

## Name of Solution:

### Seed Production and Grow-out Farming of Freshwater Fishes

Submitter: Indian Council of Agricultural Research (ICAR)

**Solution Overview:** *What is it, and what problem does it solve? Brief 2–3 sentence description.*

Several African and Caribbean countries are having vast freshwater resources that can be used for freshwater fish culture. The technology for breeding, mass-scale seed production and grow-out culture of carps, catfish species and tilapia, which are native to several African countries can be extended for effective utilization of the vast available water resources.

**Key Features & Benefits:** *Main components and why it is useful? Bullet points summarizing methods, tools, and value added.*

- Freshwater fish farming is low-cost high-volume enterprise providing optimal source of protein and supporting livelihood of a large number of stakeholders
- The freshwater fishes can be cultured in natural and man-made ponds with low-inputs
- Freshwater fish culture contributes to the restoration of threatened and endangered species populations, and also wild stock population enhancement
- Breeding and seed production technologies of freshwater fishes are relatively easier.

**Where It Works and Where It Can Work:** *Existing and potential target regions, agroecologies, or farming systems. Include examples if available*

India produces over 12 million tonnes of freshwater fishes, and ranks 2nd globally in freshwater aquaculture production. Presently, over two dozen of freshwater foodfish species are being cultured. The aquaculture sector of the country has been growing with over 10% growth rate and freshwater aquaculture contributes the major portion. Average fish production has increased from 0.6 tonnes/ha to 4.5 tonnes/ha in the last 4 decades. A production of

5-8 tonnes/ha production is common in many areas, but many farmers in the country have been harvesting around 12-15 tonnes/ha.

In this context, the technology in freshwater aquaculture can be transferred to similar agro-climatic conditions prevailing in the several African and Caribbean countries with vast availability of water resources.

**Evidence & Impact:** *What results has it shown? Stats, pilot outcomes, or testimonials*

Freshwater aquaculture sector in India has been substantial and transformative over the past few decades. From traditional capture-based fisheries to a more organized and technology-driven aquaculture industry, the growth reflects significant achievements in production, policy support, and innovation. Presently, fisheries sector of the country support livelihood of about 16 million stakeholders. The freshwater aquaculture sector contributes over 12 percent of total animal protein consumed in India.

**Scalability & Adoption Support:** *Why it can be scaled and what's needed to adopt it? Low-cost, adaptable, partner-ready, etc.*

Extensive (low-cost with minimal inputs), semi-intensive (moderate inputs and feed-based) and intensive (high-cost with high stocking density, feed-based, aeration facilities, etc) are the major culture systems that are being practised in India. The unit production depends on the cost involved in the culture system. All these culture systems are easily adoptable, and are capable of being scaled up manifold.

**Partners & Contact Info:** *Who's involved and how to connect? List of key contact.*

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