

② Dimension

Small	Depth $d < 1$	(Very small) G_1	$d < 1$	$w < 18$
		(small) G_2	$d = 1-3$	$w < 18$
medium	$d = [1 \text{ to } 2]$	Medium G_3	$d = 3-9$	$w = 18$
Large	$d > 2$	Deep and Numerous G_4	$d > 9$	$w > 18$

③ state

Active	Dimensions are <u>increasing</u> with time
passive	Dimension are <u>constant</u> with time

Gully Development stage

Formation stage
(Initial)

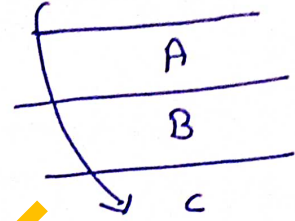
Rill → Gully
Topsoil scouring.

Function of
Topsoil resistance → fast (light)
→ slow (Hard)

Development stage

width and depth

→ Reach to c-horizon



Healing stage

→ Vegetation grows
(stret)

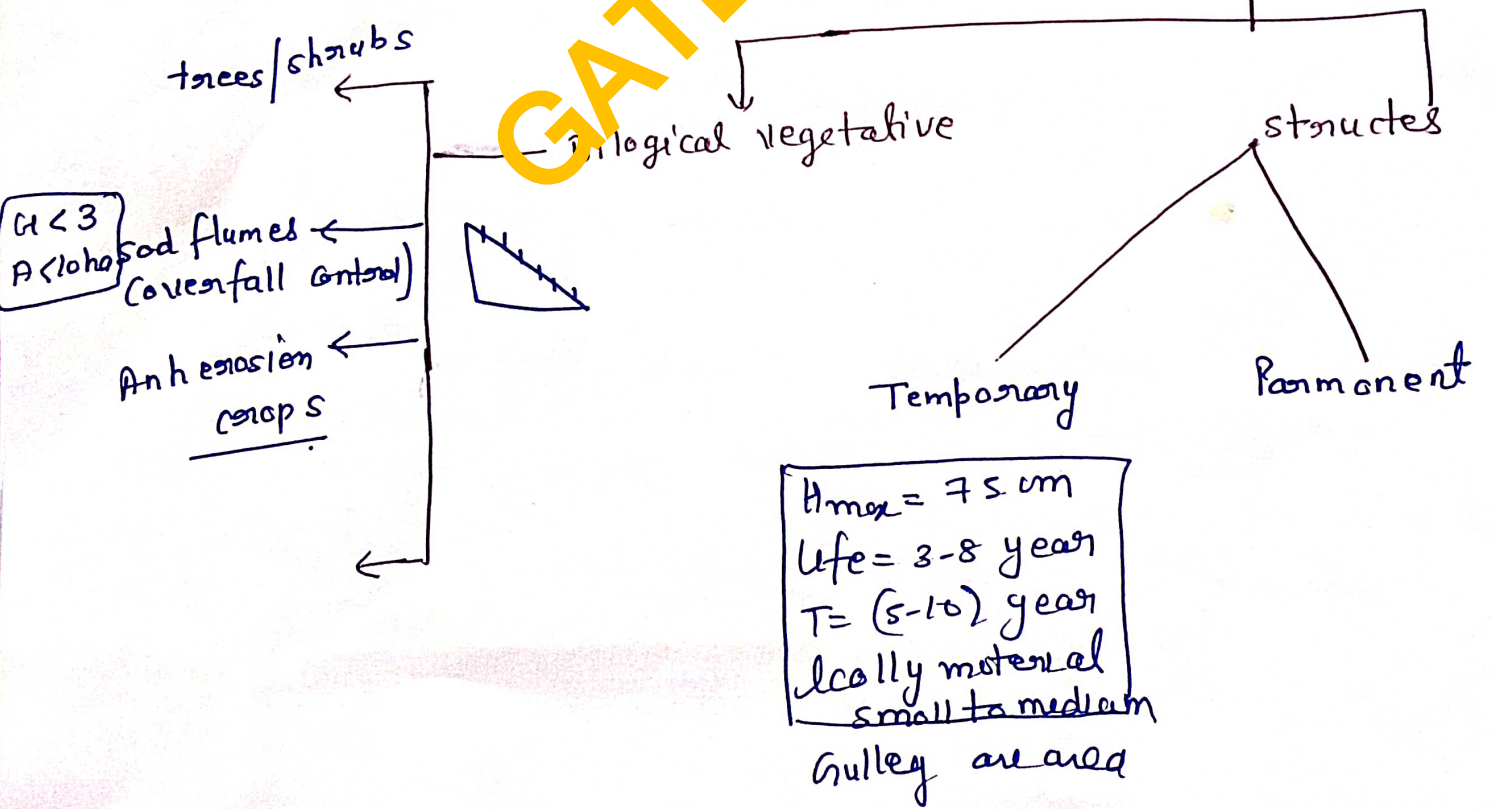
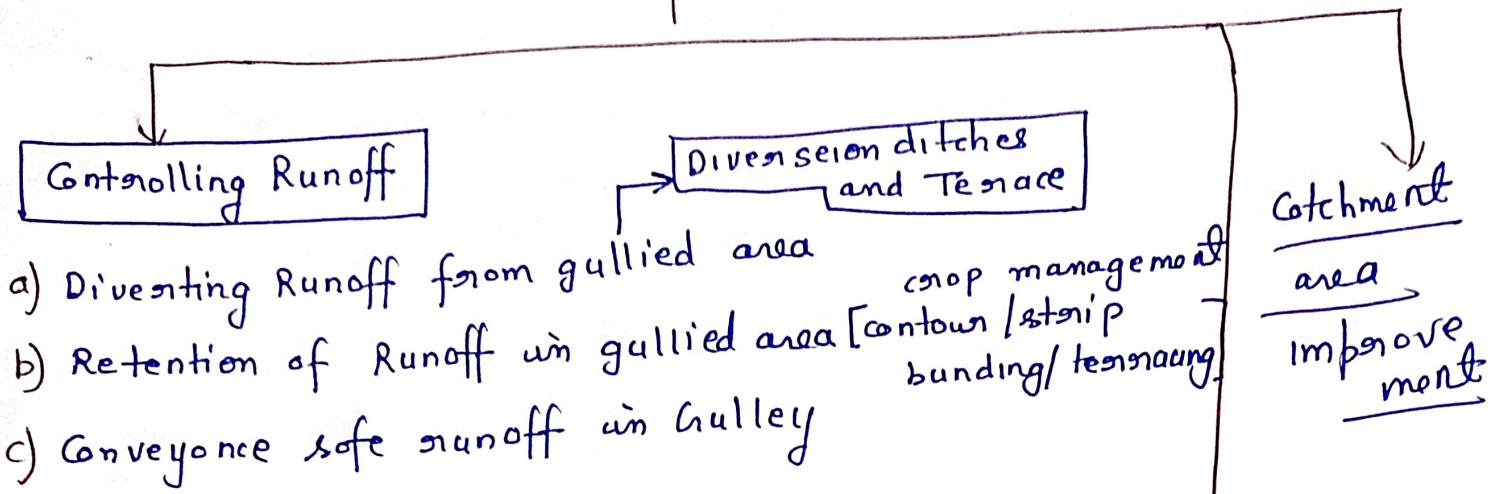
stabilization stage

- stable gradient
- stable slope
- sufficient vegetation

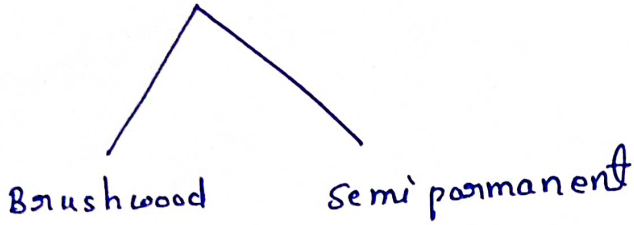
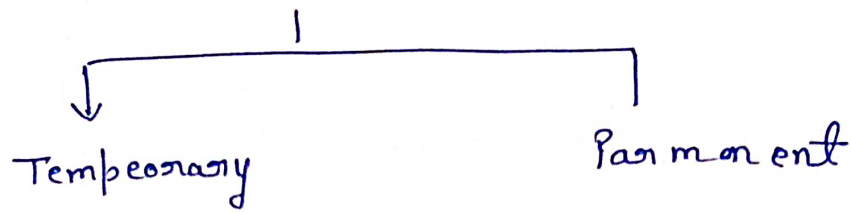
i > constant
 s

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Gully control Measures



check Dam



Drop spillway
Drop inlet spillway
chute spillway.

→ single post

→ Double post.

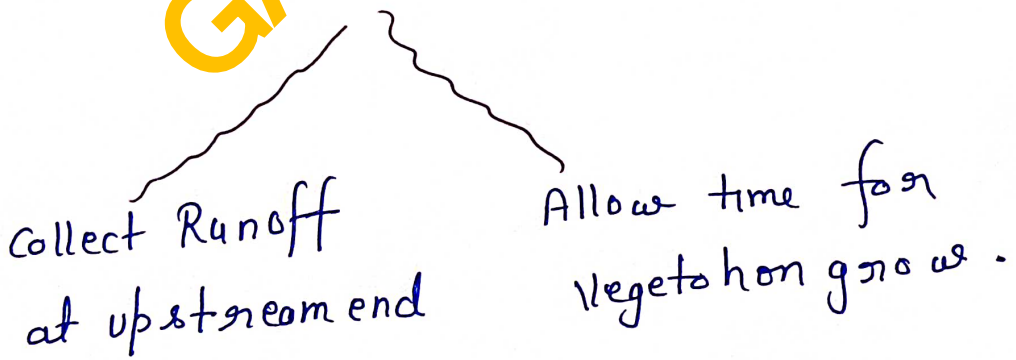
loose rock Dam

Netting Dam

log check Dam

Temporary

- locally available material
- low runoff and low drainage area
- life = 3 - 8 year.



→ Max Height = 75 cm

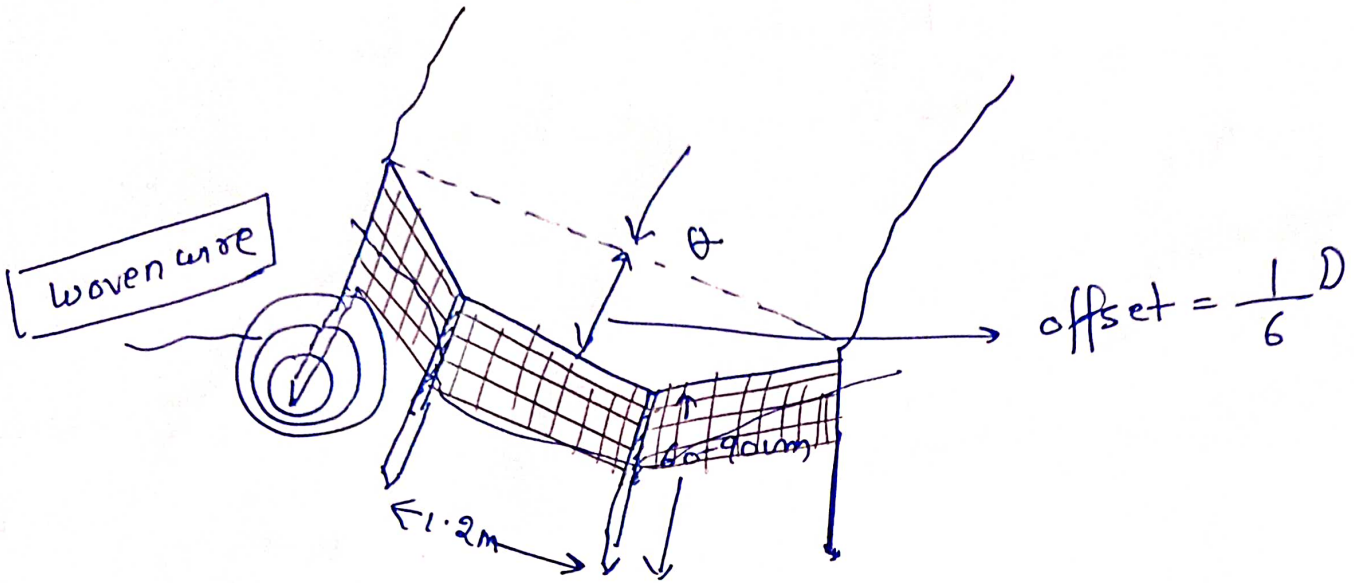
→ peak runoff of 5 - 10 year

→ Bottom and Top aligned

→ At downstream, Apron.

Woven wire

→ small drainage area.



shape = half moon.

upstream

sod fills

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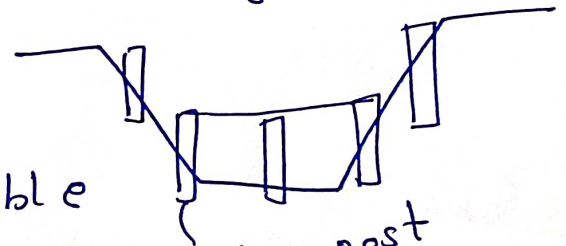
Downstream.

Apron (

single row

Brush Dams
wood

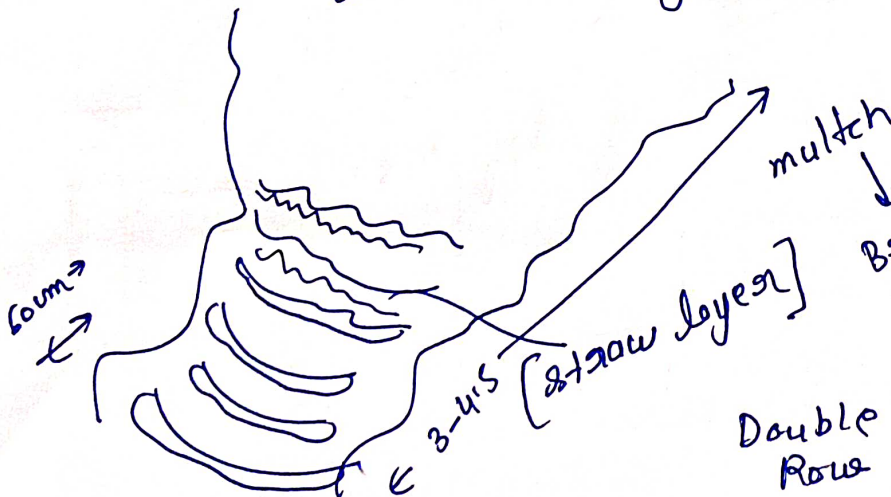
→ Easy to construct
cheap.
wood is easily available



strength

wooden post

brush over mulch



Double Row



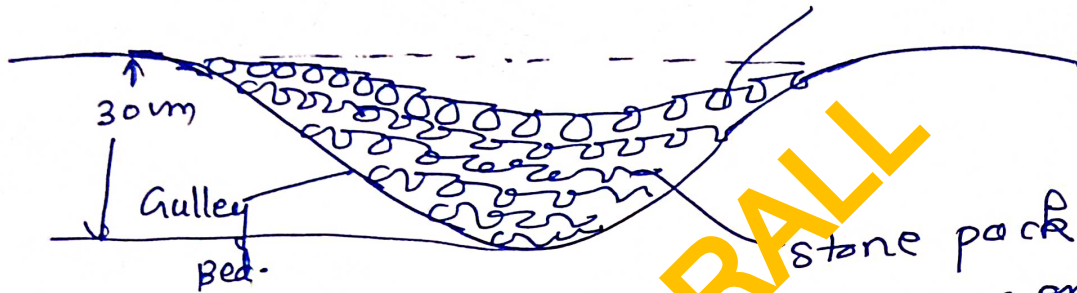
Loose Rock Dam →

small to medium drainage.

→ loose rocks are available.

→ stones are used.
Flat ✓

woven wire is used to fasten



→ centre is at lower as comparison to sides.

→ downstream alignment.

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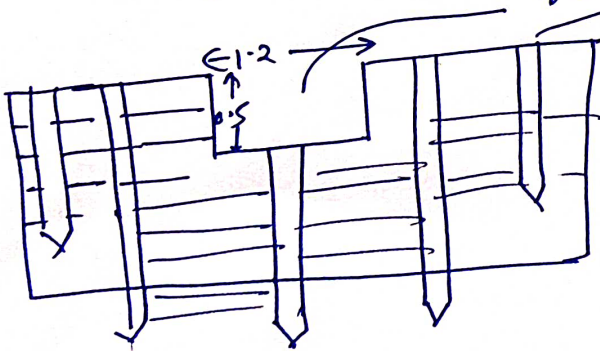
Log check Dam →

timber

logs are used

gully heads.

[fine and coarse (part holes)]
rectangular



wooven wise Notch Design

Rectangular

$$Q = 0.0171 L H^{3/2} \quad (\text{cm})$$

lit/sec

length of notch = width of gulley
(cm)

$$H_{\text{notch}} = H + \text{free board} \quad (\text{sum})$$

Rectangular

$$Q = 0.0184 L H^{3/2}$$

lit/sec

cm cm

$$H_{\text{notch}} = H + \text{free board}$$

free board = 8 cm

Trapezoidal

$$Q = 0.0186 L H^{3/2}$$

lit/sec

cm cm