

PROMOTION OF RICE-BASED CROPPING SYSTEM UNDER RICE FALLOWS OF GOA

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IMPROVING CROPPING INTENSITY FOR SUSTAINABILITY

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PROBLEMS/CONSTRAINTS

The undulating topography coupled with high rainfall and flooding by drained water from uplands makes rice as the most suitable crop for this region. The majority of farmers take up a single crop of rice leaving the land fallow during Rabi although these lowlands have a huge potential to grow crops due to the availability of adequate residual soil moisture after the rice harvest. Further, in recent years, rice production is under threat in the region owing to the increased cost of cultivation. Crop diversification is imperative for this region to achieve food and nutritional security. This could be achieved by increasing the cropping intensity by growing less exhaustive, water-efficient, and fertility restoring crops like vegetables, oilseeds, and pulses.

INTERVENTIONS

At Diwar village in Tiswadi, North Goa, 30 farmers were selected and technological inputs, seeds, and fertilizers were given for the cultivation of different crops under rice fallow. ICAR Scientists guided the farmers in the adaptation of the improved package of practices for the cultivation of vegetables, pulses, and sweet corn. The balanced use of farmyard manure and chemical fertilizers along with micronutrient mixtures was encouraged.

IMPACT

The vegetables such as bhendi, tendli, cluster bean, vegetable cowpea, cowpea, brinjal, radish, chili were grown after rice crop during Rabi. In addition, leafy vegetables like palak, red amaranth, and curry leaves were grown in a smaller area for household consumption and the excess produce was sold locally. The sweet potato and radish were grown on small raised beds as they are tuber crops. Supply of improved quality vegetable seeds reduced the pests and disease infestation.

Approximately, each farmer harvest 1.5-2 quintals of vegetables, 30-40 kg cowpea, and 80-120 sweet corn cobs in the rabi season. The household requirements of vegetables (Tendli, Cucumber, Pumpkin, Red amaranth, palak) were met from the kitchen garden. The use of organics reduced the fertilizer consumption by 30% and the usage of micronutrients and macronutrients at right time in appropriate proportion increased the crop productivity. The usage of micronutrient mixture reduced flower and fruit drops in the vegetables and decreased the pest infestation. The mulching practice in chili and cowpea reduced the water consumption and its requirement. Each farmer got an additional mean net income of Rs. 0.65 lakh in the rabi season by growing crops after the rice harvest. Further, the promotion of crops during the rabi season provided food and nutritional security and also employment to the farm family.



Cowpea under rice fallow



Cowpea and maize under rice fallow



Happy vegetable growers



Cowpea and maize under rice fallow