



## **Study on Availability of Common Property Resources and Water Resources**

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### **ABSTRACT**

Each living being requires certain natural assets for survival of human being, for example, clean air, potable water and other natural resources. Exhaustion of natural resources has received serious attention from researcher, scientists and policy maker. In this circumstance, identification and conservation of natural resources deserve serious concern. In this connection, resources have been broadly classified into four aspects which based on the relationship between the resources and resource user. They are: (a) Private Property Resources (b) State Property Assets, (c) Open Access Resources, and (d) Common Property Resources (CPRs). On the basis of user right, property can be defined as private, if only an individual or a family has use rights over resources, Common Property Resources (CPRs) the use of resources is collectively. In nutshell, Common Property Resources (CPRs) include all such resources that are accessible to the whole Community in rural area and to which no individual has an exclusive property right. In the context of rural India, Common Property Resources (CPRs) include Community forests, Community pastures, Common grazing lands, threshing grounds, wastelands, watershed drainages, ponds, tanks, rivers, rivulets, riverbeds, water 2 reservoirs, canals, irrigation channels, public roads, etc. During pre-British period, a very large part of the country's natural resources was freely available to the rural population. These resources were largely under the control of local communities. Later, with the extension of State control over these resources and decline of community management system, exploitation of available Common Property Resources (CPRs) by social dominate class all factors to put into pressure the common property resources crisis. Particularly, in the country side, the status of Common Property Resources (CPRs) face severe crisis land and water resources which was proved by many empirical research.

Key Words: Common Property Resources, Natural Resources, Land and Water Resources

### **1. INTRODUCTION TO STUDY**

No doubt that Common Property Resources (CPRs) still play an important role in the survival of life blood of the rural population. The rural masses benefited from Common Property Resources (CPRs) like fuel wood, food, fodder, mulch and manure, fruits, medicinal herbs, etc. And also help in maintaining the ecological balance by way of checking soil erosion, deforestation and siltation. Further, Common Property Resources (CPRs) based activity generates income and employment opportunities and also like subsidiary occupations like animal husbandry, dairying and Minor Forest Product Collection (MFPC).which favorable to rural communities for enhancing their livelihood.

### **2. SCOPE OF THE STUDY**

It is high time that the policy makers attached adequate weight age to this and thereby desired goal could be achieved on a sustainable basis. The Common Property Resources (CPRs) have been the source of life sustenance of the poor. Due to lack of attention and care, the Common Property Resources (CPRs) in rural areas became a target of encroachment by the rural elites. The rural development policies turned out to be counterproductive by depriving poor in having access to Common Property Resources (CPRs).

### **3. RESEARCH PROBLEM**

Issues pertaining to Common Property Resources(CPRs).which received scant attention from the social scientists, despite the fact that Common Property Resources (CPRs) provides life sustenance to rural households. Particularly, rural poor. In recent past, most of the rural commons were degraded owing to open access situation with a weak property rights, lack of institution arrangements and break down of local empowerment. Since, the Common Property Resources (CPRs) are being used collectively and freely, a situation of no preventive measures undertaken which leads to over exploitation, culminating in a state of degraded condition and there by further stress on the rural economy. Further, encroachment of the Common Property was a common

phenomenon which benefited the Social dominant groups in rural areas. Therefore, rigorous research is the need of the hour to identify the Common Property Resources (CPRs) and thereby ensure the rural population, poor in particular deem to have access to Common Property Resources (CPRs). In this perspective, the present study was design to examine the availability of Common Property Land Resources (CPLRs), to know about opinion of respondents benefits obtained from the common property resources, the knowledge about availability of Common Property Resources (CPRs), the causes to the decline of Common Property Resources(CPRs) and willingness conservation of common property resources in rural pockets of Tamilnadu, Karur District. In this backdrop, present research study emerges with greater environmental and social relevance in the context of grassroots level.

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#### 4. OBJECTIVES

The principal objectives of the Study are:-

- To Know About Estimation of CPLRs And Livestock and CPRs In Study Areas.
- To Study Dependence on Common Property Resources and Availability of Common Property Water Resources in Study Areas.

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#### 5. METHODOLOGY

Based on objectives of the study, the methodology has been designed to carry out the present research work in a scientific manner that a comprehensive analysis of the research problem. In this regard, the methodology applied in the study besides, the method of sampling procedure way determining the sample size is along with the area of the study, tools and techniques employed in the data collection were discussed the following aspects

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#### 6. SELECTION OF THE STUDY AREA

Keeping the mind of objectives of the study which attempt to explore a comparative assessment of Wet and Dry Villages with respect to access and status of Common Property Resources(CPRs), in four study villages namely; Vettamangalam (west) and Kumbupalayam as Wet Villages in Karur Block and Mavathur and Keeranur as Dry Villages in Kadavur Block in Karur District has been purposely selected. Kadavur is very low standard of living Block, which was found from (District Human Development Report, Karur, 2017).

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#### 7. SAMPLE DESIGN

The process of sampling makes it possible to draw valid inferences or generalization on the basis of careful observation of the variables with a relatively small portion of the population in the present study. The study based on simple random technique. Based on the total households in the selected villages; ten percent of the households were randomly selected from each Village.

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#### 8. DATA COLLECTION

##### Primary Data

The present piece of research is based on both primary and secondary sources of data. A well designed interview schedule containing relevant questions has been utilized to collect the first hand information from the sample households. A copy of the interview schedule is given in the Appendix-I for reference. Besides, several informal discussions has also made with the native dwellers and Village administrative officials to elicit information regarding the use and access pattern of Common Property Resources (CPRs).

##### Secondary Data

The secondary information were collected from the village Administrative Officer (VAO) of the respective villages have been approached to get the details on land records. NSSO,1999 54th round, National and State level Information were gathered from Official Web resources like Tamil nadu Economic Appraisal and Season District Rural Development Office (DRDO)and Crop Report of Tamil Nadu. District level data were collected from District Statistical Handbook provided by the Directorate of Assistant Statistical Offices in the concerned district along with District Human Development Report.

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#### 9. ESTIMATION OF CPLRS

Rights to CPRs may be either by ownership or user rights, or both. However, the methodology based on secondary data cannot capture all the ramifications of access and different sources of rights, or access to resources. Broad orders of magnitude of common property land resources (CPLRs) can only be based on some assumptions with respect to ownership, tenurial status, and user rights. The basic source for such data in India is the Land Use Statistics compiled by the Ministry of Agriculture. Under certain assumptions, the corresponding estimates of CPLRs can be culled out at the district and block levels. Table 4.16 present the land categories, assumptions and concepts used here to identify CPLRs in the selected blocks of Karur District.

The methodology of arriving at the estimates of common property land resources from the Land Use statistics is described briefly. The estimates are derived from the selected blocks. Sometimes the land records data for the selected blocks are counted by the previous year due to lack or reliability of data. Net sown area, including area under miscellaneous tree crops, and current fallow constitutes a private property rights (PPR) to which non-owners do not have access. However, it is often found that partial common access does exist even on ownership lands, which are uncultivated due to some contingency. This could be the absence of capital investment or the sheer fact that the owner does not consider it worthwhile to invest on marginal or sub-marginal land. Estimation of such 'open to common access' but 'private' land is made by comparing data on owned land obtained from the land holdings details of the selected blocks with that on net area sown and current fallow land obtained from official statistics. Wherever area owned obtained from the block statistics exceeds for the sum of net area sown and current fallow as obtained from the Land Use Statistics, it is assumed that rights of common access exist on this surplus land which will be called private land with CPR access (PLCPR). The next component of land is fallow other than current (OTHFL). These have common user rights by convention. While partial use rights lands (PPG) have user rights by law.

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## 10. LIVESTOCK AND CPRs

Though India is being a developing nation, still agriculture remains the mainstay. Agriculture and livestock depend on each other. Nowadays, animal husbandry provides employment and supplementary income according to rough estimate animal husbandry activities including distribution of animal products and fodder cultivation, requires 130 man-days per annum per bovines. 18 At this rate, the existing 12 million bovines in Tamil Nadu alone provide about 1560 million man-days of employment per annum in 1994. In addition, millions of people get income and employment on livestock rearing. Livestock provides many vital products and services. It has been classified into energy, food and raw materials; a) Energy in the form of drought and traction power for agriculture, rural hilly area, transportation in desert areas, and some rural industries, and animal dung for use as a crop manure as well as fuel for cooking and heating, b) Food in the form of milk, milk products and meat, and finally c) Raw materials in the form of wool, hair, hides, skins, bones, hoof, and horns and a number of pharmaceutical and industrial use available from the fallen or slaughtered animals.

In the total Indian livestock population, in 1951, the livestock population in Tamil Nadu was 8.5 percent. But it has gradually come down to 5.5 percent in 1994. The requirement of livestock products has increased enormously. Even though, livestock population has been growing considerably, some category of livestock has not increased, some has decreased, and some remains constant.

The reveals that 80.2 percent of the sample households possess livestock in the study area. As per comparison made between wet and dry land area, the wet land area is endowed with 88 per cent while dry land area with 73.3 percent of households rearing livestock. The not owning of livestock, was 12.9 percent and 26.7 percent of the households in wet and dry land area respectively.

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## 11. Status of Livestock

According to NSSO (1998), at all India level, while 56 percent of rural households reported possession of livestock, 20 percent of households depend on CPRs land for grazing of livestock, 13 percent of the households collected fodder from CPRs and only a small percentage of 2 percent of households reported cultivation of fodder on CPR land.

In the early 1990s, a massive tribal uprising against large-scale deforestation forced the government to check commercial felling. 21 With forests viable to sustain livelihoods, villagers began depending more on agriculture and livestock to supplement their income using the common property grazing lands. Traditionally, Rajasthan has large livestock support system. Eighty four percent of households in Rajasthan have livestock, and up to 52 percent depend on the common grazing land. This provides the only resource base for animal husbandry holdings, which has traditionally characterized the region. The grazing of livestock's varied between the regions and among villages also. Besides, in all most all the villages most of the livestock, owning families mostly depend on common lands for livestock maintenance. In wet regions, it is mostly depending on livestock rearing towards the river bed and railway lines. While the dry village is mostly depending on common pastures and forest towards livestock maintenance.

Though green and white revolutions, various modern technologies have been introduced due to this livestock number and percentage in livestock variety has shown some changes. Table 4.24 indicates that in the past or before 5 years (2013), the availability of livestock was 17.6 percent of cattle population, 4 percent buffalo population, 7.5 percent bullock population, 42 percent of goats/sheep, 28.7 percent poultry and other livestock was 0.2 percent. But in 2018, it was 17 percent, 3.2 percent, 6.6 percent, 41.7 percent, 30.7 percent and 0.8 per cent of other livestock respectively have been recorded through a field survey.

It is clear that the population of hen increased in number and percentage, and rest of them have come down in number and percentage of buffalo population. The number of cow has increased from 17.1 per cent in 1996 to 18.2 per cent in 2006. The bullock came down to 8 per cent to 6.9 per cent respectively the same. Goat has declined from 41.5 per cent in 1996 to 38.8 per cent in 2006 i.e. study period. But the nation and state level scenarios of livestock population showed that goats are on increasing trend over the period. But here the goat population has decreased due to some specific regulations like informal village rules implemented by the village elders as against goat rearing. The contributions of livestock have varied in each region. In wet region, 20 per cent cow in the past 10 years and it increased 22.6 per cent in 2006. The buffalo has diminished from 4 per cent in 1996 to 0.5 per cent at present. The bullock and goat has also declined trend from 7.6 and 39.1 to 6.3 and 26.9 per cent respectively in the same period. The availability of hen has increased from 29 per cent to 44 per cent in the respective periods. While in dry regions, the availability of cattle populations has also vast changes in these contributions. The cow population has increased from 15 per cent to 16.9 per cent during the period of 1996 to 2006. The availability of buffalo

and bullock has declining trend of 3.4 and 8.2 per cent in 1996 to 2.1 and 7.1 per cent in the study period of 2006. The goat population also has fall off marginally from 43.3 percent to 42.3 per cent. In general, except cow and hen, all other category showed fluctuations in the above periods.

Another important point is noticed from the estimates is that cattle and buffalo used for agriculture purpose have been falling regularly. For instance, it was 28.8 per cent in 1996 to 26.9 per cent in 2006. This is mainly because of mechanization in agriculture. Most of the households are small and marginal households. So mechanization remains a dream for them because of their economic constraint. In such a situation, these households mostly depend on cattle use in agriculture. The cross breed variety of cattle is not suitable for agriculture work. Therefore, this decreasing cattle population becomes a constraint for the poor households.

## 12. DEPENDENCE ON COMMON PROPERTY RESOURCES

The majority of rural people in India depend on CPRs for their survival. Since the historical past, these resources have significantly contributed to lot of village dwellers, who are economically backward and socially deprived. Besides, maintaining the ecological sustainability by curtailing soil erosion, siltation, deforestation, the CPRs also offer rural people the required fuel wood and shrubs for cooking and heating, fodder for their livestock, bamboo, small timber and palm leaves for housing, and to some extent offer employment by way of collection of honey, medicinal plants, fruits, etc., CPRs also contribute significantly to private-property based farming as well as to the household enterprises. These provide irrigation water, mulch and manure for cultivation, raw materials and common pastures for grazing. Since all members of the identified user groups use these CPRs collectively, commonly and freely, there appears to be a situation of over-exploitation, leading to the ultimate degradation of resources. indicates that 77.5 percent of the total sample households in both type of the villages, depends on CPRs for their survival either directly and indirectly. In the sample wet villages, 85.7 percent of the households are depending on CPRs as a primary source of their livelihoods. While in the sample dry villages, it accounted for 70.5 percent. It implies that there exists non-availability of alternative sources. But in the dry village, some extent of alternative sources is available in own as well as from market sources.

### *Association Between Social Group And Beneficiary Of Cprs*

Research Hypothesis (3)

H 0 : There is no significant association between social group and beneficiary of CPRs.

H 1 : There is significant association between social group and beneficiary of CPRs.

To find out the association between social group and beneficiary of CPRs, Chi- Square test was employed. From the top row of the above table, Pearson Chi-Square statistic is 0.14093. Hence, the calculated value of 2 (0.14093) is less than the table value (5.991) at 0.05 level of significance, the null hypothesis is rejected. Therefore, it is concluded that there is significant association between social group and beneficiary of CPRs in the study area. To assess the contribution of CPRs, data on collection of different materials like well as other kinds of their use by the villagers were collected from the sample household in the study area. reveals that 86 percent of the households in the surveyed villages depends CPRs for collection of fuel woods. In the sample wet village area, 80 percent households depend on CPRs for collection of fuel woods, while it was 92.4 percent in dry village area. With regards to collection of fodder for livestock, 80.3 percent of the households depend on CPRs. In case of gleaning of grains from private land 14 percent of the households depend on CPRs. Similarly in case of collection of animal dung, 85.5 percent of the respondents depend on CPRs.

### *Fuel Woods*

Common property resources, as a major source of fuel wood supply to the villagers, play an important part in meeting the energy needs of the rural population. A large majority of the rural households still depends on bio-mass fuel, particularly fuel wood, for cooking and heating. The growing needs for fuel wood and the resulting depletion in the vegetative cover in the countryside have been causes for grave concern for quite some time now. But, as observed by the Planning Commission, there is no accurate data on the patterns of supply and consumption of energy in the rural areas. The indicates that 86 percent of the households in the surveyed villages depend on CPRs for their fuel wood needs. With regard to wet villages, about 80 percent of the households depend on CPRs for their fuel wood requirements while in case of dry villages, it was around 92.4 percent depended on CPRs for fuel requirement. that in case of wet village area, cent percent of households depend on CPRs for fuel wood for their household energy purpose alone. However, in case of dry village area more than 88.5 percent of households depend on CPRs for their fuel purpose. In both the categories of villages, more or less 94 per cent of the households are depending of fuel wood as primary source for their household's energy use patterns.

The collection of fuel wood explained in terms of quantity collected by different landholding size households in the study villages. Among the categorized households, the marginal size landholding households collect more quantity than the other category households in the wet villages. Similarly, in the dry villages too, marginal landholders collect more than the other category followed by small size landholders. Likewise the number of population depends on CPRs remained high in marginal than the landless and small landholders. When compared with total collection, dry village landholders accounted

higher quantity (3,00,577 kg per annum) of fuel wood than wet villages (1,97,977 kg per annum). Except large landholders, average collection of fuel wood from commons was higher in other four category landholders like landless, marginal, and small size landholders.

### ***Fodder From CPR***

It is well established that the rural India depends significantly for livestock rearing on CPRs viz., village forests, common grazing land, village site and threshing floor, barren or waste land etc. At the all-India level, while 56 percent of rural households reported possession of livestock, 20 percent of the households depended on CPR land for grazing of livestock, 13 percent of the households collected fodder from CPRs and only a small percentage (2 percent) of households reported cultivation of fodder on CPR land.

## **13. AVAILABILITY OF COMMON PROPERTY WATER RESOURCES**

In rural India a source of water resources which are used by the rural community for a various purposes. Besides meeting the domestic needs, such as drinking, cooking, washing etc., the sources are used for irrigation, feeding and washing livestock, fishing etc. Many of the water sources body are privately owned, while the rest are usually meant for community purpose. All such sources, whether or not under the control of a community or a local body of the village, but not held by individual households, were treated a Common Water Resources. In this respective, the present survey research identified the data on availability of Common Property Water Resources (CPWRs) give the details of sources Common Property Water Resources (CPWRs) in the surveyed villages. Karur block study villages has more Common Property Water Resources (CPWRs) when compare to Kadavur block villages.

Study Blocks	Well	Pond	Lake	Tank	Canal	River
Karur	30	9	7	59	8	2
Kadavur	21	13	8	41	3	-
Total	51	22	15	100	11	2

Sources: District Statistical Handbook (2016), Karur

## **14. DEPENDENCE ON COMMON PROPERTY RESOURCES (CPRS)**

No doubt that the majority of rural folk in India depend on Common Property Resources (CPRS) for their survival. Since, the historical past, these resources have significantly contributed to lot of village dwellers, who are economically backward and socially deprived. Besides, maintaining the ecological sustainability by curtailing soil erosion, siltation, and deforestation. The Common Property Resources(CPRS) also offer rural people the required fuel wood and shrubs for cooking and heating, fodder for their lives to cketc,.

## **15. CAUSES OF DEGRADATION OF COMMON PROPERTY RESOURCES (CPRS)**

An empirical evidence shows that the enrichment of Common Property Resources (CPRS) quality. Factors like globalisation, privatisation, population pressure, unsustainable developmental activities, and free riders issues have been found responsible for the rapid depletion of Common Property Resource (CPR) In addition to Common Property Resources (CPRS) both in Centre and State governments integrating the issue of Common Property Resources (CPRS) as part of the rural development strategies for their sustainable manner use. In this backdrop, the present study attempt to explore the knowledge of the sample households regarding the degradation of Common Property Resources (CPRS) in the study area has been analysed with the help of a scaling technique. For analysing each category of factor, the opinion of the respondents on five given statements with help of Hendry Garrett been extracted on a five-point scale. Scaling developed by the investigator with the consultant of expert. SA - Strongly Agree (5), A - Agree (4), UD - Undecided (3), DA., Disagree (2) and SD - Strongly Disagree (1). The ten factors include siltation in the water spread area, catchment degradation, poor condition of supply channels, increase in number of private wells, dominate of social groups, political influence in encroachment of Common Property Resources(CPRS), encroachment of grazing/fallow/cultivated/uncultivated lands and other Common Property Resources(CPRS), over exploitation of ground water, contamination in the quality of water and in and surrounding area has bad outlook (dumping, open defecation, open drainage system etc.). It is evident from table 4.24 shows that the respondents said that "encroachment of grazing land occupies the first place. The sample respondents felt that, "dominance of social groups", "political 102 influential in encroachment of Common Property Resource (CPR) land where second and third rank respectively", "over exploitation of ground water" got the next highest score. "Contamination in the quality of water "occupy the fifth rank. The sample respondents stated that "catchment degradation "with sixth rank "poor condition of supply channels", "increase in number of private wells "with goes to seventh and eighth rank. Where as "in and surrounding area has bad outlook (dumping, open defecation, open drainage system etc.)", and "siltation in the water spread area" occupy ninth and tenth places respectively. Therefore, the above analysis clearly express that the rural people well aware about the causes of degradation of CPRs. It is also observed that free rider issues were quite common in study Villages.

### ***Results from Study Villages with Pertaining***

To Causes of Declining CPRs It is evident from the study, the respondents said that the following views to express to causes of declining CPRs

- Encroachment of CPR land occupies the first place which had maximum score. (62.90 average score value 1th rank)
- Dominate of Social groups (61.49average score value 2th rank)
- Political influential in encroachment of CPR land (61.33average score value 3th rank)
- Over exploitation of ground water (60.35average score value 4th rank)
- Contamination in the quality of water (59.83average score value 5th rank)
- Catchment degradation (59.64 average score value 6th rank)
- Poor Condition of supply of Channel (59.01average score value 7th rank)
- Increase in number of private wells (58.95average score value 8th rank)
- In and surrounding area has bad outlook (58.31 average score value 9th rank)
- Siltation in the water spread area (54.41 average score value 10th rank)

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## 16. CONCLUSION

From the foregoing discussions, it is opinions that the local people from study villages depend on local commons like land, water, grazing land, fodder etc., but villagers attitude towards conservation was not that much encouraging. Degradation of CPRs has contributed to change in the composition of livestock population which found in study villages again it affect the life sustaining of landless people. It may be leads to income inequality in study villages. The determination of CPRs had directly affected the agricultural production. Further, diminution in number of animals reared due to lack of common grazing lands are noticed in all study villages. The study clearly shows a rural folk much aware about the causes of decline the CPRs. Hence, it should be kept in mind (rules and regulations)at each and every process of the preservation of CPRs by the rural community.

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