

# Land shaping options for increasing farm income in coastal waterlogged area

## TECHNOLOGY BRIEF

Farmers in coastal waterlogged areas usually grow paddy with very low productivity (1.34 t/ha) and get net return of only Rs 4,021/ha. With an aim to improve the income of farmers using diversification and intensification, land shaping options were attempted in a coastal lowland rice field.

In Model I (Raised bed and pond system), one-third area of the down side of the plot was excavated to make a small farm pond of 2-m depth. The soil excavated from pond was used for making a raised bed in one-third of field area and dyke around the pond. On raised beds, amaranths, green chili, brinjal, bottle gourd, ridge gourd, cabbage, bitter gourd, and okra was cultivated. Pisciculture was adopted in pond.

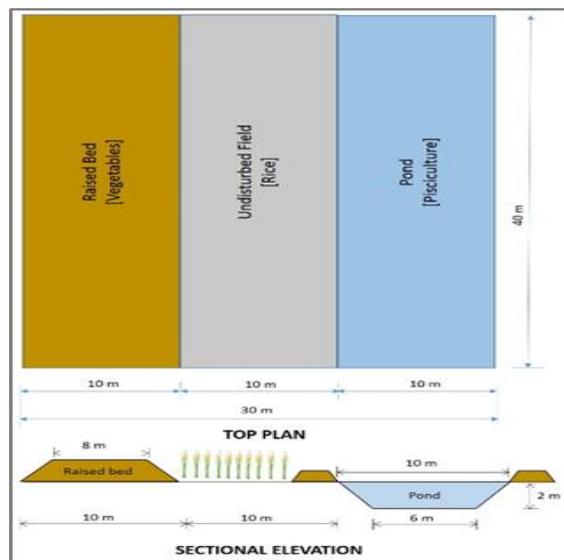
In Model II (Alternate raised and furrow bed and aquaculture in an agroforestry system), there were 6 furrows and 7 raised broad beds surrounded by two rows of agroforestry plants in three sides, and one lateral furrow joining the 6 furrows and a refuge pond.

## IMPACT / UTILITY

This technology was demonstrated on-farm through Farmers' Training Programme and Trainers Training Programme on scaling-up of water productivity and enhancing income in agriculture to visiting farmers and extension officers from Odisha, West Bengal and Bihar under PMKSY. This replicable technology has the potential for implementation in coastal belt of India. Using this technology, low productivity in coastal waterlogged areas can be up scaled and surplus labour under small and marginal holdings can be gainfully employed.

## HIGHLIGHTS

- "Alternate raised and furrow bed and aquaculture in an agroforestry system" was more beneficial with higher net return of Rs 1.68 lakh ha<sup>-1</sup> as compared to the system "Land shaping option of converting 1/3<sup>rd</sup> area for farm pond and 1/3<sup>rd</sup> area for raised bed" (Rs. 0.5 lakh ha<sup>-1</sup>).
- Agroecological benefits include promotion of biodiversity in terms birds, earthworms and agroforestry species; reduction of soil salinity in raised beds during rainy season; and crop diversification.



## Project Details

Evaluation of land shaping options for increasing farm income in coastal waterlogged area (Project Code: IIWM/17/184)

## Publication

Rautaray, et al. (2021) ICAR-IIWM Newsletter, 22(1), Jan-June, 2021 and DARE-ICAR Annual Report, 2021.