

Constraints analysis on Tapioca cultivation and marketing to Sago Industries by Tribal farmers in Tamil Nadu

^{*1}S Radhakrishnan, ²G Srinivasan and ³D Vengatesan

^{1*,2}Department of Agricultural Economics, Annamalai University - 608002 (India)

³Department of Agricultural Extension, Annamalai University - 608002 (India)

*Corresponding Author Mail ID: radhaican007@gmail.com.

Abstract

The tribal population in India is 84.51 million, which constitutes 8.14% of tribal population. Tuber crops are the most important food crops after cereals. India is the world tenth largest country in producing tapioca. In India, the cultivation of tapioca is mainly done in Tamil Nadu, Kerala, Andhra Pradesh, Meghalaya, Nagaland, Assam, etc. Tamil Nadu is the leading state. Salem district is major producer of tapioca in Tamil Nadu. Garret's Ranking Technique was used to rank the factors that affected the marketing of tapioca in the study area. The objective of to analyze the constraints felt by tribal farmers in production of tapioca and sago factories for procurement of tapioca and marketing of sago. Price fluctuation is considered as major constraint in pethanayak-anpalayam block with a mean score of 59.53 followed by Cartel formation which has a mean score of 58.70. Price fluctuation is considered as major constraint in Gangavalli block with a mean score of 57.96 followed by malpractices for point scale fixation which has a mean score of 56.90. Price fluctuation and exploitation of middleman were the major constraint faced by sago factories.

Key words : Tribal farmers, Constraints, Mean score, Garrett's ranking.

The tribal population in India is 84.51 million, which constitutes 8.14% of tribal population. There are about 449 tribes and sub tribes in different parts of India. The tribal population of the country, as per 2011 census, is 10.43 crore, constituting 8.6% of the total population.

Tuber crops are the most important food crops after cereals. Tapioca was introduced into India by the Portuguese. In India, the cultivation of tapioca is mainly done in Tamil Nadu, Kerala, Andhra Pradesh, Meghalaya, Nagaland, Assam, etc. Tamil Nadu is the leading state, in which the cultivation of the tapioca is 811400

^{1*}Research Scholar, ²Associate Professor, ³Associate Professor

ha with a production of 3065.14 million tonnes (source: *Horticulture Statistics Division, Department of Agriculture Cooperation and Farmers Welfare 2022*).

Though a state productivity (25 tonnes/ha) is higher than national productivity (10 tonnes/ha), a heap of serious issues confronts both the industry and the tapioca farmers who provide the raw material. Many middlemen lend money to farmers in the form of advance for the crop. They enter into an unwritten agreement which stipulates that they sell the produce to them. The nature of the crop favours them. It should be moved to the factory within 24 hours of its harvest or else it tends to lose the starch content - on the basis of which the industrial units fix the price. Hence, instead of taking chances, they are solely depending on Sago factories and they are not aware of the other product uses. At this juncture, this study was conducted with the following objective. For the preparation of the manuscript relevant literature¹⁻⁶ has been consulted.

Objective of the study :

To analyze the constraints felt by tribal farmers in production and marketing of tapioca to the sago factories in the study area.

Selection of study area :

Multiple stage and purposive sampling method was used for selecting the district, blocks and villages. Salem district of Tamil Nadu state was selected base on its dominance in tapioca cultivation and sago production. Apart from that Salem district also has highest number of tribal populations (1,19,360) among

all the other districts of Tamil Nadu. Pethanayak-anpalayam block and Gangavalli block of the Salem district were selected based on the highest number of tribal tapioca farms. Finally, from selected villages, 120 tribal sample farmers cultivating and marketing tapioca were selected by probability proportionate sampling method and interviewed through pre-tested questionnaire schedules.

Garrett's Ranking method :

To study the constraints in marketing of tapioca and paddy, Garrett's Ranking Technique was employed (Garret, 1969). In this section, Garret's Ranking Technique was used to rank the factors that affected the marketing of tapioca in the study area. The major factors that affect the marketing were identified and the growers were asked to rank the factors in order of their importance. The order thus given by the farmers were converted into ranks by using the following formula.

$$\text{Percentage position} = \frac{100 \times (R_{ij} - 0.5)}{N_j}$$

were,

R_{ij} = Ranking given to the i^{th} attribute by the j^{th} individual

N_j = Number of attributes ranked by the j^{th} individual.

The tapioca growers in the study area were facing certain cultivation constraints. Major constraints were identified and they were ranked using Garrett's ranking Technique.

The Percent position and Garret Value :

By referring to the Garrett's table, the per cent positions were estimated and converted into scores. For each constraints the

scores of various respondents were added and the mean values were estimated. The mean values obtained for each of the constraints were arranged in descending order. The attributes with the highest mean value were considered as the most important one, followed by others in that same order. In the

present study Garret's ranking technique would be used to identify the problems encountered by Tapioca production and Sago processing units involved in the study.

$$\text{Percent position} = \frac{100 \times (R_{ij} - 0.5)}{N_j}$$

Table-1. The Percent Position and Garret Value

Sl. No.	$100 (R_{ij} - 0.5) / N_j$	Calculated Value	Garret Value
1	$100 (1 - 0.5) / 6$	8.33	77
2	$100 (2 - 0.5) / 6$	25.00	63
3	$100 (3 - 0.5) / 6$	41.66	54
4	$100 (4 - 0.5) / 6$	58.33	46
5	$100 (5 - 0.5) / 6$	75.00	37
6	$100 (6 - 0.5) / 6$	91.66	23

Constraints encountered by Farmer in Pethanayakanpalayam Block :

The Garrett's score for Pethanayakanpalayam block was obtained by multiplying

with Garrett's value and the mean scores for the problems encountered by tapioca farmer in marketing of tapioca in the Pethanayakanpalayam block are calculated and presented in the Table-2.

Table-2. Constraints encountered by Farmer in Pethanayakanpalayam Block

Sl. No	Particulars	Rank given by Respondent						Total	Mean Score	Rank
		I	II	III	IV	V	VI			
1	Price fluctuation	1694	756	486	322	222	92	3572	59.53	I
2	Cartel formation by sago factory	1386	1008	270	414	444	0	3522	58.70	II
3	Malpractice for point scale fixation	1771	315	0	736	185	253	3260	54.33	VI
4	Lack of regulated market	1386	882	432	0	444	184	3328	55.46	V
5	Lack of government support	1309	819	594	414	0	230	3366	56.10	III
6	Perishability	1848	0	702	368	222	207	3347	55.78	IV

Based on the score obtained from table-2 Price fluctuation is considered as major constraint in pethanayakanpalayam block with a mean score of 59.53 followed by cartel formation (mean score of 58.70), lack of

government support (mean score of 56.10), perishability of tapioca (mean score of 55.78), lack of regulated market (mean score of 55.46) and malpractices for point scale fixation (mean score of 54.33).

Constraints Encountered by Farmer in Gangavalli Block :

In Gangavalli block, sago factories are

situated in the block itself. The Garrett's value and the mean scores for the problems encountered by tapioca farmer in marketing of tapioca are presented in the Table-3.

Table-3. Constraints Encountered by Farmer in Gangavalli Block

Sl. No	Particulars	Rank given by Respondent						Total	Mean Score	Rank
		I	II	III	IV	V	VI			
1	Price fluctuation	1617	693	486	322	222	138	3478	57.96	I
2	Cartel formation by sago factory	1694	315	224	506	256	207	3305	55.08	V
3	Malpractice for point scale fixation	1309	945	270	414	407	69	3414	56.90	II
4	Lack of regulated market	1309	819	378	184	407	69	3166	52.76	VI
5	Lack of government support	1232	756	540	414	222	161	3325	55.41	IV
6	Perishability	1694	252	594	322	259	207	3328	55.46	III

Price fluctuation is considered as major constraint in Gangavalli block with a mean score of 57.96 followed by malpractices for point scale fixation (mean score of 56.90), perishability (mean score of 55.46), lack of government support (mean score of 55.41), Cartel formation by sago factory (mean score of 55.08) and lack of regulated market (mean score of 52.76).

Comparison of Garrett Ranking for constraints faced by farmers :

Based on the mean scores obtained by the Garrett's ranking technique, the constrains of both the blocks Pethanayakanpalayam and Gangavalli are furnished in the table along with their obtained ranks in the Table-4.

Table-4. Garrett Ranking for Constraints Faced by Farmers

Sl. No.	Particulars	Pethanayakanpalayam	Gangavalli
		Rank	Rank
1	Price fluctuation	I	I
2	Cartel formation by sago factory	II	V
3	Malpractice for point scale fixation	VI	II
4	Lack of regulated market	V	VI
5	Lack of government support	III	IV
6	Perishability	IV	III

Table-5. Constraints Encountered by Sago Factory in Gangavalli Block

Sl. No	Particulars	Rank given by Respondent						Total	Mean Score	Rank
		I	II	III	IV	V	VI			
1	Price fluctuation	308	189	54	46	0	23	620	62.00	I
2	Exploitation of middleman	308	189	54	0	37	23	611	61.10	II
3	Procurement price fluctuation at sago serve tender	308	189	0	46	37	23	603	60.30	IV
4	High processing cost	308	126	54	46	37	23	548	54.80	VI
5	Labour scarcity	308	126	54	46	37	23	594	59.40	V
6	Market competitors	308	126	54	46	74	0	608	60.80	III

Price fluctuation was ranked first and considered as the major constraint in both the Pethanayakanpalayam and Gangavalli blocks. Cartel formation by sago factory was ranked second in Pethanayakanpalayam and was fifth in Gangavalli block. Malpractice for point scale fixation was ranked sixth in Pethanayakanpalayam block while second in Gangavalli block. Lack of regulated market was ranked fifth in Pethanayakanpalayam block and sixth in Gangavalli block. Lack of government support was ranked third in Pethanayakanpalayam block while fourth in Gangavalli block. Perishability of tapioca was ranked fourth in Pethanayakanpalayam while third in Gangavalli block.

Constraints encountered by Sago Factories in Gangavalli Block :

The problems encountered by sago factories in Gangavalli was only taken in to account because there were no sago factories in pethanayakampalayam block. The Garrett value and mean score faced by sago factories are presented in table-5.

Price fluctuation was the major constraint for sago factories with a mean value of 62.00. Exploitation by the middleman was the second major constraint for sago factories which had mean score of 61.10. Competition among the sago factories for procurement of tapioca was ranked third with mean score of 60.80 followed by Procurement price fluctuation at sago serve tender was the fourth among the constraints faced by the sago factories and had a score of 60.30. labour scarcity was ranked as fifth acquiring mean score 59.40 followed by processing cost with the mean score of 54.80.

Based on the value computed using the Garrett ranking method, it is evident that price fluctuation was the major constraints in both farming as well as factories aspect. In production aspect, formation of cartels acted as major threat for the tribal farmers because the cartels influence the procurement price of tapioca; so the farmers get less value for their crop. Malpractices for point scale fixation was also a major constraint for tribal farmers because it leads to reduction in income of the

farmers since altered scales shows the produce given to the factories are low qualities thus reducing the returns of the farmer. Lack of government support such as establishment of a regulated markets specifically for tapioca could prevent cartel influence and scale malpractices thus ensuring a good profit for tapioca farmers.

Exploitation by the middleman was a major threat to both the farmers and sago factories because the middleman earns more money than the farmers by procuring tapioca at lower prices using the influence of cartels and selling it to competitor factories which give more commission to them instead of factories that are near the cultivation area thus reducing raw material availability for the local sago factories.

Interference by the government is necessary in tapioca cultivation because it is one among the major stable crop of Tamil Nadu. By opening of regulated markets or co-operative markets for tapioca, the Government could ensure a safety marketing of the crop for the tribal farmers and easy procurement of raw materials for sago factories. Tribal farmers can also form Tribal farmer

association for tapioca to enable them to have a strong hold on the produce against the cartels formed by the industries.

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