Runoff Recycling Model for Enhancing Farm Income Through Land Shaping

Experimental field view of runoff recycling model at ICAR-IIWM research farm, Odisha

Developed by

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RELEVANCE

- In medium-land rainfed areas, *kharif* rice often experiences dry spells and non-availability of water for growing *rabi* crops.
- Waterlogging in rice fields also restricts the possibility of growing any remunerative crops in high rainfall zones.

DESCRIPTION

- In this system, 12% of the total area was converted for water harvesting structures (WHS) in the lower end.
- Excavated soil was used for pond dyke and construction of paraboloid heaps around the WHS at a distance of 7.5 m (row to row and heap to heap) with 1 m height and 4 m diameter having gradual slope all around the heap.
- During *kharif*, paddy was grown in inter-row spaces of the heap. On the side slope of the heap, cowpeas were grown beside fodder for erosion control and nitrogen fixation.
- On the pond dyke, the papaya was grown and fish was reared in the WHS.
- During *rabi*, harvested water was used to grow mustard, cabbage, broccoli, black gram, and green gram in the inter-row spaces of the heaps.

BENEFITS

- Land shaping enhances 4% of surface area for cultivation.
- Net income- ₹ 180000 ha^{-1}; B: C ratio- 2.66.
- Cropping intensity increased to 177%.
- Net water productivity- ₹ 19.33 m^{-3}.