SPLASH EROSION

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EROSION is the transportation of soil from one point to another by the action of the forces of nature. Of the various agencies causing soil erosion, the principal factor is rain-water. Soil chemists and geologists have concluded, as a result of observation and investigation, that nine-tenths of the soil losses due to erosion are to be attributed to the disruptive effect of raindrop splash.

Each raindrop, falling to the ground, acts like a miniature bomb and splashes up at the point of impact with the blasting effect of a small explosion. This disruptive action increases in degree with the increase in size and number of the raindrops and with the velocity of their fall from the clouds to the ground. That is why a cloudburst, accompanied by high wind, has such an intense destructive capacity.

The fall of the raindrops damages the structure of the earth by breaking down the soil granules into fine particles so rendering the soil easily transportable in watery suspension. The immediate result is to set in motion light fragments of organic matter and the fine clay particles, leaving behind the heavier crystals of sandy quartz. Such losses reduce the fertility and productive capacity of the land.

Different soil types and slopes are variously eroded until hard clay is reached, or rock or other hard surfaces are exposed, and the land becomes increasingly less valuable for agricultural purposes.

The erosion varies in degree mostly depending on the slope. On level ground, the splash of raindrops does not result in any serious movement of soil but on any sort of a gradient, the blast lifts the particles and deposits them at a point, lower downhill. But not only is the soil thus moved, the water also does not enter the soil but accumulates into trickles, swift streams, swollen rivers and floods, carrying alluvial mud down into the low country. In the process the valuable top soil is gashed and eroded, gullies are cut, and ravines and gorges gradually developed.

To prevent the destructive effect of splash erosion, cultivated land should not be kept bare for long, but should be covered with rapid-growing crops or vegetation, such as weeds, pasture grasses or cover crops as such vegetation protects the soil. The cover crop selected should be of the type which is suited to the nature and texture of the soil and the rainfall. Another method of conserving exposed soil is to allow crop residues and stubble to remain after harvesting, and the employment of mulches such as coconut fronds, coconut husks and cut vegetation.

That is why it is a crime on coconut estates to burn waste vegetation. It should either be used for mulching or incorporated into the soil as moisture-conserving compost. Only woody material, such as coconut trunks or butt-ends, which provide a breeding ground for the coconut beetle should be burned,—and this you should not fail to do.

The writer attended the special course in " Soil and Water Conservation " by Dr. R. M. Gorrie.