

## FROM FODDER SCARCITY TO SELF-RELIANCE

### TRANSFORMING A SMALL DAIRY FARM THROUGH FODDER CULTIVATION

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#### BACKGROUND

Goa faces a significant green fodder shortage, with an annual requirement of 10.08 lakh tonnes and a deficit of nearly 49%, as reported by the Indian Grassland and Fodder Research Institute (IGFRI 2020). A large share of this deficit is currently met through imports from neighbouring states, highlighting the need for localized and climate-resilient fodder systems. During a *Viksit Krishi Sankalp Abhiyan* (VKSA) programme (*Kharif*), 2025 at Ozarim village, Pernem, Goa, a small dairy farmer Shri Anand Shetye highlighted the acute shortage of quality green fodder and the increasing cost of dairy farming due to dependence on externally procured fodder. A field visit was subsequently conducted by scientists from ICAR-Central Coastal Agricultural Research Institute (ICAR-CCARI), Old Goa, in collaboration with Shri Rahul B, Joundale, Department of Agriculture, Govt. of Goa, also a *Swayampurna Mitra* for Ozarim Village. to assess the farm and identify suitable interventions for year-round fodder production under the lateritic soil conditions of Goa.

#### PROBLEMS/OPPORTUNITIES

- Acute shortage and irregular availability of quality green fodder increased the cost of dairy farming.
- Green fodder procured from outside was supplied only once every 15 days, resulting in poor freshness and reduced palatability, which adversely affected feed intake and animal health.
- Dependence on purchased fodder increased the cost of milk production and reduced farm profitability.
- Limited availability of quality planting material and inadequate technical knowledge hindered on-farm fodder cultivation.
- Availability of unused farm space provided an opportunity to establish a sustainable fodder production system for self-consumption.

#### INTERVENTIONS

- High-yielding fodder varieties Bajra-Napier Hybrid CO-5, Super Napier, and Guinea Grass (DGG-1) were identified based on the scientific suitability evaluations undertaken at ICAR-CCARI, and further, the good-quality planting materials were supplied in *Kharif* 2025.
- The farmer received the complete scientific package of practices for green fodder cultivation suitable for the lateritic soils of Goa, including land preparation, planting, nutrient management, irrigation, and harvesting.
- Continuous need-based technical guidance and advisory support were provided throughout the crop establishment and production period. The successful intervention implementation was ensured through convergence between ICAR-CCARI and the State Department of Agriculture, facilitating coordinated promotion of scientific fodder cultivation among dairy farmers.



Fig 1: Baseline assessment and field planning for scientific green fodder cultivation at Ozarim, Pernem, Goa.

#### IMPACT

- The farmer successfully established 800 m<sup>2</sup> of green fodder cultivation, with the first harvest obtained in October 2025, ensuring a continuous supply of quality fodder for the dairy unit.
- The fodder plot yielded 100-150 kg of fresh green fodder every alternate day, replacing purchased stale fodder with freshly harvested, nutritious feed for the dairy animals.

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- Each harvest produced approximately 2,000 kg of green fodder, with four harvests annually, resulting in a total production of about 8 tonnes from 800 m<sup>2</sup>, equivalent to 100 tonnes of green fodder per hectare per year.
- Year-round availability of fresh fodder significantly improved animal nutrition, feed intake, and overall herd health while substantially reducing dependence on purchased fodder and lowering the cost of milk production.
- Motivated by the positive outcomes, the farmer expanded fodder cultivation from 800 m<sup>2</sup> to 1,800 m<sup>2</sup> by utilizing interspaces under the coconut plantation, moving towards complete fodder self-sufficiency.
- The farmer now supplies quality fodder planting material to neighbouring farmers and actively promotes scientific fodder cultivation, contributing to wider technology dissemination in the region.
- The intervention supported a livestock unit of 10 cattle and transformed the dairy enterprise from a fodder-deficit system into a self-reliant fodder production model, thereby enhancing livestock productivity, reducing recurring feed costs, improving farm profitability, and strengthening the resilience and sustainability of the smallholder farming household.



Fig 2: Supply of quality fodder planting material and establishment of the green fodder demonstration plot on the farmer's field.



Fig: Successful establishment of high-yielding green fodder for year-round dairy feeding on the farmer's field.

#### ADDRESS AND CONTACT DETAILS

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