

A STUDY OF FERTILIZER POLICY IN INDIA

TANPURE SAMBHAJI SHAMRAO

Assistant Professor, HOD, Political Science, Jijamata College of Science & Arts, Bhenda (BK) Tq. Newasa, Dist. Ahemadnagar (MS)

*Corresponding Author: Email-

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Abstract- The agriculture sector recorded satisfactory growth due to improved technology, irrigation, inputs and pricing policies. Livestock, poultry, fisheries and horticulture are surging ahead in production growth in recent years and will have greater demand in the future. Industrial and service sectors have expanded faster than agriculture sector resulting in declining share of agriculture in national accounts. Despite the structural change, agriculture still remains a key sector, providing both employment and livelihood opportunities to more than 70 percent of the country's population who live in rural areas. The contribution of small farmers to the national and household food security has been steadily increasing. The water availability for agricultural uses has reached a critical level and deserves urgent attention of all concerned.

The debate on fertilizer subsidy, as well as all other agricultural subsidies in India, should be examined against the backdrop of India's overall economic situation, the prominence farmers and the agricultural sector in India's political economy, and recent trends in the Indian agricultural economy. This paper presents socioeconomic data on the Indian economy, particularly its farm sector, and discusses issues related to fertilizer production and use. It also provides an overview of the growth rate, holding size, and indebtedness of the farm sector in India.

Keywords- subsidy, agricultural, political, socioeconomic, farm sector, production

Introduction

India has made impressive strides on the agricultural front during the last three decades. Much of the credit for this success should go to the several million small farming families that form the backbone of Indian agriculture and economy. Policy support, production strategies, public investment in infrastructure, research and extension for crop, livestock and fisheries have significantly helped to increase food production and its availability. During the last 30 years, India's foodgrain production nearly doubled from 102 million tons in the triennium ending 1973 to nearly 200 million tons (mt) in the triennium ending (TE) 1999. Virtually all of the increase in the production resulted from yield gains rather than expansion of cultivated area. Availability of foodgrains per person increased from 452 gm/capita/day to over 476 gm/capita/day, even as the country's population almost doubled, swelling from 548 million to nearly 1000 million. Increased agricultural productivity and rapid industrial growth in the recent years have contributed to a significant reduction in poverty level, from 55 percent in 1973 to 26 percent in 1998. Despite the impressive growth and development, India is still home to the largest number of poor people of the world. With about 250 million below the poverty

line, India accounts for about one-fifth of the world's poor. Child malnutrition extracts its highest toll in this country. About 25% children suffer from serious malnutrition. More than 50 percent of the pre-school children and pregnant women are anemic. The depth of hunger among the undernourished is also high. India has high population pressure on land and other resources to meet its food and development needs. The natural resource base of land, water and biodiversity is under severe pressure. The massive increase in population (despite the slowing down of the rate of growth) and substantial income growth, demand an extra about 2.5 mt of foodgrains annually, besides significant increases needed in the supply of livestock, fish and horticultural products. Under the assumption of 3.5% growth in per capita GDP (low income growth scenario), demand for foodgrains (including feed, seed, wastage and export) is projected in the year 2020 at the level of 256 mt comprising 112mt of rice, 82mt of wheat, 39mt of coarse grains and 22mt of pulses. The demand for sugar, fruits, vegetables, and milk is estimated to grow to a level 33mt, 77mt, 136mt and 116mt respectively. The demand for meat is projected at 9mt, fish 11mt and eggs 77.5 billion.

Agriculture alongside the conditions of the Indian Economy

While the Indian economy grew at an average rate of 5.5 percent during the Ninth Plan period (1997/98–2001/02) and 7.2 percent during the Tenth Plan period (2002/03–2006/07), the agricultural sector grew at an average rate of 2 percent and 1.7 percent during the same periods (Planning Commission 2007, 4). This compares to earlier growth rates of 3.64 percent during the period 1990/91–1996/97 and 3.12 percent during the period 1980/81–1989/90 (Chand, Raju, and Pandey 2007, 2529). The deceleration of agricultural growth rates, which is seen as the root cause of rural distress in different parts of the country, has affected farms of all sizes. Indian agriculture has been marked in recent years by low farm incomes, inadequate productivity growth, low prices of output, lack of affordable credit, and increased levels of uncertainty regarding prices and inputs (Planning Commission 2007, 4).

At the same time, agriculture continues to support 115.5 million farm families (MoF 2007b, 161). Seen in a different light, roughly 60 percent of India's labor force is employed by this sector, although its contribution to the GDP is only about 18.5 percent (MoF 2007b). Nearly 75 percent of those identified as poor live in rural areas (IFAD 2009). Equally important, Indian agriculture is dominated by peasant farming, in which the farmer grows primarily to meet household needs. The distribution of landholdings by size, demonstrates that more than 80 percent of the holdings fall into the small and marginal categories. In addition, the number of large holdings, above 10 hectares, has been decreasing, with simultaneous growth in the number of small and marginal farms. The deceleration in the farm sector thus has far-reaching political and economic implications.

Fertilizer Use by Indian Farms

Domestic fertilizer production increased from 4.09 million metric tons in 1981/82 to 14.43 million metric tons in 2002/03. Corresponding figures for fertilizer consumption were 6.06 million tons and 16.09 million tons respectively (Venugopal 2004, 172). Rice and wheat production increased from 53.63 million tons and 36.31 million tons in 1980/81 to 72.65 million tons and 65.10 million tons in 2002/03 (Venugopal 2004, 43, 46). As indicated in the introduction, between 50 and 60 percent of the increase in foodgrain production in India since the 1960s has been due to increased use of inputs, including fertilizers (Venugopal 2004, 59–60). However, the use of fertilizers to increase productivity has by no means reached its full potential in India. The variation in fertilizer use across states suggests that some states still have a lot of catching up to do. Moreover, India's average fertilizer use is

much lower than that of its neighbors. At the same time, overuse of nitrogenous fertilizers in some parts of the country is viewed with concern. Fertilizer subsidies in India have been directed toward nitrogenous(N), phosphatic(P), and potassic(K) fertilizers. The recommended ratio according to which nitrogen, phosphate, and potash should be used in Indian soil conditions is 4:2:1, though this ratio varies across regions within India. Because of the pricing policies on fertilizer inputs, however, in some years the ratio has deteriorated to approximately 10:3:1 (though again, this varies across regions) (Planning Commission 2007, 9).

Another concern for the government is that although the total consumption of fertilizers has increased, the average consumption of fertilizers per hectare of arable land in India (approximately 99.7 kg/ha, slightly lower than the global average) is much lower than that of neighboring countries. This figure is particularly important in view of the Indian farm sector's low productivity, which is less than 50 percent of that of neighboring countries such as China (Planning Commission 2007). Given the variation in fertilizer use across Indian states, policymakers argue that increasing the intensity of use in states other than Punjab, Haryana, and Uttar Pradesh offers an opportunity policy on fertilizers and the effort to rationalize or reduce fertilizer subsidies must be examined against this imperative to increase the overall productivity of Indian agriculture. Reform of policy on fertilizers and the effort to rationalize or reduce fertilizer subsidies must be examined against this imperative.

Indian Fertilizer strategy: Growth and Restructuring Initiatives

The current policy regime can best be understood by focusing on three distinct phases of its evolution:

- The period 1977–91, during which fertilizer subsidies were instituted as one of the tools for achieving food security;
- The period 1991–2003, during which efforts were made to reduce and rationalize the fertilizer subsidies as part of an economic reform agenda; and
- The period since 2003, during which the government has been trying to make the fertilizer sector more efficient and to keep the subsidy to the farmers in place, in view of the need to increase the agricultural productivity.

As part of the strategy for a Green Revolution, the Gol decided to encourage domestic production of fertilizers and increased consumption by farmers. This led the government to introduce the Retention Price Scheme (RPS) in 1977. The RPS guaranteed fertilizer

producers a 12 percent return on their investment. The government also kept the farmgate price of fertilizers mostly unchanged for a decade to encourage consumption. In the next phase, fertilizer subsidies became a focus of reform efforts, and attempts to reduce them were part of the landmark 1991 package that initiated the process of economic liberalization in India. While the policy on phosphatic and potassic fertilizer production was liberalized in 1992, reform of the pricing of urea, a nitrogenous fertilizer, faced stiffer resistance. Between 1991 and 2003, several attempts were made to increase the farmgate price of urea as well as to reform the policy governing its production and distribution. Despite some setbacks, the farmgate price was increased on six occasions, rising from Rs 2,350 per metric ton in 1990/91 to Rs 4,830/ton in 2002. It remained unchanged between 2002 and 2009. In February 2010, the cabinet approved another increase in the price of urea by 10 percent from Rs 4,830/ton to Rs 5,310/ton (*Telegraph* 2010).

After long and tortuous deliberations, the RPS, which provided the policy framework for urea production and distribution, was replaced by the NPS in 2003. However, this three-stage reform process brought only modest changes to the policy framework. In February 2010, the government announced a nutrient-based fertilizer policy in order to address the nutrient imbalance that was evident in Indian agriculture. The government hopes that the nutrient-based scheme will bring down the expenditure on subsidy. It continues to push for greater efficiency in fertilizer production. At the same time, it is committed to retaining the subsidy on fertilizers, in some form, for the foreseeable future.

Emergence and Establishment of Fertilizer Subsidies, Late 1977 to 1991

Fertilizer pricing has been largely determined by the government since Independence.

The Fertilizer Control Order, formulated to allow the government to fix selling prices, went into effect in 1957. A Central Fertilizer Pool was created to deal with different domestic and international prices. Fertilizer price was determined on the basis of the pooled cost of obtaining fertilizer from imports and from domestic producers; the pool operated on a no-profit, no-loss basis, thus placing no burden on the central budget. During this period, domestic production and consumption of fertilizers were low. This scenario changed during the 1970s on account of the oil shocks and the new policy relating to fertilizers. In 1977, as a part of its Green Revolution strategy, the GoI established a policy to encourage the production and distribution of fertilizers in India and to facilitate their use. The Retention Price Scheme (RPS), as the policy was called, set an ex-factory price for fertilizer

(called the retention price) that was specific to each unit, depending on the capacity utilization and rawmaterials consumption of each and without any regard for common standards of efficiency. The pricing mechanism allowed for an after-tax return of 12 percent on the net worth of the unit. The farmer bought fertilizers at a government-controlled price known as the issue price.¹ The difference between the retention price and the issue price was paid to the unit by the GoI. In addition, the government reimbursed the producer for the cost of transporting the material from the production facility to the farm gate. The RPS was introduced for nitrogenous fertilizers in 1977 and was later extended to complex fertilizers in 1979 and to single superphosphate in 1982. In addition to encouraging fertilizer production, the government sought to encourage fertilizer use to increase foodgrain production and so decided to continue with the existing controlled-price regime. However, to keep the subsidy low, the government initially increased the price of urea to reflect the cost of production more closely. Thus urea prices rose by almost 38 percent from 1979/80 to 1980/81 and then by 17.5 percent in 1981/82. The rise in urea prices was kept in check throughout the rest of the 1980s both because the government wanted to further increase consumption and because of the rise of strong farmers' movements. These movements emerged independently in different parts of the country under different leaderships and have been studied elsewhere (Brass 1995; Assadi 1997; Varshney 1998). As a result of both increased consumption and low retail prices, the subsidy on fertilizers increased from Rs 5.05 billion in 1981/82 to Rs 43.89 billion in 1990/91 (MoF 1992, 105) and became a focal point in the discussion on India's fiscal deficit and economic reforms since 1991.

Foundation for Improvement

As discussed in "Fertilizer Use by Indian Farms" in Chapter 4, the RPS was largely successful in achieving the objectives of increasing domestic fertilizer production, fertilizer consumption by farmers, and foodgrain production. However, the subsidy created distortions in the economy, chiefly fiscal and environmental. These distortions prompted a reexamination of the need for and the format of the subsidy. Below we discuss the primary considerations that prompted such a reexamination.

Fertilizer Sector: Restructuring and Performance

To understand the debate on fertilizer subsidy, it is necessary to examine both the demand and the supply side of the fertilizer sector. From humble beginnings in 1906, the Indian fertilizer industry has come to supply a substantial portion of the fertilizers

used domestically. The Green Revolution in the late 1960s gave impetus to the growth of the fertilizer industry; a new policy framework and increased government assistance in the 1970s pushed its development forward; and 1980s and 90s continued to witness significant increases in production. The installed capacity has now reached a level of 12.06 million metric tons of nitrogen and 5.65 million metric tons of phosphate nutrients, making India the third largest fertilizer producer in the world (DoF 2007, 3). Fertilizer production in the public, cooperative, and private sectors in India. The actual production by these sectors varies every year, as illustrated by. All potassic fertilizers are imported. Although some nitrogenous and phosphatic fertilizers are also imported in most years, a substantial quantity of these is domestically produced.

The New Pricing Scheme (NPS), announced in 2003, defines the policy on production and distribution of urea in India. The NPS was designed to be implemented in three stages. During the first and second phases, the existing urea units were divided into six groups according to vintage and feedstock, and group-based concessions were announced accordingly. During phase 1, between 50 and 75 percent of the urea was to be distributed under the terms of the Essential Commodities Act of 1955. During phase 2, urea distribution was to be completely decontrolled on the basis of phase 1 evaluation and Ministry of Agriculture (MoA) recommendations. Such decontrol never took place. Phase 3 was to be determined by the recommendations of a committee on the basis of its evaluation of the first two phases. The Alagh Committee, which was appointed in 2004 and submitted its report in 2005, recommended promoting further investment in the urea sector while keeping the groupwise pricing scheme in place until the end of the decade and encouraging fertilizer producers to convert from naphtha and other feedstock to natural gas, which allows the most efficient production of urea. Further, the committee recommended establishing joint-venture projects for producing urea abroad and improving distribution to remote areas.

Conclusion

Indian agriculture has suffered adversity during the past decade despite high overall growth rates experienced by other sectors in the Indian economy. Increasing growth rates in the farm sector would require, among other things, a more equitable use of fertilizers. Thus far, the trends in fertilizer use have been uneven across states and across farms of different sizes. Reform options for fertilizer policy should take into account these realities as well as India's continued need for food security. The reform process itself has made very modest progress. The

next chapter examines past reform efforts to identify aspects of political economy that have shaped the reform process.

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