



SPECTRUM

Reclamation of shallow ravines for agriculture at Kota

A technological package evaluated at Kota for restoring shallow ravines for cultivation is as follows.

Construction of diversion bunds: The marginal bunds of 2.0 to 2.5 m² cross section (height 0.9-1.0 m; top width 0.75 -1.0 m; bottom width 3.5-4.0 m; and side slope 1: 1.5) with 0.1 to 0.2% grade are constructed at a distance from the gully heads equal to double the depth of gullies to arrest uninterrupted high velocity flow of surplus runoff water from the arable lands into the adjoining gully heads and in turn to check extension of gullies into the arable lands. These bunds are reinforced by planting grasses.

Construction of spillways: Spillways are constructed for safe disposal of excess runoff from the adjoining arable lands through marginal bunds to gully beds. Depending upon the fall of gully and runoff contributing area at that point, a loose boulder reinforced with vegetative measures or masonry spillways are constructed.

Earthen check-dams: Earthen check-dams are constructed in the gully beds at the regular intervals with horizontal

spacing ranging from 20 to 60 m depending on the bed slope of gully and height of dam between two earthen check-dams. Dimensions of the check-dams are 1.25 - 1.75 m height; 1.5 - 2.0 m top width; 5.25 - 7.25 m bottom width; with 1: 1.5 side slope. Minor levelling of the irregular side slopes of the gully is carried out to convert gully bed land into terrace for agriculture. A pipe or small masonry spill is provided at one end of the dam to discharge surplus runoff. The up and down slopes of the earthen dam are stabilized by developing vegetative cover.

These check-dams hold considerable amount of soil to facilitate establishment of vegetation and are also known as soil savers. They facilitate raising of economically useful crops in gullied lands and lead to better survival and growth of the planted vegetation.

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