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Preserving the Good Earth: Anti-Erosion Measures

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During wartime it is easy to forget dangers which, in the long-term scheme of things, are even more pressing than many of the problems now absorbing world-wide attention.

Such a menace is soil erosion, which, in cold fact, is the master-danger that faces posterity. Since, in the last resort soil erosion, even on the grandest scale, has been wholly the fault of man, its continuation will be equally the fault of man. Man's attitude towards this problem is the supreme test of his wisdom and of his real interest in the species he represents.

Remedial measures against the results of soil erosion, where still possible, must be exceedingly slow in their operation, while preventive measures not only demand foresight, but benefits must necessarily be cumulative and spread over generations—nay, centuries.

World-Wide Phenomenon Soil erosion is a world-wide phenomenon: it is not totally absent even in the temperate climate of Britain, where the conversion of forest and scrub into agricultural land has been a gradual process. In Britain however, systems of farming are in the main adequate to take care of the precious humus which is an absolute essential to ensure a properly porous soil and to maintain an adequate plant-covering throughout the rotation.

Even so, wind erosion is not uncommon on Britain's Fenlands, and sheet erosion on steeper hill-slopes. In Britain the dangers are easy to counter, but wartime ploughing-up has served, or should have served, to warn that the land can only be mined and exploited at our peril.

It is, perhaps, ironical that the peoples of the world should have woken up to the supreme importance of nutrition, which demands an abundant supply of the right foods, only when by years of negligence vast areas of the world have been allowed to become incapable of food production as the result of sheer folly and inadvertance.

It is not too late however. Immense strides have been made in perfecting methods to counter erosion, and in practices of farming designed to produce good harvests of wanted crops of a character to obviate the starting of erosion.

The chief point to be realised is that erosion is like a snowball. From very small beginnings the most devastating results can happen in a surprisingly short time. Thus, for example, in Cyprus "the change from fertility to aridity has been due entirely to deforestation", is pointed out in a recent book on the subject. The danger is now realised, and in the island 18 anti-erosion centres have been established.

Too Much Deforestation Speaking quite generally, the beginnings of erosion in most countries have been due primarily to deforestation on too grand a scale and without any thought of establishing systems of farming and practices designed to counter erosion from the moment the plough replaces the firestick or the axe.

Little less serious has been the over-grazing of native and sparsely-covered areas of natural vegetation. The two agents that preserve the soil both from wind storms and from deluges of rain are humus and the plant-covering. The two are mutually interdependent. Apart from the adoption of sensible crop rotations and methods of cultivation—such as strip cultivation and terracing—that are best designed to counter erosion, a major problem of arid countries appears to be the necessity to conduct researches with a view to finding the best possible means of afforestation under extremely difficult conditions.

And here it must be pointed out that the essential need is plant-cover, protection and something equivalent to a forest floor and not primarily a marketable product. Another need is to introduce into the rotation an adequate period in humus-forming vegetation and in a covering that will be impervious to erosion. In short, to endeavour to establish a closely-knit ground covering vegetation of a character as similar as possible to the grass and clover ley that counts for so much in the rotation in temperate regions.

Anti-Erosion Measures In most regions of the British Empire the dangers of erosion are now realised. Thus, Australia set up its Soil Conservation Board in 1941, and Kenya created a Soil Conservation Service in 1938. Anti-erosion measures are being pushed forward in Grenada, West Indies, Barbados, Basutoland, Uganda and Nyasaland, to mention but a few examples.

Taking the world as a whole, it is, however, to be doubted if the extreme perils of soil erosion are anywhere fully appreciated. Man is not yet trained to take more interest in and care of posterity than in his own immediate affairs and difficulties.

Soil erosion is the longest of long-range problems, it must be expected everywhere and countered everywhere. The problem is basic, and is fundamentally one of point of view. It must be realised that soil takes thousands of years to develop and can be squandered and lost in a decade. No system of farming should be tolerated that does not first and foremost take care of the soil. The prime need of taking care of the soil must dictate the crops that are grown and the rotation followed and all the methods of cultivation adopted—not economics

Soil erosion is a world problem. Man must obey the demands of the soil or perish. International trade and international relationships must needs be such as to cry halt to soil erosion and not as in the past to invite it.

Organisation of Agricultural Research in India

By RAO BAHADUR B. VISWANATH, C.I.E., F.I.C., F.N.I.

I am glad to accept the invitation of the National Institute of Sciences to participate in the symposium on the post-war organisation of research and to contribute my views in respect of agricultural research in India.

Agricultural Research has been in progress in India for forty years. During this period an Indian school of Agricultural research with a large body of workers has gradually grown up. In recent years agricultural research and the organisation for it were under review and readjustment. The Royal Commission on Agriculture reviewed in great detail between the years 1926 to 1928 and Sir John Russell and Norman Wright in the year 1937. In examining again in reference to post-war requirements, it is necessary to consider first the nature of post-war agriculture and its problems that are likely to arise and then the research organisation to meet the requirements.

Research has never been more popular and more in demand than now. There is, therefore, no need to expatiate either on the value of research or on its practical contributions to agricultural development in India. We may assume that as in the past research is one of the agencies that can assist agriculture and proceed straight to the consideration of post-war problems and research.

Post-war Agriculture and its Problems The effect of war is dislocation and change in the existing system in varying degrees. Some crops and commodities have lost their export markets. Food crops have exchanged places with indu-