Working Paper 2015/03

Relationship between Wholesale Prices, Retail Prices and Details of Contributing factors for the Price difference of Onion in Gujarat

S. S. Kalamkar & M. Makwana

September 2015

Agro-Economic Research Centre

For the States of Gujarat and Rajasthan

(Ministry of Agriculture & Farmers Welfare, Govt. of India)

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Relationship between Wholesale Prices, Retail Prices, and Details of Contributing factors for the Price difference of Onion in Gujarat*

S.S. Kalamkar and M. Makwana[1]

I. Background

India made significant advances towards achieving its goals of rapid agricultural growth, improving food security, and reducing rural poverty during last four decades. Food grains production has increased more than five times from 50.82 million tonnes (mt) in 1950-51 to about 264.77 mt in 2013-14 (GOI, 2014). After self sufficiency in food grains was met, the policy makers realized the need for diversification of agriculture to achieve higher growth rates as well as to adjust to the changing consumption pattern of the population which was experiencing due to urbanization and rising per capita incomes. Thus, dairy, horticulture, poultry and other allied sectors were given impetus and are being promoted through various policy measures. The public as well as private investment in

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horticulture and dairy sector increased manifold over the plans resulted in significant increase in production of horticultural crops and milk production. India now ranks first in the world in milk production, second in fruits and vegetables and third in production of eggs (GOI, 2015). This increased production has brought in its wake new challenges to handle in terms of huge marketable surplus. Thus, while increasing productivity and production in the agriculture and allied sector have always been the focus of Indian agriculture, attention is now being drawn on building up an efficient marketing system which includes adequate physical facilities for safe and economic handling of produce as well as institutional and legal support for orderly transactions. An efficient marketing system helps in the optimization of resource use, output management, increase in farm incomes, widening of markets, growth of agro-based industry, addition to national income through value addition and employment creation (Acharya, 2006). Marketing of agricultural produce also serves as a link between the farm sector on one hand and other sectors on the other hand.

Agricultural marketing in India is handled both by private trade as well as government intervention though major part of the agricultural produce is handled by private traders. The objectives and form of government intervention however change over time with the intention of protecting the interest of producers and consumers. However, barring direct intervention by the government in some commodities, marketing in most others is dominated by the private sector. According to some sources, the quantity of agricultural produce handled by government agencies has not been more than 10 per cent of the total value of marketed surplus. Another 10 per cent of the marketed surplus is handled by the cooperatives. Thus, rest of the 80 per cent marketed surplus comes in the ambit of private trade. As large

part of agricultural produce is marketed through private trade, there are a number of functionaries operating in different activities of marketing of various commodities. Apart from wholesalers and retailers, processors enter the market as bulk buyers and sellers. In the case of fruits and vegetables, only 2 per cent of total production is processed and rest 98 per cent is traded as fresh farm products in the fruit and vegetable markets. However, Indian food policy and agricultural commodity trade till the early 1990s was based on government interventions to protect consumer and producer interests through regulation of markets, limitation of private stocking, restricted movement of food grains, prohibition of private sector in the international trade of food grains and the dominance of large government parastatals like FCI, NAFED, etc.

In the aftermath of structural adjustment programmes (SAP), liberalization of other sectors of the economy raised reservations about government regulations of several spheres of agricultural sector. It was felt that the APMC act has become obsolete and no longer serves its purpose. The regulated markets mainly created a privileged group of licensed traders who blocked entry of new players thus defeating the aim of competition and inhibiting private investment to benefit marketing. A Model Market Act 2003 was passed to reform the market by allowing more competition and encouraging innovative methods to evolve. Private cooperatives, direct marketing and contract farming were to be promoted to bring the producers closer to the processors and the consumers. A system of warehouse receipts that supported grain storage was introduced and the Forward Market Act 1952 was amended in 2007 to allow futures trading in cereals (Kalamkar et al., 2012).

Owing to a widening of the production base of the agricultural sector, the market orientation of the farm sector has considerably increased.

However, these institutional reforms have not been successful in terms of coverage over the whole of India. Market imperfections continue to operate in most of the areas where an agricultural breakthrough has not taken place. In the backward regions markets continue to be dominated by the trader cum money lender nexus. Due to the lack of market infrastructure, the marketing system is highly inadequate and consequently the system continues to be non competative and dominated by monopolistic interests. Till date, the most common method of sales of agricultural commodities has remained through regulated markets. However, with amendments in APMC, a number of corporates are entering into the retail segment especially with respect to fruits and vegetables. They provide crop specific and soil specific advisory services to farmers, to build brand loyalty, enhance quality of produce and thus increase farm production. They also cater to export markets.

A number of government organizations such as Food Corporation of India (FCI) are involved in agricultural marketing mainly to procure food grains at minimum support prices from producers and maintain a public distribution system. Similarly government corporations also exist for other crops such as cotton and jute. Further, there are also specialized marketing boards for rubber, coffee, tea, tobacco, etc. and a network of cooperatives at the local, state and national level. The National Agriculture Cooperative Marketing Federation (NAFED) of India handles domestic as well as export marketing for its member organizations. The Directorate of Marketing and Inspection (DMI) under Ministry of Agriculture, Government of India, is responsible for administering federal statutes concerned with marketing of agricultural produce. In order to improve the marketing system of farm products, wholesale agricultural produce markets began to be regulated in the 1950s and 1960s, when each state began

implementing its Agricultural Produce Marketing Committee (APMC) Act. The APMCs were established in each state by the respective state governments with a view to regulate the marketing of agricultural produce in market areas. The regulation of markets had several positive features such as sale through auction method, reliable weighing, standardized market charges, payment of cash to farmers without undue deductions, dispute settlement mechanism, and reduction in physical losses of produce and availability of several amenities in market yards. The agricultural markets have never been favorable to the farmers and often the traders and traders-lobby dominated the market enterprises. As a result, even though the wholesale price index shows a small growth rate, the actual prices received by the farmers is far below the indications given by the wholesale prices. Market imperfections are not only relative in the product market but have also spread in the factor market. All this leads to the farmers and consumers being at the receiving end in the process of marketing.

Price Volatility in Agricultural Commodities:

Regular price fluctuations - "day-to-day" or "normal volatility" - is both typical and requisite for competitive market functioning. However the high price variability in the case of primary products affects both producers as well as consumers through a spillover effect to the other sectors, thereby leading to high inflation in the economy. The prices of the agricultural commodities are normally more volatile than those of the non-farm commodities due to biological nature of production, low price and income elasticity of demand and risk in production due to exogenous shocks from weather. Such high volatility of prices in agricultural commodities can have a

disproportional impact on the economies that endure exceptional shocks, and that impacts are nonlinear, typically being asymmetric. This arises because governments and households are well-adapted to normal volatility but neither anticipates nor considers making worthwhile provisions against extreme shocks, and assign low probability to the risk of such events. However the high inflation of food commodities cannot always be attributed to risks, exogenous shocks and mismatch of demand and supply, it can also be caused by market inefficiencies, weak supply chains and monopolies in the market (Chengappa, et al., 2012). Particularly, price spikes in onion could not be explained fully by the fundamentals of demand-supply and that underscores the need to delve into the agro-market structures and identify the real causes of price volatility.

Against this backdrop and given that market structure, degree of competition and efficiency at the various levels of the supply chain has impact on the final prices paid by the end consumers with respect to agriculture products; the study proposes to examine relationship between wholesale prices, retail prices, and details of contributing factors for the price difference of onion in Gujarat. Irrational speculative driven bubbles and hoardings by trader lobbies have sometimes been blamed for episodes of high price volatility in India, but with no clear implications in terms of which possible policies could effectively prevent repetition of such crisis. This study aims to find out the factors contributing for same.

Agricultural Marketing in Gujarat

Gujarat has historically been known for business acumen of its people. Gujarat state has made rapid strides in its agriculture sector including the agribusiness sub sector during recent past. Agriculture in Gujarat

has been transforming over time from traditional to high value added commercial crops which can be seen from a shift in its cropping pattern from food grains crops to high value cash crops such as oilseeds, fruits, vegetables and spices. The trend in shifting of cropping pattern paved ways for many ancillary industries in the areas of processing, packing, storage, transformation, etc. Agricultural growth in the state is favored by the prevailing eight agro-climatic zones, enterprenuring farming community, policy support from the government, wealth of livestock population, extended coast line and contribution by the agricultural scientist and dedicated NGOs. The Gujarat government has aggressively pursued an innovative agriculture development programme by liberalizing markets, inviting private capital, reinventing agricultural extension, improving roads and other infrastructure (Shah et al., 2009; Kumar et al., 2010, Dholakia, 2010). The mass-based water harvesting and farm power reforms in dry Saurashtra and Kachchh, and North Gujarat have helped energise Gujarat's agriculture (Shah et al., 2009). These semi-arid regions have outperformed the canal irrigated South and Central Gujarat. The shift in agriculture to 8 per cent growth rate during last decade was mainly responsible for the shift of the overall state economy to higher growth path with 10.6 per cent annual growth rate (Dholakia, 2010). For ensuring systematic and coordinated approach to all around development of its agriculture sector, the Government of Gujarat had prepared in the year 2000 a 10 year plan called 'Gujarat Agro-vision 2010'. A comprehensive New Agro-industrial Policy was also announced in 2000. In the new industrial policy, the state has indentifies agro-industries as the major thrust area. The policy aims to spur investment in agro-processing, agro-infrastructure and hi-tech agriculture by monetary incentives. There were 207 market committees in 26 districts of the state, which includes 195 main yards and 206 sub-market wards as on March 31, 2011. The total

warehousing capacity under Gujarat State Warehousing Corporation (GSWC) has come down from 2.1 lakh tonnes in 2006-07 to 1.5 lakh tonnes in 2010-11. It is astonishing to find that the level of utilization of the existing warehousing capacity has been very low.

Onion is the important vegetable crop grown in the state. It is generally grown as late kharif or rabi crop. It accounts for about 5.3 per cent of total area under vegetable crops and 6.7 per cent of total vegetable production in the state. Though, state has shared hardly 2.7 per cent area and 4.2 per cent production of Country, the highest productivity level (24415 kg/ha) was recorded as compared to all India average of 15989 kg/ha in 2012-13. The top five major onion growing districts in the state are Bhavnagar, Rajkot, Junagarh, Amreli and Jamnagar.

With this background, the present study was undertaken with following specific objectives.

a) To study the relationship between movements in market arrivals and market prices at important mandis, and

b) To study the divergence among farm harvest prices, wholesale prices, retails prices and export prices and the relationship between these movements.

2. Data and Methodology:

The study has been carried out by utilizing both secondary as well as field survey data collected from Gujarat. The secondary level data has been used to find out the major onion growing districts in Gujarat, wholesale and retail prices of the onion in major markets in Gujarat. The secondary data on area and production of onion has been gathered

from publication and related websites. The provisional data were collected through visiting agriculture and horticulture departments of Gujarat.

The primary survey was carried out in three largest onion producing districts of Gujarat, i.e. Bhavnagar, Rajkot and Junagadh. Primary survey was carried out with a structured questionnaire for farmers and market intermediaries for the year 2013-2014. Data were collected from 50 farmer households from two villages of two talukas (having significant area under onion crop) of each district; this makes a total of 150 farmers households (Table 1). Besides data were collected from other stakeholders such as exporters (07), wholesalers (10) and retailer/local vendors (13). A focus group discussion with the committee members of APMC and with market functionaries was also held in order to get a clear picture of market charges, market practices, etc.

Tabulation of the data is carried out by using simple statistical tools. The intra-year variability in wholesale and retail prices for each year was calculated as = S. D. [log (Pt / Pt-1)], where, S.D. is the standard deviation, Pt is price in month 't' and Pt-1 is the price in previous month t-1, t=2, ……,12 in each year.

Simple average of prices is used in analysis.

The percentage markup (PERMARK) was calculated as follows:

Farmer- PERMARK= (Sale Price-Cost of Cultivation)*100/ Cost of Cultivation

Markup of RP/EP over WP & WP over RP was estimated as follows:

Markup of RP/EP over WP_PERMARK = [(RP or EP - WP)* WP]*100

Markup of WP over RP- PERMARK = [(RP-WP) *WP]*100.

Table 1: Districtwise Selected Sample Onion Farmers in Gujarat

District/State	Taluka/Blocks	Distribution as per Operational Land holdings				
		MF	SF	MDF	LF	Total
Rajkot	Gondal	4	11	8	3	26
	Rajkot	4	12	5	3	24
	Total	8	23	13	6	50
Junagadh	Una	0	16	7	3	26
	Junagadh	0	15	6	3	24
	Total	0	31	13	6	50
Bhavnagar	Talaja	5	15	6	3	29
	Mahuva	3	8	7	3	21
	Total	8	23	13	6	50
Gujarat state	Grand Total	16	77	39	18	150

Notes: MF=Marginal farmer (Less than 1 ha.), SF= Small farmer (1-2 ha.),MDF=Medium farmer (2-4 ha.), LF= Large farmer (Grater than 4 ha.)

3. Findings from Field Survey:

3.1 Demographic Profile and Cropping Pattern

- The average family size of selected households was 6.4, wherein more than 78 per cent were adult members and remaining were children. The largest size of family was found in case of large farm size category (10.6), followed by medium size category (6.1).
- On an average, more than one third of households head were found educated up to the level of secondary and above. More than one quarter of households head from marginal and small farm category

had taken education up to higher secondary school level. At the same time, the highest proportions of heads were found illiterate in these two categories only (i.e. marginal and small).

- Among the selected sample households, the social categorization of households indicated that majority of households were from other/General category. In all farm size categories, more than 75 per cent of households were from general/other category. The highest proportion of this category was found in large farm category (88.9%). The other backward classes category accounts for around 20 per cent in total sample households followed by a very meager proportion of Scheduled Caste category households (0.7 %). No household from Scheduled Tribe category was included in selected sample households.

- On an average, owned land holding size of sample households was 2.64 ha and about 0.4 ha land was taken on leased-in. Thus, on an average per household 2.78 ha land was under operation/cultivation. The marginal farmers had put all his cultivated area under than two crops (as area sown more than once) and therefore, cropping intensity was found to be more than 200 per cent which was the highest one among farm categories. The lowest cropping intensity was found around 150 per cent in large farm category, whereas average cropping intensity was about 162 per cent. Thus, it indicates that selected farm households had put half of their operated land under second crop cultivation. Also it was observed that as land holding increases, cropping intensity decrease.

- On an average more than 99 per cent land of selected households was irrigated, mainly through well and tubewell. The other source of irrigation was canal, which accounted for very meager share of

around 5 per cent in total irrigation. Tank and other sources of irrigation were not available in selected study area. Thus, groundwater was the dominant source of irrigation for selected sample households.

- The cropping pattern of selected households shows that onion was the major crop grown which accounted for about 26 per cent of gross cropped area. The highest share in GCA under this crop was found in marginal farm group (30.65 %) followed by small (29.02 %) farm category. The next immediate major crop grown by selected household was groundnut which occupied about 25.37 per cent of GCA, followed by cotton crop (20.63%). Wheat, maize and sesamum were other major crops grown in study area. Besides, selected farmers had also grown jowar, tur, gram, cumin, vegetables and fruits during year under report, which are included under other crops group. Thus, three major crops grown were onion, cotton and groundnut which together accounted for about 72 per cent of GCA.

- The distribution of total area under onion in different farm groups shows that small farmers accounted for more than 36 per cent area followed by large (31 %) and medium size farm category (27.71 %).

- Majority of the households had grown Nashik Red/ Nashik 53 variety of onion (35.91 %), followed by Red Patti (local name), Nashik white and local varieties. The other varieties grown by the selected farm households were Pillipatti/Yellow and NHRDF.

- Except marginal farmer group, all other group farmers had grown onion crop during two seasons, i.e. kharif and rabi, having more than two third area (66-86 %) in rabi season and remaining in kharif season. Thus, rabi season was the main onion growing season.

Whereas in case of group of marginal farmers, they had grown onion crop during all three seasons, having almost 50 per cent area in kharif season, about 42 per cent in rabi season and remaining area in summer season.

3.2 Economics of the Study Crop

- Most of the farmers had sold their more than 90 per cent of output and very few had retained some quantity of output for consumption and for future sale purpose, however, share of same was very meager (Table 2). Also the share of wastage in total production was very minimum, ranged from nil to 4.05 per cent, with an average of 0.28 per cent of total produce. For consumption purpose, pilli patti and red patti varieties were preferred, whereas for storage, pilli patti and local varieties produce was retained. Among the varieties, the wastage was found more in pilli patti variety followed by local varieties.

- Among the group of farmers, the medium size group of farmers had used onion more for consumption purpose, whereas large farmer had retained more quantity of onion for future sell and also more wastage of onion was recorded in this category.

- The total cost of cultivation for onion at overall level was estimated to be Rs. 139106 per hectare, in which around 86 per cent was input cost and remaining was storage, transportation and marketing cost. Among the input cost, highest share was of labour cost (around 52 %) followed by seed (around 14 %), manure and fertiliser (around 11 %). While transportation and bagging share around 43 per cent each in total storage, transportation and bagging cost.

Table 2: Production, Consumption and other details

Sr. No.	Varieties	Farm size	Total Area (ha)	Total Prod. (qtls.)	% to total production				Price # (Rs/qtl)
					Consumed	Retained	Wastage	Sold	
A	Local	MF	1.36	191.0	0.00	0.00	0.00	100.0	1117
		SF	14.64	4303.4	0.68	0.00	1.28	98.04	718
		MDF	5.44	1752.0	0.00	0.00	0.11	99.89	700
		LF	1.44	440.0	0.00	0.00	0.00	100.0	1063
		Total	22.88	6686.4	0.44	0.00	0.85	98.71	775
B	NHRDF/ NAFED	MF	-	-	-	-	-	-	-
		SF	-	-	-	-	-	-	-
		MDF	-	-	-	-	-	-	-
		LF	2.88	440.0	0.68	51.59	2.27	45.45	875
		Total	2.88	440.0	0.68	51.59	2.27	45.45	875
C	Nashik Red/N-53	MF	3.0	675.0	0.06	0.00	0.06	99.88	1125
		SF	18.9	4249.2	0.47	4.94	0.97	93.62	1002
		MDF	11.7	2771.2	0.06	0.00	0.47	99.47	925
		LF	28.4	5546.0	0.12	3.43	0.19	96.26	1012
		Total	62.0	13241.4	0.22	3.02	0.49	96.27	994
D	Pilli Patti /Yellow	MF	1.92	605.0	9.92	0.00	0.00	90.08	933
		SF	2.40	533.0	0.08	0.00	7.80	92.12	866
		MDF	2.56	847.0	0.47	10.63	0.94	87.96	895
		LF	1.28	300.0	0.40	0.00	0.00	99.60	613
		Total	8.16	2285.0	2.87	3.94	2.17	91.02	860
E	Red Patti	MF	1.60	320.0	0.00	0.00	0.94	99.06	481
		SF	25.20	5401.0	0.76	0.75	0.46	98.04	799
		MDF	21.92	5312.0	1.00	0.00	0.09	98.91	752
		LF	7.04	1180.0	0.00	0.00	0.00	100.0	1050
		Total	55.76	12213.0	0.77	0.33	0.27	98.63	777
F	Nashik white	MF	-	-	-	-	-	-	-
		SF	2.24	610.0	1.38	0.00	0.66	97.97	875
		MDF	6.24	1320.0	0.00	0.00	0.30	99.70	648
		LF	12.48	4600.0	0.00	0.00	0.00	100.0	1000
		Total	20.96	6530.0	0.13	0.00	0.12	99.75	777
	All total	MF	7.92	1791.0	3.37	0.00	0.19	96.44	914
		SF	63.36	15096.6	0.66	1.66	1.10	96.58	852
		MDF	47.84	12002.2	0.49	0.75	0.27	98.49	784
		LF	53.52	12506.0	0.09	3.33	0.17	96.41	935
		Total	172.64	41395.8	0.55	1.83	0.54	97.08	871

Note: #Prices are simple averages.
Source: Field survey data.

- Almost same trend in cost pattern as recorded at overall level was observed in case of cost of cultivation of each variety. At overall level, labour cost accounted for around 44 per cent, followed by seed cost (around 9-11 %) and manure and fertiliser (9-10 %), except in case of NHRDF. In case of NHRDF, share of cost on manure and fertiliser was estimated to be 18.1 per cent whereas share of cost on labour was about 35 per cent. Thus, onion crop was found labour intensive crop.

- At overall level, on an average selected farmer households had received net returns of Rs. 68329/ha or Rs. 285/qtl. (Table 3). Among the farm category, the net returns were estimated to be the highest in case of marginal farmer (Rs. 102536/ha or Rs. 453/qtl) followed by large farmers (Rs. 75686/ha or Rs. 335/qtls), medium farmers (Rs. 66443/ha or Rs. 260/qtl) and the lowest was in case of small farmers (Rs. 59081/ha or Rs. 244/qtl). Across the varieties, it was observed that except NHRDF variety (which was grown by one large farmer and had faced loss in cultivation), all other crop variety cultivation was profitable venture for selected farmers. The highest returns per quintal of production of onion was recorded in case of cultivation of red patti variety (Rs. 375/qtl), closely followed by Nashik White (Rs. 373/qtl), Nashi Red (Rs. 348/qtl) and the lowest was in case of Red patti (Rs. 185/qtl). The large farmer, who had grown NHRDF variety of onion had to bear loss of Rs. 37 per quintal, which was mainly due to low production (Rs. 153 qtl/ha).

Table 3: Per hectare & Per Quintal Profitability of Farming: Onion- All

Sr. No.	Farm Size	Yield/ ha	Per hectare & Per Quintal Profitability of Farming: Onion- All varieties				
			Per ha Gross Return (Rs.)	Per ha Net Returns (Rs.)	Per quintal Gross Return (Rs.)	Per quintal Net Return (Rs.)	Per ha Value of Marketed Surplus (Rs)
1	MF	227.0	233095	102536	1029	453	225253
2	SF	243.5	194073	59081	801	244	189857
3	MDF	249.8	202943	66443	794	260	199408
4	LF	240.0	210211	75686	931	335	205861
5	Total	243.0	203387	68329	847	285	199148

Source: Field survey data.

3.3 Marketing of Onion

- At overall level, on an average more than 93 per cent of selected households had sold their produce in nearby APMC/regulated market, while 5.3 per cent farmers had sold their output to private trader and remaining had sold to village trader (Table 4). Among the farm size category sale, it was observed that 12.5 per cent marginal famers followed by 11.1 per cent large farmers had sold their out to private traders. In case of Nashik red variety, 40 per cent of farmers sold their out to private traders, while remaining famers has sold their output in APMC. In case of Red patti variety, except 33.3 per cent large farmers who had sold output to village traders, all other farm categories farmers had sold all output in APMC market. In case of local variety onion, all output by farm categories were sold in APMC market. Thus, most of the selected farmers had chosen APMC market as sale point for their output.

Table 4: Marketing Channels for Onion Crop- All Varieties

Sr. No.	Farm Size	Place of Sale -% to total			
		APMC	Village	Pvt traders	Total
1	MF	87.5	0.0	12.5	100.0
2	SF	96.1	1.3	2.6	100.0
3	MDF	94.9	0.0	5.1	100.0
4	LF	83.3	5.6	11.1	100.0
5	Grand Total	93.3	1.3	5.3	100.0

Source: Field survey data.

- In case of per quintal price received, on an average Rs.899 per quintal price was released by the selected farmers. The highest price was realized by medium farm group farmers (Rs 1066/ qt), followed by marginal farmers (Rs. 1026/qtl). Across the places of sale of output, the price per quintal realized by farmers was the highest in case of village sale, followed by private trader and then APMC. The sale through village trader was very meager and that to in off period and therefore the price realized was the highest.

- The selected farmers had sold their maximum output during the three months of January, February and March, in which March month sale was the highest one. As compared to other month, the onion prices were higher in the months of October and May.

- Majority of wholesalers had purchased the onion from farmers and some of them had procured from commission agent. During the year 2013, the purchase price of onion fluctuated from as low as Rs. 722.32/qtls (May 2013) to Rs. 3275/qtl (October 2013). Thus, prices of onion were lower in the beginning of calendar year which

had increased then during the post monsoon season and in winter season. Also same trend was observed in the year 2014. Whereas price released by the wholesaler through sale of onion was relatively better than procurement price, which resulted in significant profit to the wholesaler.

- Majority of retailers had purchased the onion from commission agents, while remaining had procured from farmers. As observed in case of wholesaler, almost same trend in purchase price of onion had prevailed in case of retailers as well. It was observed that during the months of June to September, the purchase price was at the highest level, while mixed picture was noted during other months of the year. Thus, mostly before kharif onion comes into the market, prices had gone up. There was huge deviation in the prices of onion across the months in the year. It was very interesting to note here that the average price got by retailer for the sale of onion was very high as compared to purchase price. Therefore, except in the month of April 2014, retailers had received the profit on purchase price more than 150 per cent. The highest level of markup was 297 per cent in the month of December. Thus, retailer had made almost double the profit on purchase price. It can be concluded that no effect of supply of onion in market was found on level of profit of retailer.

- The exporters had purchased the onion from two sources, i.e. commission agents and onion growers. They preferred to purchase the onion from commission agent as well as from wholesalers. The purchase price of onion paid by the exporter was at higher level

during the months of 2012 and 2013 as compared to the prices during the months of year 2014. The total quantum exported by the seven exporters was the lowest in the month of August 2012 and was the highest in the month of May 2014. No fixed trend could be observed from the data about the onion prices. The exporter realized the profit which ranges from as low as 50 per cent on purchase price to as high as 450 per cent on purchase price. Thus, level of profit varies as per local availability and demand for onion as well as demand and export price of onion during that particular month.

3.4 Price Patterns over the Time and Space

- The average retail prices were always found higher than the wholesale prices. The average wholesale price on onion during last one decade period was estimated to be Rs. 842 per quintal whereas retail price during corresponding period was about Rs. 1483 per quintal. Thus, retail price was more than 76 per cent higher than the wholesale price. However, the deviation was found higher in retail prices than wholesale prices. During the year 2013, both the prices reached the highest level as well as the deviation across the month was also recorded at the highest level (Figures 1 to 4).

Fig. 1: Yearwise Wholesale Prices for Onion in Gujarat (2005 to 2014)

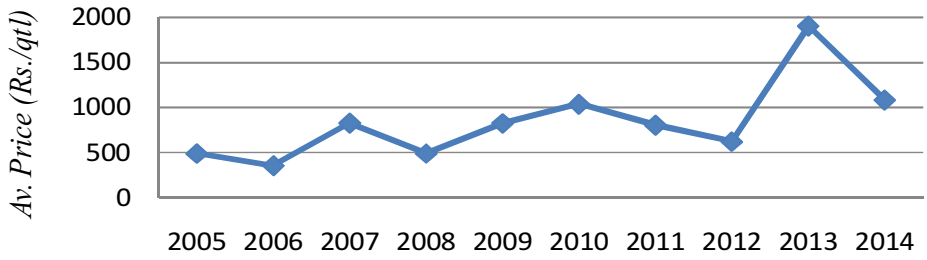


Fig. 2: Monthwise Wholesale Prices for Onion in Gujarat (2005 to 2014)

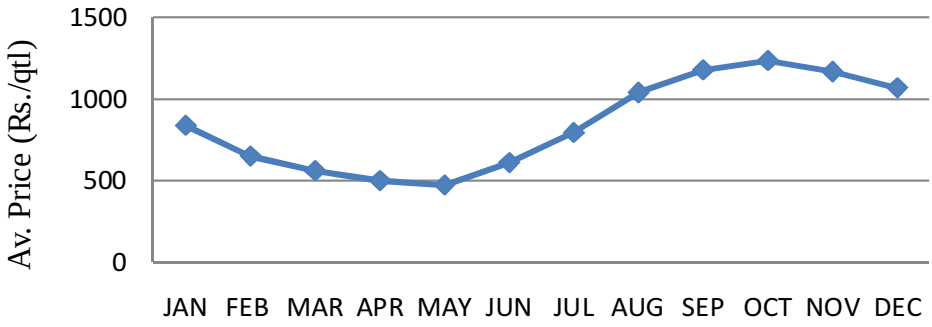


Fig. 3: Yearwise Retail Prices for Onion in Gujarat (2005 to 2014)

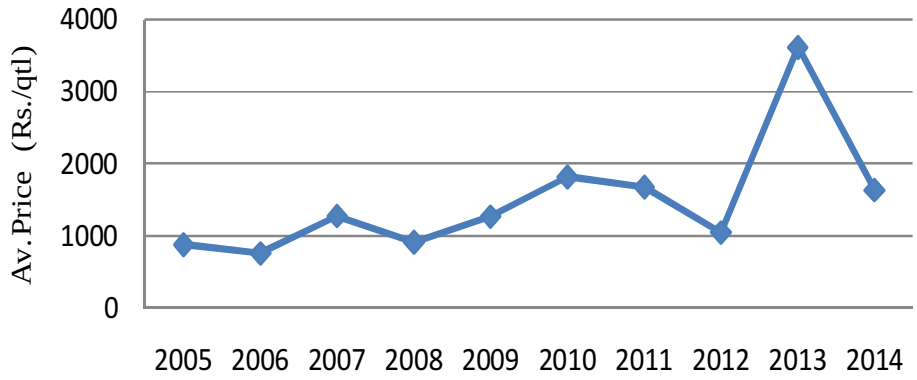
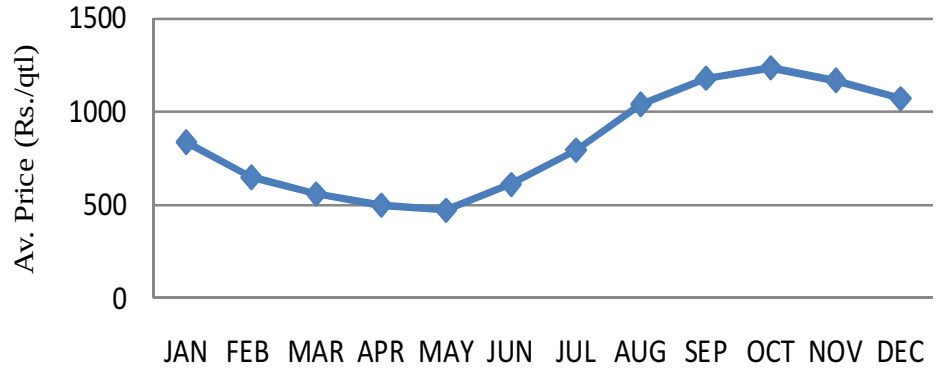


Fig. 4: Monthwise Retail Prices for Onion in Gujarat (2005 to 2014)



- Across the months, the average markup range of prices was between 43 per cent to 104.4 per cent, with an average of 76.1 per cent. While across the years, the corresponding figure ranges from 50.5 per cent to 113.6 per cent. Thus, it is very much clear that increase in prices was very high when it reaches through the retailer (Figures 5 to 6).

Fig. 5: Yearwise Markup (WP over RP) for Onion in Gujarat (2005 to 2014)

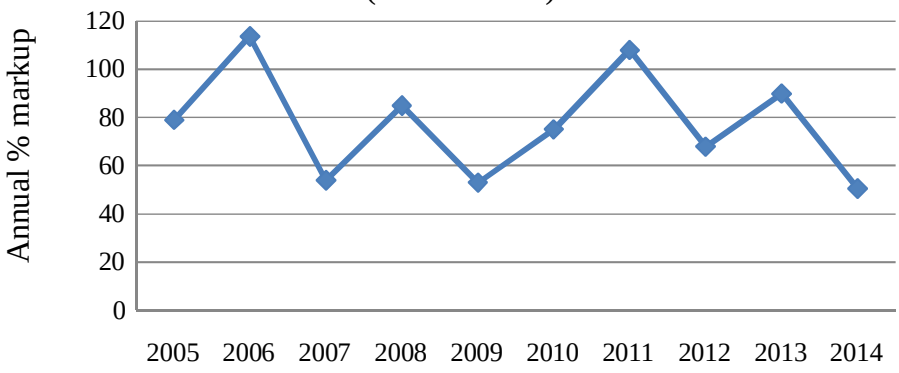
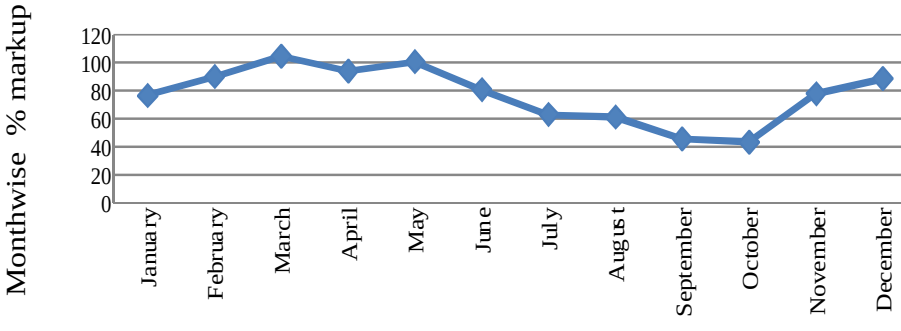


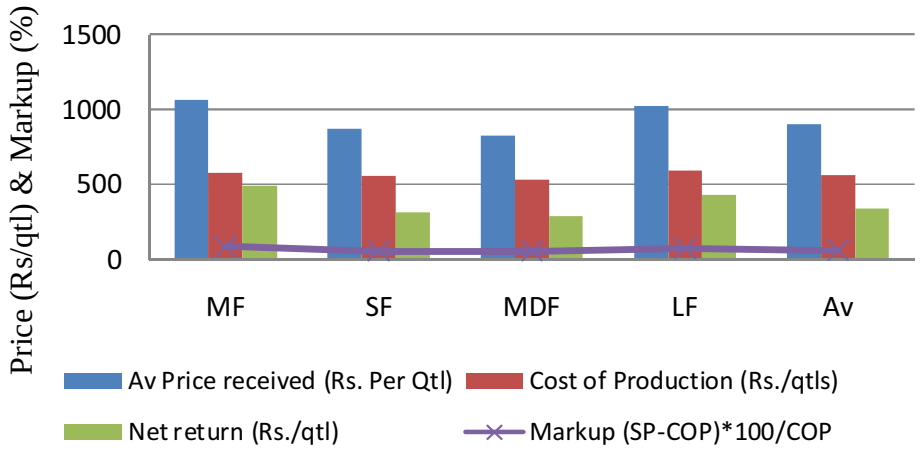
Fig. 6: Monthwise Markup (WP over RP) for Onion in Gujarat (2005 to 2014)



3.5 Profitability and Markup

- On an average Rs. 336 per quintal net return was realized by the selected farmers (Fig. 7). The marginal farmers had received the highest level of returns (Rs. 489/qtl) and the lowest was in case of medium farmers (Rs. 292/qtl). Thus, markup percentage was same as observed in case of net returns.

Fig. 7: Profitability and Markup at Farm Level



- The export and retail prices were found higher than the wholesale prices, while except in one month, the export prices were found higher than retail prices. Thus, markup percentage was higher in exporter over wholesale prices followed by retailer over wholesale price.

3.6 Perceptions of Stakeholders

- More than 69 per cent of selected farmer households had opined that they grew onion crop due to profitability (rank 1). Among the farm size groups, more than 87 per cent of farmers from marginal

farm group preferred growing onion for its profitability, followed by large farm group (83.33 %). At overall level, more than 29 per cent of farmers opined that for growing onion crop, their farm soil is suitable (Table 5). Few farmers from large farm group only had mention about their preference growing crop for home consumption.

Table 5: Reasons for Growing the Study Crop

Sr. No.	Reasons	Responses of Farmers (rank-1 only)				
		MF	SF	MDF	LF	Total
A	No. of responses(=% to selected HH)					
1	Fits well with Crop Rotation	0.00	0.00	0.00	0.00	0.00
2	Government Subsidies	0.00	0.00	0.00	0.00	0.00
3	Land Suitability	12.50	32.47	41.03	5.56	29.33
4	Profitability	87.50	67.53	58.97	83.33	69.33
5	Home Consumption	0.00	0.00	0.00	11.11	1.33
	Total	100.0	100.0	100.0	100.0	100.0

Note: The reasons cited as a Rank 1 are presented
Source: Field Survey data.

- The major problems faced by the selected farmer households in cultivating onion crop were distance market, lack of market information, poor underground water, collusion among traders/trade malpractices, poor road network for transportation, poor refrigeration facilities, non-availability of good quality of seed, and lack of government procurement support (Table 6).

Table 6: Major Problems faced by Selected Households in Onion Cultivation

Sr. No.	Major Problems	Severity of the problems			
		Rank 1	Rank 2	Rank 3	Rank 4
A	No. of Farmers (% to total)				
1	Lower Yield	3.48	5.38	4.67	16.24
2	Unstable yield	3.13	2.83	8.70	14.82
3	Lack of remunerative price	5.04	1.98	4.88	14.59
4	Poor road network for transportation	8.43	6.23	4.03	2.82
5	Poor refrigeration facilities	8.43	5.38	3.61	4.00
6	Other infrastructure problems	6.52	8.50	8.28	1.41
7	Erratic electricity supply	2.95	7.37	15.07	4.47
8	Labour problem	3.39	2.55	13.38	9.18
9	Poor quality of underground water	8.77	9.35	2.34	1.18
10	Non-availability of good quality of seed	7.99	8.78	3.61	2.35
11	Lack of/poor extension services lack of technical know-how	5.99	6.80	9.13	3.29
12	Price fluctuations	1.48	3.97	15.29	11.06
13	Lack of MSP/government procurement	6.78	10.20	2.55	5.65
14	Lack of market information	9.47	7.65	1.49	1.65
15	Collusion among traders/trade malpractices	8.43	8.50	2.12	3.06
16	Distant market	9.73	4.53	0.85	4.24

- Among the various problems faced by the wholesaler during purchase and sale of onion, the problem ranked one was competition from imports followed by competition from large organized retail chains, and competition from other wholesalers. Besides, the problems such as non-remunerative price due to lower demand, lower supply and poor infrastructure were ranked second. The poor quality of product, Government Interventions in the form of minimum intervention price and sometime through Essential Commodity Act also acted as constraint in business of wholesalers.

- The problems which were ranked 1 by retailers were poor infrastructure followed by competition from imports, and competition from other retailers. The majority of retailers ranked second to the competition from large organized retail chains. The other problems faced by the retailers were labour problem, non-remunerative price due to lower demand and government intervention in price (MIP).

- The exporters had also faced problems in purchasing and exporting the onion. The poor road network and other related infrastructure followed by competition from other exporters, poor port facilities, and low domestic demand were the major problems faced by majority of exporters. High port charges/taxes, competition from other wholesalers mixing of different varieties as well as lengthy government procedures were other major problems were faced by the wholesalers.

4. Policy Suggestions:

- The adequate return on agricultural output is one of the driving forces for better agricultural growth. Thus, better marketing channels and warehouse facilities are essential for ensuring adequate returns on agricultural output of famers. The available regulated markets are inefficient to handle the buffer produce of onion. Also inadequate facilities at market and inappropriate steps at APMC level for efficient marketing of produce are the major difficulties for farmers to sell out their produce. Therefore, the appropriate policy decision and arrangement should be made for remunerative prices to onion growing farmers in order to safeguard their interest in production of onion.

- The quality seed (suitable to soil and weather condition) should be made available to farmer at reasonable rate by the concern State Agricultural University/State Seed Corporation.

- It was observed in the study that most of the onion crop is sold in APMC and farmers preferred this channel because they were familiar with the system which was practiced over the years and they received timely payments. Marketing infrastructure in the Mahua market was very good, whereas at other places, infrastructure up-gradation is required as per requirement.

- Marketing information is needed by farmers in planning production and marketing, and equally needed by other market participants in arriving at optimal trading decisions. Therefore, agricultural marketing extension system needs to be strengthened.

- Onion dry product needs to be promoted in the market. The adequate number of processing/dehydration units needs to be created/installed to increase the onion demand in market. The awareness about use of dried/dehydrated onion among the consumer needs to be made though consumer awareness programme.

- Farmers suggested that in case price of onion falls to unduly levels, the government must step in and purchase the produce to avoid distress sales. Market Intervention Scheme should be implemented in time as and when prices drastically fall below the minimum level.

- The difference in freight charges at different port should be removed. Proper storage facility at port on minimal rate should be provided. The loan arrangement at subsidies rate on the basis of quantum of export should be provided to the exporters. Also insurance facility should be provided to exporters in order to cover the loss due to cancellation of order and delay in delivery in respective countries.

- A visit was made to Mahua APMC and discussions were held with concerned market functionaries. It was quite clear from the discussions that some traders also stored onions in anticipation of higher prices. After making purchases from farmers, they sometimes stored the onions instead of immediate sales. These commission agents also indicated that they stored onions. However, when an attempt was made to find out the quantity stored by them, they were very reluctant to disclose the quantity stored and only complained of transport bottlenecks because of which they were forced to store.

- The discussion with wholesaler and exporters reveal that even the media plays a role in causing sudden rise or downfall in prices by publishing certain news for which they are paid. For example, there may be a sudden news of very high auction prices in upcountry markets which immediately lead to spiraling of prices in urban centres. In reality only one transaction may have been at very high price, but the media hypes it up, and wholesalers and retailers jack up the prices. Conversely, the media may talk about falling demand for onions and low prices prevailing in several markets. This acts as a downward pressure on prices and onion growers may have to make distress sales.

- Meeting with traders revealed that it is mostly the retailers who charge higher prices than warranted to the consumers. There is no regulation on prices charged by retailers and at times their rates are exorbitant, especially when the produce is in short supply.

- A meeting with wholesalers and exporters revealed that there are several bottlenecks in onion trade, transportation is major one. Another major problem facing traders is the export ban which is sometimes imposed when onion prices show an upward trend. Exporters lose their credibility in export markets as irregular suppliers in international markets. Added to this is the practice of fixing Minimum Export Prices (MEP) for onions. At times the MEP is fixed at very high levels and exporters actually sell at prices below MEP though the L/C (letter of credit) is prepared at MEP. Therefore the profit realized by exporters shows an inflated figure leading to higher tax liability. Also fixation of MEP makes exporters reluctant to export which sometimes leads to excess supplies in domestic markets, leading to fall in prices. Farmers also loose when prices show downward trend. In view of these difficulties, export ban on onions coupled with fixation of MEP must be discouraged.

- A large number of exporters meet their export requirements from APMCs in Bhavnagar and Junagarh. However, their produce is often not cleared at port for 3 to 4 days. They therefore refrain from entering the local markets till their export commitments are dispatched. Since supply is choked up, exporters do not enter the market till their consignments are dispatched leading to price fall. Hence, if export orders are timely dispatched, it is possible that volume of exports may increase which will benefit farmers.

- Farmers normally store onions in onion meda/chawls (temporary storage structure) to benefit from lean season rise in prices. However, this method of storage leads to deterioration in quality, spoilage and shrinkage. Often storing of onions leads to losses of 30-40 per cent. Traders therefore stated that storing of onions in meda/chawls is a very rudimentary method of storage and there is urgent need for technology such as well designed cold storage which will enable the crop to remain in the same condition without spoilage or shrinkage. This will help to even out supplies throughout the year and also lead to better production planning of the crop and more stability in prices.

- Onion cooperatives must be encouraged to form and work in study area because presence of cooperatives would help the farmers to receive better prices and help to prevent collusion amongst traders not to bid beyond a certain price and also discipline prices.

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References

Acharya, S.S. (2006), "Agricultural Marketing and Rural Credit for Strengthening Indian Agriculture", *INRM Policy Brief No 3*, Asian Development Bank, New Delhi.

Chengappa, P. G.; A V Manjunatha; Vikas Dimble and Khalil Shah (2012), *Competitive Assessment of Onion Markets in India*, Report prepared for Competition Commission of India by Agricultural Development and Rural Transformation Centre Institute for Social and Economic Change, Nagarabhavi, Bangalore-560 072

Dholakia, R.H. (2010), Has Agriculture in Gujarat Shifted to High Growth Path? in Dholakia, R.H. and S.K. Dutta (eds), '*High Growth Trajectory and Structural Changes in Gujarat Agriculture*', Centre for Management in Agriculture, IIM Ahmedabad, pp.1-19

GOI (2014), *Hand Book on Horticulture Statistics 2014*, Government of India, Ministry of Agriculture, Department of Agriculture and Cooperation , New Delhi.

GOI (2015), *Agricultural Statistics at a Glance 2014*, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.

Kalamkar S.S., Sangeeta Shroff and Vikas Dimble (2012), *Study on Competitive Assessment of Onion Markets in India: A Case of Maharashtra*", (part of ISEC study on Competitive Assessment of Onion Markets in India), Gokhale Institute of Politics and Economics, (Deemed to be University), Pune, Maharashtra.

Kumar, Dinesh M., A. Narayanamoorthy, O.P. Singh, M.V.K. Sivamohan, Manoj Sharma and Nitin Bassi (2010), Gujarat's Agricultural Growth Story: Exploding Some Myths, Occasional *Paper No. 2-0410*, Institute for Resource Analysis and Policy, Hyderabad.

Shah, Tushar, Ashok Gulati, Hemant P, Ganga Shreedhar, R C Jain (2009), 'Secret of Gujarat's Agrarian Miracle after 2000, *Economic and Political Weekly*, Vol.46, No.52, pp- 45-55

Websites referred (Accessed during October 2014-March 2015):

http://agriexchange.apeda.gov.in;
http://www.gsamb.gujarat.gov.in/Images/gsamarketingboard/pdf/present-status-of-apmc.pdf; http://nhm.nic.in/;
http://nhm.nic.in/Archive/midh%28English%29.pdf
http://agricoop.nic.in/ (Accessed in February, 2015)

Annexure I

A1: Area, Production and Yield of Onion in Major Producing States

Sr. No.	States	Onion- APY (2013-14)				
		Area		Production		Yield
		000 ha	% to all India	000 ha	% to all India	(kg/ha)
1	Maharashtra	468.00	38.6	5866.0	29.7	12534
2	Madhya Pradesh	117.31	9.7	2825.60	14.3	24086
3	Karnataka	136.60	11.3	2065.20	10.4	15119
4	Gujarat	72.60	6.0	1798.30	9.1	24770
5	Andhra Pradesh	89.72	7.4	1525.18	7.7	17000
6	Bihar	54.34	4.5	1301.31	6.6	23948
7	Rajasthan	53.43	4.4	1001.57	5.1	18745
8	Haryana	30.16	2.5	672.17	3.4	22287
9	Tamil Nadu	39.97	3.3	472.69	2.4	11826
10	Uttar Pradesh	24.75	2.0	435.01	2.2	17576
11	Odisha	-	-	-	-	-
12	Others	124.57	10.3	1805.60	9.1	14495
	All India	1211.45	100.0	19768.63	100.0	16318

Source: GOI (2015).

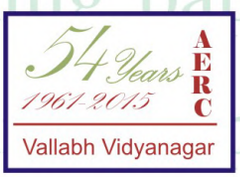
Annexure II

A2: District-wise Area, Production and Yield of Onion in Gujarat

(A- Area (000 ha), P- Production (000 mt), Y=Yield (kg/ha)

Sr. No.	Districts	Onion APY (TE 2012-13) Gujarat			% to State Total	
		Area	Production	Yield	Area	Production
1	Ahmedabad	58	1340	22977	0.11	0.11
2	Amreli	3998	118681	29685	7.87	9.42
3	Banaskantha	203	5083	25000	0.40	0.40
4	Bharuch	216	4365	20238	0.42	0.35
5	Narmada	168	4723	28115	0.33	0.37
6	Bhavnagar	19773	440947	22300	38.91	34.99
7	Dangs	167	6419	38512	0.33	0.51
8	Gandhinagar	-	-	-	-	-
9	Jamnagar	3183	73517	23094	6.26	5.83
10	Junagadh	5520	165600	30000	10.86	13.14
11	Porbandar	1117	44471	39825	2.20	3.53
12	Kuchchh	1585	34248	21607	3.12	2.72
13	Kheda	337	7400	21980	0.66	0.59
14	Anand	667	10673	16010	1.31	0.85
15	Mahesana	295	5901	20003	0.58	0.47
16	Patan	6	125	22000	0.01	0.01
17	Panchmahals	700	13808	19726	1.38	1.10
18	Dahod	1683	30193	17940	3.31	2.40
19	Rajkot	7383	209528	28380	14.53	16.63
20	Sabarkantha	383	8091	21125	0.75	0.64
21	Surat	425	7488	17606	0.84	0.59
22	Surendranagar	1784	39288	22018	3.51	3.12
23	Vadodara	701	14703	20974	1.38	1.17
24	Valsad	49	1046	21493	0.10	0.08
25	Navsari	102	2275	22374	0.20	0.18
26	Tapi	317	10310	32558	0.62	0.82
	Gujarat	50819	1260223	24798	100.00	100.00

Source: GOG, Horticulture in Gujarat 2010-11, 2011-12 & 2012-13, Directorate of Economics and Statistics, GOG, Gandhinagar.



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