

A Report on Goa University's Oyster Mushroom Cultivation and Incubation Outreach Initiatives

Oyster mushrooms are considered as super-food due to their high nutritional value (protein = ~ 35-40 %, Carbohydrates = 40-50 %, Fat = 2-8 %, other Bioactives = 1-2 % W/W), which supersedes other produce such as Rice, Wheat, Fruits etc., and hence has the potential to solve the malnutrition problem while simultaneously generating employment especially in rural villages of India. While the world production and consumption of Oyster mushrooms has risen exponentially over the years (> 40 MT/year) largely dominated by China (36 MT/year), the Indian production barely reaches around 0.25 MT/year in spite of being traditionally an agriculture intensive country.

In Goa, the awareness about Oyster Mushrooms, their health benefits and high market demand is so limited that in spite of the mining ban effect and unemployment in rural villages, locals could not pursue mushroom farming as an entrepreneur's activity or business to support their livelihood.

Goa University's (GU) Social Entrepreneurship, Swachhata and Rural Engagement Cell (SES-REC) led by Prof. Jyoti D. Pawar, through its Educational Outreach Committee (EOC) chaired by Dr. Pranay P. Morajkar, in association with Agriculture Technology Management Agency (ATMA), Directorate of Agriculture, Govt. of Goa took over the task to address this issue. The major challenges were identified namely: 1) Lack of awareness about Oyster mushrooms and its benefits, 2) Lack of infrastructure (cultivation centers) for skill enhancement via hands-on training and 3) lack of Business models for commercialization.

Through GU's flagship program of Swachha Bharat Student Internship (SBSI) as a part of Unnat Bharat Abhiyaan, 30 student interns along with Faculty mentors attended awareness programs on scientific techniques of Mushroom cultivation at ATMA Goa in December 2021. Subsequently, detailed literature studies through scientific papers, books and other online resource materials were conducted to devise a strategy for design and installation of GU's very own mushroom cultivation center. The team of young, enthusiastic SBSI interns and mentors worked extremely hard beyond regular office hours, especially on holidays and weekends to build GU's first **Mushroom Cultivation and Incubation Center (MCIC)** which now serve as a skill development center for local farmers and villagers. Oyster mushrooms are being successfully cultivated at this center which has a capacity to produce 150 Kg of mushrooms per yield. These skilled SBSI interns also conduct state level Mushroom Cultivation Awareness Programs and Workshops at Goa University and particularly at the GU adopted villages such as Cacara, Nauxi and Shiridao. With a huge success at its inception stage itself, GU's MCIC now plans to develop more mushroom cultivation centers in the rural villages of Goa and help them devise a region specific business model so as to create young entrepreneurs and empower these villages tackle malnutrition, employment and achieve self- sustainability. This is GU's small initiative with a greater vision to empower rural villages and contribute towards Atma Nirbhar Goa and Atma Nirbhar Bharat!

A glimpse of the SBSI's mushroom cultivation and outreach activities is presented below:

I) Development of Goa University Mushroom Cultivation and Incubation Center by SBSI student Interns and Mentors in 2021-22:



II) Oyster Mushroom awareness and skill development programs conducted in rural villages of Goa by SB student interns and mentors in 2021-2022:

