RESEARCH ARTICLE :

Analysis of marketing channel of tamarind in Bastar plateau of Chhattisgarh

■ Lekh Ram Verma and Kedar Nath Yadaw

SUMMARY : The present study was carried out in Bastar plateau of Chhattisgarh. Bastar plateau having total 7 districts. Out of which 2 district *i.e.* Bastar and Dantewada were selected purposively for this study. The study aims to assess the marketing channel of tamarind in Bastar plateau. A survey was conducted to assess the marketing channel of tamarind in selected. The survey was consisted of primary data from semi structured and pre tested interview schedule of selected respondents involved in collection and marketing of tamarind. The primary data for this study were collected from 100 respondents from the selected districts. The study findings of the study revealed that 58 per cent of the respondents preferred Channel IV (Producer→Village trader → Wholesaler → Retailer → Consumer) for the selling of their produce. A total of 620 tamarind trees owned by selected respondents and they produce total 1856.2qt tamarinds. From total produce, 54.80 per cent produce were sold through channel IV (Producer→Village trader → Wholesaler → Retailer → Consumer). The results of the study revealed that highest total marketing margin Rs. 3455.50/- were received from channel IV.

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BACKGROUND AND OBJECTIVES

Tamarind (*Tamarindus indica*) a leguminous tree in the family Fabaceae indigenous to tropical Africa, is an important tropical fruit tree growing in India and other parts of the globe. India is the world's largest producer of tamarind. India is the world's largest producer of tamarind, with a production of over 194.41 thousand tonnes. Tamarind is cultivated in Karnataka, Tamil Nadu, Chhattisgarh, Kerala, Andhra Pradesh, Maharashtra and Telangana. Around 50,000 tonnes of tamarind is exported in various forms including fresh fruit, deseeded dry tamarind and tamarind powder (National Horticulture Board, 2015-16). Chhattisgarh is forest and tribal dominated region. Tribal farmers from Chhattisgarh were engaged in collection and marketing of various non-timber forest produces (NTFPs) *i.e.* Mahua, Imali, Chironji, Tendu leaves etc. out of these tamarind is the important minor forest produce. Chhattisgarh produces about 4 lakh quintals of tamarind of which 50 per cent is produced in Bastar. Tamarind business generates ample

employment opportunities for the rural community round the year. Tribal communities either individually or under contractors collect or sell it. There is both organized and unorganized channel.

The tamarind was clearly the choice of community in view of availability in large quantity in cluster. The trade of tamarind after collection is entirely in the hands of middlemen at present. Currently, large quantity of tamarind is collected by community and immediately sold to middlemen as raw tamarind pods at very low price.

In view of this the study aims to "assess the marketing channels of tamarind in Bastar plateau of Chhattisgarh".

RESOURCES AND METHODS

The present study undertaken in Bastar plateau of Chhattisgarh state. Bastar plateau consist of 7 districts *i.e.* Bastar, Dantewada, Bijapur, Sukma, Kodagaon, Narayanpur and Kanker. Out of which only 2 districts were selected purposively *i.e.* Bastar and Dantewada. Selected districts consist of total 11 blocks (7 blocks from Bastar and 4 from Dantewada). Out of these 11 blocks Bastar from Bastar district and Geedam from Dantewada district were selected purposively. From each selected block 5 villages were selected purposively on the basis of availability of tamarind producer (Total 10 villages). 10 tamarind producers were selected purposively from each selected villages. Thus, a total of 100 farmers were considered as respondent for the study. The data were collected through a semi structured and pre tested interview schedule. The collected data were analysed by using appropriate statistical tools *i.e.* mean, percentage etc.

OBSERVATIONS AND ANALYSIS

It is observed from the Table 1 that the majority (43.00%) of the tamarind producer belonged to young age group (Upto 35 years), 39.00 per cent tamarind producer were under middle age group (36 to 55 years) and 18.00 per cent tamarind producer were of old age group (Above 55 years).

Education builds the ability of an individual to improve knowledge understand and utilize the things in a better way, hence, assessment of tamarind producer education level must be done. The data in Table 1 show that the maximum (44.00%) number of tamarind producer were educated primary school level (1st to 5th) followed by

28.00 per cent tamarind producer who were educated middle school level (6th to 8th). Whereas 19.00 per cent tamarind producer were illiterate, 8.00 per cent tamarind producer were educated high school level and 1.00 per cent respondents had higher secondary school and above. From above findings, it may be concluded that highest per cent (44.00%) of respondents were educated primary school level (1st to 5th).

The Table 1 shows that the maximum number (79.00%) of the tamarind producer farmers schedule tribes, followed by other backward (14.00%) whereas 5.00 per cent village tamarind producer were from Schedule cast and 2.00 per cent tamarind producer were from other/general caste category.

Family size is another important variable under the socio-personal characteristics of tamarind producer farmers, which affect their collection and primary processing. The maximum 52.00 per cent number of tamarind producer had medium size of the family (6 to

Table 1: Distribution of respondents according to their socio-economic profile

Particulars	Frequency	Percentage
Age		
Young (Upto 35 years)	43	43.00
Middle (36 to 55 years)	39	39.00
Old (Above 55 years)	18	18.00
Education		
Illiterate	19	19.00
Primary school level	44	44.00
Middle school level	28	28.00
High school level	8	8.00
Higher secondary school level and above	1	1.00
Caste		
Schedule caste (SC)	5	5.00
Schedule tribes (ST)	79	79.00
Other backward class (OBC)	14	14.00
General	2	2.00
Family size		
Small (Upto 5 members)	21	21.00
Medium (6 to 10 members)	52	52.00
Large (Greater than 10 members)	27	27.00
Experience in tamarind collection		
Less than 10 years	27	27.00
11 to 20 years	32	32.00
Above 20 years	44	44.00

10 members) followed by large size of family (>10 members) with 27.00 per cent. However, rest of the (21.00%) tamarind producer farmers had small size of family (upto 5 members), this indicates that the majority of tamarind producers had medium size of family residing with 6-10 members.

The Table 1 shows that the majority (44.00%) of the tamarind producer farmers had more than 20 year of experience, followed by 32.00 per cent of the respondents those who have 11 to 20 year of experience of collection of tamarind, whereas 27.00 per cent tamarind producer farmers were <10 year of experience.

It is apparent from the Table 2, that 46.00 per cent of the tamarind producer were small farmer (1.1 to 2 ha), followed by marginal and medium farmer category with 23.00 per cent. Whereas 8.00 per cent tamarind producer had more than 4 hectare size of land holding and classified under large farmer category. It could be concluded from the table that most (46.00%) of tamarind producer farmers had 1.1 to 2 hectare size of land holding and classified under marginal farmer category as well as no any farmers comes category under landless.

Table 2: Distribution of respondents according to their land holdings

Particulars	Frequency	Percentage
Landless farmer	00	00.00
Marginal (Upto 1 ha)	23	23.00
Small (1.1 to 2 ha)	46	46.00
Medium (2.1 to 4 ha)	23	23.00
Large (Above 4 ha)	08	08.00

The gross income of tamarind producer family in rupees derived from all sources in a year was taken as annual income. Annual income of the respondents is given in the Table 3. It was found that maximum (44.00%) of the respondents were having their annual income Rs. 50,001 to 100000, followed by 32.00 per cent respondents who were having their annual income less than from Rs. 50000, whereas 24 per cent respondents were found in the income level more than Rs. 100000.

Table 3: Distribution of respondents according to their annual income

Particulars	Frequency	Percentage
Less than Rs. 50,000	32	32.00
Between Rs. 50,001 to Rs. 100,000	44	44.00
More than Rs. 100,000	24	24.00

Regarding the distribution of tamarind producer farmers according to their occupation, it is observed from Table 4 that cent per cent of the respondents were involved in collection of tamarind and agriculture exclusively, followed by collection of other NTFP (85%), animal husbandry (70.00%), wage earning/labour (41%), business (8%) and service (2%).

Table 4: Distribution of respondents according to their occupation

Particulars	Frequency*	Percentage
Agriculture	100	100.00
Collection of tamarind	100	100.00
Collection of other NTFPs	85	85.00
Animal husbandry	70	70.00
Wage earnings /labour	41	41.00
Business	8	8.00
Services	2	2.00

*Data based on multiple responses

Primary processing refers to the initial processing of tamarinds after harvesting and before the selling. From the Table 5 it can be concluded that the cent per cent of the tamarind producer farmers practicing de-shelling/de-hulling of the tamarind followed by sun drying (71.00%), whereas 60.00 per cent farmers involved in packaging and storage, grading (55.00%), removal of fibre (52.00%) and 32.00 per cent farmers engaged deseeding of tamarinds.

Table 5: Distribution of respondents according to their primary processing

Particulars	Frequency*	Percentage
Grading	55	55.00
De-shelling/ Dehulling	100	100.00
Removing fibre	52	52.00
Deseeding	32	32.00
Sun drying	71	71.00
Packaging and storage	60	60.00

*Data based on multiple responses

The data presented in Table 6 explicitly depicted that the majority (68.00%) of the tamarind producer farmers sold their tamarinds in regulated market

Table 6: Distribution of respondents according to their marketing linkages

Particulars	Frequency	Percentage
In the village itself	32	32.00
In regulated markets	68	68.00

remaining (32.00%) farmers sold the tamarinds in the village itself.

From the Table 7 it can be concluded that about the most of the (40.00%) tamarind producer sold the tamarind after around two month of the collection, followed by one month (32.00%) and remaining tamarind producer (28.00%) sold the tamarinds immediate after harvesting/within the month.

Table 7: Marketing details of the tamarind

Particulars	Frequency	Percentage
Time of sale		
Immediate/ within month	28	28.00
After 1 months	32	32.00
After 2 months	40	40.00
Mode of transport used		
Cycle	28	28.00
Motorcycles	22	22.00
Tractors	3	3.00
Pickup/ Taxi /Auto	47	47.00
Trucks	0	0.00
Average distance from the village to the market (km)	18.5	

In prospect of mode of transportation it can be infer that the maximum 47.00 per cent of the producer used pickup/taxi/auto for the transportation of the tamarind, followed by cycle (28.00%) and motorcycle (22.00%).

whereas only 3.00 per cent of the tamarind saleer used tractor for the transportation, as well as no one tamarind producer used truck for the tamarind transportation. From the table it can be also concluded that the average distance between village and market is 18.5 km.

Marketing channel is the people, organizations, and activities necessary to transfer the production to the point of consumption. It is the way products and services get to the end-user. From the Table 8, it can be concluded that the majority (58.00%) of the respondents sold the tamarinds through channel IV, i.e. Producer→village traders→wholesaler-retailer→ consumer, followed by the channel III (22.00%), i.e. Producer→village traders→retailer→consumer, whereas 12.00 percent of the respondents used the channel II i.e. (Producer-APMC) and remaining 8.00 per cent of the respondents used the channel I, for the selling of tamarind i.e. Producer → Consumer.

From the Table 9 it can be concluded that the respondents had total 620 tamarinds plants and produced total 1856.2 quintals tamarinds, the total 34.01 quintals (1.83%) retained by the producer for own family consumption. The total marketed surplus tamarinds for sale was 1266.22 quintals (98.17%), where maximum 1017.12 quintals (54.80%), tamarinds sold through the using channel –IV, followed by 538.91 quintals (29.03%) tamarinds, sold through channel-III, whereas from channel-II, i.e. total 178.86 quintals (9.64%) tamarinds

Table 8: Distribution of respondents according to marketing of tamarind through different channels

Sr. No.	Particulars	Frequency*	Percentage
1.	Channels – I (Producer → Consumer)	8	8
2.	Channels – II (Producer → APMC)	12	12
3.	Channels – III (Producer → Village trader → Retailer → Consumer)	22	22
4.	Channels–IV (Producer → Village trader → Wholesaler → Retailer → Consumer)	58	58

Table 9: Production, retention, marketed surplus and marketing of tamarind through different channels

Sr. No.	Particulars	Tamarind
1.	Number of Tamarind tree (Nos.)	620
2.	Tamarind production (q)	1856.2
3.	Retention for home consumption (q)	34.01 (1.83%)
4.	Marketed surplus in Channels – I (Producer → Consumer)	87.30 (4.70%)
5.	Marketed surplus in Channels – II (Producer → APMC)	178.86 (9.64%)
6.	Marketed surplus in Channels – III (Producer → Village trader → Retailer → Consumer)	538.91 (29.03%)
7.	Marketed surplus in Channels–IV (Producer → Village trader → Wholesaler → Retailer → Consumer)	1017.12 (54.80%)
	Total marketed surplus (q) (4+5+6+7)	1266.22 (98.17%)

Table 10: Marketing cost of tamarind and net profit incurred by producer (Rs./q)

Sr. No.	Particulars	Channel – I	Channel – II	Channel - III	Channel - IV	Average
1.	Producer price	2727	3377	3373	3689	3291
2.	Marketing cost incurred by the producer					
	Harvesting/ collection	98.5	98.5	98.5	98.5	98.5
	Grading, De-shelling and drying	27.5	81.5	78	80	66.75
	Packaging and loading	0	23.5	0	0	5.88
	Transportation cost	0	70	23.5	25	29.63
	Unloading and weighing	0	20	0	0	5
	Miscellaneous	10	40	30	30	36.25
3.	Total market cost incurred by the producer	136	333.5	230	233.5	242
4.	Net amount received by producer (Net profit)	2591	3043.5	3143	3455.5	3058

sold by the producer, remaining 87.30 quintals (4.70%) tamarinds sale through the using channel-I.

It can be inferred from above finding that the highest, 3689 Rs./q incurred from the channel-IV, followed by channel-II were 3377 Rs./q incurred from the producer, however from channel-III, Rs. 3373 per quintal and Rs. 2727 per quintal incurred from the channel-I and the average price of tamarind was found 3291/quintal (Table 10).

Marketing cost incurred by the farmers by the various channels is also be seen from the table, where we can concluded that the harvesting cost of each channel was 98.5 Rs./q, Grading de-shelling and drying cost was highest (81.5 Rs./q) in channel-II, followed by channel-IV *i.e.* 80 Rs./q, however, channel-III 78 Rs./q and channel-I was 27.5 Rs./q, the average grading, de-shelling and drying cost was 66.75 Rs./q. In perspective of packing and loading channel-II incurred 23.5Rs./q. in remaining channels farmers had no expenditure.

In respect of transportation cost the highest 70 Rs./q incurred in channel-II, followed by channel-IV *i.e.* 25 Rs./q. and channel-III Rs.23.5 Rs/q. was incurred.

Regarding unloading and weighing cost, highest 20Rs./q incurred in channel-II only, remaining channels did not had any cost.

Regarding other miscellaneous cost, highest 40Rs./q incurred in channel-II followed by channel-III and IV, *i.e.* Rs.30/q and channel-I had lowest miscellaneous cost *i.e.* 10 Rs./q.

The total marketing cost incurred by the producer had highest (333.5 Rs./q) in channel-II, followed by 233.5 Rs./q in channel-IV, where channel-III had 230 Rs./q and channel-I had 136 Rs./q total marketing cost incurred by the producer.

About the net amount received by the producer had highest (3455.5 Rs./q) in channel-IV, followed by (3143 Rs./q) the channel-III, from channel-II, 3043.5 Rs./q received and channel-I had lowest 2591 Rs./q net amount received by the producer. The average net mount received by the tamarind producer from all channels is Rs. 3058 Rs./q. Similar work related to the present investigation was also carried out by Ahenkan and Boon (2008); Gaire (2005); Noubissie *et al.* (2008); Sinha (2008) and Tejaswi (2007).

Conclusion:

From above finding it can be concluded that majority of the respondents preferred Channel IV (Producer→ Village trader→ Wholesaler→ Retailer→ Consumer) for the marketing of their produce and through this marketing channel they got highest marketing margin *i.e.* Rs. 3455.50/-.

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