

Biofertilizers and its impact on CRP production in Parbhani district

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INTRODUCTION

The green revolution brought impressive gains in food production but with insufficient concern for sustainability. In India the availability and affordability of fossil fuel based chemical fertilizers at the farm level have been ensured only through imports and subsidies. Dependence on chemical fertilizers for future agricultural growth would mean further loss in soil quality, possibilities of water contamination and unsustainable burden on the fiscal system. The Government of India has been trying to promote an improved practice involving use of bio-fertilizers along with fertilizers. These inputs have multiple beneficial impacts on the soil and can be relatively cheap and convenient for use. Consistent with current outlook, the government aims not only to encourage their use in agriculture but also to promote private initiative and commercial viability of production. This paper analyses available industry side data to find only a limited extent of success till date. There has been no accelerated growth in distribution with time, inadequate spatial diffusion and despite entry of small private units into the industry there is no clear indication of the success of privatization. The paper however argues that considering the social benefits promised the government has ample grounds to intervene to set up an effective market for the new product while encouraging private players. But the policy and the instruments of intervention need to be designed with care.

Failure of a market to build up calls for public intervention when the expected social gains from a relatively new product outweigh the costs whereas the private gains do not. Uncertainty about the product performance coupled with long periods of learning involved can lead to poor demand from end users who are farmers. Even in the context of market liberalization, the government has some role to play to induce a socially optimal investment level and set up an effective market so long as market information is imperfect. However the exact nature of the role and the policy instruments to be used must be decided with a clear understanding of the strengths and weakness of agents involved (Stiglitz, 1989).

Biofertilizers make nutrients that are naturally abundant in soil or atmosphere usable for plants. Field studies have demonstrated them to be effective and cheap inputs, free from the environmentally adverse implications that chemicals have. Biofertilizers offer a new technology to Indian agriculture holding a promise to balance many of the shortcomings of the conventional chemical based technology. It is a product that is likely to be commercially promising in the long run once information becomes available adequately to producers and farmers through experience and communication.

There is an ongoing attempt to promote biofertilizer in Indian agriculture through public intervention, and in keeping with the spirit of the times, the policy motivates private sector and profit motive to propel the new technology. The question raised in this paper is how successful has the intervention policy been in Indian agriculture. The Government of India and the various State Governments have been promoting the nascent biofertilizer market both at the level of the user-farmer and the producer-investor through the following measures: (i) farm level extension and promotion programmes, (ii) financial assistance to investors in setting up units, (iii) subsidies on sales and (iv) direct production in public sector and cooperative organizations and in universities and research institutions. Over time as the industry emerges from infancy with public guidance, the following observations will be expected: (a) increasing sales volumes and diffusion across the country, (b) greater role of profit motivated private enterprise. Since information on farm level usage of biofertilizers or profitability of units are not reported till date, one way to get about is by following the secondary indicators as incorporated in (a) and (b).

Biofertilizers, more commonly known as microbial inoculants, are artificially multiplied cultures of certain soil organisms that can improve soil fertility and crop productivity. Although the beneficial effects of legumes in improving soil fertility was known since ancient times and their role in biological nitrogen fixation was discovered