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EFFECT OF FERTILIZER SUBSIDY ON AGRICULTURE

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Introduction

Fertilizer subsidy is a key agricultural policy in many countries, including India. The policy aims to provide affordable fertilizers to farmers to increase crop yields and improve soil fertility. The provision of subsidies is intended to make the fertilizers more accessible and affordable to farmers, particularly small-scale farmers who might not have the financial resources to purchase fertilizers at market prices.

The implementation of fertilizer subsidies has been a subject of debate in many countries. While the policy has been lauded for increasing crop yields and improving food security, it has also faced criticism for its potential negative impact on the environment and the economy. The high cost of implementing the subsidy program, corruption, and misallocation of resources have resulted in inefficiencies in the implementation of the policy.

In India, fertilizer subsidy has been a key policy since the 1970s. The policy has had both positive and negative impacts on agriculture in the country.

While the availability of affordable fertilizers has made it easier for farmers to increase their output and meet the demand for food, the challenges associated with the implementation of the policy have hindered its effectiveness.

This article examines the impact of fertilizer subsidy on agriculture in India. It will explore the positive impacts of the policy, negative impacts of the policy, and possible solutions to address the challenges. By analyzing the impact of fertilizer subsidy on agriculture in India, this article aims to provide insights that can help policymakers make informed decisions on how to implement and improve fertilizer subsidy programs in the country.

Positive Impacts of Fertilizer Subsidy

Increased Crop Yields: One of the most significant positive impacts of fertilizer subsidy is the increased crop yields. Fertilizers provide essential nutrients to the soil, which help crops grow faster and healthier. With the availability of affordable fertilizers, farmers can now improve soil fertility, leading to increased crop yields. This increase in output

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not only benefits farmers but also helps to meet the demand for food in the country (Mohammed and Raoof, 2019)

In India, the introduction of the Green Revolution in the 1960s aimed to increase agricultural production and reduce the country's reliance on food imports. One of the key components of the Green Revolution was the provision of subsidized fertilizers. The subsidy helped farmers to increase their crop yields, leading to a significant increase in food production. For example, the production of wheat increased from 11 million tonnes in 1960-61 to 112.18 million tonnes in 2022-23, largely due to the use of fertilizers (The Indian express).

Improved Soil Fertility: Another positive impact of fertilizer subsidy is the improvement of soil fertility. Fertilizers provide essential nutrients to the soil, which are necessary for crop growth. The subsidized fertilizers make these nutrients more accessible and affordable to farmers, leading to an improvement in soil fertility. This, in turn, leads to better crop yields and more sustainable agriculture.

Increased Income for Farmers: Fertilizer subsidy can also lead to increased income for farmers. With increased crop yields, farmers can sell more produce and generate more income. Additionally, the availability of affordable fertilizers can help farmers reduce their production costs, resulting in higher profits.

Negative Impacts of Fertilizer Subsidy

Despite the positive impact of fertilizer subsidies on agriculture, there are also several negative impacts associated with the subsidy program in India.

Soil Degradation: One of the negative impacts of fertilizer subsidy is soil degradation. Overuse of fertilizers can lead to soil acidity and reduce soil fertility, resulting in decreased crop yields. Additionally, the overuse of fertilizers can result in the accumulation of nutrients in the soil, leading to environmental pollution (Salunkhe & Deshmush, 2015).

Financial Burden on Governments: Fertilizer subsidies can place a financial burden on governments, particularly in developing countries like India where resources are limited. Subsidies can be expensive to implement, and the cost can increase with the increase in demand for fertilizers.

In 2022-23, the Indian government spent over INR 2,25,222 crores on fertilizer subsidies, which accounted for over 5.37% of the government's total expenditure (Department of Fertilizers). The high cost of fertilizer subsidies places a significant financial burden on the government, which

could have been used for other development projects.

Inequitable Distribution: Another negative impact of fertilizer subsidy is inequitable distribution. Subsidies may not always reach the intended beneficiaries, and wealthy farmers may benefit more from subsidies than smallholder farmers. This can lead to a widening income gap between wealthy and poor farmers and result in social and political tensions.

Ecological impact: When manure or commercial fertilizers enter surface water, the nutrients they release stimulate microorganism growth. The growth and reproduction of microorganisms reduce the dissolved oxygen content of the water body. Without sufficient dissolved oxygen in surface water, fish and other aquatic species suffocate. Applying excessive amounts of fertilizer leads to the release of harmful greenhouse gases into the atmosphere and the eutrophication of our waterways.

What should be done?

The momentum for these changes has to be created through robust policies. 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.

State Governments and Central Government need to work in tandem to encourage farmers for ecological farming. Farmers need to switch away from growing wheat and rice since the groundwater has dried up, especially in western UP and Punjab. Agri-forestry, crop rotation and organic farming are alternatives to agriculture that can reduce the need for synthetic fertilizers. Agroforestry involves growing crops in combination with trees and other vegetation, which can provide natural sources of nutrients for crops. Crop rotation can improve soil health and fertility by alternating crops that have different nutrient needs, reducing the depletion of soil nutrients, and minimizing pest and disease buildup. Organic farming relies on natural inputs such as compost and manure to promote soil health and fertility, avoiding the use of synthetic fertilizers.

While fertilizer subsidies have been effective in increasing crop production and productivity in the short term, the long-term sustainability of agriculture depends on reducing the reliance on synthetic fertilizers and promoting sustainable agriculture practices. Policymakers should explore alternatives to fertilizer subsidies and invest in research and development to promote sustainable agriculture practices. By promoting sustainable agriculture practices, we can ensure that agriculture remains productive and

resilient in the long run while reducing negative impacts on the environment and human health.

Conclusion

Fertilizer subsidies have successfully increased crop yields and improved food security. However, they have also caused negative environmental impacts such as soil degradation, water pollution, and greenhouse gas emissions. The distribution of fertilizer subsidies can be inefficient and inequitable, with small farmers often being left out of the subsidy programs. Therefore, there is a need to shift to direct cash transfers to farmers on a regional basis. Further, it is best to let open markets' forces of supply and demand determine urea prices. To lower the cost of raw materials, Indian companies should be encouraged to make investments in nitrogen fertilisers in the Gulf States, where gas prices are typically lower than those in India. Agri-forestry, crop rotation and organic farming are alternatives to agriculture that can reduce the need for synthetic fertilizers.

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