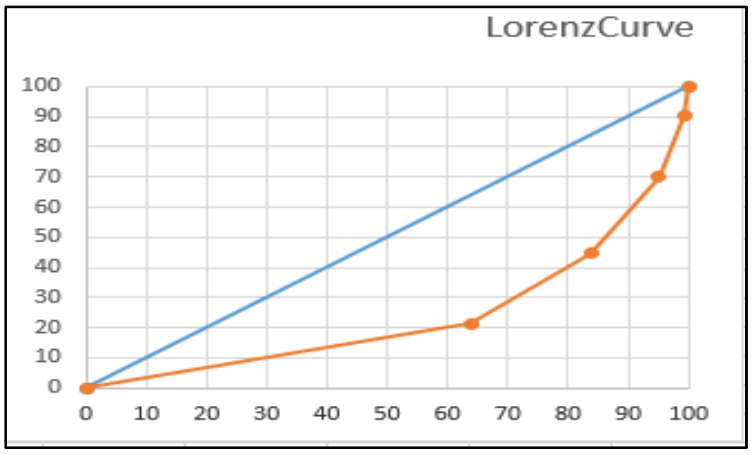

*Area Operated*

*Number of Operational Holdings*

Source: Based on Table 1.3

**Figure 1.6**

**Distribution of Operational Holding in Himachal Pradesh in 1980-81**



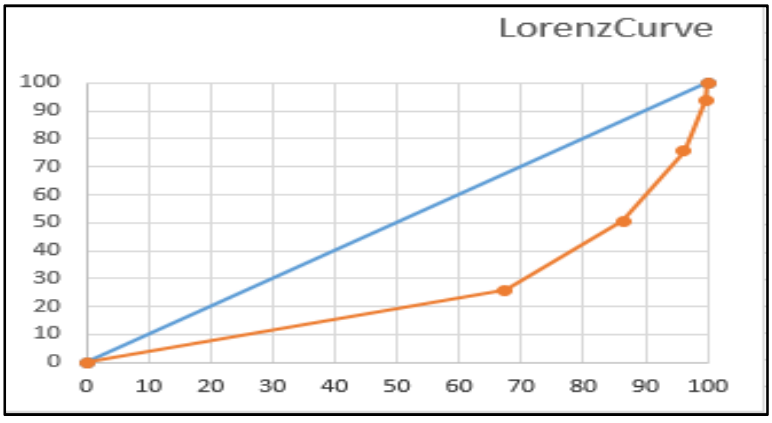

*Area Operated*

*Number of Operational Holdings*

Source: Based on Table 1.3

**Figure 1.7**

**Distribution of Operational Holding in Himachal Pradesh in 2000-2001**



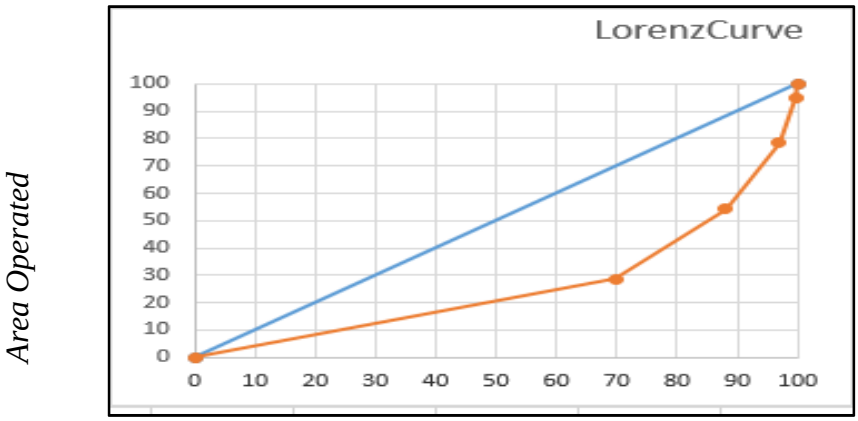

*Area Operated*

*Number of Operational Holdings*

Source: Based on Table 1.3

**Figure 1.8**

**Distribution of Operational Holding in Himachal Pradesh in 2010-2011**




Source: Based on Table 1.3

### 4.3 District Wise Trends in Distribution of Operational Holdings

Category wise trends in operational holdings have been presented in tables 1.4, 1.5, 1.6, 1.7 and 1.8 respectively. The distribution of operational holdings varies across the districts. The structure of operational holdings is also analyzed separately for each category in all the census periods for both, number as well as area at the district level. It may be seen from the table 1.4 that the proportion of number of marginal farmers is the highest in Kullu (75.2 percent) district followed by Una (67.4 percent), Kangra (64.0 percent), Chamba (59.6 percent), Mandi (58.7 percent) and Hamirpur (53.1 percent) in 1970-71, whereas in the year 2010-11, the same was highest in Kullu (80.5 per cent) followed by Kangra (76.4 percent), Chamba (73.6 percent), Mandi (72.4 percent) and Bilaspur (69.7 percent). The proportion of marginal farmers in the area is the highest in Kullu (29.5 percent) followed by Chamba (22.7 percent) and Mandi (18.8 percent) in 1970-71, but in the year 2010-11 in Kullu (52.6 percent) remained at the top, followed by Chamba (42.0 percent) and Mandi (38.3 percent). Sirmour and Solan districtsin terms of number and area of operational holdings remained at the lower side during the period 1970-71 to 2010-11.

**Table 1.4**
**Trends of Operational Holdings under Different Agriculture Census**
**(Marginal Farmers Category)**
**(In Percentages)**

| S.No. | District | Number of Operational Holdings | | | | | Area of Operational Holdings | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 |
| 1. | Bilaspur | 50.5 | 52.3 | 57.7 | 65.8 | 69.7 | 14.9 | 17.9 | 24.3 | 29.1 | 35.0 |
| 2. | Chamba | 59.6 | 58.5 | 68.1 | 72.4 | 73.6 | 22.7 | 25.1 | 33.3 | 38.8 | 42.0 |
| 3. | Hamirpur | 53.1 | 55.2 | 63.2 | 67.2 | 69.1 | 14.2 | 15.1 | 23.2 | 27.9 | 29.8 |
| 4. | Kangra | 64.0 | 66.7 | 73.9 | 75.1 | 76.4 | 14.9 | 18.5 | 26.1 | 29.3 | 31.6 |
| 5. | Kinnaur | 43.5 | 48.0 | 54.3 | 56.4 | 58.2 | 9.9 | 13.5 | 16.9 | 17.3 | 18.4 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6. | Kullu | 75.2 | 57.9 | 73.5 | 80.0 | 80.5 | 29.5 | 22.2 | 34.6 | 45.2 | 52.6 |
| 7. | Lahaul &Spiti | 38.2 | 39.8 | 43.5 | 45.1 | 43. | 8.6 | 11.2 | 14.0 | 15.5 | 14.9 |
| 8. | Mandi | 58.7 | 53.4 | 65.6 | 69.4 | 72.4 | 18.8 | 17.6 | 28.2 | 33.9 | 38.3 |
| 9. | Shimla | 49.9 | 42.3 | 53.9 | 60.6 | 65.3 | 11.2 | 9.7 | 16.5 | 22.8 | 26.3 |
| 10. | Sirmour | 40.9 | 38.3 | 43.8 | 46.6 | 49.3 | 7.8 | 6.6 | 8.6 | 10.1 | 11.4 |
| 11. | Solan | 53.1 | 36.2 | 41.6 | 43.6 | 46.6 | 7.5 | 7.9 | 10.4 | 12.6 | 14.6 |
| 12. | Una | 67.4 | 61.9 | 63.8 | 65.1 | 64.8 | 14.6 | 13.9 | 15.9 | 20.8 | 15.7 |
| | Total | 58.2 | 55.2 | 63.8 | 67.3 | 69.8 | 14.5 | 14.9 | 21.3 | 25.7 | 28.6 |

Source: Government of Himachal Pradesh, Report of Agriculture census, Directorate of Land Records, Shimla 1970 -71 to 2010-11 (various issues).

Trends of operational holdings in the small farmer categoryhavebeen presented in table 1.5. Table depicts that the concentration of small holdings is comparatively more in Lahaul & Spiti, Solan,and Una. The proportion of number of small farmer is the highest in Chamba (25.2 per cent) district followed by Bilaspur (24.7 per cent), Kinnaur (24.4 per cent) and Lahaul & Spiti (23.7 percent) during the year 1970-71 whereasduring the year 2010-11, highest in Solan (27.2 per cent), Kinnaur (22.9 per cent) and Sirmour (21.0 per cent). The proportion of small farmers in the areawas at the top in Chamba district (32.0per cent) followed by Kullu (26.6 per cent) and Mandi (25.9 per cent) in 1970-71. In the year 2010-11 highest in Chamba (33.8 per cent) followed by Bilaspur (32.9per cent) and Mandi (32.9 per cent). It is perceived that such type of land holdings pattern may be due to conducive and favorable agro-climatic conditions of agricultural land and consequently,the majority of the population are involved in agricultural activities.

**Table 1.5**
**Trends of Operational Holdings under Different Agriculture Census**
**(Small Farmers Category)**

**(In Percentages)**

| S.No. | District | Number of Operational Holdings | | | | | Area of Operational Holdings | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 |
| 1. | Bilaspur | 24.7 | 25.3 | 26.3 | 22.5 | 20.9 | 24.3 | 26.4 | 31.6 | 31.6 | 32.9 |
| 2. | Chamba | 25.2 | 27.0 | 22.4 | 19.9 | 19.9 | 32.0 | 34.3 | 34.4 | 33.6 | 33.8 |
| 3. | Hamirpur | 22.7 | 22.3 | 21.1 | 19.7 | 19.7 | 21.1 | 21.6 | 25.7 | 27.3 | 27.8 |
| 4. | Kangra | 18.2 | 17.4 | 14.5 | 14.3 | 13.9 | 16.1 | 18.7 | 21.1 | 22.3 | 22.5 |
| 5. | Kinnaur | 24.4 | 25.7 | 24.4 | 23.0 | 22.9 | 18.9 | 22.9 | 24.6 | 23.9 | 24.8 |
| 6. | Kullu | 14.7 | 25.2 | 17.9 | 13.9 | 10.9 | 26.6 | 30.4 | 30.8 | 28.8 | 26.7 |
| 7. | Lahaul & Spiti | 23.7 | 26.4 | 27.8 | 27.9 | 29.8 | 18.5 | 21.6 | 25.2 | 26.3 | 27.7 |
| 8. | Mandi | 22.2 | 25.2 | 22.0 | 21.0 | 19.6 | 25.9 | 27.5 | 31.5 | 33.3 | 32.9 |
| 9. | Shimla | 20.8 | 23.8 | 23.4 | 22.4 | 20.7 | 16.8 | 17.9 | 22.7 | 26.6 | 27.2 |
| 10. | Sirmour | 23.1 | 21.2 | 21.4 | 21.2 | 21.0 | 13.8 | 11.9 | 13.0 | 14.1 | 15.4 |
| 11. | Solan | 21.1 | 23.8 | 25.1 | 26.5 | 27.2 | 13.6 | 15.0 | 18.7 | 21.5 | 24.2 |
| 12. | Una | 14.8 | 17.2 | 17.3 | 18.0 | 18.2 | 13.5 | 14.5 | 16.0 | 41.5 | 20.4 |
| | Total | 20.2 | 22.0 | 20.0 | 19.0 | 18.3 | 19.0 | 20.4 | 23.3 | 38.6 | 38.2 |

Source: Government of Himachal Pradesh, Report of Agriculture census, Directorate of Land Records, Shimla 1970 -71 to 2010-11 (various issues).

Conversely, the semi-medium farmer's category presents an entirely different picture. All the districts have shown the proportion of area higher than the ratio of a number of operational holdings in the semi-medium category. The structure of the distribution of holdings in this category across different census periods is presented in table 1.6. This table shows that all the districts have recorded a considerably higher proportion of area under operational holding from the first census period onwards. Analysis of trend shows that Una, Solan,and Kangra districts, are showing an increasing trend in the proportionate area under operational holdings duringthe study period. But adecreasing trend has shown in number of semi-medium category for all the district.

**Table 1.6**
**Trends of Operational Holdings under Different Agriculture Census**
**(Semi- Medium Category)**

**(In Percentages)**

| S.No. | District | Number of Operational Holdings | | | | | Area of Operational Holdings | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 |
| 1. | Bilaspur | 18.4 | 17.0 | 13.1 | 9.7 | 8.0 | 34.4 | 33.5 | 30.2 | 26.6 | 23.6 |
| 2. | Chamba | 12.5 | 12.5 | 8.2 | 6.8 | 6.2 | 30.2 | 3.05 | 24.0 | 21.5 | 20.5 |
| 3. | Hamirpur | 16.1 | 15.1 | 11.5 | 10.5 | 9.3 | 28.8 | 28.6 | 27.0 | 26.9 | 25.8 |
| 4. | Kangra | 11.1 | 10.0 | 7.8 | 7.3 | 6.9 | 19.1 | 21.1 | 22.0 | 22.2 | 22.0 |
| 5. | Kinnaur | 21.4 | 18.3 | 15.9 | 15.3 | 14.1 | 31.7 | 31.2 | 30.7 | 30.3 | 29.5 |
| 6. | Kullu | 8.0 | 13.7 | 7.1 | 4.9 | 3.3 | 27.7 | 31.6 | 23.7 | 19.2 | 15.6 |
| 7. | Lahaul & Spiti | 28.6 | 25.9 | 22.8 | 21.8 | 21.7 | 42.8 | 40.6 | 39.5 | 39.3 | 38.1 |
| 8. | Mandi | 14.3 | 16.4 | 10.3 | 8.2 | 7.0 | 32.1 | 33.5 | 28.2 | 24.6 | 22.3 |
| 9. | Shimla | 18.4 | 21.8 | 15.7 | 12.6 | 10.5 | 29.0 | 31.3 | 29.7 | 28.5 | 26.5 |
| 10. | Sirmour | 21.0 | 21.4 | 18.5 | 17.8 | 16.9 | 24.3 | 22.3 | 22.2 | 23.4 | 24.2 |
| 11. | Solan | 20.4 | 23.9 | 21.2 | 20.1 | 18.7 | 25.4 | 28.9 | 30.5 | 30.9 | 31.9 |
| 12. | Una | 10.0 | 11.8 | 11.0 | 10.1 | 11.1 | 17.9 | 19.3 | 19.7 | 22.9 | 24.2 |
| | Total | 14.2 | 15.1 | 11.2 | 9.9 | 8.8 | 25.7 | 27.1 | 25.5 | 24.9 | 24.1 |

Source: Government of Himachal Pradesh, Report of Agriculture census, Directorate of Land Records, Shimla 1970 -71 to 2010-11 (various issues).

Like the semi-medium category, the medium farmers also recorded a decreasing trend in proportion in number and area in all districts (Table 1.7). The proportion of the area is rapidly decreased in Bilaspur (23.0 percent to 7.9 percent), Chamba (12.2 percent to 3.6 percent) and Mandi (20.7percent to 6.2 percent) while it is almost constant in Kangra and Solan districts. The proportion of number in all districts decreased marginally while it is almost constant in Una and Sirmour districts.

**Table1.7**

**Trends of Operational Holdings under Different Agriculture Census**
**(Medium Farmers Category)**

**(In Percentage)**

| S.No. | District | Number of Operational Holdings | | | | | Area of Operational Holdings | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Bilaspur | 6.1 | 5.2 | 2.8 | 1.9 | 1.4 | 23.0 | 19.8 | 12.5 | 10.9 | 7.9 |
| 2. | Chamba | 2.6 | 2.0 | 1.2 | 0.8 | 0.6 | 12.2 | 9.5 | 6.7 | 4.9 | 3.6 |
| 3. | Hamirpur | 7.1 | 6.6 | 3.9 | 2.8 | 2.5 | 26.2 | 26.5 | 18.7 | 15.7 | 14.0 |
| 4. | Kangra | 5.5 | 4.8 | 3.3 | 2.9 | 2.6 | 20.0 | 22.1 | 19.7 | 18.5 | 17.1 |
| 5. | Kinnaur | 9.4 | 7.3 | 4.9 | 1.2 | 4.4 | 28.1 | 24.8 | 19.1 | 18.9 | 17.9 |
| 6. | Kullu | 2.0 | 3.1 | 1.4 | 0.8 | 0.5 | 14.0 | 14.4 | 9.2 | 6.4 | 4.9 |
| 7. | Lahaul & Spiti | 8.9 | 7.3 | 5.6 | 5.0 | 5.2 | 24.8 | 21.4 | 17.9 | 16.5 | 16.9 |
| 8. | Mandi | 4.6 | 4.9 | 2.1 | 1.3 | 1.0 | 20.7 | 20.0 | 11.2 | 7.7 | 6.2 |
| 9. | Shimla | 9.6 | 10.9 | 6.4 | 4.1 | 3.3 | 31.2 | 32.3 | 25.0 | 19.0 | 16.7 |
| 10. | Sirmour | 11.9 | 14.9 | 12.8 | 11.6 | 10.7 | 28.5 | 32.9 | 32.9 | 32.6 | 32.7 |
| 11. | Solan | 13.0 | 14.1 | 10.9 | 8.4 | 8.0 | 31.1 | 35.9 | 31.9 | 27.8 | 24.1 |
| 12. | Una | 5.5 | 6.6 | 5.9 | 5.1 | 5.1 | 21.8 | 25.0 | 23.1 | 23.3 | 23.7 |
| | Total | 6.3 | 6.6 | 4.3 | 3.4 | 2.8 | 23.7 | 24.9 | 20.3 | 17.9 | 16.4 |

Source: Government of Himachal Pradesh, Report of Agriculture census, Directorate of Land Records, Shimla 1970 -71 to 2010-11 (various issues).

The large farmer category recorded a declining trend in proportion in numbers (Table 1.8). In Bilaspur, Chamba,and Mandi,a number of operational holdings were 0.3, 0.1, and 0.2percent respectively in 1970-71 which tends to negative in 2010-11. The proportion of area has decreased instantly in Kangra (29.9 per cent to 6.8 percent), Sirmour (25.6 per cent to 16.2 percent) and Una (32.2 per cent to 9.8 percent). In the large farmer's category, both the number and area have reported a significant fall in the proportion from number 1.1 to 0.3 and area 17.1 to 5.3per cent in 1970-71 to 2010-11 census in almost all the districts of the state (Table 1.8).

**Table 1.8**
**Trends of Operational Holdings under Different Agriculture Census.**
**(Large Farmers Category)**

**(In Percentages)**

| S.No. | District | Number of Operational Holdings | | | | | Area of Operational Holdings | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 |
| 1. | Bilaspur | 0.3 | 0.2 | 0.1 | 0.1 | N.A. | 3.4 | 2.4 | 1.4 | 1.2 | 0.7 |
| 2. | Chamba | 0.1 | N.A. | 0.1 | N.A. | N.A. | 2.9 | 0.6 | 1.6 | 1.1 | 0.2 |
| 3. | Hamirpur | 1.0 | 0.8 | 0.3 | 0.2 | 0.2 | 9.7 | 8.2 | 5.4 | 3.1 | 2.6 |
| 4. | Kangra | 1.2 | 1.1 | 0.5 | 0.4 | 0.3 | 29.9 | 19.6 | 11.1 | 7.6 | 6.8 |
| 5. | Kinnaur | 1.3 | 0.7 | 0.5 | 0.4 | 0.4 | 11.4 | 7.6 | 8.7 | 9.5 | 9.4 |
| 6. | Kullu | 0.1 | 0.1 | 0.1 | 0 | 0 | 2.2 | 1.4 | 1.7 | 0.4 | 0.3 |
| 7. | Lahaul & spiti | 0.6 | 0.6 | 0.3 | 0.3 | 0.3 | 5.3 | 5.2 | 3.4 | 2.5 | 2.6 |
| 8. | Mandi | 0.2 | 0.1 | N.A. | N.A. | N.A. | 2.5 | 1.4 | 0.9 | 0.5 | 0.4 |
| 9. | Shimla | 1.3 | 1.2 | 0.6 | 0.2 | 0.3 | 11.8 | 8.8 | 6.1 | 3.1 | 3.3 |
| 10. | Sirmour | 3.1 | 4.2 | 3.5 | 2.7 | 2.1 | 25.6 | 26.3 | 23.3 | 19.7 | 16.2 |
| 11. | Solan | 2.7 | 2.0 | 1.2 | 0.9 | 0.6 | 19.4 | 12.3 | 8.5 | 7.3 | 5.2 |
| 12. | Una | 2.3 | 2.5 | 2.0 | 0.1 | 0.9 | 32.2 | 27.3 | 25.3 | 13.0 | 9.8 |
| | Total | 1.1 | 1.1 | 0.7 | 0.4 | 0.3 | 17.1 | 12.7 | 9.6 | 6.5 | 5.3 |

Source: Government of Himachal Pradesh, Report of Agriculture census, Directorate of Land Records, Shimla 1970 -71 to 2010-11 (various issues).
N.A: Not Applicable

It can be concluded from the above discussions that while the number of operational holdings has increased considerably in all the districts, the area operated has not increasedin that manner. Across the size classes, both the number of area of holdings have expanded significantly. In the case of marginal farmers category while the medium and large farmers category is the major loserin the structural change in the distributionof operational holdings.

### 4.4 Annual Compound Growth Rate of Operational Holdings

Trends in number and area of different categories of holdings in different districts during 1970-71 to 2010-11 have been computed with the help of logarithmic functions of time by taking note of the difference in the number of years in between census. The results are presented in table 1.9. It may be seen from this table that the annual compound growth rate of a number of marginal farmers in most of the districts have a higher value than all other categories of farmers. In Lahaul & Spiti (1.7 per cent) and Solan (1.1 per cent) districts, the annual compound growth rate in a number of marginal farmers is lesser than the small farmers. In case of the semi-medium category, the annual growth rate was also positive in all districts except Kullu (-1.4 per cent), Chamba (-0.9 per cent), Bilaspur (-0.6 per cent), Mandi (-0.6 per cent) and Hamirpur (-0.1 per cent) districts. On the other hand, except Sirmour (0.8 per cent) district the annual compound growth rate in all districts are negative in case of medium farmers, but in Lahaul & Spiti and Una it is observed zero. The positive growth rate is observed in the large category of farmers in Sirmour (0.2 per cent) district while other districts have negative growth rates.

Trends in area of operational holdings are also presented in table 1.9wherein it may be seen that the annual compound growth rate in all the districts are more in the marginal category of farmers than the small farmers. Further, negative growth rates are noticed in semi-medium farmers in Kullu (-1.3 per cent), Chamba (-0.9 per cent), Bilaspur (-0.7 per cent), Mandi (-0.7 per cent), Hamirpur (-0.2 per cent), and Shimla (-0.1 per cent) districts and positive in other districts. The positive trends in the growth of area owned by medium category of farmers are also observed in Sirmour (0.9 per cent)and Lahaul & Spiti (0.1 per cent) districts while other districts have a negativetrend,but in Una, it is zero. In the large category of a farmer,there is a negative trend in all districts.

**Table 1.9**
**Annual Compound Growth Rates of the Number and Area of Operational Holdings**

| S. No. | District | Number | | | | | Area | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Marginal | Small | Semi-Medium | Medium | Large | Marginal | Small | Semi-Medium | Medium | Large |
| 1 | Bilaspur | 2.4 | 1.1 | -0.6 | -2.3 | -3.9 | 2.5 | 1.0 | -0.7 | -2.5 | -3.8 |
| 2 | Chamba | 1.5 | 0.3 | -0.9 | -2.9 | -3.7 | 1.6 | 0.2 | -0.9 | -3.1 | -6.8 |
| 3 | Hamirpur | 1.9 | 0.8 | -0.1 | -1.4 | -2.9 | 1.9 | 0.8 | -0.2 | -1.5 | -3.3 |
| 4 | Kangra | 1.9 | 0.7 | 0.2 | -0.5 | -3.2 | 1.8 | 0.7 | 0.2 | -0.6 | -3.9 |
| 5 | Kinnaur | 2.0 | 1.1 | 0.2 | -0.7 | -1.5 | 2.0 | 1.1 | 0.2 | -0.8 | -0.1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | Kullu | 1.3 | 0.2 | -1.4 | -2.6 | -4.5 | 1.6 | 0.1 | -1.3 | -2.6 | -4.8 |
| 7 | Lahaul & Spiti | 1.7 | 1.9 | 0.7 | 0 | -0.8 | 2.3 | 1.9 | 0.6 | 0.1 | -0.9 |
| 8 | Mandi | 1.8 | 0.9 | -0.6 | -2.7 | -4.2 | 2.1 | 0.8 | -0.7 | -2.9 | -4.2 |
| 9 | Shimla | 2.1 | 1.4 | 0.0 | -1.3 | -3.8 | 2.3 | 1.4 | -0.1 | -1.5 | -3.1 |
| 10 | Sirmour | 1.6 | 0.9 | 0.6 | 0.8 | 0.2 | 1.6 | 0.9 | 2.5 | 0.9 | -0.6 |
| 11 | Solan | 1.1 | 1.5 | 0.6 | -0.7 | -3.2 | 1.7 | 1.5 | 0.6 | -0.9 | -3.3 |
| 12 | Una | 5.4 | 0.7 | 0.5 | 0 | -2.2 | 0.8 | 0.8 | 0.5 | 0 | -3.2 |
| | Total | 1.7 | 0.9 | -0.1 | -0.8 | -2.3 | 1.8 | 0.8 | -0.1 | -0.9 | -2.9 |

Source: As on Table 1.4, 1.5, 1.6, 1.7 and 1.8.

It comes out clearly from the above discussion that the annual compound growth rates of number and area operated across categories explained that the marginal and small farmers had gained significantly both in terms ofnumber and areaoperated from the loss of the share of medium and large farmers.

Ginicoefficientis a tool to measure the extent of concentration. It is used most commonly to gain a bird's eye view of the prevailing inequalities. It is defined as the ratio of the difference between the line of absolute equality (the diagonal) and the Lorenz curve to the triangular regions underneath the diagonal. It is also defined as exactly one half of the relative mean difference which is defined as the arithmetic average of the absolute values of differences between all pairs of income or all pairs of operation holdings. Undoubtedly one appeal of the Gini Coefficient or the relative mean difference is that it is a very direct measure of income difference, taking note of differences between every pair of income. It is also true in the case of distribution of operational holdings across different size groups for number and area operated.

The values of Gini coefficient in area and number of operational holdings in Himachal Pradesh is presented in table 1.10. The value of GiniCoefficient computed with the help of formula for all the districts and all census are given in table 1.10. It may be seen from this table that the concentration of holdings, declined significantly across the districts during 1970-71 to 2010-11. As regards 1980-81, the decline in the concentration of holdings in terms of Ginicoefficient was observed declining trend in eleven districts, while in Hamirpur (0.53 per cent) district it was unchanged. In 1990-91 census, the inequalities are increased in Sirmour (0.56 per cent), Shimla (0.50 per cent) and Kinnaur (0.49 per cent) while it showed declining trend in Una (0.62 per cent), Kangra (0.55 per cent), Hamirpur (0.48 per cent), Solan (0.47 per cent), Kullu (0.43 per cent), Mandi (0.43 per cent), Lahaul & Spiti (0.42 per cent), Bilaspur (0.41 per cent) and Chamba (0.39 per cent). The concentration of holdings in 2000-01 over 1990-91 either decreased or remained constant in almost all districts except Kinnaur (0.51 per cent) and Bilaspur (0.42per cent) where the ratio increased marginally. In 2010-11 census, inequalities are decreased in Una (0.52 per cent), Kangra (0.50 per cent), Solan (0.46 per cent), Lahaul & Spiti (0.40 per cent), Bilaspur (0.39per cent), Mandi (0.37 per cent), Chamba (0.34 per cent) and Kullu (0.34 per cent) while in Kinnaur (0.51 per cent), Shimla (0.46 per cent) and Hamirpur (0.45 per cent) districts Gini coefficient remained unchanged.

**Table 1.10**

**Gini Coefficient in Area and Number of Operational Holding in Himachal Pradesh**

| Districts | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2010-11 |
|---|---|---|---|---|---|
| Bilaspur | 0.47 | 0.45 | 0.41 | 0.42 | 0.39 |
| Chamba | 0.45 | 0.40 | 0.39 | 0.37 | 0.34 |
| Hamirpur | 0.53 | 0.53 | 0.48 | 0.45 | 0.45 |
| Kangra | 0.64 | 0.60 | 0.55 | 0.52 | 0.50 |
| Kinnaur | 0.51 | 0.48 | 0.49 | 0.51 | 0.51 |
| Kullu | 0.46 | 0.44 | 0.43 | 0.24 | 0.34 |
| Lahaul & Spiti | 0.45 | 0.43 | 0.42 | 0.41 | 0.40 |
| Mandi | 0.49 | 0.46 | 0.43 | 0.40 | 0.37 |
| Shimla | 0.54 | 0.49 | 0.50 | 0.46 | 0.46 |
| Sirmour | 0.56 | 0.55 | 0.56 | 0.55 | 0.59 |
| Solan | 0.56 | 0.48 | 0.47 | 0.47 | 0.46 |
| Una | 0.66 | 0.63 | 0.62 | 0.55 | 0.52 |
| Total | 0.58 | 0.54 | 0.52 | 0.49 | 0.48 |

Source: As on Table 1.4, 1.5, 1.6, 1.7 and 1.8.

The analysis of Ginicoefficient thus clearly brings out the reduction in inequalities in the distribution of operational holdings in the successive agricultural census periods. While the marginal and small farms proliferate in very high speed due to the strict agrarian legislations favoring small farms, the large farms both in number and area have also shown an equivalent decrease in percentage terms. This may be the reason for the reduction in the value of Gini coefficient in the successive census. Similarly, while the absolute data has shown some equitable distribution by reducing the disparities between large farms and small farms in the area operated, the number has shown even in absolute terms very high disparities between large and marginal or small farms. Perhaps, this could be the reason for a very slow reduction in Gini values in some districts.

## V Concluding Remarks

In short, it can be concluded from the above discussion that while the number of operational holdings increased significantly in all the districts in Himachal Pradesh, the area operated has also increased marginally at the aggregate level. Across the farm categories, while the small and marginal farmers gained a substantial number and area of operational holdings, the medium and large farmers have lost a considerable portion of their share in both number and area of operational holdings in all the districts. The annual compound growth rate for the number of operational holdings indicates that marginal, small and semi-medium farmers have positive and increasing trends while medium and large farm number has decreased during the period

understudy. The same trendsare also observed in the case of the area of operational holdings,but the rate of growth is relatively higher as compared to growth in many operational holdings. The Gini Coefficient has shown that the Gini values are relatively high in Una district and lesser in Chamba district.

The results of this analysisconclude that in the successive census periods, marginal and small farmers came to occupy a significant chunk of both the number and area of operational holdings. Though the Gini values indicate a reduction of inequalities in the distribution of operational holdings in the census periods in succession, Compound Growth Rate for number and area separately have established that a considerable increase in the number and area under small and marginal farmers in comparison with other categories of farmers. In the case of number and area, the area has not shown a noticeable change over the period. Hence, it appears that still there are high disparities in the distribution of operational holdings in Himachal Pradesh.

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