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**MARKETING OF TURMERIC-AN EMPIRICAL ANALYSIS ON PROBLEM AND
PERSPECTIVES IN GUNTUR REGION**

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ABSTRACT

Indian Turmeric is considered best in the world. In this article, an attempt is made to study the various problems faced by the growers to market their produce through Regulated Markets. The present study has also outlined the status of Turmeric markets in Guntur region of Andhra Pradesh, India. A statistical analysis of the data on price discovery in a sample of Four major markets in the revealed that the Turmeric market in those areas are not efficient in the sense that the futures prices are not an unbiased predictor of the future ready rates. The difference between the market to market, season to season prices is an indication of inefficiency arising from the underdeveloped nature of the market. The statistical tool chi-square test has been applied to find out the important factors influencing the supply of turmeric by the selected sample respondents to the various intermediaries, which is an important marketing practice performed in the market centre and the prospects of turmeric growers have been analysed on the basis of facilities offered by the intermediaries. All the major problems were ranked according to the scores and put into further analysis.

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INTRODUCTION

Turmeric (*Curcuma longa*) is native to Asia and India. The tuberous rhizomes or underground stems of turmeric have been used from antiquity as condiments, a dye and as an aromatic stimulant in several medicines. Turmeric is very important spice in India, which produces nearly entire whole world's crop and consumes 80% of it. India is by far the largest producer and exporter of turmeric in the world. Turmeric occupies about 6% of the total area under spices and condiments in India. Turmeric is also cultivated in China, Myanmar, Nigeria and Bangladesh. However, authentic figures about area and production are not available. Major area is in India which constitutes 82% followed by China (8%), Myanmar (4%), Nigeria (3%) and Bangladesh (3%). The main turmeric producing states in India are Andhra Pradesh, Tamil Nadu, Orissa, Karnataka, West Bengal, Gujarat and Kerala. Maximum area under turmeric cultivation is in Andhra Pradesh (69.9 thousand ha), where

production is very high ie.518.5 thousand tons. There are about 30 turmeric varieties grown in India. Among them Alleppey and Madras (Perianadan) are of great commercial importance. Some of the improved varieties are: CO-11983, BSR-11986, Krishna, Roma, Suroma, Ranga, Rasmi, Megha Turmeric-1, Suguna, Sudarshana, Suranjana, Duggirala, Kodur, Suvarna, Varna, IISR Prabha, IISR Pratibha, Rajendra Sonia etc. Harvesting season of crop season in Andhra Pradesh from January to June in every year. Concentrated pockets in Andhra Pradesh are Cuddapah, Adilabad, Medak, Nizamabad, Guntur. Catchment areas of turmeric market areas in Andhra Pradesh especially in Guntur districts are Piduguralla, Prattipadu, Ponnuru, Pallapatla, Repalle, Manglagiri, Puru, Vinukonda, Durgi, Duggirala, Tenali, Kolakaluru.

Distribution of produce from primary to terminal market¹: Turmeric grown in southern states like Kerala, Tamil Nadu, Karnataka and Andhra Pradesh find major markets in states like Maharashtra, M.P, U.P, and further goes to Delhi, Punjab and Haryana.

Prices Trend Analysis

Price graph of turmeric shown in the following figure 1. The above graph 1 showing the price (in Rs./Qtl.) of turmeric in leading states.

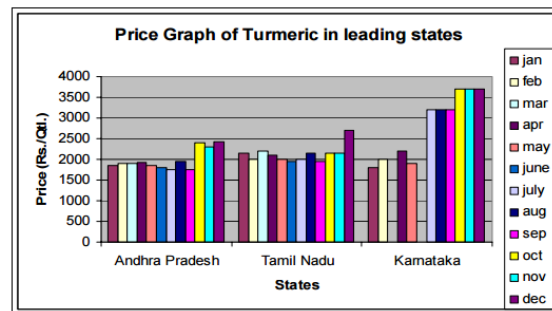


Figure 1

The turmeric market price variation study indicates that the price volatility is on the rise since June 2013 owing to reports of higher export demand. Turmeric market is a structural bull market which has been unveiled with hint of strong growth in domestic and export demand especially with the booming economy and increasing disposable incomes in the hands of consumers, resulting in steep growth in demand thus supporting the price sentiments. The export demand is still supporting prices and much would depend on the winter rains. The adjacent price curve indicates that prices tend to decline from July to October on account of slackening demand and increased supplies. Moreover, the demand from domestic and overseas markets is expected to improve by the month of October, which would support the bullish moves in the prices. The spot prices at Andhra Pradesh are currently subdued but are expected to move up on support from the increased export demand and reports of lower supplies in the global market

Turmeric Exports from India : The major destination of Indian turmeric is U.A.E., Japan, Iran, Malaysia, U.S. and U.K. Overseas demand has a significant impact on the prices in the domestic market. Indian Turmeric exports have witnessed a significant jump during the financial year (FY) 2010-11 and 2013-14 and the trend is expected to continue in the year 2014-15 too. India's export of turmeric in 2014-15 was an all-time high. In 2014-2015 the country's turmeric exports grew 38.91 per cent over last six years from 2009-10 to 70 thousand MT. During this period the maximum export was seen in Iran (12.47 per cent), U.A.E. (7.75 per cent) and Malaysia (6.78 per cent).

Review of Literature

A review of the past studies is useful to understand the various aspects of the problem taken up for research to plan the current study, to define concepts, hypotheses and scope, to select tools of analysis and to analyse the research problem effectively. Hence, the empirical works relating to the marketing and price variation are discussed here is Eswara Prasad et al. (1989)² analyzed the seasonal indices of arrivals and prices of turmeric in Guntur market for the period 1970-71 to 1985-86. The ratio to moving average method was

¹ <http://apeda.gov.in/agriexchange/Market%20Profile/MOA/Product/Turmeric.pdf>

² ESWARA PRASAD, Y., SREERAM MURTHY, C. AND SATYANARAYANA, G., (1989) An analysis of arrivals and prices of Turmeric in Guntur market. Indian Journal of Agricultural Marketing, 3(1):34-37.

adopted to calculate adjusted seasonal indices. The results revealed that the indices of arrival were higher during March, April, May and June months in both bulbs and fingers, and during these months the price indices were on the lower side in both cases. The lower seasonal indices of arrivals of both bulbs and fingers could be observed during September through February. Consequently the indices were higher during this period in both the cases.

STATEMENT OF THE PROBLEM

The salient feature of marketing of turmeric in Andhra Pradesh is that the sale of turmeric produce is performed only through the market intermediaries and there is no direct sale taking place. There are three important market intermediaries playing a dominant role in the marketing of turmeric produce in the state. It is evident that there is no specific study on marketing of turmeric in Andhra Pradesh with reference to Duggirala Regulated Market in the very recent past. However, the Regulated market of Guntur District, Duggirala, Andhra Pradesh deserve social attention due to the less volume of trade transacted. Thus due to proximity, convenience clubbed with requirement of the situation the researcher aims to concentrate on the specific regulated market, Duggirala in depth in order to excavate the problems and suggest possible measures useful for the successful functioning of the market yard.

In order to protect the turmeric growers from the clutches of commission agents and from the wide fluctuations in turmeric prices, special attention is given to overcome all these marketing problems. Thus, a study in this regard is necessary to understand the present marketing system and the important problems in marketing turmeric. Turmeric markets generally assure producers an orderly and non-exploitative marketing system and fair business practices and try to equalise the bargaining power of the farmers and the traders. It is known that the farmers and traders over there are subject to certain problems.

Objectives of the Study

The study is carried out with the following specific objectives

- To know the reasons for selling the turmeric through regulated markets
- To study the various problems faced by the turmeric growers in regulated markets
- To examine the different methods adopted by the growers when reasonable prices are not paid
- To examine the demographics of the small farmers in Guntur District
- To find out the problems perceived by the small farmers in turmeric market
- To identify the prospects for the turmeric products perceived by the small farmers
- To contribute suggestions for policy implications
- To evaluate the performance of the important market intermediaries viz commission agents, regulated markets and co-operative marketing societies in the study area.
- To find out the causes for price fluctuations of turmeric produce.
- To study the major marketing problems of turmeric growers and to analyse the prospects of turmeric growers to market their produce without any constraint.
- To suggest better ways and means to improve the present marketing system of turmeric produce in

Methodology

A scientific approach to the research methodology is very much essential to evaluate the research problem systematically. In the present study, an extensive use of both the primary and secondary data was made. Separate well structured schedules were administered to farmers and commission agents to collect the primary data.

Sample Design

In order to identify the sample respondents, the following processes were performed. Simple stratified random sampling technique was adopted to identify the respondents.

Selection of district : One major district in Andhra Pradesh i.e., Guntur selected on the basis of purposive sampling technique.

Selection of mandals (revenue sub divisions): Five mandals from each major turmeric growing district viz, 1. Duggirala mandal, 2. Tenali mandal, 3. Thullur mandal, 4. Tsundur mandal, 5. Kollipara mandal, 6. Kollur mandal were selected

Selection of villages : Five villages from each major turmeric growing taluks were selected. Thus, a sample of fifty villages were identified for the purpose of data collection.

Selection of sample respondents : On the basis of land holdings, 10-15 farmers from each village were selected on the basis of convenient sampling technique which resulted in 500 sample respondents.

Period of the study

Study was conducted during 2013-2014 in regular intervals along with research team members of Commerce and Economics of SVRM College, Nagaram.

Scope of the Study

The scope of the present study encompasses the marketing practices and the problems faced by turmeric growers engaged in the study area. For the efficient performance of the present marketing system, an indepth field study analyzing the deficiencies in the existing institutional system is very much essential. The findings of the present study could help to formulate appropriate policies for effective performance of the present institutional system and to promote the motivation of the interest of turmeric growers.

Results and Discussion.

Category of Farmers and Turmeric Supply

Farmers are the backbone in generating the national income of the country. Gross National Product is determined only by the mass cultivation by the agriculturists. The category of the agriculturists is determined on the basis of the land holding by them. An attempt was made to identify the land holdings of the respondents and the quantity of turmeric supplied by them. For this purpose, the category of farmers have been classified into four categories viz marginal, small, medium and big farmers. The sample consisted of 120 (51.6%) respondents belonging to marginal farmers (3Acres), 154 (33.2%) belonging to small farmers (0.5-1Acre), 28 (8.2%) respondents belonging to medium farmers (5cres) and 19 (7 %) belonging to big farmers (<5acres).

Distribution of Sample Respondents According to Their Income Level and Turmeric Supplied

The respondents with low income have supplied the turmeric to the intermediaries ranged between 178 kgs. and 500 kgs. with an average of 457 kgs.. The quantity of turmeric supplied by the respondents with medium income ranged between 480 kgs. and 700 kgs. with an average of 685 kgs.. The quantity of turmeric supplied by the respondents with high income ranged between 1200 kgs. and 2000 kgs. with an average of 1800 kgs.. The quantity of turmeric supplied by the very high income ranged between 2800 kgs. and 5000 kgs. with an average of 3840 kgs. Thus it is inferred from the above analysis that the respondents with very high income have supplied the highest quantity of turmeric to the intermediaries. It could be seen from the above table that the calculated chi-square value is very much greater than the table value. Hence, the hypothesis, that there is an association between 'income of the respondents and the quantity of turmeric supplied by them', holds good. Thus, from the above analysis, it is concluded that there is a close relationship between income of the respondents and turmeric supplied by them.

Marketing of turmeric: Marketing is a crux of production problems. Success of production of any crop enterprise depends up on its successful marketing. Turmeric is specialized crop grown in the Guntur district of A.P.

Distance to Market Yard and Turmeric Supply

A good marketing activity in turmeric trade is also dependent the distance to market yard and farm location. For the purpose of this study the distance from the respondents field to the market yard has been classified into four categories viz nearer, short distance, long distance and very long distance. The sample consisted of 172 (34.4%) respondents living nearer to market yard, 126 (25.2%) respondents living within a short distance, 105 (21%) respondents living at a long distance and 79 (19.4%) respondents living at a very long distance.

Price spread: Price spread is a difference between the price paid by the consumer and the price received by the producer. This difference is nothing but a sum of the amount taken away by the intermediaries on account of their services and margins involved in the market. The data on price spread in the marketing of turmeric in Guntur district market is reported in Table 1.

It is evident from the data reported in Table 1 that the average per quintal price paid by the consumer for processed turmeric was Rs. 7662 and the net price received by the consumer was Rs. 5746. Thus the producers share in consumers' rupee was 75 per cent. Major portion of the consumers' rupee i.e. 10 per cent was appropriated by the wholesalers on account of the services rendered by them and their margins in the marketing of turmeric. This has followed by the marketing cost incurred by the producers (8 per cent) and cost and margin of the retailers 7 per cent.

Table 1 : Price spread in marketing of turmeric

Sr. No.	Particulars	Value (Rs.)	Percentage to consumers' price
1	Net price received by the producer	5746.5	75
2	Marketing cost incurred by the producer	612.96	8
3	Costs and margins of the wholesaler	766.2	10
4	Cost and margins of the retailer	536.34	7
5	Price paid by the consumer	7662	100

Costs and returns of processed turmeric: The data on value addition and additional returns due to processing are given in Table 2. The data exhibited in Table 2 revealed that, after adding the cost of processing of turmeric, a lot of 12.34 quintals to the tune of Rs. 6457.02 in the total cost of cultivation of Rs. 53808.57; the cost of processed turmeric then came to Rs. 60265.59. The processed turmeric has fetched the higher price and its value was Rs. 1,35,937.44. After subtracting from this the value of raw output Rs. 94401.00 the additional returns came to Rs. 41,536 over additional cost of processing of Rs. 6457.02. The ratio of additional returns over additional cost was 6.43 and the overall output-input ratio on account of processing was 2.25.

Table 2 : Cost and returns on account of turmeric processing

S.No	Particular	Per Acre
1	Output (Wet Rhizomes) in qt.	12.34
2	Value of output Rs.	94401
3	Cost of cultivation/Production in Rs.	53808.57
4	Cost of processing	6457.02
5	Total cost Rs. (3+4)	60265.59
6	Value of processed output in Rs	135937.44
7	Quantity of processed output in qt.	8.54
8	Additional returns over additional cost Rs. (6-2)	41536.44
9	Ratio of additional returns with additional cost (8/4)	6.43
10	Overall output - input ratio on processing (6/5)	2.25

Sales Pattern and Turmeric Supply

Selling the commodity requires a unique strategy or tactics in general. Particularly for cash crops like turmeric, the farmers need adequate knowledge to sell the produce with good returns. The pattern of selling turmeric in the study area was analysed. For this purpose, the sales pattern have been classified into three strata viz., immediately after harvesting turmeric, delayed upto 4 months and further delayed above four months expecting an attractive price. The sample consisted of 128 (52.34 %) respondents selling immediately after harvest, 112 (28%) respondents delaying upto four months and 130 (30%) respondents selling their turmeric after delaying more than four months. In order to find the degree of relationship between sales pattern practised by the turmeric growers and the quantity of turmeric supplied by them, a chi-square test was employed

Experience in Turmeric Cultivation and Turmeric Supply A good experience in the agricultural field gives the rich convention of high yield of crops. Since turmeric is a cash crop, due attention is very much required to increase the quantity of turmeric production. It is believed that aged persons with rich experience in turmeric cultivation would offer good productivity in their land. For the purpose of this research, the experience gained by farmers (selected sample respondents) have been classified into four categories viz low, normal, rich and very rich experience. The sample consisted of 133 (26.6%) respondents having a low level of experience, 114 (22.8%) having normal experience, 125 (25%) having rich experience and 128 (25.6%) having very rich experience.

Selection of Intermediaries and Turmeric Supply

The role of intermediaries is an unavoidable factor in all business. In turmeric marketing also, the intermediaries play a predominant role in selling the turmeric produce. The major intermediaries preferred by the selected sample respondents was studied. For this purpose, the intermediaries were classified into three categories viz commission agents, regulated markets, and co-operative marketing societies. The sample consisted of 194 (38.8%) respondents preferred commission agents, 175 (35%) respondents preferred regulated markets and 131 (26.2%) respondents preferred co-operative societies. The quantity of turmeric supplied by the respondents through commission agents ranged between 3,150 kgs. and 26,250 kgs. with an average of 9,281 kgs.. The turmeric supplied through the regulated markets ranged between 3,150 kgs. and 29,400 kgs. with an average of 8,979 kgs.. The turmeric supplied by the respondents through cooperative societies ranged between 3,150 kgs. to 27,000 kgs. with an average of 8,268 kgs.. Thus, the table reveals that the respondents who prefer the commission agents have supplied the highest quantity of turmeric.

Multiple Regression Analysis

In the following analysis, the relationship between the quantity of turmeric supplied and twelve independent factors was studied. It was found that out of twelve, nine factors were closely associate with the quantity of turmeric supplied by the selected sample respondents: Selected twelve independent factors

1. Age
2. Education
3. Category of farmers
4. Type of land holding
5. Occupation
6. Income
7. Distance to market yard
8. Experience in turmeric cultivation
9. Sales pattern
10. Settlement of sale proceeds
11. Selection of intermediaries
12. Secrete tender system

Sl.No.	Variables	Correlation	't' value	Significance
1	Age	-0.019	-1.586	*
2	Category of farmers	0.761	35.624	**
3	Type of land holding	-0.023	-1.877	*
4	Occupation	0.016	1.357	*
5	Experience in cultivation	-0.002	-0.124	*
6	Income	0.229	10.880	**
7	Sales pattern	-0.002	-0.162	*
8	Settlement of the proceeds	-0.006	-0.450	*
R² value		Degree of freedom-v₁	Degree of freedom-v₂	Significant
0.929		8	491	**

* Significant at 5% Level ** Significant at 1% Level

The multiple linear regression co-efficient (dependent variable) is found to be statistically a good fit as R² is 0.929. It shows that independent variables contributes about 93 per cent of the variation in the quantity of turmeric supplied and this is statistically significant at 1% level and 5% level respectively.

The table indicate that the co-efficient of type of holding, occupation and income are positively associated with the quantity of turmeric supplied. On the other hand, the co-efficient of age, type of land holding experience in turmeric cultivation and sales pattern and settlement of sale proceeds are negatively associated. Further, of indicates that the contribution of type of land holding and income are statistically significant implying that their influence on quantity of turmeric supplied is stronger than other variables. The rate of increase that could be achieved with better performance (turmeric supplied by the growers) of land holding is 0.761 for every unit change of the given factor, 0.229 with a unit change in income factor and 0.016 with a unit change in occupation factor, which have been shown in table 4. Thus from the above analysis the following observation could be made. The quantity of turmeric supplied by the sample respondents is positively associated with their type of land holding and income position, more holding of lands coupled with income will generate more business in marketing the turmeric produce in the study area.

MARKETING PROBLEMS OF THE TURMERIC GROWERS

Insufficient pledge loan facility

Availability of finance at every stage, right from production to consumption, is essential so that the produce would flow freely without any interruption or delay. With regard to marketing of turmeric, the role of market intermediaries in financing is very vital. Since turmeric is a long duration crop which extends over nine to ten months in a year to harvest, the growers would have to wait for a longer period of time to gain return on investment in turmeric production. Apart from this, if the growers wish to store their turmeric produce due to low price prevailing in the market, they have to wait for another three to six months, to get their money through sale of turmeric. Hence, it is identified that the provision of pledge loan to the turmeric growers is generally expected. It could be observed that the growers who are having transactions through the regulated market and co-operative societies have to overcome any formalities to obtain the pledge loan which leads to unnecessary delay in getting financial assistance. With regard to commission agents, they provide immediate financial assistance based on pledging of turmeric produce, but the rate of interest in the form of commission is higher. In view of this, the respondents were asked to rank this problem and the data presented in table 3. The table reveals that both the respondents who preferred the regulated market and co-operative marketing societies to market their turmeric produce assigned 2nd and 1st rank for this pledge loan problem. The highest total and mean score 8,044 and 16.09 point were recorded for co-operative marketing societies. The total and mean score 10,188 and 20.24 points were recorded for regulated market. On the other hand, the respondents who preferred commission agents assigned only 9th rank to this problem of pledge loan facility. The total and mean score were 10,501 and 21.0 points respectively. From this analysis, it is inferred that the growers who preferred regulated market and co-operative marketing societies faced much difficulties while getting pledge loans through these intermediaries. With regard to commission agents, though the rate of interest is high, the timely disbursement of pledge loan attracted the growers.

Price Fluctuations

The price behaviour and causes for cyclical fluctuations in turmeric prices were studied in the earlier chapter. Price prevailing in the market is an important factor, which influences the growers to decide whether they would continue their production or switch over to some other crop in future. In turmeric trade, the growers are affected by frequent fluctuations in the prices prevailing in the market. In order to study their views on this issue, the selected respondents were asked to assign a rank to this particular problem and the data presented in the table 3

Table 3 MARKETING PROBLEMS UNDER VARIOUS INTERMEDIARIES AS RANKED BY THE RESPONDENTS

Sl. No.	Problems	Commission Agents			Regulated Market			Co-operative Marketing Society		
		Total Score	Mean Score	Rank	Total Score	Mean Score	Rank	Total Score	Mean Score	Rank
1.	Insufficient pledge loan facility	10501	21.00	9	10118	20.24	2	8044	16.09	1
2.	Price fluctuating	10794	21.59	6	10142	20.28	1	7652	15.30	4
3.	Poor post storage facilities	10701	21.40	7	9582	19.16	3	7970	15.94	3
4.	Non-existence of Agmark lab.	11282	22.56	3	9278	18.56	4	7303	14.61	7
5.	Lack of market information	10911	21.82	5	8765	17.53	8	7991	15.98	2
6.	Improper method of sale	10682	21.36	8	8966	17.93	5	7506	15.01	6
7.	Unscientific weighing machines	11284	22.57	2	8555	17.11	11	6666	13.33	9
8.	Delay in unloading services	9785	19.53	10	8533	17.07	12	7616	15.23	5
9.	High marketing cost	11480	22.92	1	7954	15.91	13	5613	11.23	11
10.	Unauthorized Deductions	11011	22.02	4	8594	17.19	10	4554	09.11	13
11.	Poor customary relationship	7723	15.45	11	8961	17.92	6	6513	13.03	10
12.	Location of banks	7471	14.94	12	7670	15.34	14	6908	13.82	8
13.	Insufficient godown facility	7456	14.92	13	8889	17.78	7	5534	11.07	12
14.	Poor quality of packing materials	7405	14.81	14	8605	17.21	9	3842	07.68	15
15.	Poor government support	7184	14.37	15	7131	14.26	15	4551	09.10	14

Source : Primary data and computed

The table reveals that the respondents who opted regulated market for their turmeric transaction assigned first rank to the problem of frequent fluctuations in the prices of turmeric. The total and mean score were 10,142 and 20.28 points which were the highest scores when compared to the scores of other marketing problems. The respondents who preferred the co-operative marketing societies assigned 4th rank to this particular issue and the total and mean score were 7,652 and 15.30 points respectively. On the other hand, the respondents who opted for commission agents recorded 6 rank to this problem of price fluctuation and the total and mean score were 10,794 and 21.59 points respectively. From this analysis, it is inferred that the price fluctuation problem has been an acute issue with regard to all the selected sample respondents of the present study.

Lack of market information

Regular flow of information regarding market conditions, prevailing prices, future trends etc is necessary so that the turmeric growers might decide on transactions. This is all the more important to the growers for whom the information is vital. Only on the basis of available market information, the farmer will decide whether he has to sell his produce or retain it to be sold at a later period. It helps the growers in securing better price and maximizing his margin. In the Erode turmeric market centre the prices prevailing daily are regularly announced through various media viz. radio, newspaper etc. and also exhibited at the market yards of regulated market and commission agents' association.

Delay in Unloading Services

The turmeric produce is brought to the market centre by means of transport and is expected to be unloaded in the appropriate places viz market yard or godowns. If the growers wish to sell immediately, the turmeric has to be unloaded in the market yard where the display of samples are done for sales transaction. But, if the growers decide to store the turmeric in the godowns, they have to consult their respective intermediaries regarding the availability of space in godowns and on that basis the growers have to unload their turmeric with the help of paid labourers. In practice, this process of unloading is time consuming one and some times it will take more than 10 to 15 hours after the produce reaches the market centre, which leads to another problem of paying waiting charges to be made for transport.

High Marketing Cost

The profit margin of the respective commodity is based on the marketing cost incurred in the sale of these items. Though better price may prevail in the market, due to high market charges the portion of profit margin in the sale has to be reduced and the grower will enjoy only poor return on investment. In order to eliminate this problem, the government has started regulated market and encouraged the farmers to form co-operative marketing societies for the respective commodity. However, due to the poor performance of these government based organizations, the dominance of commission agents in the market centre is still there. With regard to turmeric trade, the composition of marketing costs are transport charges, loading and unloading charges, weighing charges, godown rent if turmeric is stored for a long period, fumigation charges, service charge for display of samples in the market yard and commission based on value of sale. The regulated market do not charge any commission towards sale of turmeric transacted through them. On the other hand, the commission agents charge 5 to 8 per cent on the value of sale transacted through them and the co-operative marketing societies collect 2 per cent commission from their members.

Insufficient Godown Facility

As already mentioned in the earlier presentation, the turmeric can be stored for a longer period, upto a maximum of two to three years. However, the decision regarding storage of turmeric is based on the availability of space in godowns maintained by the intermediaries. Apart from the godowns of these intermediaries, state warehousing corporation also accepts the turmeric to be stored in godowns based on space availability. It is estimated that the present storage capacity of various godowns maintained by all the intermediaries and the state warehousing corporation is only up to a maximum 9,500 tonnes.

Poor Government Support

Government is an important machinery in regulating and controlling the trade activities with the intention of protecting the growers of respective commodity. The effective implementation and execution of government policies facilitate the progress of the respective trade. In Erode market center, the market committee, which was established by the state government, regulates and controls the turmeric trade. Though the market committee extends its services towards the promotion of turmeric trade the performance of this committee is not up to the expectations of the persons who are involved in the turmeric trade. The establishment of an ideal market yard helps to overcome many problems in the field of turmeric trade and the government has to take all steps for the execution. The respondents were asked to assign rank to the lack of government support towards the promotion of turmeric trade

Rank showing the prime barriers perceived by the farmers in turmeric market

Barriers	Garrett Score	Garrett Mean	Garrett Rank
Price fluctuation	11195	49.101	5
High transportation cost	11831	51.890	3
Lack of skilled labours	13253	58.127	1
Lack of transport facilities	12159	53.329	2
High Cost of Fertilizers and pesticides	10575	46.382	6
Huge competition from larger producers	11357	49.811	4
Marginal profit	9430	41.360	7

Source: Computed from Primary Data

Prospects	Strongly agree		agree		Neutral		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
Proper Pricing for the produce	101	44.30	93	40.79	28	12.28	6	2.63	0	0.00
Better harvest without tilling	39	17.11	78	34.21	61	26.75	43	18.86	7	3.07
Maintenance of moisture required for the plant	40	17.54	69	30.26	58	25.44	51	22.37	10	4.39
Medicinal and domestic importance	40	17.54	63	27.63	57	25.00	50	21.93	18	7.89
Suitable soil & weather condition	44	19.30	74	32.46	50	21.93	41	17.98	19	8.33
High yield/growth /Profitability	35	15.35	51	22.37	57	25.00	64	28.07	21	9.21
Cash crop & Mixed cropping	29	12.72	43	18.86	50	21.93	75	32.89	31	13.60

Source: Primary Data

Perception of Small Farmers towards Problems Faced In Turmeric Cultivation

Problems	Low		Moderate		High	
	N	%	Count	%	Count	%
Traditional method of irrigation ruling the cost factors	81	35.53	136	59.65	11	4.82
Inadequate agricultural action plan	95	41.67	116	50.88	17	7.46
Migration of Agricultural labours	122	53.51	91	39.91	15	6.58
Improper maintenance / non-maintenance of Cattle breeds	79	34.65	125	54.82	24	10.53
Inadequate maintenance of water level	64	28.07	122	53.51	42	18.42
Problems due to Natural disaster	66	28.95	107	46.93	55	24.12
Unseasonal Rains	90	39.47	96	42.11	42	18.42

Source: Primary Data

Suggestions

1. The present practice of obtaining the pledge loan facility through regulated market and co-operative marketing societies is a timeconsuming process and the growers feel it very inconvenient. In order to overcome this problem, the authorities of regulated market and co-operative marketing societies should establish a mutual understanding with banking institutions and liberalize the rigid formalities. The spot payment of pledge loan can be achieved by inviting the bank staff to the market yard during all the market days and arrange to inspect the turmeric lots of the grower who have proposed to obtain pledge loan from the banker. This arrangement facilitates the banker to gain confidence about the security of pledge loan and the growers could also obtain the loan without any delay.
2. It is noticed that the prices prevailing in the turmeric market were highly fluctuating in nature which affected the margin of the turmeric growers. In order to avoid this situation, a steady demand for the turmeric produce has to be identified by expanding the global market for turmeric which would boost the sales volume as well as the price in the local market. The growers should also be educated to study the market conditions regularly and according to the trend existing in the market they have to proceed with their cultivational decision.
3. If the turmeric produce is stored for more than three months in the godowns then the fumigation process is essentially needed. The fumigation process should take place within a time bound schedule. The officials of the regulated market and co-operative marketing societies and also the commission agents should maintain proper records about fumigation services. The respective record should contain the necessary information such as person responsible for the service, the date on which the fumigation process was effected, the date on which the process would be taken up and date on which the turmeric lot has been stored in the godowns. This information would offer proper and timely fumigation service.

4. The government should take necessary steps to establish 'Agmark laboratory' in the Erode market centre. The importers of turmeric are very particular about the quality and the existence of Agmark laboratory would be the solution for the problem.
5. In order to know the market conditions, the present system of market intelligence service is inadequate and insufficient.
6. It is observed that the weighing process of turmeric has not been properly made, particularly in the case of commission agents'. The intermediaries in the market use different varieties and branded weighing machines to perform the weighing process. The government should issue direction to use a particular model weighing machine which would give accurate measurement.
7. The government should make necessary arrangements to educate the growers to be aware of it and to organize growers and officials meet at regular intervals in order to create an awareness about the market condition and to guide them to come out from the clutches of commission agents.
8. The banking institutions should consider opening an extension counter in the market yard of the intermediaries, which would help the banker, the turmeric grower and the trader to a greater extent. The growers who have sold their produce in the market yard could pay the money at the extension counter and convert it into demand draft and travel to their own place without any risk. This extension counter could also offer pledge loan facility to the turmeric growers without any delay.

Conclusion

The study was aimed at analyzing the marketing problems and prospects of turmeric growers and the factors influencing the marketing practices under various intermediaries in the study area Guntur turmeric market. The commission agents are an important category of market intermediaries participating in the turmeric trade. In turmeric trade, the commission agents provide plenty of services like providing financial assistance for cultivational needs. In Duggirala/Tenali turmeric market centers, there are 150 commission agents performing and extending their services towards the progress of turmeric trade in the state. The statistical analysis explains that the market arrival has a great impact on price formation. This impact is explained by an inverse relationship between market arrival and price. It is a well known fact that the agriculturist particularly the small and marginal farmers and tenant cultivators have a weak bargaining strength and very low retention power. The rate of commission charged by the agents varies from 7 per cent to 9 per cent. The annual and compounded growth rate of quantity transacted through commission agents were 3.79 per cent and 4.33 per cent respectively which indicates that the performance was significant. The bankers offer pledge loan facility at the maximum of 60 per cent of the current market value of the stored turmeric with an interest rate of 8 to 12 per cent. The different QA period values of the amount of turmeric transacted through regulated market were Rs 1.25 to 3.64 Crores. The medium farmers with 2-3 acres have supplied the highest quantity of turmeric supplied to the intermediaries. The study reveals that there is no close relationship between the period of cash settlement and the quantity of turmeric supplied. The turmeric supplied by the respondents who got the cash settlement after a month ranged between 2210 kgs. and 31,850 kgs. with an average of 12,268 kgs.

An attempt has been made to analyse the marketing prospects of turmeric growers in the study area based on various facilities provided by the intermediaries. It is observed that majority of the sample respondents (62.4 %) utilized the facility arranged by the intermediaries for processing turmeric. With regard to opinion about processing charges, two extremes "very high" and "very cheap" were chosen by 17.4 per cent and 14.8 per cent of the selected sample respondents respectively. It is identified that there is a close relationship between the freight charges and the level of satisfaction. It is also observed that 189 (25%) respondents have stated low level of satisfaction, which indicates that the present grading system should be modernized. The market intermediaries were properly utilized by the sample respondents for obtaining market information and getting pledge loans on their turmeric produce.

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