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INCOME & EMPLOYMENT GAINS FROM COMMONS: AN EMPIRICAL INVESTGATION

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ABSTRACT

This paper is based on the study of common property resources (CPRs) in eleven villages in Dharwad district in Karnataka. The study highlights the importance of CPRs in providing employment and income to the rural households, especially weaker sections of the society. It shows that on an average about `11 percentage of households depended on CPRs for employment. On an average male member got 38 days of employment whereas women members got only 32 days of employment. The CPRs generated Rs. 1752 per household (i.e. around 11 percent of total income) during the year 1999-00. The Gini coefficient for income from private property resources (PPRs) is 0.47 and Gini coefficient for total income (i.e. income from PPRs and income from CPRs) is 0.46. This shows that the CPR income has not helped to reduce rural inequalities created by PPRs. CPRs were the major source of employment and income for most of the households in selected villages. With depletion and degradation of CPRs, households find it difficult to get adequate and gainful employment on CPRs. Now, people are forced to seek other means of livelihood like working as daily wage laborers. In the absence of wage labor they remain idle. The depletion of CPRs has been adversely affected weaker sections of the society. The adversity of depletion is more on women than male.

INTRODUCTION

Economists now recognize that along with physical and human capital, environmental resources should be viewed as important economic assets, which are called as natural resources. Natural resources comprising land, water and forests constitute the basic support system of life on earth. Quite a significant proportion of these resources is used by people in the form of Common Property Resources (CPRs). In the Indian context CPRs refer to all such resources which are accessible to the whole community and to which no individual has exclusive property rights. According to NSSO (2000) CPRs include village pastures and grazing grounds, village forests and woodlots, protected and unclassed government forests, waste lands, common threshing grounds, watershed drainage, ponds and tanks, rivers, rivulets, water reservoirs, canals and irrigation channels. Traditionally, CPRs are managed by local communities in a sustainable form through their own indigenous methods based on a variety of cultural, social and religious mechanisms (Noronha, 1997; McKean, 1992; Somanathan, 1991). Ironically, notwithstanding the community interests and environmental concerns of CPRs, they are rapidly being depleted in terms of both area and physical quality (Kadekodi, 2001; Damodaran, 1991; Pasha, 1992; Shiva, 1986; Jodha, 1985; Guha, 1983). The

depletion of CPRs has been threatening the sustenance of the rural poor (Chopra & Gulati, 2001; Shiva, 1991; Beck & Ghosh, 2000). Unfortunately, the problems faced by CPRs have not received adequate attention in the past from any section of society and state. In the recent past, sustainability of CPRs has been assigned due importance by the researchers as well as policy makers due to increased awareness about the environment. Against this backdrop, the paper makes an attempt to analyze the overall importance of CPRs in generating employment and income to different marginalized groups in the period of globalization. The study also makes an attempt to analyse the impact of depletion on income and employment opportunities. To be more specific, the study intends to answer to the following questions: 1) how important are CPRs to rural households in providing income and employment opportunities, especially to weaker sections of the society in developed and less-developed villages and 2) does CPR income help to reduce income inequalities created by private property resources (PPRs)? 3) What is the impact of depletion of CPRs on employment and income of households?. The analysis is purely based on primary data collected from eleven villages of Dharwad district in Karnataka. The paper is organized as follows: Section 1 presents a brief review of literature. The findings of the study are discussed in section 2. The last section concludes.

REVIEW OF LITERATURE

CPRs are not only the source of supply of products but they also contribute to employment and income generation. Jodha (1986) has found the importance of CPRs in providing employment and income to the poor households. Households in the selected villages engage in CPR activities like product collection, product marketing, handicrafts based on CPR-products and animal grazing on CPRs. Product collection has created employment between 128 to 204 days and 34 to 64 days per annum among poor and large farmers households respectively. The other CPR based activities like marketing, handicrafts and animal grazing provided 43 to 89 days for poor households during 1982-83. This was marginally higher than their employment on their own farms. Large farm households were engaged in CPR activities only to a small extent. Thus CPRs are important source of employment during off-season especially after the crops are harvested, during poor crop years and during the days of involuntary unemployment. It is observed that CPR generated employment was higher than the employment created by number of anti-poverty rural development programs of the government. With regard to income generation, poor earned Rs.445-830 and rich earned less than Rs.300 per annum during the reference period. Thus, the CPR income accounted for 15-23 percent of total income from all other sources for the poor. The corresponding proportions for large farm households were 1-3 percent only. Thus CPR based income helps to reduce the income inequalities. Excluding CPR income, the Gini coefficient varied from 0.37 to 0.50 in different areas. However, after inclusion of CPR income in household income, the value of the Gini coefficient declined and ranged between 0.32 and 0.41 in different areas (Jodha, 1986).

According to Pasha (1992) CPRs in the selected villages of Karnataka provided income of Rs.1175 to the households. Both poor and non-poor depend to a great extend on CPRs. The ratio of CPR income to gross income is 10 percent and 6.2 percent respectively for poor and non-poor. Poor include landless

households and marginal farmers with less than two acres of standardized land holdings, whereas non-poor include farmers with more than two acres of standardized land holdings. It is found that even in the degraded condition, CPRs are the main sources of supply of fuel and fodder requirements of rural households. The imputed value of fuelwood, fodder, and fodder grazed by the ruminant livestock constituted most of the income derived from CPRs. In absolute terms, the contribution from CPRs to the gross income of the rural non-poor (Rs.1393) is much higher than in the case of poor (Rs.794). Thus, the household gross income from CPRs is nearly double among the rich as compared to that for poor households. The differences found are still higher in developed villages. This shows that even in developed villages the pressure on CPRs by the non-poor is high inspite of their economies being diversified. It was assumed that as development takes place, along with a reduction of CPRs, the rural households themselves adopt new methods of fuel consumption. But this assumption is not validated. In the study villages almost all the households use fuelwood from CPRs and own lands.

In West Bengal (Beck, 1994) CPRs provided income between 780 and 1195 rupees a year, excluding opportunity cost of labor. The CPR income ranges 19 percent to 29 percent of the households total income.

In Khandi area of Punjab (Singh, et. al, 1996), CPRs contributed 27.3 percentage of the total income of landless and 22 percentage income of the cultivating households. The income from CPRs per household was estimated at Rs.3666 per annum for the landless and Rs.5169 for the cultivating households. About 80 percent of this income was imputed value of bio-mass brought free from CPRs. Landless households earned Rs.794 per annum from ban making, using *bhabor* grass from the CPRs. Irrigation contributed Rs.415 (8 percent) to a total gross income by increasing the land productivity. The hypothesis that the better off is the person, the more the exploitation of the CPRs, is validated clearly from the total income derived from the CPRs by different categories of households. The income from the CPRs earned by the cultivators (Rs.5769) was about 41 percent more than earned by landless (Rs.3669). The income from CPRs earned by marginal, small and large farmers was Rs.4547, Rs.5423, and Rs.5436, which was 23.9 percent, 47.8 percent and 48.1 percent higher than the income earned by the landless households respectively.

In West Bengal (Beck and Ghosh, 2000) CPRs contribute 12 percent of poor households' income. It is also estimated that CPRs currently add some US $ 5 billion a year to the incomes of poor rural households in India, or about 12% household income of rural poor households. This is about two and a half times of the total that World Bank lending to India in fiscal 1996, which is about the twice foreign direct investment in India in 1996, and more than twice the amount of official development assistance in the same year. CPRs are therefore of major importance to the poor.

According to NSSO (2000) in India, households collected CPR products valuing Rs.693 during reference year. The ratio of value of collections from CPRs to consumption expenditure works out to 3.02 percent at the national level. Among the major states, the ratio varies from 0.91 percent in Rajasthan to 5.59 percent in Orissa. It is seen that average value of collections from CPRs is not entirely dependent on the percentage of households reporting collections, nor is it determined by the availability of CPR land or forests.

Fuelwood and fodder are the main products collected. Fuelwood accounts 58 percent, fodder accounts 25 percent, and category 'other' accounts 17 percent in the total value of collections. The predominant share of fuelwood in the total value of collections is a common feature in all the agro-climatic zones, except Upper Gangetic Plains and Trans-Gangetic Plains. It is found that the value of collection decreases as one move from lower to higher economic status. The share of fuelwood in the total value of collections also decreases as one moves from lower to higher economic status.

In Haryana CPRs provided Rs.5565 / household / annum during 1994-95 (Kumar, 2000). It is found that socio-economic class had no significant impact on per household CPR income. CPRs provided a mean annual employment of 88 working days per household in the study area during 1994-95. Such employment differed significantly between ecological regions and socio-economic classes. The mean employment generated by a household decreased with increase in class hierarchy.

Jodha (1992) found that although privatization of CPRs was promoted in the name of helping the poor, very little land was received by them. The proportion of poor households in the recipient of CPR land was higher than the proportion of other farmers. The share of the poor in the privatized lands was lower than the share of all other farmers. The poor received between 0.8 and 1.6 ha per household, whereas other farmers received 1.5 to 4.9 ha per household. The comparison of landholding size before and after the privatization of CPR lands indicates that those who had relatively more land also get more land. Thus, transfer of CPR lands had not helped the poor to improve their resource position in relation to the better-endowed farmers. The poor sold, mortgaged, or leased their land as a first step towards eventual sale. Thus, privatization of CPRs as a strategy to help the rural poor yielded a negative result. The collective loss of the poor from a decline of CPRs has not been compensated by acquisition and retention by the poor of privatized CPRs.

In Karnataka (Pasha, 1992) government distributed CPR lands in order to improve the economic status of rural poor, for crop cultivation, housing and rising trees. But it is reported that, these beneficiaries have neither crossed the poverty line nor are they self sufficient in their biomass requirements.

In a study of Gujarat (Chen, 1991 quoted by Beck and Nesmith, 1999) it is found that PPRs are offering concessions to the public by their owners only under certain conditions and at certain times. Private owners withdraw these concessions whenever there are shortages, often in unseasonal years and usually in drought years.

In West Bengal (Beck and Ghosh, 2000) it is reported that the decline of CPRs had adversely affected the livelihoods of villagers, especially the poor. Iyengar (1989) comments that it was difficult to establish unequivocally whether the poor are affected more adversely than others by the decline in CPRs. Such studies only go to show that thorough enquiries are necessary to examine all the important aspects of CPRs.

Agarwal (1986) has observed that women and children have to spent around 5 hours / day and travel around 4 Km per trip in search of firewood in some villages of Rajasthan. The shortage of household energy has led to widespread shift to the inferior fuels, particularly dung cakes, extreme work burden on women and children and monetization of historically free sources of fuels (John, 1988; Bhagawan and Giriappa, 1987). Similarly as a result of fodder crunch, rural people in the state, more particularly poor had either given up their traditional occupation of livestock rearing or had drastically cut short the size of livestock holdings (Damodaran, 1987). The composition of livestock holding had also witnessed changes in terms of reduction in the size off less productive animals (cattle and young stocks). The poor households were the worst sufferers in the shortage of both fuelwood as well as fodder. It is found that (Ghate, 1992) the reduced availability of forest produce had adverse impact on the living standards of the tribals in Maharastra. It resulted in malnutrition and wastage of time in terms of longer hours of collection of these products. It has also affected the employment opportunities in the tribal areas.

According to Maggs and Hoddinott (1997) changes in CPR management that impose costs on user groups or individuals, or cause a decline in prices or productivity associated with the CPR, may worsen intra-household allocation of resources to individuals who rely on such resources. The authors suggest that policy makers concerned with welfare consider the precise identity of CPR users before advocating any change in CPR ownership or use.

To sum up, we can say that despite regional variations and differences in study methodologies, CPRs was and now also remain crucial resources for the poor. Jodha's estimates of 15-23 per cent being added to poor households' income probably holds across India. The poor continue to depend significantly on CPRs to support their livelihoods. There is unlikely to be any other informal source that provides a similar scale of benefits to the poor. CPRs also provide substantial benefits during the lean season. The gathering and use of CPRs is largely women and children's work. The literature to date has paid insufficient attention to differentiating rural households according to different socio-economic groups and sex. The studies have also shown that the depletion and degradation of CPRs has resulted in the loss of income and employment opportunities of the rural households. There is need to focus on the impact of depletion of CPRs on women in particular, as this aspect does not seem to have received adequate attention.

FINDINGS OF THE STUDY

Common property resources in land constitute almost 38 percent of the total geographical area of these villages. Available evidence shows that the area under CPRs in the selected villages has been declined by 5.4 percent during the period 1990-2000, mainly because of encroachment and neglect of these resources.

Income from CPRs

Income from CPRs is estimated by converting all resources and services provided by them into money terms. The CPR products, namely fuelwood, fodder, leaves, fruits and other items have been collected largely for domestic consumption. The values of these products have been estimated by imputing the value of physical products collected from CPRs and benefits obtained from the activities based on them. The income from them has been derived by adding up their imputed values. The imputed value of a CPR product has been obtained by multiplying its quantity with local market price quoted by the households. The income from irrigation is calculated by taking into account the additional value of crop production over non-irrigated crops. Thus according to the present exercise, total income from CPRs includes value of CPR products collected and additional value created by irrigation over non-irrigated crops.

Table 1 reports total income derived from CPRs by way of product collection and irrigation. It shows that on an average household in the selected villages earned income of Rs.1752 per annum. Households in the 'less-developed' villages obtained more income than the households in the 'developed' villages. It is also found that CPR income is positively associated with farm size of households.

Table: 1 Income From CPRs: Product Collection and Irrigation

(Rs/Household/Annum)

Type of Village	Landless	Marginal	Small	Medium	Large	Total
Less-Developed Villages	1843	2092	1933	2300	3068	2086
Developed Villages	1473	1288	1336	1359	1470	1383
Total	1689	1661	1648	1937	2101	1752

Though it seems that the CPRs provided less income in absolute terms, in relative terms (share of CPR income in total income of the households) their contribution is significant, which is shown in table 2. The table shows that households earned about 11 percent of their total income from CPRs. Thus, the share varies across the villages. It is also found that landless, marginal, and small cultivator households get more proportion of income from these resources. This shows that CPR income is more important for the poor household economies.

Table: 2 CPR Income As a Percentage of Total Income

Type Of Village	Landless	Marginal	Small	Medium	Large	Total
Less-Developed Villages	15.7	24.5	15.4	13.5	6.7	14.1
Developed Villages	15.8	15.0	7.7	5.2	2.7	7.3
Total	15.8	19.4	11.1	9.4	4.1	10.5

It was expected that CPRs would help in reducing the rural inequalities created by PPRs, however, the study did not support this argument. It is found that the CPR income has not helped to reduce rural inequalities created by PPRs. The calculated value of Gini coefficient also reveals this fact. The Gini coefficient for income from PPR is 0.47 and Gini coefficient for total income (i.e. income from PPRs and income from CPRs) is 0.46.

EMPLOYMENT CREATED BY CPRs

Table 3 shows that CPRs are important source of employment for the rural households in the selected villages. It shows that on an average about `11 percentage of households depended on CPRs for employment. The study also indicates that households in the 'less developed' villages depend more on CPR based employment.

Table: 3 Percentage of Households Who Depend on CPRs For Employment

Type of Village	Landless	Marginal	Small	Medium	Large	Total
Less-Developed Villages	21.9	20.5	20.0	10.0	6.7	18.0
Developed Villages	6.1	2.2	0.0	0.0	0.0	2.4
Total	15.0	10.7	10.6	6.3	2.6	10.6

Table 3 also reveals that landless and marginal and small cultivator households depend more on these resources as a source of employment than medium and large cultivator households.

Table 4 shows days of employment created in income earning activities. On an average male member got 38 days of employment whereas women members got only 32 days of employment. According to study, male members are more interested in income earning activities than product collection for household use.

Table: 4 Days of employment created (Days/ Worker)

Type of Village	M/F	Landless	Marginal	Small	Medium	Large	Total
Less-Developed Villages	Male	34	58	27	50	2	35
	Female	33	33	20	53	5	30
Developed Villages	Male	39	120	0	0	0	66
	Female	70	0	0	0	0	70
Total	Male	35	70	27	50	2	38
	Female	36	33	20	53	5	32

It is found that landless, marginal and small cultivator households depend on these resources for employment opportunities especially during off-season. They go and collect various CPR products and sell it in the nearby market. Group discussion with villagers of Holtikoti revealed that strong and influential persons only can get employment in government works, (such as road construction, planting trees in forest, etc) whereas any person can get CPR based employment. Thus, CPR based employment opportunities help weaker sections of the society (especially old and women). The CPR generated employment opportunities are higher in village Holtikoti than the employment created by government. In this village, an able bodied person could get 25 to 30 days of employment in government activities whereas a person would get 40 to 45 days of CPR based employment in a year.

Table 5 shows per day income earnings from CPR based activities. It shows that on an average a male member earns Rs.41 and a female member earns Rs.32 per day at the current market prices. It can be seen that in many cases medium and large cultivator members earn more income than landless, marginal and small cultivator household members. The asset holdings (such as carts, tractors, etc) help these households to extract more quantities of CPR products.

Table: 5 Income Earnings Of CPR Based Activities (Rs/day)

Type Of Village	M/F	Landless	Marginal	Small	Medium	Large	Total
Less-Developed Villages	Male	37	30	58	82	900	48
	Female	35	35	25	28	33	33
Developed Villages	Male	27	0	0	0	0	11
	Female	20	0	0	0	0	20
Total	Male	36	20	58	82	900	41
	Female	33	35	25	28	33	32

CONCLUDING OBSERVATIONS

Significant proportion of population still depends on CPRs for employment and income, apart from their biomass requirements. The depletion of CPRs has been adversely affected weaker sections of the society, especially women. CPRs need to be protected and the productivity of CPRs needs to be improved. Presently CPRs are considered only as providing a safety net for those who may not have access to products and services through conventional markets. Positive approach to development requires a focus on providing people the means with which to lead better lives. Therefore CPRs need to be seen not only as a safety net, but also in terms of their contribution to positive opportunities for social and economic development.

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