

## **Marketing of Chilli Production & Marketing Efficiency of Chillies Growing Farmers in Kurnool District**

**\*Dr.B.Thirumalesh, \*\*B. Bhagyalakshamma**

*\*Lecturer in Economics in Government Degree College, Mylavaram, Krishna.*

*\*\* Post Graduate Teacher in A.P. Model School, Kalyanadurgam ,Anantapur.*

### **I. Introduction**

India is also the largest consumer and exporter of chilli crop. It consumes about 90% of the total produce of the country. The demand from the chilli powder-growing sector constitutes to 30% of the total production in the country. Exports of chillies sum up to around one lakh tons, which makes 33% of the total spices exported from the country. Chilli powder, dried chillies, pickled chillies and chilli oleoresins are some of the forms in which this crop is exported. The major importers of chillies from India are United States of America, Sri Lanka, Bangladesh, Nepal, Mexico, Canada, United Kingdom, Saudi Arabia, Singapore, Malaysia and Germany.

Though Indian exports are showing satisfactory trends, India is facing a very tough competition in the international export market as price of the Indian chilli powder is considered too high for the market and other competitive countries are providing chilli at very competitive rates to the major importing countries. If the country is able to meet the strict quality demands of the international market, the exports can be further improved. Steps have to be taken by the government encouraging the exporters to maintain the Indian dominance in the world market.

### **II. Marketing Centers for Chilli Sales in India**

In India, Chilli is mainly cultivated in khariff season under rain fed conditions as well as Irrigated areas. Harvesting of ripe fruits starts from November to April depending upon time of sowing or planting and variety. Its marketing season starts from January to May. Modes of transport to marketing centers are by Lorries and tempos. Important marketing centers in different parts of India are indicated in Table – 1.

#### **Byadgi Market**

The second largest chilli business player in India is Byadgi in Haveri district of Karnataka. Red hot chilli peppers With Byadagi chillies used for the extraction of Oleoresin, a natural colour, the small town of Byadagi has shot into instant fame. Red oil (Oleoresin), a natural colour, is extracted from Byadagi chillies. When this colour is mixed with poultry feed, the eggs hatched will be red in colour. This is the magic created by Byadagi chillies overseas. It's really a matter of great wonder as to how these chillies from Byadagi, a small village in Haveri district, are creating waves in foreign countries. Oleoresin is used in the preparation of nail enamel and lip colours too. It gives colour to red meat, which is a favourite among westerners.

Byadagi chilli, which is less spicy and is well-known for their deep red colour, is in great demand. Since the preparation of Oleoresin, its demand from foreign countries has shot up. Byadagi village, which was earlier famous for its sale of chillies, has seen a sudden spurt in the growth of cold storage units, wherein these chillies are stored so that they don't lose their colour. Also, several industries that produce Oleoresin have been started in the district.

**Table – 1: Chilli marketing centers in India**

Sl. No	States	Marketing centers
1	Andhra Pradesh	Guntur, Warangal, Bhaisna, Nirmaal, Hyderabad, Karimnagar, Khammam, Jogipet, Nezamabad, Cudapah, Vijaywada, Vishakapatnam, Rajamundri and Nellore.
2	Assam	Tura, Phulbari, Bhubri, Hatim, Gubati, Kakimukh, and Mungalodi.
3	Bihar	Mokemh, Dalsingaslai, Baktiarpur, Sitramarchi, Barauni and Samastipur.
4	Haryana	Paniput, Smalka, Gharauand, Ganaur and Ambala.
5	Karnataka	Byadgi, Haveri, Hirekerur, Laxmeshwar, Hubli, Ranebennur, Dharwad, Sankeshwar, Gokhak, Belgaum, Mysore, Hassan, Bangalore, Gowribidnur, Davangere, Challikere, Bellary, Arisikere, Raichur and Gulbarga.
6	Maharastra	Nasik Lasalgaon, Ahmednagar, Lopergaon, Dhulai, Dondaiha, Jalagaon, Chalisgaon, Karad, Sangli, Sholapur, Akkalkot, Kolhapur, Jalna, Aurangabad, Nanded, Mukhed, Malkapur and Amaravati.
7	Madya Pradesh	Khandwa, Mandi, Harashd, Bushampur, Mardsawr, Neenuah, Shyamgrah, Chindwara and Pandhurna.

8	Tamil Nadu	Pollaebi, Madurai, Tirvcharapulli, Theni, Dindigal, Sattur, Sankerm, Ariyalur and Perambur.
---	------------	---

Source: Hosamani M.M (1982), "Chilli", Rajashree Printing Press, Dharwad, P.236.

### **Cold storage industry in Byadagi**

The beginning of this industry can be traced back to 1993-94, when people from Andhra Pradesh introduced it in the region. In all, there are about 12 cold storage units in Haveri district and two more are in the pipeline, which were situated near the Byadagi Market. The setting up of a cold storage unit costs about Rs 2.5 crore to Rs 3 crore. However, the National Horticulture Board is helping in the construction of cold storage units, by providing loans up to Rs 50 lakh.

In each cold storage unit, up to 80,000 to 1,00,000 bags of chillies, ginger and other agricultural products can be stored. The cold storage units functioning in Haveri district are sufficient for the present chilli production. However, if more number of units are started in the region, it would only result in a loss for everybody. Moreover, the electricity bill of each cold storage unit runs up to Rs one lakh a month.

On a visit to a cold storage unit, one can experience shivering cold even in scorching summer, as the temperature within the unit is from 4 to 6 degree celsius. Storing Byadagi chillies in the cold storage not only preserves their natural colour, but also results in the extraction of more Oleoresin from these chillies. Only the required amount of chillies is taken out from the unit and sent to the industry for the preparation of Oleoresin. Nearly 30 to 40 per cent more Oleoresin can be extracted from the chillies stored in the cold unit. At present, chilli growers and traders can store their chillies at a cost of Rs 60 to 80 per bag.

### **Industrial Development in Byadagi**

Kerala's Cancore Company has started an industry to extract colour from chillies near Motebennur in Byadagi taluk. Nearly 50 litres of Oleoresin can be extracted from one tonne of Byadagi chillies. It is then sent to Kerala, where the spicy elements in the colour are removed and are processed further before it is exported to other countries. There is a great demand for Oleoresin abroad, especially in the US, Japan and European countries.

Along with Oleoresin, there are over 25 industries in Byadagi that grind chillies and send them to several masala manufacturers. Byadagi has now made a distinct name for itself in several related chilli based industries. Thus, the government and the local representatives should encourage these industries that provide employment to thousands of people.

### **Andhra workers in Badagi Market**

A close bond exists between Byadagi and Andhra Pradesh. Just as Andhra Pradesh is famous for its Guntur chillies, Byadagi in Karnataka is famous for its brand of chillies. Every year, transactions up to Rs 300 crore happen at Byadagi. Fair price, immediate payment and accurate measures are some of the reasons why traders and farmers from all over Karnataka and Andhra Pradesh, which is around 450 km away from the study area, come to Byadagi chilli market. Interestingly, hotels and brokers' shops at Byadagi bear the name boards both in Kannada and Telugu. It is a testimony to the intermingling of people from two different states, their languages, culture and trade. While workers in Karnataka do not have the skill required to construct cold storage units, workers from Andhra Pradesh, who have the required skills, come all the way from their home state to construct them. Moreover, localites refuse to work in such extreme weather conditions, unlike workers from the neighbouring state. These workers, who eke out a living by sheer hard work, have set an example for localites to emulate.

### **Competition between Andhra and Karnataka Farmers in Byadagi Market**

Invasion of the Byadagi market by chillies from the irrigated lands of Andhra has created panic among farmers of Gadag, Haveri and Dharwad districts of Karnataka. The sudden fall in the prices of chillies has put farmers of Gadag and neighbouring districts into difficulty. It has shocked the chilli growers as they were hoping for good price for chilli in the market. The condition is so hard that the chilli growers of the district will neither get suitable price if they sell nor they can get fair price by storing them till good market emerge. The main reason for this is that the chillies of Andhra Pradesh much spicier than the local variety, have invaded the Byadagi market. The farmers, who had sold the same commodity at Rs 6,800 per quintal in January and February in 2010, are facing the sudden fall in the market price for chilli in the latter months. The market was stable till mid-February, but the market price has come down to Rs 1,500- Rs 2,000 in the latter months in 2010. Meanwhile, the Karnataka farmers have urged the state government to come to their rescue by announcing suitable support price. The government should put curb on selling of Andhra chillies in the Byadagi market. But the chilli growers' minds have turned blank without knowing what to do next. This is because of the high quality of chillies produced by Andhra Pradesh farmers under irrigated conditions, which is highly suitable to

extract good quality oleoresin used in the preparation of nail enamel and lip colours. Hence, there is a continuous demand in the Byadagi market for chillies produced in the study area if Andhra Pradesh.

### Market Influencing Factors

The present conducted a sample survey to assess about the market influencing factors in the study area. The results of the survey shows that seasonal price fluctuations, overall production of chillies in the country, demand for chillies in the World market, the stock of chillies available in cold storages around the market and hedging among the various varieties of chilli available in the market. The important results of the primary survey with chilli growing farmers in the study area of Kurnool district have been summarized in the following paragraphs.

### III. Consumption and Sale of Chilli Production

The producers of chilli crop uses their production for self consumption, to sell as chilli fruit in the local vegetable markets, weekly markets, Rythu Bazars and to give them to relatives and friends on the one hand and to process them as dry chillies for sale in the dry chilli market. The responses of chilli growing farmers to the question: Do you sell entire chilli product in the dry chill market? are summarized in Table – 2 and they are depicted in Chart – 1.

It is clear from the Table and Chart that out of 270 farmers interviewed, 56 farmers said ‘No’ and 214 farmers said ‘Yes’. In the case of individual mandals, 21 farmers said ‘No’ in Kosigi, 12 farmers said ‘No’ in Adoni and 23 farmers said ‘No’ in Aspari Mandal. On the other hand, 69 farmers said ‘yes’ in Kosigi, 78 farmers said ‘Yes’ in Adoni and 67 farmers said ‘Yes’ in Aspari Mandal.

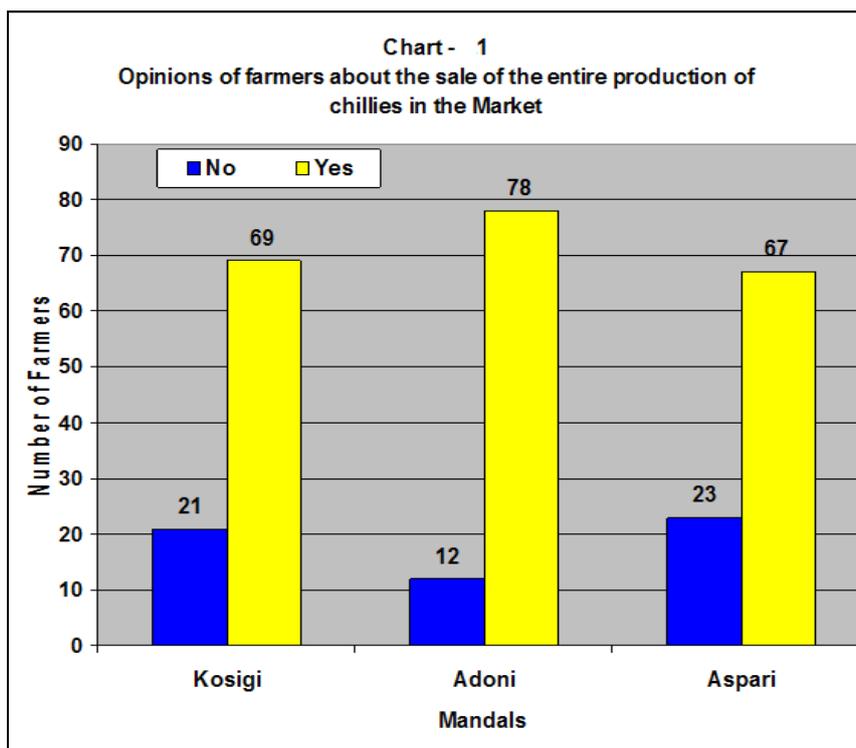
Therefore, it is obvious that more than 75% of the farmers produced chillies only for selling in the dry chilli Market and they are willing to sale their entire production in the dry chilli Market. The remaining 25% farmers may use their chilli production for self consumption, sale in local vegetable markets, weekly markets, Rythu Bazars and to give them to relatives and friends. Since Adoni mandal has many urban centres, which have better transport facilities to the dry chilli market, there is higher response from the chilli growing farmers for this question in Adoni mandal.

The chi-square test examines the discrepancies between observed frequencies and a set of expected frequencies constructed by assuming no relationship between the variables, i.e., sample mandals and ‘Yes’ or ‘No’ answers given by sample chilli growing farmers. Since the computed chi-square value (4.6353) is lower than the Chi-Square Table Value for  $\alpha = 0.05$  (5.9914) at 2 degrees of freedom, it is concluded that there is no significant difference in the distribution of sample chilli growing farmers based on their ‘Yes’ or ‘No’ answers given to the question by the farmers among the three sample mandals. In other words, ‘Yes’ or ‘No’ answers given to the question by the sample chilli growing farmers is similar in all the three sample mandals of the study.

Table – 2: The opinions of farmers about the sale of the entire production of chillies in the Chilli Market

Name of the Mandal	Do you sell entire chilli product in the dry chilli market?		Total
	No	Yes	
Kosigi	21	69	90
Adoni	12	78	90
Aspari	23	67	90
Total	56	214	270
Chi-Square Tests			
Chi-Square Computed Value			4.6353
Degrees of freedom (r-1) (c-1) = (3-1) (2-1)			2
Chi-Square Table Value for $\alpha = 0.05$			5.9914

Source: Estimated based on primary data using SPSS Software



#### Utilisation of Chilli fruits by chilli growing farmers

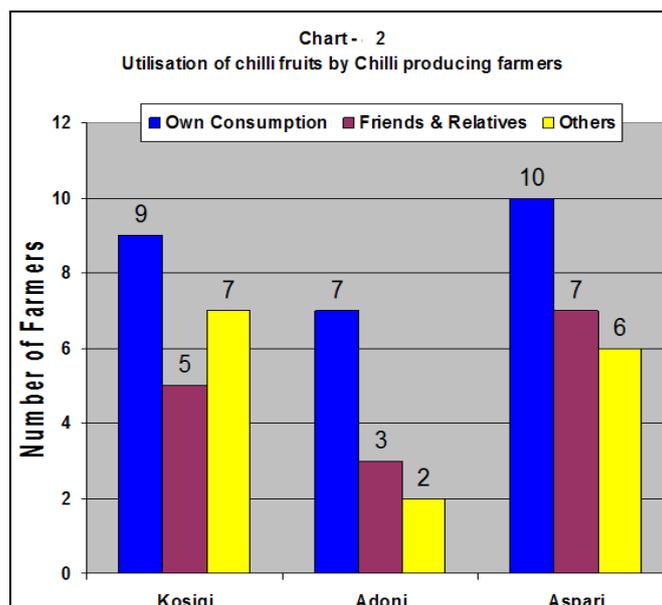
The responses of chilli growing farmers to the question: If you are not selling entire chilli product in the dry chill market, for what purpose you are using the chilli production? are summarized in Table – 3 and they are depicted in Chart – 2. It is clear from the table and chart that majority of the farmers use their chilli fruits for self consumption followed by giving to friends and relatives and finally to others, which include sellers in local vegetable markets, weekly markets and Rythu Bazars.

The chi-square test examines the discrepancies between observed frequencies and a set of expected frequencies constructed by assuming no relationship between the variables, i.e., sample mandals and utilization of chilli fruits by sample chilli growing farmers. Since the computed chi-square value (1.4642) is lower than the Chi-Square Table Value for  $\alpha = 0.05$  (9.48773) at 4 degrees of freedom, it is concluded that there is no significant difference in the distribution of sample chilli growing farmers based on utilization of chilli fruits by the farmers among the three sample mandals. In other words, utilization of chilli fruits by the sample chilli growing farmers is similar in all the three sample mandals of the study.

Table – 3: Utilisation of Chilli fruits by chilli growing farmers

Mandals	Purposes of Chilli fruit Utilisation by farmers			Total
	Own Consumption	Friends & Relatives	Others	
Kosigi	9	5	7	21
Adoni	7	3	2	12
Aspari	10	7	6	23
Total	26	15	15	56
Chi-Square Tests				
Chi-Square Computed Value			1.4642	
Degrees of freedom (r-1) (c-1) = (3-1) (3-1)			4	
Chi-Square Table Value for $\alpha = 0.05$			9.48773	

Source: Estimated based on primary data using SPSS Software



### Selling Practices of Chilli growing farmers

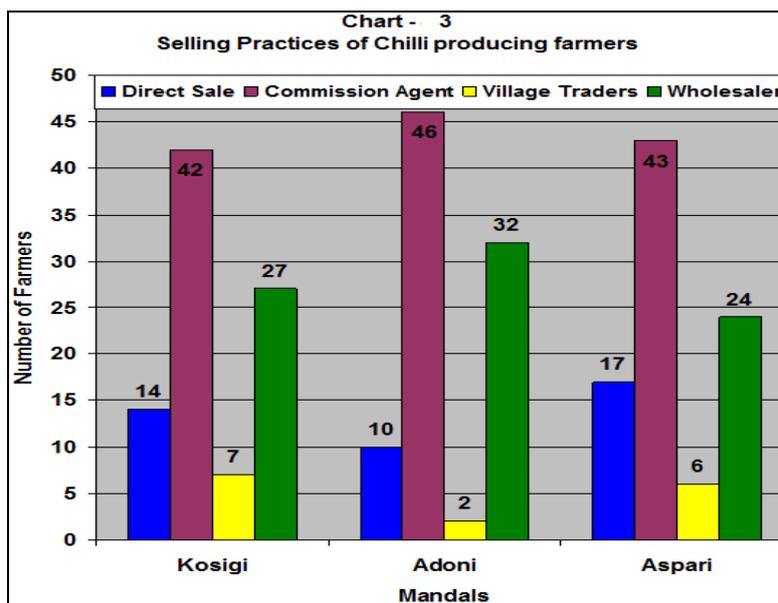
The responses of chilli growing farmers about their selling practices are summarized in Table – 4 and they are depicted in Chart – 3. It is clear from the table and chart that highest number of chilli growing farmers sale their chilli production to the commission Agents, followed by Wholesale Traders, Direct Sale and to the lowest number of farmers sale to Village Traders.

The chi-square test examines the discrepancies between observed frequencies and a set of expected frequencies constructed by assuming no relationship between the variables, i.e., sample mandals and responses of chilli growing farmers about their selling practices. Since the computed chi-square value (5.9841) is lower than the Chi-Square Table Value for  $\alpha = 0.05$  (12.5916) at 6 degrees of freedom, it is concluded that there is no significant difference in the distribution of sample chilli growing farmers based on responses of chilli growing farmers about their selling practices among the three sample mandals. In other words, selling practices of the sample chilli growing farmers are similar in all the three sample mandals of the study.

Table – 4: Selling Practices of Chilli growing farmers

Mandals	Direct Sale	Commission Agent	Village Traders	Wholesalers	Total
Kosigi	14	42	7	27	90
Adoni	10	46	2	32	90
Aspari	17	43	6	24	90
Total	41	131	15	83	270
Chi-Square Tests					
Chi-Square Computed Value				5.9841	
Degrees of freedom (r-1) (c-1) = (3-1) (4-1)				6	
Chi-Square Table Value for $\alpha = 0.05$				12.5916	

Source: Estimated based on primary data using SPSS Software



**Trade Facilities with Commission Agents in Chilli Market**

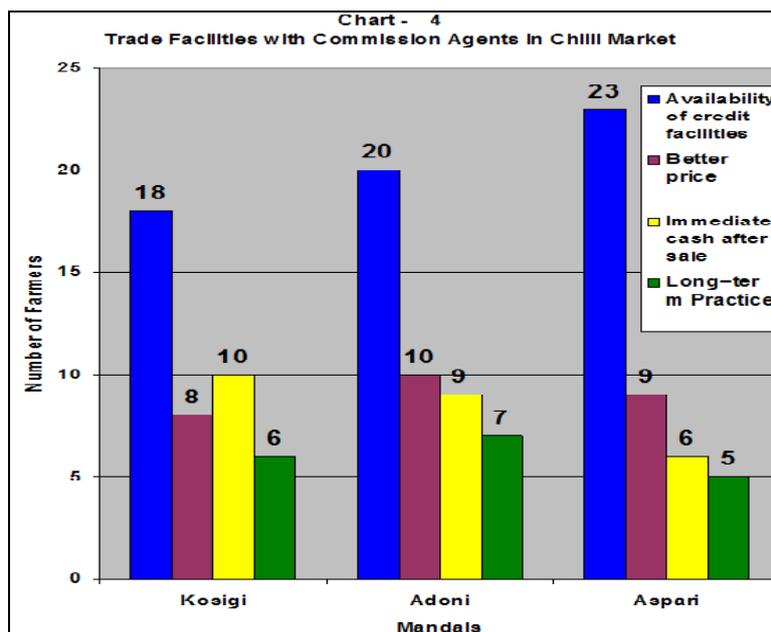
The responses of chilli growing farmers about trade facilities with Commission Agents in Chilli Market are summarized in Table – 5 and they are depicted in Chart – 4. It is clear from the table and chart that highest number of chilli growing farmers sale their chilli production to the commission Agents because they will provide better credit facilities, better price for the product, immediate cash after sale and the have long-term practice. Majority of the sample farmers opined that availability of credit facilities from commission agents is the main reason for their preference to sale to commission agents.

The chi-square test examines the discrepancies between observed frequencies and a set of expected frequencies constructed by assuming no relationship between the variables, i.e., sample mandals and responses of chilli growing farmers about trade facilities with Commission Agents in Chilli Market. Since the computed chi-square value (2.053) is lower than the Chi-Square Table Value for  $\alpha = 0.05$  (12.5916) at 6 degrees of freedom, it is concluded that there is no significant difference in the distribution of sample chilli growing farmers based on responses of chilli growing farmers about the trade facilities with Commission Agents in Chilli Market among the three sample mandals. In other words, trade facilities with Commission Agents in Chilli Market are similar in all the three sample mandals of the study.

Table – 5: Trade Facilities with Commission Agents in Chilli Market

Mandals	Availability of credit facilities	Better price	Immediate cash after sale	Long-term Practice	Total
Kosigi	18	8	10	6	42
Adoni	20	10	9	7	46
Aspari	23	9	6	5	43
Total					131
Chi-Square Tests					
Chi-Square Computed Value				2.053	
Degrees of freedom (r-1) (c-1) = (3-1) (4-1)				6	
Chi-Square Table Value for $\alpha = 0.05$				12.5916	

Source: Estimated based on primary data using SPSS Software



**Trade Facilities with Wholesale Traders in Chilli Market**

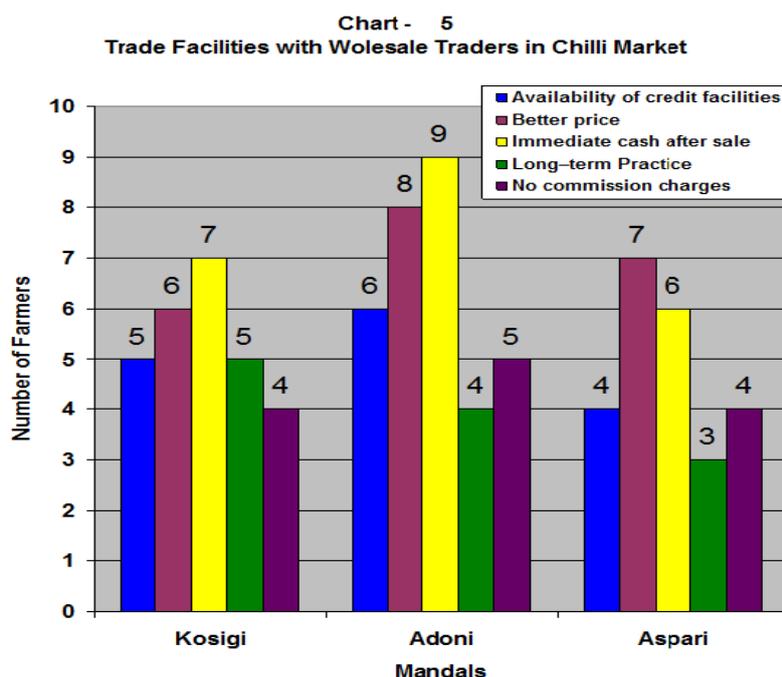
The responses of chilli growing farmers about trade facilities with Commission Agents in Chilli Market are summarized in Table – 6 and they are depicted in Chart – 5. It is clear from the table and chart that highest number of chilli growing farmers sale their chilli production to the Wholesale Traders because they will provide better credit facilities, better price for the product, immediate cash after sale, there is no commission and the have long-term practice. Majority of the sample farmers opined that immediate cash after sale, better price for the product and availability of credit facilities from Wholesale Traders are the main reasons for their preference to sale to Wholesale Traders.

The chi-square test examines the discrepancies between observed frequencies and a set of expected frequencies constructed by assuming no relationship between the variables, i.e., sample mandals and responses of chilli growing farmers about trade facilities with Wholesale Traders in Chilli Market. Since the computed chi-square value (0.8213) is lower than the Chi-Square Table Value for  $\alpha = 0.05$  (15.5073) at 8 degrees of freedom, it is concluded that there is no significant difference in the distribution of sample chilli growing farmers based on responses of chilli growing farmers about the trade facilities with Wholesale Traders in Chilli Market among the three sample mandals. In other words, trade facilities with Wholesale Traders in Chilli Market are similar in all the three sample mandals of the study.

Table – 6: Trade Facilities with Wholesale Traders in Chilli Market

Mandals	Availability of credit facilities	Better price	Immediate cash after sale	Long-term Practice	No commission charges	Total
Kosigi	5	6	7	5	4	27
Adoni	6	8	9	4	5	32
Aspari	4	7	6	3	4	24
Total	15	21	22	12	13	83
Chi-Square Tests						
Chi-Square Computed Value					0.8213	
Degrees of freedom (r-1) (c-1) = (3-1) (5-1)					8	
Chi-Square Table Value for $\alpha = 0.05$					15.5073	

Source: Estimated based on primary data using SPSS Software



**Price per quintal of Processed Red Chillies received by Chilli growing Farmers**

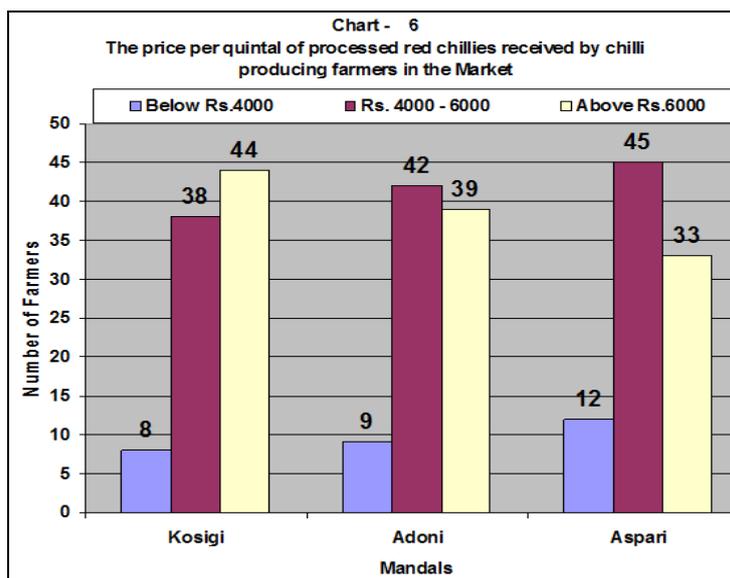
The responses of chilli growing farmers about price per quintal of processed Red Chillies received by Chilli growing Farmers in Chilli Market are summarized in Table – 7 and they are depicted in Chart – 6. It is clear from the table and chart that average price per quintal received by the majority of chilli growing farmers in Kosigi Mandal is above Rs.6000, but the majority of farmers in Adoni and Aspari Mandals received between Rs.4000 and Rs.6000. It is also observed from the table and chart that the lowest number of farmers received the average price below Rs.4000 in all sample mandals.

The chi-square test examines the discrepancies between observed frequencies and a set of expected frequencies constructed by assuming no relationship between the variables, i.e., sample mandals and responses of chilli growing farmers about the average price received by them in Chilli Market. Since the computed chi-square value (3.0575) is lower than the Chi-Square Table Value for  $\alpha = 0.05$  (9.48773) at 4 degrees of freedom, it is concluded that there is no significant difference in the distribution of sample chilli growing farmers based on responses of chilli growing farmers about the average price received by them in Chilli Market among the three sample mandals. In other words, average prices received by the sample farmers in Chilli Market are similar in all the three sample mandals of the study.

Table – 7: The price per quintal of Processed Red Chillies received by Chilli growing Farmers

Mandals	Below Rs.4000	Rs.4000 – 6000	Above Rs.6000	Total
Kosigi	8	38	44	90
Adoni	9	42	39	90
Aspari	12	45	33	90
Total	29	125	116	270
Chi-Square Test				
Chi-Square Computed Value			3.0575	
Degrees of freedom (r-1) (c-1) = (3-1) (3-1)			4	
Chi-Square Table Value for $\alpha = 0.05$			9.48773	

Source: Estimated based on primary data using SPSS Software



**Problems encountered by chilli growing farmers in the market**

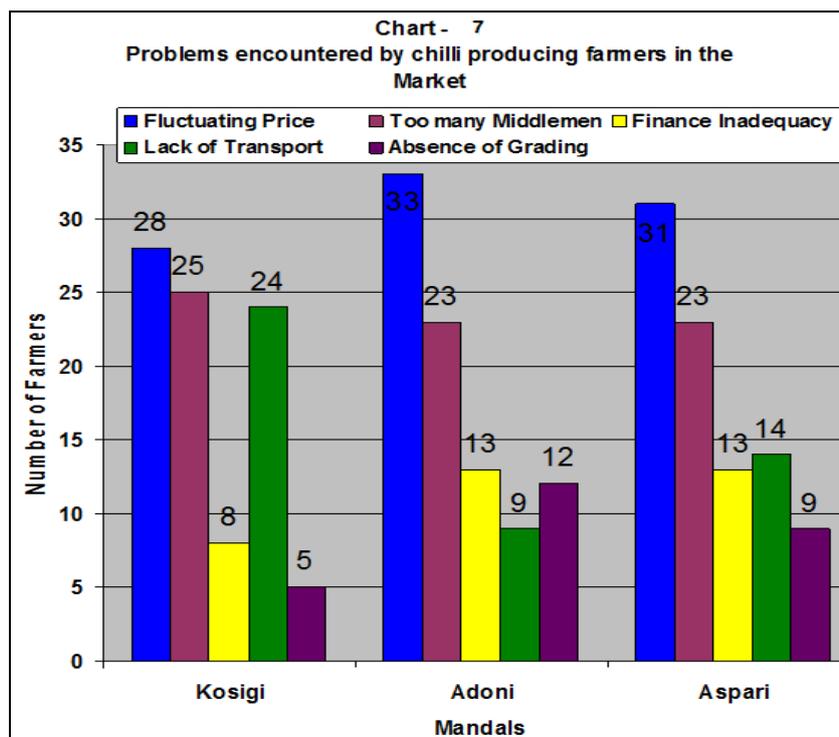
The responses of chilli growing farmers about problems encountered by chilli growing farmers in the market are summarized in Table – 8 and they are depicted in Chart – 7. It is clear from the table and chart that problems encountered by chilli growing farmers in the market are Fluctuating Prices, involvement of too many Middlemen, inadequate finance, lack of transport facilities, and absence of grading facilities in the market. Out of 270 sample farmers, 92 felt that there are fluctuating prices, 71 felt that there is involvement of too many Middlemen, 47 felt that lack of transport facilities, 34 felt that inadequate finance and only 26 felt that the absence of grading facilities in the market.

The chi-square test examines the discrepancies between observed frequencies and a set of expected frequencies constructed by assuming no relationship between the variables, i.e., sample mandals and responses of chilli growing farmers about the average price received by them in Chilli Market. Since the computed chi-square value (12.28927) is lower than the Chi-Square Table Value for  $\alpha = 0.05$  (15.5073) at 8 degrees of freedom, it is concluded that there is no significant difference in the distribution of sample chilli growing farmers based on responses of chilli growing farmers about about problems encountered by chilli growing farmers in the market among the three sample mandals.

Table 8: Problems encountered by chilli growing farmers in the market

Name of the Mandal	Fluctuating Price	Too many Middlemen	Finance Inadequacy	Lack of Transport	Absence of Grading	Total
Kosigi	28	25	8	24	5	90
Adoni	33	23	13	9	12	90
Aspari	31	23	13	14	9	90
Total	92	71	34	47	26	270
Chi-Square Tests						
Chi-Square Computed Value					12.2893	
Degrees of freedom (r-1) (c-1) = (3-1) (5-1)					8	
Chi-Square Table Value for $\alpha = 0.05$					15.5073	

Source: Estimated based on primary data using SPSS Software



**Average Marketing Costs spent by chilli growing farmers**

The responses of chilli growing farmers about the average Marketing Costs spent by chilli growing farmers in the market are given in Table – 9 and they are depicted in Chart – 8. It is clear from the table and chart that average Marketing Costs spent by chilli growing farmers in the market are transportation cost, packaging cost, loading cost, unloading cost, weighting charges and other marketing charges. The average transportation cost is the highest at Rs.240 per quintal for the farmers in Kosigi mandal followed by Rs.210 per quintal for the formers in Aspari mandal and it is the lowest at Rs.180 per quintal for the formers in Adoni mandal. The average packaging cost is the highest at Rs.60 per quintal for the farmers in Adoni mandal followed by Rs.50 per quintal for the formers in Aspari mandal and it is the lowest at Rs.40 per quintal for the formers in Kosigi mandal. The average loading cost is the highest at Rs.21 per quintal for the farmers in Adoni mandal followed by Rs.18 per quintal for the formers in Kosigi mandal and it is the lowest at Rs.15 per quintal for the formers in Aspari mandal. It is clear from the table that the average unloading cost (Rs.8 per quintal), the average weighting charges (Rs.4 per quintal) and other marketing charges (Rs.10 per quintal) are common to all farmers in all sample mandals, because they sell in the same chilli market at Byadagi in Haveri district of Karnataka state.

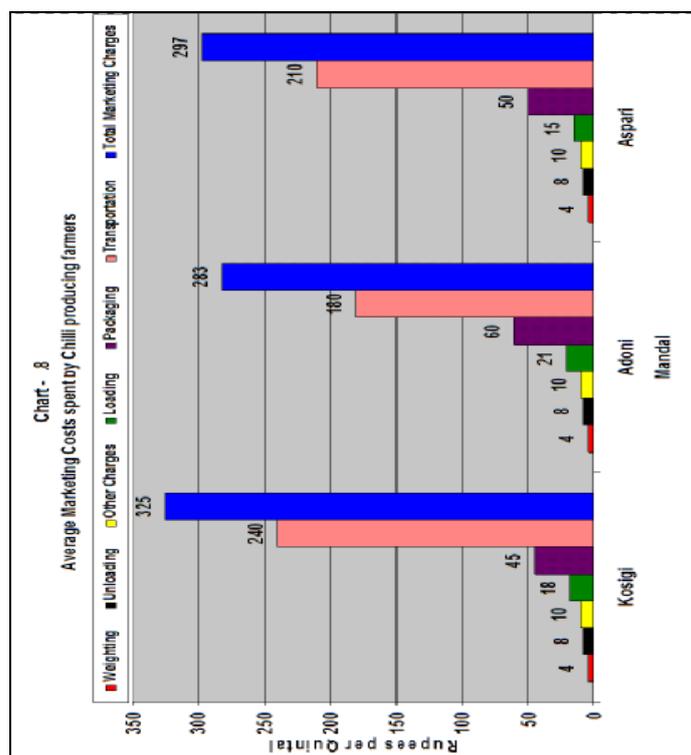
The chi-square test examines the discrepancies between observed frequencies and a set of expected frequencies constructed by assuming no relationship between the variables, i.e., sample mandals and responses of chilli growing farmers about the average marketing costs paid by them in Chilli Market. Since the computed chi-square value (8.8933) is lower than the Chi-Square Table Value for  $\alpha = 0.05$  (18.3070) at 10 degrees of freedom, it is concluded that there is no significant difference in the distribution of sample chilli growing farmers based on responses of chilli growing farmers about the average marketing costs paid by chilli growing farmers in the market among the three sample mandals.

Table 9: Average Marketing Costs spent by chilli growing farmers

		(Rupees/Quintal)		
Sl. No.	Items of Marketing Cost	Kosigi	Adoni	Aspari
1	Weighting	4	4	4
2	Unloading	8	8	8
3	Other Charges	10	10	10
4	Loading	18	21	15
5	Packaging	45	60	50
6	Transportation	240	180	210
7	Total Marketing Charges	325	283	297
<b>Chi-Square Tests</b>				
Chi-Square Computed Value		8.8933		

Degrees of freedom (r-1) (c-1) = (6-1) (3-1)	10
Chi-Square Table Value for $\alpha = 0.05$	18.3070

Source: Estimated based on primary data using SPSS Software



#### IV. Conclusion

The producers of chilli crop uses their production for self consumption, to sell as chilli fruit in the local vegetable markets, weekly markets, Rythu Bazars and to give them to relatives and friends on the one hand and to process them as dry chillies for sale in the dry chilli market. The responses of chilli growing farmers indicate that more than 75% of the farmers produced chillies only for selling in the dry chilli Market and they are willing to sale their entire production in the dry chilli Market. The remaining 25% farmers may use their chilli production for self consumption, sale in local vegetable markets, weekly markets, Rythu Bazars and to give them to relatives and friends.

The highest number of chilli growing farmers sale their chilli production to the commission Agents, followed by Wholesale Traders, Direct Sale and to the lowest number of farmers sale to Village Traders. The highest number of chilli growing farmers sale their chilli production to the commission Agents because they will provide better credit facilities, better price for the product, immediate cash after sale and the have long-term practice. Majority of the sample farmers opined that availability of credit facilities from commission agents is the main reason for their preference to sale to commission agents.

The second highest number of chilli growing farmers sale their chilli production to the Wholesale Traders because they will provide better credit facilities, better price for the product, immediate cash after sale, there is no commission charge and they have long-term practice. Majority of the sample farmers opined that immediate cash after sale, better price for the product and availability of credit facilities from Wholesale Traders are the main reasons for their preference to sale to Wholesale Traders.

The average price per quintal received by the majority of chilli growing farmers in Kosigi Mandal is above Rs.6000, but the majority of farmers in Adoni and Aspari Mandals received between Rs.4000 and Rs.6000. However, the lowest number of farmers received the average price below Rs.4000 in all sample mandals. The basic reason for the higher price received by Kosigi mandal farmers is the better quality of chillies produced by them.

The problems encountered by chilli growing farmers in the market are Fluctuating Prices, involvement of too many Middlemen, inadequate finance, lack of transport facilities, and absence of grading facilities in the market. Out of 270 sample farmers, 92 felt that there are fluctuating prices, 71 felt that there is involvement of too many Middlemen, 47 felt that lack of transport facilities, 34 felt that inadequate finance and only 26 felt that the absence of grading facilities in the market.

The average Marketing Costs spent by chilli growing farmers in the market are transportation cost, packaging cost, loading cost, unloading cost, weighting charges and other marketing charges. The average transportation cost is the highest at Rs.240 per quintal for the farmers in Kosigi mandal followed by Rs.210 per quintal for the farmers in Aspari mandal and it is the lowest at Rs.180 per quintal for the farmers in Adoni mandal. The average packaging cost is the highest at Rs.60 per quintal for the farmers in Adoni mandal followed by Rs.50 per quintal for the farmers in Aspari mandal and it is the lowest at Rs.40 per quintal for the farmers in Kosigi mandal. The average loading cost is the highest at Rs.21 per quintal for the farmers in Adoni mandal followed by Rs.18 per quintal for the farmers in Kosigi mandal and it is the lowest at Rs.15 per quintal for the farmers in Aspari mandal. It is clear from the table that the average unloading cost (Rs.8 per quintal), the average weighting charges (Rs.4 per quintal) and other marketing charges (Rs.10 per quintal) are common to all farmers in all sample mandals, because they sell in the same chilli market at Byadagi in Haveri district of Karnataka state.

### References

- [1]. Government of Andhra Pradesh (2010): Season and Crop Report of Andhra Pradesh for 2008-09, Directorate of Economics and Statistics, Government of Andhra Pradesh, Hyderabad
- [2]. Karvy (2008): Seasonal outlook on chili, Karvy Special Reports, Karvy Comtrade, <http://www.karvycomtrade.com>
- [3]. A. P. Murugan (1998): Production Outlook for Chillies, World Spice Congress, 1998, Organised by Spices Board India and All India Spices Exporters Forum, Cochin, India, January 23-25, 1998.
- [4]. A.S.M. Anwarul Huq and Fatimah Mohamed Arshad (2010): Technical efficiency of chili production, Science Publications, Institute of Agricultural and Food Policy Studies, University Putra Malaysia
- [5]. Government of Andhra Pradesh (2009): Hand Book of Statistics 2007-08, Kurnool District, Chief Planning Officer, Kurnool
- [6]. Henderson and Quandt (1980): Mathematical Economics, Prentice Hal of India, New Delhi.
- [7]. ACHOTH, L., NAGARAJ, R. K., REBELLO, N. S. P. AND RAMANNA, R., 1988, A study of the growth and variability of pulse production in Karnataka. *The Asian Economic Review*, 30(2) : 274-286.
- [8]. AGARWAL, N. L., 1999, Marketing costs, margins and price spread for agricultural commodities in Rajasthan. *Indian Journal of Agricultural Marketing*, 12(3) : 122-132.
- [9]. AHMAD ZUBAIDI, B. AND MUZAFAR SHAH, H., 1994, Price efficiency in pepper markets in Malaysia: A co-integration analysis. *Indian Journal of Agricultural Economics*, 49(2): 205-216.
- [10]. AMIT KAR, ATTERI, R. B. AND PRAMOD KUMAR, 2004, Marketing Infrastructure in Himachal Pradesh and integration of the Indian apple markets. *Indian Journal of Agricultural Marketing (Conf. Spl.)*, 18(3): 243-261
- [11]. ANGLES, A., 2001, Production and export of turmeric in south India: An economic analysis. M. Sc. (Agri.) Thesis, University of Agricultural Sciences, Dharwad.
- [12]. ANONYMOUS, 2002, Comparison of cost and returns per hectare moong, gram, maize, wheat, mustard and cotton. *Agricultural Situation in India*, 24(2): 73-78.
- [13]. ANONYMOUS, 2005, Chilli export touch all time high. [www.thehindubusiness.com](http://www.thehindubusiness.com).
- [14]. ARVIND, K., 2000, Performance of India's rice export. M. Sc. (Agri.) Thesis, University of Agricultural Sciences, Bangalore.
- [15]. ARYA, A., 1991, Spatial integration of regulated markets in Kheda district of Gujarat. *Indian Journal of Agricultural Marketing*, 5(2) : 207-209.
- [16]. ASHALATHA, 2000, Export trade performance of Indian cashew. M. Sc. (Agri.) Thesis, University of Agricultural Sciences, Bangalore.
- [17]. ATIBUDHI, H. N., 1999, Marketing finance for vegetable crops with special reference to marginal and small farmers in Cuttack district, Orissa. *Indian Journal of Agricultural Marketing*, 13(2) : 98-101.