

Soils do get immediate nutrients through chemical fertilizers. There is a little over 31.19 times increase in the consumption of Nitrogenous (N), Phosphatic (P) and Potassic (K) fertilizers that increased from 7.85 million tons (mts) in 1965-66 to 244.82 mts in 2013-14. There has been about 1.19 times increase in the all-India average consumption of fertilizers that increased from 105.50 kg/hectare in 2005-06 to 125.39 kg/ha in 2013-14. However, fertilizers' consumption (in kg per hectare) of arable land and land under permanent crops (taken as total of NP_2O_5 & K_2O) in India was lower than Bangladesh 228.50, China 399.80, Pakistan 179.50 and India 139.70 in the year 2011. Further, very high variability has also been observed in fertilizer consumption across the states. As regard the levels of consumption of fertilizer (in kg/ha as total of NPK) in the year 2013-14 are concerned, these varied from Puducherry 583.33 to 226.72 in Andhra Pradesh, Punjab 216.73, Haryana 179.48, Bihar 164.87, Jharkhand 82.45 and Nagaland 4.45.

Having encompassed to realize higher productivities by using chemical fertilizers in the beginning and due to lack of awareness among the farmers, there is widespread problems related to indiscriminate use of fertilizers, mismanagement of surface water and over exploitation of ground water.

It can however be deduced that over use of chemical fertilizers in most parts of India for nutrient management in farming in the last few decades has led to several problems affecting (i) soil health, (ii) nutrient flow, and; (iii) natural environment. There is, therefore, the need for promotion, among others, balanced use of fertilizers for increasing productivity of crops for better absorption of nutrients from the applied fertilizers.

In view of above farmers should go for regular soil testing and use recommended doses of fertilizers. To facilitate this a centrally sponsored scheme entitled "National Project on Management of Soil Health and Fertility (NPMSF)" recommended by the Task Force on Balanced use of Fertilizer has been implemented since 2008-09. No systematic study has so far been undertaken for evaluating the effectiveness of the programme on (i) crop productivity, (ii) extent of soil testing for nutrient deficiency, and; (iii) adoption of recommended doses of fertilizers by farmers based on the soil tests. In this backdrop, this, study entitled *Adoption of Recommended Doses of Fertilizers on Soil Test Basis by Farmers in Bihar* has been undertaken under the co-ordinatorship of ADRTC, ISEC, Bangalore.

This study is based on primary and secondary data both. As regards the level of adoption of fertilizers on the basis of soil reports is concerned, it is to be pointed out here that no sample farmers have got the results of soil-test in hard copies till the date of survey. So, impact of that could not be captured in this report. The draft report of the study was evaluated by the Co-ordinator of this study i.e., ADRTC, ISEC, Bangalore, which also suggested for explaining the scenario but, as noted above, it was not possible. Despite that I am thankful to the Co-ordinator for his valuable comments on the draft report.

I express my gratefulness to our Hon'ble Vice-Chancellor, Prof. (Dr.) Rama Shankar Dubey, who always inspired and promoted us to prove its worth in the field of policy research. District Agriculture Officers and their technical and non-technical staff of East Champaran and Rohtas districts and all respondent farmers deserve my hearty thanks, who provided required data, information and spared valuable time to the research team for smooth conduct of the study.

I congratulate Dr. Rajiv Kumar Sinha & Dr. (Mrs) Rosline Kusum Marandi, Project Leaders of this study, who proceeded with definite objectives and brought the study to its final and presentable shape.

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