

INTRODUCTION.

Ever since the dawn of history, when man first commenced to till the soil and plant his crops, erosion has taken its annual toll of the fertile blanket of top soil covering the surface of the earth. The problems of erosion therefore are not new, they are as old as agriculture itself, and in the past man's struggle to retain the rich upper layer against the forces of nature has always resulted eventually in defeat. The ancient civilisations of Asia Minor, and North Africa, almost certainly owe their downfall to accelerated soil erosion, brought about by unsound agricultural practices. Deforestation, over-cropping, and over-grazing, with consequent soil exhaustion, resulted inevitably in the removal by erosion of the all-important layer of topsoil on which mankind depends. One has only to see these regions today, to realise how utterly impossible it would be at present for them to support populations approaching those of former times. Antioch, for instance, in the year 360 A.D. is reputed to have had approximately 400,000 inhabitants, but in 1934 this figure had shrunk to only 28,000. To the modern air traveller with eyes to see, flying over this region, the eroded treeless hills bear mute witness to past misuse.

Many of the ancient peoples developed considerable skill in devising means of combating erosion, and evidence of their efforts can still be seen in many parts of the world today. Terraces, irrigation canals and drainage canals were widely constructed, and in some places have functioned with considerable success for many hundreds of years, as in the loessal region of N. China on the upper reaches of the "Yellow River". At no time in the past however, do the principles of sound land use, and soil and water conservation, appear to have been fully understood, and even today there are some problems which have not been satisfactorily solved, particularly with regard to tropical soils.

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Coming nearer to our own times, the enormously increased world population, brought about by industrialisation and improved disease control over the past two centuries, created a demand for food which was met only by mining the fertility of the vast new farm lands of America, Africa, Australia, and the Steppes of Russia. These lands are now experiencing accelerated soil erosion on a scale not seen before upon this earth. The machine has increased man's destructive capacity manyfold. The ploughing, harrowing, and cultivation practices of monocrop farming, the deforestation of watersheds and the reckless overgrazing of pastures, has resulted in erosion so severe and startling, as to finally compel recognition, particularly in the United States. In many other countries however, exploitive methods continue largely unchecked, and each year sees more soil removed to silt up waterways and harbours, to be deposited on river flood plains, or to darken the sky as dust clouds. Meanwhile the world population continues to expand, and the demand for food becomes greater each year. More and better food is the greatest need of the vast majority of the human race today, but with the possible exception of the citizens of the U.S.A. and perhaps of the Soviet Union, there is no justification for any assumption that this need will be satisfied. Indeed, much greater efforts than heretofore will be necessary to even maintain nutritional standards at their present levels, and this in spite of disease control, pest control, higher yielding varieties, and the mechanical ingenuity of science in assisting production. It is an unpleasant fact for the conservationist to face, that the bulk of the world's population are cultivators of the soil, undernourished, and living in increasing poverty on land of steadily decreasing fertility. What will happen when the exhausted soils of Asia can no longer make even a pretence of meeting the demands of her enlarged populations? The grain exporting countries although comparatively empty, have increasing numbers to feed at home, and are unlikely to greatly increase their exports. Will it be surprising then, if under the banner of

communism, or some other political ideology, these hungry Asians embark upon military adventures in the hope of bettering their lot? The thinly peopled regions of Australia, Canada, East Africa and the Pacific Islands will be the natural focus of these desires.

Briefly then, the problem is one of more mouths to feed each year, and less food to fill them with, and with no prospect of any early readjustment of either of these tendencies. The answer, if there is an answer, would appear to lie in birth control, and conservation agriculture, with the maximum use of fertilizers, and perhaps food production by hydroponics.

In Trinidad, the pressure of population is fortunately not yet severe, nor has erosion yet assumed the alarming proportions, met with in other less favoured parts of the world, but these dangers though distant are nevertheless real and increasing. The people of this island and others who have its welfare at heart, would do well to look carefully and critically, at the treatment afforded to its lands during recent years, and to insist that the necessary measures be taken to ensure conservation of the soil, and to safeguard for posterity this most valuable of primary resources.