APPENDIX VII
SOILS OF INDIA.

BROAD DIVISION

Soils of India are divided into four broad categories - red, laterite and lateritic, black and alluvial. Red, black and alluvial soils are deficient in nitrogen, phosphoric acid and humus, while laterite soils have sufficient humus and nitrogen. The deficiency of the laterite soils is in potash, phosphoric acid and lime. The other three types have sufficient potash and lime.

RED SOILS - Red soils which are a sandy clay, have a lighter texture and porous and friable structure. They cover practically the whole of peninsular India outside the area of Deccan trap, comprising the States of Madras, Mysore, South-East Bombay, east of Hyderabad and the Madhya Pradesh, Orissa and Chhota Nagpur. It also occurs in the southern part of Bengal and Central India and the eastern half of Rajputana. The other peculiarity of black soil is that it retains the rain firmly. Irrigation is thus possibly harmful in Madhya Pradesh and over a large part of Central India where rainfall is sufficient.

BLACK SOILS - They have a loamy to clayey texture. Their depth varies from one to two or even twenty feet. They cover over 2 lakh square miles in peninsular India comprising the major portions of Bombay, the whole of Berar, western parts of Madhya Pradesh, Central India and Hyderabad. They are most suitable to the cultivation of cotton.

ALLUVIAL SOILS - They are the most important and fertile from among the Indian soils and are mainly distributed in northern, north-western and north-eastern parts of India including Punjab, Uttar Pradesh, Bihar, Bengal and parts of Assam and Orissa and in the coastal areas of Southern India including the deltaic areas on the mouths of rivers.

1. The Final Report of the All India Soil Survey Scheme, Indian Council of Agricultural Research, 1933.
LATENT SOILS - It is a formation peculiar to India and some other tropical countries with intermittently moist climate. Such soils are specially well developed on the summits of hills of the Deccan, Mysore, Travancore, Central India, Madhya Pradesh, Rajmahal, the Eastern Ghats Regions of Orissa, South Bombay, Malabar and parts of Assam.

OTHER TYPES - Besides these two main types, there are also soils which occur under arid and semi-arid conditions. Then there are also saline soils found in Bihar, Uttar Pradesh, Punjab and Rajasthan. Travancore-Cochin has also some peaty soils and some marshy soils are found in the tracts of Orissa. Sunderbans in Bengal, the Central coastal portions of North Bihar, the Alimora district of Uttar Pradesh and South-east coast of Madras.

CONCLUSION

The main conclusion that emerges from a study of Indian soils is that a major portion of the cultivated areas in India is deficient in nitrogen and phosphoric acid. Although our peasant is fully aware of the characteristics of the soil on which he is working, well laid out experiments will yet have to be conducted to find out the nature and extent of the deficiency in particular areas.

1. Voelcker (Report, p.51, p.50) collected ten different soil samples from various parts of the country. After an analysis of these samples, he concluded that Indian soils with an average of 0.17 per cent phosphoric acid are to be considered as decidedly above the average in this respect.

2. The existing data show contradictory conclusions. One is that of Voelcker, quoted above. Recently soils of dry farming areas in Punjab, Bombay, Madras were analysed under the auspices of the I.C.A.R. (Sunderkab, Dry Farming in India, p.51, pp.25-105). The conclusion reached both on the basis of Biyer's and Neuberger's methods was "that the soils are rich in essential plant food ingredients like nitrogen, potash and phosphoric acid", the great depth being the most potential factor (p.107).

No doubt soils in India exhibit far less variations than in England, where the difference is found even on a single farm, there is yet an urgent need for an exhaustive soil study in the country to arrive at some firm conclusions. A comprehensive soil map of India as recommended by the Royal Commission on Agriculture is extremely necessary.