

## Thesis Conclusions:

Despite the different measures adopted by the Maharashtra state government to stabilize the onion prices and ensure stable returns to the farmers, the onion price instability remains the highest. The income generated by more than five million farmers from onion cultivation, is largely unsustainable and low. To tap the benefits of increasing domestic demand and exports demand, the production and productivity growth should be consistent, increasing and stable. To achieve this objective, onion price stability with the help of production controls and price stabilization measures should be established. Both the price stabilization tools should be implemented simultaneously to assure stable and increasing returns to the farmers.

Abandoning the onion production for the reason of unstable income generation may not be the best choice of available solutions. On the other hand, it is in the interest of the state to strive for increasing onion production, as the state has comparative advantage in onion production. Maharashtra is a leading state in onion production, where the produce is harvested in all the three seasons. Onion is considered as a cash crop by many small and marginal farmers, as it is a short duration, low maintenance and low cost price crop. With these advantages, onion is a preferred crop of farmers and farmers are shifting from other crops to onion cultivation like from sugarcane production to onion, especially in Indapur and surrounded areas of Baramati district near Pune, Rahata and Kopergaon<sup>1</sup>. The climate of the state is also suitable for onion production (the Nashik district and surrounded area which contributes to 35 to 40 percent (Source: MSAMB) of the total state's production). Therefore onion cultivation should be looked upon as an opportunity available to improve the might of many small and marginal farmers.

However the prices are not stable and rewarding. The price statistical analysis reveals the highest price instability in onion at 67 percent as compared to other crops. Price instability is attributed to production instability which is at 44 percent. The price growth rate is very low at 2.4 percent per annum compared to other crops like potato, garlic, wheat and rice. Low price growth rate coupled with highest price instability makes the income from onion cultivation unrewarding and unstable. In the late years like 2005-06, 2007-08,

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<sup>1</sup> SAKAL newspaper article: 'Sale of Onion Worth Two Crores in Rahata', 7 January 2009

2009-10 the crop losses due to irregular monsoons were heavy and the farmers could not cover their financial losses. In addition to the price instability, the present trading and auctioning practices are not fair towards farmers. The defective marketing structure does not allow farmers to get a share of the increased prices. Therefore, removal of production instability through production planning and reforms in marketing structure is one of the measures to stabilize farmer's income. Onion price and arrival seasonality analysis point out towards high price and arrival seasonality within the months. The arrival seasonality for February, March and April is above average (more than 100 percent) and the corresponding price seasonality for these months is below average (less than 100 percent). For the onion storage period from June to October the arrival seasonality is below average and the corresponding price seasonality for these months is above average. The price seasonality analysis points out the scope of supply planning of onions for the storage period, so as to gain from high price seasonality of non harvesting months. Hence on farm storage policy is examined for its profitability as well as for revenue stability. In order to remove the impacts of price fluctuation from the farmer's income, establishment of price stabilization fund is recommended in the study.

Market prices are influenced by onion national price index and market arrivals. Prices are positively related with onion national price index. The positive relationship underlines the scope for increasing quality and quantity of state onion production. As the state is one of the biggest onion producers, it can tap the national as well as exports onion demand. Therefore efforts to raise and stabilize production levels may not dampen the prices. This conclusion gets additional support by the small impact of arrivals on prices.

It is observed that the present onion production of the state is just sufficient to meet the direct and indirect onion demand in normal harvesting years. But any abnormality in harvesting (like yield losses due to weather) causes acute shortages which leads to uncontrollable price rise. Therefore the production of the state should increase as per the rate of increase of population and exports. The state level production can be predicted with the help of lag of onion national price index. The prediction of prices, production and the required area of onion cultivation help in judging future price and production scenario. Accordingly suitable changes (If required) can be made to assure sufficient production as well as rewarding prices. Production planning in a phased manner (different time periods of

sowing and harvesting for onion producing regions) will be helpful in avoiding the nature prone losses as well as avoid the problem of plenty. If there are crop losses in one region then advice on immediate sowing in other regions can be provided to farmers. Similarly the postponement in harvesting timings of each region will ensure that main Kharif crop does not become December centric. Important suggestions on marketing and trading practices improvements will help in increasing the farmer's share in retail prices. E-auctioning as undertaken by NCDEX in Karnataka should be introduced in Maharashtra APMC markets to provide a fair system of auctioning.

The storage policy as suggested in the study indicates increase in revenue for the summer season as well as for the storage period. The rise in summer season prices due to storages is beneficial to farmers for the reason that summer season price seasonality is below average and arrival seasonality above average. The release of summer season stocks in storage period does not lead to fall in prices of the storage period for the reason of high price seasonality and low arrival seasonality of the storage periods. Due to storages, the summer season revenue increases by 41 percent and the storage season revenue increases by 89 percent. The storage season revenue is higher by 36 percent than the summer season revenue. Thus the storage policy for revenue stabilization is profitable. However, there is need to provide financial assistance to build proper scientific storage structures by the Government.

Establishment of price stabilization fund will help the farmers to reduce their revenue instability. The provision of financial assistance at the time when market prices are lower than the minimum prices will reduce the instability in incomes to the tune of 15 to 18 percent. The fund will help the farmers to secure the cost of production as well as normal profits.

The thesis concludes with the remarks that the revenue of the onion farmers can be stabilized by systematic and phased planning in production, marketing and trading practice improvements, adoption of storage policy by the farmers themselves and by establishment of price stabilization fund.