



LEVELS, PATTERN AND DISTRIBUTION OF CONSUMPTION EXPENDITURE OF FARMERS IN RURAL BIHAR: AN EMPIRICAL ANALYSIS

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Abstract

The paper has discussed the levels, pattern and distribution of consumption expenditure of the different farm-size categories of farmers in the state of rural Bihar on the basis of field study for the year 2010-11. The data has been collected from the three agro-climatic zones from the state. However, multistage stratified random sampling technique has been used for the present study in which forty villages have been covered with 529 farming households from the four districts of the state. The study has concluded that average household consumption expenditure and per capita consumption expenditure is directly related with the farm-size categories. It has been found that there is an inverse relationship between farm-size and expenditure on non-durable items and evidence support the of Engle's law of Consumption function in the state. It's very interesting result came out from the field survey that only large farmers are capable to cope of their consumption with their income, while all other farm-size categories have not maintain their consumption expenditure from their income. The distribution of per capita consumption expenditure shows that there is positive relationship inequality of consumption expenditure and farm-size with overall Gini's coefficient 0.26. Finally study suggest there is need a agriculture as it is the mainstream of state with non-agricultural sector in the rural areas to imbedded in the local levels of living, resources and institution to meet the challenge of the state, especially after bifurcation in 2000.

Keywords: *Agriculture, farmers, consumption, source, households, etc.*

INTRODUCTION

The future role of agriculture will depend on the demand for agriculture products. These depend on population and income growth and redistribution policies. Agricultural demand has been diversifying during the period of faster growth from the decades of the eighties of the last century (Alagh, 2003), with non-cereals, like fruits and vegetables, sugar, cotton and edible oils growing much faster than cereals (Alagh, 2010). In India, the concept of food security has undergoes a significant change. The country is largely self sufficient in food production, and import constitutes only a very small part of the food requirement, due to the sustained increase in the production of foodgrains during the three- and-a half decades or so. However, even after achieving adequate food supply at the macro level, there is widespread poverty and malnutrition. Reports of the starvation death and death due to the severe malnutrition regularly appear in the media. Thus, although India has solved the problem of food security at the national level (which is reflected in huge buffer stock), food insecurity exists at the household's level for million of people, more so among socially and economically deprived groups, and backward and remote regions (Sharma, 2010).

Bihar, which is predominately agricultural state has been, and continues to be near the bottom among the Indian states and consists of large bulk of hungry people; the importance of agricultural development can hardly be undermined (Prasad, 2007). Agriculture has played a more prominent role of the state especially after the bifurcation of Bihar and the creation of Jharkhand as most of the industries and mineral resources went to later state. Bihar's economic growth now depends highly on its agricultural development. Agriculture is the main occupation of the people of the Bihar state. According to census 2001, 84.20 per cent of the state worker's main source of income is from agriculture (Prasad, 2007) and the per capita agricultural income of Bihar is about half that of India as a whole and about one-fifth that of Punjab. The productive employment in the non-agriculture sector has not grown as in other states (Sharma, 2005). However, agriculture in the state has remained stagnant, though endowed with good soil, adequate rainfall and good ground water availability, rich in nutrients such as nitrogen, potash and phosphorus. The state's has not yet realized its full agricultural potential. This stagnation has been ascribed to several factors including the state colonial legacy (Bharadwaj, 1993; Mearns, 1999; Banerjee and



Iyer. 2002), ecological conditions (Ballabh and Pandey, 1999), demographic pressure and most importantly, the land tenure system and the agrarian structure it supports (Bhaduri, 1973; Prasad, 1974).

The low rate of agricultural growth commensurate with high incidence of poverty in the state of Bihar; leaves little doubt for necessity integrating agricultural development with poverty and it has remain food deficient state (Prasad, 2007). Hunger like poverty, is still predominately a rural Bihar and amongst the rural people it is those who produce food suffer disproportionality in the state. Due to lack of industrialization and other non-farm employment opportunity; there is only agriculture is the major source for people livelihood. Still agriculture in the state is gamble of monsoon; some time it destroyed by floods in Koshi river regions while another part faced the problem of drought year by year. Due to this; it is main agenda of the state government to provide sufficient food for their masses to fulfill their basis needs and food security in the era of inflation. Food being the foremost basic need get the priority in the pattern of expenditure of people especially poor class. Access to food demands affordability which depends upon income of the people and price prevailing in the country. Slower growth of income than price would undermine the purchasing power resulting in inadequate access to food grains (Nasurudeen, et al., 2006). A direct relationship exists between food consumption levels and poverty. Families with financial resources to escape extreme poverty rarely suffer from chronic hunger, while poor families not only suffer from chronic hunger but are also the segment of the population most at risk during food storage and famines (Hadke and Jichkar, 2006).

During the recent years, the economy has shown turnarounds, throwing new issues and acquired considerable attention for its remarkable performance in the development front in the state. The economy of state started responding to these changes. In the context of this scenario the main objective of the paper is to examine the levels, pattern and distribution of consumption expenditure of the different farm-size categories as well to examine that whether due to development they spend more on durable goods and productive purposes or still more expenditure on non-durable goods to maintain only their livelihood option.

1. DATA AND METHODOLOGY

The present study has been based on multistage stratified random sampling technique. At the first stage, three agro climatic zones have been selected in which third zone has been further divided in two sub-zones; means four agro-climatic zones were taken. Keeping in view of differences in agro-climatic conditions, one district from each zone has been selected, i.e.; Sheohar district from Zone-I, Purnia district from Zone-II, Lakhisarai district from zone-III (A) and Bhojpur district from Zone-III (B). From each selected districts each development blocks have been chosen and from each selected blocks one village was selected randomly. Further, from each selected village, five percent of farm households were selected randomly from each farm-size categories. Thus total sample consists of four districts, forty blocks, forty tw villages and 528 farm households. Out of the total farm household surveyed, 78 were landless, 257 were marginal, 119 were small, 52 were medium and remaining 22 were large farmers. The details on households, cropping pattern, yield, consumption and income from the different sources were collected through a structure questionnaire for the year 2010-11.

2. RESULTS AND DISCUSSION

For the purpose of analysis, the consumption basket is presumed to constitute consumer non-durables, durables, services and socio-religious ceremonies. Whereas food-grains, milk & milk products, clothing & bedding, sugarcane products, fuel & light, intoxicants, vegetables, footwear, washing articles, condiments & spices, tea leaves and other items of daily use are the important constituents of consumer non-durables, durables include house construction, addition of rooms & major repairs, two-wheeler and four-wheeler vehicles, phone, radio, fridge, utensils, etc, services cover consumption expenditure on education, healthcare, transport, communication and entertainment and socio-religious ceremonies cover consumption expenditure on marriages and other social and religious ceremonies.



3.1 Levels of Household Consumption Expenditure

The mean values of household consumption expenditure of the different farm-size categories are shown in Table 1. The table shows that annual consumption expenditure of an average farming household is ₹ 81,798.53. However, there are considerable differences in the levels of consumption expenditure of the different farm-size categories. For example, an average farming household of the large farm-size category spends as much as ₹ 2,09,906.82 annually, followed by the medium (₹ 1,23,944.90), small (₹ 92,929.79), marginal (₹ 67,903.78) and landless (₹ 46,366.92) farm-size categories. The annual consumption expenditure of an average large farming household is found to be 4.53, 3.09, 2.26 and 1.69 times of the consumption expenditure of the landless, marginal, small and medium farming average households respectively. The table highlights that the consumption expenditure on non-durables, durables, services and socio-religious ceremonies has a tendency to increase from the landless farm-size category to the large farm-size category. The field survey revealed that the landless, marginal and small farm-size categories have incurred no expenditure on four-wheeler vehicles. All the farm-size categories spend major amount on non-durable items. The expenditure on non-durables, durables, services and socio-religious ceremonies by the large farm-size category is many times more than that of the other farm-size categories, because the large farm-size category has relatively more means of production and consequently more income. This phenomenon highlights the fact that the ownership of means of production plays an important role in determining the levels of living of farmers.

**Table - 1, Levels of Consumption Expenditure of Farmers in Rural Bihar: Category-wise
(Mean Values in ₹ Per Annum)**

S.No.	Items of Consumption	Landless Farmers	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	All Sampled Farmers
I.	Non-durables						
1.	Foodgrains	21375.64	24288.72	27609.6	30974.0	40536.36	25942.23
	(a)Cereals	19661.54	21517.90	23610.5	25985.5	34422.73	22692.99
	(b) Pulses	1714.10	2770.82	3999.16	4988.46	6113.64	3249.24
2.	Condiments & spices	855.77	1245.59	1707.35	2065.87	2606.82	1429.58
3.	Fruits	136.54	469.14	958.82	1911.54	2709.09	765.76
4.	Vegetables	2102.56	3285.60	4732.77	5865.38	6900.00	3841.67
5.	Milk & milk products	5051.28	7296.11	8547.06	9565.38	11818.18	7658.33
6.	Edible oils	896.15	1261.67	1782.35	2334.62	2854.55	1497.06
7.	Sugarcane products	434.36	738.83	1153.36	1659.62	1913.64	926.91
8.	Eggs, meat & fish	178.72	578.60	1121.01	1432.69	1836.36	778.30
9.	Tea leaves	62.56	158.97	271.43	346.54	479.55	201.90
10.	Pickles, etc.	237.82	421.15	642.27	806.35	1038.64	507.57
11.	Biscuits & sweets	426.92	991.05	1847.48	2588.46	3954.55	1381.53
12.	Intoxicants	254.62	599.09	707.98	905.96	2000.00	661.34
13.	Fuel & light	2585.90	3443.77	4558.82	5594.23	6931.82	3925.47
14.	Clothing & bedding	921.79	1873.98	3257.14	4937.50	7681.82	2588.75
15.	Footwear	165.51	380.06	642.02	884.62	1600.00	507.93
16.	Washing articles	296.92	627.39	1061.68	1399.04	1736.36	798.66
17.	Dry fruits	81.92	336.60	868.91	1470.19	1959.09	598.19
	Sub-total	36065.00	47996.31	61470.1	74742.0	98556.82	54011.18
II.	Durables						
1.	House onstruction, addition of rooms and major repairs	1043.59	1239.30	1408.40	1644.23	1463.64	1297.73
2.	Radio & others	183.33	122.18	213.45	319.23	1990.91	249.05
3.	Watches & clocks	5.77	45.53	100.84	144.23	36.36	61.46
4.	Fans	0.00	24.90	132.77	267.31	318.18	81.63



5.	Sewing machine	0.00	11.67	228.57	276.92	136.36	90.15
6.	Furniture	41.67	75.68	198.74	253.85	540.91	135.32
7.	Utensils	33.97	57.67	88.66	125.00	318.18	78.64
8.	Cars & jeeps	0.00	0.00	0.00	730.77	0.00	71.97
9.	Motorcycles,scooters & mopeds	0.00	93.39	1235.29	2269.23	7181.82	846.59
10.	Bicycles	133.33	109.34	251.26	200.00	554.55	172.35
11.	Hand pump	0.00	108.17	142.86	576.92	1386.36	199.43
12.	Fridge	0.00	0.00	84.03	0.00	0.00	18.94
13.	Washing machine	0.00	0.00	0.00	0.00	0.00	0.00
14.	Gas	51.28	0.00	130.25	159.62	545.45	75.38
15.	Fodder cutter	0.00	87.55	152.94	278.85	204.55	113.07
16.	Phone	274.36	322.96	631.93	869.23	2272.73	520.45
17.	Others	50.00	99.61	140.34	163.46	1045.45	147.16
	Sub-total	1817.31	2397.94	5140.34	8278.85	17995.45	4159.32
III.	Services						
1.	Education	714.10	2177.43	4610.08	5150.00	26818.18	3828.98
2.	Healthcare	2288.46	3206.23	4291.60	6857.69	15136.36	4171.97
3.	Transport	985.26	1574.71	2903.36	4054.81	7409.09	2274.43
4.	Communication	586.54	1682.68	2807.56	3590.38	5445.45	2118.94
5.	Entertainment	75.64	242.22	568.91	942.31	1318.18	405.02
6.	Others	157.69	248.05	619.33	1719.23	3772.73	610.13
	Sub-total	4807.69	9131.32	15800.84	22314.42	59900.00	13409.47
IV.	Ceremonies						
1.	Marriages & other social ceremonies	2121.79	5528.02	6082.35	13142.31	25272.73	6722.35
2.	Religious ceremonies	1555.13	2850.19	4436.13	5467.31	8181.82	3496.21
	Sub-total	3676.92	8378.21	10518.49	18609.62	33454.55	10218.56
	Total Consumption Expenditure	46366.92	67903.78	92929.79	123944.90	209906.82	81798.53

Source: Field Survey, 2010-11.

3.2 Pattern of Consumption Expenditure

Since the level of average consumption expenditure is different for the different farm-size categories, the consumption pattern may be better studied by comparing the relative shares of individual items of consumption in the total consumption expenditure of the respective farm-size categories. Table 2 shows the relative shares of different components of consumption in the total consumption of the different farm-size categories. The table clearly depicts that for an average farming household, consumption expenditure on non-durable items accounts for a major proportion of the total consumption expenditure followed by the expenditure on services, social-religious ceremonies and durable commodities. An average farming household spends 66.03 per cent of the total consumption expenditure on non-durable items. The landless, marginal, small and medium farm-size categories spend, 77.78, 70.68, 66.15 and 60.30 per cent respectively on non-durable items, but the large farm-size category spends less than 50 per cent, i.e., 46.95 per cent on non-durable items. The consumption expenditure on non-durable items shows a negative relationship with farm-size. This proportion decreases as farm-size increases.

Among non-durables, food grains is an important item of consumption and an average farming household spends about 31 per cent of total consumption expenditure on this item. The proportional share of food grains decreases as the farm-size increases. The Engel's Law of consumption stands proved as the portion of income spent on food items diminishes with an increase in income. Milk and milk products is the second important item of consumption among non-durables, and an average farming household spends 9.36 per cent of the total consumption expenditure on this item. The field survey has revealed the fact that almost all the sampled households in case of milk and milk products are home produced and because of the hard work required in the agricultural operations.



The farming households consume home produced milk and milk products as much as possible. An average farming household spends 4.80 per cent on fuel & light. The proportional share of fuel & light decrease as farm-size increases. Next item is vegetables and an average farming household spends 4.70 per cent of the total consumption expenditure on this item. The proportion share of vegetables is the highest (5.09 per cent) for the small farm-size category, closely followed by the marginal, medium, landless and large farm-size categories. The fifth item is clothing & bedding, and an average farming household spends 3.16 per cent on this item. The proportional share of clothing & bedding decreases as farm-size increases except for the large farm-size category. An average farming household spends 1.83 and 1.75 per cent on edible oils and condiments & spices respectively. Other items like meat and eggs, pickles, sweets and others have a marginal share in the total consumption expenditure of an average farming household. This implies that the landless, marginal and small farmers spend most of their income to meet the food requirements of their families.

**Table – 2, Consumption Pattern of Farmers in Rural Bihar: Category-wise
(Percentage of Total Consumption Expenditure)**

S.No.	Items of Consumption	Landless Farmers	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	All Sampled Farmers
I.	Non-durables						
1.	Food grains	46.10	35.77	29.71	24.99	19.31	31.71
	(a)Cereals	42.40	31.69	25.41	20.97	16.40	27.74
	(b) Pulses	3.70	4.08	4.30	4.02	2.91	3.97
2.	Condiments & spices	1.85	1.84	1.84	1.67	1.25	1.75
3.	Fruits	0.29	0.69	1.03	1.54	1.29	0.94
4.	Vegetables	4.53	4.84	5.09	4.73	3.29	4.70
5.	Milk & milk products	10.89	10.74	9.20	7.72	5.63	9.36
6.	Edible oils	1.93	1.86	1.92	1.88	1.36	1.83
7.	Sugarcane products	0.94	1.09	1.24	1.34	0.91	1.13
8.	Eggs, meat & fish	0.39	0.85	1.21	1.16	0.87	0.95
9.	Tea leaves	0.13	0.23	0.29	0.28	0.23	0.25
10.	Pickles, etc.	0.51	0.62	0.69	0.65	0.49	0.62
11.	Biscuits & sweets	0.92	1.46	1.99	2.09	1.88	1.69
12.	Intoxicants	0.55	0.88	0.76	0.73	0.95	0.81
13.	Fuel & light	5.58	5.07	4.91	4.51	3.30	4.80
14.	Clothing & bedding	1.99	2.76	3.50	3.98	3.66	3.16
15.	Footwear	0.36	0.56	0.69	0.71	0.76	0.62
16.	Washing articles	0.64	0.92	1.14	1.13	0.83	0.98
17.	Dry fruits	0.18	0.50	0.94	1.19	0.93	0.73
	Sub-total	77.78	70.68	66.15	60.30	46.95	66.03
II.	Durables						
	House construction, addition of rooms	2.25	1.83	1.52	1.33	0.70	1.59
2.	Radio & others	0.40	0.18	0.23	0.26	0.95	0.30
3.	Watches & clocks	0.01	0.07	0.11	0.12	0.02	0.08
4.	Fans	0.00	0.04	0.14	0.22	0.15	0.10
5.	Sewing machine	0.00	0.02	0.25	0.22	0.06	0.11
6.	Furniture	0.09	0.11	0.21	0.20	0.26	0.17
7.	Utensils	0.07	0.08	0.10	0.10	0.15	0.10
8.	Cars & jeeps	0.00	0.00	0.00	0.59	0.00	0.09
9.	Motorcycles, scooters & mopeds	0.00	0.14	1.33	1.83	3.42	1.03
10.	Bicycles	0.29	0.16	0.27	0.16	0.26	0.21



11.	Hand pump	0.00	0.16	0.15	0.47	0.66	0.24
12.	Fridge	0.00	0.00	0.09	0.00	0.00	0.02
13.	Washing machine	0.00	0.00	0.00	0.00	0.00	0.00
14.	Gas	0.11	0.00	0.14	0.13	0.26	0.09
15.	Fodder cutter	0.00	0.13	0.16	0.22	0.10	0.14
16.	Phone	0.59	0.48	0.68	0.70	1.08	0.64
17.	Others	0.11	0.15	0.15	0.13	0.50	0.18
	Sub-total	3.92	3.53	5.53	6.68	8.57	5.08
III.	Services						
1.	Education	1.54	3.21	4.96	4.16	12.78	4.68
2.	Healthcare	4.94	4.72	4.62	5.53	7.21	5.10
3.	Transport	2.12	2.32	3.12	3.27	3.53	2.78
4.	Communication	1.26	2.48	3.02	2.90	2.59	2.59
5.	Entertainment	0.16	0.36	0.61	0.76	0.63	0.50
6.	Others	0.34	0.37	0.67	1.39	1.80	0.75
	Sub-total	10.37	13.45	17.00	18.00	28.54	16.39
IV.	Ceremonies						
1.	Marriages & other social ceremonies	4.58	8.14	6.55	10.60	12.04	8.22
2.	Religious ceremonies	3.35	4.20	4.77	4.41	3.90	4.27
	Sub-total	7.93	12.34	11.32	15.01	15.94	12.49
	Total Consumption Expenditure	100.00	100.00	100.00	100.00	100.00	100.00

Source: Calculated from Table 1

An average farming household spends 5.08 per cent of the total consumption expenditure on durable items. This proportion increases with the increase farm-size except for the marginal farm-size category. This proportion is as high as 8.57 per cent for the large farm-size category. Among durable items, major share goes to the item of house construction, addition of rooms & major repairs accounting 1.59 per cent for an average farming household. The proportional share of house construction, addition of rooms and major repairs shows a negative relationship with farm-size. This proportion is the highest for the landless farm-size category, i.e., 2.25 per cent followed by the marginal, small, medium and large farm-size categories. Among durables, the second important item is two-wheelers which have contributed 1.03 per cent of the total consumption expenditure for an average farming household. This proportion is the highest for the large farm-size category (3.42 per cent) followed by the medium, small and marginal farm-size categories. The landless farm-size category has not incurred any expenditure on this item. The field survey has revealed the fact the housing condition of landless farmers is so poor that they can't even think of buying the two-wheelers. Other durable items have marginal share in the total consumption expenditure of the farming households.

Services account for 16.39 per cent of the total consumption expenditure for an average farming household. This proportional share of ceremonies shows a positive relationship with farm-size. Among the different services, the percentage share is the highest for healthcare, i.e., 5.10 per cent followed by education (4.68 per cent), transport (2.78 per cent), communication (2.59 per cent), others (0.75 per cent) and entertainment (0.50 per cent). The field survey revealed that in the absence of government primary health care facilities at the village level, mostly farmers depend on private health care/clinic and these institutions have taken higher charge for their services. The proportional share of communication is the highest, i.e., 3.02 per cent for the small farm-size category followed by the medium, large, marginal and landless farm-size categories. The proportional share of education is the highest (12.78 per cent) in the case of large farm-size category followed by the small, medium, marginal and landless farm-size categories. The percentage share of healthcare is relatively more in the case of medium and large farm-size categories. The expenditure on entertainment has a marginal share in the total consumption expenditure for an average farming household, i.e., 0.50 per cent.



Ceremonies account for 12.49 per cent for an average farming household. The proportion is the highest (15.94 per cent) for the large farm-size category followed by the medium, marginal, small and landless farm-size categories. An average farming household spends 8.22 per cent of total expenditure on marriages & other social ceremonies; and this proportion is the highest for the large farm-size category. An average farming household spends 4.27 per cent of total expenditure on religious ceremonies; and this proportion is the highest for the small farm-size category followed by medium, marginal, large and landless farm-size categories.

3.3 Per Capita Consumption Expenditure

After having analysed the levels of household consumption expenditure and consumption pattern of the different farm-size categories in the rural areas of Bihar, it becomes relevant to look into the per capita consumption expenditure across the different farm-size categories due to the differences in the family-size of these categories in the rural areas of Bihar. The data collected in this regard is presented in Table 3. The table shows that the per capita consumption expenditure of an average farming household is ₹ 10,609.09. However, there are considerable variations in per capita consumption expenditure among the different farm-size categories in the state. The per capita consumption expenditure is the highest for the large farm-size category (₹ 19,991.13) followed by the medium (₹ 15,058.73), small (₹ 11,579.73), marginal (₹ 9,248.15) and landless (₹ 6,344.94) farm-size categories. As the farm-size goes up, the per capita consumption expenditure on most of the items also goes on increasing.

Table – 3, Per Capita Consumption Expenditure of Farmers in Rural Bihar: Category-wise
(In ₹ Per Annum)

S.N o.	Items of Consumption	Landless Farmers	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	All Sampled Farmers
I.	Non-durables						
1.	Foodgrains	2925.08	3308.00	3440.36	3763.20	3860.60	3364.65
	(a)Cereals	2690.52	2930.63	2942.04	3157.12	3278.35	2943.23
	(b) Pulses	234.56	377.37	498.32	606.07	582.25	421.41
2.	Condiments & spices	117.1	169.63	212.73	250.98	248.26	185.4
3.	Fruits	18.68	63.89	119.47	232.24	258.00	99.31
4.	Vegetables	287.71	447.48	589.73	712.61	657.14	498.25
5.	Milk & milk products	691.22	993.69	1065.02	1162.15	1125.54	993.26
6.	Edible oils	122.63	171.83	222.09	283.64	271.86	194.16
7.	Sugarcane products	59.43	100.62	143.71	201.63	182.25	120.21
8.	Eggs, meat & fish	24.45	78.80	139.68	174.06	174.89	100.94
9.	Tea leaves	8.56	21.65	33.82	42.10	45.67	26.18
10.	Pickles, etc.	32.54	57.35	80.03	97.96	98.91	65.83
11.	Biscuits & sweets	58.42	134.97	230.20	314.48	376.62	179.18
12.	Intoxicants	34.84	81.59	88.21	110.07	190.47	85.77
13.	Fuel & light	353.85	469.02	568.06	679.67	660.17	509.12
14.	Clothing & bedding	126.14	255.22	405.86	599.88	731.60	335.75
15.	Footwear	22.64	51.76	80	107.47	152.38	65.87
16.	Washing articles	40.63	85.44	132.29	169.97	165.36	103.58
17.	Dry fruits	11.21	45.84	108.27	178.62	186.58	77.58
	Sub-total	4935.21	6536.85	7659.62	9080.80	9386.36	7005.13
II.	Durables						
1.	House construction, addition	142.80	168.78	175.49	199.76	139.39	168.31
2.	Radio & others	25.08	16.64	26.59	38.78	189.61	32.30
3.	Watches & clocks	0.78	6.20	12.56	17.52	3.46	7.97
4.	Fans	0.00	3.39	16.54	32.47	30.30	10.58
5.	Sewing machine	0.00	1.58	28.48	33.64	12.98	11.69



6.	Furniture	5.70	10.30	24.76	30.84	51.51	17.55
7.	Utensils	4.64	7.85	11.04	15.18	30.30	10.19
8.	Cars & jeeps	0.00	0.00	0.00	88.78	0.00	9.33
9.	Motorcycles, scooters & mopeds	0.00	12.71	153.92	275.70	683.98	109.80
10.	Bicycles	18.24	14.89	31.30	24.29	52.81	22.35
11.	Hand pump	0.00	14.73	17.80	70.09	132.03	25.86
12.	Fridge	0.00	0.00	10.47	0.00	0.00	2.45
13.	Washing machine	0.00	0.00	0.00	0.00	0.00	0.00
14.	Gas	7.01	0.00	16.23	19.39	51.94	9.77
15.	Fodder cutter	0.00	11.92	19.05	33.87	19.48	14.66
16.	Phone	37.54	43.98	78.74	105.60	216.45	67.50
17.	Others	6.84	13.56	17.48	19.85	99.56	19.08
	Sub-total	248.68	326.58	640.52	1005.84	1713.85	539.45
III.	Services						
1.	Education	97.71	296.55	574.45	625.70	2554.11	496.61
2.	Healthcare	313.15	436.67	534.76	833.17	1441.55	541.09
3.	Transport	134.82	214.46	361.78	492.64	705.62	294.98
4.	Communication	80.26	229.17	349.84	436.21	518.61	274.82
5.	Entertainment	10.35	32.98	70.89	114.48	125.54	52.53
6.	Others	21.57	33.78	77.17	208.87	359.30	79.13
	Sub-total	657.89	1243.64	1968.90	2711.09	5704.76	1739.18
IV.	Ceremonies						
1.	Marriages & other social ceremonies	290.35	752.88	757.90	1596.72	2406.92	871.87
2.	Religious ceremonies	212.80	388.18	552.77	664.25	779.22	453.45
	Sub-total	503.15	1141.07	1310.68	2260.98	3186.14	1325.32
	Total Consumption Expenditure	6344.94	9248.15	11579.73	15058.73	19991.13	10609.09

Source: Field Survey, 2010-11.

The per capita consumption expenditure pattern is almost similar to the household consumption expenditure pattern across the different farm-size categories. However, there are differences in the range of per capita and per household consumption expenditure, because the average family-size increases with the increase in farm-size. The annual per capita consumption expenditure of the large farm-size category is found to be 3.15, 2.16, 1.72 and 1.32 times of the landless, marginal, small and medium farm-size categories respectively, whereas per household consumption expenditure of the large farm-size category is 4.53, 3.09, 2.26 and 1.69 times of the per household consumption expenditure of the landless, marginal, small and medium farm-size categories respectively.

The analysis given above provides that the medium and large farm-size categories with respect to per household consumption expenditure, consumption expenditure pattern and per capita consumption expenditure are found to be better placed than the landless, marginal and small farm-size categories.

3.4 Average Propensity to Consume

The average propensity to consume, defined as the proportion of income spent on consumption, has been worked out for the different farm-size categories in rural Bihar. A detailed profile of average propensity to consume of the different farm-size categories is presented in Table 4. For an average sampled farm household, the average propensity to consume comes to 1.30. It is more than one for all the farm-size categories except the large farm-size category. It is 1.42, 1.61, 1.24, 1.14 and 0.89 for the landless, marginal, small, medium and large farm-size categories respectively.



Table – 4, Average Propensity to Consume of Farmers: Category-wise

Farm-size Categories	Average Consumption (₹) C	Average Income (₹) Y	Average Propensity to Consume C/\bar{Y}
Landless Farmers	46366.92	32615.37	1.42
Marginal Farmers	67903.78	41954.71	1.61
Small Farmers	92929.79	74701.16	1.24
Medium Farmers	123944.90	108617.31	1.14
Large Farmers	209906.80	235578.09	0.89
All Sampled Farmers	81798.53	62588.28	1.30

Source: Field Survey, 2010-11.

Since the average propensity to consume is greater than one for the landless, marginal, small and medium farm-size categories, it shows that these categories of farmers in rural areas of Bihar are trying to maintain a minimum level of consumption whether they can afford it or not. In order to maintain a minimum level of consumption, they have to obtain loans from institutional as well as non-institutional sources. An average household in the sample incurs an annual deficit of ₹ 19,210.25. The highest deficit of ₹ 25,949.07 is incurred by the marginal farm-size category. The large farm-size category has a surplus of ₹ 25,671.29.

3.5 Distribution of Household Consumption Expenditure

The distribution of household consumption expenditure of the different farm-size categories in the rural areas of Bihar is shown in Table 5. On an average, the bottom 10 per cent households share only 4.20 per cent of the total consumption expenditure of all the sampling farming households. On the other hand, the top 10 per cent households share 23.24 per cent of the total consumption expenditure of all the sampling farming households.

Table – 5, Distribution of Household Consumption Expenditure of Farmers: Category-wise

Cumulative Percentage of Households	Cumulative Percentage of Household Consumption Expenditure of					
	Landless Farmers	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	All Sampled Farmers
10	5.08	5.43	5.68	5.19	6.19	4.20
20	12.22	12.16	12.46	12.20	13.45	9.79
30	20.27	19.61	20.14	19.83	21.45	16.20
40	28.84	27.59	28.44	28.05	29.66	23.17
50	37.42	36.29	37.38	36.86	38.10	31.17
60	48.74	45.90	46.96	46.40	47.02	40.10
70	59.61	56.30	57.50	56.55	56.88	50.23
80	71.04	67.58	69.24	68.31	69.03	62.07
90	83.99	80.74	82.53	81.74	83.39	76.76
100	100.00	100.00	100.00	100.00	100.00	100.00
Gini Coefficient	0.16	0.19	0.17	0.18	0.16	0.27

Source: Field Survey, 2010-11.

The bottom 10 per cent of the landless farming households claim 5.08 per cent of the total consumption expenditure, whereas the corresponding figures for the marginal, small, medium and large farming households are 5.43, 5.68, 5.19 and 6.19 per cent respectively. The top 10 per cent of the landless farming households claim about 14 per cent, while the corresponding figures for the marginal, small, medium and large farm households are 19.26, 17.47, 18.26 and 16.61 per cent respectively. This shows that the consumption expenditure concentration is greater among the marginal and medium farming households as compared to the landless, small and large farm-size categories. The values of Gini coefficient for the marginal and medium farming households also indicate



towards a worse pattern of distribution. However, the value of Gini coefficient for all the categories taken together is 0.27.

3.6 Distribution of Per Capita Consumption Expenditure

Distribution of per capita consumption expenditure among the different farm-size categories is given in Table 6. The table reveals that there are more disparities in the distribution of per capita consumption expenditure in comparison to those in household consumption expenditure among the different farm-size categories. The table shows that bottom 10 per cent farmers of all farming households share only 4.34 per cent of the total per capita consumption expenditure. On the other hand, the top 10 per cent farmers share 23.14 per cent of the total per capita consumption expenditure. When we further compare the shares of these two categories of farming households, we find that the bottom 40 per cent share only 23.72 per cent of total per capita consumption expenditure, whereas top 10 per cent share 23.14 per cent.

The bottom 10 per cent of the landless farmers claim 5.79 per cent of the total per capita consumption expenditure, whereas the corresponding figures for the small, marginal, large and medium farmers are 5.17, 5.16, 4.64 and 4.84 per cent respectively. The top 10 per cent of the landless farmers claim 17.58 per cent of the total per capita consumption expenditure, whereas the corresponding figures for the marginal, small, medium and large farmers are 19.44, 20.10, 20.57 and 22.14 per cent respectively.

Table – 6, Distribution of Per Capita Consumption Expenditure of Farmers: Category-wise

Cumulative Percentage of Persons	Cumulative Percentage of Per Capita Consumption Expenditure of					
	Landless Farmers	Marginal Farmers	Small Farmers	Medium Farmers	Large Farmers	All Sampled Farmers
10	5.79	5.16	5.17	4.48	4.64	4.34
20	12.53	11.69	11.48	10.47	9.84	10.02
30	20.21	19.02	18.61	17.26	15.78	16.50
40	28.65	27.03	26.63	25.07	22.98	23.72
50	36.87	35.67	35.25	33.52	30.72	31.87
60	47.56	45.20	44.51	42.64	39.25	41.02
70	57.92	55.66	54.66	50.81	48.61	51.20
80	69.06	67.27	66.32	65.06	60.64	62.78
90	82.42	80.56	79.90	79.43	77.86	76.86
100	100.00	100.00	100.00	100.00	100.00	100.00
Gini Coefficient	0.18	0.20	0.21	0.24	0.27	0.26

Source: Field Survey, 2010-2011.

It is clear from the table that the bottoms 50 per cent of the landless, marginal, small, medium and large farmers claim 36.87, 35.67, 35.25, 33.52 and 30.72 per cent of per capita consumption expenditure respectively. The analysis also provides that the per capita consumption expenditure concentration among the medium and large farmers is slightly higher than that of the landless, small and marginal farmers. The values of Gini coefficient also support this fact. The value of Gini coefficient is the highest, i.e., 0.27 for the large farm-size category followed by the medium, small, marginal and landless farm-size categories. The value of Gini coefficient is 0.26 for all the categories taken together.

CONCLUSION AND POLICY IMPLICATION

It can be calculated from the above analysis that consumption expenditure of farmers in Bihar mainly on non-durable items followed by the services, social-religious ceremonies and durable commodities. The average propensity to consume is greater than one for all the farm-size categories except for large farm-size category. It is



clear from the above analysis that farmers from Bihar try to maintain a minimum level of consumption whether they can afford it or not. To meet the deficient between their income and consumption level they have taken loans and under the debt trap due to failure of crops due to natural calamities in the state. It has been also easily observed from the ongoing analysis that among the services, mostly expenditure on health care. Farmers expend more on health care only due to unavailability of Govt. primary health care in the rural areas of Bihar; which compel farmers to go for private health care facility and these private health care clinic owner charged more money from these people. Even the field survey revealed that in case of non-payment of loans and debt the landless and marginal farmers mainly go for bonded labour as well as compel to sell their crops at lower price exactly after harvesting of crops to the lender of loans.

To reduce the gap between level of income and consumption, income should be increase by creating non-farm employment opportunities which is totally negligible in the state. The government should provide basis health centre at the ground level to reduce the burden of expenditures due private health care which is exorbitant charged by private clinic owner in the absence of such a facility. Agro-based and small scale industries in the state must be given up top priority in the absence of industry in the state to improve the level of income of the farmers. Apart from it, there is also need to educate the farmers about subsidiary occupation and consciousness so that they may establish their own venture, to earn their livelihood as well to expenditure more on productive purposes rather than social-economic and religious ceremonies. In the state of Bihar, landholding structure is dominated by marginal and small farmers; the implementation of land reform which was not successful implemented during 1960s, in the favour of marginal and small farmers will be helpful in increasing their farm business income and so on consumption levels at al.

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