Original Research Article

Socio- economic profile of the farmers in five agro-climatic zones of Punjab

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Comment [H2]: Country location of Punjab to be mentioned?
Punjab, India

ABSTRACT

The present study was conducted in Punjab to analyse the socio- economic profile of 200 farmers using an interview schedule. The findings of the study revealed that large percentage of farmers belonged to general category and majority were nuclear having 2-5 members. Majority of farmers were cultivating between 5 to 15 acres of land. Largest percentage among these cultivated less than 5 acres. The owned cultivated land ownership of majority was less than 5 acres with negligible families owning more than 20 acres. More than fifty percent (56.5%) families leased in land for cultivation. Out of these, half of the sample families leased less than 5 acres of land and more than one fourth families (26.54%) between 5-10 acres of land. Farming was primary source of income for very large majority of the farmers. More than half of the farmers were engaged in some secondary occupation with highest percentage engaging in farm based entrepreneurship followed by farming and non-farm based business. Annual income of majority of farmers was up to three lakhs. Income was not significantly different in different zones which was highest in zone IV and least in zone V. Few of the farmers reported being a member of some organization.

Comment [H3]: Punjab, India

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Keywords: Primary, secondary, occupation, income and farmers

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1. INTRODUCTION

Comment [H7]: Although the problem of the study is clear but Literature is very poor. There is hardly any other citation except Mishra (2015)? The Literature Review should be incorporated.

Agriculture can rightly be termed as the backbone of Indian economy. The fact is that it has always been a critical sector for Indian economy. Punjab's economy is mainly dominated by agricultural production and small and medium sized enterprises. Punjab has the ninth highest ranking among Indian states and union territories in human development index as of 2018.Future of Indian agriculture depends largely on the economic gain in farming. Constraints and fluctuations in farming income are on the increase and these constraints could lead farm families to opt for other occupations for living.

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Many farmers in Punjab opt for land leases because the size of landholding has been shrinking and with the monsoon playing truant since many years which leads to fluctuation s in farm produce. According to official data 65 percent of farmers in Punjab own 1-4 hectares of land. Taking land on lease is increasing become a necessity Mishra (2015).

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Youngsters belonging to farm families constitute an ample part of Indian population and their forthcoming preferences of occupation other than farming is a matter of concern not only to their concerned family but also for the entire nation. With the reduction of land holding and lowering down of

profitability in farming, large scale movement of rural youth is taking place in search of employment, luring farming youth to non-farm sectors. It is a major concern and is challenge for sustaining growth in agriculture and food security of the country.

Many farmers who have large land holdings can provide employment to others. Family expenditure gets reduced with family living under one roof and growing its own food. Farming can also become a part-time occupation. Main income may come from other jobs but farming on one's own land can act as an insurance against unemployment.

It becomes imperative to understand socio- economic profile of the farmers particularly in Punjab which is basically an agrarian state. In this context, the present study was designed to know the socio-economic profile of the farmers. So, by having understanding of occupational pattern ie. Primary and secondary occupation of farmers in Punjab and their pattern of deriving profit from farming by leasing in land for cultivation can be role model for farmers in other states.

2.MATERIAL AND METHODS

The study was conducted in Punjab state having 23 districts, represented by all the five agro climatic zones of Punjab. Out of these, two districts were selected randomly from each zone, thus total ten districts were selected for the study. From each selected districts, one block in which main city or some other main city is situated and second block away from the district headquarters was selected. Hence, twenty blocks were selected for the study. Total ten farmers actively engaged in farming as their major family occupation were selected from each block through random sampling thus total 200 farmers were personally interviewed using a pretested interview schedule.

Chart 1 : Selection of districts:

Selected Zones	Selected Districts
Sub – mountain undulating zone	Gurdaspur, Hoshiarpur
Undulating plain zone	Rupnagar, SBS Nagar
Central plain zone	Tarn Taran , Ludhiana
Western plain zone	Faridkot, Ferozpur
Western zone	Bhatinda, Sri Muktsar Sahib

Data was collected pertaining to socio- economic profile of the farmers. Frequency, percentages, mean scores and one way ANOVA was worked out to analyze the data.

3.RESULTS AND DISCUSSION

3.1 Personal profile

3.1.1.Caste: Data given in Table 1 revealed that large percentage (56.5%) of farmers belonged to general category while, the total percentage of farmers belonging to SC category were only 4.5 percent. Trend was same in all zones except zone I (45.0%).OBC families were more in zone III (47.5 %) and zone I (42.5%) with none belonging to SC category in zone III and IV. Overall percentage of OBC was

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The Materials and Methods has been very poorly presented.
1.It should be elaborated and to be written under different sub-heads mentioning the Study Area with the Location Map, Experimental Design, Data Collection and Data Analysis.

Comment [H16]: Have these been divided into different zones as mentioned in the Abstract?

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less than 40.0 percent and that of SC respondents was only 4.5 percent. Data given in agricultural census 2015-16 also shows that general and other backward classes (68.0%) dominate the farming landscape of Punjab whereas only 3.5 percent farmers belonged to SC/ST. Pratiksha (2020), Rajan (2018), Makkar (2016), Bhalla (2018), Rai (2016) and Shukla (2018) also reported that more than fifty percent families in Punjab belonged to general category.

3.1.2. Type of family: Data indicated that majority (64.0%) of families were nuclear and trend was similar across all agro climatic zones. However, highest percentage (42.5%) of joint families were found in zone IV followed by 40.0 percent in zone III and I. Overall this percentage was nearly one third of the sample families (36.0%). Makkar (2016), Rai (2016), Rajan (2018), Kaur *et al* (2019) and Pratiksha (2020) also reported similar findings while conducting studies in Punjab. Similar trend was reported by Nayar and Niranjan (2020) from Haryana, Reddy and Ravishankar (2020) in Tamil Nadu. This clearly points towards a shift from joint family to nuclear families even among farming families.

3.1.3. Family size: Majority (60.0%) of the families were having 2-5 members with highest percentage (70.0%) in zone V followed by zone II (65.0%), zone I and zone III (57.5%). However, half of the families were small and other half medium sized in zone IV. Very few (2.5%) families were having more than 10 - 13 members showing that nuclear and small sized families were in majority. Similar findings were also reported by Rai A (2016) who found majority of the families of undergraduate students of PAU having up to 5 members in their family and Pratiksha (2020) also stated that farming families in all five agro climatic zones of Punjab were small sized.

Table 1 :Distribution of farmers according to their personal profile

(n=200)

Personal profile	Agro climatic zones					Total
	Zone I (n_1=40)	Zone II (n_2=40)	Zone III (n_3=40)	Zone IV (n_4=40)	ZoneV (n_5=40)	
	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)
Caste						
General	18 (45.0)	23(57.5)	21(52.5)	24(60.0)	27(67.5)	113(56.5)
OBC	17(42.5)	15(37.5)	19(47.5)	16(40.0)	11(27.5)	78(39.0)
ST /SC	5(12.5)	2(5.0)	0	0	2(5.0)	9(4.5)
Type of family						
Nuclear	24(60.0)	27(67.5)	24(60.0)	23(57.5)	30(75.0)	128(64.0)
Joint	16(40.0)	13(32.5)	16(40.0)	17(42.5)	10(25.0)	72(36.0)
Family size						
Small (2-5)	23(57.5)	26(65.0)	23(57.5)	20(50.0)	28(70.0)	120(60.0)
Medium (6-9)	16(40.0)	13(32.5)	16(40.0)	20(50.0)	10(25.0)	75(37.5)
Large (10-13)	1(2.5)	1(2.5)	1(2.5)	0	2(5.0)	5(2.5)

Comment [H23]: Full form?

Comment [H24]: The References have not been written in the proper format?

Comment [H25]: Correct the style of writing the Reference?

Comment [H26]: What does PAU stand for?

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3.2 Organizational membership of farmers: It refers to the participation of farmers in village, block and district level social organizations such as village panchayat, block samiti, cooperatives, agriculture service society, self help groups and farmers club. Organizational membership status was divided into three categories i.e low (1-2), medium (3-4) and high (5-6) based on total scores obtained from numbers and level of participation in any organization by the families.

Comment [H28]: Should be written fully? that is

Table 2: Distribution of farmers according to their organizational membership status

(n=200)

Organizational membership status	Farmers					
	Zone I (n_1=40)	Zone II (n_2=40)	Zone III (n_3=40)	Zone IV (n_4=40)	Zone V (n_5=40)	Total
	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)
No membership	30(75.0)	31(77.5)	35(87.5)	33(82.5)	34(85.0)	163(81.5)
Low (1-2)	6(15.0)	9(22.5)	4(10.0)	7(17.5)	6(15.0)	32(16.0)
Medium (3-4)	3(7.5)	0	1(2.5)	0	0	4(2.0)
High (5-6)	1(2.5)	0	0	0	0	1(0.5)
Mean Score	**0.50**	**0.37**	**0.25**	**0.20**	**0.22**	**0.30**
	***P* = 0.34**					

Comment [H29]: Table 2

It was observed in table 2 that very large majority (81.5%) of farmers were not member of any organization. Similar findings were also reported by Shukla (2018) and Batta (2011) in Punjab where majority of the male head of the family had no organizational membership. Very few (16.0%) farmers were having organizational membership status with only 0.5 percent in high category. The same trend was observed in all zones where large majority of farmers had no organizational membership. It clearly shows lack of involvement of farmers in different organizations. None of the families in zone II, IV and V were found to have medium or high level of organizational membership status. Similar results were also reported by Reddy and Ravishankar (2020) who found that majority of farmers in Chennai had low level of social participation. One way ANOVA found non-significant difference across five zones with regard to the organizational status.

Comment [H30]: Maintain proper sequence in the year?

Comment [H31]: At what level of significance was it tested? 5% or1%?

3.3 Economic profile

3.3.1Land profile: Land profile of farmers was recorded in terms of total cultivated land, owned cultivated land and leased in cultivated land.

3.3.1.1Cultivated land: Majority (79.0%) of farmers were cultivating between 5 to 15 acres of land. Nearly one third (32.5%) of farmers cultivated less than 5 acres and more than one fourth of sample families (30.5%) cultivated 5-10 acres and 16.0 percent cultivated 10-15 acres of land. The percentage of families cultivating between 20 to 30 acres of land was only 9.0 percent and very few (5.0%) families

were cultivating more than 30-40 acres of land.

Zone wise data showed that a large percentage in zone I (42.5%) and zone 2 (45.0%) cultivated less than 5 acres, whereas more than one third families in zone I (40.0%) and nearly one third families in zone II, III and zone V and only 12.5 percent families in zone IV cultivated 5-10 acres of land. However, the highest (27.5%) percent families in zone IV cultivated more than 10-15 acres of land followed by 20.0 percent in zone V. The highest (10.0%) percentage of families in zone V cultivated more than 25 acres - 30 acres of land and lowest (5.0%) in zone III. None of the families from zone I and zone II were cultivating 25-40 acres of land.

Table 3: Distribution of farmers according to their agricultural land

(n=200)

Land profile	**Agro climatic zones**					**Total**
	Zone I (n_1=40)	**Zone II (n_2=40)**	**Zone III (n_3=40)**	**Zone IV (n_4=40)**	**Zone V (n_5=40)**	
	f (%)	**f (%)**	**f (%)**	**f (%)**	**f (%)**	**f (%)**
Land cultivated (in acres)						
< 5 acres	17(42.5)	18(45.0)	14(35.0)	10(25.0)	6(15.0)	65(32.5)
5-10 acres	16(40.0)	13(32.5)	13(32.5)	5(12.5)	14(35.0)	61(30.5)
> 10-15 acres	5(12.5)	3(7.5)	5(12.5)	11(27.5)	8(20.0)	32(16.0)
> 15-20 acres	1(2.5)	5(12.5)	1(2.5)	5(12.5)	2(5.0)	14(7.0)
> 20-25 acres	1(2.5)	1(2.5)	1(2.5)	4(10.0)	2(5.0)	9(4.5)
>25-30 acres	0	0	2(5.0)	3(7.5)	4(10.0)	9(4.5)
>30-35 acres	0	0	2(5.0)	1(2.5)	2(5.0)	5(2.5)
>35-40 acres	0	0	2(5.0)	1(2.5)	2(5.0)	5(2.5)
Mean Score (in acres)	**7.61**	**8.27**	**10.27**	**13.82**	**13.65**	**10.72**
	P=0.00***					
Owned						
< 5 acres	26(65.0)	25(62.5)	25(62.5)	24(60.0)	26(65.0)	126(63.0)
5-10 acres	11(27.5)	11(27.5)	13(32.5)	12(30.0)	11(27.5)	58(29.0)
>10-15 acres	1(2.50)	1(2.50)	1(2.50)	1(2.50)	1(2.50)	5(2.50)
>15-20 acres	2(5.0)	3(7.50)	1(2.50)	0	2(5.0)	8(4.0)
>20-25 acres	0	0	0	2(5.0)	0	2(1.0)
>25-30 acres	0	0	0	1(2.50)	0	1(0.50)
Mean Score (in acres)	**5.03**	**5.30**	**4.88**	**6.35**	**5.02**	**5.31**
	P=0.69					
Leased in	**n_1=21**	**n_2=15**	**n_3=21**	**n_4=27**	**n_5=29**	**n=113(56.5)**
<5 acres	15(71.4)	10(66.66)	14(66.66)	6(22.20)	11(37.93)	56(49.55)
5-10 acres	4(19.0)	3(20.0)	3(14.28)	13(48.14)	7 (24.13)	30(26.54)
>10-15 acres	1(4.76)	0	1(4.76)	4(14.81)	2(6.89)	8(7.07)
>15-20 acres	1(4.76)	1(6.66)	2(9.52)	1(3.70)	5(17.24)	10(8.84)
>20-25 acres	0	1(6.66)	1(4.76)	2(7.40)	2(6.89)	6(5.30)

>25-30 acres	0	0	2(9.52)	1(3.70)	2(6.89)	5(4.42)
Mean Score (in acres)	**2.48**	**2.56**	**5.45**	**7.47**	**8.63**	**5.31**
	P*=0.02*					

****Significant at 5% level of significance**
***** Significant at 1% level of significance**

The pattern revealed that a very large percentage of the families cultivated less than 15 acres of land. This land included both owned and leased in for cultivation. One way analysis of variance on mean score worked out to analyse the difference among five agro climatic zones. It revealed significant difference in cultivated land across different zones with highest mean cultivated area in zone IV (13.82) followed closely by zone V (13.65) and lowest (7.61) in zone I.

3.3.1.2 Owned cultivated land: Data revealed that in all agro climatic zones, majority (60.0 to 65.0%) of families owned less than 5 acres of land and more than one fourth (29.0%) of sample families owned 5-10 acres of land. Very few families (6.5%) owned 10-20 acres of land. None of the families in all zones except zone 4 (7.5%) were having 20 -30 acres of owned cultivated land. More owned land ranged between 4.88 to 6.39 acres which was not significantly different in different zones. However, it was highest in zone IV and least in zone III.

3.3.1.3Leased in cultivated land: Data in Table 5 showed that more than fifty percent (56.5%) families leased inland for cultivation. Out of these, half of the sample families leased less than 5 acres of land and more than one fourth families (26.54%) between 5-10 acres of land, 7.07 percent families up to 15 acres of land and 8.84 percent families cultivated up to 20 acres of leased in land. Only 5.30 percent families leased in 20-25 acres and very few (4.42%) had leased in land up to 30 acres. Highest percentage of families among those leasing in land were found in zone V, but this percentage was not very different in other zones with least in zone II. Mean leased in cultivated land was significantly different between zones (p = 0.02) with 8.63 acres being leased on an average in zone V and only 2.48 acres in zone I. this difference can be attributed to the difference in total land being cultivated in these zones.

3.3.2 Sources of income: Source of income was studied from primary and secondary sources.

3.3.2.1Primary source of income: Data in Table 4 indicated that farming was primary source of income for very large majority (79.0%) of the famers and non-farm based occupation for only 5.0 percent followed by Government service (4.5 %).Mubushar *et al* (2020) revealed that the majority of farmers (87.2%) in Punjab earn their livelihoods from farming and only 2.1 percent families were traders in addition to earning from farm activities. Very few reported other sources like dairy (1.5 %), poultry (1.0%) and working as commission agents (0.5%) as their primary source of income. Primary source of income of 4.0 percent famers was permanent government employment and 0.5 percent earned primarly from contractual service in government sector.

Private sector emerged as primary source of income for only 3.5 percent famers as seen in table 3 and with 3.0 percent permanently employed. Few farmers were also engaged as daily wagers (3.0%) and annual wagers (1.5%) along with farming.

Comment [H32]: Table 4 should come before Table 5? The sequence of the Table need to be changed?

Comment [H33]: What do you mean by inland here?
Moreover, Table 5 reflects on the" Distribution of the Farmers according to annual income", and nothing on land lease?

Comment [H34]: ?

Comment [H35]: Table 3

Table 4: Distribution of farmers according to their source of income

(n=200)

Source of income	Agro climatic zones					Total
	Zone I (n_1=40)	Zone II (n_2=40)	Zone III (n_3=40)	Zone IV (n_4=40)	Zone V (n_5=40)	
	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)
Primary source of income						
Farming	32(80.0)	23(57.50)	31(77.50)	36(90.0)	36(90.0)	158(79.0)
Farm related /allied Entrepreneurship or Business						
• Dairy	1(2.5)	2(5.0)	0	1(2.5)	0	3(1.5)
• Poultry	0	2(5.0)	0	0	0	2(1.0)
• Commission agent	0	0	0	0	1(2.5)	1(0.5)
Non-farm based business	2(5.0)	7 (17.5)	1 (2.5)	0	0	10(5.0)
Govt. Service						
• Permanent employee	1(2.5)	5(12.5)	1(2.5)	0	1(2.5)	8(4.0)
• Contractual employee	0	0	1(2.5)	0	0	1(0.5)
Private service						
• Permanent employee	3(7.50)	1(2.50)	2(5.0)	0	0	6(3.0)
• Contractual employee	0	0	1(2.50)	0	0	1(0.50)
Wage earner						
• Daily wage earner	0	0	3(7.50)	2(5.0)	1(2.50)	6(3.0)
• Seasonal wage earner	1(2.50)	0	0	0	0	1 (0.50)
• Annual wage earner	0	0	0	2(5.0)	1(2.50)	3(1.50)
Secondary source of income						
	n_1=27	**n_2=23**	**n_3=28**	**n_4=24**	**n_5=19**	**n=121(60.5)**
Farming	8(29.60)	18(78.20)	8(28.50)	4(16.60)	4(21.0)	42(34.7)
Farm related /allied entrepreneurship orBusiness	12(44.40)	3(13.0)	16(57.10)	8(33.30)	7(36.80)	46(38.01)
Non farm based business	5(18.5)	1(4.34)	2(7.14)	6(25.0)	1(5.26)	15(12.3)
Govt. Service						
• Permanent employee	0	1(4.34)	1(3.50)	1(4.16)	0	3(2.47)
• Contractual employee	0	0	0	0	0	0
Private service						
• Permanent employee	1(3.70)	0	1(3.57)	4(16.60)	0	6(4.95)
• Contractual employee	0	0	0	1(4.16)	0	1(0.82)
Wage earner						
• Daily wage earner	0	0	0	0	3(15.70)	3(2.47)
• Annual wage earner	0	0	0	1(4.16)	0	1(0.82)
• Seasonal wage earner	1(3.70)	0	0	2(8.33)	3(15.70)	6(4.90)
• Income from abroad	0	0	0	1(4.16)	1 (5.20)	2(1.65)

Comparison of zone wise data revealed least percentage of families (57.5%) in zone II reporting farming as primary source of income in comparison to other zones where percentage was very high (80.0 % in zone I and 90.0 % in zone IV& V. Low percentage in zone II was because 10.0 percentage of famers from this zone reported dairy or poultry as their primary occupation. A very large percentage of the

Comment [H36]: Where is the closed bracket?

remaining were earning mainly from non-farm based business, while these percentages were negligible in other zones. Comparatively, the highest percentage from this zone were found to be engaged as government employees (12.5%) which was very low (2.5%) in zone I, III and IV.

Kaur (2017) and Shukla (2018) also reported that farming was primary source of income in rural areas of Punjab. Rangnathan (2019) in his research on all farm households in India indicated that majority of the farm households (64.0%) had farming as their principal income source followed by 32.0 percent earning from wages/ salary. NSO (2019) also reported that there were four main sources of farmers income, namely cultivation activities, rearing of livestock and related activities, wages and salary earned by working under schemes like MGNREGA or on others' farms or any other job and non-farm activities.

Comment [H37]: Full form?

3.3.2.2 Secondary source of income: More than half (60.5%) of farmers were engaged in secondary occupation. Out of these, farm based business was found to be source of secondary income of 38.01 percent of families followed by farming (34.07%) and non-farm based business (12.30%). Shukla (2018) and Vihari (2018) found that one third farmers in Punjab were having farm based business as their secondary source of income. Private service was secondary source of income for only 5.77 percent farmers followed by 2.57 percent families engaged in permanent government service. Eight percent of farmers were wage earners, among them seasonal wage earners were found to be maximum (4.9%) followed by daily wage earners (2.47%) and very low percentage (0.82%) were contractual wage earners.

Highest percentage (57.1%) of farmers having farm based business were observed in zone III followed by 44.4 percent in zone I, 36.8 percent in zone V and lowest (13.0%) percentage was found in zone II. Highest percentage (78.2%) of families in zone II had farming as secondary source of income followed by more than one fourth (29.6%) families in zone I and (28.5%) in zone III and lowest percentage of families (16.6) was recorded in zone IV having farming as secondary occupation. Non-farm based business was recorded among highest (25.0%) percentage in zone IV followed by 18.5 percent in zone I and lowest (4.34%) percentage in zone II. None of the famers were seasonal wage earner in all zones except in zone V (15.7%).Only 4.16 percent farmers in zone IV were annual wage earner. Seasonal wage earning was recorded among highest (15.7) percentage in zone V followed by 8.33 percent in zone IV. Income from abroad was secondary source of income for only 4.16 percent of farmers in zone IV and 5.2 percent in zone V.

The pattern of secondary occupations revealed that large percentage of farmers were engaged in secondary occupation for supporting their primary income source which in case of majority was farming. This may be because the farm income was not sufficient to meet the family needs, land owned by families being very less along with mono-cropping pattern leads to lesser income from farming. Insecurity because of extraneous factors like inputs cost, climatic conditions, productivity, yield per acres may be another reason for farmers to look for other sources which mainly were also farm based activities.

Comment [H38]: other reasons

3.3.3 Income from different sources: Income of farmers was recorded from primary and secondary sources.

3.3.3.1 Income from primary source: Income from primary source ranged from 10,000 to 15,00,000 rupees annually. Data given in Table 5 showed that majority (79.5%) of farmers annually earned up to three lakhs followed by 14.0 percent families having income up to six lakhs and only 7.5 percent reported an earning of 9-15 lakhs rupees annually. Shukla (2018) also reported that majority of the families in Punjab had annual earning of up to 3 lakhs, while Kaur *et al* (2019) found majority (74.0%) of farmers in rural Punjab earning up to 5 lakhs. Further NSO (2019) in its report of trends in India indicated that annual income of Punjab farmers was less than 3.5 lakhs. Singh and Singh (2019) stated that the average income of farm household of Hoshiarpur district of Punjab was less than fifty thousand.

Zone wise data also revealed that majority of families in all zones were annually earning up to three lakhs. In the higher income bracket, 25.0 percentage in zone IV followed by 15.0 percent in zone III, 12.5 percent in zone II, 10.0 percent in zone V and least percentage (5.0%) in zone earned six lakhs annually. Similar percentage (7.5%) of families in zone III and zone IV and 5.0 percent in zone II had income ranging from six lakhs to nine lakhs, while none of the family in zone I and V had annual earning of six lakhs to nine lakhs.

Only two families from zone II (5.0%) and one family from zone IV (2.5%) earned twelve lakhs and only 2.5 percent from zone III and IV were earning up to fifteen lakhs annually.

Mean family income from major sources was found to be 223546.60 rupees. Maximum earning was reported from zone IV (Rs.324750) followed by zone II (Rs. 258058) and zone III (Rs. 248550), whereas families in zone V had minimum mean annual income (Rs. 141150). However, this difference among agro climatic zones was found to be non-significant. An Indian fortnightly magazine Business Today (2020) also reported Rs 216708 as annual income of an average farm household in Punjab.

3.3.3.2 Income from secondary source: Data revealed that out of the farmers having secondary source of income, a large majority (76.85%) earned less than one lakh followed by nearly thirteen percent (12.38) farmers having earning of 2 lakhs to 5 lakhs annually and 10.74 percent farmers earning up to two lakhs from secondary sources.

Zone wise this data indicated that more than 70.0 percent farmers having secondary source from each zone had annual earning of up to one lakh rupees from secondary occupation. However, one fourth farmers in zone IV were earning up to 2 lakhs. Two to three lakhs was annual earning of less than 10.0 percent farmers in zone I (7.40%), zone II (8.69%) and zone III (7.14%). Less than 5.0 percent of farmers in zone I (3.70%), zone III (3.50 %) and 8.33 percent in zone IV earned between four lakhs to five lakhs from secondary sources.

Comment [H39]: Rupees

Comment [H40]: Rupees

Comment [H41]: Which Zone?

Comment [H42]: To be punctuated?

Comment [H43]: At what level of significance ? What are the values of the data analysis?

Comment [H44]: Rupees
It could be expressed as Rupees One lakh?

Table 5: Distribution of farmers according to their annual income

(n=200)

Income	Agro climatic zones					Total
	Zone I (n_1=40)	Zone II (n_2=40)	Zone III (n_3=40)	Zone IV (n_4=40)	ZoneV (n_5=40)	
	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)
Income from primary source (in rupees)						
10000- 300000	38(95.0)	31(77.50)	29(72.5)	25(62.50)	36(90.0)	159(79.5)
>300000-600000	2(5.0)	5(12.5)	6(15.0)	10(25.0)	4(10.0)	28(14.0)
>600000 -900000	0	2(5.0)	3(7.5)	3(7.5)	0	8 (4.0)
>900000 -1200000	0	2(5.0)	0	1(2.5)	0	3(1.5)
>1200000-1500000	0	0	1(2.5)	1(2.5)	0	2(1.0)
Mean income(inrupees)	**145225**	**258058**	**248550**	**324750**	**141150**	**223546.60**
	***P*=0.88**					
Income from secondary source (in rupees)						
< 100000	20(74.0)	19(82.60)	21(75.0)	14(58.30)	19(100.0)	93(76.85)
100000-200000	2(7.40)	2(8.69)	3(10.7)	6(25.0)	0	13(10.74)
<200000-300000	2(7.40)	2(8.69)	2(7.14)	0	0	6(4.95)
<300000-400000	2(7.40)	0	1(3.50)	2(8.33)	0	5(4.13)
<400000 -500000	1(3.70)	0	1(3.50)	2(8.33)	0	4(3.30)
Mean income (in rupees)	**61540**	**61900**	**96821**	**15150**	**82750**	**52554.2**
	***P* =0.16**					

Mean annual income from secondary sources was found to be Rs.52554.2. It was found highest in zone III (Rs. 96821) followed by zone V (Rs.82750), zone II (Rs. 61900) and lowest was found in zone I(Rs.61540). However, this difference was found to be non-significant (p = 0.16).

Data clearly indicated that income of farmers for primary or secondary sources in all zones was not significantly different irrespective of significant differences in cultivated land.

4. CONCLUSIONS: Very large percentage of the farmers had no any organizational membership. Majority of the farmers owned less than 5 acres of land having farming as primary source of income with an annual earning of 3 lakhs and to support income from farming large percent of farmers were engaged

Comment [H45]: To be punctuated?

Comment [H46]: Express this as 5% or 1%?

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Comment [H48]: Should be expressed in the proper format of statistics?
P ≥0.5 or P≥0.01 and P ≤0.05 or P ≤0.01 ?

Comment [H49]: Rupees 3 lakhs

Comment [H50]: Insert a comma?

in some secondary occupation with majority having less than 1 lakhs rupees supporting income.

Comment [H51]: Rupees I lakh?

References:

Comment [H52]: In the Manuscript the References have not be numbered. So, why here the References are following the numbering format/ Proper format of the Journal should be followed?

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