Chapter – 6

Relationship Between Income And Expenditure Of Cultivators

CHAPTER-6

RELATIONSHIP BETWEEN INCOME AND EXPENDITURE OF CULTIVATORS

6.1 INTRODUCTION

The main objective of this chapter is to find the relationship between the cultivator's income and expenditure with the help of Engel curve. This shows relationship between income and consumption expenditure. Engel curves explain the change of expenditure for different goods as a function of income (or total expenditure). Ernst Engel (1857) made the first attempt to investigate Engel curves; he studied how household expenditures on food vary with income. He found that food expenditures are an increasing function of income and of family size, but that food budget shares decrease with income. The relationship between consumption, income and prices is transformed into the well known consumption income relationship.

Another purpose of this chapter is to analysed income elasticity of food and non food items. Income elasticity of demand expresses the responsiveness of a consumer demand (expenditure or consumption) for any good to the change in his income. It may be defined as ratio of percent change in quantity demanded of a commodity to the percentage change in income. In the words of Lipsey, the responsiveness of the demand for a product to changes in income is termed income elasticity of demand.

The basic relationship represented by an Engel curve is that of consumption and income. However, the consumption patterns of households also respond to demographic characteristics. For example, it is reasonable to expect a family with two children to spend more on food than a family with one child. Knowledge of the way income effects differ

across household types is critical in understanding the impact of tax and welfare programs on expenditure patterns (Blundell et al., 1998). In the context of Engel curves most empirical studies allow demographic and other household characteristics to enter parametrically resulting in semi parametric specification.

6.2 Total income and total expenditure of households

The food and non-food expenditures are an increasing according to income and of family size, but that food budget shares decrease with income. The relationship between consumption, income and prices is transformed into the well known consumption income relationship.

Table 6.1 Total income and food expenditure of households (In lakhs rs.) at constant price of 2011-12		
Years	Total Income	Food Expenditure
2002-03	201.90	41.98
2003-04	299.87	61.76
2004-05	295.67	62.80
2005-06	315.47	72.90
2006-07	387.62	77.50
2007-08	430.78	90.88
2008-09	395.20	102.40
2009-10	391.58	127.32
2010-11	388.88	145.90
2011-12	405.05	164.15
2012-13	417.67	174.72
2013-14	418.77	217.77
Sources: Department of economic and statistical analysis, Haryana		

Table 6.1 reveals the relationship between total income and food expenditure. In the year 2002-03, the total income was 201.90 lakhs from which 41.98 lakhs was spent on food expenditure and in 2003-04 the income was 299.87 lakhs and food expenditure was 61.76 lakhs and in year 2004-05, the income was 295.67 lakhs from which 62.80 lakhs was spent on food expenditure. During 2005-06, the total income of all household was 315.47 lakhs and from this income 72.90 lakhs was spent on food expenditure by all cultivators. In the year 2006-07, the total income was 387.62 lakhs from which 77.50 lakhs was spent on food expenditure by all household and in year 2007-08, the total income of all cultivators was 430.78 lakhs and from this income 90.88 lakhs was spent on food expenditure. During 2008-09, the total income of all cultivator was 395.20 lakhs from which 102.40 lakhs was spent on food expenditure by all household. In the year 2009-10, the total income of all household was 391.58 lakhs and total expenditure of their income on food was 127.32 lakhs and in the year 2010-11, the total income of all cultivator was 388.88 lakhs and from this income 145.90 lakh was spent on food by all household. In 2011-12 the total income was 405.05 lakhs from which 164.15 lakhs was spent on food expenditure by all household. During 2012-13, the total income was 417.67 lakhs from which 174.72 lakhs was spent on food expenditure by all household and in the year 2013-14, the total income was 418.77 lakhs from which 217.77 lakhs was spent on food expenditure by all household. This is also represtened by digram.

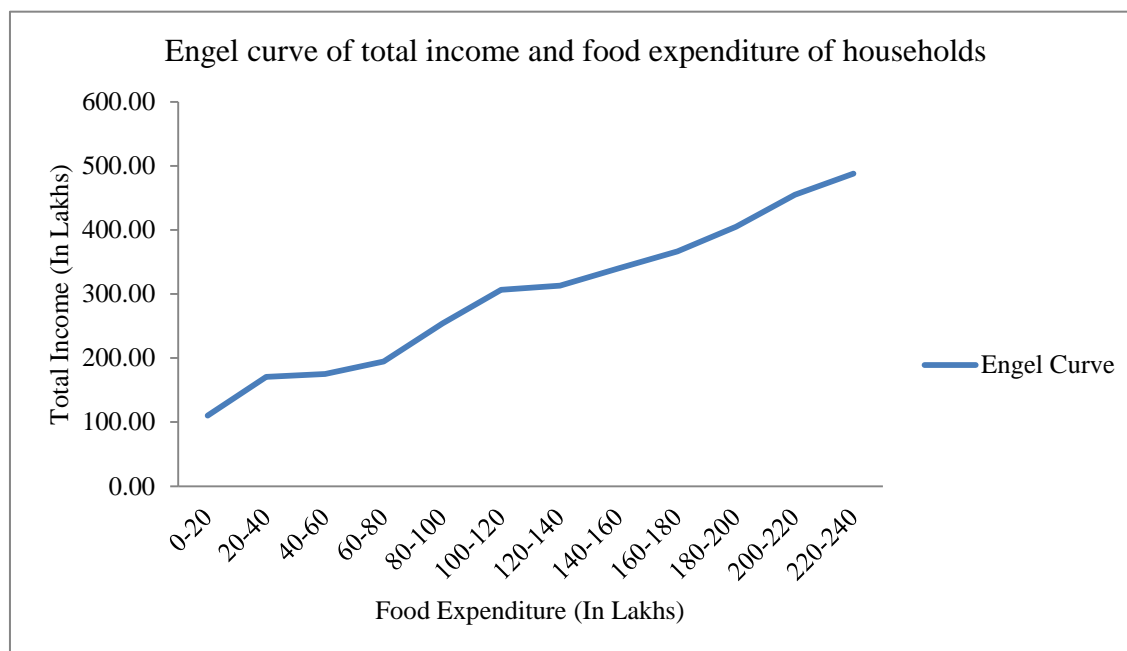**Figuer 6.1 Relationship between total income and food expenditure of households**

Engel curve of total income and food expenditure of households

Total Income (In Lakhs) — vertical axis: 0.00, 100.00, 200.00, 300.00, 400.00, 500.00, 600.00

Food Expenditure (In Lakhs) — horizontal axis: 0-20, 20-40, 40-60, 60-80, 80-100, 100-120, 120-140, 140-160, 160-180, 180-200, 200-220, 220-240

Legend: Engel Curve

Table 6.2 Total income and non-food expenditure of households (In lakhs rs.) at constant price of 2011-12		
Years	Total Income	Non-food Expenditure
2002-03	201.9	50.5
2003-04	299.87	80.77
2004-05	295.67	87.06
2005-06	315.47	79.81
2006-07	387.62	93.36
2007-08	430.78	101.75
2008-09	395.2	124.42
2009-10	391.58	121.84
2010-11	388.88	142.35
2011-12	405.05	151.08
2012-13	417.67	161.67
2013-14	418.77	186.92
Sources: Department of economic and statistical analysis, Haryana		

Table 6.2 shows the relationship between total income and non- food expenditure. In the year 2002-03, the total income was 201.90 lakhs from which 50.50 lakhs was spent on non-food items and in 2003-04 the income was 299.87 lakhs and non-food expenditure was 80.77 lakhs of all household. In the year 2004-05, the total income was 295.67 lakhs from which 87.06 lakhs was spent on non- food items by all cultivators. During 2005-06, the total income of all household was 315.47 lakhs and from this income 80.06 lakhs was spent on non-food items by all cultivators and in 2006-07, the total income was 387.62 lakh from which 93.36 lakhs was spent on non-food items by all household. During 2007-08, the total income of all cultivators was 430.78 lakhs and from this income 101.75 lakhs was spent on non-food items and in 2008-09, the total income of all cultivator was 395.20 lakhs from which 124.42 lakhs was spent on non-food items by all households. In the year 2009-10, the total income of all household was 391.58 lakhs and total expenditure of their income on non-food items was 121.84 lakhs and in 2010-11, the total income of all cultivator was 388.88 lakhs and from this income 142.35 lakhs was spent on non- food items by all households. During 2011-12, the total income was 405.05 lakhs from which 151.08 lakhs was spent on non- food items by all household. In this sequence 2012-13, the total income was 417.67 lakhs from which 161.67 lakhs was spent on non- food items by all households. During 2013-14, the total income was 418.77 lakhs from which 186.92 lakhs was spent on non- food items by all household. This is also represtened by digram.

Figure 6.2 Engel curve of total income and non-food expenditure of household's

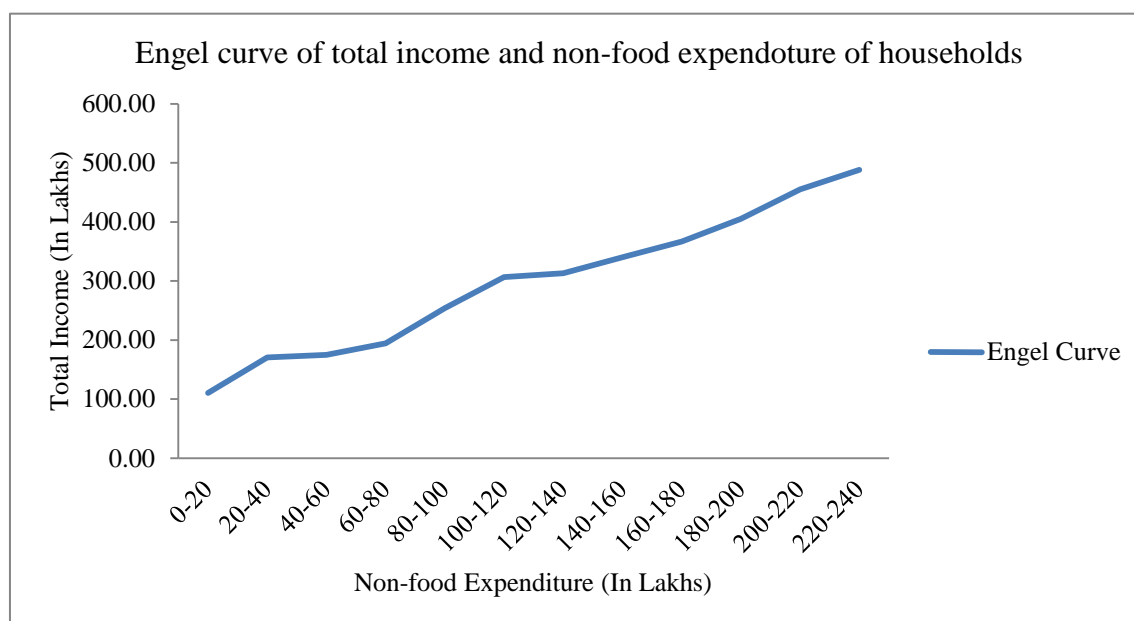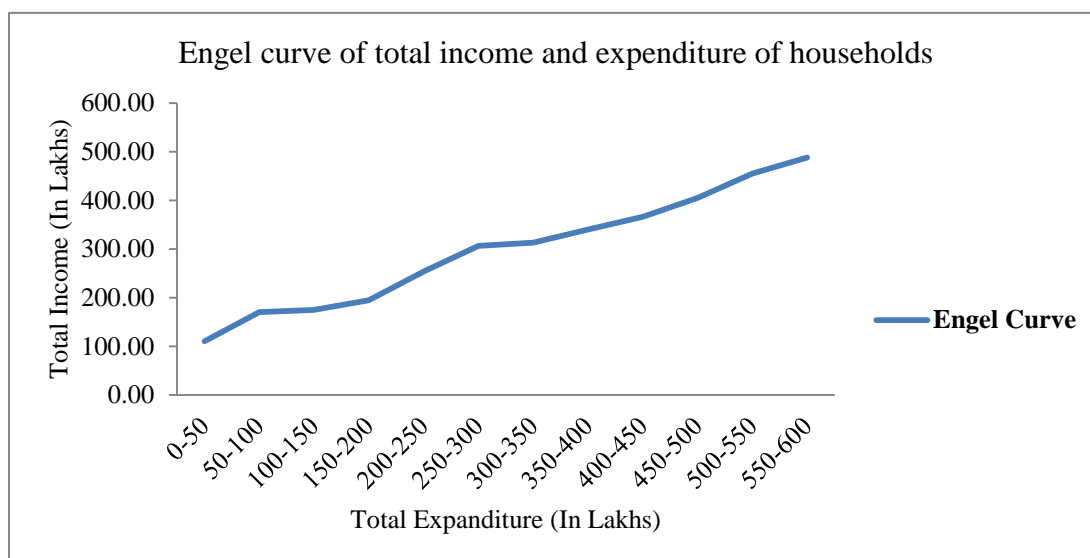Engel curve of total income and non-food expendoture of households

Table 6.3   Total income and total expenditure of households (In Lakhs rs.) at constant price of 2011-12

Years	Total Income	Total Expenditure
2002-03	201.90	92.48
2003-04	299.87	142.53
2004-05	295.67	149.87
2005-06	315.47	152.71
2006-07	387.62	170.86
2007-08	430.78	192.63
2008-09	395.20	226.82
2009-10	391.58	249.15
2010-11	388.88	288.24
2011-12	405.05	315.22
2012-13	417.67	336.39
2013-14	418.77	404.69

Sources: Department of economic and statistical analysis, Haryana

Table 6.3 shows the relationship between total income and total expenditure (total expenditure is the sum of all food items and non- food items expenditure). In year 2002-03, the total income was 110.42 lakhs from which 92.48 lakhs was total expenditure of all cultivator. During 2003-04, the total income was 170.55 lakhs and total expenditure was 142.53 lakhs of all household. In year 2004-05, the total income was 175.13 lakhs from which 149.87 lakhs was spent on both items by all cultivators. During 2005-06,the total income of all household was 194.50 lakhs and from this income 152.71 lakhs was the total expenditure of both items by all cultivators. In year 2006-07, the total income was 254.04 lakhs from which 170.86 lakhs was the total expenditure of both items by all household. During 2007-08, the total income of all cultivators was 306.57 lakhs and from this income 192.63 lakhs was spent on both items. In year 2008-09, the total income of all cultivator was 313.06 lakhs from which 226.82 lakhs was spent on both items by all household. In year 2009-10, the total income of all households was 340.13 lakhs and total expenditure of their income on both items was 249.15 lakhs. In year 2010-11, the total income of all cultivator was 366.56 lakhs and from this income 288.24 lakhs was spent on both items by all households. During 2011-12, the total income of all cultivator was 405.05 lakhs and from this income 315.22 lakhs was spent on both items by all households. In year 2012-13, the total income of all cultivator was 455.05 lakhs and from this income 336.39 lakhs was spent on both items by all households. During 2013-14, the total income of all cultivator was 488.17 lakhs and from this income 404.69 lakhs was spent on both items by all households. This is also represented by digram in 6.3.

Figure 6.3 Engel curve of total income and total expenditure of households

Engel curve of total income and expenditure of households

6.3 Percentage share of total income and total expenditure of households
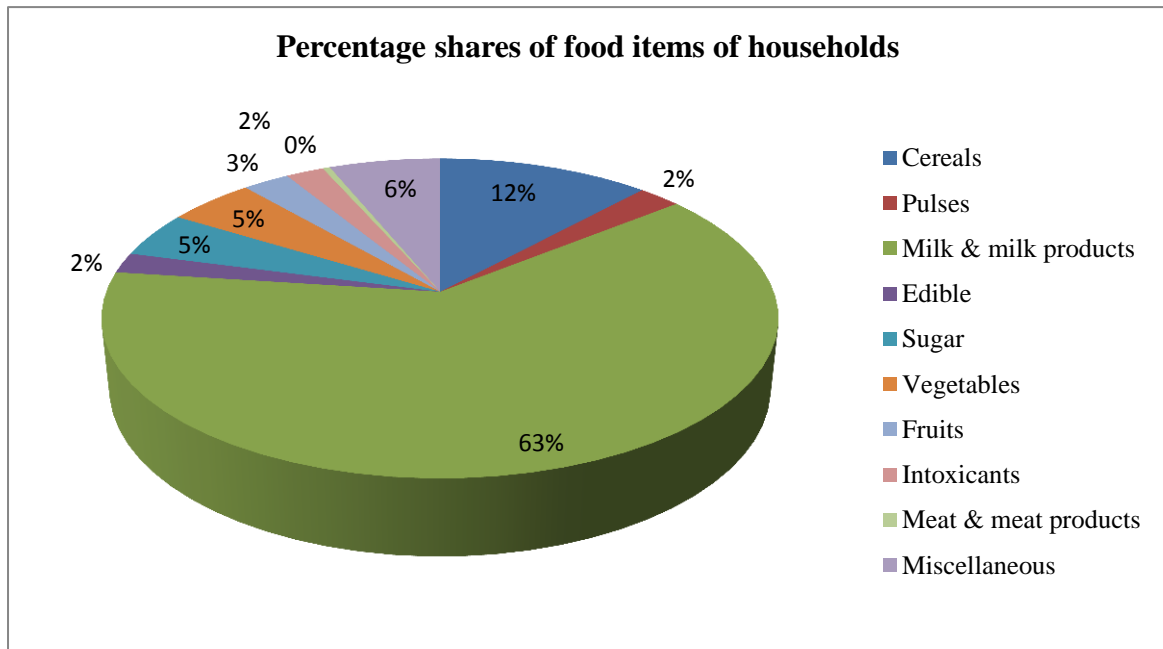
The percentage share of total income are analyzed by their respective source such as farm cultivation, milk and milk products, income from capital investment and miscellaneous and total expenditure of households are calculated by the respective source of food items (such as Cereals, pulses, milk and milk products, edible oil, sugar, vegetable, fruits etc.) and non-food items (such as fuel, clothing, housing, health, education, transport etc.). Hereby, this states that the annual percent share of both food and non-food items are calculated separately.

Table 6.4 Percentage share of food items of households from total food expenditure	
Food items	Percentage share of food items
Cereals	11.89
Pulses	2.39
Milk & milk products	62.75
Edible	2.06
Sugar	4.62
Vegetables	4.87
Fruits	2.62
Intoxicants	2.14
Meat & meat products	0.41
Miscellaneous	6.24
Total	100
Sources: Researcher calculations	

The table 6.4shows the expenditure share of food items from total expenditure during the time period 2002-03 to 2013-14. We see in the food items cultivators highly expenditure on milk & milk products (that is 62.75 percent out of total food expenditure) due to taste and food habits of people across different agro-climatic regions and variation in milk availability in the area. And in the same way cultivators high expenditure on cereals items (that is 11.89 percent from total food expenditure). So the cultivators continued expenditure on the following food items. But cultivators expended low on meat and meat products (0.41 percent). The main reason of highly percentage share of milk and milk product in food expenditure due to taste and food habits of people across different agro-climatic regions and variation in milk availability in the area.

Figure 6.4 Percentage shares of food items of households

Percentage shares of food items of households

Percentage share of non-food items of household's expenditure

Table 6.5 Percentage share of non-food items of households expenditure	
Non-food items	Percentage share of non-food items of households
Fuel	5.47
Clothing	16.48
Housing	20.20
Lighting	4.06
Health	6.93
Transport	6.18
Education	19.68
Religious ceremonies	2.07
Marriage & Social ceremonies	15.27
Others	3.66
Total	100.00
Sources: Researcher calculations	

The table 6.5 shows the expenditure share of non- food items from total non-food expenditure during the time period 2002-03 to 2013-14. We see in the non- food items cultivators expended more on housing (that is 20.20 percent out of total food expenditure). And in the same way cultivators highly expended on education (that is 19.68 percent from total non-food expenditure). So the cultivators continue expenditure on the following non-food items. But cultivators expend low on religious ceremonies (that is 2.07 percent from total non-food expenditure). The cultivators highly expenditure on education, housing, clothing and social ceremonies it means the socio-economic status of households is increasing.

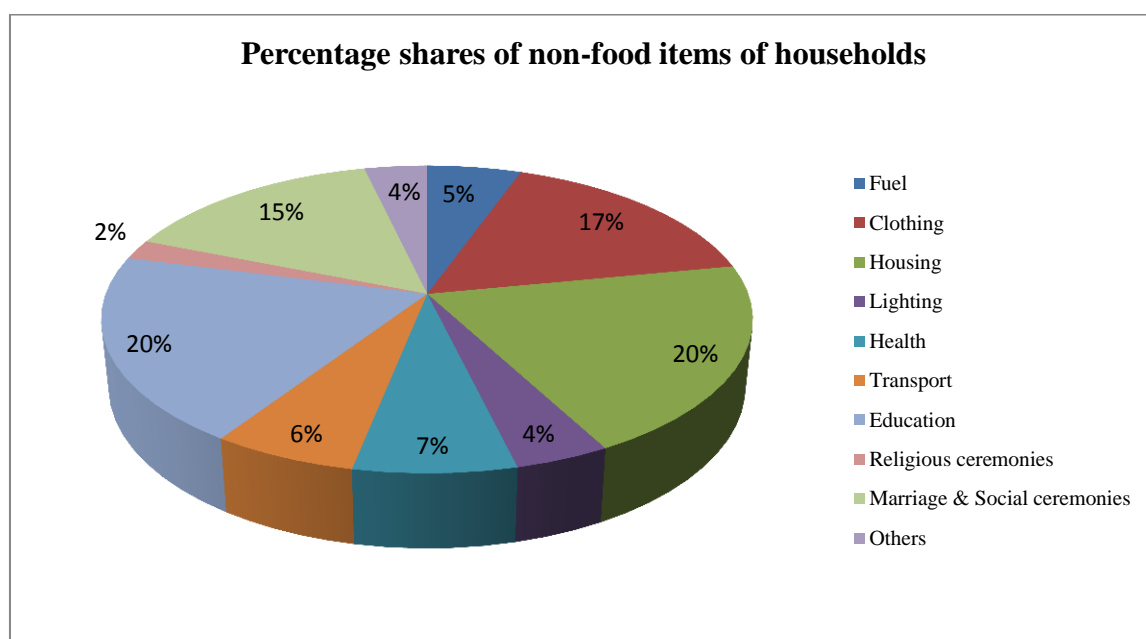**Figure 6.5 Percentage shares of non-food items of households**

Percentage shares of non-food items of households

Table 6.6	Percentage share of food expenditure and non-food expenditure of households			
Years	Food Expenditure	Non-food exp.	Saving	Total
2002-03	38.02	45.73	16.25	100.00
2003-04	36.21	47.36	16.43	100.00
2004-05	35.86	49.71	14.43	100.00
2005-06	37.48	41.03	21.48	100.00
2006-07	30.51	36.75	32.74	100.00
2007-08	29.64	33.19	37.17	100.00
2008-09	32.71	39.74	27.55	100.00
2009-10	37.43	35.82	26.75	100.00
2010-11	39.80	38.83	21.36	100.00
2011-12	40.52	37.30	22.18	100.00
2012-13	38.40	35.53	26.08	100.00
2013-14	44.61	38.29	17.10	100.00
Sources: Department of economic and statistical analysis, Haryana				

The table 6.6 shows the percentage share of food expenditure, non-food expenditure and saving according to year wise. In year 2002-03, the expenditure on food was 38.02 percent, non-food expenditure was 45.73 percent and total saving in this period was 16.25 percent and in the year 2003-04 the total expenditure on food was 36.21 percent, total non-food expenditure was 47.36 and total saving in this period was 16.43 percent. During 2004-05, the total food expenditure was 35.86 percent, non-food expenditure was 49.71 percent and total saving in this period was 14.43 percent. In year 2005-06, the total food expenditure was 37.48 percent, the total non-food expenditure was 41.03 percent and total saving was 21.48 percent. During 2006-07, the total expenditure on food items was 30.51 percent, the total expenditure on non-food expenditure items was 36.75 percent and total saving of all household in this period was 32.74 percent. In year 2007-08, the total expenditure of all household on food items was 29.64 percent, the total expenditure of all cultivators on non-food items was 33.19 percent and total saving of all household was 37.17 percent. During 2008-09, the total expenditure of all cultivators on food items was 32.71 percent, non-food expenditure of all household was 39.74 percent and total saving in this period was 27.55 percent. In year 2009-10, the total expenditure of all cultivators on food items was 37.43 percent, non-food expenditure of all cultivators was 35.82 percent and total saving of all household in this period was 26.75 percent. During 2010-11, the total expenditure of all cultivators on food items was 39.80 percent, non-food expenditure of all household in this period was 38.83 percent and total saving of all cultivators in this period was 21.36 percent.

Table 6.7	Percentage share of total income from all sources of cultivators at constant price of 2011-12				
Sources	Farm cultivation	Milk & milk products	Income from capital investment	Miscellaneous	Total
2002-03	46.65	7.73	18.28	27.34	100.00
2003-04	55.15	6.32	15.26	23.27	100.00
2004-05	59.41	7.24	14.84	18.51	100.00
2005-06	62.43	6.64	12.79	18.14	100.00
2006-07	59.64	5.81	13.91	20.65	100.00
2007-08	57.08	5.17	14.89	22.85	100.00
2008-09	60.38	5.49	10.42	23.71	100.00
2009-10	58.12	5.57	13.24	23.06	100.00
2010-11	56.16	6.10	14.74	23.00	100.00
2011-12	56.79	5.91	14.38	22.92	100.00
2012-13	54.12	5.62	14.60	25.66	100.00
2013-14	51.71	5.73	18.21	24.35	100.00
Overall % share	56.47	6.11	14.63	22.79	100.00
Sources: Researcher calculations					

Table 6.7 reveals the share of all sources of income into total income. Whereas all sources of income of cultivators is contributing into gross income. The aggregate farm cultivation incomes share is highest into gross income and the aggregate Milk and milk products income share is lowest into gross income.

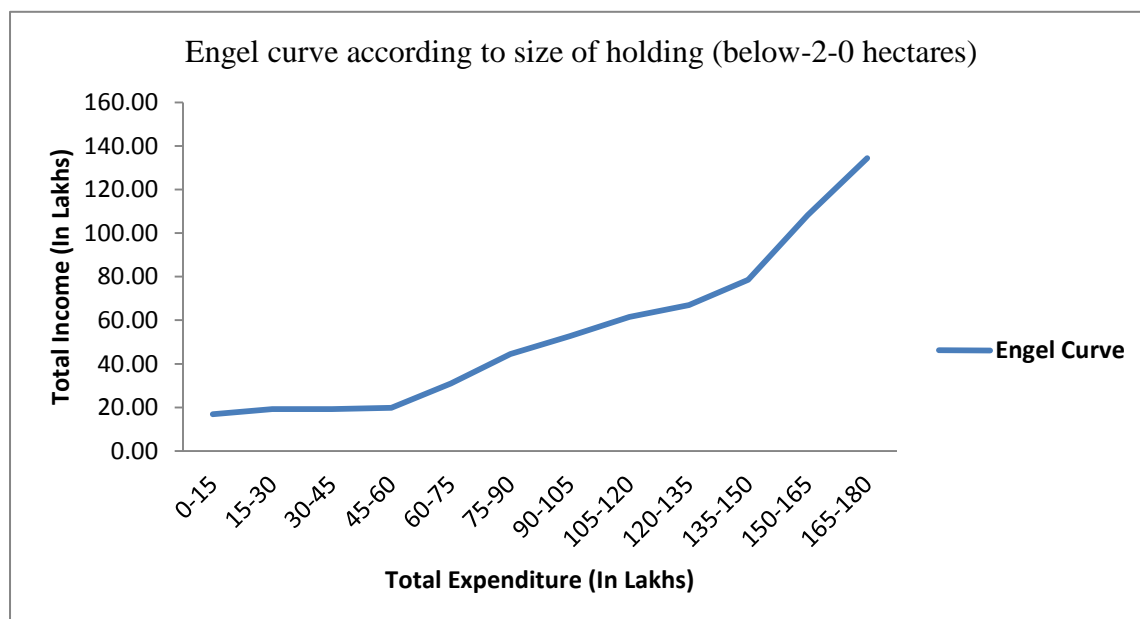## 6.4 Relationship according to size of holding between total income and total expenditure

There is relationship between total income and total expenditure according to size of holding of households with the help of Engel curve. The size of holding is following such as below-2-0, 2.0-4.0, 4.0-7.5, 7.0-10.0 and 10.0 & above.

Table 6.8 Total income and total expenditure below-2.0 hectares (in Lakhs) at constant price of 2011-12

Years	Total Income	Total Expenditure
2002-03	30.97	14.09
2003-04	33.88	16.22
2004-05	32.39	17.86
2005-06	32.21	18.43
2006-07	47.26	29.27
2007-08	62.57	35.57
2008-09	66.48	42.93
2009-10	70.80	48.52
2010-11	71.08	59.51
2011-12	78.61	71.74
2012-13	99.30	86.09
2013-14	115.22	121.77

Sources: Department of economic and statistical analysis, Haryana

The table 6.8 shows the relationship between total income and total expenditure according to size of holding. Under below-2.0 (hectares) size of holding, the total income of all household was 30.97 lakhs under same size of holding in the year 2002-03 and the total expenditure of that income was 14.09 lakhs. In the year 2003-04, the total income of all household was 33.88 lakhs under below 2.0 size of holding and the total expenditure of their income was 16.22 lakhs. The total income of all household was 32.39 lakhs under the same size of holding in the year 2004-05 and total expenditure of their income was 18.43 lakhs. The total income of all cultivators was 32.21 lakhs under the same size of holding in the year 2005-06 and the total expenditure of their income was 18.43 lakhs. In the year 2006-07, the total income of all cultivators was 47.26 lakhs and their total expenditure was 29.27 lakhs. The total income of all household was 62.57 lakhs in the

year 2007-08 under same size of holding and their total expenditure was 35.57 lakhs. The total income of all household in the year 2008-09 was 66.48 lakhs under the same size of holding and their total expenditure from that income was 42.93 lakhs. The total income of all cultivators was 70.80 lakhs in the year 2009-10 under same size of holding and the total expenditure of their income was 48.52 lakhs. The total income of all cultivators was 71.08 lakhs in the year 2010-11 under same size of holding and total expenditure was 59.51 lakhs. The total income of all cultivators was 78.61 lakhs in the year 2011-12 under same size of holding and the total expenditure of their income was 71.74 lakhs. The total income of all cultivators was 99.30 lakhs in the year 2012-13 under same size of holding and the total expenditure of their income was 86.09 lakhs. The total income of all cultivators was 115.22 lakhs in the year 2013-14 under same size of holding and the total expenditure of their income was 121.77 lakhs. This is also represented by digram.

Figure 6.6   Engel curves of total income and total expenditure according to size of holdings (below 2.0 hectares)
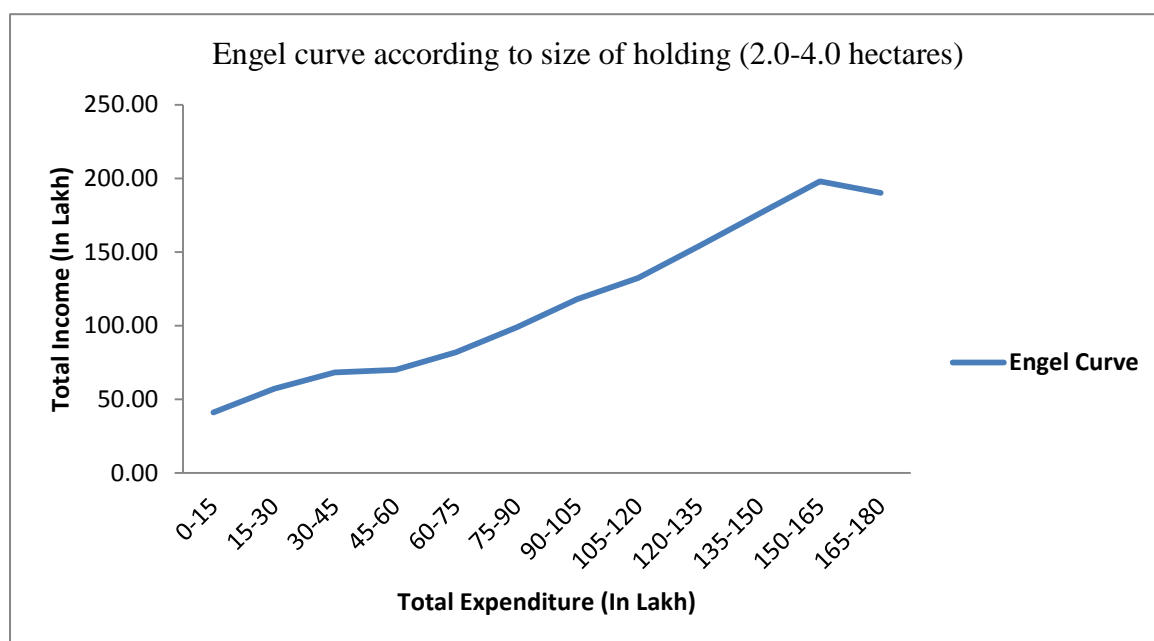

Engel curve according to size of holding (below-2-0 hectares)

Table 6.9	Total income and total expenditure according to size of holdings 2.0-4.0 hectares (In Lakhs) at constant price of 2011-12	
Years	Total Income	Total Expenditure
2002-03	75.26	35.57
2003-04	100.58	50.60
2004-05	115.27	55.66
2005-06	113.66	58.80
2006-07	125.07	60.47
2007-08	138.96	69.76
2008-09	149.07	84.87
2009-10	152.44	105.14
2010-11	163.16	114.70
2011-12	176.08	132.19
2012-13	181.69	168.04
2013-14	163.15	178.27
Sources: Department of economic and statistical analysis, Haryana		

The table 6.9 shows the relationship between total income and total expenditure according to size of holding. Under 2.0-4.0 (hectares) size of holding, the total income of all household was 75.26 lakhs under same size of holding in the year 2002-03 and the total expenditure of that income was 35.57 lakhs. In the year 2003-04, the total income of all household was 100.58 lakhs under 2.0-4.0 size of holding and the total expenditure of their income was 50.66 lakhs. The total income of all household was 115.27 lakhs under the same size of holding in the year 2004-05 and total expenditure of their income was 60.47 lakhs. The total income of all cultivators was 113.66 lakhs under the same size of holding in the year 2005-06 and the total expenditure of their income was 58.80 lakhs. In the year 2006-07, the total income of all cultivators was 125.07 lakhs and their total expenditure was 60.47 lakhs. The total income of all household was 138.96 lakhs in the year 2007-08 under same size of holding and their total expenditure was 69.76 lakhs. The total income of all household in the year 2008-09 was 149.07 lakhs under the same size of

holding and their total expenditure from that income was 84.87 lakhs. The total income of all cultivators was 152.44 lakhs in the year 2009-10 under same size of holding and the total expenditure of their income was 105.14 lakhs. The total income of all cultivators was 163.16 lakhs in the year 2010-11 under same size of holding and total expenditure of cultivators was 115.14 lakhs. The total income of all household in the year 2011-12 was 176.08 lakhs under the same size of holding and their total expenditure from that income was 132.19 lakhs. The total income of all household in the year 2012-13 was 181.69 lakhs under the same size of holding and their total expenditure from that income was 168.04 lakhs. The total income of all household in the year 2013-14 was 163.15 lakhs under the same size of holding and their total expenditure from that income was 178.27 lakhs. This is also represtened by digram.

Figure 6.7   Engel curves of total income and total expenditure according to size of holdings (2.0- 4-0 hectares)

Engel curve according to size of holding (2.0-4.0 hectares)

Table 6.10 Total income and total expenditure according to size of holdings 4.0-7.5 hectares (In Lakhs) at constant price of 2011-12		
Years	Total Income	Total Expenditure
2002-03	75.80	35.38
2003-04	112.56	47.14
2004-05	111.77	51.54
2005-06	115.21	54.64
2006-07	117.42	58.58
2007-08	137.65	68.49
2008-09	136.08	73.61
2009-10	124.72	80.26
2010-11	115.14	88.02
2011-12	108.65	93.07
2012-13	100.83	95.42
2013-14	99.04	98.54
Sources: Department of economic and statistical analysis, Haryana		

The table 6.10 shows the relationship between total income and total expenditure according to size of holding. Under 4.0-7.5 (hectares) size of holding, the total income of all household was 75.80 under same size of holding in the year 2002-03 and the total expenditure of that income was 35.38 lakhs. In the year 2003-04, the total income of all household was 112.56 lakhs under 4.0-7.5 size of holding and the total expenditure of their income was 47.14 lakhs. The total income of all household was 111.77 lakhs under the same size of holding in the year 2004-05 and total expenditure of their income was 51.54 lakhs. The total income of all cultivators was 115.21 lakhs under the same size of holding in the year 2005-06 and the total expenditure of their income was 54.64 lakhs. In the year 2006-07, the total income of all cultivators was 117.42 lakhs and their total expenditure was 58.58 lakhs. The total income of all household was 137.65 lakhs in the

year 2007-08 under same size of holding and their total expenditure was 68.49 lakhs. The total income of all household in the year 2008-09 was 136.08 lakhs under the same size of holding and their total expenditure from that income was 73.61 lakhs. The total income of all cultivators was 124.72 lakhs in the year 2009-10 under same size of holding and the total expenditure of their income was 80.26 lakhs. The total income of all cultivators was 115.14 lakhs in the year 2010-11 under same size of holding and total expenditure of cultivators was 88.02 lakhs. The total income of all cultivators was 108.65 lakhs in the year 2011-12 under same size of holding and the total expenditure of their income was 93.07 lakhs. The total income of all cultivators was 100.80 lakhs in the year 2012-13 under same size of holding and the total expenditure of their income was 95.42 lakhs. The total income of all cultivators was 99.04 lakhs in the year 2013-14 under same size of holding and the total expenditure of their income was 98.54 lakhs. This is also represtened by digram.

Figure 6.8   Engel curves of total income and total expenditure according to size of holdings (4.0-7.5 hectares)

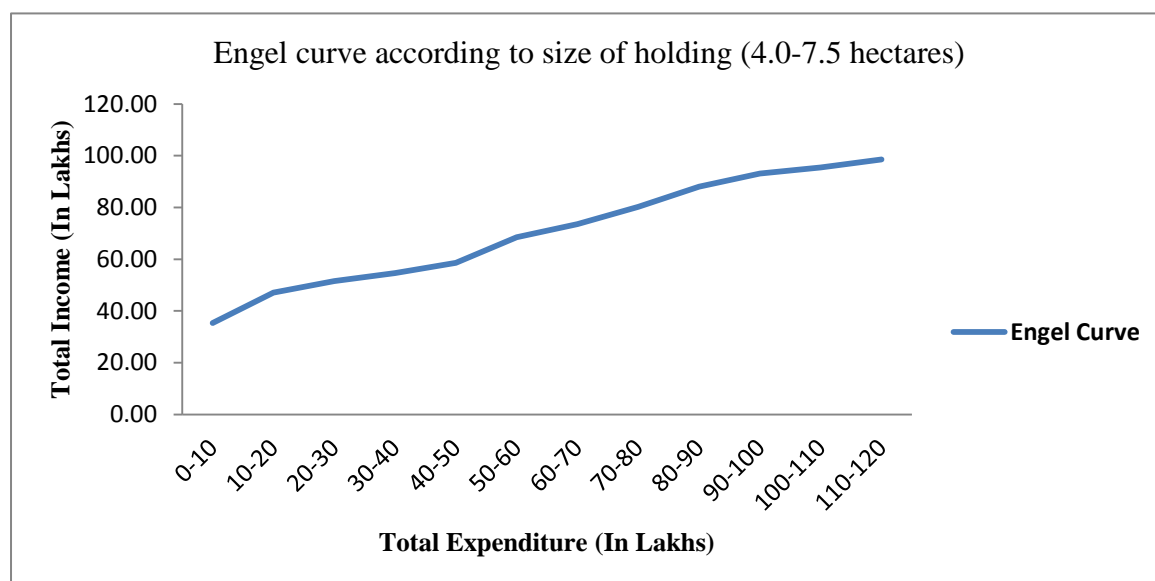Engel curve according to size of holding (4.0-7.5 hectares)

Table 6.11 Total income and total expenditure according to size of holdings 7.5-10.0 hectares (In Lakhs) at constant price of 2011-12
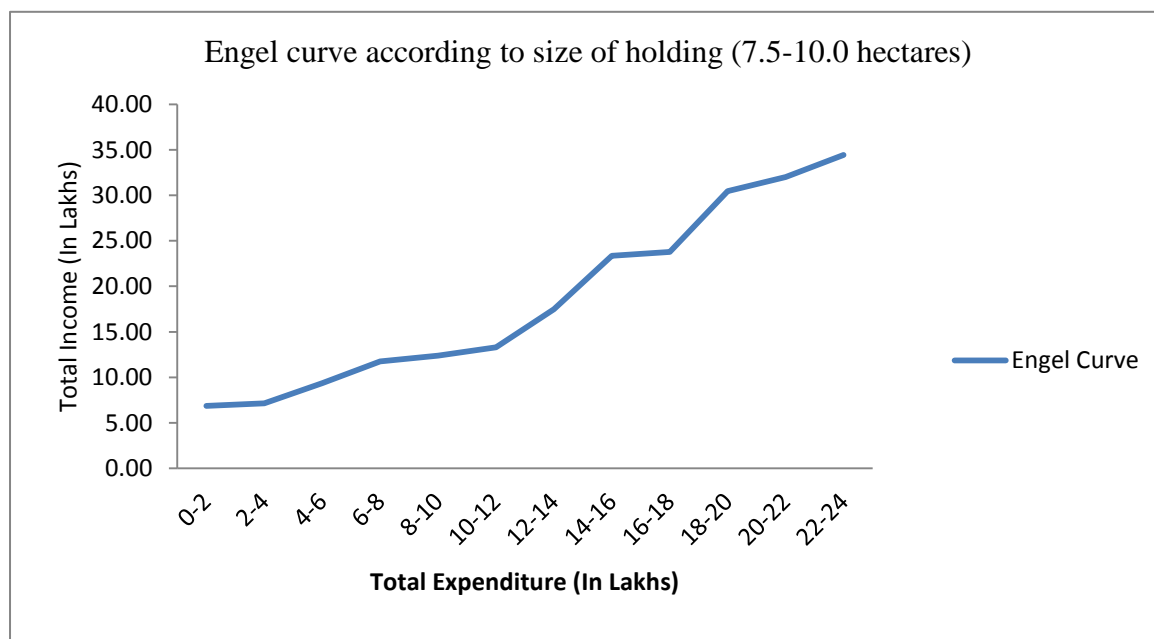
Years	Total Income	Total Expenditure
2002-03	12.52	5.43
2003-04	12.58	6.81
2004-05	15.78	7.69
2005-06	19.07	8.03
2006-07	18.92	8.53
2007-08	18.68	9.59
2008-09	22.09	12.44
2009-10	26.88	16.68
2010-11	25.24	18.44
2011-12	30.47	20.42
2012-13	29.38	22.78
2013-14	29.54	23.16
Sources: Department of economic and statistical analysis, Haryana		

The table 6.11 shows the relationship between total income and total expenditure according to size of holding. Under 7.5-10.0 (hectares) size of holding, the total income of all household was 12.52 lakhs under same size of holding in the year 2002-03 and the total expenditure of that income was 5.43 lakhs. In the year 2003-04, the total income of all household was 12.58 lakhs under 7.5-10.0 size of holding and the total expenditure of their income was 6.81 lakhs. The total income of all household was 15.78 lakhs under the same size of holding in the year 2004-05 and total expenditure of their income was 7.69 lakhs. The total income of all cultivators was 19.07 lakhs under the same size of holding in the year 2005-06 and the total expenditure of their income was 8.03 lakhs. In the year 2006-07, the total income of all cultivators was 18.92 lakhs and their total expenditure was 8.53 lakhs. The total income of all household was 18.68 lakhs in the year 2007-08 under same size of holding and their total expenditure was 9.59 lakhs. The total income of

all household in the year 2008-09 was 22.09 lakhs under the same size of holding and their total expenditure from that income was 12.44 lakhs. The total income of all cultivators was 26.88 lakhs in the year 2009-10 under same size of holding and the total expenditure of their income was 16.68 lakhs. The total income of all cultivators was 25.24 lakhs in the year 2010-11 under same size of holding and total expenditure of cultivators was 18.44 lakhs. The total income of all household in the year 2011-12 was 30.47 lakhs under the same size of holding and their total expenditure from that income was 20.42 lakhs. The total income of all household in the year 2012-13 was 29.38 lakhs under the same size of holding and their total expenditure from that income was 22.78 lakhs. The total income of all household in the year 2013-14 was 29.54 lakhs under the same size of holding and their total expenditure from that income was 23.16 lakhs. This is also represented by digram.

Figure 6.9   Engel curves of total income and total expenditure according to size of holdings (7.5-10.0 hectares)
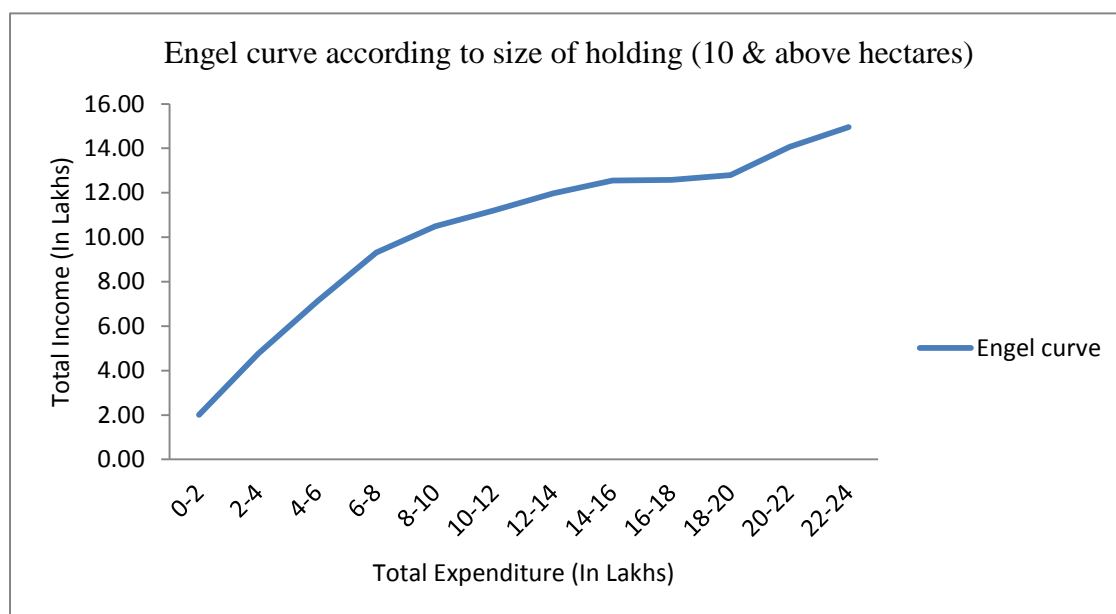
Table 6.12 Total income and total expenditure according to size of holdings 10.0 & above hectares (In Lakhs) at constant price of 2011-12

Years	Total Income	Total Expenditure
2002-03	14.67	2.01
2003-04	17.93	4.75
2004-05	17.76	7.11
2005-06	17.48	9.30
2006-07	17.92	10.50
2007-08	16.70	11.22
2008-09	15.17	11.97
2009-10	13.19	12.55
2010-11	12.77	12.58
2011-12	12.23	12.79
2012-13	11.42	14.06
2013-14	11.82	14.95

Sources: Department of economic and statistical analysis, Haryana

The table 6.12 shows the relationship between total income and total expenditure according to size of holding. Under 10.0-above (hectares) size of holding, the total income of all household was 14.67 lakhs under same size of holding in the year 2002-03 and the total expenditure of that income was 2.01 lakhs. During 2003-04, the total income of all household was 17.93 lakhs under 10.0 & above size of holding and the total expenditure of their income was 4.75 lakhs. The total income of all household was 17.76 lakhs under the same size of holding in the year 2004-05 and total expenditure of their income was 7.11 lakhs. The total income of all cultivators was 17.48 lakhs under the same size of holding in the year 2005-06 and the total expenditure of their income was 9.30 lakhs. During 2006-07, the total income of all cultivators was 17.92 lakhs and their total expenditure was 10.50 lakhs. The total income of all household was 16.70 lakhs in the year 2007-08 under same size of holding and their total expenditure was 11.22 lakhs. The total income of all household in the year 2008-09 was 15.17 lakhs under the same

size of holding and their total expenditure from that income was 11.97 lakhs. The total income of all cultivators was 13.19 lakhs in the year 2009-10 under same size of holding and the total expenditure of their income was 12.55 lakhs. The total income of all cultivators was 12.77 lakhs in the year 2010-11 under same size of holding and total expenditure was 12.58 lakhs. The total income of all household in the year 2011-12 was 12.23 lakhs under the same size of holding and their total expenditure from that income was 12.79 lakhs. The total income of all household in the year 2012-13 was 11.42 lakhs under the same size of holding and their total expenditure from that income was 14.06 lakhs. The total income of all household in the year 2013-14 was 11.82 lakhs under the same size of holding and their total expenditure from that income was 14.95 lakhs. This is also represtened by digram.

Figure 6.10   Engel curve of total income and total expenditure according to size of holdings (10.0 & above hectares)

6.5 Income elasticity of demand of food and non-food items

The concept of income elasticity of demand expresses the responsiveness of a consumer demand (expenditure or consumption) for any good to the change in his income. It may be

defined as ratio of percent change in quantity demanded of a commodity to the percentage change in income. In the words of Lipsey, the responsiveness of the demand for a product to changes in income is termed income elasticity of demand.

The coefficient Ey may be positive, negative or zero depending upon the nature of a commodity. If an increase in income leads to an increased demand for a commodity, the income elasticity coefficient (Ey) is positive. A commodity whose income elasticity is a normal good because more of it is purchased as the consumer's income increases. On the other hand, if an increase in income leads to a fall in the demand for a commodity; its income elasticity coefficient (Ey) is negative. Such a commodity is called inferior good because less of it is purchased as income increases. If the quantity of a commodity purchased remains unchanged regardless of the change in income, the income elasticity of demand is zero (Ey=0).It is a necessity goods.

Normal goods are three types –necessaries, luxuries and comforts. In case of luxuries, the coefficient of income elasticity is positive but high Ey>1. Income elasticity of demand is high when the demand for a commodity rises more than proportionate to the increase in income.

In case of necessities, the coefficient of income elasticity is positive but low, Ey< 1. Income elasticity of demand is low when the demand for a commodity rises less than proportionate to the rise in the income.

In case of comforts, the coefficient of income elasticity is unity (Ey = 1) when the price for a commodity rises the same proportion as the increase in income.

In case of inferior goods, the coefficient of income elasticity of demand is negative. The consumer will reduce his purchases of it, when his income increases. If with increase in income, the quantity demanded remains unchanged, the coefficient of income elasticity is zero (Ey = 0).

6.5.1 Income elasticity of demand of food items

Table 6.13 Estimated income elasticity of demand for selected food items by cultivators		
Items	Elasticity	R^2
Cereals	0.59	0.98
Pulses	0.71	0.95
Milk	1.29	0.93
Edible	0.63	0.91
Sugar	0.75	0.94
Vegetables	0.79	0.94
Meat and Meat Products	1.72	0.96
Fruits	0.7	0.90
Intoxicants	1.02	0.80
Miscellaneous	0.79	0.92
Source: Researcher's calculation		

This table shows that the income elasticity of different food items. In this table the positive elasticity of food items on the expenditure. The highest income elasticity lies in Meat and meat products items and the lowest elasticity lies in cereals. The elasticity of Milk, Meat and Meat product and Intoxicant are greater than Unit and Pulses, Edible, Sugar, Fruits Vegetables, and Miscellaneous are less than Unit. The R square is shows that significant level of the variables.

6.5.2 Income elasticity of demand of non-food items

Table 6.14 Income elasticity of demand for selected non-food items by cultivators		
Items	Elasticity	R^2
Clothing	0.71	0.97
Housing	0.99	0.87
Lighting	0.55	0.95
Health	0.98	0.8
Transport	1.29	0.94
Education	1.21	0.86
Religious Ceremonies	1.55	0.93
Marriage & Soc. Ceremonies	0.55	0.94
Others	1.25	0.92
Total	0.83	0.93
Source: Researcher's calculation		

This table shows that the Income elasticity of different expenditure of non-food items. In this table presents the positive income elasticity of non-food items. The highest income elasticity lies in religious ceremonies items and the lowest income elasticity lies in Lighting and Marriage & Soc. Ceremonies. The elasticity of transport, education, religious ceremonies and others are greater than unit and lighting, clothing, housing, health, marriage &soc. ceremonies and total are less than Unit. The R^2 is shows that significant level of the variables.

6.6 Conclusion

In this chapter was analyses the income elasticity of demand for food and non-food commodities in Haryana and was estimated the relationship between income and expenditure with the help of Engel curve also measured. The Income elasticity of demand is different of all families expenditure on items of food and non-food items.

Main findings-

- There is positive elasticity of food items on the expenditure of all families. The highest income elasticity lies in Meat and meat products items and the lowest elasticity lies in cereals.

- There is positive income elasticity of non-food items. The highest income elasticity lies in religious ceremonies items and the lowest income elasticity lies in Lighting and Marriage & Social Ceremonies.

- The Engel curve shows the positive relationship between total income and total expenditure. If the total income increases then the total expenditure of cultivator is increase. The share of food is increasing over time period but the share of non-food is decline.

- The aggregate farm cultivation incomes share is highest into gross income and the aggregate Milk and milk products income share is lowest into gross income.