

## Adoption of Recommended Use of Fertilisers and its Impact on Paddy Yield: An Analysis of Determinants in Groundwater Irrigated Region

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*Several studies have been conducted on fertiliser use and its relationship with irrigation, HYV's area, land size, climatic conditions and productivity of crops. However, studies are rarely available on the adoption of recommended doses of different nutrients of fertiliser and its impact on yield of crop in the recent years. Since the adoption of fertiliser at recommended doses is essential for increasing the yield of crop, as well as, for maintaining soil health and fertility, the study attempts to (i) find out the factors which determine the use of recommended doses of different nutrients of fertiliser and (ii) analyse the relationship between the use of recommended level of fertiliser and yield of paddy. The study shows that although the farmers who adopt single nutrient are more, the farmers who adopt all the three (NPK) nutrients of fertiliser at recommended level are less in both bore well and non-bore well owning cultivators groups. The logit regression results show that among the various factors, land size seems to be the important factor in increasing the probability of adoption of fertiliser at recommended level. It is also understood that farmers adopt fertiliser mostly on the basis of crop condition and not purely by standard recommendation. Yield of paddy increases when adoption of fertiliser nutrients increases, however, it is significant only for the farmers who belong to the non-bore well owning group. The study concludes that as the involvement of farmers in agriculture is essential for achieving higher yield, adoption of fertiliser at recommended doses alone would not make significant impact on the yield of crop.*

### Overview

Importance of fertiliser, in improving the productivity of crops, has increased after the introduction of HYV seeds in Indian agriculture. Consumption of fertilisers, in terms of nutrients, has increased from 7.73 lakh tonnes in 1965-66 to about 123.4 lakh tonnes in 1993-94. During this period, per hectare consumption of fertiliser has increased from 4.8 kg. to 66.5 kg. (FAI, 1994). Despite a phenomenal growth in the consumption of fertilisers<sup>1</sup>, the consumption has not been evenly distributed across the States, crops and farmers. States

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<sup>1</sup>The rate of growth (estimated by  $\log Y = a + bt$ ) of total fertiliser consumption during 1965-66 to 1990-91 was about 10.15 per cent per annum. This is higher than the growth rate of Gross Irrigated Area and HYV's area. The same trend continued in seventies (1970-71 to 1980-81) and eighties (1980-81 to 1990-91) as well.