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Punjab's Rural Economy: Temporal Shift in Employment and Income Pattern

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ABSTRACT

The agricultural and non-agricultural sectors are the two most important areas of any economy. The study was done to ascertain changes in the rural economy's income and employment patterns during a sixteen-year period. The sample size of the study was 225 households. Rural populations are increasingly reliant on non-farm economies as they migrate away from farming and allied activities. However, the move to the non-farm sector has not been growth-enhancing, as the majority of non-farm sector workers remained wage earners over both periods. Diversification in the agricultural sector, as well as a shift toward the non-agricultural sector, have made no substantial improvements over the last sixteen years.

Key Word: Agriculture, Diversification, Economy, Manufacturing, Transformation.

INTRODUCTION

The rural population is primarily reliant on agriculture and related activities. However, apart from agriculture, manufacturing and other services are equally significant and are aggregated to form a non-farm economy for analytical purposes. These two sub-sectors of the rural economy are changing in structure through diversification of activities on one hand and employment increment and income generation on the other hand (Pal and Biswas, 2011). Rural livelihood in Punjab is under the continuous process of transformation in response to dynamic changes occurring in the state economy. It has been the common tendency of households to diversify income, assets, and activities. Hence, diversification is the norm but there are considerable differences in nature and extent of diversification. As the agriculture sector struggles, the development of the non-farm sector can well absorb the labour and provide more income generating jobs to sustain a livelihood. The occupational diversification can help to increase the income of households than farming alone, and has potential to reduce both the magnitude and intensity of poverty. But diversification can lead to some negative consequences also. There are some entry barriers like deficiency of skill, education, social positioning, asset ownership, etc. which force the poor section to get engaged in low return casual jobs in non-farm sector. This might result in increase in income inequality (Bhaumik, 2007). Diversification of rural economy is important in terms of output as well as employment. It is essential for the subsistence and growth of rural economy of the State (Rai, 2012). The rural economy is becoming diversified and is being extended well beyond agriculture. Rural households also seek employment outside the farming sector to tide over the inter-year and intra-year variations in agricultural income. Some other distress factors that drag the rural households from farm to non-farm activities are poverty, unemployment, under-employment and frequent natural calamities. Non-farm activities may supplement their income and employment. Hence, a study was conducted to study temporal shift in employment and income pattern in Punjab.

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Table 1. Details of population and sample size from the selected rural economy. (No. of households)

Particulars	Farm Sector (FS)					Non-Farm Sector (NFS)	Total (FS+NFS)
	Small (<2 ha)	Semi medium (2-4 ha)	Medium (4-10 ha)	Large (>10 ha)	Total		
Total households	12*	28	48	16	104	164	268
Sample size	12*	28	48	16	104	121	225

**Includes 3 marginal and 9 small farmers*

MATERIALS AND METHODS

The study was conducted in a district having a significant proportion of the rural population. Multistage random sampling technique was used to select the sample respondents. At the first stage, Sri Muktsar Sahib district was selected randomly out of the districts having higher proportion of rural population (72.04%) in Punjab. At the second stage, Gidderbaha tehsil was chosen randomly having 79.7 per cent of rural population. At the third stage, village Lohara was chosen randomly from the selected tehsil. The rural economy of the village was categorised into farm and non-farm sectors. The farm households were further categorized according to the standard classification based on total operational holdings. Due to a small number of marginal and small farmers, these were clubbed as small farmers category. A complete census of the farm sector was carried out. There were 104 farm households in the village out of which 12, 28, 48, 16 farmers were of small, semi-medium, medium and large farm size categories respectively.

The primary data were collected on well-designed and pre-tested schedules for the farm as well as non-farm sector for two time periods (2000-01 and 2016-17). Period 2000-01 was chosen for comparison purposively as people remembered it as the normal year after the years of cotton crop failure (1998-99 to 1999-2000) in the district. Qualitative as well as the quantitative approach of data collection was adopted. The data pertaining to socio-economic aspects, occupation, operational holdings, cropping pattern and standard of living were collected. Average, proportions and tabular analysis has been used for explaining various aspects related to the study.

RESULTS AND DISCUSSION

Temporal changes in occupational structure

It was observed that the number of people employed in the non-farm sector grew during the study period (Table 2). Over a sixteen-year period, the people engaged in agriculture declined from 31.68 to 24.24 per cent due to a variety of factors, including a decline in agriculture's labour-absorbing capacity, lack of interest, diminishing net returns due to rising variable costs, and other advantages of non-farm employment over farming, such as a steady stream of income and the absence of biological and marketing risk. The people engaged in allied agricultural activities also declined from 30.91 to 24.96 per cent. The unemployed persons increased from 5.87 to 8.71 per cent.

Temporal changes in income from various activities

Agriculture has highest share in overall total income during both the periods. The second highest share was from allied activities in year 2000-01 and from non-farm sector in 2016-17. In the farm sector, income from agriculture was Rs. 2,09,334 per household per annum in 2000-01 and increased to Rs. 7,42,500 per household per annum at current prices and Rs. 3,36,887 per household per annum at constant prices in 2016-17 (Table 3). Income from allied activities in farm sector has decreased from

Table 2. Temporal changes in occupation of the respondents in the selected village.

(Number of persons)

Occupation	FS		NFS		Overall	
	2000-01	2016-17	2000-01	2016-17	2000-01	2016-17
Agriculture	170 (51.36)	166 (48.40)	35 (11.08)	1 (0.29)	205 (31.68)	167 (24.24)
Allied agriculture	140 (42.30)	131 (38.19)	60 (18.99)	41 (11.85)	200 (30.91)	172 (24.96)
Non-farm	9 (2.72)	26 (7.58)	195 (61.71)	264 (76.30)	204 (31.53)	290 (42.09)
Unemployed	12 (3.63)	20 (5.83)	26 (8.23)	40 (11.56)	38 (5.87)	60 (8.71)
Total	331 (100.00)	343 (100.00)	316 (100.00)	346 (100.00)	647 (100.00)	689 (100.00)

Note: Figures in the parentheses are percentages their respective totals.

Rs. 67848 per household per annum in 2000-01 to Rs. 45895 per household per annum in 2016-17 at constant prices. Income of farming households from non-farm activities has increased from Rs. 7337 per household per annum in 2000-01 to Rs. 34090 per household per annum in 2016-17 at constant prices. In non-farm sector, income from non-farm activities has increased from Rs. 63464 per household per annum in 2000-01 to Rs. 83702 in 2016-17 at constant prices.

Temporal changes in income of different farm size categories from various activities

Income per farm household per annum from agriculture was Rs. 2,09,334 per farm household per annum in 2000-01. In 2016-17, it had increased to Rs. 7,42,500 per farm household per annum at current prices (Table 4). Income from allied activities had increased from Rs. 67848 per farm household per annum in 2000-01 to Rs. 1,01,152 per farm household per annum in 2016-17 at current prices. Income from non-farm activities had increased from Rs. 7337 per farm household to Rs. 75135 per farm household per annum during two time periods at current prices. At constant prices, income from non-farm activities was Rs. 34090 per household per annum in 2016-17 (Table 5). The share of agriculture remained highest in income of farm households. During the 16 years period, the share of income from agriculture had increased from 72.61 per cent to 79.32 per cent in total income. The share of non-farm income had increased from 2.54 to 8.03 per cent.

Families who left farming

There were 27 households in the village who left farming and shifted from farm sector to non-farm sector. About 27.27 per cent members of these households got engaged in self-employment activities (Table 6). Around three per cent of family members got engaged in wage earning. It can be seen that 15.15 per cent members got government jobs. The percentage of members that got engaged in private jobs was 15.15 per cent. About 36 per cent of households could not engage in any activity due to illness, shortage of labour, lack of capital to invest in any new enterprise, lack of resources and reluctance to do low level non-farm activity due to hierarchy in village. Rent from land was their primary source of income.

Table 3. Temporal changes in income of selected households . **(Rs/household/annum)**

Source of income	2000-01			2016-17					
	At current and constant (base: 2000-01) prices			At current prices			At constant prices (Base: 2000-01)		
	FS	NFS	Overall	FS	NFS	Overall	FS	NFS	Overall
Agriculture	209334 (72.61)	31271 (24.51)	113576 (56.26)	742500 (79.32)	471 (0.15)	343453 (56.88)	336887 (79.32)	214 (0.15)	155832 (56.88)
Allied Agriculture	67848 (23.53)	22536 (17.66)	43480 (21.54)	101152 (10.81)	27283 (8.57)	61427 (10.17)	45895 (10.81)	12379 (8.57)	27871 (10.17)
Non-farm activities	7337 (2.54)	63464 (49.74)	37521 (18.59)	75135 (8.03)	184480 (57.97)	133938 (22.18)	34090 (8.03)	83702 (57.97)	60770 (22.18)
Leased out land	2788 (0.97)	10310 (8.08)	6833 (3.38)	14438 (1.54)	106008 (33.31)	63682 (10.55)	6551 (1.54)	48098 (33.31)	28894 (10.55)
Miscellaneous*	1010 (0.35)	-	467 (0.23)	2837 (0.30)	-	1311 (0.22)	1287 (0.30)	-	595 (0.22)
Total	288317 (100.0)	127582 (100.0)	201877 (100.0)	936062 (100.0)	318242 (100.0)	603811 (100.0)	424710 (100.0)	144393 (100.0)	273962 (100.0)

**Includes rent from hired out machinery, social grants, etc.*

Note: Figures in the parentheses are percentages to their respective totals

Non-viability of land was the predominant reason stated by 29.63 per cent of farmers (Table 7). Engagement in non-farm activity was the next major reason given by 18.52 per cent of farmers. Around 15 per cent respondents left farming due to their illness. The continuous parcellation and fragmentation of land holdings was the reason given by 30 per cent of farmers belonging to small farm size category. Partial or complete sale of land for repaying the debt was the reason given by 7.41 per cent of farmers. Only 11.11 per cent of farmers left farming due to disinterest.

Diversification towards allied activities

The number of persons involved in allied activities decreased from 245 to 221 (Table 8). There were 174 persons engaged in allied activity of dairy farming in 2000-01. From non-farm sector, 95.77 per cent were involved in dairy farming and 4.23 per cent were involved in goat rearing in 2000-01. In 2016-17, from farm sector, 95.15 per cent were involved in dairy farming, 3.03 per cent in goat rearing, 1.21 per cent in poultry and only 0.61 per cent were flour mill (*atta chakki)* owners. From non-farm sector, 82.14 per cent were involved in dairy farming, 12.50 per cent were involved in goat rearing, 1.79 per cent were involved in poultry and 3.57 per cent were flour mill (*atta chakki)* owners in 2016-17. Number of persons involved in dairy farming decreased in farm as well as non-farm sector over the period of sixteen years as the dairy enterprise requires long hours of labour, more space, hard to maintain and low economic gains.

Income from various allied activities

The overall per capita annual income from allied activities had increased from Rs. 39974 to Rs. 62963 at current prices (Table 9). However, at constant prices, the scenario was opposite. At constant prices, the overall per person annual income from allied activities had declined from Rs. 39974 to Rs. 28568 during this period. Dairy farming remained

J Krishi Vigyan 2022, 11 (1) : 261-269

Table 4: Temporal changes in income of different farm size categories from various activities (At current prices) (Rs/farm household/annum)

Sources of income	Small (12)		Semi-medium (28)		Medium (48)		Large (16)		Overall (104)	
	2000-01	2016-17	2000-01	2016-17	2000-01	2016-17	2000-01	2016-17	2000-01	2016-17
Agriculture	101992 (64.04)	163408 (60.66)	143890 (62.56)	393300 (72.30)	228008 (73.46)	790091 (79.64)	348348 (82.75)	1645149 (84.18)	209334 (72.61)	742500 (79.32)
Allied agriculture	49744 (31.24)	55021 (20.42)	71687 (31.17)	91035 (16.74)	69793 (22.49)	117713 (11.87)	68873 (16.36)	103777 (5.31)	67848 (23.53)	101152 (10.81)
Non-farm activities	7500 (4.71)	34833 (12.93)	4071 (1.77)	22857 (4.20)	10396 (3.35)	79083 (7.97)	3750 (0.89)	185000 (9.47)	7337 (2.54)	75135 (8.03)
Leased out land	-	16125 (5.99)	7857 (3.42)	32143 (5.91)	1458 (0.47)	4750 (0.48)	-	11250 (0.58)	2788 (0.97)	14438 (1.54)
Misc.*	-	-	2500 (1.09)	4643 (0.85)	729 (0.23)	417 (0.04)	-	9063 (0.46)	1010 (0.35)	2837 (0.30)
Total	159236 (100.0)	269387 (100.0)	230005 (100.0)	543978 (100.0)	310384 (100.0)	992054 (100.0)	420971 (100.0)	195423 (100.0)	288317 (100.0)	936062 (100.0)

**Includes rent from hired out machinery, social grants, etc.*

Note: Figures in the parentheses are percentages to their respective total

Table 5. Temporal changes in income of different farm size categories from various activities (At constant prices, Base: 2000-01) (Rs/farm household/annum)

Source of income	Small (12)		Semi-medium (28)		Medium (48)		Large (16)		Overall (104)	
	2000-01	2016-17	2000-01	2016-17	2000-01	2016-17	2000-01	2016-17	2000-01	2016-17
Agriculture	101992 (64.04)	74142 (60.66)	143890 (62.56)	178448 (72.30)	228008 (73.46)	358480 (79.64)	348348 (82.75)	746438 (84.18)	209334 (72.61)	336887 (79.32)
Allied agriculture	49744 (31.24)	24964 (20.42)	71687 (31.17)	41304 (16.74)	69793 (22.49)	53409 (11.87)	68873 (16.36)	47086 (5.31)	67848 (23.53)	45895 (10.81)
Non-farm activities	7500 (4.71)	15804 (12.93)	4071 (1.77)	10371 (4.20)	10396 (3.35)	35882 (7.97)	3750 (0.89)	83938 (9.47)	7337 (2.54)	34090 (8.03)
Leased out land	-	7316 (5.99)	7857 (3.42)	14584 (5.91)	1458 (0.47)	2155 (0.48)	-	5104 (0.58)	2788 (0.97)	6551 (1.54)
Misc.*	-	-	2500 (1.09)	2107 (0.85)	729 (0.23)	189 (0.04)	-	4112 (0.46)	1010 (0.35)	1287 (0.30)
Total	159236 (100.00)	122226 (100.00)	230005 (100.00)	543978 (100.00)	310384 (100.00)	992054 (100.00)	420971 (100.00)	886678 (100.00)	288317 (100.00)	424711 (100.00)

**Includes rent from hired out machinery, social grants, etc.*

Note: Figures in the parentheses are percentages to their respective total

Table 6. Present occupation of the families that left farming during 2000-01 to 2016-17

No. of families who left farming: 27 No. of employed persons of these families: 33	
Present occupation	**No. of persons (33)**
Self employed	9 (27.27)
Wage earning	1 (3.03)
Government job	5 (15.15)
Private job	5 (15.15)
Gone abroad	1 (3.03)
Income from leased out land only	12 (36.36)

Note: Figures in the parentheses are percentages to number of earning members in households who left farming

the major occupation followed by goat rearing in both the periods. The farmers also adopted poultry and processing (flour mill) enterprises in 2016-17. At current prices, the income from dairy seems to be increased over time (Rs. 40426 to Rs.67470). However, at constant prices, it has been observed to be decline (Rs. 40426 to Rs. 30613).

Diversification towards non-farm activities

Importance of non-farm activities is gaining momentum due to various advantages such as regular income and risk reduction. The number of persons involved in non-farm activities had increased during the study period (Table 10). At overall, the self-employed persons increased from 6.64 per cent to 13.71 per cent over a period of sixteen years. In 2000-01, no person was self-employed in the farm sector. However, 13.33 per cent persons from farm sector were self-employed in 2016-17. During 2000-01, the persons having government jobs were 12.32 per cent and decreased to 11.37 per cent in 2016-17. The persons in private jobs increased from 0.47 per cent in 2000-01 to 11.04 per cent in 2016-17. In 2016-17, 2.07 per cent persons had gone abroad and most of them belonged to farm sector. Percentage of labourers decreased from 80.57 per cent to 61.87 per cent.

Income from various non-farm activities in the village

Overall income share of self-employed activities was 18.37 per cent of total income per earner per annum from non-farm activities in 2000-01 which had decreased to 6.37 per cent in 2016-17

Table 7. Reasons for shifting from farming to other non-farm activities.

Reasons	Farm size category				Overall
	Small	Semi-medium	Medium	Large	
Non-viability of land	8 (80.00)	-	-	-	8 (29.63)
Shift towards non-farm activity	-	1 (12.50)	3 (42.86)	1 (50.00)	5 (18.52)
Inability to continue farming due to severe illness	3 (30.00)	1 (12.50)	-	-	4 (14.81)
Death of main worker/earner	2 (20.00)	-	-	1 (50.00)	3 (11.11)
Fragmentation of land holdings	3 (30.00)	-	-	-	3 (11.11)
Not interested in farming	-	-	3 (42.86)		3 (11.11)
Debt repayment	-	-	2 (28.57)	-	2 (7.41)

Multiple responses

Note: Figures in the parentheses are percentages to the total farm households who have changed their occupation

Table 8. Temporal changes in number of persons involved in various allied activities.

(Number of persons involved)

Activity	2000-01			2016-17		
	FS	NFS	Overall	FS	NFS	Overall
Dairy farming	174 (100.0)	68 (95.77)	242 (98.78)	157 (95.15)	46 (82.14)	203 (91.86)
Goat rearing	-	3 (4.23)	3 (1.22)	5 (3.03)	7 (12.50)	12 (5.43)
Poultry	-	-	-	2 (1.21)	1 (1.79)	3 (1.36)
Flour mill	-	-	-	1 (0.61)	2 (3.57)	3 (1.36)
Total	174 (100.0)	71 (100.0)	245 (100.0)	165 (100.0)	56 (100.0)	221 (100.0)

Note: Figures in the parentheses are percentages to total

Table 9: Income from various allied activities (At current prices) (Rs/person /annum)

Activity	2000-01			2016-17					
	At current and constant (base: 2000-01) prices			At current prices			At constant prices (base: 2000-01)		
	FS	NFS	Overall	FS	NFS	Overall	FS	NFS	Overall
Dairy farming	40553	40101	40426	67005	69059	67470	30402	31333	30613
Goat rearing	-	3500	3500	6000	5929	5959	2722	2690	2704
Poultry	-	-	-	12000	15000	13000	5445	6806	5898
Flour mill	-	-	-	40000	34000	36000	18149	15426	16334
Overall	40553	38554	39974	64326	58950	62963	29186	26747	28568

Table 10: Temporal changes in non-farm employment in the selected village

(Number of persons involved)

Activity	FS		NFS		Overall	
	2000-01	2016-17	2000-01	2016-17	2000-01	2016-17
Self employed	-	4 (13.33)	14 (6.93)	37 (13.75)	14 (6.64)	41 (13.71)
Govt service	8 (88.89)	8 (26.67)	18 (8.91)	26 (9.67)	26 (12.32)	34 (11.37)
Private jobs	1 (11.11)	11 (36.67)	-	22 (8.18)	1 (0.47)	33 (11.04)
Abroad	-	5 (16.67)	-	1 (0.37)	-	6 (2.07)
Wage earners	-	2 (6.67)	170 (84.16)	183 (68.03)	170 (80.57)	185 (61.87)
Total	9 (100.00)	30 (100.0)	202 (100.0)	269 (100.0)	211 (100.0)	299 (100.0)

Note: Figures in the parentheses are percentages to their respective total

Table 11. Temporal changes in income from various non-farm activities (Rs/earner/household)

Activity	2000-01			2016-17					
	At current and constant (base: 2000-01) prices			At current prices			At constant prices (base: 2000-01)		
	FS	NFS	Overall	FS	NFS	Overall	FS	NFS	Overall
Self-employed	-	50354 (24.80)	50354 (18.37)	402000 (15.26)	94947 (8.63)	130651 (6.37)	182396 (15.26)	43079 (8.63)	59279 (6.37)
Government job	84875 (50.26)	127111 (62.59)	114115 (41.64)	341850 (12.98)	293846 (26.70)	322118 (15.70)	155104 (12.98)	133324 (26.70)	146152 (15.70)
Private job	84000 (49.74)	-	84000 (30.65)	206909 (7.86)	66005 (6.00)	112972 (5.51)	93879 (7.86)	29948 (6.00)	51258 (5.51)
Wage earners	-	25604 (12.61)	25604 (9.34)	75000 (2.85)	45869 (4.17)	46184 (2.25)	34029 (2.85)	20812 (4.17)	20955 (2.25)
Abroad	-	-	-	1608000 (61.05)	600000 (54.51)	1440000 (70.18)	729583 (61.05)	272232 (54.51)	653358 (70.18)
Total	168875 (100.0)	203069 (100.0)	274073 (100.0)	2633759 (100.0)	1100667 (100.0)	2051925 (100.0)	1194991 (100.0)	499395 (100.0)	931002 (100.0)

Note: Figures in the parentheses are percentages to total

(Table 11). Income share from government jobs per earner was 41.64 per cent and that from private jobs was 30.65 per cent in 2000-01.

Temporal changes in income, expenditure and savings

At overall annual income per farm household increased from Rs. 2,01,877 in 2000-01 to Rs. 2,73,961 in 2016-17 at constant prices (Table 12). Annual domestic expenditure in 2000-01 was Rs. 69302 per household per annum which has increased to Rs. 1,15,646 in 2016-17 at constant prices. The reason behind this was huge increase in expenditure on fuel for domestic use, education and electricity, etc. At overall, the savings per household per annum increased from Rs. 1,32,575 to Rs. 1,58,315 at constant prices. The savings of farm sector increased from Rs. 2,09,457 per farm household per annum to Rs. 2,77,654 per farm household at constant prices in the study period. Savings of non-farm sector decreased from Rs. 66494 to Rs. 55670 at constant prices. The results also justified that farm sector was better than non-farm sector.

CONCLUSION

A significant number of households shifted from farm sector to non-farm sector due to sub-division of holdings, non-viability of small operational holdings, sale of land etc. The persons engaged in livestock were also decreasing due to increasing variable costs, lack of interest of young generation and non-remunerative prices of milk. However, self-employees are increasing. Standard of living of farm sector is better than non-farm sector. To encourage crop diversification, there is need to set up value addition and food processing units in rural areas. It may help to motivate occupational diversification as well. For boosting dairy farming, milk processing should be promoted. Creation of new employment opportunities and skill development centres may

Table 12: Income, expenditure and savings in the selected rural economy in Punjab (Rs/household/annum)

Particulars	FS			NFS			Overall		
	2000-01	2016-17		2000-01	2016-17		2000-01	2016-17	
	At current and constant prices*	At current prices	At constant prices*	At current and constant prices*	At current prices	At constant prices*	At current and constant prices*	At current prices	At constant prices*
Total income	288317	936062	424711	127582	318242	144393	201877	69302	273961
Domestic expenditure	78860	324114	147057	61088	195545	88723	603811	254883	115646
Savings	209457	611948	277654	66494	122697	55670	132575	348928	158315

**Base: 2000-01*

play crucial role in improving rural non-farm sector. Emphasis should be given on improvement of education system in the rural as more productive jobs are taken by educated people.

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