



Centurion
UNIVERSITY

Shaping Lives...

Empowering Communities...

Soil and water Conservation Engineering

Presented By-

Shubham Kumar Sarangi

Asst Professor

**DEPARTMENT OF AGRICULTURAL ENGINEERING, SoABE
CENTURION UNIVERSITY OF TECHNOLOGY AND
MANAGEMENT PARALAKHEMUNDI, ODISHA**



Centurion
UNIVERSITY

Shaping Lives...
Empowering Communities...

WHY IT IS NEEDED???

- To conserve the soil.
- To conserve land for agriculture and other uses.
- The gully control measures includes the following methods
- Control by vegetation
- Control by structures



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Control by vegetation:

- Growing vegetation on gully affected area has two motives
- It covers the soil.
- It protects the gully against scouring.
- It reduces the flow velocity thus reducing the soil erosion and development of gully.

Control by structures:

- Structures are used to control the flow velocity and there by the gully erosion.



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Gully control structures

- They serve the following purposes-
- They reduce the degree of slope steepness of the gully bed and divide the longitudinal slope of gully bed into series of steps.
- Reduce the velocity of running water creating obstruction in flow path.
- Series of such breaks increase the infiltration opportunity time in the gully.



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

- To collect sufficient amount of soil or sediment on their upstream portion and to build up a huge vegetative cover.
- To check the gully erosion until sufficient vegetation has been established at the critical points of the gully.



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*



Check dam

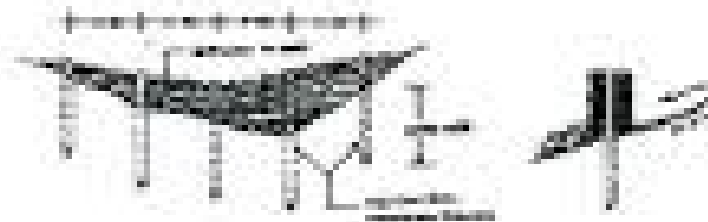


Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

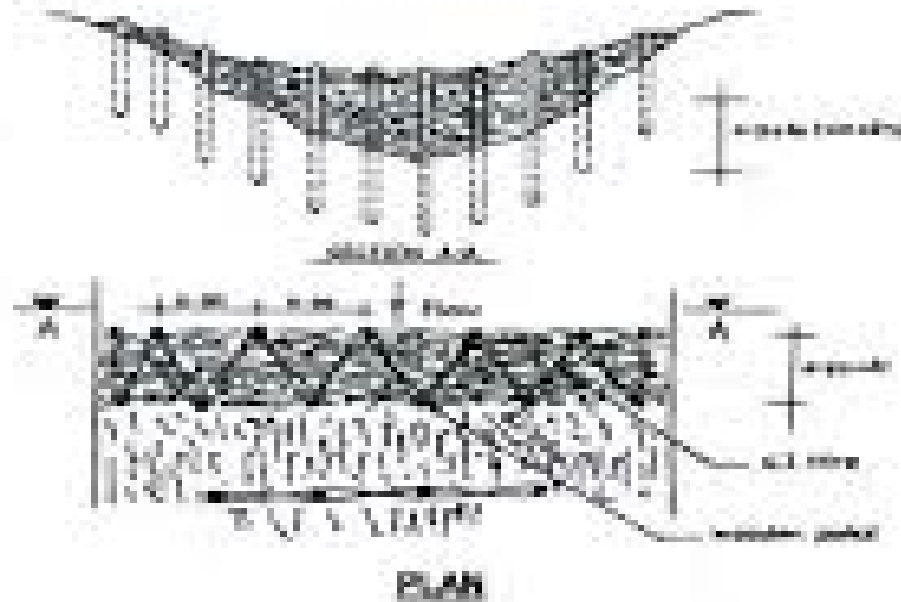
SINGLE ROW BRUSHWOOD CHECK DAM

Figure I



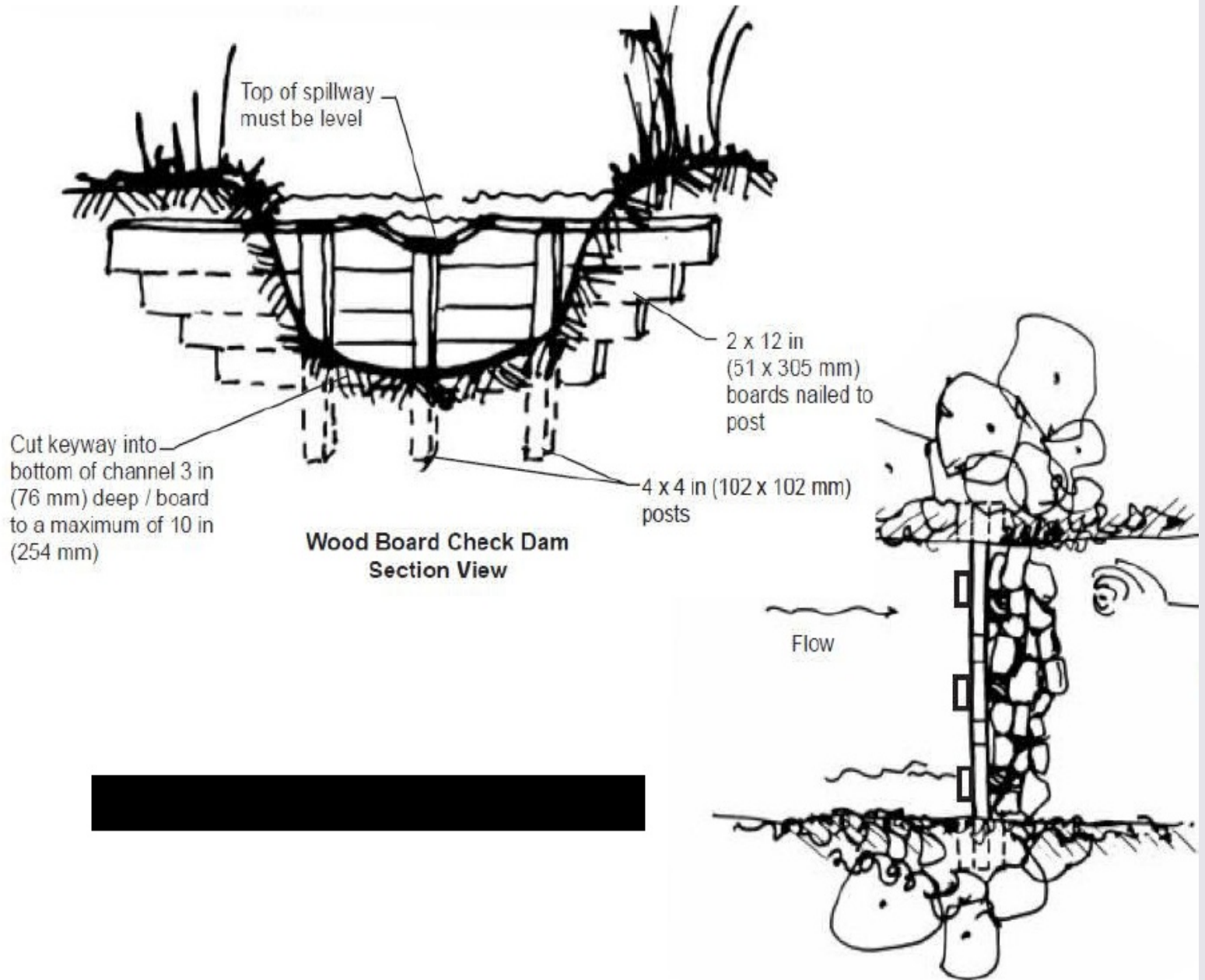
DOUBLE ROW BRUSHWOOD CHECK DAM

Figure II





Centurion
UNIVERSITY
*Shaping Lives...
Empowering Communities*





Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

1. Loose rock dam



(a)



(b)



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Netting dam

