

Chapter 7-Onion Price Stabilization Fund

7.1 CONCEPT AND DEFINITION OF THE FUND

Price stabilization funds (PSF) have come up as an efficient mechanism to gain control of the producer's income fluctuations. In order to achieve the objective of income stabilization, either the price fluctuations or the impact of price fluctuations should be minimized. The policy for the same may take up two forms; first, by directly controlling market prices and limiting the price fluctuations within predetermined maximum and minimum limits or second, by making suitable arrangements to provide a cushion, so that producer's are able to bear prices shocks (without affecting their income stability). Price stabilization fund is the second type of reform for price instability. The fund aims at controlling the extreme impacts of price fluctuations which are, at times in the form of very low income or at times, very high income. Price stabilization fund will help farmers to earn sustainable and remunerative income. It runs on the principal that a corpus will be raised by the state government from its own funds as well as by contributions of the farmers. The fund will have predestined band of prices called as low, normal and above normal prices. Whenever the market price is lower than the low price of the fund then, funds will be released (outflow from the fund) to the farmers equal to the difference between market price and low price of the fund. Farmers are expected to repay the money to the fund (inflow to the fund) when they get above normal prices (or super normal profits). This financial help will achieve two fold objectives, that it will help in avoiding losses of the farmers and secondly it will stabilize the producer's incomes within a fixed, predetermined price band and thus reduce income instability.

In the summer season farmers undertake distress sales, for the want of immediate money. Price seasonality of the summer season indicates that prices are at their lowest levels of the year. Farmers suffer losses as market prices are not rewarding. Income support measures are needed for this season. On the other hand, in Kharif and late Kharif season the produce is in heavy demand and therefore the prices rule high. Farmers can repay money to the fund in this season. Therefore it is expected that farmers may withdraw money in Rabbi season and pay back in Kharif season.

7.2 METHODOLOGY FOR ESTIMATING THE SIZE OF THE FUND.

In order to set the price band of the fund, cost of production is considered as a base. The fundamental assumption of the low price level of the fund is the one, which covers all the cost of production, transport costs and other charges levied on the farmer's bill, in the market as market fees. Normal price level of the fund can be defined as the one, which covers not only the low cost, but in addition to that a 20 percent margin as normal profits of the farmers. Above normal price level, then is the level above fund's normal prices level assuring super normal profits.

The monthly price data for Lasalgaon market (1990-91 till to 2009-10) is evaluated with the help of a price band. The band has low, normal and supernormal levels of prices set as per cost of production inclusive of all other market charges, transport costs and margin of the farmers.¹ As per the cost calculations of the Kharif season (table 7.1 and 7.2), Rs. 509 per quintal is the low price level that it must be received by the farmers for the arrivals of the months of December to March. The Rabbi Season calculations show, that Rs.442 per quintal is the low price for the arrivals of April and May. These are considered as low price band of the fund. Whenever farmers receive prices lower than the low price level of the fund, then the P.S.F. should start operations.

Yield and production costs of the Kharif and Rabbi season

Season	Average Prod. per acre(Qtl)	Total kilograms.	Total bags, 50 k.g. each
Kharif	100	10000	200
Rabbi	150	15000	300

Source: Author's estimates based on primary data, Pune market (Sept. 2010).

Theoretically, the compensation should start when the normal price (with 20 percent profit margin on costs) is not fetched (Rs 610 and Rs 530 per quintal in Kharif and Rabbi

respectively). But considering the present level of prices in the markets which are lower than this level, it is suggested that in order to stabilize the incomes, efforts to achieve minimum price level should be made on priority basis. But if a steady flow of income is to be assured to the farmers, then farmers must receive the normal price level. Low or minimum price level indicates that only all cost of production is covered. But normal price level indicates that the farmers receive a margin of 20 percent on the cost of production.

The estimation of production and other costs, low price level of the fund are shown in table 7.2

Table 7.2: Production and Marketing Costs of Onion

Season	Production cost per acre (a)	Other Charges			Total Cost (a+b+c+d) (e)	Cost-Rs. per quintal, column e/ave.prod.per acre (f)
		Transport cost (Rs.) Rs.50/bag (b)	Weighing charge (Rs) Rs.1.50/bag (c)	Hamali charge Rs. 3/bag (d)		
Kharif	40000	10000	300	600	50900	509.00
Rabbi	50000	15000	450	900	66350	442.33

Source: Author's estimates based on primary data, Pune market (Sept. 2010).

The normal price is established by addition of minimum of 20 percent margin over and above the low cost price. The margin is added with the view that this is the income of the farmers for at least five to six months. Therefore normal profits should form base for minimum price that farmers must receive. Price level over above normal level can be called as supernormal price. However, due to above mentioned factors; Rs.509/qtl is considered as low price, whereas Rs. 610/qtl is considered as normal price level for the estimation of impact of fund operation.

7.3 SIZE OF THE FUND

The size of the fund is calculated with three assumptions: initially 60000 farmers, who hold bank accounts and route their sale dealings through the banks will be registered

for the scheme, 2/3 of the funds will be kept as fixed deposits and only 1/3 of the funds are open for lending.

For over all the years (1990-91 to 2009-10), the number of times the prices were in between categories (low, normal, supernormal) is found out. The difference between the market price and the lower level of prices (when the market price is low than the low price of the fund) is calculated. The total of this difference will mean the outflows from the fund. Similarly, whenever the prices were above the normal levels, (i.e. when the farmers receive supernormal profits) then that is the time for pay ins or inflow to fund. Deposits of all supernormal profits are the receipts of the fund. The total support (for 20 years) required in the form of outflows from the fund, is Rs.111 crores and the payments to the fund in the form of inflows are estimated at Rs. 136 crore. The average of the Kharif season price support required from 1990 Kharif season till to Kharif 2009 is Rs. 1,50,20,932 i.e. at 1.5 crores (rounded off). Rs. 1.5 crore should be 2/3rd part of the total size of the fund (Rs. 22531398) and the remaining 1/3rd of money (Rs. 7510466) will be kept as deposit with bank. It is assumed that initially only 60000 farmers will be registered for the fund scheme with an entry fee of Rs. 100 each for each year. Thus the total corpus is valued at Rs. 2.86 crores (Rs. 2.25 cr. plus entry fee and interest). The fund's balance sheet would appear as given in table 7.3.

Fund Credit		Fund Expenditure	
Description	Rs.	Description	Rs.
Initial Government Contribution	22531398	Funds available for Lending p.a.(1/3 of total govt funds + farmers contribution)	21020932
Entry Fee (Rs. 100*60000 farmers)p.a.	6000000	--	--
Interest on deposits (@10%) p.a	75104.6	Administrative expense at 3% of total fund size p.a.	675941.94
Total	28606503	Total	21696874

Source: Author's estimates based on NHRDF data

The fund credit would be Rs. 2.8 crore (rounded off) and expenditure would be Rs.2.1 crore (rounded off). The probability of the requirement of Rs.1.5 crores is 0.68 whereas the probability of more than Rs.1.5 crore requirements is 0.31. The maximum support was required for December 2002, at Rs 11 crores (when the prices were as low as Rs. 244/Qtl.) Out of the total 20 years it was only once that such huge amount is required to be paid out. Therefore there is 5 percent chance in 20 years that the financial requirement becomes very large. Hence 5 percent of the funds should be kept aside each year to meet any unexpected catastrophic huge outflow for a period of 20 years. In this example, 33 percent of the total funds are kept aside as deposits (which can act as reserves of the fund) and the interest of the same acts as 3.33 percent reserves per year of the fund. Thus, in a year if the money withdrawn is not repaid to the fund, still the fund is able to survive. Region wise small sized funds can be established for facilitating fund management.

7.4 IMPACT OF THE FUND ON INCOME STABILIZATION.

It is observed from the Lasalgaon price data, that out of the total 80 observations of the season 1 Kharif from 1990 till to 2009, a total 51% of the times, the prices were less than the low level and 33% of the times the prices were above normal level, while 16% of the times the prices were in between the two levels i.e. low and above normal. Therefore the fund operation is expected to have a considerable impact on securing the income stability.

The impact of such fund operations on reducing the instability in revenue is examined. It is found out that the instability in revenue as given by the comparison of mean and standard deviation of revenue without fund operations and with fund operations gets reduced by 18 percent. The mean of the revenue falls by 2 percent, which is not too large. The data is examined with the help of different price band scenarios. Table 7.4 shows, the percentage fall in mean of revenue, standard deviation and thereby the decrease in coefficient of variation in revenue with the operations of different price bands. Scenario 1 indicates a situation where the lower price level is further reduced at Rs. 410 while upper price level remains the same at Rs. 610 (with outflow of Rs. 60 crores and inflow of Rs. 136 crores), scenario 2 is where low price is reduced to Rs. 410 while upper price is raised to Rs. 710 (with outflow of Rs. 60 crores and inflow of Rs. 103 crores), scenario 3 is one where only upper price limit is increased to Rs. 710 while the lower price level kept the same at Rs. 510 (with outflow of Rs. 111 crores and inflow of Rs. 103 crores), and scenario 4 is the situation

when the band is narrowed down with increase in lower price at Rs. 540 as lower limit and lowering of the upper price limit at Rs. 570 (with outflow of Rs. 140 crores and inflow of Rs. 156 crores). These different price bands scenarios are examined with the objective of assessing the impact of fund operations on reducing the revenue instability.

Different price band scenarios (table 7.4) clearly bring out the gain in revenue stability. With each level of price band, there is a fall in the mean of revenue (which is not large), fall in standard deviation (which is large, suggesting that revenue fluctuations are reduced) and a fall in coefficient of variation of the revenue (which is to the tune of 15 to 18 percent, suggesting that the instability in revenue has been reduced by 15 to 18 percent, given by a comparison of coefficient of variation of revenue without any fund operation and coefficient of variation of revenue with fund operations).

Table 7.4

Impact of Different Price Bands on Mean and Standard Deviation of Revenue,
Compared With Mean and Standard Deviation of Revenue Without Price Band

Band Scenarios	Low Price	Normal Price	(in percentage)		
			Fall in Mean Revenue	Fall in Std.Dev.of Revenue	Fall in Coefficient of Variation of Revenue
Lower Limit Changed	410	610	-9.87	-29.98	-15
Both Limits Changed	410	710	-5.61	-24.45	-14.26
Upper limit changed	510	710	-2.14	-22.51	-17.25
Band Narrowed	540	570	-0.81	-26.64	-18.64
Normal Price Band	510	610	-2.08	-27.16	-18.41

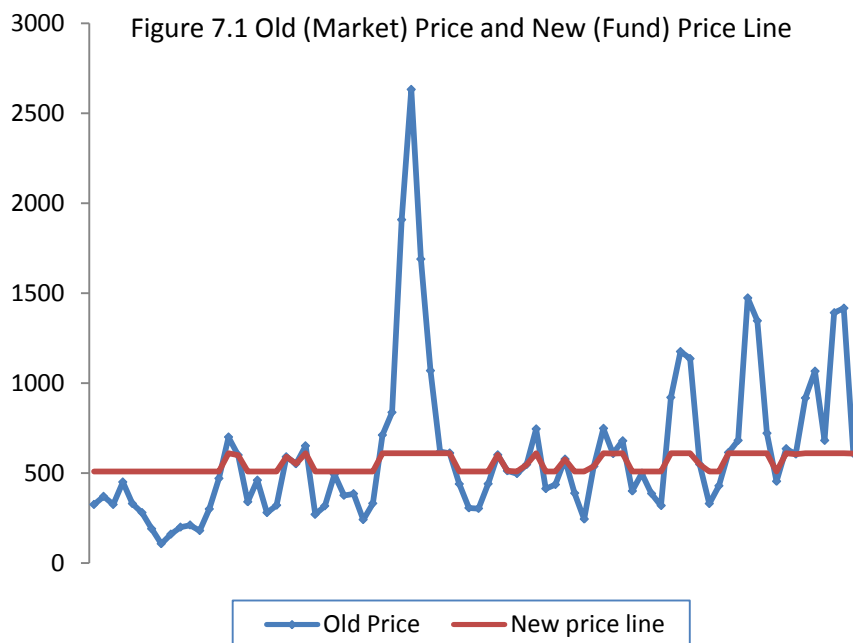
Note: (-) signs indicate fall in variable.

Source: Author's estimates.

Thus, percentage fall in mean revenue, percentage fall in standard deviation of the revenue and the resultant reduction in coefficient of variation are established. In all the scenarios instability in revenue is reduced.

The price band (with both the price levels) may be evaluated or reset each year as per the price linear trend. The annual price growth rate at 2.4 percent, will decide the size of growth rate each year. But since the data is not available, nothing can be commented about the impact of fund on revenue stability.

The analysis points out that establishment of a fund would certainly reduce the instability in incomes. Depending upon the cost of production, a particular price band may be calculated. For Rabbi season, this type of income stabilization measure is urgently required, as the low price has never been obtained in the last 20 years. Therefore fund operation is strongly recommended to avoid income fluctuations.



The figure 7.1 clearly highlights the reduction of large price fluctuations with the introduction of new price line of the fund. The prices fluctuate within a predetermined band with lower and upper price levels as a result of which, the income fluctuations are reduced.

7.5 MERITS OF THE FUND.

- One prominent characteristic of the fund is its need based approach. It accepts the most modern method of calculating the losses, by including the

cost of production per acre, per season and also other market charges, that should be included in the cost of production.

- The fund will have the provision of restructuring the cost calculations every year. This will ensure the up gradation of cost estimates.

7.6 POSSIBLE MISUSE OF THE FUND:

- One biggest threat to the fund is the possible cartelization of farmers and commission agents. Both of them may show the market prices lower than the low price of the fund. This may be done with a view to take advantage of finance of the fund.
- Farmers may provide false information regarding the prices fetched, the yield levels, variety wise costs and low levels of production.
- Sincere repayment of the money may not take place on the pretext of not earning super normal price levels.

7.7 SUGGESTED MEASURES TO CURB THE MISUSE:

The NCDEX Spot Exchange e-auctioning facility should help in avoiding the possible cartelization of farmers and traders. In this system all the auctions in the market are made through computer platform. Therefore details of quantity brought, the variety and the prices received by the farmers are all entered in the system. These online records will prove helpful for PSF operations and will bring more transparency in trading.

Market structure reforms as suggested in the present thesis, should exert check on the possible misuse of the fund's finance by farmers and traders. Increased number of market players, is expected to free the farmers from the clutches of the existing monopolistic trading practices of commission agents and traders. Market price auctions should be a free and fair play to be decided equally by producers and traders.

In order to turn off the false money claims, the low price band of the fund should be estimated on the basis of 'Average 3'.

1. Average Prices: Average of weekly market prices of at least 10 important onion producing markets should be calculated.
2. Average cost of production of different varieties: Variety wise cost of production of at least 10 onion producing markets should be established. The

average cost of production for each variety should be considered for cost calculations.

3. Average yield per hectare, per season: The onion yield levels for each season and for each variety should be estimated region wise. The estimates of important onion producing regions like Nasik, Ahmednagar, Pune, Satara and Kolhapur should be considered for yield calculations. The average yield per hectare of each region should help in avoiding the submission of false information.

Establishment of small sized region wise PSF will facilitate accurate cost calculations and better, easy management of the fund.

MEASURE TO AVOID NON REPAYMENT:

When money is withdrawn from the fund in a season of the year (e.g. Rabbi season) then next season's (Kharif) produce sale proceeds will have to be undertaken through the fund only. The farmer will sell the produce to the trader and receive his bill for the total quantity and the amount due. Farmer will rediscount the bill with the fund. The fund will take out the payment due from the farmer and pay the rest of money to farmer. The traders will have to pay the full amount of the farmer's produce to the fund. This type of bill settlement practice will avoid non repayment of money to fund.

7.8 CONCLUSIONS:

- With the need based approach, the Fund will succeed in curbing the losses of the farmers and there by stabilize their incomes.
- Farmers will be induced to undertake the cultivation and increase the productivity of onions as they are assured of normal profit levels and stable incomes from onion cultivation. This in turn, is expected to increase the production quantity and quality.
- With normal price guarantee, farmers will be induced to undertake gradation and standardization of onions, and storage of the summer season. Tendency to stick to quality norms of exports as well as of different processing industries will be developed as they are assured of good returns.

NOTES

1. Data collected by author from farmers, Pune market, September 2010.