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Sustainable agricultural development and pattern of domestic consumption expenditure of Punjab farmers

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Abstract

The present paper highlights the income and consumption pattern of the marginal and small farmers in the three agro-climatic zones of Punjab for the year 2012-13. It was found that out of the total net family income of these farmers, a major share was earned from crop and dairying, followed by income from non-farm activities. The net per capita annual income of marginal and small farmers was found to be about Rs 35190 and Rs 52999. Corresponding to this the annual per capita household consumption expenditure was Rs 20427 and Rs 21268. This situation clearly depicts the vulnerability of these farmers to indebtedness in case of unforeseen expenditure. The grim economic situation of these farmers can be judged from the fact that on an average about 31 per cent and 16 per cent of the total marginal and small farmers in the state respectively was living below the poverty line. There is a need to address the problems of this section with special attention as this resource poor section is more prone to economic misery.

Key words: marginal farmers, small farmers, income, consumption expenditure, economic disparity, Punjab.

INTRODUCTION

The prime objective of Indian agrarian economy has been to increase food production substantially to cope with the food needs of the growing population along with material for industrialization. Agriculture is the major occupation supporting about 60 per cent of the population for their livelihood; and about 14 per cent of gross national product of our country is derived from this sector. It is estimated that agricultural production must increase at least at the rate of 2.2 per cent per annum to sustain the population increases (Nasurdeen and Balakrishnan,1996). The Punjab state has presented to the world a model of agricultural modernization. This model was based on a set of measures aimed at technological up-gradation

of modes of production along with a set of compatible institutional and policy changes following which the agricultural production process of the state became highly mechanized and capital intensive (PAU, 2015). During the era of high growth, post green revolution, the farmers acquired high living standards, which enhanced their financial liabilities towards social and cultural obligations. Little wonder, the rising input costs, declining crop productivity, stagnant crop prices, non-institutional borrowings, etc. brought a downturn in the economy that dragged a large section of its farmers into vicious circle of poverty and indebtedness, particularly the marginal and small ones. In the early 1920s ML Darling reported that about four-fifth of the Punjab peasantry was under debt to the tune of 5-6 times of their annual income. He remarked that, 'Punjab peasant is born in debt, lives in debt and dies in debt' (Darling, 1925). Presently, the economists are highlighting the concerns with regards to growing non-viability due to falling productivity and profitability of agriculture, especially for the smaller farmers. Their survival on agricultural activities alone is questionable unless supported with some supplementary income (Chandra, 2001, Kaur *et al.*, 2001). The rising capital requirements to maintain profitability of agriculture is discouraging farmers who are eventually giving up farming in search of better opportunities for livelihood. However, due to lack of any skills, it is difficult for them to get absorbed in the industrial sector (Gill, 1994). Thus, a large chunk of 'reserve army of labour' has been accumulating in the rural economy. According to unpublished official estimates, about 35 lakh persons in 2006 were unemployed in the state, of which about 24 lakh belonged to rural areas (Singh *et al.*, 2007). The growing unemployment of the rural youth and the despair situation of the agriculture are making the poorer farmers more vulnerable as they are more prone to indebtedness and suicides. In order to understand the economic status of an individual, it becomes important to study the level of income and various sources of livelihood. The present study concentrates on income and consumption level of marginal and small farmers in different agro-climatic regions of the state.

RESEARCH METHODOLOGY

The primary data collection under the scheme "Economics of farming and the pattern of income and expenditure distribution in the Punjab agriculture" was used for this study. This scheme caters to various aspects of Punjab agriculture and collects data with cost accounting method through a vast network of agricultural sub-inspectors from different agro-climatic zones

of the state. To fulfil the desired objectives of the study, 9 blocks comprising 2 from the zone I, 4 from the zone II and 3 from the zone III, were selected. One village was selected from each selected blocks and 25 farm holdings were selected from each village. Hence, 86 holdings (36 marginal farmers and 50 small farmers) were selected for the study. The data relates to the agricultural year 2012-13. The classification of size categories of farms adopted for this study was on the pattern adopted for conducting All India Agricultural Census which includes marginal (<1 ha) and small (1-2 ha) farm holdings were selected for a detailed analysis.

Results and Discussion

The farm family income consists of the income received by the farming family from crops, dairying, non-farm enterprises and miscellaneous sources. Income from crops constitutes the imputed value of the main product from all crops except fodder crops grown on the farm. The value of the bye-product has also been accounted for while calculating this income. The income from dairying means the imputed value of total milk produced on the farm including both the cash and non-cash income from this enterprise. Net farm income was computed by deducting the costs incurred on seed, fertilizer, insecticides/pesticides, hired human labour/bullock labour, farm machinery and implements, taxes, cess, water chargeS, interest on working capital and cost of purchased feed and fodder along with depreciation of owned farm machinery and farm buildings from gross farm income. The concept of non-farm income accounts income received from all the off-farm sources. It consists of the cash received by rendering service to a particular profession outside the farm by one or more members of the farmer's family during the given year. Such income also includes pensions received by any family member and the remittances received from abroad. Any other income like income received as rent for a piece of land or building and the amount received by hiring out labour and farm machinery was included in miscellaneous income. Income received from non-farm business carried out simultaneously as a secondary profession, such as shop, flour mills, trucks/taxies, poultry farms etc. is also classified as income from miscellaneous sources.

The per farm net income of marginal and small farmers reveals that the net annual farm income, both from crop and dairy farming, of small farmers was higher than that of marginal farmers in total and also individually in all the zones of the state as it was Rs 185767 for the small farmers and Rs 107470 for the marginal farmers (Table 1). The highest income was

recorded for small farmers of zone II (Rs 231230). The net farm income of small farmers was a little less than twice that of marginal farmers. This was in direct relation to the farm size.

Table 1: Net farm income on marginal and small farms in different zones of Punjab
(Rs/annum)

Zone	Marginal		Small	
	Per farm	Per ha	Per farm	Per ha
I	30966	38244	58032	34400
II	46123	183863	231230	158368
III	132304	153783	198757	122732
State	107470	131638	185767	119190

In order to negate the farm size impact, per farm gross farm income was converted to per hectare basis and the same is given in Table 1 which exhibits the comparison of marginal and small farmers in the state with respect to net farm income per hectare. The average size of landholding of the marginal farmers in zone I, II, III and state was 0.70 ha, 0.80 ha, 0.90 ha and 0.80 ha respectively. Similarly, the average size of landholding of the small farmers was 1.45, 1.65, 1.60 and 1.57 respectively. It was analysed that the net per hectare annual farm income, both from crop and dairy farming, of marginal farmers was higher than that of small farmers as it was Rs 119190 for small farmers and Rs 131638 for marginal farmers. The highest per hectare net income was recorded for marginal farmers in zone II and the minimum was recorded for marginal farmers in zone I.

The net family income comprises of income from all the sources like crop, dairying, non-farm income and other sources. The net family income was derived after deducting the farm expenditure. It was observed that the annual net family income of marginal and small farmers of the state was about Rs 202345 and Rs 304741 (Table 2). The highest share of the income of both the marginal and small farmers was of the farm income, i.e. about 72 per cent and 91 per cent respectively. The share of non-farm income in the respective income of marginal and small farmers was about 18 per cent and 9 per cent respectively. The share of farm income among marginal and small farmers was found to be maximum in zone III, i.e., 83.85 per cent and 99.90 per cent respectively.

Table 2: Net family income on marginal and small farms in different zones of Punjab
(Rs/annum)

Zone	Farm size categories	Income from crop and dairying	Non-farm income	Miscellaneous income	Total income
I	Marginal	47978 (64.49)	10639 (14.30)	15779 (21.21)	74396 (100.00)
	Small	85483 (62.96)	43502 (32.04)	6789 (5.00)	135774 (100.00)
II	Marginal	195951 (69.05)	60162 (21.20)	27669 (9.75)	283782 (100.00)
	Small	323355 (89.11)	39516 (10.89)	0.00	362871 (100.00)
III	Marginal	178324 (83.85)	24669 (11.60)	9676 (4.55)	212669 (100.00)
	Small	324885 (99.9)	0.00	325 (0.10)	325210 (100.00)
State	Marginal	146316 (72.31)	36907 (18.24)	19122 (9.45)	202345 (100.00)
	Small	276157 (90.62)	27213 (8.93)	1371 (0.45)	304741 (100.00)

Note: Figures in parenthesis exhibit percentages

The average family size of the farmers in the state was 5.75 respectively. The highest average family size was found in zone III (6.25), followed by zone I (5.08) and zone II (5.70). The per capita net farm income was obtained by dividing the per farm net income with the number of family members of the sampled farmers in the study area. The information thus obtained has been incorporated in Table 3. Overall, the annual per capita income of marginal and small farmers was about Rs 35191 and Rs 52999 respectively. The zone-wise study presents that the highest per capita income of marginal and small farmers in Punjab was recorded in zone II i.e., about Rs 49786 and Rs 63662 respectively. So far as the relationship between per capita net farm income and the size of the farm is concerned it bore a positive relationship. This corresponds with the pattern of per farm family net farm income.

Table 3: Per capita net income of marginal and small farmers in Punjab
(Rs/annum)

Zone	Farm size categories	Income from crop and dairying	Non-farm income	Miscellaneous income	Total income
I	Marginal	9445	2094	3106	14645
	Small	16827	8563	1336	26726
II	Marginal	34377	10554	4854	49785
	Small	56729	6933	0.00	63662

III	Marginal	28531	3947	1548	34026
	Small	51982	0.00	52	52034
State	Marginal	25446	6419	3325	35190
	Small	48027	4733	239	52999

CONSUMPTION EXPENDITURE

The study of domestic expenditure and its distribution is very important as it provides an idea of the levels of living of the population and degree of inequalities prevailing in the society.

Household Consumption Expenditure of Marginal Farmers

The household expenditure pattern provides an idea of the levels of living of population. It is clear from the Table 4 that a large share of the domestic expenditure was incurred on food items in all the zones individually as well as at the state level.

Table 4: Average household consumption expenditure of marginal farmers in Punjab
(Rs/family/annum)

Items of consumption	I		II		III		State	
	Rs	%	Rs	%	Rs	%	Rs	%
Cereals	7011	6.84	7681	10.1	11314	7.08	8871	7.55
Pulses	2451	2.39	2391	3.15	879	0.55	1823	1.55
Vegetables	2765	2.67	4192	5.51	7801	4.88	5120	4.36
Edible oils	3060	2.99	3373	4.44	4177	2.6	3581	3.05
Beverages	1591	1.56	1246	1.64	3721	2.33	2324	1.98
Opium, liquor, etc.	575	0.56	270	0.35	4215	2.64	1906	1.62
Fish, meat, eggs, etc.	742	0.72	183	0.24	694	0.44	568	0.49
Sugar & gur	4555	4.44	2751	3.62	9622	6.02	6025	5.13
Fruits	3373	3.29	428	0.56	1041	0.65	1648	1.41
Spices	2631	2.56	1715	2.26	4595	2.87	3140	2.67
Milk & milk products	23987	23.4	20532	27.01	39251	24.56	28963	24.66
Food items total	52741	51.42	44762	58.88	87310	54.62	63969	54.47
Clothing	6462	6.31	3800	5.00	9950	6.22	7079	6.03
Education	13300	12.98	3739	4.92	27678	17.32	16236	13.82

Fuel & lighting	10726	10.46	7771	10.22	8147	5.1	8903	7.58
Conveyance	2801	2.73	3937	5.18	2973	1.86	3184	2.71
Medicine	2007	1.96	1134	1.49	3077	1.92	2181	1.86
Sundry & toilet	3363	3.28	2809	3.7	2953	1.85	3050	2.6
Footwear	1888	1.84	1276	1.68	5327	3.33	3056	2.6
Social Ceremony	6429	6.27	1293	1.7	3214	2.01	3752	3.2
Tailoring	2012	1.96	861	1.13	3173	1.99	2144	1.82
Misc.	798	0.78	4635	6.1	6036	3.78	3901	3.32
Non-food	49786	48.58	31255	41.12	72528	45.38	53486	43.53
Total expenditure	102527	100	76017	100	159838	100	117455	100

In terms of magnitude an average marginal family in the state spent Rs. 117455 per annum for domestic purposes. Out of this, about 55 per cent was spent on food items indicating thereby that the expenditure upon food items was almost 1.03 times the amount on non-food items. Amongst the food items, milk and milk products secured a major share. Fish, meat, eggs, fruits and pulses were the items in the food group on which the minimum amount of expenditure was incurred. From the non-food items, education was the most important component where 13.82 per cent of the total domestic expenditure was spent. Next most important component of non-food items was the fuel and lighting and clothing which recorded about 7.60 per cent and 6.00 per cent respectively of the total domestic expenditure at the state level. The zone wise analysis of this aspect reveals that the farm families of zone III spent the highest amount as domestic expenditure with Rs. 159838 during 2012-13 whereas the farm families of zone II spent the minimum amount with Rs. 76017.

Household Consumption Expenditure of Small Farmers

The study of domestic consumption expenditure reveals that a large share of the domestic expenditure was incurred on food items in all the zones individually as well as at the state level (Table 5). In terms of magnitude an average farm small family in the state spent Rs. 122292 per annum for domestic purposes. Out of this, about 61 per cent was spent on food items indicating thereby that the expenditure upon food items was almost 1.50 times the amount on non-food items. Amongst the food items, milk and milk products secured a major share. Fish, meat, eggs,

fruits and pulses were the items in the food group on which the minimum amount of expenditure was incurred. From the non-food items fuel and lighting and clothing recorded the maximum share of about 7.85 per cent and 6.54 per cent respectively, followed by education that secured 5.78 per cent of the total domestic expenditure. The zone wise analysis of this aspect revealed that the farm families of zone III spent the highest amount as domestic expenditure with Rs. 150108 during 2012-13 whereas the farm families of zone I spent the minimum amount with Rs. 101628.

Table 5: Average household consumption expenditure of small farmers in Punjab
(Rs/family/annum)

Farmer Category	I		II		III		State	
	Rs	%	Rs	%	Rs	%	Rs	%
Cereals	6657	6.55	10445	10.16	13080	8.71	10339	8.46
Pulses	2612	2.57	3447	3.35	1368	0.91	2307	1.89
Vegetables	2179	2.14	5277	5.13	6869	4.57	4952	4.05
Edible oils	3724	3.66	4847	4.72	4890	3.26	4506	3.68
Beverages	1369	1.35	2174	2.12	4891	3.26	3058	2.5
Opium, liquor, etc.	1333	1.31	288	0.28	2468	1.65	1538	1.26
Fish, meat, eggs, etc.	2314	2.28	109	0.1	813	0.54	1110	0.91
Sugar & gur	4765	4.69	4465	4.34	11748	7.83	4620	6.23
Fruits	3299	3.25	555	0.54	893	0.59	1575	1.28
Spices	1595	1.57	2574	2.51	3470	2.31	2637	2.16
Milk & milk products	29775	29.3	28896	28.11	42230	28.13	34778	28.44
Food items total	59622	58.67	63077	61.36	92720	61.77	74420	60.86
Clothing	6994	6.88	5031	4.89	10611	7.07	8003	6.54
Education	4806	4.73	4252	4.14	10530	7.02	7066	5.78
Fuel & lighting	10453	10.29	9075	8.83	9284	6.19	9604	7.85
Conveyance	4042	3.98	4862	4.73	3039	2.02	3834	3.13
Medicine	1632	1.97	961	0.93	4100	2.73	2494	2.04
Sundry & toilet	3652	3.6	4130	4.02	3899	2.6	3880	3.17
Footwear	2177	2.14	1563	1.52	4590	3.05	3031	2.48
Social Ceremony	5463	5.37	3796	3.69	2967	1.98	3981	3.26
Tailoring	2003	1.97	1172	1.14	2910	1.94	2168	1.77

Misc.	784	0.77	4877	4.75	5458	3.63	3811	3.12
Non-food items total	42006	41.33	39719	38.64	57388	38.23	47872	39.14
Total expenditure	101628	100	102796	100	150108	100	122292	100

Per Capita Consumption Expenditure

So far emphasis has been laid on the analysis of the absolute amounts and the relative shares of the various items of consumption expenditure incurred by the marginal farmers. THE study of the detailed item-wise per capita household consumption pattern, it was found that on the whole the marginal farmers of the state spent Rs 20427 per annum of which the major item of expenditure was food items like cereals, pulses, milk & mil products, fruits, vegetable, oils, tea, sugarcane products, etc (Table 6). The average marginal farmer of the state spent Rs 11125 on food items and Rs 9302 on non-food items like fuel & light, clothing & bedding, toiletries, footwear, washing articles, etc.; of which clothing & bedding followed by fuel & light secured a major share.

Table 6. Per capita household consumption expenditure of marginal farmers in Punjab (Rs/annum)

Items of Consumption	I	II	III	State
Cereals	1380	1348	1754	1543
Pulses	482	419	136	317
Vegetables	544	735	1209	890
Edible oils	602	592	648	623
Beverages	313	219	577	404
Opium, liquor, etc.	113	47	653	331
Fish, meat, eggs, etc.	146	32	108	99
Sugar & gur	897	483	1492	1048
Fruits	664	75	161	287
Spices	518	301	712	546
Milk & milk products	4722	3602	6085	5037
Food items total	10382	7853	13536	11125
Clothing	1272	667	1543	1231

Education	2618	656	4291	2824
Fuel & lighting	2111	1363	1263	1548
Conveyance	551	691	461	554
Medicine	395	199	477	379
Sundry & toilet	662	493	458	530
Footwear	372	224	826	531
Social Ceremony	1266	227	498	653
Tailoring	396	151	492	373
Misc.	157	813	936	678
Non-food items total	9800	5483	11245	9302
Total expenditure	20182	13336	24781	20427

The per capita annual consumption expenditure of small farmer in the state was Rs 21268 of which maximum, Rs 12943, was spent on food items, followed by Rs 8326 on non-food items and Rs 692 on socio-religious ceremonies (Table 7). Of the total expenditure on food items a larger proportion was being spent on milk & milk products, followed by cereals, and sugarcane products. The major share of the expenditure on non- food items was accounted by fuel and light, clothing & bedding and footwear, etc.

Table 7. Per capita household consumption expenditure of small farmers in Punjab
(Rs/annum)

Items of Consumption	I	II	III	State
Cereals	1310	1832	2028	1798
Pulses	514	605	212	401
Vegetables	429	926	1065	861
Edible oils	733	850	758	784
Beverages	269	381	758	532
Opium, liquor, etc.	262	51	383	267
Fish, meat, eggs, etc.	456	19	126	193
Sugar & gur	938	783	1821	803
Fruits	649	97	138	274
Spices	314	452	538	459

Milk & milk products	5861	5069	6547	6048
Food items total	11737	11066	14375	12943
Clothing	1377	883	1645	1392
Education	946	746	1633	1229
Fuel & lighting	2058	1592	1439	1670
Conveyance	796	853	471	667
Medicine	321	169	636	434
Sundry & toilet	719	725	604	675
Footwear	429	274	712	527
Social Ceremony	1075	666	460	692
Tailoring	394	206	451	377
Misc.	154	856	846	663
Non-food items total	8269	6968	8897	8326
Total expenditure	20006	18034	23273	21268

Poverty in rural Punjab

Poverty is regarded as a matter of low absolute income. Therefore, some standard of minimum income is needed to define the poverty level below which a family is said to be poor. Such a standard specifies an amount of rupees, based on some experts estimates needed to meet the minimum cost of living. According to Tendulkar Committee's report on Poverty, the poverty line is Rs. 543.51 per capita per month for rural Punjab during 2004-05. This poverty line is updated for the year 2012-13 by using general consumer Price Index for Agricultural Labourers (CPI-AL). The consumer price index includes food and non-food items. Based on this index the poverty line for rural Punjab is estimated at Rs. 935.45 per capita per month, which comes to be Rs. 11225 per capita per annum.

With the updated figures of Rs. 11225 per annum, the extent of rural poverty had been worked out by estimating the proportion of farm families living below poverty line (BPL) i.e. getting less than Rs. 11225 per capita per annum. In the study, "Economics of farming and the

pattern of income and expenditure distribution in the Punjab agriculture- 2014” on an average 8.44 per cent of the total farming population in Punjab was below the poverty line.

Table 8: Incidence of poverty among Punjab farmers

Zone	(per cent)		
	Marginal	Small	Average
I	25.00	12.50	10.00
II	30.00	15.38	6.67
III	35.71	19.05	9.00
State	30.55	16.00	8.44

The independent analysis of the marginal and small farmers revealed that 30.55 percent of the marginal farmers, 16 of small farmers were living below the poverty line in the state during the year 2012-13 (Table 8). The situation of marginal and small farmers in zone III was very precarious as 35.71 per cent of marginal and 19.05 per cent of small farmers were BPL families.

CONCLUSION

The agrarian economy of Punjab, though one of the most prosperous, is amidst the phase of stagnation and deterioration. The fast pace of growth during the 1970s is fading away due to rising costs and capital requirements which are unmatched with owned funds of the farmers. Many farmers are turning towards non-farm activities to support their income sources. The farmers are becoming indebted from which they are not able to break away and hence, pass on the debt to generations to come. The prime source of income of the marginal and small farmers in Punjab is income from crop and dairying as about 72 per cent and 90.62 per cent of their total income, respectively is derived from it. The net per capita annual income of marginal and small farmers, after deducting the farm expenditure, was found to be as low as Rs 35190 and Rs 52999. Corresponding to this the annual per capita household consumption expenditure was Rs 20427 and Rs 21268. This situation clearly depicts the vulnerability of these farmers to indebtedness in case of unforeseen expenditure situations. The poverty line is an estimate of the people that need special economic attention and are deprived of basic necessities of life. The grim economic situation of these farmers can be judged from the fact that on an average about 31 per cent and 16 per cent of the total marginal and small farmer population respectively was living below the poverty line. There is a need to chalk out measures and schemes to directly benefit the smaller

farmers as these form a major chunk of our agrarian economy and are most prone to economic misery.

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