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Why Some Farmers Still Avoid Scientific Fish Farming?

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INTRODUCTION

Fish farming has emerged as one of the fastest-growing food production systems in India with economic returns and suitable entrepreneurship model for rural youth and women. Odisha, with its vast inland and coastal resources, has seen aquaculture become a sole or alternate livelihood option for thousands of rural households. Yet, despite years of promotion by research institutes, extension agencies and government schemes, many farmers continue to follow traditional methods rather than adopting scientific aquaculture practices, which may yield higher economic benefits to the stakeholders. This article explores why adoption remains partial, myths that persist among farmers and the steps needed to bridge this gap.

The Promise of Scientific Aquaculture

Scientific aquaculture refers to a package of recommended practices designed to maximize productivity and sustainability. These include proper pond preparation (liming, deweeding, eradication of predators), using high-quality seed at recommended densities, feeding balanced diets, maintaining water quality, and adopting proactive fish health management. Farmers who follow these practices have achieved yields up to 3–4 tonnes per hectare annually, compared to less than 1 tonne under traditional methods. Clearly, scientific approaches can transform aquaculture into a profitable enterprise, more precisely as micro-enterprises encouraging youth to participate in aquaculture.

The Ground Reality in Jagatsinghpur, Odisha

A recent study in Jagatsinghpur district provided insights into the current state of adoption. Farmers readily follow practices that are low-cost and easy, such as eradication of predators (82.7% adoption). However, expensive or knowledge-intensive practices like pond hygiene

(28.9%) or water quality monitoring remain neglected. Balanced feeding is inconsistently practiced due to the high cost of commercial feed. The study revealed that farmers are operating at only 35% of their economic potential, meaning nearly two-thirds of capacity is wasted due to technical inefficiency and/or poor adoption of scientific methods in aquaculture.

Barriers to Adoption

The study also identified, several reasons to explain why farmers hesitate due to limitations:

1. **High input costs** – Quality seed and feed are expensive, and many farmers are unsure of recovering these costs.
2. **Limited access to credit** – Most farmers rely on informal loans with high interest. Formal finance is available but difficult to access due to paperwork and collateral issues.
3. **Knowledge gaps** – Many farmers still believe fish grow "naturally" in water and see modern practices as unnecessary.
4. **Fear of risk** – Disease outbreaks create fear of investing heavily, even though education on preventive measures could reduce risks.
5. **Market uncertainty** – Prices fluctuate, and dependence on middlemen discourages farmers from producing more than they can sell.

Myths vs Realities

Common myths include "fish grow well without much care," "commercial feed is a waste of money," and "diseases cannot be controlled." In reality, scientific management not only increases production but also reduces risks and ensures better returns. However, focus group approach through FPO model can yield better adaptation of scientific methods, wherever applicable.

Women and SHGs Leading the Way

Interestingly, women's Self-Help Groups (SHGs) have shown higher adoption rates when supported with training and inputs. Group solidarity reduces risk, and income earned is invested in household welfare. This demonstrates that when extension support is strong, adoption rises significantly. It is pertinent to mention than capacity building of young women to enable strong and economically viable entrepreneurship models.

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The Way Forward

To bridge the gap, the following steps are needed:

- Ensure timely supply of affordable, quality seed and feed trough ICT enabled apps to search for availability and buy on-line

- Simplify credit access and promote aquaculture loans through cooperatives and NABARD can build linkages with informal rural institutions for financing the entrepreneurship proposals.

- Strengthen training, demonstrations, share the success stories of significance and mobile advisory services.

- Improve marketing infrastructure and farmer cooperatives to reduce middlemen's role. ICT enabled app to facilitate direct selling to purchaser to bypass/minimize the middlemen's role.

- Formulate localized interventions tailored to district-specific needs.

-Identify common problems and provide robust solutions.

Conclusion

Reluctance among farmers is not merely due to ignorance but a combination of financial, institutional, and informational barriers. By addressing these systematically, the untapped 65% efficiency gap can be reduced, turning aquaculture into a true "blue revolution" for rural Odisha. With the right support, today's hesitant farmer can become tomorrow's successful aquapreneur especially encourage rural youth and young-multipreneur with high literacy on on-line trade and business building through far away market linkages to earn high profits. Currently, participation of youth is limited in aquaculture due to the lack of enabling policies. It is relevant to promote aquaculture, processing, quality control and packing on-site as micro-scale industries to generate economic benefits and also to enhance rural employment opportunities.