Evaluation of Fertiliser Subsidy Policy

What is the issue?

- India's experience with fertilisers, in the later part of the Green Revolution, prompted it to adopt a policy of subsidising fertilisers.
- However, the challenges rooted in the subsidy policy for the farmers, industry, the government and the environment are so serious.

How has fertiliser use evolved?

- In 1977, India had a total NPK (nitrogenous, phosphatic and potassic) fertiliser consumption of 4.3 million metric tonnes (mmt).
- The per hectare usage was 24.9 kg.
- In contrast, by FY19, total consumption had risen to 27.3 mmt and per hectare usage stands at 137.6 kg.

What were the gains?

- Increased fertiliser usage also meant a concomitant spurt in agricultural production.
- Resultantly, the total foodgrain production reached 284.95 mmt in FY19.
- This is an over-three-fold increase from the production in 1977-78.
- Undeniably, increased foodgrain production has been a boon for food security.
- The per capita foodgrain availability has increased from 155.3 kg in 1976 to 180.3 kg in 2018.
- Also, foodgrain requirement is set to increase more and the climate crisis impact is predicted to be quite severe for India.
- So, given this and looking at the gains, continuing with the fertiliser policy would only seem sensible.
- However, there is a flip side to this, with negative implications to farming, fertiliser industry, environment and the government.

How does this affect the farmers?

- Due to subsidising of primarily urea (N of NPK), there is rampant overuse of urea.
- Urea accounts for 64% of the government's subsidy for fertiliser, with 77% of its price being subsidised.

- Consequently, there is worse overuse, drastically skewing the ideal usage ratio of fertilisers, and altering the soil chemistry further.
- The indicated N:P:K usage for Indian soil is 4:2:1.
- While it stood at 7:2.7:1 in 2000-01, it was 6.1:2.5:1 in 2017-18.
- In Punjab and Haryana, two of India's top agrarian states, the ratio was 25.8:5.8:1 and 22.7:6.1:1, respectively.
- The overuse has led to worsening of soil quality that has resulted in falling crop response to fertilisers.
- In 2005, the crop response ratio to fertilisers had fallen to 3.7 kg grains/kg fertiliser, from 13 kg grains/kg fertiliser in 1970.
- This, in turn, has adversely affected farm productivity and farmers' profitability.
- This is, thus, somewhat of a vicious cycle.

What is the scenario in the fertiliser industry?

- Subsidy and controls meant fertiliser production boomed in the country.
- However, with no proper incentives, domestic urea production rose just 4.4 mmt between 2000-01 and 2018-19.
- In 2018-19, urea production stood at 23.9 mmt while consumption was at 32 mmt.
- India, thus, is a major urea importer.
- Domestic urea production is simply uncompetitive, seen in comparison with global urea price.
- Only 7 of the 30 Indian plants were operating below the global price.
- The problem lies in the cost of the feedstock.
- Of the 30 urea production plants in the country, 27 use natural gas and three use naptha as the feedstock.
- The average cost of production for natural gas-based plants is much lower than that of naptha-based plants.
- In 2015, the government introduced pooling of natural gas so that all fertiliser plants got gas at the same price.
- While the price of domestic gas is still low, the price of the pooled natural gas for the fertiliser industry has shot up.

What does it cost to the government?

- Between FY01 and FY19, urea subsidy has increased from Rs 9,500 crore to Rs 45,000 crore.
- As per FY20 Budget estimates, it will be Rs 50,000 crore.

How does it affect the environment?

- Indian soils have relatively low nitrogen use efficiency (average of 22% estimated in 2008).
- So, the bulk of the urea applied contaminates ground- and surface water and the atmosphere.
- In effect, the current fertiliser policy is only subsidising pollution.
- The bulk of the applied urea is lost as ammonia (NH_3), dinitrogen (N_2) and NO_x (nitrogen oxides).
- While the ammonia gets converted to nitrates, increasing soil acidity, NO_x gases are major air pollutants.
- Nitrate contamination of groundwater leads to conditions such as methaemoglobinaemia (commonly known as blue baby syndrome).
- This has reached far beyond WHO safe limit in Punjab, Haryana and Rajasthan.

What should be done?

- It is wise for India to junk domestic production and import urea from, say, a Gulf nation.
- There, the natural gas is abundant and thus costs of production are low.
- Instead of subsidising fertilisers, direct cash transfers could be made to farmers.
- With fixed amounts, farmers will likely temper their usage of fertilisers in the interest of soil health as prices of fertilisers will be decontrolled.

Source: Financial Express

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