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Rural Employment and Income: The Inter-household Variations in Punjab

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Abstract

The employment pattern and income sources have been reported in the rural areas of Punjab, based on the primary data collected from 315 rural households. The results have revealed a negative relationship between employment diversification and size of landholding. Distress nature of the rural labour markets has induced casualization of work in the absence of land for cultivation. A majority of the households have been found dependent on multiple sources of income, further confirming the distress nature of these income sources. The dependence on non-farm sector as a major source of income has revealed a negative relationship with the land-size. More than two-thirds (66.9%) of the non-cultivating households have non-farm sector as the major source of their income. The results have further revealed the inability of an average non-cultivating and marginal or small cultivating household to achieve the overall average income of a rural household. The rural household income has been found to follow a highly skewed distribution. The incomes from crops and dairying have been observed highly unequally distributed, perhaps due to their strong association with the size of landholding. On the other hand, rural non-farm income distribution seems to be least skewed.

Introduction

The rural economy of Punjab has witnessed rapid transformation with the share of agriculture in net state domestic product (NSDP) falling sharply from 48.2 per cent in 1960-61 to 31.6 per cent in 1990-91 and further to 23.3 per cent in 2004-05. However, dependence of the rural work force on agriculture has declined only marginally, with almost 55 per cent of the rural workers still seeking their livelihoods in the farm sector. During 1990s, the farm household income could grow by just 1.2 per cent annually (Joshi, 2004). A fall in employment

elasticity of agriculture reduced the demand for labour in the crop sector by 10 per cent (Sidhu and Singh, 2004). It adversely affected the livelihoods not only of the cultivators but also of the landless agricultural labourers, which were dependent largely on the agriculture sector and were unable to shift to the non-farm sector due to their skill and resource constraints.

It has been found that a farm household with even 10 acres of cultivated land is unable to reach the average household income level of the state (Sidhu, 2002). Almost 70 per cent of the 30 lakh unemployed youths in the state belong to the rural areas. Thus, today, agriculture does not hold promise to provide a decent livelihood to an average rural cultivator, unemployed youth as well as to the landless agricultural labourers. As a result of this distress, the proportion of rural households deriving their major proportion of income from farming has declined significantly, from 33.0 per cent to 28.9 per

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cent and that of agricultural labour from 27.7 per cent to 24.6 per cent, over the period 1993-94 to 1999-2000 (Government of India, 2001).

The inability of rural non-farm sector in Punjab to absorb the growing rural labour force has been attributed to its low productivity nature (Ghuman *et al.*, 2002). As a result, the households usually rely on multiplicity of income sources. Land and skill level have been the major determinants of access of a rural worker to non-farm employment (Vatta, 2007). These attributes generally vary across different categories of rural households and hence have varying influence on the pattern of their employment and income.

The previous studies, based largely on the NSS data, have highlighted the issue of rural employment and income on the aggregate basis, leaving enough space to investigate the pattern of employment and income across various categories of rural households, viz. non-cultivating and cultivating households belonging to different farm-size categories. The present study, conducted in this direction, has been organized in three parts. The first section describes the methodology and data collection. The basic characteristics of sample rural households have also been discussed in this section. The second section analyzes the pattern of employment and income of various categories of the rural households. Finally, conclusions of the study have been provided.

Methodology and Data Collection

Multistage random sampling technique was used to select the sample. It involved stratification of the state into three regions, selection of 10 out of 17 districts from these three regions, one block from each selected district and two villages from each block, making a total sample of 20 villages. The rural households were classified into cultivating and non-cultivating households. The cultivating households were further divided into four categories, viz. marginal (up to 1 ha), small (> 1-2 ha), medium (>2-6 ha) and large (> 6 ha), based on the size of operated area. Finally, data were collected from 315 rural households by personal interview method (Table 1).

The average size of owned as well as operated land per rural household was estimated to be 1.6 ha

Table 1. Sample size, area owned and operated by different rural household categories

Household category	Sample size (ha)	Area owned (ha)	Area operated
Non-cultivating	142	0.2	-
Marginal cultivators	41	0.7	0.4
Small cultivators	44	1.3	1.4
Medium cultivators	57	2.8	3.4
Large cultivators	31	9.2	9.9
Total/Overall	315	1.6	1.6

(Table 1). The small landholding-size of non-cultivating households (0.2 ha) and marginal households (0.7 ha) had forced them to opt out of farming by leasing-out their economically unviable holdings. More than 40 per cent of the area owned by the marginal households was leased out. On the other side, medium and large cultivators had leased-in around 22 per cent and 8 per cent of landholdings, respectively.

Since the workforce largely belonged to the age group of 15 to 59 years, only the level of education of this group was more likely to influence the current pattern of rural employment and income. The average number of years of schooling was found to increase with increase in farm-size (Table 2). The average number of years of schooling was less for females than males. The proportion of uneducated males and females was highest in the case of non-cultivating households, because of their poor economic condition. The proportion of uneducated females was higher than that of males for all the household categories, except large farm households. The level of schooling for males and females for most of the rural households was middle to matric. The proportion of above-matric population was the highest for large farm households.

Pattern of Rural Employment

The labourforce participation rates (LFPR) and workforce participation rates (WFPR) were worked out within the working age group (15-59 years) in the rural areas. The highest overall LFPR of 53.2 per cent was observed in non-cultivating households on the basis of their principal status (PS). The

Table 2. Education level of different categories of rural households in age group of 15-59 years

Household category	Males			Females		
	Un-educated (%)	Average No. of years of schooling	Education level	Un-educated (%)	Average No. of years of schooling	Education level
Non-cultivating	30.6	6.0	Middle to matric	45.0	4.7	Middle to matric
Marginal cultivators	13.8	7.5	Primary to middle	41.7	6.0	Primary to middle
Small cultivators	18.8	7.6	Middle to matric	23.9	6.6	Middle to matric
Medium cultivators	21.6	7.3	Middle to matric	31.9	5.7	Middle to matric
Large cultivators	16.9	9.1	Middle to matric	14.8	8.2	Middle to matric

difference between cultivating and non-cultivating households ranged from 4 to 9 per cent for male LFPR and 8 to 16 per cent for female LFPR (Table 3). The male LFPR exceeded the female LFPR by more than 67 percentage points in all the household categories.

The trend differed on principal and subsidiary status (PS+SS) basis. The overall LFPR as well as LFPR of the non-cultivating females came out to be lowest. Although it remained highest for non-cultivating males, gap between the two categories got reduced by more than three percentage points. The highest rate of LFPR for non-cultivating males is largely indicative of the prevalence of distress in the rural labour markets. Being asset-poor and low-skilled, these households seemed to raise their incomes only by increasing their participation in the labour force. The argument gains strength from the fact that a larger proportion of males even from the marginal and small households participated in the labour force as subsidiary workers as compared to the medium and large categories. The highest LFPR of non-cultivating females (PS basis) also supported this argument, as these females participated in the labourforce mainly to supplement their meager household incomes.

These trends reversed on US+PS basis, as more females from the cultivating households participated in the labourforce as subsidiary workers. Due to the recent decline in labour-absorbing capacity of the farming sector and lack of employment opportunities in the RNF sector for females, they could only participate in the workforce as subsidiary workers, rearing the milch animals. Better asset ownership

(as indicated by the land ownership) facilitated greater female participation in the labourforce (rearing the milch animals) from cultivating households as subsidiary workers.

Industrial Classification and Employment Status of Rural Workers

The industrial classification of rural workers depicted in Table 4, reveals that employment diversification declined and dependence on farming increased considerably with increase in the landholding status of a worker. While just 28.8 per cent of the non-cultivating male workers were employed in agriculture, the proportion was much higher for the cultivating households, ranging between 61.9 per cent for marginal and 84.1 per cent for large households. Within the rural non-farm (RNF) sector, the proportion of male workers employed in construction, trade and transport declined significantly with increase in landholding status. This indicated the distress nature of employment activities within these sub-sectors.

Employment activities of female workers belonging to the cultivating households were far less diversified than those of non-cultivating female workers. While more than 90 per cent of females from the cultivating households were engaged only in agriculture, the proportion was just 52.9 per cent for non-cultivating females, the rest being employed in the RNF sector. The proportion of non-cultivating and marginal cultivating female workers employed in the community, social and personal (CSP) services was 27.9 per cent and 7.9 per cent, respectively, while it hovered around 2-4 per cent on larger farm-size

Table 3. Labour and workforce participation rates across various categories of rural households in Punjab

(per cent)

Household category	Principal status					Principal+Subsidiary status				
	LFPR	Students	Others	WFPR	Unemployed	LFPR	Students	Others	WFPR	Unemployed
Males										
Non-cultivating	86.6	9.1	4.3	96.0	4.0	87.4	9.1	3.5	96.0	4.0
Cultivating										
Marginal	78.1	15.6	6.3	86.0	14.0	82.5	15.6	1.9	87.5	12.5
Small	77.1	14.6	8.3	90.5	9.5	81.3	14.6	4.1	91.0	9.0
Medium	82.8	12.7	4.5	96.4	3.6	83.8	12.7	3.5	96.6	3.4
Large	81.8	14.3	3.9	100.0	-	81.8	14.3	3.9	100.0	-
Females										
Non-cultivating	18.5	8.1	73.4	90.2	9.8	43.7	8.1	48.2	95.9	4.1
Cultivating										
Marginal	3.4	15.5	81.1	100.0	-	56.9	15.5	27.6	100.0	-
Small	4.5	20.2	75.3	50.0	50.0	67.4	20.2	12.4	96.7	3.3
Medium	9.7	11.5	78.8	72.7	27.3	74.3	11.5	14.2	96.4	3.6
Large	2.3	12.5	85.2	100.0	-	63.6	12.5	23.9	100.0	-
All households										
Non-cultivating	53.2	8.6	38.2	95.0	5.0	66.0	8.6	25.4	96.0	4.0
Cultivating										
Marginal	42.6	15.6	41.8	86.5	13.5	73.0	15.6	11.4	92.1	7.9
Small	42.2	17.3	40.5	88.5	11.5	74.6	17.3	8.1	93.5	6.5
Medium	49.4	12.1	38.5	94.3	5.7	82.2	12.1	5.7	96.6	3.4
Large	39.4	13.3	47.3	100.0	-	72.1	13.3	14.6	100.0	-

Notes: Others included those engaged in household chores only and those not participating in the labourforce due to some other reasons

LFPR: Labourforce participation rates

WFPR: Workforce participation rates

Table 4. Distribution of rural workers by industry at two-digit level across various categories of rural households in Punjab

(per cent)

Industry/NIC-2004	Males					Females				
	Non-cultivating households	Cultivating households				Non-cultivating households	Cultivating households			
		Marginal	Small	Medium	Large		Marginal	Small	Medium	Large
1. Agriculture (0)	28.8	61.9	66.3	78.2	84.1	52.9	92.1	93.2	92.0	96.5
2. Manufacturing (15-37)	13.7	9.5	10.8	5.6	1.4	18.3	-	5.1	4.6	-
3. Utilities (40-41)	0.4	1.5	-	0.9	1.4	-	-	-	-	-
4. Construction (45)	19.6	6.3	3.6	3.2	-	-	-	-	-	-
5. Trade, hotels and restaurants (50-55)	11.9	6.3	6.0	1.6	4.3	0.9	-	-	1.1	-
6. Transport, storage and communication (60-64)	8.2	4.8	4.8	4.0	-	-	-	-	-	-
7. Finance, insurance and real estate (65-74)	2.3	3.2	1.3	0.9	-	-	-	-	-	-
8. Community, social and personal services (75-99)	15.1	6.3	7.2	5.6	8.8	27.9	7.9	1.7	2.3	3.5

NIC-2004 = National Industrial Classification-2004

groups. Manufacturing employed 18.3 per cent of the non-cultivating female workers, and only 5.1 per cent and 4.6 per cent of female workers belonging to small and medium cultivator households. It highlights low employment of rural females in the CSP services and manufacturing activities in the state.

Further, the ownership of land was positively related to the incidence of self-employment/regular employment and negatively to casual employment (Table 5). The proportion of male casual workers from non-cultivating households was very high at 61.9 per cent in the farm sector and 34.6 per cent in the RNF sector. This proportion was very small for workers from the cultivating households and ranged between 12 and 14 per cent. The same situation prevailed for the female workers. However, one should keep in mind the scarce and extremely low-paid employment opportunities for rural female workers before arriving at any conclusion.

Access to Income and its Distribution

This section describes how the access to income differs across various categories of rural households and how resource-poor households resort to multiplicity of income sources due to less-remunerative employment opportunities.

Access to income sources was found to vary significantly across various rural household

categories. All cultivating and 44.4 per cent of non-cultivating households were found to derive income from farming (Table 6). Agricultural labour was the source of income for 38.7 per cent of non-cultivating households, around 10 per cent of marginal cultivators and 15 per cent of small cultivator households. The RNF sector provided income to as high as 83.1 per cent of the non-cultivating households.

The proportion of cultivating households deriving income from the RNF sources declined from about 44-45 per cent for marginal and small cultivators to 32 per cent for large cultivators; thus the significance of RNF sources of income in the total household income varied inversely with the size of landholding. Twenty to forty per cent of the rural households of various types received transfer income also. The proportion of households getting rental income was higher (29.3%) for marginal than other household categories. It was due to economically unviable size of the marginal holdings, forcing them to lease-out their land and look for some other sources of income.

Multiplicity of Income Sources

When usually less-remunerative employment opportunities exist in a particular region, as has been the case with the rural labour markets, the multiplicity of income sources assumes greater

Table 5. Employment status of rural farm and non-farm workers in Punjab

(per cent)

Household category	Male workers			Female workers		
	Self-employed	Regular salaried	Casual	Self-employed	Regular salaried	Casual
Farm workers						
Non-cultivators	20.6	17.5	61.9	72.7	3.7	23.6
Marginal cultivators	84.6	2.6	12.8	94.4	-	5.6
Small cultivators	85.5	1.8	12.7	100.0	-	-
Medium cultivators	100.0	-	-	98.8	-	1.2
Large cultivators	100.0	-	-	100.0	-	-
Non-farm workers						
Non-cultivators	29.5	35.9	34.6	40.8	51.0	8.2
Marginal cultivators	41.7	45.8	12.5	-	100.0	-
Small cultivators	25.0	60.7	14.3	75.0	25.0	-
Medium cultivators	29.6	55.6	14.8	71.4	28.6	-
Large cultivators	27.3	72.7	-	-	100.0	-

Table 6. Access to various sources of income by different categories of rural households

(per cent)

Source of income	Household category				
	Non-cultivating	Cultivating			
		Marginal	Small	Medium	Large
1. Farming	44.4	100.0	100.0	100.0	100.0
2. Agricultural labour	38.7	9.8	15.9	1.8	-
3. Non-farm sector	83.1	43.9	45.5	38.6	32.3
4. Transfer income	39.4	39.0	20.5	26.3	32.3
5. Rental income	12.0	29.3	9.1	3.5	12.9
Average number of income sources per household	2.18	2.22	1.91	1.70	1.78

Table 7. Number of income sources for different categories of rural households

(per cent)

Number of income sources	Household category				
	Non-cultivating	Cultivating			
		Marginal	Small	Medium	Large
One	24.6	19.5	34.1	49.1	41.9
Two	41.6	46.3	43.2	31.6	42.0
Three	26.1	26.8	20.5	19.3	12.9
More than three	7.7	7.4	2.2	-	13.2

significance than the nature of employment activity. While, for the large landholders/cultivators, access to more number of income sources may be due to their better asset position and superior skills in the form of technical training and education; for the landless, marginal and small cultivating households, it may be due to distress induced for supplementing their meager incomes. A majority of the households (66-84%) were found to depend on one or two sources of income, increasing gradually from non-cultivating to large farm households (Table 7). The households having access to three or more sources of income belonged largely to the non-cultivating, marginal and small cultivator categories, further confirming the distress nature of these income sources.

Despite multiplicity of income sources, efforts were made to find if a particular source played a more significant role in the rural household income. It was found that self-employment in agriculture was the major source of income for the cultivating

households and its proportion increased with increase in the landholding status. For non-cultivating households, the proportion of this source was only 8.5 per cent (Table 8). Non-farm sector was the major source of income for more than two-thirds (66.9%) of the non-cultivating households. It was a source of income for only a small proportion of cultivating households (6-27%), which decreased with increase in farm-size.

Pattern of Rural Household Income

The average annual income on per household as well as per capita basis was found to increase with increase in landholding size (Table 9). The average non-cultivating, and marginal as well as small cultivating households were not able to achieve the overall average income (Rs 22242/capita/annum), the deficit being 48.3 per cent, 27.2 per cent and 21.5 per cent, respectively. For non-cultivating households, the major source of income was found to be the non-farm sector (59.0%), followed by rental

Table 8. Distribution of different categories of rural households as per their major source of income in Punjab (per cent)

Major source of income	Household category				
	Non-cultivating	Cultivating			
		Marginal	Small	Medium	Large
Self-employed in agriculture	8.5	36.6	75.0	86.0	87.0
Agricultural labour	12.0	4.9	2.3	-	-
Self-employed in RNF sector	18.3	9.8	4.5	7.0	-
RNF regular salaried	21.1	14.6	9.1	5.3	6.5
RNF casual work	27.5	2.4	2.3	-	-
Transfer income	10.6	17.1	4.5	1.7	6.5
Rental income	2.0	14.6	2.3	-	-

Table 9. Pattern of income of different categories of rural households in Punjab

(Rs/annum)

Source of income	Household category				
	Non-cultivating	Marginal	Small	Medium	Large
Crop farming	-	9481 (9.6)	36377 (34.1)	98843 (50.4)	344767 (64.9)
Livestock	5850 (8.3)	15807 (16.0)	29809 (28.0)	35770 (18.2)	57991 (10.9)
Agricultural labour	5439 (7.8)	1350 (1.3)	2858 (2.7)	132 (0.1)	-
Non-farm income	41414 (59.0)	47397 (48.0)	24735 (23.2)	44295 (22.6)	60628 (11.4)
Transfer income	12484 (17.8)	14176 (14.4)	9907 (9.3)	16105 (8.2)	55999 (10.5)
Rental income	4977 (7.1)	10561 (10.7)	2877 (2.7)	1088 (0.6)	11574 (2.2)
Total	70164	98722	106563	196233	530959
Per cent difference from overall per household income in rural areas	-48.3	-27.2	-21.5	44.6	291.3
Per capita income	12993	19357	16915	26518	63971

Notes: Figures within the parentheses represent the shares in total household income. Negative figures show income less than the average household income. Overall (pooled) income of an average rural household was calculated to be Rs 135676 and per capita income as Rs 22242.

income (17.8%) and livestock (8.3%). A similar pattern was observed for the marginal cultivating households. The small, medium and large cultivating households constituted one group in depicting the pattern of income source. For these categories of households, the major source of income was crop farming, followed by livestock and non-farm sector. Within these categories of households, the proportion of income from crop farming increased with increase

in landholding size and decreased correspondingly in livestock and non-farming sector. The ratio of total income for marginal, small, medium and large households was 1.0:1.1:2.0:5.4.

Pattern of Rural Income Distribution

In this section, we have attempted to highlight how the pie of rural income was distributed among different categories of rural households. For this

Table 10. Distribution of income amongst rural households in Punjab

Size category	Percentage of income apportioned							Total
	Households (%)	Non-farm	Crops	Dairying	Remittances	Agri-wages	Others	
Non-cultivating	45.08	44.78	0.58	11.60	31.86	79.70	39.51	21.85
Marginal cultivators	13.02	14.62	2.49	9.28	10.53	5.84	25.43	8.86
Small cultivators	13.97	8.13	8.84	20.62	7.61	13.50	7.42	10.15
Medium cultivators	18.10	19.17	30.57	31.49	16.98	0.96	4.32	24.14
Large cultivators	9.84	13.29	57.53	27.00	33.01	0.00	23.31	35.01

purpose, the household income was sub-divided into incomes from crops, dairying, non-farm, wage labour, transfer and rental sources. The overall income was found to follow a highly skewed distribution towards medium and large cultivators. The large cultivators, who accounted for only about 10 per cent of rural households, could apportion around 35 per cent of total income, while medium cultivators with about 18 per cent households, apportioned 24 per cent of total income. In all, these 28 per cent households apportioned around 59 per cent of the total income (Table 10). The reasons for such a high share in the total income were their better assets, skill and access to information. The landless households with their 45 per cent proportion, could get only 22 per cent share in total income. Further, incomes from crops and dairying were highly unequally distributed, perhaps due to their strong association with the size of landholding. On the other hand, rural non-farm income distribution seemed to be least skewed with the share of landless households being 44.78 per cent and that of large cultivators 13.29 per cent. The distribution of wage labour income was more skewed towards the landless households owing to their low productivity nature and lack of access to more remunerative employment opportunities.

Conclusions

The study has revealed that the employment diversification declines and dependence on farming increases considerably with increase in the landholding status of the workers, indicating the distress nature of employment activities in the rural areas of Punjab. Further, ownership of land has been found directly related to the incidence of self-employment/regular employment and inversely to casual employment. A majority of the households depend on multiple sources of income, further confirming the distress nature of these income sources. The dependence on non-farm sector as a major source of income has revealed a negative relationship with the land-size. More than two-thirds (66.9%) of the non-cultivating households have non-farm sector as the major source of their income. The average non-cultivating, and marginal as well as small cultivating household are not able to achieve the overall income of an average rural household.

The overall income has been found to follow a highly skewed distribution towards medium and large cultivators. The incomes from crops and dairying have been observed highly unequally distributed, perhaps due to their strong association with the size of landholding. On the other hand, rural non-farm income distribution seems to be least skewed.

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