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INTER-REGIONAL ANALYSIS OF INCOME OF FARMERS IN BORDER AREAS OF RURAL PUNJAB

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Abstract

Punjab, historically a foundation of India's agricultural economy and a major contributor during the Green Revolution, now faces a complex agrarian crisis characterized by stagnating crop yields, rising input costs, and growing socio-economic distress—particularly among marginal and small farmers. This study conducts a comparative analysis of income levels, patterns, and distribution among marginal and small farming households in the Majha and Malwa regions of Punjab, with a specific focus on border districts. Utilizing primary data collected through structured interviews across selected villages, the study examines household income from various sources including crop production, dairying, wages, services, and pensions. Findings reveal that while Malwa exhibits higher absolute household income and greater non-farm diversification, Majha demonstrates more equitable income distribution and higher per-acre returns, particularly from dairying and crop production. The study highlights the structural and regional disparities that influence income generation and underscores the need for region-specific policy interventions. These include promoting non-farm employment in Majha, strengthening dairying infrastructure, improving productivity and input efficiency, reducing income inequality in Malwa, and enhancing social security and market access in border areas. The results provide actionable insights for designing inclusive and sustainable rural development policies in Punjab.

Key Word: Farmers, Income, Rural, Border Area

INTRODUCTION

Punjab has long been recognized as a leading agrarian state in India, with agriculture serving as the cornerstone of its economic development (Sidhu, 2002). Historically known as the epicenter of the Green Revolution, Punjab made substantial contributions to India's food grain production, especially in wheat and rice (Sharma, 2012). Despite structural shifts in the state's economy and a declining share of agriculture in the State Domestic Product (SDP), agriculture still accounts for nearly two-fifths of Punjab's economic output (Singh & Singh, 2014). This continued dependence reflects both the strengths and vulnerabilities of an agriculture-centric economy.

In recent decades, however, the agricultural sector in Punjab has faced significant challenges. The initial benefits of the Green Revolution began to wane by the 1980s, and signs of stagnation in crop yields, rising input costs, and shrinking farm profitability became apparent (Singh & Singh, 2002). Post-economic liberalization in the 1990s, rather than experiencing a predicted economic surge, Punjab's agriculture entered a phase of distress marked by increasing indebtedness, declining income levels, and widespread socio-economic strain—particularly among marginal and small farmers (Vatta, 2007). These issues have been compounded in the border areas, where geopolitical tensions, socio-cultural isolation, and limited economic opportunities exacerbate farmer vulnerabilities (Satish, 2006).

Within Punjab, regional disparities further complicate the agrarian crisis. The two major agricultural regions—Majha and Malwa—differ significantly in terms of agro-climatic conditions, cropping patterns, socio-economic characteristics, and income distribution. While both regions depend heavily on farming, their income structures reveal varying levels of reliance on non-farm activities, dairying, and other supplementary sources. Understanding these inter-regional variations is essential for designing targeted policy interventions that address region-specific challenges and enhance rural livelihoods (Gill & Singh, 2006).

Against this backdrop, the present study seeks to undertake a comparative analysis of the levels, patterns, and distribution of income among marginal and small farmers in the Majha and Malwa regions of rural Punjab, with special attention to those residing in border areas. By examining the contribution of different income sources—such as crop production, dairying, wages, services, and pensions—this study aims to highlight not only the disparities in economic well-being across regions but also the structural dynamics affecting income generation among vulnerable farming households.

The study includes selected blocks from both Majha and Malwa regions that directly adjoin the international border. In the Majha region, the districts of Amritsar (Ajnala, Cheharta, Attari, Harsha Chhina), Tarn Taran (Gandiwind, Bhikhiwind, Valtoha), Pathankot (Narot Jaimal Singh, Bamial), and Gurdaspur (Dera Baba Nanak, Dena Nagar, Dorangla, Kalanaur, Gurdaspur) are considered. From the Malwa region, the border blocks of Ferozepur (Ferozepur, Guru Har Sahai, Mamdot) and Fazilka (Fazilka, Jalalabad, Khuyian Sarwar) are covered. The inclusion of these blocks ensures that the regional comparison accounts for both geographical and socio-political dimensions influencing the income patterns of marginal and small farmers in Punjab.

Objective

The objective of this paper is to estimate the level and pattern of income among the different farm categories across the Majha and Malwa regions. More specifically this chapter calculates the pattern of income; share of different components of income in total family income, distribution of income through Gini coefficient. The farm income is calculated after deducting production or operating expenses from the gross farm income. Gross income of the family further divided into seven sub parts- farm income, dairy, wages, rent from leased out land, services, pension and non-farm income.

Research and Methodology

The present paper is based on primary data. The two-stage sampling techniques will be used. Six districts Amritsar, Fazilka, Ferozepur, Gurdaspur, Pathankot and Taran Taranhave been adjoining the international border. At the first stage one village will be selected from each development block adjoining the international border. A representative proportional sample of farm households comprising marginal and small farmers have been taken up for the survey. Then data has been collected from sample farmers through direct personal interview with well-structured questionnaire. The farmers were randomly selected and interviewed to get the information. To analyses the data, apart from using mean values and percentages, the Gini coefficients also used to examine the distribution of income.

Results and Discussion

Levels of Income of Farmers

The analysis (Table 1) reveals that the average annual income of all sampled farmers is higher in Malwa (Rs. 566,682.24) than in Majha (Rs. 450,666.46). Across all farm-size categories, farm income is consistently higher in Malwa, with large farmers reporting the highest income in both regions. Marginal farmers in Malwa earn Rs. 166,718.75, surpassing their Majha counterparts (Rs. 140,591.17). Income from dairying, however, is higher in Majha (Rs. 39,685.13) than in Malwa (Rs. 31,895.33), particularly benefiting medium and semi-medium farmers. Wage income is marginal in both regions and primarily benefits marginal and small farmers, with higher values observed in Majha. Income from leased land and pensions is notably higher in Majha, indicating stronger landownership and reliance on non-agricultural pensions. Service and small business income contribute more significantly in Malwa, showing greater non-farm diversification.

Pattern of Income of Farmers (Percentage Distribution)

Table -2 shows farm income is the dominant income source in both regions, comprising 75.91% in Malwa and 71.92% in Majha. Marginal farmers in both regions rely heavily on services (19.82% in Malwa and 14.94% in Majha), while dairying is the second most important source for most other categories, especially medium and semi-medium farmers. Small farmers in Majha derive a higher share of income from dairying and services than their counterparts in Malwa. Rent from leased land constitutes a notable secondary income for large farmers in both regions but is more significant in Majha (15.27%).

Per Capita Income of Farmers

Analysis of table 3 shows per capita income is higher across all farm categories in Malwa, with large farmers earning Rs. 289,795.92 compared to Rs. 218,333.33 in Majha. The per capita farm income is also greater in Malwa, suggesting better productivity or land utilization. In contrast, dairying contributes more per capita income in Majha (Rs. 8,122.50 vs Rs. 6,075.30 in Malwa), reflecting its local importance. Per capita income from services is higher in Malwa, particularly among marginal and small farmers, confirming Malwa's greater income diversification beyond agriculture.

Distribution of Income of Farmers

The income distribution is more equitable in Majha, with the bottom 60% of households accounting for 29.85% of income, compared to 27.66% in Malwa. The Gini coefficient is lower in Majha (0.46) than in Malwa (0.51), indicating less inequality. In Malwa, the top 10% of households control 39.94% of total income, highlighting greater income concentration. These findings point to the need for targeted interventions in Malwa to improve equity.

Per-Farm Household and Per-Acre Income (Only Crop Income)

Per-farm household income from crop production is higher in Malwa (Rs. 753,406.26 gross and Rs. 430,168.20 net) than in Majha (Rs. 509,338.23 gross and Rs. 324,023.10 net). However, when adjusted for land area, Majha exhibits higher per-acre net income (Rs. 55,388.56) than Malwa (Rs. 51,332.72). This suggests higher productivity or lower input costs in Majha. Marginal and small farmers in Majha achieve better per-acre returns, while large farmers in Malwa benefit more in absolute terms.

Per-Farm Household and Per-Acre Income (Crops and Dairying)

When combining crop and dairy income, Malwa farmers have higher gross and net incomes per household (Rs. 858,071.74 and Rs. 485,660.66) than those in Majha (Rs. 696,637.20 and Rs. 354,990.58). However, per-acre net income is again higher in Majha (Rs. 62,172.35) compared to Malwa (Rs. 55,138.85). Marginal farmers in Malwa report the highest per-acre net income (Rs. 88,840.56) among all categories, whereas large farmers earn less per acre due to higher operational costs. This further illustrates diminishing per-acre returns with increased landholding, especially in Malwa.

Policy Implications:

The findings of this study underscore the need for region-specific policy interventions to address the income disparities and structural vulnerabilities among marginal and small farmers in Punjab's border areas. Given Malwa's higher household income and greater diversification into non-farm sectors such as services and small businesses, policy efforts should focus on replicating these opportunities in the Majha region through targeted skill development, promotion of rural micro-enterprises, and improved access to credit and markets. Simultaneously, since dairying plays a more significant role in Majha's rural economy, especially for medium and semi-medium farmers, policies aimed at strengthening dairy infrastructure—such as veterinary care, fodder availability, and cooperative marketing—can significantly boost farm incomes. To address the pronounced income inequality observed in Malwa, inclusive growth strategies such as targeted subsidies, income support schemes, and prioritized credit access for smallholders are crucial. Moreover, the higher per-acre income returns in Majha suggest that land productivity and input efficiency can be important levers for increasing profitability. Thus, promoting sustainable agricultural practices, precision farming, and lower-cost input alternatives in both regions could benefit especially small and marginal farmers. Expanding social security measures—such as pensions, employment guarantees, and health insurance—can further cushion vulnerable households from economic shocks. Lastly, investment in rural infrastructure and market access is vital in mitigating the socio-

political and economic isolation of border communities, while collective models like Farmer Producer Organizations (FPOs) and cooperatives can empower farmers with better bargaining power and economies of scale. Together, these regionally nuanced policy responses can help ensure more equitable, diversified, and sustainable rural livelihoods in Punjab.

Conclusion:

This study presents a comparative analysis of income levels, patterns, and distribution among marginal and small farmers in the border regions of Majha and Malwa in Punjab. The findings reveal significant inter-regional disparities in income, income composition, and equity among rural households. While Malwa exhibits higher overall household income across farm categories, Majha demonstrates superior per-acre returns and a more equitable income distribution, as evidenced by its lower Gini coefficient. Income diversification plays a critical role in determining economic well-being, with Malwa showing a stronger orientation towards non-farm income sources such as services and small businesses, whereas Majha remains more reliant on traditional agriculture and dairying. The income gap is further accentuated by regional differences in land productivity, operational costs, and access to alternative livelihood opportunities. Importantly, marginal and small farmers continue to face structural disadvantages, with limited income sources and higher vulnerability to economic shocks, particularly in border areas affected by socio-political constraints.

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Table-1
Levels of Income of Farmers: Region–wise
(Mean Values, In Rs., Per Annum)

		Majha Region						Malwa Region					
Sr. No.	**Sources of Income**	**Marginal Farmers**	**Small Farmers**	**Semi-Medium Farmers**	**Medium Farmers**	**Large Farmers**	**All Sampled Farmers**	**Marginal Farmers**	**Small Farmers**	**Semi-Medium Farmers**	**Medium Farmers**	**Large Farmers**	**All Sampled Farmers**
1	**Farm income**	140591.17	223471.15	416836.07	781200	903888.89	324023.1	166718.75	266454.55	489190.47	881571.43	1326428.6	430168.22
2	**Dairying**	30250.00	28769.25	44688.52	88675	21111.11	39685.13	23400	18545.45	38047.62	74142.86	30714.29	31895.33
3	**Wages**	21485.29	1567.31	0.00	0.00	0.00	7450.95	12653.13	14500	0.00	0.00	0.00	8257.07
4	**Rent from leased out land**	4470.58	7778.85	10114.75	53150	166666.67	17430.38	500	2515.15	0.00	57142.86	100000	14943.92
5	**Services**	40634.31	35817.31	20163.93	16075	0.00	30831.32	61103.13	74454.55	26000	0.00	64285.72	50544.86
6	**Pension**	12196.08	10788.84	13114.75	14450	0.00	11848.10	1953.13	2984.85	28952.38	0.00	0.00	7186.92
7	**Small business**	22450.98	20673.08	23245.90	6000	0.00	19297.47	41953.12	22121.21	13428.57	12857.14	0.00	23686.92
	Total	272078.43	328865.38	528163.93	959550	1091666.67	450566.46	308281.25	401575.76	595619.05	1025714.29	1521428.6	566682.24

Source: Field Survey, 2021-22

Table -2
Pattern of Income of Farmers: Region–wise

(Percentage of Total Income)

		Majha Region						Malwa Region					
Sr. No.	**Sources of Income**	**Marginal Farmers**	**Small Farmers**	**Semi-Medium Farmers**	**Medium Farmers**	**Large Farmers**	**All Sampled Farmers**	**Marginal Farmers**	**Small Farmers**	**Semi-Medium Farmers**	**Medium Farmers**	**Large Farmers**	**All Sampled Farmers**
1	Farm income	51.67	67.95	78.92	81.41	82.80	71.92	54.08	66.35	82.13	82.95	87.18	75.91
2	Dairying	11.12	8.75	8.46	9.24	1.93	8.81	7.59	4.62	6.39	7.23	2.02	5.63
3	Wages	7.90	0.48	0.00	0.00	0.00	1.65	4.11	3.61	0.00	0.00	0.00	1.45
4	Rent from leased out land	1.64	2.36	1.92	5.54	15.27	3.87	0.16	0.63	0.00	5.57	6.57	2.64
5	Services	14.94	10.89	3.82	1.67	0.00	6.84	19.82	18.54	4.37	0.00	4.23	8.92
6	Pension	4.48	3.28	2.48	1.51	0.00	2.63	0.63	0.74	4.86	0.00	0.00	1.27
7	Small business	8.25	6.29	4.40	0.63	0.00	4.28	13.61	5.51	2.25	1.25	0.00	4.18
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Field Survey 2021-22

Table 3
Per Capita Income of Farmers: Region-wise

(Mean Value, In Rs, Per Annum)

		Majha Region						Malwa Region					
Sr. No.	**Sources of Income**	**Marginal Farmers**	**Small Farmers**	**Semi-Medium Farmers**	**Medium Farmers**	**Large Farmers**	**All Sampled Farmers**	**Marginal Farmers**	**Small Farmers**	**Semi-Medium Farmers**	**Medium Farmers**	**Large Farmers**	**All Sampled Farmers**
1	Farm income	30365.26	47955.18	82378.67	137052.63	180777.78	66808.89	34660.86	48980.62	93714.62	154120.88	252653.06	81936.80
2	Dairying	6533.48	6175.65	8831.72	15557.02	4222.22	8122.50	4864.86	3409.09	7288.82	12962.04	5850.34	6075.30
3	Wages	4640.45	336.33	0.00	0.00	0.00	1536.27	2630..58	2665.44	0.00	0.00	0.00	1572.59
4	Rent from leased out land	965.57	1669.28	1998.96	9324.56	33333.33	3593.89	103.95	462.34	0.00	9990.01	19047.62	2846.46
5	Services	8776.31	7686.12	3984.97	2820.17	0.00	6356.97	12703.35	13686.50	4980.84	0.00	12244.90	9627.59
6	Pension	2634.14	2315.12	2591.85	2535.08	0.00	2442.91	406.06	548.68	5546.43	0.00	0.00	1368.93
7	Small business	4849.02	4436.28	4594.05	1052.63	0.00	3978.86	8722.06	4066.40	2572.52	2247.75	0.00	4511.79
	Total	**58764.24**	**70571.97**	**104380.22**	**168342.11**	**218333.33**	**92900.30**	**64091.74**	**73819.07**	**114103.27**	**179320.68**	**289795.92**	**107939.47**

Source: Field Survey 2021-2

Table -4
Distribution of Income of Farmers: Region-wise

Cumulative Percentage of Households	Majha Region	Malwa Region
10	1.36	1.70
20	4.30	4.87
30	8.90	9.33
40	14.88	14.31
50	21.75	19.74
60	29.85	27.66
70	39.74	36.16
80	52.67	45.76
90	70.23	60.06
100	100.00	100.00
Gini Coefficient	0.46	0.51

Table - 5
Per-Farm Household and Per-Acre Income (Only Crop Income): Region-wise

Categories	Per Farm Household				Per Acre			
	Majha Region		Malwa Region		Majha Region		Malwa Region	
	Gross Income	Net Income	Gross Income	Net Income	Gross Income	Net Income	Gross Income	Net Income
Marginal farmers	203703.70	140591.17	225790.13	166718.74	102880.65	71005.64	105509.41	77905.95
Small farmers	344498.20	223471.15	382528.22	266454.55	94903.08	61562.30	81911.82	57056.64
Semi-medium farmers	786795.12	416836.07	972541.01	489190.47	94794.59	50221.21	96770.25	48675.67
Medium farmers	928467.84	781200.00	1511009.44	881571.43	88724.49	57823.83	89834.09	52412.09
Large farmers	2134676.12	903888.90	2439679.92	1326428.60	86249.54	36520.76	75182.74	40876.07
All Sampled Farmers	509338.23	324023.1	753406.26	430168.2	87066.36	55388.56	89905.28	51332.72

Source: Field Survey 2021-22

Table – 6

Per-farm Household and Per-acre Income (Crops and Dairy): Region-wise

Categories	Per Farm Household				Per Acre			
	Majha Region		Malwa Region		Majha Region		Malwa Region	
	Gross Income	Net Income	Gross Income	Net Income	Gross Income	Net Income	Gross Income	Net Income
Marginal farmers	355239.7	170841.2	260180.7	190118.8	179413.99	86283.43	121579.7	88840.56
Small farmers	424409.3	252240.4	441934	285000	116917.16	69487.72	94632.55	61027.84
Semi-medium farmers	1205859	461524.6	1195041	527238.1	145284.22	55605.37	118909.55	52461.50
Medium farmers	1207253	869875	1611704	955714.3	89359.96	64387.49	95820.69	56820.11
Large farmers	2360926	925000	2470554	1357143	95390.95	37373.74	76134.17	41822.59
All Sampled Farmers	696637.20	354990.58	858071.74	485660.66	120885.46	62172.35	97989.43	55138.85

Source: Field Survey 2021-2