

Changing Dimensions of Common Property Resources (CPRs) in Ramanathapuram District of Tamil Nadu: Evidence from Secondary Data

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Abstract:

Common Property Resources (CPRs) have traditionally played an important role in supporting rural livelihoods and maintaining ecological sustainability, particularly in agrarian regions where communities depend on shared natural resources. This paper is a part of the outcome of the major research project funded by the Chief Minister's Research Grant (CMRG) scheme instituted by the Government of Tamil Nadu. The present study examines the changing dimensions of CPRs in Ramanathapuram District of Tamil Nadu using secondary data collected from various editions of the Ramanathapuram District Statistical Handbook up to 2024–2025. The study analyses long-term changes in land-use patterns and the distribution of Common Property Resources (CPRs) and Private Property Resources (PPRs) from 1970 to 2025. Descriptive and analytical approaches, including percentage analysis, trend analysis, and paired sample t-test, were used to examine changes in resource patterns and their significance over time. The findings reveal considerable fluctuations in CPRs across different periods, while PPRs consistently occupied a larger share of land resources. The statistical results indicate a significant difference between CPRs and PPRs, reflecting shifts in ownership patterns and resource utilisation. The study highlights that increasing developmental activities, land conversion practices, and changing socio-economic conditions have influenced the structure of common resources. Sustainable conservation measures and community participation are necessary for ensuring the long-term availability and effective management of CPRs.

Keywords: Common Property Resources, Land Use Pattern, Private Property Resources, Rural Livelihoods, Resource Management.

Introduction:

Common Property Resources (CPRs) have historically formed an integral part of rural socio-economic systems and continue to play a significant role in sustaining the livelihoods of millions of people in developing countries. CPRs generally refer to natural resources that are collectively owned, accessed, and managed by communities rather than by individual households. These resources include village grazing lands, forests, ponds, tanks, rivers, fisheries, wastelands, and other shared ecological assets. In rural economies, particularly in agrarian societies, CPRs function as supplementary sources of food, fuelwood, fodder, water,

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and income-generating opportunities. Their importance is particularly visible among poor and landless households that heavily depend on such resources for meeting their day-to-day requirements and maintaining livelihood security. Studies have pointed out that CPRs contribute significantly to household welfare and frequently serve as livelihood support systems during periods of agricultural uncertainty and economic distress (Singh et al., 2005).

The significance of CPRs extends beyond economic contributions and includes social and environmental dimensions. These resources help maintain ecological balance by preserving biodiversity, improving soil fertility, recharging groundwater resources, and supporting local climatic conditions. In many villages, common lands and water resources have traditionally been managed through local institutions and customary practices. Such systems encouraged community participation and ensured sustainable utilization of natural resources across generations. However, with increasing demographic pressure, changing land-use patterns, commercialization, urban expansion, and policy interventions, the traditional structure and utilization of CPRs have undergone considerable transformation (Jodha, 1995).

In India, CPRs have played a crucial role in supporting rural communities, particularly in dry and semi-arid regions where dependence on natural resources remains relatively high. Earlier studies have revealed that declining CPR areas and reduced productivity have adversely affected vulnerable sections of society because these resources provide employment opportunities and function as important community assets. The reduction in common land availability and changing resource ownership patterns have created challenges for livelihood sustainability among economically weaker sections. The burden of such changes is often more severe among marginal farmers and landless labourers because they possess limited alternative livelihood opportunities (Jodha, 1995).

Tamil Nadu, with its diverse agro-climatic conditions and expanding developmental activities, has also experienced considerable changes in common property resources over time. Traditional village tanks, grazing lands, and common wastelands have been affected by population growth, industrial expansion, infrastructure development, and land conversion practices. The resulting decline in common resources has altered patterns of resource access and utilization in rural areas. Research conducted in Tamil Nadu has indicated that degradation and shrinking of common resources have negatively affected rural livelihoods and increased pressure on natural ecosystems (Murugesan et al., 2018).

Among the districts of Tamil Nadu, Ramanathapuram possesses unique ecological and socio-economic characteristics. The district is largely characterized by dry climatic conditions, low rainfall patterns, coastal ecosystems, and significant dependence on agriculture and allied activities. In such a context, common property resources assume considerable importance because they support livestock activities, provide water resources, and supplement household income. Over time, however, changes in land utilization patterns, population dynamics, environmental degradation, and developmental interventions may have altered the nature and extent of these common resources.

The main objective of this paper is to analyse the changing dimensions of Common Property Resources in Ramanathapuram District of Tamil Nadu by examining long-term changes in land-use patterns and resource distribution through secondary data, and to understand the shift in the relationship between common and private property resources over time.

Methods and Materials:

The present study is based entirely on secondary data collected for Ramanathapuram District of Tamil Nadu. Data related to land-use classification, Common Property Resources (CPRs), and Private Property Resources (PPRs) were obtained from the statistical records published by the Department of Economics and Statistics through various editions of the Ramanathapuram District Statistical Handbook up to 2023–2025. The study covers different time periods ranging from 1970 to 2025 to understand long-term changes in land use and resource distribution patterns. The study adopted a descriptive and analytical research approach to examine changes in land-use patterns and the status of common property resources in Ramanathapuram District. Initially, the collected secondary data were classified and tabulated according to different land-use categories and time periods. Percentage analysis was employed to understand the proportional distribution and changing structure of land-use categories over the study period. Trend analysis was also used to identify the direction and magnitude of changes in CPRs and PPRs across different years. Further, a paired sample t-test was applied to examine whether a statistically significant difference exists between total CPRs and total PPRs during the study period. The test was performed using statistical software to compare the mean values of the two variables. The significance level was fixed at 5 percent ($p < 0.05$) for testing the hypothesis. The results were interpreted based on mean values, standard deviation, t-statistics, p-values, and confidence intervals. This

methodological framework helps in understanding the temporal changes in common property resources and their relationship with land-use dynamics in the study area.

EVIDENCE FROM EARLIER STUDIES

Common Property Resources (CPRs) have long been recognized as an essential component of rural livelihood systems in developing countries, particularly in India. These resources, including forests, grazing lands, and other village commons, play a significant role in supporting the income, subsistence needs, and employment security of rural households. Over the years, a considerable number of empirical studies have examined the extent of dependence on CPRs among landless labourers, marginal farmers, and forest-dependent communities. The following section reviews selected earlier studies that highlight the contribution of CPRs to rural income and livelihood sustainability.

Singh, et al., (1996) in Siwalik region of Punjab have Identified CPRs contributed of 27.3 percent to the total gross income of the landless and 22% of the cultivating households.

Pasha (1992) has brought out that the CPRs income including the values of fodder and fuel wood, and the imported values of grazing accounts for around 10 and 6.2% of the gross income of the poor households add non-poor households, respectively.

Sahoo and Misra (1994) estimate that in the coastal village of Orissa CPS related activities amount for the about 10 to 20% of the total regular time of the poor households during 1989 to 1990. The income from collection of minor products is estimated as ₹1700 per household.

RESULTS AND DISCUSSION

The results and discussion section presents a detailed analysis of land use changes and resource patterns in Ramanathapuram District over the study period. It highlights key trends in CPRs and PPRs and explains their implications using statistical evidence and interpretation.

Table 1: Land Use Pattern in Ramanathapuram District

Year	Forest	Barren and UL	Non Agri	CW	PP& OGL	Misc	CF	OF	Net	Geo
1970	45413 (3.7)	53974 (4.3)	215818 (17.4)	89307 (7.2)	4794 (0.4)	8464 (0.7)	153462 (12.3)	60643 (4.9)	610887 (49.2)	1242762
1980	48513 (3.9)	16616 (1.3)	255666 (20.4)	35032 (2.8)	2947 (0.2)	9652 (0.8)	249882 (20.0)	87700 (7.0)	544297 (43.5)	1250305
1990	52707 (4.2)	12729 (1.0)	257104 (20.6)	30693 (2.5)	3032 (0.2)	1701 (0.1)	171183 (13.7)	232653 (18.6)	488574 (39.1)	1250376
2000	4488 (1.1)	4591 (1.1)	84483 (20.7)	4245 (1.0)	154 (0.04)	41210 (10.1)	27784 (6.8)	56439 (13.8)	185563 (45.4)	408957
2010	4488 (1.1)	4555 (1.1)	86686 (21.2)	4090 (1.0)	154 (0.04)	34518 (8.4)	33655 (8.2)	49848 (12.2)	190973 (46.7)	408957
2020	4488 (1.1)	4458 (1.1)	86649 (21.2)	3247 (0.8)	154 (0.04)	2243 (0.5)	73893 (18.1)	50875 (12.4)	182951 (44.7)	408957
2025	4488 (1.1)	4342 (1.1)	86649 (21.2)	29388 (7.2)	186 (0.05)	2537 (0.6)	8644 (2.1)	88154 (21.6)	184569 (45.1)	408957

Source: Department of Economics and Statistics, Ramanathapuram Statistical Handbook in various issues upto 2024-2025

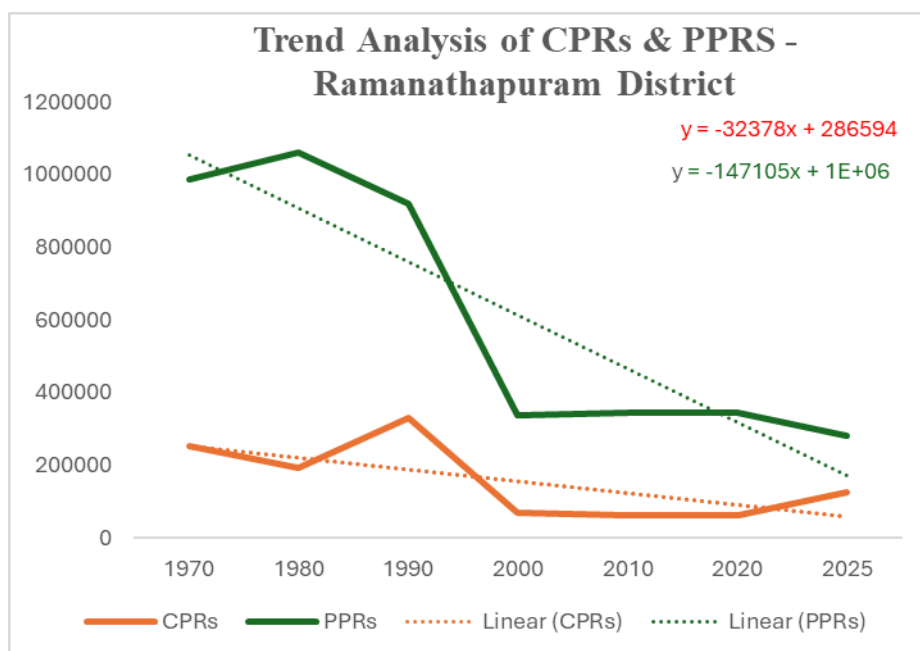
The table 1 presents the land use pattern of Ramanathapuram District over a long-time span, highlighting how different categories of land utilisation have changed from 1970 to 2025. A close reading of the data reveals not only shifts in agricultural practices but also broader environmental and developmental transformations within the district. At the outset, the geographical area remains largely constant across the decades, though a notable difference appears between the earlier period (1970–1990) and the later years (2000 onwards), suggesting either a revision in measurement or administrative reclassification. Within this framework, the share of forest land shows a modest increase from 3.7 percent in 1970 to about 4.2 percent in 1990, indicating some level of conservation or afforestation during this phase. However, after 2000, the recorded forest area drops sharply and stabilizes at around 1.1 percent, which may point to either a change in classification or a significant reduction in forest cover. The category of barren and uncultivable land exhibits a clear declining trend

from 4.3 percent in 1970 to nearly 1 percent by 1990, suggesting gradual land improvement and conversion for productive uses. This trend continues marginally in the later years, reflecting sustained efforts to bring such lands underutilisation. In contrast, land put to non-agricultural uses steadily increases from 17.4 percent in 1970 to over 21 percent by 2010 and remains stable thereafter. This rise indicates expanding settlement, infrastructure, and other developmental activities, which is typical of regions experiencing socio-economic change. Cultivable waste land (CW) shows a consistent decline from 7.2 percent in 1970 to around 2.5 percent in 1990, reflecting improved land management and reclamation. Interestingly, a sudden increase is observed in 2025 (7.2 percent), which may indicate either reclassification or temporary abandonment of cultivated land. Permanent pastures and other grazing lands (PP & OGL) remain negligible throughout the period, contributing less than one percent, which suggests limited scope for livestock-based land use in the district. The category of miscellaneous tree crops and groves shows some fluctuations, with a notable peak in 1980 and a sharp decline, thereafter, eventually becoming almost insignificant. This may reflect changes in cropping patterns or reduced emphasis on tree-based cultivation. Current fallow land (CF) and other fallow land (OF) display considerable variation over time. For instance, current fallow land increases significantly in 1980 (20 percent) and then declines sharply in later decades, while other fallow land peaks in 1990 (18.6 percent) before fluctuating widely. These variations indicate periodic shifts in agricultural activity, possibly influenced by climatic conditions, irrigation availability, or economic factors. Net sown area, which is a key indicator of agricultural intensity, shows a gradual decline from 49.2 percent in 1970 to around 39.1 percent in 1990, suggesting a reduction in actively cultivated land during this period. In the later years, although the percentage fluctuates, it remains below earlier levels, indicating that agriculture may have lost some prominence relative to other land uses. However, the slight increase in 2025 (21.6 percent within the revised total area) suggests some recovery or stabilization.

Table: 2 CPRs and PPRs in Ramanathapuram

Year	CPRs	PPRs
1970	254131 (20.4)	988631 (79.6)
1980	190808 (15.3)	1059497 (84.7)
1990	331814 (26.5)	918562 (73.5)
2000	69917 (17.1)	339040 (82.9)
2010	63135 (15.4)	345832 (84.6)
2020	63222 (15.5)	345736 (84.5)
2025	126558 (30.9)	282399 (69.1)

Source: Department of Economics and Statistics, Ramanathapuram Statistical Handbook in various issues upto 2024-2025



The table 2 presents the changing pattern of Common Property Resources (CPRs) and Private Property Resources (PPRs) in Ramanathapuram district over the period from 1970 to 2025. It

clearly shows that PPRs have consistently occupied a dominant share of land resources throughout the study period, although notable fluctuations can be observed in the proportion of CPRs. In 1970, CPRs accounted for 20.4 percent of the total, while PPRs formed a significant majority of 79.6 percent. Over the next decade, the share of CPRs declined to 15.3 percent in 1980, indicating a gradual shift towards privatization. However, this trend was temporarily reversed in 1990, when CPRs rose sharply to 26.5 percent, suggesting either restoration of common lands or changes in land classification. After 1990, CPRs experienced a steep decline, reaching just 17.1 percent in 2000 and further dropping to around 15.4–15.5 percent during 2010 and 2020. This sustained reduction reflects increasing pressure on common lands, possibly due to expansion of private ownership and developmental activities. Interestingly, by 2025, CPRs show a marked increase to 30.9 percent, the highest in the entire period, while PPRs decline to 69.1 percent. This recent shift may indicate renewed attention towards conservation or reclassification of common resources.

Table: 3 Paired Sample t-test between Total CPRs and Total PPRs in Ramanathapuram District

Variable	M	SD	N	Mean Difference	t	df	p	95% CI for Difference
CPRs	157083.57	105871.32	7					
PPRs	611385.29	356129.19	7	-454301.71	-4.39	6	.005	[-707609.03, -200994.40]

Table 3 shows that a paired-sample t-test was conducted to examine whether there was a statistically significant difference between total CPRs and total PPRs in Ramanathapuram district. The results indicate that the mean value of total CPRs ($M = 157083.57$, $SD = 105871.32$) is significantly lower than the mean value of total PPRs ($M = 611385.29$, $SD = 356129.19$). In this analysis, the mean difference between the two variables was found to be -454301.71. This indicates that, on average, total CPRs are significantly lower than total PPRs. This difference was found to be statistically significant, $t(6) = -4.39$, $p = .005$. Since the p-value is less than the conventional significance level of 0.05, the null hypothesis (H_0), that there is no difference between the two variables is rejected. The 95% confidence interval for the mean difference is -707609.03 to -200994.40, excluding zero. This provides further evidence that the observed difference is statistically significant and not due to chance.

Conclusion:

The findings of the study indicate that Common Property Resources in Ramanathapuram District have undergone considerable changes over the study period. The changing pattern of

land use reflects the influence of population growth, developmental activities, land conversion practices, and increasing pressure on natural resources. Although Private Property Resources occupied a larger share throughout the period, Common Property Resources showed fluctuations in their extent and distribution across different years. The statistical analysis further confirms that a significant difference exists between CPRs and PPRs, indicating a gradual transformation in resource ownership and utilisation patterns. Since common resources play an important role in supporting rural livelihoods, livestock activities, and ecological balance, there is a need for proper conservation measures and community participation to ensure their sustainable management and long-term availability for future generations.

Note:

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