

CHAPTER-6

Returns and Margins on Cultivation of Crops

Returns on Different Types of Cost of Cultivation

One of the objectives of comprehensive scheme has been to assess the returns from the farm business. Since farm business income of the cultivations is usually influenced by the paid out cost (cash) expenses along with other considerations and value of output, it is necessary to know about the relationship between value of output and different types of costs. Keeping this in view we have calculated the ratio of gross value of output (GVO) from cultivation of one hectare to paid out cost (A_2), cost A_2 plus cost of family labour (A_2+FL) and total cost of cultivation (C_2). State wise ratios of GVO to costs for the years 2002-03 and 2008-09 have been shown in table 6.1.

The ratio of output to paid out capital in 2002-03 and 2008-09 are not uniform across states and show variation from state to state. In 2002-03, the ratio varies from a minimum of 1.44 in west Bengal to a maximum of 2.73 in Himachal Pradesh and Rajasthan. In other words the returns on paid out cost vary from a minimum of 44 percent to maximum of 173 percent across states. Similarly in the year 2008-09 the ratio varies from a minimum of 1.41 in Punjab state to a maximum of 3.85 in Uttarakhand i.e. the returns in cultivation vary from 41 percent to 285 percent of the paid out cost across states. If we look at the coefficient of variation the value shows that the inter-state variability in returns on paid out capital has slightly increase from 20% in the year 2002-03.to 24% in the year 2008-09. The state wise returns in the two years charged as follows. The returns in the three states namely, Punjab, Jharkhand and Himachal Pradesh decreased while in rest of the states it increased. For example in case of Punjab the returns decreased from 110 percent in 2002-03 to 41 percent 2008-09. In Jharkhand the returns decreased from 127 percent to 82 percent while in Himachal Pradesh it decreased from 173 percent to 132 percent .similarly, the states of A.P, Assam, Bihar, Haryana, Kerala, M.P, Karnataka, Orissa, Tamilnadu, U.P, West Bengal, Chhattisgarh, Uttarakhand, Rajasthan, Maharashtra and witnessed an

increase of from 85% to 127%, 130% to 131%, 114% to 189%, 112% to 220%, 46% to 101%, 73% to 112%, 62% to 68%, 59% to 140%, 73% to 104%, 115% to 130%, 44% to 83%, 105% to 137%, 95% to 185%, 173% to 205%, 47% to 169% and 93% to 145% respectively.

Regarding the ratio of GVO to cost (A_2+FL) the returns to cultivation reduced. In the year 2002-03, the returns show variability across states and vary from a minimum of -16% in Kerala and west Bengal to a maximum of 67% in Punjab. Similarly in the year 2008-09 the ratio varies from a minimum of 1.02 in West Bengal state to a maximum of 2.56 in Uttarakhand i.e. the returns on cultivation vary from 2 percent to 256 percent of the paid out cost plus family labour cost across states. If we look at the coefficient of variation the value shows that the inter-state variability in returns on paid out capital has slightly increase from 18% in the year 2002-03. to 29% in the year 2008-09. The state wise returns in the two years charged as follows. The returns in the three states namely, Punjab, Jharkhand and Himachal Pradesh decreased while in rest of the states it increased. For example in case of Punjab the returns decreased from 67 percent in 2002-03 to 7 percent 2008-09.

Table-6.1**Ratio of GVO to Alternative Cost**

States	Ratio of GVO to <u>cost A₂</u>		Ratio of GVO to <u>cost A₂+FL</u>		Ratio of GVO to <u>cost C₂</u>	
	2002-03	2008-09	2002-03	2008-09	2002-03	2008-09
A. Pradesh	1.85	2.27	1.11	1.25	0.99	1.16
Assam	2.3	2.31	1.13	1.17	0.94	0.99
Bihar	2.14	2.89	1.45	1.97	1.08	1.49
Haryana	2.12	3.2	1.35	1.92	1.07	1.33
Kerala	1.46	2.01	0.84	1.22	1.06	1.33
M.Pradesh	1.73	2.12	1.14	1.43	0.88	1.1
Karnataka	1.62	1.68	1.11	1.1	0.95	0.9
Orissa	1.59	2.4	0.91	1.34	0.79	1.11
Punjab	2.1	1.41	1.67	1.07	1.19	0.68
Tamil Nadu	1.73	2.04	1.05	1.2	0.85	1.18
UttarPradesh	2.15	2.3	1.21	1.37	0.89	0.97
West Bengal	1.44	1.83	0.84	1.02	0.77	0.99
Jharkhand	2.27	1.82	1.25	1.18	0.98	1.01
Chhattisgarh	2.05	2.37	1.35	1.57	0.93	1.15
Uttarakhand	1.95	3.85	1.02	2.56	0.83	1.6
Rajasthan	2.73	3.05	1.15	1.31	1.59	1.78
Maharashtra	1.47	2.69	1.06	1.92	0.95	1.67
H. Pradesh	2.73	2.32	1.42	1.33	0.94	0.83
Gujarat	1.93	2.45	1.31	1.74	1.16	1.43
C.V	0.2	0.24	0.18	0.27	0.19	0.25

Note: This table is based on appendix table, using $\text{Ratio} = \frac{GVO}{Costs}$

C.V is coefficient of variation.

A₂: Paid out Cost, FL: Family Labour, C₂: Total Cost

In Jharkhand the returns decreased from 25 percent to 18 percent while in Himachal Pradesh it decreased from 42 percent to 33 percent. Similarly, the states of A.P, Assam, Bihar, Haryana, Kerala, M.P, Karnataka, Orissa, Tamilnadu, U.P, West Bengal, Chhattisgarh, Uttarakhand, Rajasthan, Maharashtra and witnessed an increase of from 12% to 25%, 13% to 17%, 45% to 97%, 35% to 92%, -16% to 22%, 14% to 43%, 11% to 10%, -9% to 34%, 5% to 20%, 21% to 37%, -16% to 2%, 35% to 57%, 2% to 156%, 15% to 31%, 6% to 192% and 31% to 74% respectively. As for as the ratio of GVO to total cost is concerned, the table shows again that ratio also exhibits variability across states both in the year 2002-03 as well as in the year 2008-09. In 2002-03, the ratio varies from a maximum of 1.59 in Rajasthan to a minimum of 1.19 in Punjab and Gujarat. In other words the returns on paid out cost vary from a minimum of 59 percent to maximum of 19 percent across states. Similarly in the year 2008-09 the ratio varies from a minimum of 0.68 in Punjab state to a maximum of 1.78 in Uttarakhand i.e. the returns in cultivation vary from -32 percent to 78 percent of the total cost across states. If we look at the coefficient of variation the value shows that the inter-state variability in returns on total cost has slightly increase from 19% in the year 2002-03 to 25% in the year 2008-09. The state wise returns in the two years changed as follows. The returns in the three states namely, Punjab, Karnataka and Himachal Pradesh decreased while in rest of the states it increased. For example in case of Punjab the returns decreased from 19 percent in 2002-03 to -32 percent 2008-09. In Karnataka the returns decreased from -5 percent to -10 percent while in Himachal Pradesh it decreased from -6 percent to -17 percent. Similarly, the states of A.P, Assam, Bihar, Haryana, Kerala, M.P, Orissa, Tamilnadu, U.P, West Bengal, Chhattisgarh, Uttarakhand, Maharashtra, Himachal Pradesh and witnessed an increase of from -1% to 16%, -6% to -1%, 8% to 49%, 7% to 33%, 6% to 33%, 12% to 10%, -5% to -10%, -21% to 11%, -15% to 18%, -11% to -3%, -23% to -1%, -2% to 0%, -7% to 15%, -17% to 60%, -5% to 67% and 16% to 43% respectively.

Margin on Different Types of Cost of Cultivation

One of the objectives of comprehensive scheme has been to assess the returns from the farm business. Since farm business income of the cultivations is usually influenced by the paid out cost (cash) expenses along with other considerations and value of output, it is necessary to know

about the relationship between value of output and different types of costs. Keeping this in view we have calculated the ratio of gross value of output (GVO) from cultivation of one hectare to paid out cost (A_2), cost A_2 plus cost of family labour (A_2+FL) and total cost of cultivation (C_2). State wise ratios of GVO to costs for the years 2002-03 and 2008-09 have been shown in table 6.2. This table shows the absolute value of cost and output.

The margin of output to paid out capital in 2002-03 and 2008-09 are not uniform across states and show variation from state to state. In 2002-03, the margin varies from a minimum of 2980 in Orissa to a maximum of 16505 in Punjab and to a maximum 10293 Haryana. Similarly in the year 2008-09 the margin varies from a minimum of 7271 in Karnataka state to a maximum of 33319 in Uttarakhand. If we look at the coefficient of variation the value shows that the inter-state variability in returns on paid out capital has slightly increase form 44% in the year 2002-03 to 49% in the year 2008-09. The state wise returns in the two years charged as follows. The returns in the three states namely, Punjab, Jharkhand and Himachal Pradesh decreased from 16050 in the year 2002-03 to 7954 in the year 2008-09. In the Jharkhand the returns decreased from 5687 to 7402 while in Himachal Pradesh it decreased from 6841 to 7162 percent. Similarly, the states of A.P. , Assam, Bihar Haryana, Kerla, M.P. Karnataka, Orissa, Tamilnadu, U.P., West Bengal, Chhattisgarh, Uttarakhand, Rajasthan, Maharashtra and witnessed an increase of from 6969 to 17730, 6952 to 11648, 8186 to 19526, 10293 to 26034, 8707 to 24614, 3622 to 10433, 5513 to 7271, 2980 to 9421, 6870 to 12210, 5602 to 11217, 5737 to 14783, 4654 to 9474, 6813 to 33319, 7776 to 12570, 3194 to 19276 and 8791 to 18420 respectively.

Table 6.2
Margin of GVO over Alternative Cost

States	Margin of GVO over <u>Cost A_2 per hectare</u>		Margin of GVO over <u>Cost A_2+FL per hectare</u>		Margin of GVO over <u>C_2 per hectare</u>	
	2002-03	2008-09	2002-03	2008-09	2002-03	2008-09

Andhra Pradesh	6964.96	17729.06	1573.56	6403.22	-31.47	4365.58
Assam	6951.01	11647.62	1432.87	2994.81	-805.80	-175.24
Bihar	8185.59	19525.30	4768.20	14735.72	1119.68	9769.68
Haryana	10292.50	26033.47	5094.30	18121.29	1225.91	9349.21
Kerala	8706.14	24613.05	-5255.59	8767.37	1453.39	12197.49
Madhya Pradesh	3621.28	10432.95	1033.70	5939.59	-1196.99	1737.39
Karnataka	5512.29	7270.75	1398.02	1603.52	-783.34	-1946.31
Orissa	2979.31	9420.34	-751.89	4048.72	-2187.13	1550.89
Punjab	16504.21	7953.18	12663.12	1750.91	5098.28	-13081.13
Tamil Nadu	6869.18	12209.91	767.21	3987.22	-2800.28	3638.49
Uttar Pradesh	5601.91	11216.69	1808.28	5315.40	-1322.21	-650.43
West Bengal	5736.83	14782.88	-3653.97	748.24	-5538.91	-425.01
Jharkhand	5683.63	7401.25	2046.70	2562.15	-228.61	156.28
Chhattisgarh	4653.50	9473.18	2343.33	5966.62	-685.09	2118.94
Uttarakhand	6812.64	33318.71	303.08	27461.96	-2804.13	16913.49
Rajasthan	7775.88	12569.45	1591.88	4382.55	4555.37	8182.77
Maharashtra	3193.73	19275.37	576.98	14649.47	-581.58	12294.15
Himachal Pradesh	6840.26	7161.85	3211.04	3160.60	-701.72	-2521.23
Gujarat	8790.52	18419.65	4333.92	13227.59	2513.37	9293.79
C.V	0.40	0.44	1.75	0.80	-23.42	2.33

(Rs. Per hectare)

Note: This table is based on appendix table, using Margin=GVO-Costs

C.V is coefficient of variation.

Regarding the margin of GVO to cost (A_2+FL) the returns to cultivation reduced. In the year 2002-03, the margin of output to paid out capita plus family labour cost in 2002-03 and 2008-09

are not uniform across states and show variation from state to state. In 2002-03, the ratio varies from a minimum of -5256 in Kerala to a maximum of 12664 in Punjab and to a maximum 5095 Haryana. Similarly in the year 2008-09 the margin varies from a minimum of 749 in West Bengal state to maximum of 27462 in Uttarakhand. If we look at the coefficient of variation the value shows that the inter-state variability in returns on paid out capital has slightly increase from 196% in the year 2002-03 to 91% in the year 2008-09. The state wise returns in the two years charged as follows. The returns in the three states namely, Punjab, Haryana and Gujarat decreased while in rest of the states it increased. For example in case of Punjab the returns decreased from 12664 in the year 2002-03 to 1751 in the year 2008-09. In Haryana the returns decreased from 5095 to 18122 while in Gujarat it decreased from 4334 to 13228 percent. Similarly, the states of A.P., Assam, Bihar, Kerala, M.P., Karnataka, Orissa, Punjab, Tamilnadu, U.P., West Bengal, Chhattisgarh, Uttarakhand, Rajasthan, Maharashtra and Himachal Pradesh witnessed an increase of from 1574 to 6404, 1433 to 2995, 4769 to 114736, -5256 to 8768, 1034 to 5940, 1399 to 1604, -752 to 4049, 768 to 3988, 1809 to 5316, -3654 to 749, 2047 to 2563, 2344 to 5967, 304 to 27462, 1592 to 4383, 577 to 14650 and 3212 to 3161 respectively.

As for as the margin of GVO to total cost in concerned, the table shows again that margin also exhibits variability across states both in the year 2002-03 as well as in the year 2008-09. The margin ratio of output to total cost in 2002-03 and 2008-09 are not uniform across states and show variation from state to state. In the year 2002-03, the margin ratio varies from a minimum of -5539 in West Bengal to a maximum of 5099 in Punjab and to a maximum 4556 in Rajasthan. Similarly in the year 2008-09 the margin varies from a minimum of -1947 in Karnataka state to a maximum of 16913 in Uttarakhand .The state wise margin in the two years charged as for follows. The margin in the three states namely, Punjab, Rajasthan and Gujarat decreased while in rest of the states it increase. For example in case of Punjab the margin decreased from 5099 in the year 2002-03 to -13082 in the year 2008-09. In Haryana the margin increase from 4556 to 8183 while in Gujarat it increased from 2514 to 9294 percent. Similarly, the states of A.P, Assam, Bihar, Haryana, Kerala, M.P, Karnataka, U.P., West Bengal, Chhattisgarh, Uttarakhand, Rajasthan, Maharashtra and Himachal Pradesh witnessed an increased of from -32 to 4366, -806 to -176, 1120 to 9770, 1226 to 9350, 1454 to 12198, -1197 to 1738, -2188 to 1551, -2801 to 3639, -1323 to -651, -5539 to -426, -229 to 157, -686 to 2119, -2805 to 16914,-5822 to 12295, and -702 to -2522 respectively.

