

## **Investment, Income and Expenditure Pattern of Marginal and Small Farmers: A Comparative Analysis of Karnataka and Punjab**

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### **Abstract**

*The present study examined the investment, income and expenditure pattern of the marginal and small farmers in Karnataka and Punjab. A sample of 120 marginal and small farmers consisting 60 each from the study states were selected by using multi-stage random sampling technique with reference period of 2017-18. The study revealed that investment of the marginal and small farmers in Punjab was significantly higher as compared with Karnataka. The income from crops was emerged as major sources of gross income in Punjab, whereas in Karnataka, the income from non-farm sources came out to be main source of income on these farm households. The marginal and small farmers in Punjab spent relatively higher and major part of the domestic expenditure was on non-food items. The study suggested that in order to ensure the livelihood security of marginal and small farmers, the off-farm employment opportunities need to be created and the farmers should curtail their domestic expenditure on non-food items. In order to increase net farm incomes, the farmer should allocate inputs in the crop enterprise judiciously.*

**Keywords:** Farm investment, Income, Expenditure, Marginal and small farmers

**JEL Classification:** E22, N3, P24

### **Introduction**

Indian economy is dominated by agriculture sector as about 55 per cent of the total workforce is engaged in agricultural and allied activities. However, the contribution of agricultural sector to the India's Gross Value Added (GVA) is continuously declining and during 2018-19 it turned out to be only 15.87 per cent (Anonymous, 2018a). The agriculture in country is characterized by the marginal and small farmers. These categories of farmers

collectively account for 86.2 per cent of the total number of operational holdings and the area operated by them constitute 47.3 per cent of the total cultivated area in the country (Anonymous, 2018b). Thus, in economic prosperity of India, the agricultural progress and the economic development of marginal and small farmers plays a crucial role.

The states of Punjab and Karnataka represent the two significantly different geo-socio-economic conditions and the scale of agricultural development in India. In Punjab,

almost all of the area under agriculture is irrigated and state has relatively better land distribution in comparison to that at the national level. However, the mono-culture of paddy-wheat crop rotation in Punjab has pushed the farmers into serious economic and ecological crisis. The stagnated agricultural productivity and the consistently raising cost of production have resulted in squeeze of profit margin (Singh and Kolar, 2001). Out of 10.93 lakh total holdings in the state, the number of marginal and small holdings is 1.54 lakh (14.13 %) and 2.07 lakh (18.98%) respectively. The respective share of these farm categories accounts for 2.36 per cent and 7.33 per cent of total operated area in the state (Anonymous, 2018b). In the Karnataka, agriculture stays as the principal activity and the key source of livelihood for the rural population. Over 56 per cent of the state population depends on agriculture for their livelihood. A majority of these are marginal and small farmers comprising 54.9 per cent and 25.51 per cent of total operational holdings in the state, respectively. Further, the share of marginal farmer in terms of operated area is only 17.61 per cent and that of the small farm holdings is 26.33 per cent in the state (Anonymous, 2018b). The agricultural sector in Karnataka is characterized by vast steppes of drought-prone region and sporadic patches of irrigated area. Thus, a large portion of agricultural land in the state is exposed to the vagaries of monsoon with severe agro-climatic and resource constraints. The agriculture in the state is heavily dependent on south-west monsoon. Despite these constraints, Karnataka took major strides in agricultural production in the recent times particularly with regard to vegetable production.

The small and marginal farmers face the problems of uneconomic size of land holding caused due to increasing pressure of population on the limited land resource, problem of surplus family labour and unemployment which makes them to stay below poverty line (Pandey and Kaushal, 1980). Chandra (2001) found that small farms are not viable unless they are supported with some supplementary income. Singh et al (2009) suggested that the creation of off-farm employment opportunities, public investments to remove regional productivity gap, assuring remunerative prices of output and up-scaling of input supply to promote dairy and other allied activities could significantly contribute towards the viability of marginal and small farmers. According to Dev (2009) the small and uneconomic holdings being the root cause of many difficulties in the way of agricultural development, need basic assistance in input purchase, technology adoption, crop insurance, credit, output marketing and improvement in rural infrastructure in a big way. Therefore, there is need to assess the economic condition of the farmers and evolve some suitable policy options to help these vulnerable sections of the farmers in terms of employment generation and raising their income levels. The present study has been undertaken to analyze the income, expenditure and the investment pattern of the marginal and small farmers in two different socio-geographical conditions of country.

### **Data Sources and Methodology**

The study is based on the primary data and multi-stage random sampling technique was adopted for the selection of the respondents. At the first stage, two districts namely Moga and Tumakuru were selected randomly from

state of Punjab and Karnataka, respectively. At the second stage, two blocks were selected randomly from each selected districts of two states. At third stage, two villages were selected randomly from each sample block and from each selected village, fifteen small and marginal farmers were selected randomly. Thus, total 120 small and marginal farmers, 60 each from two study states form the ultimate sample of the study. The information on different aspects of income, investment and expenditure from respondents were collected through personal interview method.

The investment pattern comprised of farm investment, dairy investment and household investment. The gross farm income refers to the value of total output per year. It includes the returns from the sale of main-product and by-products of all crops, dairy and other enterprises on the farm. The off-farm income refers to the sum total of the income earned by the farm family from various non-farm activities such as business, services, hiring out labour, pension, transport, etc. The gross farm family income was estimated by adding the off-farm income to the gross farm income of the farm family. The farm business income was derived by deducting all the paid-out costs (cost A<sub>2</sub> and cost A<sub>1</sub> in case of crop and dairy enterprises, respectively) from the gross farm income of the family. Addition of the off-farm income to the farm business income of the farm family results in disposable income. The expenditure pattern includes domestic expenditure on food and non-food items, farm expenditure and dairy expenditure. Simple statistical tools like averages and percentages were used in the data analysis. Different cost concepts such as Cost A<sub>1</sub>, Cost A<sub>2</sub>, Cost B<sub>1</sub>, Cost B<sub>2</sub>, Cost C<sub>1</sub> and Cost C<sub>2</sub> were also used to analyze the cost structure of crop and dairy

enterprises.

## **Results and Discussion**

### **Investment pattern**

The investments were evaluated at the present value of farm and non-farm related items owned by the sample farmers. The extent of investment of farmers on various household goods in Karnataka and Punjab has been shown in Table 1. The investment made by farmers on house occupied a major share of the total household investment *viz.*, 80.82 and 72.08 per cent in Karnataka and Punjab, respectively. The per farm investment on various household items came out to be higher in Punjab (Rs 217408.26) than that in Karnataka (Rs 158925.89).

The magnitude of investment made by farmers on house in Karnataka (Rs 128449.06) was relatively less compared to that of Punjab (Rs 156711.11). Apart from house, the item-wise investment of Rs 12137.28, 7689.34, 3687.26, 2708.34, and 1712.85 on motorcycle, car/jeep, television, mobile phones and LPG connection, respectively formed the major part of the total investment in Karnataka. Similarly, besides house investments, the item-wise investment of Rs 17081.09, 15182.45, 5184.04, 5048.59, 3211.68, 3045 and 2995.16 on motorcycle, car/jeep, refrigerator, television, inverter, mobile phones and LPG connection, respectively formed the major part of the total household investment in Punjab.

The per farm investment on various items of farm inventories in Karnataka and Punjab presented in Table 2 shows that the magnitude of investment was more in case of Punjab at Rs 134666.69 as compared to that of Karnataka with only Rs 29906.32. In

**Table 1: Average household investment on durable goods by marginal and small farmers, 2017-18 (Rs/farm)**

Household items	Farm-size categories					
	Karnataka			Punjab		
	Marginal	Small	Overall	Marginal	Small	Overall
House	114001.21 (83.63)	142896.90 (78.72)	128449.06 (80.82)	135977.17 (73.92)	177445.05 (70.73)	156711.11 (72.08)
Cycle	206.67 (0.15)	350.00 (0.19)	278.34 (0.18)	908.33 (0.49)	1433.33 (0.57)	1170.83 (0.54)
Motorcycle	9895.07 (7.26)	14379.48 (7.92)	12137.28 (7.64)	13770.58 (7.49)	20391.60 (8.13)	17081.09 (7.86)
Car/Jeep	3792.00 (2.78)	11586.67 (6.38)	7689.34 (4.84)	10933.78 (5.94)	19431.11 (7.75)	15182.45 (6.98)
Television	3090.40 (2.27)	4284.12 (2.36)	3687.26 (2.32)	4125.05 (2.24)	5972.13 (2.38)	5048.59 (2.32)
Mobile Phones	2141.67 (1.57)	3275.00 (1.80)	2708.34 (1.70)	2540.00 (1.38)	3550.00 (1.42)	3045 (1.40)
Refrigerator	441.33 (0.32)	799.75 (0.44)	620.54 (0.39)	4325.62 (2.35)	6042.45 (2.41)	5184.04 (2.38)
Washing Machine	----	----	----	2371.44 (1.29)	3448.76 (1.37)	2910.10 (1.34)
Fans	807.42 (0.59)	1183.40 (0.65)	995.41 (0.63)	1871.24 (1.02)	2688.54 (1.07)	2279.89 (1.05)
LPG Connection	1416.16 (1.04)	2009.54 (1.11)	1712.85 (1.08)	2444.51 (1.33)	3545.80 (1.41)	2995.16 (1.38)
Inverter	----	----	----	2546.13 (1.38)	3877.23 (1.55)	3211.68 (1.48)
Air Cooler	----	----	----	1096.67 (0.60)	1556.67 (0.62)	1326.67 (0.61)
Miscellaneous*	523.33 (0.38)	771.67 (0.43)	647.50 (0.41)	1033.33 (0.56)	1490.00 (0.59)	1261.67 (0.58)
<b>Total</b>	<b>136315.26</b> (100)	<b>181536.52</b> (100)	<b>158925.89</b> (100)	<b>183943.84</b> (100)	<b>250872.67</b> (100)	<b>217408.26</b> (100)

Note: Figures in the parentheses are percentages of total

\* includes wall clock, radio, chairs, kerosene stove, etc.

Punjab, the major part of the total investment was made on tractor, submersible pump and pump house which accounted for 43.61 per cent, 31.20 per cent and 10.68 per cent

of the total farm investments, respectively. Similarly in Karnataka, the investment made on submersible pump, tractor and pump house accounting for 39.58 per cent, 27.26 per cent

and 18.07 per cent, respectively formed the major part of the total farm investment.

In order to run a dairy enterprise, considerable amount has to be invested on various dairy inventory items. On account of higher number of dairy animals in Punjab, the per household investment on dairy enterprise found out to be significantly higher at Rs 133728.90 as compared to that of the Karnataka with only Rs 45175.66 (Table 3).

Out of total dairy related investments, the investment on dairy animal accounted for greater share to the tune of 77.70 per cent and 76.16 per cent in Karnataka and Punjab, respectively. It was followed by investment on cattle shed which accounted for 11.46 per cent and 10.51 per cent in Punjab and Karnataka respectively. In both of states, the investment in this regard was significantly higher on small farms as compared to their marginal counterparts.

**Table 2: Average farm investment by marginal and small farmers on various farm inventory items, 2017-18 (Rs/farm)**

Farm Inventory	Farm-size categories					
	Karnataka			Punjab		
	Marginal	Small	Overall	Marginal	Small	Overall
Tractor	----	16306.06 (34.17)	8153.03 (27.26)	27178.79 (38.66)	90283.03 (45.36)	58730.91 (43.61)
Trolley	----	3595.33 (7.53)	1797.67 (6.01)	5077.33 (7.22)	14399.00 (7.23)	9738.17 (7.23)
Cultivator	----	1270.48 (2.66)	635.24 (2.12)	1500.41 (2.13)	4421.05 (2.22)	2960.73 (2.20)
Disc harrow	----	----	----	1861.51 (2.65)	4647.64 (2.34)	3254.58 (2.42)
Leveler	----	241.33 (0.51)	120.67 (0.40)	1024.27 (1.46)	2770.84 (1.39)	1897.56 (1.41)
Submersible pump	6792.67 (56.17)	16882.67 (35.38)	11837.67 (39.58)	20993.40* (29.86)	63034.33** (31.67)	42013.87 (31.20)
Pump house	3856.21 (31.89)	6949.23 (14.56)	5402.72 (18.07)	11531.56 (16.40)	17233.55 (8.66)	14382.56 (10.68)
Manual implements	960.00 (7.94)	1485.00 (3.11)	1222.50 (4.09)	626.67 (0.89)	1225.00 (0.62)	925.84 (0.69)
Miscellaneous ***	485.00 (4.01)	988.67 (2.07)	736.84 (2.46)	508.33 (0.72)	1016.67 (0.51)	762.50 (0.57)
<b>Total</b>	<b>12093.88</b> (100)	<b>47718.76</b> (100)	<b>29906.32</b> (100)	<b>70302.27</b> (100)	<b>199031.11</b> (100)	<b>134666.69</b> (100)

Notes : Figures in the parentheses are percentages of total

\* indicates share in the submersible pump (25% - 2 farmers, 33% - 3 farmers and 50% - 2 farmers).

\*\* indicates share in the submersible pump (33% - 2 farmers and 50% - 3 farmers).

\*\*\* includes seed drills, storage bins, ridge maker, desi plough, etc.

**Table 3: Average investment on dairying by marginal and small farmers, 2017-18****(Rs/farm)**

Dairy Inventory	Farm-size categories					
	Karnataka			Punjab		
	Marginal	Small	Overall	Marginal	Small	Overall
Animal	28666.67 (84.04)	41533.33 (73.85)	35100.00 (77.70)	76183.33 (75.67)	127500.00 (76.45)	101841.7 (76.16)
Cattle shed	3148.00 (9.23)	6349.81 (11.29)	4748.91 (10.51)	11290.29 (11.21)	19361.92 (11.61)	15326.11 (11.46)
Other dairy buildings	259.73 (0.76)	2529.76 (4.50)	1394.75 (3.09)	4927.73 (4.89)	7134.19 (4.28)	6030.96 (4.51)
Chaff cutter	478.77 (1.40)	2656.99 (4.72)	1567.88 (3.47)	5495.93 (5.46)	7074.96 (4.24)	6285.45 (4.70)
Bullock cart	1323.11 (3.88)	2520.13 (4.48)	1921.62 (4.25)	426.00 (0.42)	1169.00 (0.70)	798.00 (0.60)
Cart	----	----	----	1539.00 (1.53)	3049.00 (1.83)	2294.00 (1.71)
Miscellaneous*	235.00 (0.69)	650.00 (1.16)	442.50 (0.98)	818.33 (0.81)	1488.00 (0.89)	1153.165 (0.86)
<b>Total</b>	<b>34111.28</b> (100)	<b>56240.03</b> (100)	<b>45175.66</b> (100)	<b>100681.01</b> (100)	<b>166776.69</b> (100)	<b>133728.90</b> (100)

Notes: Figures in the parentheses are percentages of total

\* includes, water structures, milk cans and other utensils used in dairy, etc.

### Income pattern

The pattern of farm business income and off-farm income in Karnataka and Punjab has been depicted in the Table 4. The farm business income from crop has been worked out as return over cost A2 and the farm business income from dairy as the return over cost A1. The total disposable income includes the farm business income from crops as well as dairy and the off-farm income. The farmers in Punjab had significantly higher disposable income (Rs 225976.18) than their counterparts in Karnataka (Rs 130296.26). In Karnataka, the share of farm business income from dairy was slightly higher accounting for 9.04 per cent of the total disposable income than that

from the crop enterprise which accounted for 8.92 per cent, however, the off-farm income constituted the major part of total disposable income with 82 per cent share. In Punjab, farm business income from crop was significantly higher (44.02 %) as compared to that from the dairy enterprise (22.27 %). The share of off-farm income was only 33.71 per cent in case of Punjab which was contradictory to that of Karnataka where farmers depend mainly on the off-farm incomes.

It has been observed that the per capita disposable income of farmers in Punjab was significantly higher (Rs 41846.61) as compared to that of the Karnataka farmers (Rs 30301.11). In Punjab, per capita

**Table 4: Net income from crops, dairy and off-farm activities on marginal and small farms, 2017-18**  
(Rs/farm/annum)

Sources of Income	Farm-size categories					
	Karnataka			Punjab		
	Marginal	Small	Overall	Marginal	Small	Overall
Farm business income from crops	8583.06 (7.37)	14654.68 (10.17)	11618.87 (8.92)	62057.59 (32.06)	136909.6 (52.99)	99483.61 (44.02)
Farm business income from dairy	8732.33 (7.49)	14822.44 (10.29)	11777.39 (9.04)	32475.78 (16.78)	68176.0 (26.39)	50325.91 (22.27)
Total farm business income	17315.39 (14.86)	29477.12 (20.46)	23396.26 (17.96)	94533.37 (48.84)	205085.7 (79.37)	149809.5 (66.29)
Off-farm income	99200.00 (85.14)	114600.0 (79.54)	106900.0 (82.04)	99033.33 (51.16)	53300.0 (20.63)	76166.66 (33.71)
Total disposable income	116515.39 (100)	144077.1 (100)	130296.3 (100)	193566.70 (100)	258385.7 (100)	225976.9 (100)
Per capita disposable income	30905.94	29767.95	30301.11	38178.55	45093.3	41846.61

Note: Figures in the parentheses are percentages of total

disposable income was relatively higher on small farms (Rs 45093.29) as compared to the marginal farmers (Rs 38178.55). However, in Karnataka, the per capita disposable income was slightly lower in case of small farms (Rs 29767.95) as compared to that of marginal farmers (Rs 30905.94) which was due to relatively higher family size of small farmers in Karnataka.

### Cost and return structure of crop enterprise

The per farm cost and return structure of crop enterprise has been presented in the Table 5. The cost A1 which includes all paid out costs except rent paid for leased-in land was found out to be significantly higher in Punjab at Rs 89084.74 as compared to that of Karnataka with Rs 46520.72. Higher costs in Punjab are primarily due to the cropping

pattern and production technologies adopted by farmers in the state. Irrigated paddy and wheat, the commonly followed crop rotation in Punjab require more of variable costs in terms of fertilizers, plant protection measures, hired labour charges and machinery charges as compared to that of Karnataka which comprise more of dry land crops. Out of total cost A1, the expenditure on hired labour charges (includes both human and animal labour) accounted for greater share to the tune of 34.78 per cent and 31.17 per cent in Karnataka and Punjab, respectively. Besides hired labour charges, other major cost components constituted fertilizers and FYM (20.56 %) and machine labour (18.39 %) in Punjab, whereas in Karnataka, hired labour charges were followed by fertilizers and FYM (27.52 %) and seed (10.03 %). The farmers of Punjab had significantly higher

**Table 5: Cost and returns structure of crop enterprise on marginal and small farms, 2017-18 (Rs/farm/annum)**

Particulars	Farm-size categories					
	Karnataka			Punjab		
	Marginal	Small	Overall	Marginal	Small	Overall
Depreciation on fixed capital	786.10 (2.71)	3101.72 (4.85)	1943.91 (4.18)	4569.65 (8.25)	12937.02 (10.53)	8753.34 (9.83)
Seed	3196.25 (11.00)	6138.75 (9.59)	4667.50 (10.03)	1949.66 (3.52)	4579.96 (3.73)	3264.81 (3.66)
Fertilizers and FYM	8265.58 (28.46)	17336.25 (27.09)	12800.92 (27.52)	10951.08 (19.78)	25685.50 (20.92)	18318.29 (20.56)
Plant protection measures	1523.25 (5.24)	3956.67 (6.18)	2739.96 (5.89)	5133.75 (9.27)	11809.92 (9.62)	8471.84 (9.51)
Hired labour charges	10302.50 (35.47)	22060.83 (34.47)	16181.67 (34.78)	18777.67 (33.91)	36754.08 (29.93)	27765.88 (31.17)
Machine labour	2256.04 (7.77)	5612.92 (8.77)	3934.48 (8.46)	10186.04 (18.40)	22567.33 (18.38)	16376.69 (18.39)
Miscellaneous	865.42 (2.98)	1806.67 (2.82)	1336.05 (2.87)	477.92 (0.86)	1279.25 (1.04)	878.59 (0.99)
Interest on working capital	1848.63 (6.36)	3983.85 (6.22)	2916.24 (6.27)	3323.33 (6.00)	7187.32 (5.85)	5255.33 (5.90)
Cost A1	29043.78 (100)	63997.65 (100)	46520.72 (100)	55369.09 (100)	122800.39 (100)	89084.74 (100)
Rent paid for leased in land	---	900.00	450.00	3000.00	18375.00	10687.50
Interest on fixed capital	1209.39	4771.88	2990.64	7030.23	19903.11	13466.67
Rental value of owned land	11882.92	22888.33	17385.63	75655.00	155425.00	115540.0
Imputed value of family labour	3438.33	7526.67	5482.50	7360.17	17232.17	12296.17
Cost A2	29043.78	64897.65	46970.72	58369.09	141175.39	99772.24
Cost B1	30253.17	68769.53	49511.35	62399.32	142703.50	102551.4
Cost B2	42136.09	92557.86	67346.98	141054.30	316503.50	228778.9
Cost A2 + Family labour (FL)	32482.11	72424.32	52453.22	65729.26	158407.56	112068.4
Cost C1	33691.50	76296.20	54993.85	69759.49	159935.67	114847.6
Cost C2	45574.42	100084.6	72829.48	148414.47	333735.67	241075.1
Gross income	37626.83	79552.33	58589.58	120426.69	278085.02	199255.9
Return over cost A1	8583.06	15554.68	12068.87	65057.59	155284.63	110171.1
Return over cost A2	8583.06	14654.68	11618.87	62057.59	136909.63	99483.61
Return over cost B1	7373.66	10782.8	9078.23	58027.37	135381.5	96704.45
Return over cost B2	-4509.26	-13005.5	-8757.40	-20627.63	-38418.48	-29523.1
Return over cost A2 + FL	5144.72	7128.01	6136.36	54697.43	119677.46	87187.45
Return over cost C1	3935.33	3256.13	3595.73	50667.20	118149.35	84408.29
Return over cost C2	-7947.59	-20532.2	-14239.9	-27987.78	-55650.65	-41819.2

Note: Figures in the parenthesis are percentage of cost A1



per farm gross income at Rs 199255.86 as compared to that of Karnataka with Rs 58589.58. In both Karnataka and Punjab, the small farmers earned relatively higher gross income (Rs 79552.33 and Rs 278085.02 in Karnataka and Punjab, respectively) as compared to marginal farmers (Rs 37626.83 and Rs 120426.69 in Karnataka and Punjab, respectively). This is due to relatively higher size of operational holding and volume of business of crop enterprise on small farms as compared to that on the marginal farms.

The return over cost A2 which includes all paid out costs including rent paid for leased-in land was found out to be significantly higher in Punjab at Rs 99483.61 as compared to that of Karnataka with Rs 11618.87. However, when rent paid for owned land was added to cost B1 (which forms cost B2), the return came out to be negative (return over cost B2) in both the states among all small and marginal farmers.

### **Cost and return structure of dairy enterprise**

The result pertaining to average cost and return structure of dairy enterprise of sample farmers was worked out and has been presented in the Table 6. The cost A1 which includes all paid out costs was found to be significantly higher in Punjab at Rs 76087.45 as compared to that of Karnataka with only Rs 22241.30. The less number of livestock animals per farm households in Karnataka has resulted in lower cost A1 as compared to Punjab which possessed relatively higher number of livestock per farm households.

The expenditure on feed/concentrates/grains accounted for greater share in the cost A1 in Punjab (41.19%) as well as in Karnataka (29.68%). It was followed by expenditure

on dry fodder (19.36%) and green fodder (16.86%) in Punjab, whereas in Karnataka, it was followed by expenditure on green fodder (22.59%) and dry fodder (22.46%) as the major variable costs. The higher cost A1 on small farms in both of the states was due to significantly higher number of animals per farm household as compared to that on the marginal farms.

The farmers of Punjab had significantly higher gross income from dairy enterprise at Rs 126413.35 than that in Karnataka with only Rs 34018.69. In both Karnataka and Punjab, the small farmers earned relatively higher gross income (Rs 40099.64 and Rs 163854.29 in Karnataka and Punjab respectively) as compared to marginal farmers (Rs 27937.73 and Rs 88972.42 in Karnataka and Punjab respectively). Per farm return over cost A1 which includes all paid out costs was found out to be significantly higher in Punjab at Rs 50325.91 as compared to that of Karnataka with Rs 11777.39. The small farmers in Karnataka had relatively higher returns over cost A1 (Rs 14822.44) as compared marginal farmers (Rs 8732.33). Similarly, in Punjab, the small farmers had significantly higher returns over cost A1 (Rs 68176.04) as compared to that of marginal farmers (Rs 32475.78). The return was positive even when imputed value of family labour was taken into account among all marginal and small categories in both Karnataka as well as in Punjab.

### **Domestic expenditure pattern**

The information given in Table 7 shows that average household expenditure on various food items. The total domestic expenditure of farm households on food items was significantly higher in Punjab (Rs 78141.92) as compared to that in Karnataka (Rs

**Table 6: Cost and returns structure of dairy enterprise on marginal and small farms, 2017-18 (Rs/farm/annum)**

Particulars	Farm-size categories					
	Karnataka			Punjab		
	Marginal	Small	Overall	Marginal	Small	Overall
Depreciation on fixed capital	2217.23 (11.54)	3655.60 (14.46)	2936.42 (13.20)	6544.27 (11.58)	10840.49 (11.33)	8692.38 (11.42)
Green fodder	4477.33 (23.31)	5572.33 (22.04)	5024.83 (22.59)	8991.17 (15.91)	16668.33 (17.42)	12829.75 (16.86)
Dry fodder	4063.67 (21.16)	5925.17 (23.44)	4994.42 (22.46)	10645.83 (18.84)	18815.75 (19.67)	14730.79 (19.36)
Feed/ Concentrates/ Grains	6083.33 (31.68)	7117.50 (28.16)	6600.42 (29.68)	23944.00 (42.38)	38732.58 (40.48)	31338.29 (41.19)
Veterinary services	380.00 (1.98)	456.67 (1.81)	418.34 (1.88)	681.67 (1.21)	1105.00 (1.15)	893.34 (1.17)
Miscellaneous*	163.67 (0.85)	233.33 (0.92)	198.50 (0.89)	337.67 (0.60)	426.33 (0.45)	382.00 (0.50)
Interest on working capital	1820.16 (9.48)	2316.60 (9.16)	2068.38 (9.30)	5352.04 (9.47)	9089.76 (9.50)	7220.90 (9.49)
Interest on fixed capital	1920.54	2527.72	2224.13	5649.66	9567.82	7608.74
Imputed value of family labour	5116.67	7233.33	6175.00	15956.67	23566.67	19761.67
Cost A1	19205.39 (100)	25277.20 (100)	22241.30 (100)	56496.64 (100)	95678.25 (100)	76087.45 (100)
Cost B1	21125.93	27804.92	24465.43	62146.30	105246.1	83696.19
Cost C1	26242.60	35038.25	30640.43	78102.97	128812.8	103457.9
Gross income	27937.73	40099.64	34018.69	88972.42	163854.3	126413.4
Return over cost A1	8732.33	14822.44	11777.39	32475.78	68176.04	50325.91
Return over cost B1	6811.80	12294.72	9553.26	26826.11	58608.22	42717.17
Return over cost C1	1695.13	5061.39	3378.26	10869.45	35041.55	22955.49

Notes: Figures in the parenthesis are percentage of cost A1

\* includes fuel expenses on milk sales, insurance premium, trimming, etc.

52233.02). In Punjab, the largest share in total expenditure on food items was constituted by milk accounting for 43.42 per cent followed by expenditure on cereals and vegetables with for 12.71 per cent and 12.48 per cent,

respectively. On the other hand in Karnataka, the expenditure on cereals accounted for greater share to the tune of 26.50 per cent. It was followed by expenditure on milk and non-vegetarian items which accounted for

**Table 7: Average household expenditure on food-items by marginal and small farmers, 2017-18 (Rs/annum)**

Food items	Farm-size categories					
	Karnataka			Punjab		
	Marginal	Small	Overall	Marginal	Small	Overall
Cereals	13421.17 (26.84)	14258.43 (26.18)	13839.80 (26.50)	8334.17 (12.42)	11534.47 (12.94)	9934.32 (12.71)
Pulses	2234.67 (4.47)	2325.33 (4.27)	2280.00 (4.37)	2821.10 (4.20)	3351.00 (3.76)	3086.05 (3.95)
Edible Oils	2892.00 (5.78)	3039.00 (5.58)	2965.50 (5.68)	2951.13 (4.40)	3258.00 (3.65)	3104.57 (3.97)
Ghee	79.17 (0.16)	170.83 (0.31)	125.00 (0.24)	1950.67 (2.91)	2394.00 (2.68)	2172.34 (2.78)
Sugar and Gur	1428.27 (2.86)	1530.67 (2.81)	1479.47 (2.83)	4177.00 (6.22)	5278.67 (5.92)	4727.84 (6.05)
Tea and Beverages	681.67 (1.36)	858.33 (1.58)	770.00 (1.47)	972.47 (1.45)	1156.50 (1.30)	1064.49 (1.36)
Milk	7740.00 (15.48)	8546.67 (15.70)	8143.34 (15.59)	28222.50 (42.05)	39643.50 (44.46)	33933.00 (43.42)
Vegetables	5411.67 (10.82)	6036.67 (11.09)	5724.17 (10.96)	8322.00 (12.40)	11180.00 (12.54)	9751.00 (12.48)
Fruits	2930.00 (5.86)	3085.50 (5.67)	3007.75 (5.76)	2998.33 (4.47)	3405.00 (3.82)	3201.67 (4.10)
Non-Vegetarian Items	6093.33 (12.18)	6402.67 (11.76)	6248.00 (11.96)	813.33 (1.21)	1133.33 (1.27)	973.33 (1.25)
Confectionary Items	1816.67 (3.63)	2145.00 (3.94)	1980.84 (3.79)	2516.67 (3.75)	2771.67 (3.11)	2644.17 (3.38)
Liquor	3916.67 (7.83)	4633.33 (8.51)	4275.00 (8.18)	1433.33 (2.14)	2090.00 (2.34)	1761.67 (2.25)
Miscellaneous*	1366.67 (2.73)	1421.67 (2.61)	1394.17 (2.67)	1606.67 (2.39)	1968.33 (2.21)	1787.50 (2.29)
<b>Total</b>	<b>50011.93</b> (100)	<b>54454.10</b> (100)	<b>52233.02</b> (100)	<b>67119.37</b> (100)	<b>89164.47</b> (100)	<b>78141.92</b> (100)

Notes: Figures in the parentheses are percentages of total

\* includes masala items, pickles, etc.

15.59 per cent and 11.96 per cent of the total expenditure, respectively.

The per household domestic expenditure on various non-food items has been depicted

in the Table 8. It has been observed that the total expenditure made by sample farmers on various non-food items was significantly higher in Punjab (Rs 118107.67) as compared

**Table 8: Average household expenditure on non-food items by marginal and small farmers, 2017-18 (Rs/annum)**

Non-food items	Farm-size categories					
	Karnataka			Punjab		
	Marginal	Small	Overall	Marginal	Small	Overall
Travelling and Vehicle Maintenance*	10206.67 (21.61)	13186.67 (21.87)	11696.7 (21.76)	19268.33 (19.87)	22221.67 (15.96)	20745.0 (17.56)
Household Items Maintenance**	2976.67 (6.30)	3320.67 (5.51)	3148.67 (5.86)	5983.33 (6.17)	6303.33 (4.53)	6143.33 (5.20)
Clothing and Tailoring	4120.00 (8.72)	4408.33 (7.31)	4264.17 (7.93)	7276.67 (7.50)	8816.67 (6.33)	8046.67 (6.81)
Education	8000.00 (16.94)	13316.67 (22.09)	10658.3 (19.83)	24733.33 (25.50)	56766.67 (40.77)	40750.0 (34.50)
Fuel and Electricity	3492.50 (7.39)	4063.33 (6.74)	3777.92 (7.03)	5031.67 (5.19)	6018.33 (4.32)	5525.00 (4.68)
Health and Medical Services	7516.67 (15.91)	9966.67 (16.53)	8741.67 (16.26)	18983.33 (19.57)	18433.33 (13.24)	18708.3 (15.84)
Footwear	2778.33 (5.88)	3046.67 (5.05)	2912.50 (5.42)	3663.33 (3.78)	4306.67 (3.09)	3985.00 (3.37)
Social Ceremonies	4550.00 (9.63)	4903.33 (8.13)	4726.67 (8.79)	7133.33 (7.35)	10483.33 (7.53)	8808.33 (7.46)
Soaps and Detergents	2281.67 (4.83)	2576.67 (4.27)	2429.17 (4.52)	3153.67 (3.25)	3718.33 (2.67)	3436.00 (2.91)
Miscellaneous	1315.00 (2.78)	1496.67 (2.48)	1405.84 (2.61)	1765.00 (1.82)	2155.00 (1.55)	1960.00 (1.66)
<b>Total</b>	<b>47237.50</b> (100)	<b>60285.67</b> (100)	<b>53761.6</b> (100)	<b>96992.00</b> (100)	<b>139223.3</b> (100)	<b>118108</b> (100)

Notes: Figures in the parentheses are percentages of total

\* includes vehicle fares, fuel charges, repairs and services of vehicle, etc.

\*\* includes repairs and bills of electronic items such as mobile phones, television, etc.

to that in Karnataka (Rs 53761.58).

In Punjab, the expenditure made on education constituted largest share in total expenditure on non-food items accounting for 34.50 per cent. It was followed by expenditure on travelling and vehicle maintenance, and health services which accounted for 17.56 per cent and 15.84 per cent, respectively. In Karnataka, the expenditure on travelling and

vehicle maintenance constituted largest share accounting for 21.76 per cent of the total expenditure. It was followed by expenditure on education and health services which accounted for 19.83 per cent and 16.26 per cent, respectively. Category-wise, the small farmers in Karnataka and Punjab spent relatively higher amount on non-food items (Rs 60285.67 and Rs 139223.33, respectively) as compared to the marginal farmers (Rs

47237.50 and Rs 96992.00, respectively). However, in Punjab the expenditure made by marginal farmers on health services was slightly higher (Rs 18983.33) as compared to that of the small farmers (Rs 18433.33).

### Conclusion and Policy Implications

To conclude, the farmers in Punjab made significantly higher investment on farm, dairy and household items as compared to that of the Karnataka. In Punjab, for small and marginal farmers, the return from crop and dairy enterprises emerged as major sources of income. However, in Karnataka, the income from non-farm sources came out to be major source of income. It was observed that, in Punjab, the expenditure on crop and dairy enterprises was significantly higher as compared to that in Karnataka. Similarly, in Punjab, the domestic expenditure of small and marginal farmers was almost double that of Karnataka.

As the returns from crop and dairy has emerged as a major sources of income in Punjab, there is need to rationalize the use of farm inputs which will increase the farm profitability and the dairy potential should be further exploited to raise the level of economic surplus of marginal and small farmers in Punjab. This calls for strengthening of the existing agricultural extension services to sensitize the farmers regarding judicious use of farm resources. In Karnataka, the off-farm employment opportunities should be created near villages and rural areas to raise the income level of farmers. Domestic expenditure has been found to exceed the disposable income, turning the economic surplus towards the negative on marginal and small farms. Therefore, the farmers should rationalize their domestic expenditure pattern

and should avail additional income earning opportunities from off-farm activities to meet the farm and family needs.

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