

DISTRIBUTION OF AGRICULTURAL LANDHOLDINGS IN INDIA-WITH SPECIAL REFERENCE TO TAMILNADU AND UTTAR PRADESH

Abstract

Agriculture is crucial to the Indian economy, serving as a source of income for a significant portion of the population. The distribution of agricultural land in India reveals pronounced inequality. Over time, both population growth and the subdivision of land have led to a rapid rise in the number of small and marginal farmers. This research investigates the patterns and distribution of agricultural landholdings in India, focusing on Tamil Nadu and Uttar Pradesh by using NSSO data. It identifies differences in both size and operational characteristics of landholdings within these states. Since Tamil Nadu has a higher population density and intensive farming practices, it tends to have smaller and more fragmented land holdings, whereas Uttar Pradesh has a substantial presence of marginal and small holdings accompanied by notable regional inequalities. The findings highlight the necessity for proactive policies regarding land organization, consolidation of holdings, and the adoption of sustainable agricultural methods to enhance productivity while fostering equitable growth in the agricultural sector.

Keywords: Agrarian Economy, operational holding, and ownership holdings.

Introduction

Regional features of agriculture are important to understand agrarian institutions and agrarian change. India's agricultural development exhibits unique regional patterns (Bhalla and Singh, 2001; 2012). The change in agrarian patterns is different in the two states under investigation: Uttar Pradesh and Tamil Nadu. This paper provides a comparative overview of agriculture in both states. An explanation of agricultural development in the states in the first section is a set of empirical evidence. The NSSO reports serve as references to compare the two states in the next sections.

During 2010-11, the share of agriculture and allied activities in Gross Domestic Product (GDP) was 14.45 per cent (at constant prices), and this sector accounted for 52 per cent of employment at the national level. These performance indicators contribute to the country's economic growth. According to the 2011 population census, this sector accounts for approximately 65.0 per cent of the State's total workforce, and this share of the rural

31 workforce of Tamil Nadu is higher than the national percentage. Agriculture in Tamil
32 Nadu is characterized by adequate capital formation and high levels of productivity¹. The
33 agricultural production of Tamil Nadu largely depends on monsoon rainfall; thus,
34 agricultural success depends on the monsoons. The main sources of irrigation are well
35 irrigation; nearly 41.62 per cent of irrigation is done by using well irrigation. Regular
36 monsoon failures and low, uncertain rainfall have skewed the distribution, affecting
37 agricultural growth. The total gross cropped area is 5670 hectares, of which 3339 hectares
38 is gross irrigated area and 2332 hectares is gross unirrigated area. This data, when
39 compared to the all-India total figure, its contribution is only 2.93 per cent. The major
40 crops like paddy, coarse cereal and pulses, groundnut, and sugarcane contribute more than
41 60 per cent of the gross cropped area of the State. Tamil Nadu is the 4th-largest producer
42 of rice in India and is also a leading producer of crops such as corn, rye, groundnut,
43 oilseeds, and sugarcane, as well as a major producer of turmeric.

44 However, even after such development, the agrarian sector remains in poor
45 condition due to insufficient monsoon rainfall. The decadal growth in Tamil Nadu during
46 2001-2011 was 15.6 per cent, whereas farm employment growth rates varied widely
47 across states. In Tamil Nadu, it has been noted negative rural employment growth in all
48 sectors during the period 1993-94 to 2009-2010, 1.52 per cent per annum (NSSO 50th
49 round and 60th). Because land is the most crucial input in agricultural production,
50 ownership and access to cultivable land significantly influence the adoption of other yield-
51 increasing inputs and the nature of transactions in agrarian markets.

52 In Uttar Pradesh, agriculture is a predominant economic activity. The State GDP
53 growth rate from the agriculture sector in the year 2011-2012 is 7.28 per cent. Following
54 the late 1960s, with the introduction of high-yielding wheat and rice varieties, greater
55 fertilizer availability, and increased irrigation, the State has become a major producer of
56 food grains in the country. Most farmers still face two major problems: small landholdings
57 and insufficient resources to invest in technology. A study revealed that, among cereal

¹This high productivity has been there since the different land systems in India. Tamil Nadu was under the Raiyatwari system, and there is much literature that argues land under this system had high productivity when compared to the other land systems that prevailed in other parts of the country, particularly in Uttar Pradesh, where the Zamindari System was followed. The studies are as follows: (Jens Lerche, Alpa Shah, and Barbara Harriss-White, 2013), Dr. Md. Hamid Husain and Firoj High Sarwar (2012), and Alexander Lee March (2017).

58 crops, wheat is one of the most widely cultivated in Uttar Pradesh (Economic Survey of
59 India, 2010-11). Furthermore, the area under wheat has been increasing over the period
60 and ranked first in all three virtual years, rising from 8231 thousand hectares in 1991-92 to
61 9256 hectares in 2001-02 and 9670 hectares in 2007-08 (Agricultural Census 2011).
62 However, the area under rice shows fluctuating trends and ranks as the second most
63 important growing crop across all simulated years in Uttar Pradesh. Even though the
64 western region of Uttar Pradesh is economically the most developed, with higher levels of
65 urbanization and diversification in economic activity, improved infrastructure facilities
66 have brought a higher level of agricultural productivity. During the period 1993-94 to
67 2009-10, the farm employment growth rates of Uttar Pradesh were 1.19 per cent per
68 annum and 20.1 per cent decadal growth in 2001-2011. If we look into the total cropped
69 area as per the 2010-11 Agricultural Census, the gross cropped area is 25675 hectares, of
70 which 19587 hectares is Gross irrigated area, and 6088 is gross unirrigated area. When it is
71 compared to all India figures, it is around 13.25 per cent. The increasing agrarian structure
72 plays an important role in facilitating development in the State, and land plays a very
73 important role as the major input for agricultural production.

74 But as these two States are located in two different locations and have different
75 patterns and climatic conditions, there may be many differences in landholding patterns,
76 which will be the main core of the present study.

77 **Tamil Nadu and Uttar Pradesh: Empirical Evidence**

78 Historically, Tamil Nadu has used agriculture as the largest source of employment, with
79 industries slowly progressing the state into a more industrialized economy. Even as a
80 result of changes taken in farming practices, agriculture remains the backbone of the
81 state's economic development and sustains a substantial piece of the rural population.
82 After a long inactive stage, agricultural output continued to increase with the Green
83 Revolution. During this period, agriculture contributed about 33.79 per cent of the state's
84 Net Domestic Product and supported over 73 per cent of the rural population.

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86 Prior to independence, the agriculture of Tamil Nadu was significantly backward and
87 unstable, including among the peasant classes. Nonetheless, between 1950-51 and
88 1971-72, agricultural production of food grains rose considerably from 31.63 lakh tonnes

89 to 70.45 lakh tonnes, mainly from food grains, oilseeds, sugarcane, gur, and cotton. Rice
90 production in particular grew explosively by 4.1% a year from 1960–61 to 1970–71,
91 contributing substantially to the agricultural output. Production was also enhanced by the
92 introduction of the high-yielding varieties such as ADT-27, Co 25, IR-8, and Karuna,
93 particularly in the Thanjavur district. Yet, that technological advancement largely favoured
94 paddy production, not all crops, like sugarcane, which was hit hard with falling yields in
95 the late 1960s. Indeed, research has demonstrated diverse distributions of agricultural
96 development benefits. As productivity increased, landlords or wealthy peasants fared
97 better than small farmers would have. As Folke (1998) highlighted, irrigation expansion in
98 semi-arid regions such as the Cauvery delta led to conflicts over water resources. The
99 introduction of bore wells and private irrigation systems intensified competition among
100 farmers and weakened traditional community-based irrigation management, such as canals
101 and tanks. Dominant caste groups often had better access to water resources, creating
102 social and economic inequalities in rural areas.

103 Similarly, Harriss and White (2007) argued that the Green Revolution did not
104 fundamentally change the structural problems of Indian agriculture. Small farmers
105 remained dependent on merchant capital and credit, forcing them to sell their produce at
106 low prices during harvest to repay debts. Price fluctuations and rising input costs further
107 increased farmers' vulnerability, sometimes leading to severe agrarian distress.

108 There are other studies that identify challenges associated with agricultural diversification
109 and policy interventions as well. For example, Montobbio et al. (2010) studied the
110 promotion of *Jatropha* cultivation in Tamil Nadu, which failed to deliver the expected
111 economic and ecological benefits. The crop required higher irrigation inputs than
112 anticipated and produced yields far below expectations, leading to negative livelihood
113 impacts for farmers due to inadequate technical support and credit constraints. On a
114 holistic level, empirical findings indicate that agricultural modernization in Tamil Nadu
115 resulted in high levels of productivity generation, but also faced major socio-economic
116 burdens with unequal resource sharing, the reliance on credit, environmental pressures,
117 and livelihood insecurity for small and marginalised farmers.

118 **Data and Methodology:**

119 The study is based on data from Household Ownership Holdings in India, 2003, NSS 59th
120 Round & 77th Round, for the period 1970-1971 to 2018-2019, where the study has taken
121 Uttar Pradesh and Tamil Nadu.

122 **Results and Discussion:**

123 **Agrarian Structure of Tamil Nadu and Uttar Pradesh**

124 The dominance of Marginal Farmers largely characterizes the agrarian structure of
125 Tamil Nadu. Per capita net land availability has decreased. The state has around 6488400
126 hectares of operational holdings. The agrarian structure of Uttar Pradesh is also largely
127 characterized by the dominance of Marginal Farmers. The per capita net availability of
128 land has declined. The state has around 17621600 hectares of operational holdings (2011
129 Agricultural Census). Compared with Tamil Nadu, Uttar Pradesh has more hectares of
130 operational holdings. The primary reason is that Uttar Pradesh remains predominantly
131 agricultural. In contrast, in Tamil Nadu, farmers are moving into non-farm activities,
132 which has reduced the hectares of operational holdings.

133 **Ownership Holdings and Changing Distribution**

134 The distribution of ownership holdings and the area owned by the different class
135 sizes in Uttar Pradesh and Tamil Nadu is presented in Table 1. The table shows a
136 remarkable change in agricultural landholdings in Uttar Pradesh and Tamil Nadu from
137 1971-72 to 2017-18. In both states, the percentage of marginal holdings (0.01-2.0
138 hectares) increased and continued to increase with time, which illustrates the growing
139 fragmentation of agricultural land. In Uttar Pradesh, marginal holdings increased markedly
140 between 1971-72 (65.6 per cent) and 2017-18 (82.4 per cent), whereas they increased
141 from 73.1 per cent in Tamil Nadu to very high levels (73.8 per cent in 2017-18 after they
142 reached a peak of 90.1 per cent in 2002-03). This decline in the percentage of small, semi-
143 medium, medium, and large agricultural holdings. On the other hand, in both states, the
144 holding of medium and large holdings has steadily declined. Marginal farmers compose
145 the majority of landowners, but their share of land area is still less than their numbers,
146 though it has increased. Medium and large farmers' land share has declined and has been
147 dropping all the time. This has demonstrated a decrease in land concentration across all
148 groups. Overall, these data show the rise of land fragmentation, the domination of small

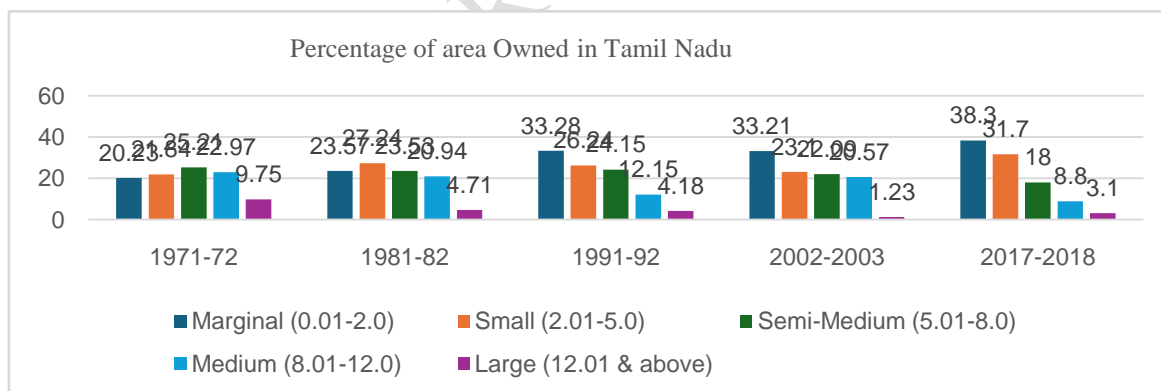
149 and marginal farmers, and the slow transition in land ownership in both Uttar Pradesh and
 150 Tamil Nadu.

151 **Table 1: Distribution of Ownership Holdings and Area by Size-Class of Land Holdings in Rural**
 152 **Uttar Pradesh and Tamil Nadu 1971-1972 to 2018-2019**

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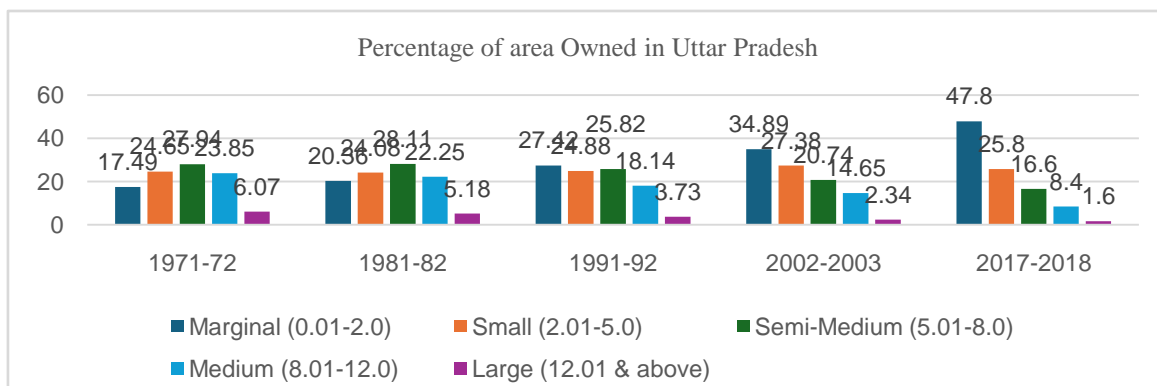
size-class of Holdings (Ha)	Percentage of Holdings (Households)					Percentage of area Owned				
	1971-72	1981-82	1991-92	2002-03	2017-18	1971-72	1981-82	1991-92	2002-03	2017-2018
UTTAR PRADESH										
Marginal (0.01-2.0)	65.6	68.0	74.4	81.0	82.4	17.5	20.4	27.4	34.9	47.8
Small (2.01-5.0)	18.6	17.4	14.7	12.3	10.8	24.7	24.1	24.9	27.4	25.8
Semi-Medium (5.01-8.0)	10.8	10.2	7.9	4.8	3.6	27.9	28.1	25.8	20.7	16.6
Medium (8.01-12.0)	4.5	4.1	2.8	1.6	0.9	23.9	22.3	18.1	14.7	8.4
Large (12.01 & above)	0.5	0.4	0.2	0.1	0.1	6.1	5.2	3.7	2.3	1.6
All Sizes	100	100	100	100	100	100	100	100	100	100
TAMILNADU										
Marginal (0.01-2.0)	73.1	81.9	87.1	90.1	73.8	20.2	23.6	33.3	33.2	38.3
Small (2.01-5.0)	11.4	10.9	8.0	5.7	17.1	21.8	27.2	26.2	23.1	31.7
Semi-Medium (5.01-8.0)	6.8	5.0	3.8	2.9	5.8	25.2	23.5	24.2	22.1	18.0
Medium (8.01-12.0)	3.0	2.2	0.9	1.2	1.3	23.0	20.9	12.2	20.6	8.8
Large (12.01 & above)	0.5	0.2	1.1	0.0	0.2	9.8	4.7	4.2	1.2	3.1
All Sizes	100	100	100	100	100	100	100	100	100	100

154 Source: Household Ownership Holdings in India, 2003, NSS 59th Round & 77th Round, Report No. 49 (59/18.1/4) Note: Figures are in
 155 percentages



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Operational Holdings and Changes in Distribution

Table 2 presents the distribution of operational landholdings and the area operated by different size classes in rural Uttar Pradesh and Tamil Nadu from 1971–72 to 2017–18. It shows a clear increase in the share of marginal operational holdings (0.01–2.0 hectares) in both states over time. In Uttar Pradesh, marginal operational holdings increased from 49.8 per cent in 1971–72 to 84.4 per cent in 2017–18, while in Tamil Nadu they rose from 60.1 per cent to 78.9 per cent during the same period. This indicates growing fragmentation of operational landholdings due to population growth and subdivision of land. At the same time, the proportion of small, semi-medium, medium, and large operational holdings has steadily declined in both states. Although marginal farmers form the majority of cultivators, their share in the area operated is comparatively smaller, though it has gradually increased over time. For example, the area operated by marginal farmers in Uttar Pradesh increased from 15.6 per cent to 49.6 per cent, while in Tamil Nadu it increased from 21.9 per cent to 38.6 per cent. Conversely, the share of land operated by medium and large farmers has declined significantly, showing a reduction in land concentration. The data here, in the bigger picture, only point to the emerging power of small and marginal farmers being in business farmers in agricultural enterprises, and continuous land fragmentation in Uttar Pradesh and Tamil Nadu.

Table 2
Distribution of Operational Holdings and Area by Size-Class of Land Holdings in Rural Uttar Pradesh and Tamil Nadu 1971-72 to 2002-03

size-class of Holdings (Ha)	Percentage of Operational Holdings (Households)					Percentage of Area Operated				
	1971-72	1981-82	1991-92	2002-2003	2017-2018	1971-72	1981-82	1991-92	2002-2003	2017-2018
UTTAR PRADESH										
Marginal (0.01-2.0)	49.8	59.6	68	76.7	84.4	15.6	18.1	25	35.7	49.6
Small (2.01-5.0)	26.9	21.6	18.5	15.9	10.7	25.3	23.8	26.3	29.2	24.1
Semi-Medium (5.01-8.0)	16.5	12.9	9.9	5.6	4	29.8	28	26.3	19.8	16.4
Medium (8.01-12.0)	6.2	5.4	3.3	1.7	0.9	23.3	23.6	18.2	12.5	8.4
Large (12.01 & above)	0.7	0.5	0.3	0.1	0.1	6	6.5	4.3	2.8	1.5
All Sizes	100	100	100	100	100	100	100	100	100	100
TAMILNADU										
Marginal (0.01-2.0)	60.1	71.1	77.2	77.1	78.9	21.9	22.4	28.9	30.9	38.6
Small (2.01-5.0)	21.3	16.7	14.1	13.4	14.1	22.7	26.7	28.1	24.2	26.6
Semi-Medium (5.01-8.0)	13.2	8.3	6.6	6.7	5	27.3	25.4	24.7	23	17.1
Medium (8.01-12.0)	4.9	3.4	1.8	2.7	1.8	21.7	20.7	13.2	20.4	13.4
Large (12.01 & above)	0.6	0.3	0.3	0.1	0.3	6.3	4.8	5.1	1.5	4.3
All Sizes	100	100	100	100	100	100	100	100	100	100

Source: Household Ownership Holdings in India, 2003, NSS 59th Round & 77th Round, Report No. 49 (59/18.1/4) Note: Figures are in percentages

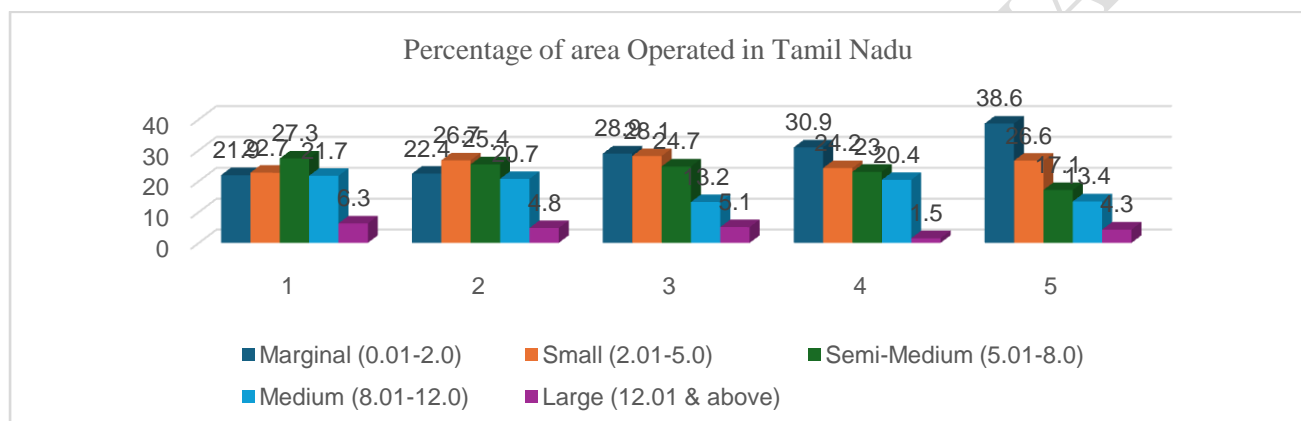
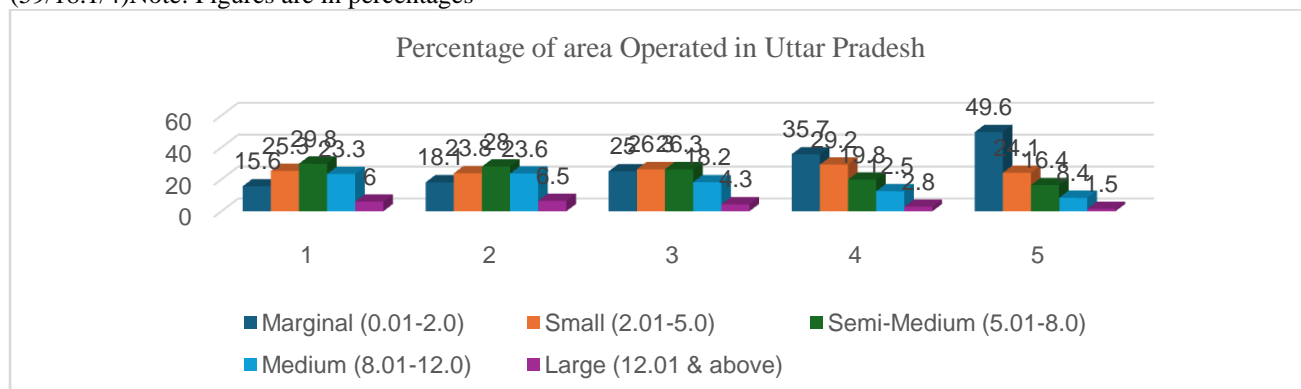


Table 3 illustrates the variations in the concentration of the Gini coefficient between operative landholdings in a wide region of Uttar Pradesh, Tamil Nadu, and India from 1970–71 to 2017–18. The Gini coefficient indicates inequality of land distribution, with higher values meaning more land concentration in fewer hands. In 1970–71, the Gini coefficient was 0.471 in Uttar Pradesh, 0.48 in Tamil Nadu, and 0.567 on the national level, representing relatively higher inequality on the whole of India. The value of the coefficient rose to 0.52 in Uttar Pradesh in 1981–82 and 0.555 in Tamil Nadu, demonstrating an increase in land concentration in those states. But in 1991–92 and in 2002–03, the numbers decreased somewhat for both states, indicating that inequality has somewhat decreased as a result of the land fragmentation and the formation of small and marginal holdings. By 2017–18, the Gini coefficient rose again to 0.589 in Uttar Pradesh and 0.542 in Tamil Nadu, and India again to 0.615 — again a sign of a surge in inequality in land distribution. Overall, from the data, while small and marginal holdings have grown over the years, inequality over operational land distribution remains — the former persists — with periodic fluctuations in both states and at a national level.

Table 3
Changes in Gini Coefficient of concentration of Distribution of Operational Holdings and Area by Size-Class of Land Holdings in Rural Uttar Pradesh and Tamil Nadu 1970-71 to 2017-2018

Year	States		
	UP	TN	India
1970-1971	0.471	0.48	0.567
1981-1982	0.52	0.555	0.596
1991-1992	0.498	0.527	0.591
2002-2003	0.45	0.508	0.557
2017-2018	0.589	0.542	0.615

Source: NSSO 26th, 37th, 48th, 59th & 77th Note: Figures are in percentages

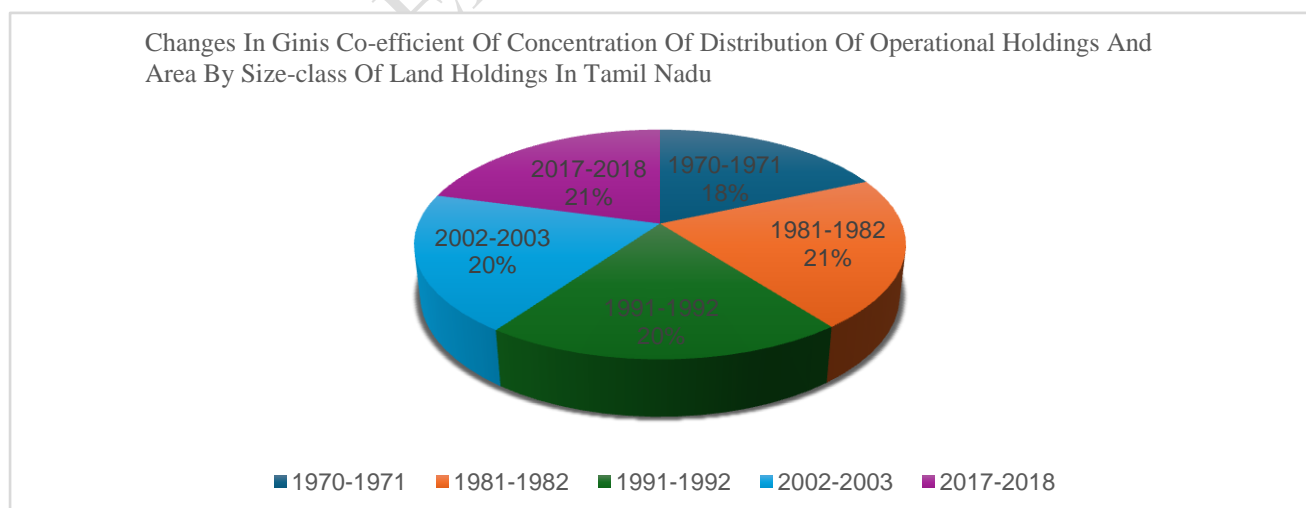
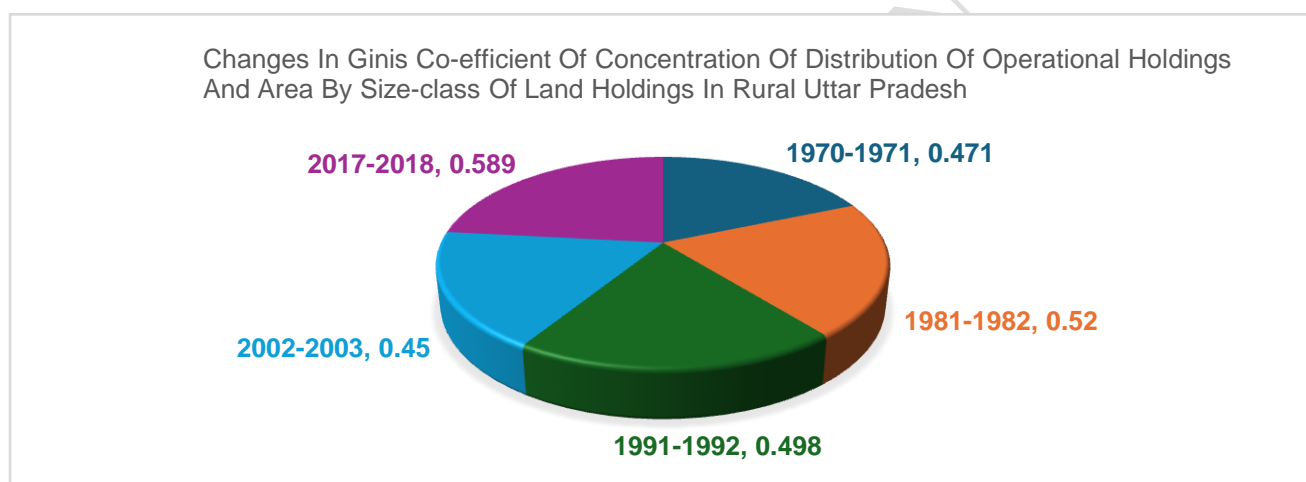


Table 4 shows the mean percentage distribution of landholdings by size class in Uttar Pradesh and Tamil Nadu during 1971–72 to 2017–18. The results indicate that marginal holdings dominate in both states, with a higher share in Tamil Nadu (81.20%) compared to Uttar Pradesh (74.28%), suggesting greater land fragmentation in Tamil Nadu.

Table 4 Mean Percentage Distribution of Landholdings by Size Class in Uttar Pradesh and Tamil Nadu (1971–72 to 2017–18)

Size Class of Holdings (Ha)	Uttar Pradesh (%)	Tamil Nadu (%)
Marginal (0.01–2.0)	74.28	81.2
Small (2.01–5.0)	14.76	10.62
Semi-Medium (5.01–8.0)	7.46	4.86
Medium (8.01–12.0)	2.78	1.72
Large (12.01 & Above)	0.26	0.4
Total	100	100

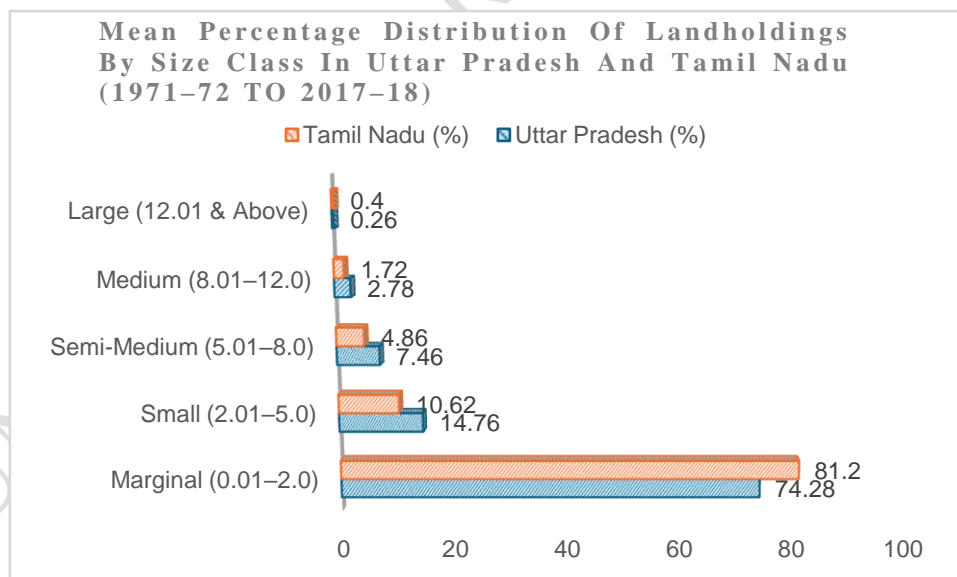


Table 4 depicts the mean percentage distributions of landholdings by size class in Uttar Pradesh and Tamil Nadu for 1971–72 to 2017–18. Both states showed a majority of marginal holdings, with Tamil Nadu having a higher percentage (81.20%) than Uttar Pradesh (74.28%), indicating that this state suffers from more fragmentation of land.

Conclusion

The distribution of ownership and operational landholdings in Uttar Pradesh and Tamil Nadu from 1970–71 to 2017–18 shows profound structural changes in the agrarian economy of both states. The data reflects the consistent increase in the percentage of marginal and small landholdings, which reflects the continuous fragmentation of farmland because of growing populations, inheritance practices, and subdivision of family property. Most of the cultivators are now marginal farmers in both states; however, the percentage of medium and large holdings has decreased substantially over time. Despite the increasing number of marginal holdings, their share in the total operated area is comparatively small, demonstrating that disparities in land distribution continue. The Gini coefficient analysis confirms that land concentration fluctuated over the decades: although the distribution of operational holdings continues to be unequal. While the level of inequality may have decreased over some periods, the recent rise in Gini values shows that differences in land possession and control persist. A comparison of the two states reveals that Tamil Nadu has more land fragmentation and a greater amount of marginal farmers, whereas more small and semi-medium holdings remain in Uttar Pradesh. At the same time, agriculture remains an integral part of the rural economy in both states, though Tamil Nadu has urbanized faster and is much gentler during its transition from rural to urban state-level than elsewhere, diversifying into non-farm activities. Finally, the results underscore the importance of effective agricultural and land policies such as land consolidation, expanded access to irrigation, improved access to credit, cooperative farming, and support for small and marginal farmers. These measures are essential to enhance agricultural productivity, reduce rural inequality, and promote sustainable development in the agricultural sector of both Uttar Pradesh and Tamil Nadu.

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