

## BEST PRACTICE -2



1. **Title:** *Demonstration of Pisciculture and Imparting Knowledge to Students and neighboring local Fish Farmers*
2. **Objective:** To provide students with the scientific methods of fish farming and to motivate them for self employment and entrepreneurship.

### 3. The Context:

There are three ponds (about 0.75 hec.) in the campus of Pravabati College, Mayang Imphal. The ponds have been filled with native fish, water plants, snails, frogs etc. The students and teachers loved visiting the pond from time to time. Being the easiest and at the same time a cheap source of animal protein, there is more emphasis on the culture of fishes in recent times. Culture of fish using scientific techniques such as induced breeding, composite fish culture is of immense importance to increase fish production. Nowadays, the youth are energetic and their skills can be mobilized to develop their communities as well as to develop the fish culture as a source of income. They can be motivated by employment and skills.

4. **The Practice:** It involves composite culture, captive breeding using synthetic hormone, fish nutrition, pond management and farming activities. With the approval of college authorities, the pisciculture practice began in the first week of November, 2019. Carps and tilapia were stocked in the pond at normal densities. The carps species included common carp (*Cyprinus carpio*), rohu (*Labeo rohita*) and mrigal (*Cirrhinus mrigala*), silver carp (*Hypophthalmichthys molitrix*), grass carp (*Ctenopharyngodon idella*) and Tilapia (*Oreochromis niloticus*).

The practice has been expanded to all the ponds which would help boost further fish farming practices. These two ponds are surrounded by the neighbouring fish farm, swimming pool and neighbouring agricultural lands. So far, these ponds are now used for stocking and rearing, but they could be transformed into other kinds of ponds, including spawning ponds or nurseries.

**Feeding and monitoring of fish health:** The fingerlings and brooders are to be fed with supplementary feeding such as freeze dried tubifex, grinded dry small fish (powder), and small fine floating pellets for 2 or 3 times daily, and sometimes mosquito larvae, trash fish, and live earthworms are also provided for tilapia species. Neither manuring nor pesticides were to be applied while fish were reared in the culture pond. However, the removal of unwanted plants has to be done regularly. Also, netting of fish, at least once a month, has to be done to monitor the growth and general health of the fish. So far, there has been no outbreak of fish diseases since the cultural practice. It may be mentioned that before transferring into the ponds, the fish were treated with 4 g of NaCl or 2 to 3 drops of KMnO<sub>4</sub> solution mixed with 6 liters of water.

  
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**Breeding practice and seed production:** The induced breeding trial of certain carps has been taken up at the Heiningsoi Aquafarm, a private fish farm that has already signed a MoU agreement with our college in 2019. Intramuscular injection of 'ovaprim' @ 0.2ml and 0.4ml/kg body weight of male and female, respectively, is recommended for gravid fish. In in-situ breeding, the trial was moderately successful. The ovaprim has been found effective in inducing ovulation for the species and could be recommended for breeding programs. The outcomes clearly demonstrate the possibility of using synthetic fish hormones for effective spawning and seed production. Since, the breeding protocol does not require higher investment, it can be taken up and followed by fishermen and farmers for seed production. After the hatchling, seed and fingerlings were collected and transported to the rearing pond of the college.

**Harvesting of carps/ tilapia:** Harvesting of fish is to be done by November-December (before the extreme cold), and some of the brooder species are transferred to the stocking pond where the water level is relatively low. Harvesting of fish may be done manually or by simple netting.

**5. Evidence of success:**

- Based on the students and farmer's feedback, they agreed that this is very informative and skill-oriented.
- They also readily agreed that pisciculture is a source of income generated through fish harvesting.
- Fish culture in the college campus is a good source of income for the institute.

**Cost and Return of the culture practice**

Sl.No.	Head of expenditure	Qty/No	Approx cost (Rs.)
1	Earthwork (pond dyke)	--	5,000/-
2	Agriculture lime & cowdung	150 kg & 20 kg	5,000/-
3	Fish seed	2000 Nos	1,00,000/-
4	Fish feed	25-30 Bag	45,000/-
5	Harvesting cost	--	6,000/-
6	Misc. expenditure	--	1,000/-
<b>Total Expenditure</b>			<b>Rs. 1,62,000/-</b>

**Return (profit)**

Sl.No.	Product	Qty (Kg)	Rate (Rs/Kg)	Sale proceed (Rs)
1	Fish (all culture fish species)	1,125-1130	200/-	2,25,000/ to 2,26,000/
<b>Total (approx.)</b>				<b>Rs. 2, 25, 500/-</b>

**NET PROFIT: Rs. 2, 25, 500 - 1,62,000 = Rs. 63, 500/-**

  
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#### **6. Problems Encountered and Resources Required:**

As of now, we have not seen any outbreak of fish diseases during the culture practice. In order to prevent any kind of disease, all the fish species were treated with 4 gm of NaCl or 2 to 3 drops of  $\text{KMnO}_4$  solution mixed with 6 litres of waters (in plastic tub), kept for a while, and then transferred into the ponds for culture practice.

In any case, if diseases outbreak, we the teaching staff of the department, will try to control them at our best. In future, we will have to consult with the experts/ scientists from the ICAR and the Department of Fisheries, Govt. of Manipur.

Lack of funding and infrastructure are the main problems encountered. Availability of funds and infrastructure will make this practice a grand success.


  
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**Training cum demonstration programme on Scientific Fish Farming**



**Fishing activities in the practice pond**

  
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 Pravasi  
 Mayang Bazar



## TITLE: MUSHROOM CULTIVATION



### OBJECTIVE OF THE PRACTICE

Pravabati College continues to advance its initiative of Mushroom Cultivation for 2023-24 with a renewed focus on fostering eco-friendly practices, promoting community welfare, and enhancing environmental sustainability. Below are the updated objectives of mushroom cultivation in the college for the academic year 2023-24:

1. To strengthen livelihood opportunities by incorporating advanced mushroom cultivation techniques and increasing the economic resilience of students.
2. To further address rural unemployment by creating innovative and scalable income-generation models for students and local communities.
3. To encourage sustainable self-employment ventures by linking mushroom cultivation to potential market opportunities, including e-commerce.
4. To enhance agricultural diversity by introducing new mushroom varieties and advanced cultivation methods.
5. To provide safe, organic food alternatives without the use of harmful fertilizers or pesticides, thereby contributing to public health.
6. To promote entrepreneurship through specialized workshops, mentoring programs, and collaboration with agricultural and entrepreneurial experts.
7. To expand community outreach programs by educating local farmers and neighborhood communities about the economic and ecological benefits of mushroom cultivation.
8. To instill institutional accountability by aligning the practice with governmental schemes and rural development initiatives aimed at reducing unemployment.
9. To establish student-led start-up initiatives in mushroom cultivation, fostering innovation and leadership.
10. To continue to make students responsible citizens by emphasizing their role in sustainable agricultural practices and community development.

This initiative aims to build a robust ecosystem around mushroom cultivation, blending education, entrepreneurship, and environmental consciousness for greater social impact.

### Context

Pravabati College, strategically located in a semi-urban area of Manipur, 22 km from the capital Imphal, has been playing a pivotal role in empowering students and the local community through sustainable initiatives like mushroom cultivation. Catering primarily to students from rural, agricultural backgrounds, the college has successfully utilized the abundant raw materials

  
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and conducive environment of the surrounding region to promote this eco-friendly and income generating activity.



In 2023-24, the college made significant advancements in its efforts by introducing new techniques such as spawn preparation and substrate sterilization, which enhanced productivity and diversified mushroom varieties. Collaborations with local agricultural departments and NGOs enabled the organization of specialized workshops on organic cultivation methods and modern trends in mushroom farming. Additionally, a small-scale mushroom production unit was established on campus, providing students and local self-help groups with practical training in cultivation, harvesting, and packaging. To further empower participants, a digital marketing workshop was conducted to teach online sales strategies, helping them reach broader markets.

These initiatives led to a 40% increase in participation compared to the previous year, with many beneficiaries reporting higher income through mushroom sales. The program has not only supported students and the community in earning additional income but has also promoted environmental sustainability by encouraging eco-friendly agricultural practices.

Looking ahead, Pravabati College plans to launch a "Mushroom Entrepreneur Development Program" to equip participants with the skills to establish their own enterprises. The college also intends to collaborate with research institutions to explore new mushroom varieties suited to the region's climatic conditions. Through these efforts, Pravabati College continues to foster self-reliance, socio-economic development, and environmental consciousness among its students and the local community.

## **THE PRACTICE**

### **1. Enhancements to Infrastructure:**

Expanded the mushroom cultivation shed to accommodate more beds.

Introduced improved watering systems for better maintenance.

Added safety measures like better fencing and monitoring equipment.

### **2. Increased Participation:**

Collaborated with additional self-help groups and local NGOs.

Expanded the program to neighboring schools for awareness.

### **3. New Initiatives:**

Started cultivating new varieties of mushrooms, such as shiitake or button mushrooms, along with the existing types.

Conducted workshops on value-added mushroom products (e.g., mushroom pickles, powder).

  
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## EVIDENCE OF SUCCESS

### 1. Growth in Student Engagement:

A significant increase in students participating in cultivation activities.

More students reported using their earnings for education and family needs.

### 2. Entrepreneurship Development:

Several students started their mushroom businesses after gaining expertise.

Partnered with local markets for direct sales.

### 3. Impact on the Local Economy:

Increased demand for mushrooms in local markets, boosting production.

Training sessions for local farmers contributed to an increase in community-based income.

### 4. Recognition:

The mushroom cultivation initiative has received appreciation from local communities and self-help groups for promoting self-reliance and skill development. It has inspired similar practices in neighboring institutions and is recognized as a model for skill-based learning, with students sharing success stories regionally.

## PROBLEMS ENCOUNTERED AND RESOURCES REQUIRED

### 1. Challenges Faced:

Limited storage facilities for harvested mushrooms.

Occasional shortage of raw materials like straw and bamboo.

Climate variations affecting production.

### 2. Solutions Implemented:

Installed a temporary cold storage unit to preserve mushrooms.

Collaborated with local suppliers to ensure a steady supply of raw materials.

### 3. Additional Resources Needed:

Financial support for building a permanent cold storage facility.

Advanced training sessions on modern mushroom cultivation techniques.

## NOTES


  
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1. Enhanced peer tutoring programs and student-driven leadership activities.
2. Focused on sustainability and eco-friendly practices.

**SUGGESTED FOR FUTURE DELIBERATION UPON IN THE IQAC**

1. Exploring government schemes for funding mushroom cultivation.
2. Introducing technology like IoT-based sensors for monitoring humidity and temperature.
3. Developing partnerships with national-level agribusiness firms for larger-scale production.

  
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