

Holistic fertiliser policy can dramatically increase crop yields (Agricultural Notes)



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Bengaluru, June 27 The agrarian crisis is clearly one of the main themes of the ongoing political dialogue. The present crisis is attributed to low prices and thus poor farmer incomes.

Solutions suggested time and again seem to focus on loan waivers and minimum support prices, which may not prove effective in the long run. We need to focus on supply-side factors as well, most importantly on boosting productivity and yield quality.

Fertilisers play a significant role in this approach, and an effective policy mechanism is crucial in this sector.

India's fertiliser subsidy policy has been in favour of urea, leading to the severe overuse of this nitrogenous fertiliser and, in turn, significant environmental and economic consequences. The lopsided use of urea has systematically led to a deviation from the optimal nitrogenous-phosphatic-potassic (NPK) ratio, resulting in soil degradation and lower yields. Economically, it has led to massive leakages, diversion for non-agricultural purposes, and subsidy arrears, which eventually causes a fiscal deficit.

To take the NPK ratio to the optimum level, the Nutrient-Based Subsidy (NBS) scheme was brought into effect in 2010, but it applied only for phosphatic and potassic fertilisers. In the NBS scheme, the subsidy is fixed based on nutrient contents and the farm gate price is variable, determined by market forces. In contrast, in the urea subsidy scheme, the farm gate price is fixed and the subsidy is variable. Urea was not brought under the NBS scheme mainly due to apprehensions that naphtha-based urea plants that are less price-competent (compared to the natural gas-based ones) will shut down, which will lead to increased imports and consequently higher prices.

Considering that only three out of 31 urea manufacturing units currently use naphtha as the feedstock, the time may be ripe to bring urea under the NBS. To address the NPK ratio malady, the policy regime must be made uniform for all the three types of fertilisers.

Apart from causing a proportion imbalance, subsidies are often considered to be a huge financial burden. Subsidies also hurt agricultural productivity, benefit mostly larger farmers, and accelerate soil degradation. It is vital to explore policy options to complement, if not replace, subsidies that will help boost and sustain productivity.

For instance, a study conducted by the Abdul Latif Jameel Poverty Action Lab (J-PAL) in Kenya shows that providing farmers with the option to purchase fertiliser in advance with free delivery was as effective as a 50 per cent subsidy for increasing fertiliser adoption. India should commission similar studies on improving fertiliser utilisation ratios to nudge policy in this field.

Yet another option is to incentivise fertiliser manufacturers to co-market city compost-based fertiliser and chemical fertilisers. It can reduce the over-reliance on chemical fertilisers and offer a viable solution to the mounting city-waste problem.

There is an immense potential in providing farmers with tailor-made scientific guidelines on the timing, frequency, and type of fertilisers to be used. China - a traditional overuser of fertilisers - convinced its farmers to change their practices and cut down the fertiliser use through a nation-wide campaign.

Scientists analysed vast amounts of data and provided specific and detailed guidelines and demonstrations to 21 million Chinese farmers as part of a decade-long comprehensive study. Consequently, crop yields reportedly increased at an average of 11 per cent annually and fertiliser use declined at 15 per cent - a total savings of \$12.2 billion for the farmers.

India's Soil Health Card Scheme (2015) was a step in this direction. Unfortunately, it was fraught with issues, such as the use of sample landholdings bigger than India's average landholdings, insufficient soil-testing laboratories, and ineffective design, as reported by the Cereal Systems Initiative for South Asia (CSISA). To make such initiatives produce tangible results, significant political and bureaucratic resolve from individual states is of the utmost essence, considering that agriculture is a state subject in India.

(Kaveri Ashok is a Research Analyst at the Center for Study of Science, Technology and Policy [CSTEP], a research-policy think-tank. The author can be reached at kaveri@cstep.in)

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