



Promoting Livelihoods Through Integrated Aquaculture and Bund Cultivation

ADOPTION OF FISH CULTURE BY TRIBAL FARMERS IN SEASONAL WATERBODIES

JATTU Trust's Implementation in the JIVA Project Area

A Case Study from Gorada Village,
Parvathipuram Manyam District, Andhra Pradesh

Priyanka Patra and Dr. M.L. Sanyasi Rao

OCTOBER 2025

Adoption of Fish Culture by Tribal Farmers in Seasonal Waterbodies

A Case Study from the JIVA Project Area, Parvathipuram Manyam District, Andhra Pradesh

Promoting Livelihoods Through Integrated Aquaculture and Bund Cultivation

Authored by

Ms. Priyanka Patra and Dr. M.L. Sanyasi Rao (WASSAN)

priyanka@wassan.org | sunny@wassan.org

Edited by

A Ravindra and DK Patra

Photo Credits

WASSAN Team

Layout Design

Nemani Chandrasekhar

ACKNOWLEDGEMENTS

Special thanks to Mr. Parinaidu, Founder of JATTU Trust, and Mr. G Prabhodu, Program Coordinator of the JIVA Project Area in Gorada Village, Parvathipuram Manyam District, Andhra Pradesh for their continuous support and guidance in promoting sustainable aquaculture practices in tribal regions.

For more information, please write to

Watershed Support Services and Activities Network (WASSAN)

Email: mail@wassan.org | Website: <https://www.wassan.org>



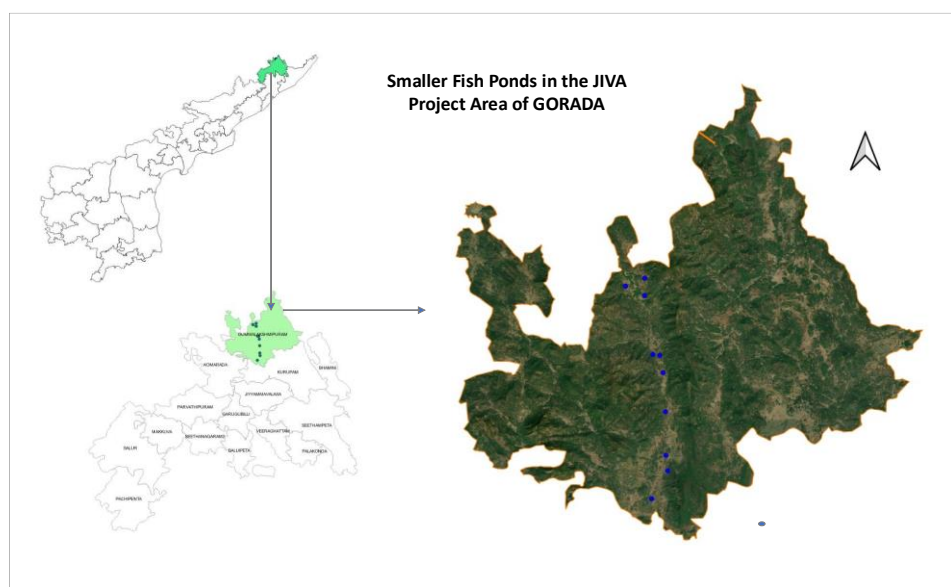
Adoption of Fish Culture by Tribal Farmers in Seasonal Waterbodies

A Case Study from the JIVA Project Area, Parvathipuram Manyam District, Andhra Pradesh
“Promoting Livelihoods Through Integrated Aquaculture and Bund Cultivation”

BACKGROUND

The JIVA project area in the Gorada cluster comprises 12 tribal habitations across four Gram Panchayats — *Rayagada Jammu*, *Chaparai Binnidi*, *Balesu*, and *Duddikallu* — in GL Puram Mandal of Parvathipuram Manyam district, Andhra Pradesh.

The project is implemented by the facilitating agency JATTU Trust, under the Natural Farming framework with support from NABARD. WASSAN serves as the resource support agency (RSA), Supported by GIZ India.



INITIATIVE: INTEGRATING FISHERIES IN RAINFED ECOSYSTEMS

As part of the *Rainfed Fisheries Integration* initiative under JIVA, 19 small seasonal and long seasonal waterbodies were mapped in the Gorada project area. The landscape, characterized by hilly terrain, seasonal streams, and scattered small waterbodies, was assessed for its potential to support integrated fish culture.

This variation signifies differences in local hydro-topography and water-holding efficiency that offers higher potential for semi-intensive fish culture practices, and suit for composite fish culture. The core objective of the initiative is to utilize underused seasonal waterbodies for fish production and cultivate vegetables and horticultural crops on the bunds — thereby enhancing household food security and income for families who own these waterbodies. Considering variable factors of small rainfed ponds ranging from 30–60 cents area, these farm ponds are stocked with 20,000 fish seeds across 8.5 acres of water spread area.



Traditionally, tribal farmers in this region ignored waterbodies for fisheries and did not cultivate bund crops. Most of the ponds and tanks are seasonal in tribal areas which made them unsuitable for year around fish culture because tribal farmers were not aware of proper knowledge on rainfed fish culture, and extension reach remained outside the traditional fish farming practices. Under the JIVA project, all waterbody-owning farmers were mobilized and trained in fish culture practices with strong institutional support and addressing the barriers with integrated rainfed fisheries for income security. In August 2024, they collectively invested in fingerlings purchase from local fish vendors, marking the start of their fishery activities. They received handholding support for fingerling procurement, stocking, and post-stocking management.

Most farmers applied cattle manure and kitchen waste to enhance plankton growth, while some used formulated feed for better fish growth. After 8 months, several fish harvesting days were organized, with recorded average fish growth of 0.4 to 0.9 kg. On average, a 10-cent waterbody yielded around 40 kg of fish within this period.

Mandangi Dasanna, a small tribal farmer from *Rayagada Jammu*, is among the early adopters of fish culture in the JIVA project area. The habitation comprises 88 tribal families (Census 2011), with 90% dependent on agriculture and the remainder engaged in NTFP collection and wage labour.

FARMER EXPERIENCE: MANDANGI DASANNA'S JOURNEY IN RAINFED FISHERIES

Dasanna owns 3 acres of farmland and a 10-cent long seasonal farm pond, which he traditionally used only as a protective irrigation source for *kharif* paddy and *rabi* vegetables. Since his *kharif* crops were largely rainfed, the pond remained unused from June to November.

During project meetings on rainfed fisheries integration, Dasanna learned that fish farming could be an integral part of the water ecosystem. He attended a training session conducted by WASSAN, where he actively participated and motivated fellow farmers to adopt the practice.

In August 2024, Dasanna stocked 300 fingerlings in his pond. He started viewing the pond not just as a water source but as a livelihood opportunity. He learned semi-intensive fish culture practices where utilizing natural productivity of the water body with locally available supplementary inputs are applied for optimum production during pond and water management. The Fish Farmers Field School (FFFS) approach – a peer learning model with demonstration-based training – was introduced by the JATTU, and Dasanna became a community resource person for fish farmers.



Sampling of Fish:
Measuring growth



Community fish farmers with their harvest



Dasanna selling fresh fish in village after harvesting



Farmers proudly displaying their harvest from Rainfed pond

HARVESTING OUTCOMES AND LEARNINGS

A Fish Harvesting Day was organized on May 8, 2025, in *Thotapalli village*. The event revealed that while some farmers did not maintain regular feeding schedules or pond management, Dasanna's pond showed promising results.

He cultured the following species: Rohu, Mrigal (Indian Major Carps) and Grass Carp, Common Carp (Exotic Major Carps), all of which performed well in shallow, seasonal ponds. Sampling of 10 fish from each species showed the following average growth after 8 months:

Sl. No	Species	Avg. Length (cm)	Avg. Weight (g)
1.	Catla	24.7	291
2.	Rohu	27.0	571.2
3.	Mrigal	30.2	775.2
4.	Grass Carp	33.4	890
5.	Common Carp	36.5	1180

With a minimal investment of ₹3,000 on feed and manure, Dasanna earned a total income of ₹11,000 – comprising ₹6,000 from 40 kg fish sales and ₹5,000 from vegetables cultivated on the bunds.

Total Income from selling of vegetables

Sl.No	Vegetable type	Total (in kgs)	Cost (per Kg)	Amount (in Rs)
1.	Ridge Gourd	12	30	360
2.	Bottle Gourd	11	20	220
3.	Beans	10	25	250
4.	Brinjal	23	20	460
5.	Tomato	9	15	135
6.	Banana	18 (bunches)	200	3600
Total Income				5025

BROADER IMPACT: ECO-FARM POND APPROACH

Inspired by Dasanna's success, farmers in the JIVA project area are now adopting the Eco-Farm Pond model, integrating fish farming, vegetable cultivation, and livestock fodder production. This model has also promoted women's participation — particularly in bund weeding, vegetable planting, and feeding — transforming aquaculture into a family-based livelihood activity.



Dasanna reflects on his journey:

"I used to think fish farming needed expensive feed and big tanks. Now, I know I can manage with my small pond. My children enjoy eating the healthy fish we raise."