

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Agriculture plays an essential role in the economic development of developing countries like India. Besides providing food to the nation, it also releases labor, provides services, contributes to market of industrial goods and earns foreign exchange. In India, Agriculture is main source of national income and also with its allied activities contributes 50% to India's national income. However, in spite of all the development, the Agricultural methods that Indians use are still old. Both the dominant nature of Agriculture and decelerating growth trend in Agriculture attracts attention of many policymakers, researchers and economists. The main cause of failure of all development policy for Agriculture is that there is no strategy for Indian Agriculture. This is due to the fact that we had not necessary data to study the characteristics of Indian Agriculture. Agriculture is a Climate dependent Bio-industry with notable regional characteristics. The impact of climate results in problems with in problems with food security and may affect crop yields positively or negatively. As well as types of crops that can be grown in certain areas, by impacting Agricultural inputs such as water for irrigation, amounts of solar radiation that affect plant growth as well as the prevalence of pests.

Soil Testing is well recognized as a sound scientific tool to assess inherent power of soil to supply plant nutrients. The benefits of soil testing have been established through scientific research, extensive field demonstrations, and on the basis of actual fertilizer use by the farmers on soil test based fertilizer use recommendations. Soil testing was initiated in the country in the beginning of planning era by setting up of 16 soil testing laboratories during 1955. Government of India has been supporting this programme during different plan periods to increase the soil analyzing capacity in the country. Planning Commission started five-year plans. The first five-year plan was from 1951-1956 and basically gave importance for Agriculture. From 1951-2000, seven plans were on Agriculture and its allied activities. Also several schemes like "Gramin Bhandaran Yojna" started in March 31st 2007, helped in creation of scientific storage capacity with allied facilities in rural areas for storing farm produce, processed farm produce and Agriculture inputs. They

improve their marketability through promotion of grading, standardization and quality control of Agricultural produce. Also “Kisan Call Center” started in 2004 (Toll-free number: 1551) has leverage extensive telecom infrastructure in the country to deliver extension services to the farming community. Its purpose is to respond to issues raised by farmers instantly in local language on continuous basics.

The numerical strength does not, however, decisively indicate the quality and success of the programme. Planners and agriculturalists have recognized the utility of the service fully but it suffers due to inadequate scientific support in its execution. It may be pointed out that the methods to extract available nutrients from the soil are rather old in terms of their enunciation, being mostly given out in the years as early as 1940s and 50s but are still popular and being followed world over. Tillage is the oldest method used by the Farmers for breaking large sized soil particles into finer ones, where soil particles are actually ingested through openings in the plant root. What has fundamentally changed is to categorize the available nutrients extracted by these methods into the limits of sufficiency, deficiency or somewhere in between in relation to present day crop varieties and soil nutrient status. Thus, the critical input in improving the soil test based fertilizer use recommendation would be ‘ratings’ given to these values.

Another aspect of latest scientific input in the soil testing programme would be to analyze these extracted amounts of nutrients by modern, heavy duty and fast analyzing equipment so that the capacity and accuracy of the soil testing laboratories could be enhanced. Description of such equipments, like, auto analyzers, atomic absorption spectrophotometer and inductively coupled plasma-atomic emission spectrometer has been given in the manual. It is required that each state may set up a modal / central soil testing lab where modern equipments may be provided. Also the system of making online fertilizer use recommendation may be introduced only in the central labs at the initial stages. Therefore keeping in mind the above requirements, this report will be useful for the technical staff of the soil testing laboratories in doing their day-to-day analytical work and framing fertilizer use recommendations. Implementation of various suggestions given would also help in improving the quality of the work being done by the soil testing laboratories. By this we can be able to test our soil parameter in that condition quickly in our field for further processes and we will get the soil parameter report without any delay. And we can get the information about the fertilizer and crops matches for that result and amount of fertilizers to be used.