DCT's
Dhempe College of Arts and Science
Miramar, Goa

Report of a Workshop and Training Program on

"Mushroom Cultivation & Waste Management Techniques"

(Outreach activity)

The Department of Chemistry, DCT's Dhempe College of Arts and Science, Miramar, Goa Under the aegis of DBT-Star College Scheme, in Association with Goa University, Educational Outreach Committee (EOC), Social Entrepreneurship, Swachhata and Rural Engagement Cell (SES-REC) organized Workshop and Training Program on "Mushroom Cultivation & Waste Management Techniques, Date and time: 23rd February 2024 at 2.00 pm, Venue: SV Hall, Dhempe College of Arts & Science. The resource persons for this outreach activity was Dr. Milind Naik, Assistant Professor, SBSB, Goa University, Dr. Meghanath Prabhu, Assistant Professor, SBSB, Goa University and Dr. Diptesh Naik, Assistant Professor, SCS, Goa University. The Conveners for this Workshop and Training Program were Mrs. Varsha Virginkar, Head of the Department, Department of Chemistry, DCT's Dhempe College of Arts and Science and Prof. Jyoti Pawar, Director, D-UBA, Goa University. The program co-ordinators for these programs were Dr. Bhanudas Naik, Assistant Professor, Dhempe College of Arts and Science. Dr. Diptesh Naik and Dr. Milind Naik, Co-ordination committee, EOC, SES-REC, Goa University. The program was compeered by Ms. Medha Gaude. Dr. Priyanka Kole introduced the resource persons. Dr. Meghanath Prabhu, delivered informative lecture on Sustainable Practices in Food and Bio Waste Management for Biogas Production. In his lecture discussed that the biogas, primarily composed of methane and carbon dioxide, is produced through the anaerobic digestion of organic waste materials and the practices in food and bio waste management for biogas production, focusing on their environmental, economic, and social benefits. He discussed about the sustainable Food Waste Management processes:

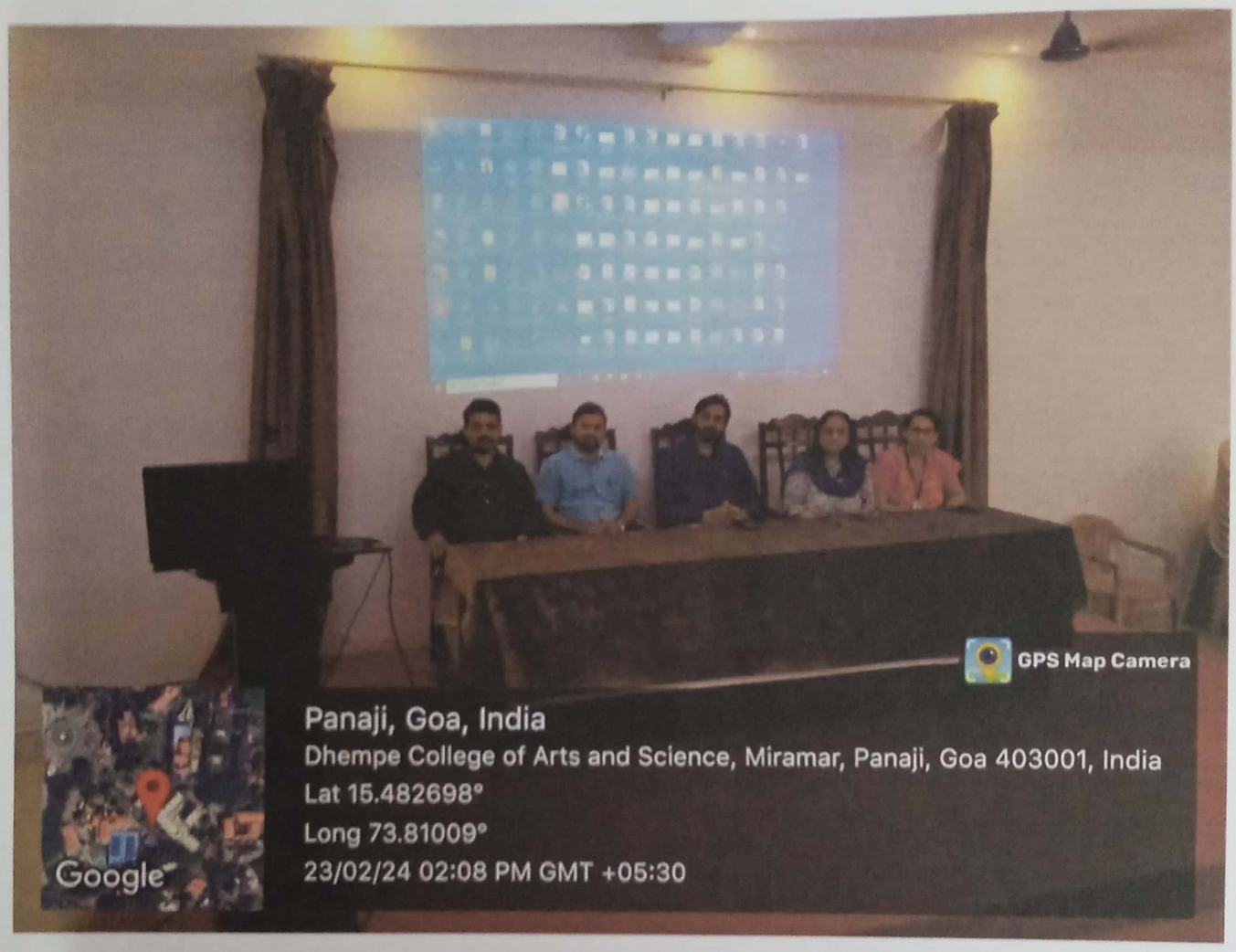
Source Segregation: Implementing efficient waste sorting systems to separate organic waste from non-biodegradable materials at the source. He also spoke on Bio Waste Management for Biogas Production: Waste Collection Infrastructure: Developing efficient collection systems to gather organic waste from households, businesses, and agricultural sources. Anaerobic Digestion Facilities: Establishing anaerobic digestion facilities equipped with appropriate technologies to process organic waste into biogas. According to him Biogas production from organic waste mitigates methane emissions, a potent greenhouse gas, and reduces reliance on fossil fuels.

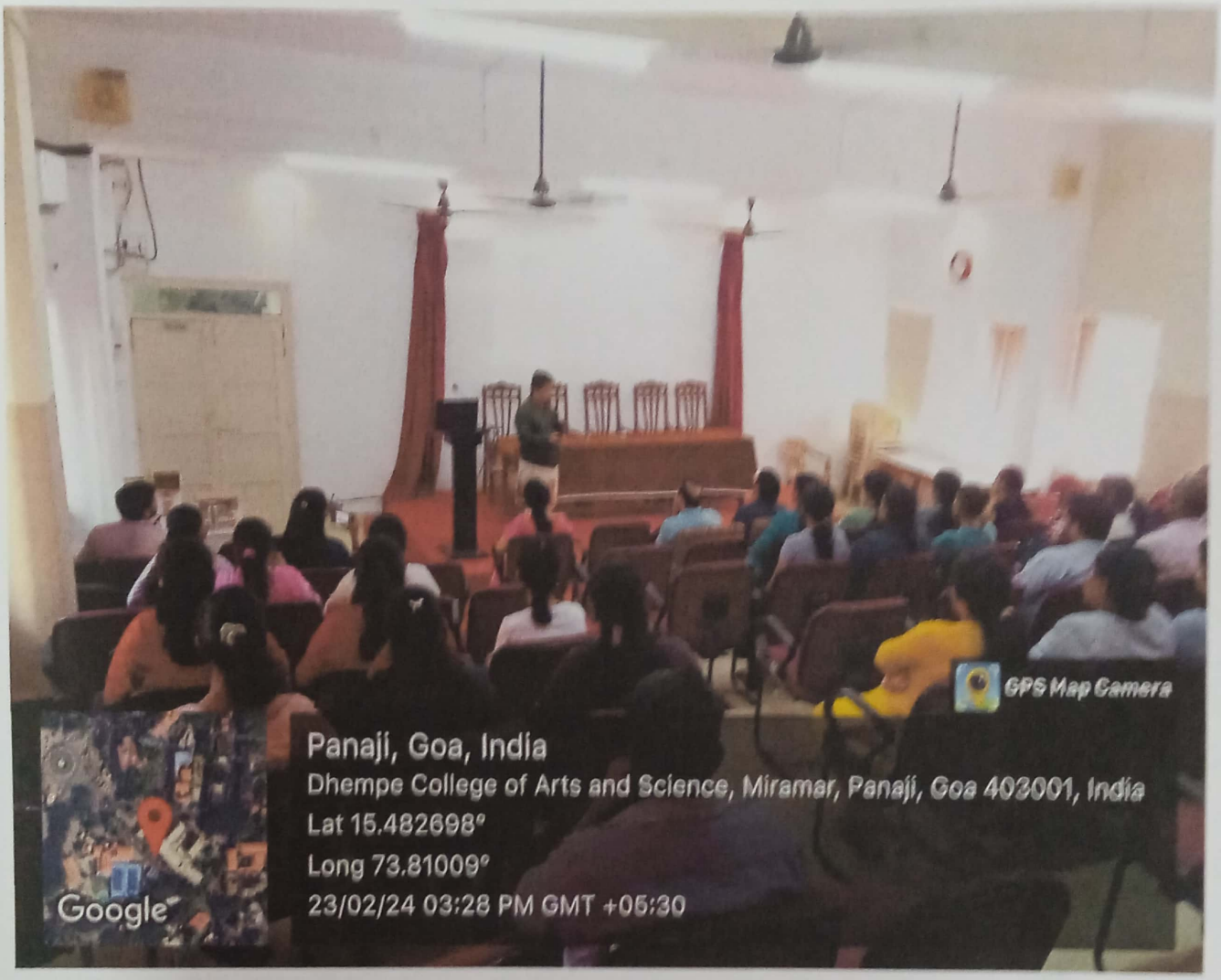
Utilization of digestate enhances soil fertility, reduces the need for chemical fertilizers, and prevents soil degradation.

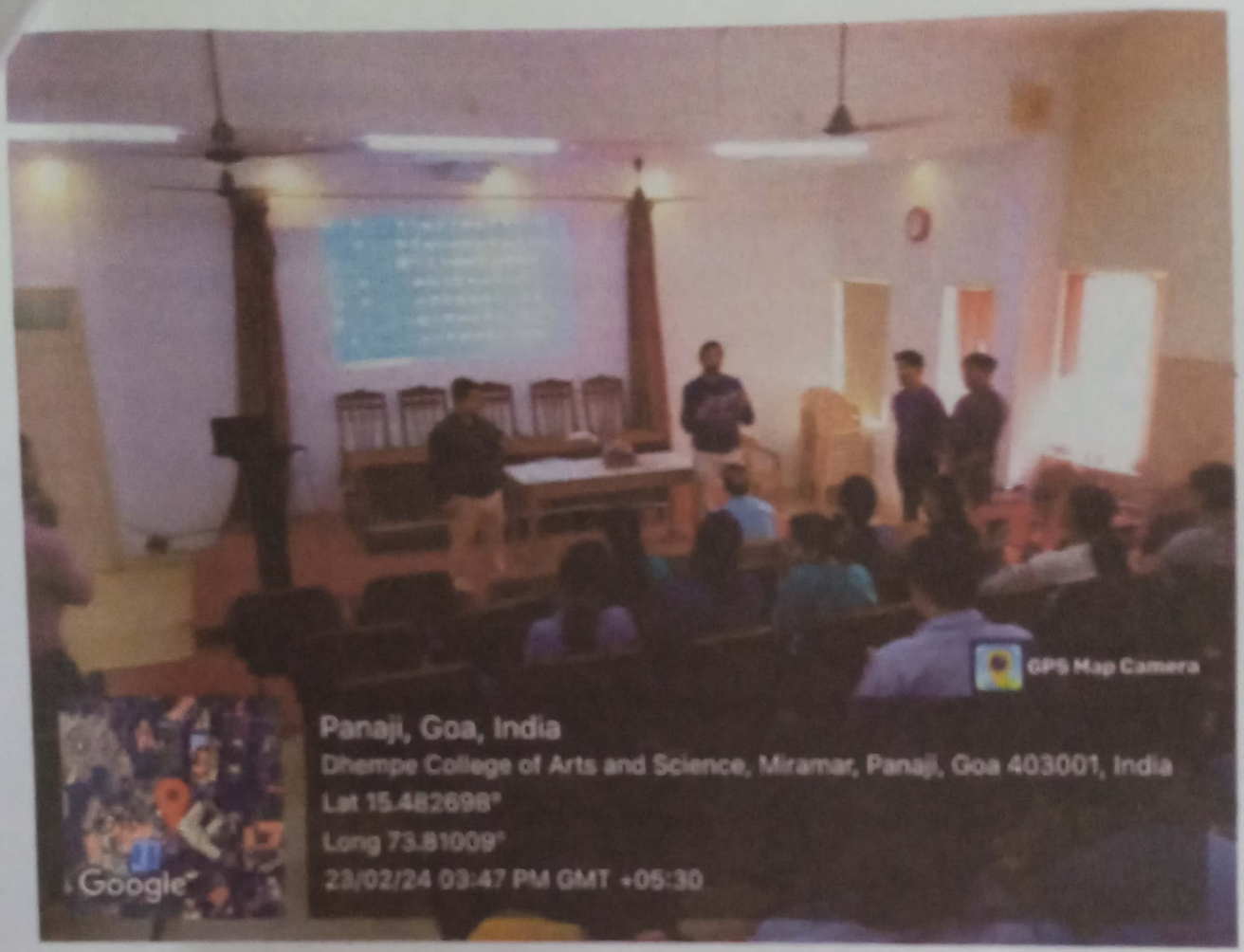
Dr. Milind Naik and Dr. Diptesh Naik deliverd lecture and hands on training on Oyster mushrooms cultivation. Oyster mushrooms cultivation are one of the most cultivated edible mushrooms worldwide due to their fast growth, adaptability to various substrates, and nutritional value. In the training and lecture they discussed about the selection of substrate: Oyster mushrooms can grow on a variety of substrates including straw and agricultural wastes. Substrate Preparation: Depending on the substrate chosen, it needs to be pasteurized or sterilized to eliminate competing organisms. Pasteurization can be achieved by soaking the substrate in hot water or steam. Sterilization is typically done using an autoclave or pressure cooker for substrates like sawdust. Inoculation: After pasteurization or sterilization, the substrate is allowed to cool down. Oyster mushroom spawn, either purchased or self-produced, is then mixed thoroughly with the substrate. The inoculated substrate is transferred to suitable containers or bags for incubation. Incubation: The inoculated substrate needs to be incubated in a dark and humid environment with optimal temperature and ventilation. Incubation period typically ranges from 2 to 4 weeks, during which mycelium colonization occurs.. Fruiting Conditions: Once the substrate is fully colonized by mycelium, it is ready for fruiting. Fruiting requires conditions of high humidity (85-95%), fresh air exchange, and indirect light. Optimal temperature for fruiting ranges between 18-25°C. Harvesting: Oyster mushrooms are typically harvested when the caps are fully developed but not yet fully opened. Harvesting is done by twisting or cutting the mushrooms at the base of the stem. According to them Harvested mushrooms should be handled carefully to avoid damage.

Oyster mushroom cultivation offers an accessible and rewarding opportunity for small-scale farmers and hobbyists alike. With proper substrate selection, preparation, and management of growing conditions, growers can achieve high yields of nutritious mushrooms for personal consumption or commercial sale. The Workshop and Training Program on "Mushroom Cultivation & Waste Management Techniques was attended by the students, teaching faculty and nonteaching staff. Dr. Bhanudas Naik, Assistant Professor, Department of Chemistry offered the vote of thanks.

Photos of the training program







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