

PROTECTIVE MEASURES FOR NON-ARABLE LANDS

Dr. G. M. SUJITH

**UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE
KARNATAKA**

GULLY CONTROL MEASURES

Vegetative filter strips

Strips of suitable plant species are planted across the water course / nala to check the velocity of water flow arresting silt

Adoptable in all areas irrespective of soil and rainfall

This is a semi – permanent vegetative measure

GULLY CONTROL MEASURES

Vegetative filter strips



GULLY CONTROL MEASURES

Gully formation

Sheet and rill erosion, if not controlled in the initial years through vegetative measures, result in gullies. These are often 1 to 5m deep depending on the rainfall, topography & soil conditions

Control measures

Mechanical: Any earthen, stone or masonry structure constructed across the slope as a preventive measure to arrest soil and water flows

Vegetative : Any live bund or vegetation established across the slope to reduce run-off and soil loss

GULLY CONTROL MEASURES

Brush – wood check dams

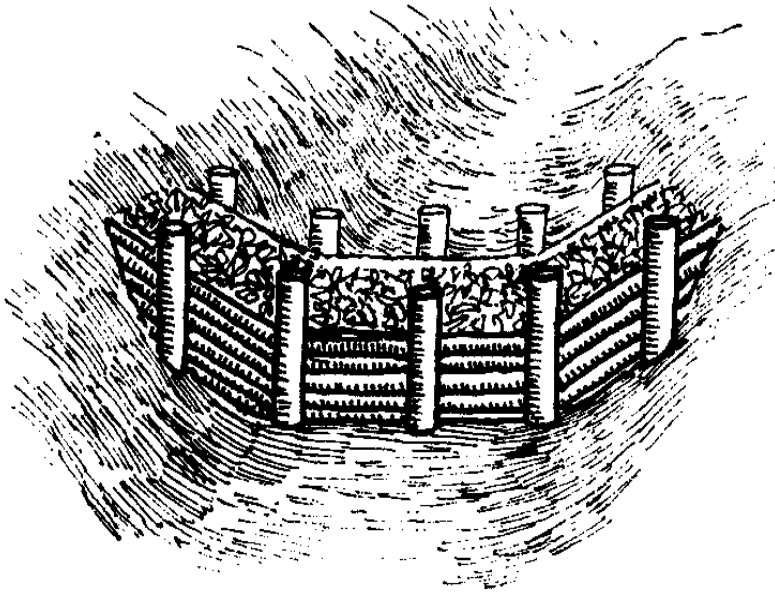
Constructed across the gullies by driving wooden pegs into the ground and then intertwining brush wood along the driven pegs

Adoptable in all areas irrespective of soil and rainfall

This is a semi – permanent vegetative measure and mechanical measure

GULLY CONTROL MEASURES

Brush – wood check dams



GULLY CONTROL MEASURES

Loose boulder check dams

Porous checks constructed across the naala using loose boulders to check water velocity and arrest silt

Adoptable in all areas irrespective of soil and rainfall

This is a semi – permanent mechanical measure

GULLY CONTROL MEASURES

Loose boulder check dams



GULLY CONTROL MEASURES

Rubble dams

Rubble obstructions across the water course to check water velocity

Adoptable in all areas irrespective of soil and rainfall

This is a semi – permanent mechanical measure

GULLY CONTROL MEASURES

Rubble dams



GULLY CONTROL MEASURES

Drop structures

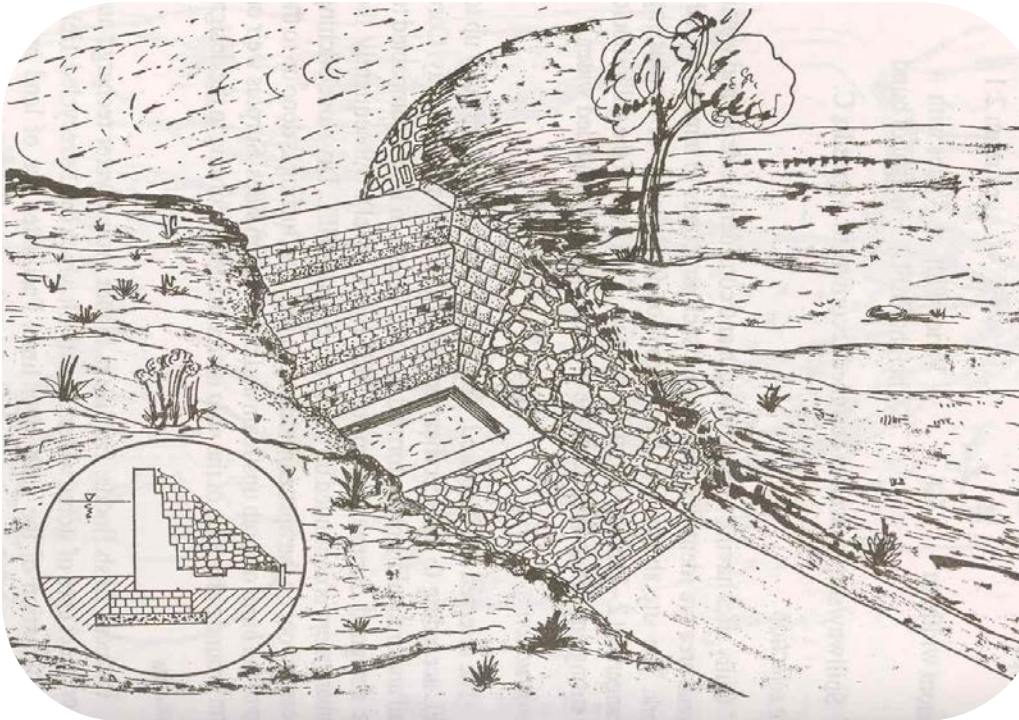
Dams constructed across the nala to check water velocity and permit storage

Excess run off will pass through the weir

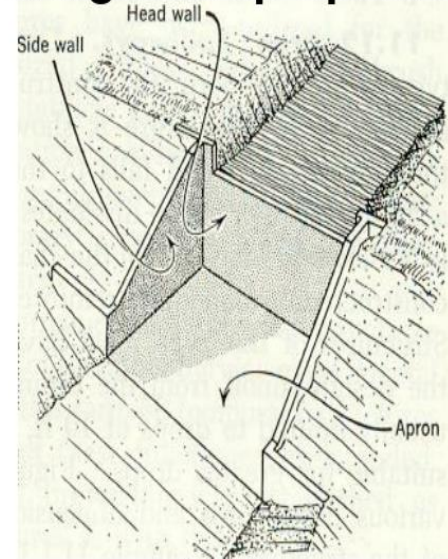
This is a permanent mechanical measure

GULLY CONTROL MEASURES

Drop structures



Straight Drop Spillway



GULLY CONTROL MEASURES

Chute spillways

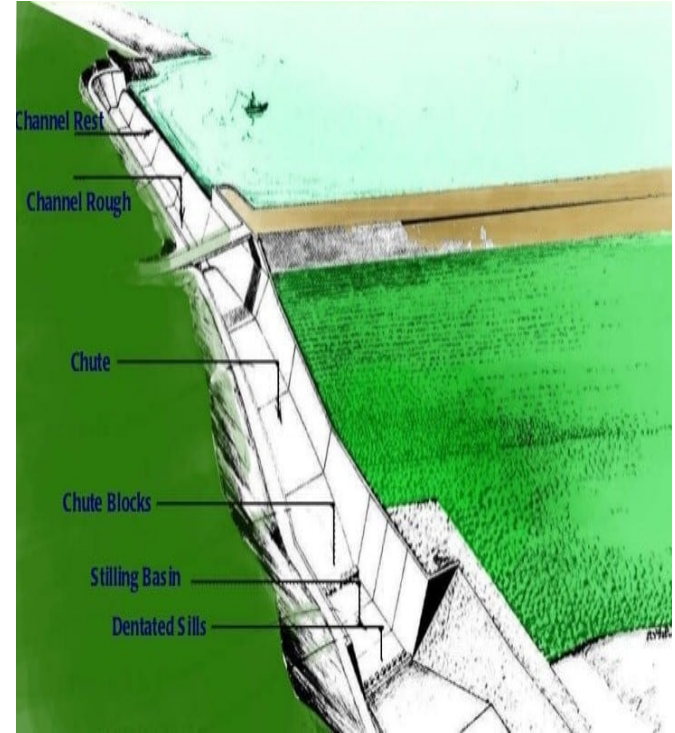
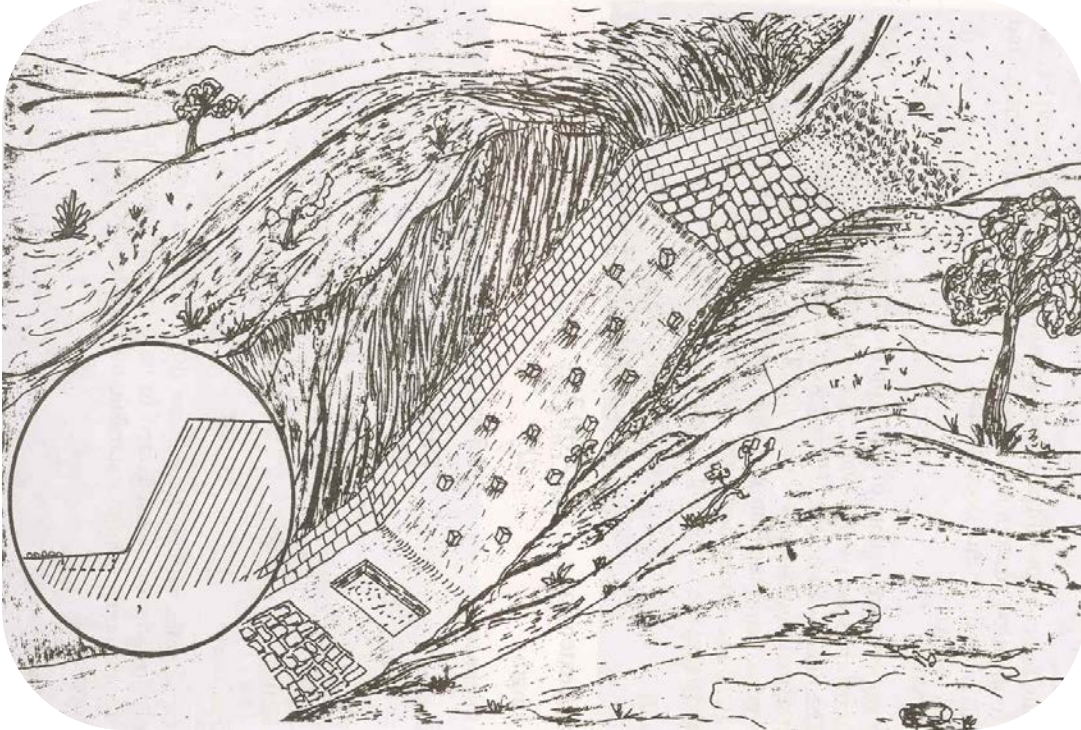
Open channels with steep slopes consisting of an inlet, vertical curve section, steep sloped channel and an outlet.

Constructed in all areas irrespective of soil and rainfall

This is a permanent mechanical measure

GULLY CONTROL MEASURES

Chute spillway



GULLY CONTROL MEASURES

Percolation tanks

Embankments constructed across natural depressions / valleys in arable, non-arable and community lands to store run off for percolation

Recharge ground water and make water available for social and agricultural use at the surface level

This is a permanent mechanical measure

GULLY CONTROL MEASURES

Percolation tanks



Protective measures undertaken in non-arable lands are as important as agronomic measures implemented in arable lands. These measures when implemented in an appropriate precision and with proper planning design will help in arresting degradation