

## CONTACT FARMING IN SUGARCANE CULTIVATION; GROWER'S PERCEPTION AND CONSTRAINTS

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### ABSTRACT

Contract farming has provided alternative market for the small holders with substantial income. The study conducted with each of 80 contracted and non-contracted sugarcane growers in Nayagarh district of Odisha revealed that majority of the sugarcane growers were small farmers having varied socio-economic attributes. They had good perception towards benefit of the contract farming and knowledge about important practices in sugarcane cultivation. But, very poor facilities were availed by the respondents from the contracting sugar industry. No written agreement, insurance coverage, transparency in measurement, attempt for farm mechanization, clarification and understanding on suggested technologies, sale price not fixed over the production cost, produce not lifted in time and harassment in payment, cluster approach not followed and incompetent field staffs were the pertinent constraints stated by the respondents. Hence, the sugar industry officials have to analyze all these aspects and provide all possible supports for benefit of both the contracted growers and contracting firms as well as sustainability of the contract farming in sugarcane cultivation.

**KEYWORDS:** Contract Farming, Sugarcane Cultivation, Contracting Firm, Farmers

### INTRODUCTION

Contract farming has become more important in agriculture and food industries of the developed and developing countries. Well organized contract farming provide linkages and appear to offer an important way in which small producers could farm in a commercial manner with the opportunity to guarantee a reliable source of supply from the perspective of both quantity and quality (Singh, 2001). Contract farming also provide the opportunity for assured price, market, inputs, technology and above all reduced the risks (Ponnusamy and Gupta, 2003).

Contract farming in sugarcane cultivation has gained momentum in Odisha after establishment of sugar industries both at private and cooperative sector. The contracting firms are supplying all inputs with technological backstopping, efficient marketing, reduced capital investment, no price fluctuation and guaranteed income (Begun, 2005). Hence, contract farming is one of the main instruments to link small scale farming to domestic and foreign markets and thereby reduce poverty (Danson, 2004). There are also criticism of low level of the commitment of the corporate, lack of transparency and communication, enforceability of the agreement as well as participation of the farmers limited to production only (Vasudev and Chowdhury, 2005). A study was therefore designed to assess the perception and constraints

of the sugarcane growers under contract farming.

## RESEARCH METHODOLOGY

The study was undertaken in Nayagarh district of Odisha where sugarcane grown traditionally and Nayagarh sugar complex Ltd involve farmers under contract farming. A sample size comprising each of 80 contracted and non-contracted sugarcane growers from four grampanchayats of Odogaon and Nayagarh blocks were selected randomly as the respondents of the study. The data was collected personally through a semi-structured schedule pre-tested earlier. Statistical tools such as mean score, gap percentage, standard deviation, co-efficient of variation and correlation coefficient were employed to reveal the results.

## RESULTS AND DISCUSSIONS

The rise of literatures proves that socio-demographic factors can regulate for the acceptance of improved technology. It is observed from Table-1 that majority of both the

**Table 1: Socio-Economic Status of the Respondents**

S. No.	Status	Contracted Farmers (n = 80)		Non-Contracted Farmers (n = 80)		Total (n = 160)	
		F	%	F	%	F	%
1.	High	14	17.50	8	10.00	22	13.75
2.	Medium	55	68.75	58	72.50	113	70.63
3.	Low	11	13.75	14	17.50	25	15.62

Contracted (68.75%) and non-contracted (72.50%) of the respondents were of relatively medium socio-economic status. Hence, contract farming in sugarcane cultivation will be definitely a boon for the development of the farmers.

**Table 2: Extent of Consistency in the Socio-Economic Attributes**

S. No.	Variable	Contracted Farmers (n = 80)			Non-contracted farmers (n = 80)		
		Mean	S.D.	C.V. (%)	Mean	S.D.	CV. (%)
X <sub>1</sub>	Age	2.23	0.61	27.21	2.30	0.564	24.51
X <sub>2</sub>	Caste	1.93	0.88	45.54	2.28	0.72	31.32
X <sub>3</sub>	Education	2.80	1.20	42.89	3.39	1.31	38.57
X <sub>4</sub>	Family type	1.17	0.38	32.11	1.49	0.50	33.74
X <sub>5</sub>	Family size	1.35	0.48	35.50	19.0	0.31	16.20
X <sub>6</sub>	Social participation	5.76	2.23	38.76	6.01	1.82	30.29
X <sub>7</sub>	Cosmopoliteness	10.30	4.26	41.33	10.06	2.27	22.56
X <sub>8</sub>	Extension contact	4.50	3.07	68.17	4.78	2.68	56.06
X <sub>9</sub>	Sources of information	6.35	2.95	46.04	6.85	3.46	50.50
X <sub>10</sub>	Housing pattern	2.42	0.83	34.32	2.78	0.81	29.14
X <sub>11</sub>	Use of farm implements	6.72	3.90	57.98	7.80	4.04	51.76
X <sub>12</sub>	Occupation	1.43	0.52	36.30	1.75	0.50	28.72
X <sub>13</sub>	Annual income	1.75	0.89	51.11	2.27	1.17	51.31

Further analysis has been made for the extent of consistency in the socio-economic attributes of the respondents. Results obtained from the Co-efficient of variance analysis revealed (Table-2) that there was no consistency in the socio-economic attributes of both the contracted and non-contracted respondents. Greater variability was observed on annual

income, use of farm implements, sources of information, extension contact, social participation, family type and caste in comparison to age and housing pattern. Family size of the contracted respondents had more variability than non-contracted respondents. It indicates that farmers opting for sugarcane cultivation in the study are of varied socio-economic attributes.

**Table 3: Benefits of Contract Farming in Sugarcane Cultivation**

S. No.	Benefit	Contracted Farmers (n = 80)		Non-contracted farmers (n = 80)		Differential (%)	C.R. Value
		Mean Score	Rank	Mean Score	Rank		
1.	Assured marketing	2.18	VI	2.10	IV	3.67	0.035
2.	Remunerative price	2.61	I	2.21	I	15.33	0.162
3.	Good technical expertise	2.09	VII	2.00	VII	4.31	0.040
4.	Adequate credit and finance	2.35	III	1.71	VIII	27.33	0.0287**
5.	Timely crop management	2.09	VII	2.03	VI	2.87	0.027
6.	Irrigation facility	2.43	II	2.05	V	15.64	0.165
7.	Farm mechanisation	2.26	IV	2.11	III	6.64	0.065
8.	Supply of quality inputs	2.21	V	2.14	II	3.17	0.030

(Maximum obtainable score-3)

\*\*Significant at 0.01level

Sugarcane growers are opting contract farming mainly for assured marketing with remunerative price, credit and finance, technical expertise, better crop management guidance and supply of quality inputs. The results obtained from the analysis of data revealed (Table-3) that both the contracted and non-contracted respondents were of similar opinion as no significant differential opinions observed through critical ratio test except credit and finance. Remunerative price, irrigation facility, farm mechanization, quality input supply and assured market were the benefits of the contract farming as opined by both the contracted and non-contracted respondents.

**Table 4: Extent of Facilities Availed in Sugarcane Cultivation**

S. No.	Benefit	Contracted Farmers (n = 80)		Non-contracted Farmers (n = 80)		Diff. (%)	C.R. Value
		Mean Score	Rank	Mean Score	Rank		
1.	Timely use of inputs	2.30	I	2.00	II	13.04	0.131
2.	Regular monitoring and guidance	1.83	IV	1.70	III	7.10	0.062
3.	Timely plant protection measures	1.96	III	1.65	IV	15.82	0.147
4.	Timely harvesting	2.28	II	2.19	I	3.95	0.038
5.	Timely lifting of produce	1.75	V	1.45	V	17.14	0.151
6.	Immediate payment	1.40	VI	1.31	VI	6.43	0.049

(Maximum Obtainable Score – 3)

Contract farming is an economic intervention to provide an environment of competition in the background of an institutional set up. The contracting firms provide the support of technological expertise, input supply, production services, guaranteed and fixed sale price of the produce. But, very poor opinions were observed (Table-3) from both the contracted and non-contracted respondents in availing the facilities particularly monitoring and evaluation, timely plant protection measures and timely lifting the produce along with immediately payment. It indicates that the contracting firm had deviated the norms of the contract farming. However, the respondents were agreed some extent for the timely use of inputs and harvesting.

**Table 5: Important Practices in Sugarcane Cultivation**

S. No.	Practice	Mean Score		Diff. (%)	Pooled Mean Score (n = 160)	Rank
		Contracted Farmers (n = 80)	Non-contracted Farmers (n = 80)			
1.	Land preparation	2.34	2.19	6.41	2.27	IV
2.	Seed cane selection and treatment	2.09	2.05	1.91	2.07	VII
3.	Recommended manure and fertilizers	2.16	2.09	3.24	2.13	VI
4.	Irrigation	2.25	2.19	2.67	2.22	V
5.	Intercultural operation	2.78	2.75	1.08	2.77	I
6.	Disease and pest management	2.68	2.63	1.87	2.66	II
7.	Harvesting and post-harvest management	2.61	2.55	2.30	2.58	III

(Maximum Obtainable Score–3)

Contract farming in Indian Agriculture is gaining more importance. Farmer's interest towards contract farming are also increasing due to easy disposal of the produce with remunerative price. But, desired production with quality parameters suitable to contract farming can bring the farmers in the system continuously. Therefore, they need to have good knowledge about important practices in sugarcane cultivation. It is observed from Table-5 that both the contracted and non-contracted respondents were almost of similar opinions. The respondents had stated intercultural operation as the most important practice in sugarcane cultivation followed by disease and pest management, harvesting and post-harvest management, land preparation, irrigation, recommended manure and fertilizers, use and selection of seed cane along with treatment. Hence; the respondents had good perceptions towards important practices in sugarcane cultivation.

**Table 6: Pertinent Constraints Expressed By the Respondents**

S. No.	Practice	Mean Score		Diff. (%)	Pooled Mean Score (n = 160)	Rank
		Contracted Farmers (n = 80)	Non-Contracted Farmers (n = 80)			
1.	No insurance coverage	3.0	3.0	0.00	3.00	I
2.	No transparency in measurement	2.98	3.00	2.67	2.99	II
3.	Sale price not fixed over production cost	2.98	2.98	0.00	2.98	III
4.	Harassment in payment	2.70	3.00	10.00	2.85	IV
5.	Produce not timely lifted	2.65	3.00	11.67	2.83	V
6.	No written agreement	2.73	2.85	4.21	2.79	VI
7.	No attempt for farm mechanization	2.70	2.83	4.59	2.77	VII
8.	No clarification and understanding on suggested technology	2.65	2.75	3.64	2.70	VIII
9.	Field staffs not competent	2.66	2.71	1.85	2.69	IX
10.	Cluster approach not followed	2.56	2.69	4.83	2.63	X

(Maximum Obtainable Score – 3)

There are many risk factors for the contracted growers particularly desired production with quality specifications, unsuitable technology, crop incompatibility, monopoly of the sponsors, exploitation by the field staffs, inadequate

guidance and not cooperating for timely harvest, immediate lifting as well as timely payment. The data analyzed on constraints of the growers revealed (Table-6) that both the contracted and non-contracted respondents were almost of similar opinions. The constraints expressed by the respondents were genuine and very much essential for the benefit of both the contracted growers and contracting firms as well as sustainability of the contract farming system.

**Table 7: Influence of Socio-Economic Variables on Adoption of Practices**

S. No.	Variable	Correlation ('R') Value		
		Contracted Farmers (n = 80)	Non-Contracted Farmers (n = 80)	Pooled (n = 160)
1.	Age	0.385**	-0.063	0.007
2.	Caste	-0.064	0.026	-0.020
3.	Education	0.318**	0.047	0.074
4.	Family type	0.249*	-0.065	0.121
5.	Family size	0.476**	0.103	0.195*
6.	Social participation	0.033	0.070	-0.025
7.	Cosmopoliteness	-0.048	0.025	-0.001
8.	Extension contact	0.023	-0.028	0.071
9.	Sources of information	-0.073	0.052	0.027
10.	Housing pattern	0.040	0.060	0.011
11.	Use of farm implements	-0.100	-0.014	0.020
12.	Occupation	0.167	0.077	0.184
13.	Annual income	-0.005	-0.002	-0.035

\*\* Significant at 0.01 level

\* Significant at 0.05 level

Correlation co-efficient analysis revealed (Table-7) that age, education, family type and size, of the contracted respondents had significantly influenced the adoption of various practices in sugarcane cultivation. But, no socio-economic pooled mean score value also indicated for no contribution. It is therefore apprehended that the socio-economic attributes of the respondents had not significant influence in adoption of various practices in sugarcane cultivation.

## CONCLUSIONS

Contract farming has made an impressive inkling in the mind and thoughts of the policy makers, development planners, extension and sustainable development researchers as a mechanism to build linkages between farmers and agri-business firms. It has provided alternative markets for the farmers with substantial income. The study conducted on perception and constraints of the sugarcane growers have arrived with the following conclusions.

- Majority of the sugarcane growers were small holders and varied in their socio-economic attributes.
- Remunerative price, irrigation facility, farm mechanization, quality input supply and assured market was the perceived benefits of the contract farming.
- Poor opinions were observed in availing facilities particularly monitoring and evaluation, timely plant protection measures, timely lifting of the produce and immediate payment.
- The respondent had good knowledge on the important practices in sugarcane cultivation.
- No written agreement, insurance coverage, transparency in measurement, attempt for farm mechanization, clarification and understanding on suggested technologies, sale price not fixed over production cost, product not

lifted in time and harassment in payment, cluster approach not followed and incompetent field staffs were the pertinent constraints stated by the respondents.

- Socio-economic attributes of the respondents had not significant influence in adoption of various practices in sugarcane cultivation.

It is therefore suggested that the contracting sugar industry officials have to analyze all these constraints and provide all possible supports for benefit of both the contracted growers and contracting firms as well as sustainability of the contract farming in sugarcane cultivation.

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