Imbalance in Use of Fertilisers: A Cause of Concern

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Fertiliser is the most important input for agricultural development in the country. Realizing the need of fertiliser to improve farm productivity, Government of India enacted Fertiliser (Control) Order (FCO) in 1957 to regulate quality, sale and price of fertilisers. Further, a comprehensive revised Order was issued in 1985 in supersession of FCO 1957 known as FCO 1985. Government also brought out a retention price scheme (RPS) for urea effective from November 1977 and for complex fertilisers *w.e.f.* February 1979. The basic objective of the scheme was to make fertilisers available to farmers at affordable MRPs by bearing the difference in cost of manufacturing and the MRPs by the Government as subsidy and to ensure indigenous fertiliser manufacturers a reasonable return on their investments. Quite a large numbers of plants came into existence in 1980s. However, the cost of production continued to be on rise and the MRPs of fertilisers were kept at the same level. Therefore, there had been substantial increase in subsidy.

Government of India then formed a Joint Parliamentary Committee (JPC) on fertiliser pricing in 1991. On the basis of recommendations of JPC, phosphatic and potassic (P&K) fertilisers were decontrolled from 25 August 1992 and later import was decanalized. As the cost of production was to be borne by the farmers, the steep increase in MRPs resulted in decline in consumption of these fertilisers. It signifies that price elasticity of demand for fertilisers is very strong among the farmers. MRP of DAP to urea distorted to 2.41:1 and MOP to urea to 1.63:1 in 1992-93, from the respective figures of 1.53:1 and 0.56:1 in 1991-92. $N:P_2O_5:K_2O$ use ratio, which was 5.9:2.4:1 in 1991-92 got vitiated to 9.5:3.2:1 in 1992-93. Realizing dwindling $N:P_2O_5:K_2O$ use ratio, Government of India introduced ad-hoc concession from *rabi* 1992-93 itself followed by fixed MRPs from 1997-98 till 2009-10 by covering the cost of production/import through subsidy. MRPs on DAP varied from Rs. 8300 MT^{-1} to Rs. 9350 MT^{-1} and MOP from Rs. 3700 MT^{-1} to Rs. 4455 MT^{-1} during 1997-98 and 2009-10, as fixed by the Government. The same were the trends in MRPs of other P&K fertilisers. Corresponding figures for urea were Rs. 3660 MT^{-1} and Rs. 4830 MT^{-1}. As the price ratios of DAP to urea and MOP to urea were fairly good at 1.94:1 and 0.92:1, respectively in 2009-10, $N:P_2O_5:K_2O$ translated to reasonable level of 4.3:2.0:1.

To bring reforms in the sector, Government of India introduced nutrient based subsidy (NBS) policy on P&K fertilisers from 1 April 2010. Under the policy, subsidy on per kg of nutrient was fixed and MRPs were made market driven. Urea, constituting more than 50% of the fertiliser products consumed in the country, was kept out of the ambit of NBS policy. No doubt, MRP of urea was enhanced by 10% from 1 April 2010, however, MRP continues to remain a depressed price, thus encouraging farmers to make use of more urea at the cost of P&K fertilisers. The industry was allowed to increase MRP of DAP from Rs. 9,350 MT^{-1} in 2009-10 to Rs. 9,950 MT^{-1} during April-December 2010 and Rs. 10,750 MT^{-1} for January-March 2011. In view of decline in subsidy component afterwards of 2010-11, there had been increase in MRPs of P&K fertilisers to cover the cost of production/import. For example, subsidy on DAP declined from Rs.16,268 MT^{-1} in 2010-11 to Rs. 10,231 MT^{-1} in 2020-21.

From 2021-22, the Department of Fertilizers (DoF) enhanced the NBS rates on P_2O_5 component from Rs. 14.888 kg^{-1} in 2020-21 to Rs. 45.323 kg^{-1} in 2021-22. The Department directed the companies to have a fixed MRP of Rs. 1,200 per 50 kg bag of DAP for 2021-22. MRP of DAP is now at Rs. 1,350 per 50 kg bag. The same is the case for other NPs/NPKs. The DoF started announcing NBS rates of nutrients on quarterly basis in 2022-23 looking to the trend of prices in the international market. To insulate the farmers from any hike in prices of

To improve soil health and farm productivity on sustainable basis through balanced fertilisation, rationalization of subsidy allocation needs to be reviewed.

finished fertiliser products and raw materials in the international market in view of conflicts and disruptions and to make these fertilisers available to farmers at affordable MRPs, the Government of India came to the rescue by enhancing the subsidy during 2021-22 and 2022-23. It may not be out of place to highlight that subsidy ratio of P&K fertilisers to urea had come down from 1.61:1 in 2009-10 to 0.44:1 in 2024-25, signifying considerable contribution of P&K fertilisers in saving subsidy outgo of the Government, but at what cost? There has been increase in subsidy on urea by 4.84 times and only 1.33 times on P&K fertilisers from 2009-10 to 2024-25. There was only 10% increase in MRP of urea effective from 1 April 2010. However, there has not been any increase in MRP of urea since then, except an increase of Rs. 50 MT^{-1} from 1 November 2012 on account of acknowledgement of receipt of fertilisers through point of sale machines by the retailers. MRP ratio of DAP to urea and MOP to urea was 5.04:1 and 5.69:1, respectively in 2024-25. Considerable reduction in subsidy on MOP, is affecting its consumption, which is vital for plant metabolism. The result is widening of $N:P_2O_5:K_2O$ use ratio over the years in NBS regime and it was 9.3:3.5:1 in 2024-25.

From the above discussions, it emerges that widening $N:P_2O_5:K_2O$ use ratio *i.e.* imbalance in use of nutrients is a cause of concern. One of the major reasons for such widening ratio is the mammoth disparity in MRPs of P&K fertilisers with respect to urea.

The crop response to fertiliser application and soil health are on decline. It is not exaggerating to underscore that fertilisers are plant food and contain essential nutrients in ionic forms, which are to be absorbed by the plants. Average use of fertiliser in terms of nutrients was 150 kg ha^{-1} in 2023-24. There are many countries world over, where consumption of nutrients through fertilisers has been noticeably high compared to India and so is the case of average yields of crops. In the country, there are inter state and intercrop variations in use pattern of fertilisers. Per ha consumption of fertiliser nutrients varies from less than 1 kg in Nagaland to 255 kg in Andhra Pradesh. There are certain states in which $N:P_2O_5:K_2O$ use ratio is quite wide. More impetus is required in the states where fertiliser consumption is low to enhance consumption and improve the use ratio where it is more in favour of N. Increase in compound annual growth rate in productivity of rice and wheat from 2009-10 to 2023-24 works out to be only 2.2 and 1.6%, respectively. There is no scope in expansion of cultivated area. Further increase in agricultural production will only be possible through enhancement in average yields of crops. It is well proved under long-term fertiliser experiments conducted at Research Institutes of Indian Council of Agricultural Research, Agricultural Universities and other concerned that application of P and K along with N in balanced proportion contributes to enhancing crop yields, improving nutrient use efficiency & soil health and bringing better returns to farmers. Use of secondary- and micro-nutrients will have added advantages wherever deficiencies are observed. The Industry has been responsibly catering to the need of the farmers to make fertilisers available to them across the country by indigenous production/import and logistics planning. Industry is making efforts for development and use of innovative fertilisers having better nutrient use efficiency. However, a judicious and well-calibrated approach is imperative to rationalize fertiliser application, thereby optimizing resource utilisation and ensuring maximum benefit to farmers.

In conclusion, it has to be underlined that subsidy on urea needs to be brought down and subsidy saving on this account should be provided to P&K fertilisers to maintain appropriate balance between the MRPs of urea and P&K fertilisers for the farmers enabling them to apply fertilisers in balanced proportion. Further, bringing urea under domain of NBS policy will promote balanced fertilisation. Implementation of direct benefit transfer of subsidy in the bank account of the farmers in true sense will give freedom to the farmers to choose products in line with the balanced nutrient application. ■