1. Clean all the areas proposed for tea plantation, remove all stones, uproot tree stumps etc.
2. Demarcate area for construction of farm, approach roads and foot paths etc.
3. Demarcate drainage layout using bamboosplits stalking from the highest point of the field down across. The slope at gentle gradient zig-zaging from one end to the other in continuous stretch returning towards the other end leaving the following spacing between two drainage 30-40 ft in one sided aspects, 20-30 ft. in steep slope and 30-50 ft. in gentle slopes
4. Construct drainage at gentle continuous gradients of 1 ½ feet depth and 1 ½ feet wide.
5. The contour drains are connected to the collector drains, which are developed mostly along the natural depressions.
6. Plant residues and top soil accumulated during peak rainy season should be removed annually and used for earthing up during interculture operations.

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LAND DRAINAGE IN TEA PLANTATION WITH REFERENCE TO HILLY AREAS

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Introduction :

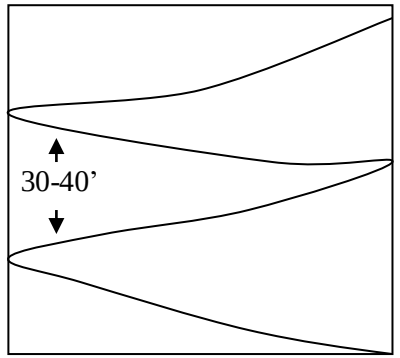
Drainage is a pre-requisite in tea plantation for achieving maximum crop production by way of removal of excess water from the root zone. This improves physical conditions of the soil and optimizes chemical and microbial processes. Drainage increases crop yield, improves the efficiency of fertilizers and conserve soil.

General cultivation of crops in the hills is practice at slopes ranging from 30% to 70% gradient and tea plantation too are located in those ranges except few lowlands in the river basins and areas adjacent to the plains.

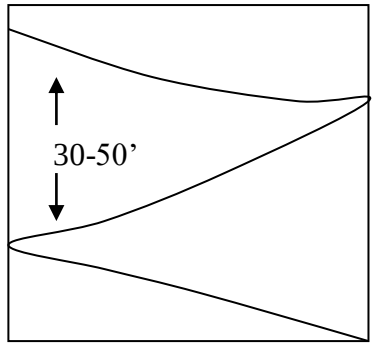
The casual factors responsible for drainage are pattern of rainfall distribution, physical condition of the soil and topography. In Northeast India, 70% of the annual rainfall occurs in 4-5 months period. During this time, heavy run-off water in hills and high water table in the plain areas are the problems. In hilly areas, the main problem is to dispose off the excess water safely so that no stagnation of water takes place in slopes. According to SARS Yisemyong experiment it has been recorded that in any degree of slope areas clean for cultivation about 25 to 35 mt of top soil/ha are eroded annually consecutively up to 3rd year in ascending quantity and stabilizes from the 4th year when plantation establish its root system adequately. Thus in hilly areas drainage in tea plantation is a must for the following factors.

- For sedimentation of top soil wash down by heavy downpour.
- To control unwanted gully formation
- To conserve water and gently percolate down the slope

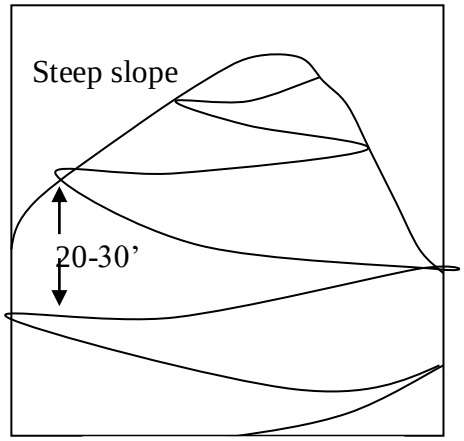
Methodology for Drainage construction in the hills



One sided aspect



Gentle Slope



Complete hillock