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Fertilizer Policy in India: A Critical Analysis

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Fertilizer is defined as any organic or inorganic substance, natural or artificial supplying one or more of the chemical elements/nutrients required for plant growth. They provide six macronutrients and eight micronutrients to the plants for well-balanced growth. Recently Ministry of Chemicals and Fertilisers has announced that it has been decided to implement One Nation One Fertiliser by introducing a "Single Brand for Fertilisers and Logo" under the fertiliser subsidy scheme named "Pradhanmantri Bhartiya Janurvarak Pariyojna" (PMBJP) and PM PRANAM Scheme (PM Promotion of Alternate Nutrients for Agriculture Management Yojana) In order to reduce the use of chemical fertilisers by incentivising states, the Union government plans to introduce a new scheme – PM PRANAM. The proposed scheme intends to reduce the subsidy burden on chemical fertilisers, which is expected to increase to Rs 2.25 lakh crore in 2022-2023, which is 39% higher than the previous year's figure of Rs 1.62 lakh crore.

One Nation One Fertiliser Scheme

Companies are only permitted to show their name, trademark, logo, and other pertinent product information on one-third of their bags under ONOF. The "Bharat" brand and Pradhanmantri Bharatiya Jan Urvarak Pariyojana logo will need to be displayed on the remaining two-thirds of the space. All fertiliser businesses, State Trading Entities (STEs), and Fertilizer Marketing Entities will use the same brand name BHARAT for UREA, Di-Ammonium Phosphate (DAP), Muriate of Potash (MOP), and Nitrogen Phosphorus Potassium (NPK), etc (FMEs). Companies in the public and commercial sectors are covered by this programme. It will standardise fertiliser brands throughout the nation.

Fertilizer Policy and Constitutional Provisions

Union List (Entry 52) & Concurrent List (Entry 33): The fertiliser sector is governed by the Union Government and is listed in List I, Entry 52, and List III, Entry 33 of the First Schedule of the IDR (Industries (Development and Regulation) Act, 1951. The sector is dominated by urea. It is also the most imported (52%), consumed (74%), and produced (86%). About 80% of the urea fertiliser required by India is produced domestically. Additionally, the country's need for phosphatic fertilisers can be met to a degree of 50% by the domestic fertiliser sector. However, the raw materials for India's phosphatic and potassium fertilisers are still largely imported.

Fertilizer Policy in India and Governmental Interventions

Major focus of the fertilizer policy has been on primary (macro) nutrients.

1. The sale, cost, and calibre of fertilisers are all subject to regulation by the Government of India (GoI) since the country's independence. The Government of India has deemed fertilisers to be a necessity. In accordance with the Essential Commodities Act of 1957, the GoI issued the Fertilizer Control Order (FCO). Except for potash, which received a subsidy in 1977 for a single year, no subsidies were provided for fertilisers until 1977.
2. The 1977 introduction of the Retention Pricing Scheme (RPS) for nitrogen fertilisers. Later, it was expanded to include fertilisers with phosphate and potassium (Including Imported fertilizers). In this, each manufacturing unit received a subsidy equal to the difference between the retention price (defined as the cost of production as determined by the government plus 12% after-tax return on net worth) and the statutorily announced sale price. This was the beginning of the "Product-based subsidy" regime.

Effect

1. As a result, domestic capacity/production and fertiliser use both increased dramatically. The productivity of cereals increased significantly as fertiliser use increased, which in turn increased the production of all foodgrains.
2. The government faced a significant subsidy load in the 1990s. The fiscal deficit increased as a result.
3. To assess the fertiliser pricing, a Joint Parliamentary Committee (JPC) was established in 1991. The Committee suggested decontrolling import-based phosphatic and potassic fertilisers instead of decontrolling all fertilisers.

Based on the recommendations, the GoI decontrolled all Phosphatic and Potassic (P&K) fertilizers namely DAP, MOP, NPK complex fertilizers, and SSP (Single Super Phosphate)in 1992 which were under Retention Price Scheme (RPS) since 1977. But, Urea which continued to remain under RPS.

Effect

1. The prices of phosphatic fertilizers became high. Hence, the production and consumption of nitrogenous fertilizers increased and consumption of P&K fertilizers decreased. This led to a severe imbalance in the consumption of nitrogenous, phosphatic, and Potassic fertilizers.
2. **Ad-hoc Concession Scheme:** For phosphatic, potassic, and NPK complex fertilizers. It was to provide P&K fertilizers to the farmers at affordable prices to increase food productivity in the country through the balanced use of fertilizers. Under this scheme, the concession was disbursed to the manufacturers/importers by the State Governments based on the grants provided by the Department of Agriculture & Cooperation (DAC).
3. During 1997- 98, the Department of Agriculture & Cooperation (DAC) started indicating an **all India uniform Maximum Retail Price (MRP) for DAP/NPK/MOP**. The total delivered cost of fertilizers being invariably higher than the MRP indicated by the

Government, the difference in the delivered price of fertilizers at the farm gate, and the MRP was compensated by the Government as a subsidy to the manufacturers/importers.

4. Till 2000, the issues relating to fertilizer subsidy were being looked after by DAC, and thereafter it was continued by the Department of Fertilizers.
5. In the year 2000, The **Expenditure Reforms Commission (ERC)** recommended for the dismantling of existing RPS for urea. Hence, **RPS for urea units was replaced byNew Pricing Scheme (NPS)** in the year 2003.

New Pricing Scheme (NPS)

Concession Scheme for urea units based on the prices of feedstock used and the vintage of plants. It had various phases like NPS-I (2003-2004), NPS-II (2004-2006), and NPS-III (2006 onwards). The difference between the cost of production and the selling price/MRP is paid as a subsidy/concession to manufacturers. Urea is the only controlled fertilizer, which is sold at the statutory notified uniform sale price. The Phosphatic and Potassic fertilizes are decontrolled and are sold at indicative maximum retail prices (MRPs).

Effect

1. It resulted in the distortion of the market. The fertilizer companies started bleeding due to fixed Urea prices and the rising cost of Inputs such as Natural Gas and Naptha as 80% of the production of urea in India is gas-based.
2. Imbalance in the use of fertilizers. Also, led to the misuse of it through illegal export, preparation of adulterated milk, etc.

Utter Pradesh and Bihar	Urea smuggled to Bangladesh and Nepal
MH, GJ and HR	Urea smuggled to chemical industries – especially in dyeing, inks, coatings.

1. The subsidy outgo of Government increased exponentially by 500% during 2005-06 to 2009-10 under the Concession Scheme with about 94% of the increase caused by an increase in international prices of fertilizers and fertilizer inputs, and only 6% attributable to increase in consumption.
2. The product-based subsidy regime proved to be a losing proposition for all the stakeholders viz farmers, industry, and the Government. Hence, keeping in view the agriculture productivity, balanced fertilization and growth of the indigenous fertilizer industry, competitiveness amongst the fertilizer companies and to overcome the deficiency of concession scheme, the Government introduced Nutrient Based Subsidy (NBS) Policy for P&K fertilizers (MOP, DAP, etc) with effect from 2010

Nutrient Based Subsidy (NBS) Policy, 2010

1. The government fixes subsidy on an annual basis based on the weight of the different macro/micronutrient (N, P, K, S, etc) contained in the fertilizer
2. Manufacturers/Marketers are allowed to fix the Maximum Retail Price (MRP) at a reasonable level

Aim

It aims at ensuring the balanced use of fertilizers, improving agricultural productivity, promoting the growth of the indigenous fertilizers industry and also reducing the burden of Subsidies.

Drawbacks

1. Urea is not covered under the scheme
2. Delay in NBS subsidy payments. Hence, Fertilizer companies focus more on Urea than other fertilizers
3. Increase in prices of Phosphoric and Potassic fertilizers

4. Farmers overuse Urea. Hence, the ideal ratio of NPK is disrupted

Neem Coated Urea Policy, 2015

The government has made it mandatory for domestic fertilizer firms to "Neem coat" at least 75 percent of their urea production (It can even go up to 100%). Earlier, there was a cap of 35% on this. The government has also allowed manufacturers to charge a small 5 percent premium on Neem-coated urea

Aim

Checking the excessive use of urea which is deteriorating the soil health and adversely impacting overall crop yield. Maximizing indigenous urea production and promoting energy efficiency in the urea units.

Benefits

1. Reduce the subsidy outgo thus rationalizing the subsidy burden on the Government of India.
2. Prevent diversion of urea for industrial use

Limitations

1. The subsidy savings arising out of this pales beside the enormity (financially and politically) of the fertilizer subsidy that is paid on the three major fertilizers, N, P, and K.

Gas Pooling Policy, 2015

All urea units would get gas at a uniform price. It seeks to change the industry dynamics in the Urea sector by leveling gas costs for all players.

Policy on Promotion of City Compost

- The Government of India approved a policy on promotion of City Compost, notified by the DoF in 2016 granting Market Development Assistance of Rs. 1500/- for scaling up production and consumption of city compost.
- To increase sale volumes, compost manufacturers willing to market city compost were allowed to sell city compost in bulk directly to farmers.
- Fertilizer companies marketing city compost covered under the Direct Benefit Transfer (DBT) for Fertilizers.

New Urea Policy, 2015

To incentivize domestic manufacturers and free transportation of P (phosphorus) and K (potassium) fertilizers. It will be in force from 2015 to 2019 (4 Financial years)

Need for the Policy

1. India is the world's third-largest consumer of fertilizers
2. India is highly import-dependent in the case of urea. Presently, India is importing about 80 lakh metric tonnes of urea out of total demand of 310 lakh metric tonnes

Objectives

1. **Maximize indigenous Urea Production** to reduce import dependency and reduce the subsidy burden on the government
2. **Promote energy efficiency** to reduce Carbon-footprint (via energy efficiency) to make Urea production environment friendly. [This will be done via revised specific energy consumption norms]
3. Make Urea production plant to adopt the best technology available and become globally competitive
4. Rationalization of Subsidy burden
5. Timely supply of Urea to farmers at the same MRP

Salient Features

1. The government will cover the entire cost of natural gas, which is the main feedstock of urea.

2. Movement plan for P&K fertilizers has also been freed to reduce the monopoly of few companies in a particular area so that any company can sell any P&K fertilizer in any part of the country. Rail freight subsidy has been decided to be given on a lump sum basis so that the companies economize on transport. This will help farmers and reduce pressure on the railway network

Proposed Outcome

1. Will cut the yearly subsidy bill
2. Increase annual production by 2 million tonnes

Drawbacks

1. Does not seek to reduce the subsidy on N, P, K fertilizers
2. Gas availability is a key concern

Issues that need Attention

1. Fertilizer is second highest in terms of subsidy (0.73 lakh crore or 0.5 %of GDP) after food. This has led to a **high Fiscal Deficit.** Also, only 35% of the total fertilizer subsidies reach small farmers. The rest leaks out to the black market, large farmers, and inefficient producers
2. Administered Price of Urea – Approx Rs 5000/Tonne
3. Average Production Cost of Urea – Approx 18000/Tonne This means the Government subsidizes 70% of the cost. Note: The government subsidizes 30% of the cost on P (Phosphorous) and K (Potassium) fertilizers. Prices of P and K were partially decontrolled under the nutrient-based subsidy scheme in 2010.

Use of Space Technology in Fertilizer Sector

- DoF commissioned a three year Pilot Study on "Resource Mapping of Rock Phosphate using Reflectance Spectroscopy and Earth Observations Data" by National Remote Sensing Centre under ISRO, in collaboration with Geological Survey of India(GSI) and the Atomic Mineral Directorate (AMD).
- Preliminary Data processing for the phosphate mapping is completed. Spectral analysis of samples collected during field work is completed.

PM PRANAM Scheme (PM Promotion of Alternate Nutrients for Agriculture Management Yojana)

In order to reduce the use of chemical fertilisers by incentivising states, the Union government plans to introduce a new scheme – PM PRANAM.

- The proposed scheme intends to reduce the subsidy burden on chemical fertilisers, which is expected to increase to Rs 2.25 lakh crore in 2022-2023, which is 39% higher than the previous year's figure of Rs 1.62 lakh crore.

About PM PRANAM

- The scheme will not have a separate budget and will be financed by the "savings of existing fertiliser subsidy" under schemes run by the Department of fertilisers.
- Further, 50% subsidy savings will be passed on as a grant to the state that saves the money and that 70% of the grant provided under the scheme can be used for asset creation related to technological adoption of alternate fertilisers and alternate fertiliser production units at village, block and district levels.
- The remaining 30% grant money can be used for incentivising farmers, panchayats, farmer producer organisations and self-help groups that are involved in the reduction of fertiliser use and awareness generation.
- The government will compare a state's increase or reduction in urea in a year, to its average consumption of urea during the last three years.

Data available on a fertiliser Ministry dashboard, iFMS (Integrated fertilisers Management System), will be used for this purpose.

Potential benefits of the PM PRANAM

- **Reduced Use of Chemical fertiliser-** The proposed scheme explicitly aims at promoting the reduced use of chemical fertilisers.
- **Reduced Fertilisers Subsidy-** The scheme is aimed at reduction in fertilisers subsidy. This will be diverted for the use of scheme. The scheme will result in saving the public resources.
- **Promotion of Increased use of Other nutrients and fertilisers-**The scheme will promote the use of other fertilisers including natural and other nutrients.
- **Improved Soil quality-** reduced use of chemical fertilisers may result in improved quality of soil in the long run.. This will improve the productivity and yield of Indian agriculture.
- **Human health**– Excessive exposure to chemical fertilisers can have long term effects on human health in the form of cancers and other diseases caused due to DNA damage. This will promote a safer work environment.
- **Prevent environmental damage**-Environmental pollution due to excessive use of chemical fertilisers can pollute water bodies. This can lead to algal bloom, affecting aquatic life.

Challenges associated

- No separate funding for the scheme can lead to slower adoption of less chemical intensive farming.
- Can impact the productivity and output given the situation India is already facing shortage of many essential agriculture commodities.
- Willingness of the farmer is very crucial. It must ensure reduced input cost and increase output ,otherwise will be rejected.
- More voluntary in nature with no specified targets for the states.
- Other related schemes have limited success so far.

Other Government Initiatives to reduce fertiliser usage

- The Soil Health Card scheme to ensure accurate assessment of land before using fertilisers.
- Neem-coated urea has been put into practice. This ensures slow release of nutrients into the soil and is longer lasting.Thus reducing the total amount of urea needed.
- The Fertiliser Control Order-1985 was also updated by the government to include modern nutrients such as Nano urea and bio-stimulants.
- Paramparagat Krishi vikas yojana to promote organic farming.
- Promotion of Zero budget Natural farming.

Conclusion

Lessons can be learnt from Srilanka's failed attempt to become an organic state. The shift must be gradual and sustainable. It can be made an umbrella scheme by incorporating other schemes related to replacement of chemical fertilisers. Focus must be on research and development of viable alternatives and extension services to farmers. Centre and State must work in joint collaboration along with all the stakeholders to make it a success.