



STUDY OF FERTILIZER INDUSTRY IN INDIA

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ABSTRACTS:

The Indian fertilizer industry has made good progress in the case of Nitrogen-based fertilizers. India is the 2nd largest consumer of Urea fertilizers after China. India also ranks 2nd in the production of nitrogenous fertilizers and 3rd in phosphatic fertilizers. Potash requirement is met through imports since we have limited reserves of potash. Productions are largely state-controlled. Popular PSUs are The Fertilizer Corporation of India Ltd, National fertilizers Limited, Hindustan Fertilizer Corporation Ltd., etc. Fertilizer provided the cradle in which the HYV seeds and assured irrigation flourished in the form of the green revolution, mitigating the ever-multiplying problem of food security in India. Its importance can be gauged from the fact that the regions with high use of fertilizers are now known as 'granaries of India.' The fertilizers industry is the second most important industry in India after iron and steel. The article attempts to present a broad view of fertilizer Industry in Indian perspective. Through the use of secondary data, attempts have been made to study issues like demand and supply position, consumption trends, growth factor of fertilizer in India.

KEY WORDS: Agriculture, Development, Fertilizer Industry, Growth.

INTRODUCTION:

Fertilizers have played an essential role in agricultural production, providing vital nutrients for crops and registering increasing demands over the years. As an agrarian country, India is home to numerous small and marginal farmers and is often plagued by low productivity and low quality. Crops are mainly rain-fed and cultivated on a single piece of land over time, decreasing soil fertility in many regions. Thereby, increasing quantities of nitrogen fertilizers have been used in the country. Because of this, the Indian government has brought about economic reforms and has ensured that fertilizers are available at affordable prices to

increase productivity. Due to subsidy eligibility on notified fertilizers, the Indian fertilizer industry has been able to provide enhanced food security for the country. While agriculture is heavily dependent on the use of fertilizers, the government has met almost all demand for chemical fertilizers. Decreasing fertility of the land and increasing population have raised the importance of this industry manifold. The fertilizer industry provides vital forward-backward linkages with other industries. Forward linkages are with agriculture and backward linkages are with petrochemical industries. The by-products of the petrochemical industry are used as raw materials in the fertilizers industry. India's growing population in geometric means have broadened the challenges for food production, which still continues to grow in an arithmetic means. Use of fertilizers plays a significant part in increasing the agricultural output in India. The current paper attempts to identify various aspects of fertilizer production, consumption and growth in India.

OBJECTIVES OF STUDY

The paper attempts to highlight various issues related to fertilizer sector in India. Following are identified as the broad research objectives:

1. To study an outline of fertilizer Industry in India.
2. To study the growth of fertilizer Industry in India
3. To study the production import and sale of fertilizer in India
4. To analyses the Subsidies offered to the Fertilizer Sector

METHODOLOGY:

For fulfilling the given objective analysis can be done on available literature is studied. The study uses secondary data from published and unpublished sources. Tables and graphs were used to illustrate the data. Meaningful comparisons were drawn wherever required to interpret the same.

OUTLINE OF FERTILIZER INDUSTRY IN INDIA

The Indian fertilizer market size reached INR 898.5 billion in 2022. Looking Forward, IMARC group expects the market to reach INR 1,188.3 billion by 2028, Exhibiting a growth rate (CAGR) of 4.85 % during 2023-2028

Fertilizers have played a key role in the success of India's green revolution and subsequent self-reliance in food-grain production. The increase in fertilizer consumption has contributed significantly to sustainable production of food grains in the country. As a result, the demand of fertilizers has witnessed double digit growth rates over the past several years.

Despite a strong growth in recent years, the average intensity of fertilizer use in India remains much lower than most of the developed and emerging countries around the world. The usage of fertilizers is also highly skewed, with wide inter-regional, inter-state and inter-district variations.

INDIAN Fertilizer Market: Drivers

Catalysed by a strong growth in the country's population over the next five years, food demand is also expected to exhibit a strong growth. Conversely, as a result of increasing urbanisation levels, available arable land is expected to decrease. We expect fertilizers to play a key role in increasing the average crop yields per hectare.

Despite strong historical growth, fertilizer consumption in India remains highly skewed. There are currently a number of states in India which still have a very low penetration of fertilizers. This leaves a lot of room for future growth.

We expect a number of government and non-government awareness campaigns to educate farmers on the benefits of fertilizers. Promotion of fertilizers through television, radio and customized rural workshops are also anticipated to increase the consumption of fertilizers in the coming years. Increasing rural incomes, coupled by easy availability of credit, are also likely to create a positive impact on fertilizer usage in the country. Contract farming, where inputs in terms of technology and training are expected to be provided to the farmer from the food processor (contractor), is also expected to create a positive impact on fertilizer usage.

| Type of fertilizers | Grade |
|-----------------------------------|-----------------------------------|
| Straight Nitrogenous | |
| Ammonium Sulphate (AS) | 20.6% N |
| Calcium Ammonium Nitrate (CAN) | 25% N |
| Ammonium Chloride | 25% N |
| Urea | 46% N |
| Straight Phosphatic | |
| Single Super Phosphate (SSP) | 16% P ₂ O ₅ |
| Triple Super Phosphate (TSP) | 46% PO |
| NP/NPK Complex Fertilizers | |
| Urea Ammonium Phosphate | 24-24-0 |
| | 28-28-0 |
| | 14-35-14 |
| Ammonium Phosphate Sulphate | 16-20-0 |
| | 20-20-0 |
| Diammonium Phosphate (DAP) | 18-46-0 |
| Mono Ammonium Phosphate (MAP) | 11-52-0 |
| Nitro Phosphate | 20-20-0 |
| | 23-23-0 |
| Nitro Phosphate with Potash | 15-15-15 |
| NP/NPKs | 17-17-17 |
| | 14-28-14 |
| | 19-19-19 |
| | 10-26-26 |
| | 12-32-16 |

Source: Department of Fertilizers

TYPES OF FERTILIZERS PRODUCED IN INDIA

Growth of fertilizer industry

A modest beginning with respect to manufacturing of chemical fertilizers was made in 1906 when the first super-phosphate factory was set up at Ranipet in Tamil Nadu. The actual growth of fertilizer industry is mainly a post-Independence phenomena. The setting up of the Sindri plant by the Fertilizer Corporation of India Ltd. (FCI) in 1951 was a turning point and this industry did not look back after that. It is now one of the fastest growing basic industries which have taken rapid strides in recent years. It produces a wide range of fertilizers to suit different soil and crop requirements in different parts of the country. India is now the third largest producer of nitrogenous fertilizers in the world. At present, there are 57 fertilizer units manufacturing a wide range of nitrogenous and complex fertilizers, including 29 units producing urea and 9 units producing ammonia sulphate as a by-product. Besides, there are about 64 medium and small scale units producing single superphosphate.

The actual production of all major Fertilizers during the FY2020-21 and FY 2019-20 were 433.66 LMT and 425.92 respectively. Its showing an increase of more than 1.8 % in comparison of the previous year. The actual production of all major fertilizers during the year 2021- 22 (during April 2021 to December 2021) is 330.84 LMT The rapid build-up of fertilizer production in the country has been achieved as a result of a favourable policy environment facilitating investments in the public , co-operative and private sectors. At present, there are 33 large size urea plants in the country manufacturing urea, 21 units producing DAP & complex fertilizers and 2 units manufacturing Ammonium Sulphate as a by-product The production of Urea during the year 2020-21 was 246.03 LMT and the production of DAP & Complex fertilizers were 130.95 LMT. The estimated production of Urea during 2021-22 would be 263.74 LMT, which is higher than the previous year and the estimated production of DAP & Complex fertilizers would be 133.42LMT the sector wise production of Urea, DAP and Complex fertilizers during 2020-21 and estimated production during 2021-22are given in the table below:

| S.N | Sector | 2020-21 in LMT | | | 2021-22 (Estimated) in LMT | | |
|-----|--------------------|----------------|-------|---------------------|----------------------------|-------|---------------------|
| | | Urea | DAP | Complex Fertilizers | Urea | DAP | Complex Fertilizers |
| 1 | Public sector | 66.63 | | 14.54 | 64.88 | | 14.37 |
| 2 | Cooperative sector | 69.98 | 19.24 | 23.48 | 67.62 | 22.87 | 20.95 |
| 3 | Private sector | 109.42 | 18.50 | 55.19 | 131.24 | 16.81 | 58.42 |
| | Total | 246.03 | 37.74 | 93.21 | 263.74 | 39.68 | 93.74 |

Source: Department of Fertilizers

Joint Ventures abroad

India's dependency on import at present is to the extent of 25% of our requirement of Urea, 90% in case of Phosphates, either as raw material or finished fertilizers (DAP/MAP/TSP) and

100% in case of Potash. The Government has been encouraging Indian Companies to establish Joint Ventures abroad in Countries which are rich in fertilizer resources for production facilities with buy hack arrangements and to enter into long term agreement for supply of fertilizers and fertilizer inputs to India. Further, the Department is also working with the goal of having access to acquisition of the fertilizer raw materials abroad.

| Production, Imports and Sales of major fertilizers | | | | | |
|---|-------------|------------|----------------|------------|------------|
| 2020-21 & 2021-22 (April/March) | | | | | |
| | Urea | DAP | NP/NPKs | SSP | MOP |
| Production (million MT) | | | | | |
| 2020-21 | 24.60 | 3.77 | 9.33 | 4.92 | - |
| 2021-22(P) | 25.08 | 4.22 | 8.31 | 5.35 | - |
| + - % in 2021-22 over 2020-21 | 1.9 | 11.8 | -10.9 | 8.8 | - |
| Import (million MT) | | | | | |
| 2020-21 | 9.83 | 4.88 | 1.39 | - | 4.23 |
| 2021-22(P) | 9.14 | 5.46 | 1.17 | - | 2.46 |
| + - % in 2021-22 over 2020-21 | -7.1 | 11.9 | -15.8 | - | -41.8 |
| Sale # (Million MT) | | | | | |
| 2020-21 | 35.04 | 11.91 | 11.81 | 4.49 | 3.42* |
| 2021-22(P) | 34.18 | 9.27 | 11.48 | 5.68 | 2.46* |
| + - % in 2021-22 over 2020-21 | -2.5 | -22.2 | -2.8 | 26.6 | -28.3 |
| *MOP for direct application # =DBT sale P= Provisional | | | | | |

Source: fertilizer association of India (FAI)

Fertilizer Scenario-2021-22 (April/March) The year marked a beginning with adequate inventory of fertilizers in different distribution channels. Weather was normal during monsoon period though there were issues of distribution and timing of rains in some areas. Sown area under kharif crops was marginally low but in rabi, it was high. Surge in the prices of raw materials and finished fertilizers in the international market since the beginning of the year, resulted in fall in imports and domestic production, particularly of P&K fertilizers. The details of production, import and sale (DBT) are narrated below.

1. Production

During 2021-22 (April/March), production of all major fertilizers increased except NP/NPK complex fertilizers. Production of urea at 25.08 million metric tonnes (million MT), DAP at 4.22 million MT and SSP at 5.35 million MT increased by 1.9%, 11.8% and 8.8%, respectively, during 2021-22 over 2020-21. However, production of NP/NPK complex fertilizers at 8.31 million MT witnessed a decline of 10.9% during the period.

2. Import

Except DAP, import of all major fertilizers declined during 2021-22. Import of urea at 9.14 million MT, MOP at 2.46 million MT and NP/NPKs at 1.17 million MT registered sharp decline of 7.1%, 41.8% and 15.8%, respectively, over 2020-21. However, import of DAP at 5.46 million MT increased by 11.9% during the period.

3.Sale (DBT)

DBT sale (sale by retailers) of all major fertilizers, except SSP. showed negative growth during 2021-22 over 2020-21 Sale of urea at 34.18 million MT, DAP at 9.27 million MT, NP/NPKs at 11 48 million MT and MOP at 2.46 million MT declined by 2.5%, 22.2%, 2.8% and 28.3%, respectively, during 2021-22 over 2020-21. However, the sale of SSP at 5.68 million MT recorded an increase of 26.6% during the period. Table shows production, import and sale of major fertilizers during 2020-21 and 2021-22 (April/March).

Subsidies offered to the Fertilizer Sector The fertilizer industry is highly regulated and monitored by the government. The difference between the cost of production which is higher than the price at which the fertilizer is sold to the beneficiary, is reimbursed by the Government in the form of subsidies. Whenever there is shortage of funds, the Government either announces an additional subsidy amount or liquidates the pending subsidy by arranging loans under a Special Banking Agreement (SBA). While the MRP of urea is fixed and controlled by the Central Government that is not the case with decontrolled fertilizers where in the manufacturers have the liberty to price the product freely according to the prevailing market conditions. In the Union Budget 2022-23, Government allocated Rs. 1,05,222 crores to fertilizer subsidy for 2022-23. Details on allocation of fertilizer subsidy for 2022-23 are given in Table

| Fertilizer Subsidy Budget provision and Actual | | | | (Rs. In Crore) |
|---|---------------------|---------------------|----------------------|-----------------------|
| Items | 2020-21 (Actual) | 2021-22 (Budget) | 2021-22 (Revised) | 2022-23 (Budget) |
| Urea Subsidy | | | | |
| Payment for indigenous urea | 68,807.41 | 43,236.28 | 48,612.00 | 46,596.78 |
| Payment for import of urea | 25049.62 | 19550.00 | 36250.40 | 20590.00 |
| Direct benefit transfer (DBT) in fertilizer subsidy | 9.96 | 11.40 | 27.92 | 15.54 |
| Recovery | -3317.72 | -4030.00 | -8960.00 | -3980.00 |
| Net | 90549.27 | 58767.68 | 75930.32 | 63222.32 |
| Nutrient based Subsidy | | | | |
| Payment for indigenous P & K Fertilizers | 22288.36 | 12460.00 | 39062.66 | 25200.00 |
| Payment for import of P & K Fertilizers | 15015.37 | 8260.00 | 25087.34 | 16800.00 |
| Payment for city compost | 68.74 | 42.00 | 42.00 | - |
| Total -Nutrient based Subsidy | 37372.47 | 20762.00 | 64192.00 | 42000.00 |
| Total subsidy | 127921.74 | 79529.68 | 140122.32 | 105222.32 |
| Source: Union budget 2022-23 | | | | |

However, there has been continuous increase in the prices of raw materials and finished fertilizers in the international market. Keeping in view, Government of India notified higher Nutrient Based Subsidy (NBS) rates for P&K fertilizers for Kharif season 2022 (from 1 April to 30th September, 2022) on 27th April, 2022. Government approved Rs. 60,939 crores subsidy for P&K fertilizers only for Kharif 2022. Requirement of subsidy on Urea will also go up due to high prices of domestic gas as well as imported LNG. Thus requirement of

fertilizer subsidy for the full year 2022-23 will be substantially higher than budget allocation. However, the industry remains positive that the government will allocate additional funds through supplementary grants.

CONCLUSION:

Fertilizers have played an essential role in agricultural production, providing vital nutrients for crops and registering increasing demands over the years. The Indian fertilizer industry has made good progress in the case of Nitrogen-based fertilizers. India is the 2nd largest consumer of Urea fertilizers after China. India also ranks 2nd in the production of nitrogenous fertilizers and 3rd in phosphatic fertilizers. The fertilizer industry is rapidly growing industry demand of fertilizer are increases so number of manufacturing unit also increases. During 2021-22 (April/March), production of all major fertilizers increased except NP/NPK complex fertilizers. Except DAP. import of all major fertilizers declined during 2021-22. DBT sale (sale by retailers) of all major fertilizers, except SSP showed negative growth during 2021-22 over 2020-21. According to Union Budget 2022-23, Government allocated Rs. 1,05,222 crores to fertilizer subsidy for 2022-23.

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