sheep than they could on grain and cows. The conversions destroyed more than 500 villages, leaving only a shepherd or two where several families had formerly lived, tilling the fields. By the middle of the 16th century, the two types of farming were again in balance, due in part to antidepopulation statutes which took some of the profit out of the practice. But the lost villages did not revive.

With the aid of aerial photographs, extensive documentary research, and the sweat of pick and shovel digging, the author has located the sites of numerous lost villages, and gives us an excellent picture of their original extent. The causes and the documents in balance, clue in part to antidepopulation statutes, which took much of the profit out of the practice. But the lost villages did not revive.

By P. H. Hainsworth. Faber and Faber, 24 Russell Square, London. 1954. 21 shillings.

This book may well be called a "closely reasoned appraisal of organic methods of farming." As a market gardener who has used both organic—or natural, fertilizer, and chemicals—or artificial. Mr. Hainsworth is not propagandizing any facts or fancy. His success in getting better nutrition for crops through studied use of organic fertilizers is interpretable as far as possible in terms of the scientific principles involved, especially the manageable ones.

Among the separate newer approaches cited, there are: (a) the use of the organic fertilizers with their carbon-nitrogen ratios in proper balance to serve in the nutrition of the soil microbes so they can digest the crop residues; (b) the practice of composting highly woody wastes as help in bringing about a narrower carbon-nitrogen ratio in the organic matter above the soil before it can serve promptly as a fertilizer with the soil; (c) higher 'resistance', to diseases and more complete 'protection' against insect damage to crops in consequence of organic manuring of the soil growing them; (d) larger seed yields, of clovers especially, through fertilizing highly with organic manures; (e) the maintenance of higher levels of organic matter in the soil; (f) escape from the prescribed inorganic nutrition of the plants by the excess and imbalance of monovalent elements as illustrated by potassium not only in artificial but even from organic manuring.

Some non-thinking faddists might be content to say "Organic manuring is efficient because it is natural." The author, however, is not of that cult. He is a plant physiologist and student of soil, putting the best of science under the organic aspects of plant creation, a subject which constitute more of agriculture in practice than we have yet suggested.

"Let us study things as they are and not what we have made them. Let us question our beliefs to see whether they really fit the facts. If they don't, cast them out." That is much of the philosophy in which Mr. P. H. Hainsworth presents organic farming in a good clear style and well worthwhile reading.

W. A. ALBRECHT

ELEMENTS OF SOIL CONSERVATION, 2ND EDITION

As chief of the USDA Soil Conservation Service from 1935 to 1951, the author and his approach to the subject of soil conservation need no introduction to agronomists. This current revision brings the original 1947 volume up to date. Intended for classroom use, the book surveys the numerous aspects of soil erosion, its control and prevention. There are 23 main chapters. Nine of them deal with such general aspects as extent and effects of erosion, how it takes place, rates of erosion and runoff, climate and erosion, rainfall penetration, a national soil conservation program, and planning for soil and water conservation. Thirteen deal with use of vegetation, contouring, terracing, channels and outlets, gully control, stream banks, water spreading, wildlife, farm ponds, stubble mulching, farm drainage, farm irrigation, planting trees and shrubs, and upstream flood control.

The student can get a stimulating introduction to the broad field of soil conservation and can become familiar with the numerous practical problems and applications of conservation from this book. It is an excellent reference book for a farmer's bookshelf, and would give much-needed material to the non-farm non-technical readers with a desire to be well-informed on one of the country's most important problems.

CONSERVING NATURAL RESOURCES

The author states that the motive for this book was his desire to give a unified presentation of the broad subject, keeping constantly in mind the following essentials of sound resource conservation: use with minimum waste, increasing productivity where possible and desirable, and equitable distribution of resources now and for the future. With these three broad essential aims in view, his discussion covers the following topics: inexhaustible natural resources—air and water; replaceable and maintainable resources—water in place, soil, land in its spatial sense, forests, forage and cover plants, wild-animal life, and human power; and irreplaceable resources—minerals, metals, mineral fuels, etc., and the land in its natural condition.

The summary chapter on soil conservation is well done with a well balanced discussion between the problems of physical erosion and those of maintaining soil fertility. The problems of adequate food and control are clearly and fairly analyzed. For the general reader, the short history of public policy on conservation should be of great interest, as it traces the development of public laws relating to land and resources from the Homestead Act of 1862 up to the problems created by World War II and the post-war years. His closing chapter on "Human Powers as Natural Resources" deserves special commendation.

The book is written as a college text, and its emphasis thoroughout on the social responsibilities of "owners" of natural resources should serve well to instill desirable attitudes in the minds of students who will be guided into positions of influence in public and private bodies. Dr. Allen is professor emeritus in the forestry department of the University of Michigan School of Natural Resources.

BETWEEN US AND HUNGER

The author predicts that 218 million people in India will face starvation by 1971. The urgent task implied in the title is to increase the productivity of Indian agriculture to avert that catastrophe. To reflect on the food and population situation in India is disturbing enough to thoughtful observers outside the country. The solution to the problem seems all the more urgent when one reads a discussion of it by a native Indian.

Dr. Mayadas has examined the food situation in India and points out its causes and the weaknesses which underlie it. He considers the prospects of overcoming the acute food shortage which is aggravated each year by an additional 5 million mouths to feed.

To Americans alerted to the need for greater soil conservation, the Indian situation is most easily understood when one is told that 123 million acres of the 400 million tillable acres of India are being eroded by primitive methods of farming. As general short-term measures to help correct the situation, the author urges consolidation of land holdings, conservation of water supplies, mechanization of farming, and some social and administrative reorganization to promote the widespread adoption of the particular practices called for in these general measures. He believes that these can successfully stave off starvation. There is no discussion, however, of the desirability or means of limiting the rate of population increase.

This is a valuable book for any student of agriculture. It is written forcefully and clearly, and will add greatly to our understanding of the economic and political forces at play in that part of the world.

MENTION

