

## chapter VII

### STRUCTURAL COMPOSITION OF COST OF PRODUCTION OF JUTE IN THE SELECTED BLOCKS OF COOCH BEHAR DISTRICT

#### 7.1. Introduction

The aim of this chapter is broadly to exhibit the structural composition of cost of production of jute per bigha in the selected blocks of Cooch Behar district. Specifically, the objectives to be studied in this chapter are: (i) to identify the cost items occupying the major shares in the cost of production of jute per bigha in the selected blocks of Cooch Behar district, (ii) to search out whether there remains inter-block and intra-block or in other words inter-size variation in the composition of cost of production of jute per bigha and any relation between the shares of the major cost items with the size of holding along with its explanatory factor(s).

The study relating to the objectives as set out in this chapter has been carried out on the basis of the cost concepts, namely, cost  $A_1$ , cost B and cost C.

#### 7.2. Block-wise Aggregative View

From Table 7.1 it is noticed that collective share of the cost items, human labour, bullock labour and manures constitute the major share in the cost of production of jute

per bigha measured in terms of cost  $A_1$  in all the selected blocks and in the district as a whole. Among these three cost items, the dominant share is occupied by human labour followed by the items, namely, bullock labour and manures in a descending order of importance in all the selected blocks and in the district as a whole. However, there remains negligible variation among the shares of these cost items over the selected blocks.

Tables 7.2 and 7.3 simultaneously depict that the major part of the cost of production of jute per bigha measured in terms of cost B and cost C is constituted by the shares of human labour, imputed value of owned land, bullock labour and manures in all the selected blocks and in the district as a whole. Among these cost items the share of human labour is observed to occupy the highest rank followed by imputed value of owned land, bullock labour and manures in a descending order of importance irrespective of places. Analogous to the case of cost  $A_1$  in the cases of cost B and cost C there exists unremarkable variation among the shares of these cost items over the selected blocks of Cooch Behar district.

The examination of Table 7.4 reveals that the share of cash expenditure is highly dominant in the cost of production of jute per bigha measured in terms of cost  $A_1$  and cost B but its share is relatively lower in comparison to cost  $A_1$

and cost B while cost of production of jute per bigha is measured in terms of cost C. Yet its share in this case is not unremarkable. Again, similar to the previous cases the share of cash expenditure in the cost of production of jute per bigha measured in terms of cost  $A_1$ , cost B and cost C has negligible variation over all the selected blocks of Cooch Behar district.

### 7.3. Intra-Block Size-wise View

Table 7.5 presents the structural composition of cost of production of jute per bigha respective to the size of holding in the selected blocks of Cooch Behar district and in the district as a whole measured in terms of cost  $A_1$ . From this table it is evident that the shares of the cost items human labour, bullock labour and manures constitute the major portion of the cost of production of jute per bigha in all the size categories over all the selected blocks of Cooch Behar district and in the district as a whole. Among these cost items the highest share is occupied by human labour followed by bullock labour and manures in all the sizes of holding among all the selected blocks and in the district as a whole except small size of holding in Haldibari block, Tufanganj block II and in the district as a whole and large size of holding in Cooch Behar block II where the share of the cost on human labour is followed by manures and bullock labour in

a descending order of importance. Again, there remains negligible variation among the shares of these cost items over the size of holding in all the selected blocks and in the district as a whole. In spite of this it may be worthwhile to mention here that there remains positive relationship between the share of the cost items, namely, human labour and the size of holding in all the selected blocks except Cooch Behar block II where the said relationship is negative. The relation between bullock labour and the size of holding is negative in all the selected blocks. The relationship between the share of manures and the size of holding is negative everywhere except Cooch Behar block II where no such precise relationship is noticed.

From this it may be said that respective to cost  $A_1$  in almost in all the selected blocks there remains positive relationship between the percentage share of cost on human labour and size of holding, negative relationship between the share of bullock labour cost and size of holding and negative relationship between the share of cost on manures and size of holding. And these facts are observed to be substantiated with the general view of the district as a whole. This shows that the relationship between the share of the human labour and the size of holding is positive, the relationship between the bullock labour and the size of holding is

negative and that between the share of manures and the size of holding is negative.

The relationships which are exposed for the district as a whole in the preceding paragraph may be explained from the same table. The positive relationship between the share of the cost of human labour and the size of holding may be due to the higher shares of fertilizer and insecticides and pesticides over the size of holding. The negative relationship between the share of bullock labour and the size of holding may be attributed to the higher share of the machine labour over the size of holding. And the negative relationship between the share of the cost of manures and the size of holding is probably due to the higher share of the cost of fertilizer over the size of holding.

Table 7.6 reveals that the collective share of the cost on human labour, imputed value of owned land, bullock labour and manures consist of the dominant position of the cost of production of jute per bigha measured in terms of cost B, in case of all sizes of holding over all the selected blocks except large size of holding in Dinhata block I and in the district as a whole. The share of the cost on human labour is noticed to be the highest followed by the shares of imputed value of owned land, cost on bullock labour and manures in a descending order of importance in case of all sizes of

holding over all the selected blocks and in the district as a whole with a few exceptions regarding small size of holding in Haldibari block, Tufanganj block II and in the district as a whole and large size of holding in Cooch Behar block II and Dinhata block I. In these cases (except large size of holding in Dinhata block I) the share of the human labour cost is followed by the shares of imputed value of owned land, cost on manures and cost on bullock labour in a descending order of importance.

The examination of the magnitudes of the shares of these cost items over all the sizes of holding in all the selected blocks and in the district as a whole shows that the magnitudes of the shares of the said cost items are negligibly varied over the size of holding in all the selected blocks and in the district as a whole.

An exercise on searching about whether there remains any relation between the shares of the said cost items and the size of holding presents that a positive relation exists between the share of the human labour cost and size of holding in Dinhata block I and Tufanganj block II. In Haldibari and Cooch Behar block II no such precise relationship is observed. The relationship between the share of cost of bullock labour and size of holding is negative in all the selected blocks. Share of the cost on manures and size of holding are observed to be negatively related in Haldibari

block and Dinhata block I, whereas no such precise relationship is found between these two in Cooch Behar block II and Tufanganj block II. The share of imputed value of owned land and size of holding are negatively related in all the selected blocks except Haldibari block where no kind of relationship exists. However, the generalised state of the district as a whole regarding the said relations shows that there remains positive relationship between the share of the cost on human labour and size of holding and the negative relationship between the share of the cost on bullock labour and size of holding, the share of the cost on manures and size of holding and the share of the imputed value of owned land and the size of holding respectively. Although the explanatory factor(s) behind the negative relationship between the share of imputed value of owned land and size of holding may not be identified from the table presented relating to the present context, the stated relationships between the share of the cost on human labour and size of holding, the share of the cost on bullock labour and size of holding and the share of the cost on manures and size of holding are explained from Table 7.6 with the similar factors mentioned in the analysis relating to cost  $A_1$ .

From Table 7.7 structural composition of the cost of production of jute per bigha measured in terms of cost C is

observed. Alike the case of cost B in this case the joint shares of the cost on human labour, imputed value of owned land, bullock labour and manures compose the major portion of the cost of production of jute per bigha over all the sizes of holding in all the selected blocks except large size of holding in Dinhata block I and in the district as a whole. The share of the cost of human labour is observed to stand on the topmost position followed by the shares of imputed value of owned land, bullock labour and manures over all the sizes of holding in all the selected blocks and in the district as a whole except small size of holding in Haldibari block, Tufanganj block II and in the district as a whole and large size of holding in Cooch Behar block II and Dinhata block I. In these cases (except large size of holding in Dinhata block I) the highest share of the cost on human labour is followed by the shares on the imputed value of owned land, manures and bullock labour in a descending order of importance. The variation among the magnitudes of the shares of all these cost items here is unremarkable over all the sizes of holding in all the selected blocks and in the district as a whole.

The view about the character of the relationship of the shares of the cost items and size of holding exhibits the existence of negative relationship between the share of cost

on human labour and the size of holding in Haldibari block and Cooch Behar block II. But no kind of relationship between these is observed in Dinhata block I and Tufanganj block II. Share of bullock labour cost and size of holding are negatively related in all the selected blocks except Haldibari block and Dinhata block I where no relation between these is observed to exist. There exists no kind of relation between the share of cost of manures and the size of holding in all the selected blocks except Cooch Behar block II where these two are positively related. The share of the imputed value of owned land and size of holding are negatively related in all the selected blocks only except Haldibari block where there exists no relation between these two.

The generalised view of the district as a whole substantiates the negative relationship between the share of cost of human labour and size of holding and again between the share of the cost on bullock labour and size of holding. But the same establishes the non-existence of any kind of relationship between the share of cost on manures and the size of holding and between the share of imputed value of owned land and the size of holding. However, the explanatory factor(s) behind the said relationships may be searched out from the table in the context. The negative relationship between the share of the bullock labour cost and size of holding may be attributed to the share of the machine labour

cost. Besides, the negative relationship between the share of the human labour cost and size of holding may be due to the aggregation of the insignificant share of the imputed value of family labour with the share of the hired human labour. This may be viewed in the following manner. The relationship between the joint shares of hired human labour, farm attached human labour and size of holding is positive but the same takes an inverse form when the share of the imputed value of family labour is added with the joint share of the aforesaid of two factors. Therefore, it may be stated that the positive relationship between the joint shares of hired human labour and farm attached human labour is obviated due to the addition of the share of the imputed value of family labour cost. So, leaving the share of the family labour cost aside, in this case also a positive relationship between the joint shares of the costs on other two categories of human labour and the size of holding is observed to exist.

Table 7.8 manifests simultaneously the shares of cash expenditure in the cost of production of jute per bigha measured in terms of cost  $A_1$ , cost B and cost C. The cash expenditure occupy the notably higher share in the cost  $A_1$  and cost B over all the sizes of holding in all the selected blocks and in the district as a whole. Though its share in cost C

is relatively lower than those in cost  $A_1$  and cost B, it may be considered as the most important constituent of cost C over all the sizes of holding in all the selected blocks and in the district as a whole. Besides, the magnitudes of the shares of cash expenditure in the case of all cost measures are observed to have marginal variation over the sizes of holding in all the selected blocks and in the district as a whole. Yet there remains positive relationship between the share of cash expenditure and the size of holding in case of all cost measures in all the selected blocks and in the district as a whole except Dinhata block I and Haldibari block where no kind of relationship is observed to exist behind the said factors in case of cost  $A_1$  and cost B respectively.

#### 7.4. Findings

The discussion so far made in this chapter broadly reveals:

(a) In case of  $A_1$  the cost on human labour, bullock labour and manures occupy the largest share and in case of cost B and cost C the cost on human labour, imputed value of owned land, bullock labour and manures constitute the highest share in all the selected blocks and in the district as a whole.

(b) The cost on human labour occupies the highest share followed by the shares of the cost on bullock labour and manures in case of cost  $A_1$  and the cost on human labour stands on the topmost position followed by the shares of imputed value of owned land and the cost on bullock labour and manures in case of cost B and cost C in all the sizes of holding in all the selected blocks and in the district as a whole with a few size-level and block-level exceptions.

(c) The share of cash expenditure in the case of all the cost measures included in the discussion is remarkably high over all the sizes of holding in all the selected blocks and in the district as a whole.

(d) There remains size-wise and block-wise marginal variation among the magnitudes of the shares of the major cost items mentioned previously in the case of all the cost measures in this district. The magnitudes of the share of cash expenditure in the case of all the cost measures considered here have also size-wise and block-wise marginal variation in this district.

(e) In the case of cost  $A_1$  the share of the cost on human labour is positively related with the size of holding and the shares of the cost on bullock labour, manures are inversely related with the size of holding in this district

although there remain diversified views in this regard over the selected blocks.

(f) The share of the cost on human labour in the case of cost B and that exclusive of the insignificant share of imputed value of family labour in case of cost C are observed to be positively related with the size of holding in all the selected blocks and in the district as a whole. Again, the share of the cost on bullock labour and manures are negatively related with the size of holding in the case of cost B in this district, apart from the existence of some varied pictures over the selected blocks regarding this aspect. Although in the district as a whole the share of the cost on bullock labour is negatively related with the size of holding in the case of cost C, the share of the cost on manures is observed to be unrelated with the size of holding in this case with a few block-level exceptions.

(g) The share of the imputed value of owned land is negatively related with the size of holding in this district in the case of cost B whereas there remains no relationship between these two in the case of cost C. However, in the case of cost B and cost C regarding this there exist some diversified views over the selected blocks.

(h) Size-wise higher shares of fertilizer and insecticides and pesticides explain the positive relationship between the share of cost on human labour and size of holding in the case of all the cost measures in this district. Size-wise higher share of the cost on machine labour accounts for the inverse relationship between the share of the cost on bullock labour and size of holding in this district irrespective of the cost basis. Besides, the higher shares of the cost of fertilizer probably interprets the negative relationship between the share of the cost on manures and size of holding found in the cases of cost  $A_1$  and cost B in this district.

(i) The share of the cash expenditure is positively related with the size of holding in all the selected blocks with a few exceptions and in the district as a whole.

Among these broad findings, the findings (a), (b) and (c) imply that in this district there exists size of holding-wise and block-wise insignificant degree of heterogeneity in the structural composition of cost of production of jute per bigha measured in terms of whatever cost basis. And the highest share of the cost on human labour among the shares of all other cost items in the cost of production of jute measured in terms of whatever cost basis implies that the intensity of human labour use in jute production is the highest in all other factor intensities. Moreover, the finding (c) indicates that

the degree of input market involvement in the production of jute is remarkably high in this district.

The implication of the finding (d) is that in this district size-wise and block-wise input intensity along with the degree of input market involvement of the jute growers is also insignificantly heterogeneous. In spite of this fact, the positive relationship between the share of human labour cost and the size of holding, the size-wise higher shares of cost on fertilizers and insecticides and pesticides and specially the same relationship between the share of cash expenditure and the size of holding as explored in the successive findings excluding the finding (g), left out of consideration due to its irrelevance in this context, imply that in this district the larger the size of holding the higher is the dependence on the market-supplied inputs. This, on the other hand, indicates the higher degree of input-market involvement of the jute growers with larger size of holding. Besides, from the nature of the explanatory factors behind the relationships stated in the findings (e) and (f) and its size-wise share as explored in finding (h) one may assume that in this district intensity of the use of modern technological inputs is higher among the larger size of jute growing farms.

In fine, it may be concluded that respective to cost measures considered in this district there exists size-wise and block-wise insignificant heterogeneity in the structural composition of cost of production of jute per bigha. The input-market involvement is remarkably high over all the sizes in all the selected blocks and in the district as a whole. Besides, block-wise input intensity and the degree of input-market involvement are also insignificantly heterogeneous. Although, the same is true in respect of different sizes of holding in this district, the size-wise higher degree of input market involvement and the size-wise higher intensity of the use of modern technological inputs may not be ignored.

Table 7.1 Percentage Share of Different Cost Items in the Cost of Production of Jute per Bigha Measured on the Basis of Cost  $A_1$  in the Selected Blocks of Cooch Behar District and in the District as a Whole for the Year 1992-93

Cost items	Haldibari	Cooch Behar II	Dinhata I	Tufanganj II	Cooch Behar district
Value of hired human labour	57.97	61.33	52.70	52.53	56.49
Value of attached labour	5.48	2.75	10.18	4.70	5.60
Total	63.45	64.08	62.88	57.23	62.09
Hired bullock	1.68	1.06	2.93	2.55	1.98
Owned bullock	8.26	9.85	8.01	12.32	9.55
Total	9.94	10.91	10.94	14.87	11.53
Machinery charges	0.27	0.88	-	-	0.31
Seed	2.72	2.58	3.81	3.93	3.20
Manures	9.91	10.59	8.89	13.43	10.66
Fertilizers	5.25	2.99	5.24	3.68	4.29
Insecticides and pesticides	1.96	1.05	1.17	1.31	1.40
Irrigation charges	0.21	0.18	0.86	-	0.29
Land revenue, cess and other taxes	0.31	0.27	0.32	0.19	0.27
Depreciation on implements and machineries	3.42	3.97	3.32	2.90	3.43
Interest on working capital	2.56	2.50	2.57	2.46	2.53
Total	100.00	100.00	100.00	100.00	100.00

Table 7.2 Percentage Share of Different Cost Items in the cost of Production of Jute per Bigha Measured on the Basis of Cost B in the Selected Blocks of Cooch Behar District and in the District as a Whole for the Year 1992-93

Cost items	Haldibari	Cooch Behar II	Dinhata I	Tufanganj II	Cooch Behar district
Value of hired human labour	41.33	44.37	37.25	37.59	40.39
Value of attached labour	3.90	1.99	7.20	3.36	4.00
Total	45.23	46.36	44.45	40.95	44.39
Hired bullock	1.20	0.77	2.08	1.82	1.42
Owned bullock	5.89	7.13	5.66	8.82	6.83
Total	7.09	7.90	7.74	10.64	8.25
Machinery charges	0.19	0.64	-	-	0.22
Seed	1.94	1.87	2.70	2.81	2.28
Manures	7.07	7.66	6.29	9.61	7.62
Fertilizers	3.74	2.16	3.70	2.63	3.07
Insecticides and pesticides	1.40	0.76	0.82	0.94	1.00
Irrigation charges	0.15	0.13	0.61	-	0.21
Land revenue, cess and other taxes	0.22	0.19	0.22	0.14	0.20
Depreciation on implements and machineries	2.44	2.88	2.34	2.07	2.45
Interest on working capital	1.83	1.81	1.82	1.76	1.81
Imputed value of owned land	23.14	21.68	23.77	23.83	23.05
Interest on fixed capital	5.56	5.96	5.54	4.62	5.45
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Table 7.3 Percentage Share of Different Cost Items in the Cost of Production of Jute per Bigha Measured on the Basis of Cost C in the Selected Blocks of Cooch Behar District and in the District as a Whole for the Year 1992-93

Cost items	Haldibari	Cooch Behar II	Dinhata I	Tufanganj II	Cooch Behar district
Value of hired human labour	33.66	34.99	29.23	27.87	31.66
Value of attached labour	3.18	1.57	5.65	2.49	3.14
Value of family labour	18.57	21.15	21.53	25.84	21.63
Total	55.41	57.71	56.41	56.20	56.43
Hired bullock	0.98	0.60	1.63	1.35	1.11
Owned bullock	4.80	5.62	4.44	6.54	5.35
Total	5.78	6.22	6.07	7.89	6.46
Machinery charges	0.15	0.50	-	-	0.18
Seed	1.58	1.47	2.12	2.09	1.79
Manures	5.75	6.04	4.93	7.12	5.97
Fertilizers	3.05	1.71	2.91	1.95	2.40
Insecticides and pesticides	1.14	0.60	0.64	0.70	0.78
Irrigation charges	0.12	0.10	0.48	-	0.17
Land revenue, cess and other taxes	0.18	0.15	0.18	0.10	0.15
Depreciation on implements and machineries	1.98	2.27	1.84	1.54	1.92
Interest on working capital	1.49	1.43	1.43	1.31	1.42
Imputed value of owned land	18.84	17.09	18.65	17.67	18.06
Interest on fixed capital	4.53	4.71	4.34	3.43	4.27
Total	100.00	100.00	100.00	100.00	100.00

Table 7.4 Percentage Share of Cash Expenditure in the Cost A<sub>1</sub>, Cost B and Cost C per Bigha of Jute in the Selected Blocks of Cooch Behar District and in the District as a Whole for the Year 1992-93

Name of the block	Percentage share of cash expenditure in		
	Cost A <sub>1</sub>	Cost B	Cost C
Halāibari	85.44	60.92	49.61
Cooch Behar II	83.40	60.34	47.58
Dinhata I	85.78	60.64	47.59
Tufanganj II	82.12	58.76	43.58
Cooch Behar district	84.22	60.22	47.20













Table 7.8 Size-wise Percentage Share of Cash Expenditure in the Cost A<sub>1</sub>, Cost B and Cost C per Bigha of Jute in the Selected Blocks of Cooch Behar District and in the District as a Whole for the Year 1992-93

Name of the block	Farm size	Percentage share of cash expenditure in		
		Cost A <sub>1</sub>	Cost B	Cost C
Haldibari	Marginal	84.98	61.35	47.05
	Small	85.88	60.77	50.75
	Large	86.03	64.11	57.19
Cooch Behar II	Marginal	83.40	59.75	45.50
	Small	83.89	62.01	48.82
	Large	84.68	63.16	54.95
Dinhata I	Marginal	86.30	58.53	41.26
	Small	85.46	61.63	51.57
	Large	85.72	64.60	58.58
Tufanganj II	Marginal	81.65	56.76	39.60
	Small	82.72	61.11	47.66
	Large	83.98	64.32	55.27
Cooch Behar district	Marginal	83.96	59.18	43.45
	Small	84.58	61.34	49.74
	Large	85.25	64.00	56.60