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RESEARCH ARTICLE

IMPACT OF TUR PROCUREMENT UNDER PRICE STABILIZATION FUND (PSF) IN MAHARASHTRA STATE.

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Abstract

Tur (Pigeon pea) production in India is not sufficient to meet rising demand, although India is the largest producer and consumer of this pulse in the world. Most of the exporting countries do not consume themselves this commodity but produce it to satisfy Indian demand. With satisfactory progress in Monsoon and reports of increased acreage under Tur, the prices of Tur started decreasing, there was some effect of expected increase in arrivals also. For KMS 2016-17 the Government of India (GoI) had announced a Minimum Support Price, including bonus, at Rs. 5,050 per quintal. When the prices started ruling below this level, GoI had to intervene and procure the quantity from farmers at MSP. It was expected that this procurement drive would also assist GoI to create an adequate buffer stock of the commodity to prevent future abnormal price rise. The purpose of the study is to find the impact of Tur procurement on prices received by farmers, Arrivals and prices in APMCs markets in Maharashtra. To compare prices received by farmers through various marketing channels and to assess the impact of procurement on prices and arrivals in APMCs. The procurement prices are higher by around 6 to 8 per cent than the APMC prices. Considering that the procurement centre accepts only the prescribed grade produce, and the APMC price is for ungraded produce, this difference seems to be legitimate. The commodity that is accepted for procurement requires satisfying grade and quality specifications. That which is sold in APMC need not be so. Naturally, the procurement price is higher than the APMC price. In other words, the difference between the two shows the premium for the graded and quality product. Because of the procurement drive, the size of procurement was substantial. And because of this sizeable procurement, the market prices also remained under control.

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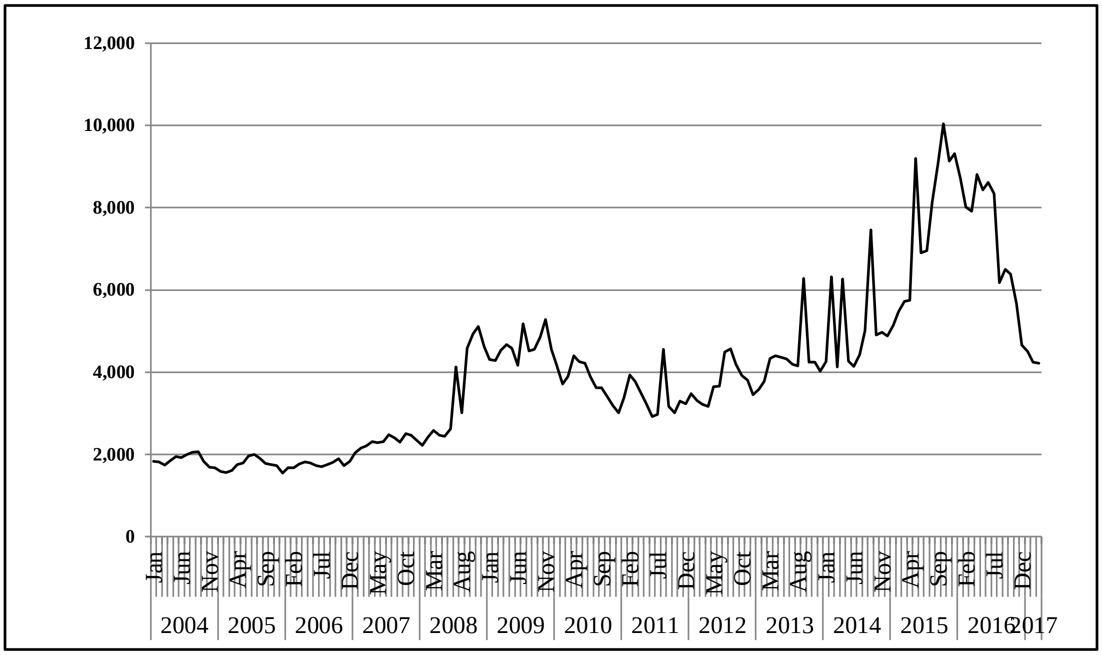
Introduction:-

Tur (Pigeon Pea) prices have been experiencing volatility during the last two years. Tur has rich protein contents as well as resources for maintaining soil health. It is an essential commodity for which there are no adequate substitutes. Production in India is not sufficient to meet rising demand for Tur and India, although the largest producer and consumer of this pulse in the world, has to import it from other countries. Most of the exporting countries do not consume themselves this commodity but produce it to satisfy Indian demand. Fluctuations in production in these countries and in India, therefore, often cause mismatch between supply and demand leading to violent price fluctuations (Chart 1).

Chart 1:- Monthly Prices of Tur in Akola APMC (From Jan 2004 –Dec 2017



During the cropping year (2015-16), the prices reached a record high of around Rs.10,000 per quintal, due to a sharp decline in Tur production due to inadequate monsoon. The Government took various policy measures, including increased imports, but failed to arrest the price rise. In order to prevent similar situation taking place in the next year, Government assured farmers increased Minimum Support Price and a bonus price (total of Rs.5,050 per quintal) as also initiated a drive to increased cultivation of all pulses, including Tur. These measures proved to be effective. Farmers, probably, also believed that the prices would be ruling higher in the next cropping year (2016-17) and planted Tur on an increased area. The monsoon rainfall was also satisfactory and the production of Tur for 2016-17 is, according to the 4st estimate of the Government of India, production is all-time high at 4.78 million tonnes, an increase of 94 percent over the previous year (2.46 million tonnes).

That the availability of Tur in the current year would be very high became apparent in October 2017 and since then the prices started declining. Since bulk of Tur is sold by farmers during October – February, there was some effect of expected increase in arrivals also.

As earlier stated, the Government of India (GoI) had announced a Minimum Support Price, including bonus, at Rs. 5,050 per quintal. When the prices started ruling below this level, GoI had to intervene and procure the quantity from farmers at MSP. This procurement was done at various procurement centres with the help of Small Farmers' Agribusiness Consortium (SFAC), National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED), and Food Corporation of India (FCI). It was expected that this procurement drive would also assist GoI to create an adequate buffer stock of the commodity to prevent future abnormal price rise. The total procurement target of Tur is set at around 6 lakh tonnes under Price Stabilization Fund (PSF). This is around 15 percent of the total production of the Tur in 2016-17. Government had directed to NAFED, FCI and SFAC to procure Tur directly from the farmers in all the states (in production clusters).

Scenario of Tur Procurement:-

On behalf of Government of India, NAFED, SFAC and FCI have procured Tur, so far 11.66 lakh tonnes as on April 2017. The agency wise procurement of tur is indicated table no. 1.

Table no. 1:-Procurement of Tur as on April 2017

Particulars		**Tur (in MT)**	**% to Target**
FCI	Target	90,000	195%
	Procured	1,75,297	
NAFED	Target	4,20,000	219%
	Procured	9,19,666	
SFAC	Target	90,000	79%
	Procured	71,078	
Total	Target	6,00,000	194%
	Procured	11,66,043	

Source: FCI

It can be observed that the tur procurement has been exceeded by 94%. While FCI has achieved 95% more than target, NAFED 119% more than target, SFAC has registered a shortfall of 21%.

The increased procurement is mainly due to the fall in the open market prices, which continued in spite of procurement. This has led to a sustained demand from farmers for procurement by the GoI at MSP; the GoI has in turn, assured the farmers that it would continue to procure tur till the prices rise above the MSP.

Guidelines for Procurement Centers in India:-

All the Centers are instructed that the procured pulse shall be from the new crop with reasonable uniform size, shape and color. It shall be sweet, sound, clean, wholesome, and free from moulds / Fungus, live insects, obnoxious smell, discoloration / artificial color, admixture of deleterious substance and all other impurity except to the extent indicated in the following schedule.

Sr. No.	**Refraction**	**Maximum Limit**
1	Foreign Matter	2.0 % by weight
2	Admixture	3.0 % by weight
3	Other Edible grains	1.0 % by weight
4	Damaged grains/slightly damaged	3.0 % by weight
5	Broken/Split/Unhusked	3.0 % by weight
6	Weevil led Pulses	3.0 % by weight
7	Moisture	12.0 % by weight
8	Immature and shrivelled	3.0 % by weight
9	Uric Acid	As per FSSAI norms, at time of sale of commodity.
10	Aflatoxin	

Source: NAFED

Marketing and Procurement of Tur in Maharashtra:-

At present, the farmers have a choice in marketing their Tur. They can take their produce to the Agricultural Produce Market Committee (APMC), or to the nearby procurement centre. Some of these centres are managed by NAFED and some others by the Farmers Producers Organizations (FPO) on behalf of SFAC. The federal organization for FPO for Maharashtra is MAFPO, which has entered into a contract with SFAC to procure Tur on its behalf. The selected regional FPOs in Maharashtra are assigned this task of procurement by MAHFPO. The process of marketing in APMC and procurement of Tur at NAFED and FPO is described below:

APMC:-

In APMC markets, farmer brings his produce to the shop of his commission agent and spreads it out on the floor on the tarpaulin sheets. Subsequently the intending purchasers (or their agent) visit the shop, inspect the produce, do some visual or manual grading and bid their prices in open auctions. After the final price is accepted by the farmer (or his agent), the material is cleaned/graded by the commission agent or purchaser. It is then packed in gunny bags and weighed. Farmer is thus paid a price which is for the cleaned but non-graded produce. From this price, the farmer pays the handling and weighing cost, which is fixed by the APMC. Generally, it amounts to about Rs. 7 per quintal. All other charges including the Commission to the agent, Market Cess, etc. are paid by the purchaser. Farmer receives the net price (after deductions for weighing and handling) on the same day from his Commission agent, either in cash or through bank.

NAFED:-

On behalf of Government of India, NAFED has started Tur procurement centres in Maharashtra. In this centre, tokens are issued to the farmers showing them their waiting number. The samples are then taken from the arrivals and inspected by government Assayers as per specifications indicated in the procurement policy. Based on the surveyors report, the grading is done and rejection percentage is determined which varies from 5% to 30%. If the sample does not meet the specifications, it is rejected. The material is then mechanically sorted and graded with machinery specifically setup in the procurement centre. The finally accepted is weighed and payment slip is issued to the farmer. Farmer pays for the cleaning and sorting at the rate of Rs. 15.50 per quintal, which is fixed by NAFED. The material is then sent by the Centre to NAFED warehouse after proper packing. The net payment is received by farmers after 30 to 35 days through bank.

FPO:-

As noted earlier, on behalf of SFAC, MAHAFPO has started Tur procurement centres with the help of Farmers Producers Organization (FPO) in selected districts of Maharashtra. The farmer brings a sample of his produce for measuring moisture content. Once it is found that it meets the specifications, the material is unloaded by the hamal and loaded on hopper for sorting, and removal of wastage. The rejected quantity is handed back to the farmer. Farmer pays for grading, handling and weighting. These rates vary from one FPO to another. They range between Rs. 50 to Rs. 150 per quintal. Farmer is paid through bank after 15 to 25 days.

Purpose of the Study:-

The main purpose of the study is to find the impact of Tur procurement on prices received by farmers, Arrivals and prices in APMCs markets in Maharashtra.

Objectives of study:-

1. To compare prices received by farmers through the three methods of marketing: selling in APMC, selling in procurement centre of NAFED and selling in procurement centre of FPO.
2. To assess the impact of procurement on prices and arrivals in APMCs.

Approach:-

Objective 1

The first objective seeks to answer the question: Which of the three alternative methods provide better prices to farmers? In APMC the prices are determined by open auctions and they vary from one lot to another. The marketing charges are fixed by the Market Committee and the payment to the farmer is within a couple of days. However, the produce is not graded or cleaned by the farmers before selling. Before auction, the lots are inspected by purchasers visually or by taking a sample. However, this inspection is arbitrary and subjective. The traders decide the grade through this inspection and offer the price. The produce is then cleaned and only the accepted produce (say, 95% of the quantity brought by the farmer) is paid the price decided in the auction. The price received by the farmer is then:

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(1) Price offered*accepted percentage – deductions for handling and weighing charges.

The other two alternatives – selling in procurement centres of NAFED and FPO – require produce to be of an acceptable grade and quality. Unlike APMC, these centres do not accept any grade or quality. Thus, after the initial inspection, if they accept the produce, they will remove all the rejected material and accept the remaining one. The rejected material (dirt, wastes, small grains, etc.) is returned to the farmer. Like APMC, they will also deduct marketing charges (for grading, cleaning, etc.) but they are more than those for APMC. Further, while they are uniform for all NAFED centres, they vary from one FPO to another FPO.

There is also additional problem for farmer at these centres. They do not receive payment immediately. In NAFED centres, it could take even a month to receive the payment. The period is less in FPOs, but it is more than a fortnight. The interest lost for this period must be factored in the calculation of price received by the farmer. Thus, the price received by the farmer for these procurement centres can be stated as follows:

(2) Price offered*accepted percentage – deductions for marketing charges – interest for the delayed payment + value of the rejected material returned to the farmers.

There is also another factor to be considered. Quite often, the procurement centres are not always located near APMC. The cost of transport to the procurement centre could be different for marketing through these three alternatives. Since this factor varies from farmer to farmer and region to region, it cannot be generalized. However, it is better to calculate the price received by the farmer both before and after considering the variation in transport cost for each alternative.

Objective 2:-

The second objective aims to investigate the impact of procurement on prices and arrivals. The procurement started in January 2017 and was continued till April 2017. It was in response to market prices falling below MSP. In other words, the prices before January were lower than in the previous year, but not below the MSP. The procurement was also voluntary. Farmers were free to sell their produce wherever they wished and at whatever prices they were offered. It was expected that if the market prices were higher than MSP, they would sell the produce in the open market (in APMC or directly to purchasers) and if they were lower than MSP, they would sell it in the procurement centre. This suggests the hypothesis that if the procurement is effective and managed well, without any quantity restriction, during the time procurement is in effect, the market price would be equal to procurement price. Further, if the procurement is of sufficiently large quantity, in relation to production, the future market prices are also likely to be nearer MSP. This is for two reasons: one, because, there will always be a possibility of new procurement to be started by the Government, and two, because the Government could anytime release the procured quantity in the open market. This could ensure stability in tur prices in future months, with a rise sufficient to meet storage cost only. The larger stock of imported commodity could only strengthen this situation. Tur market across India is very well integrated and the analysis of prices in one market would be sufficient to test this hypothesis. We have selected Akola, which is a leading Tur market, for price analysis.

As far as arrivals are concerned, although this year the production of Tur set a record high figure, the arrivals started later than previous year because of rains in the months of October. The pace of arrivals also was little sluggish since the prices offered started declining; the arrivals picked up later, but then the prices started to decline. It is legitimate to hypothesise that the farmers when they realise that the open market prices would be always nearer MSP during this year, they would sell more quantity in the open market in the coming years. This realization is very important; if the farmers still expect prices to rise in future, they are likely to stock more and sell less. Further, the open market includes direct selling by farmers to traders. Unfortunately, no data is available for the quantity sold directly. The examination of arrivals is based on the total APMC arrivals in India and suffers from this limitation.

Sources of Data:-

This study is based on primary as well as secondary information on prices, production, Government procurement policy, services provided by Govt. agencies for procurement of Tur. The data on production, import, export, procurement, etc. was collected from the available published sources.

- For Objective 1, visits were made to APMCs and procurement centres in three districts of Maharashtra during March 2017. They were: Pune, Solapur and Ahmednagar. The study covered 2 APMCs, 4 FPOs, and 2 NAFED Centres. Interviews were held, through questionnaires and checklists, with 20 farmers, 5 traders, and 4 FPO directors and secretaries and other officials of the APMCs.
- For Objective 2, data on daily prices for Akola APMC was collected from Agmarknet.

Results and Discussion:-

Objective 1: Prices Received by farmers from different marketing channels

Figures are averages (Annexure: Table 2) of data provided by the contacts made.

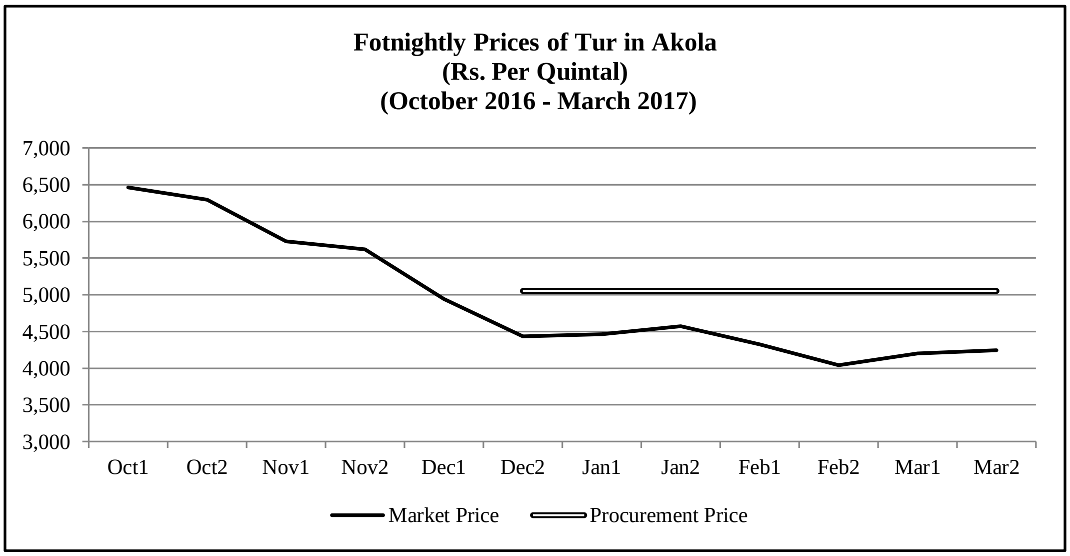
1. It is seems that, farmers are incurring transport cost from farm to market which is found to be different in various channels. It is due to distance factors. Farmers pay for transport cost in the range of Rs.40 to Rs. 85 per quintal.
2. Cost of grading, Packaging, Weighment, Handling cost is as low as Rs. 15.50 in NAFED centres (as per central government guidelines); it varies between Rs.50 to 100 in FPOs. The difference is partly due to the membership or otherwise of the farmer contacted. If the farmer is a member of the FPO, he is charged less. The APMC rates are standard rates as per rules laid out.

3. Farmers sold their produce as it is in APMC markets. Where as in FPOs, rejection percentage is 4 % and in NAFED centres 7 %.
4. Number of waiting days for receiving payment is higher in NAFED (30-33 days) than FPOs (15-20 days). There is no waiting time in APMC markets since payment is realized immediately.
5. Total cost incurred by farmers in APMC market is very low as compared to NAFED and FPO centres. If farmers sold their produce in APMC market they incurred total cost around Rs. 48 to Rs.59 per quintal, in NAFED Rs.699 to Rs. 612 per quintal and in FPOs Rs. 418 to Rs.919 per quintal.

The average net price received by the farmer, before transport cost, in APMC is Rs. 3,854 per quintal, as against Rs. 4,075 in NAFED procurement centre and Rs. 4,152 in FPO.

Objective 2: Impact of procurement on Prices and Arrivals
Prices of Tur

With satisfactory progress in Monsoon and reports of increased acreage under Tur, the prices of Tur started decreasing since June 2017. From around Rs. 8,800 per quintal in April 2016, the prices declined to Rs. 6,500 in September 2016. This decline continued after October as can be seen from the following chart:



NAFED started procurement in the last fortnight of December 2016, when the prices in Akola declined to Rs. 4,500. As can be seen from the above chart, since then till now, the prices have not declined much; they are within the band of Rs. 4,000 and Rs. 4,500.

Theoretically, since January 2017, both the prices (procurement and market) should have been equal (around Rs. 5,000). However, there is a difference of Rs. 500 to Rs. 1000 between them. The two major reasons that are advanced for this difference are as follows:

- The commodity that is accepted for procurement requires satisfying grade and quality specifications. That which is sold in APMC need not be so. Naturally, the procurement price is higher than the APMC price. In other words, the difference between the two shows the premium for the graded and quality product.
- The payment received by the farmer from the procurement agencies takes anything between 15 days to a month. Farmers do not wish to wait such a long time. They prefer to sell in APMC for immediate payment. Traders take advantage of this vulnerability and offer lower prices to them.

Arrivals of Tur:-

The total arrivals and procurement of Tur during the last year and current year are shown below:

Month	Quantity (Tonnes)		% to Production	
	2015-16	2016-17	2015-16	2016-17
October	22,632	39,619	1%	1%
November	21,042	39,231	1%	1%
December	1,12,567	1,31,144	5%	3%

January	2,03,543	1,55,497	8%	4%
February	1,38,163	2,75,670	6%	6%
March	1,18,324	3,11,660	5%	7%
Total Arrivals (up to 30 June 17)	9,16,271	18,98,077	37%	39%
Total Procurement		11,66,043		24%
Total Arrivals + Procurement	9,16,271	30,64,120	37%	64%
Production	24,60,000	47,80,000		

Because of a very significant rise in production, the market arrivals in APMCs are substantially higher during the current year. In terms of percentage, arrivals during the six-month period represent 39% of production as against 37% in the last year. However, the procurement was very high this year in the last 6 months. The total arrivals and procurement during the last 6 months formed a huge 64% of total production.

Significance of procurement can be seen from the following table:
Disposal of Increased Production

Particulars	Tonnes	%
Increased Production in 2017*	23,20,000	
Increased Arrivals till June 2017*	9,81,806	48%
Procurement till April 2017	11,66,043	24%
Balance to arrive/procure from June 2017 onwards	17,15,880	36%

[* as compared to 2016]

In other words, 48% of the increased production during the current year has already reached the market and the share of procurement in it is 24% (which is held in Government inventory). The remaining 36% is yet to arrive; however, this figure is inflated since the above data does not include direct sales of the produce to traders, processors, etc.

Conclusion:-

The procurement prices are higher by around 6 to 8 per cent than the APMC prices. Considering that the procurement centre accepts only the prescribed grade produce, and the APMC price is for ungraded produce, this difference seems to be legitimate. The FPO centre appears to be paying a marginally better price than the NAFED centre. The interviews with farmers who sold at the procurement centres justified their action on the price count. Very few farmers would really wish to accept the lower price by as much as Rs. 500 to Rs. 1000 per quintal for the same grade and quality.

Because of the procurement drive, the size of procurement was substantial. And because of this sizeable procurement, the market prices also remained under control. With this size of buffer stock, the future prices of Tur in the open market are also likely to be within the range of Rs. 4,000 and Rs. 5,000. Most probably, the trend in arrivals in APMCs is now largely normalized.

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Annexure

Table 2: Cost incurred and Returns to the farmers in different channels (All figures in Rs/qtl.)

		NAFED		**SFAC/FPO**				**APMC**	
		Baramati	**Ahmadnagar**	**Lakshmi Nrusingh FPO**	**Sarvoday FPO**	**Garbhgiri FPO**	**SaiPravara FPO**	**Baramati**	**Indapur**
Cost incurred by Farmers	Transport to market	50	60	85	50	60	70	40	50
	Cost of grading								
	Packaging cost								
	Weigtment cost	15.5	15.5	70	50	100	100	2.65	2.7
	Handling cost							3.74	4
	Market fees								
	Commission to agent								
	(A)Total cost	65.5	75.5	155	100	160	170	48.39	58.7
Receipts to Farmers	Percentage quantity sold	93%	94%	96%	96%	95%	96%	100%	100%
	Price received	5050	5050	5050	5050	5050	5050	3900	4000
	Value received for qty. sold	4697	4747	4848	4848	4798	4848	3900	4000
	Value of rejects received by farmers								
	Rejected qty. (in %)	7	7	4	4	5	4	0	0
	No of waiting days in centre	7	5	2	3	2	2	0	0
	No of waiting days for receipt cash	26	30	16	23	15	15	2	1
	Total no of waiting days	33	35	18	26	17	17	2	1
	Rate of interest (%)	8%	8%	8%	8%	8%	8%	0	0
	Interest on waiting days (Rs)	33.97	36.42	19.1	27.63	17.88	18.06	0	0
	Total Man day cost (Labour)	600	500	400	600	400	400	0	0
	(B) total Cost	634	536	919	628	418	518	0	0
	A+B total cost	699	612	1074	728	578	688	48	59
	Net Price received by Farmer (Before Transport Cost)	**3997**	**4135**	**4274**	**4120**	**4220**	**4260**	**3854**	**3943**
	Net Price received by Farmer (After Transport Cost)	**3947**	**4075**	**4189**	**4070**	**4160**	**4190**	**3814**	**3893**

Source – Field data