SWAMI RAMA HIMALAYAN UNIVERSITY

One University, One Research

Executive Summary

Project Title: Integrating Sustainable Agro-Practices and Entrepreneurship for Cordyceps, Saffron, and Origanum vulgare Cultivation in Uttarakhand

Swami Rama Himalayan University, under the “One University, One Research” initiative, proposes a comprehensive three-year research and development project aimed at promoting sustainable agro-practices and rural entrepreneurship in Uttarakhand through the scientific cultivation and commercialization of three high-value crops—*Cordyceps militaris*, *Crocus sativus* (saffron), and *Origanum vulgare* (oregano). With a total proposed budget of ₹52.94 lakhs, the project is designed to address key challenges faced by farmers in the hilly regions of the state, such as low agricultural returns, unemployment, and out-migration, by enabling them to adopt economically viable and ecologically sustainable cultivation models.

Uttarakhand, often called the "Herbal State of India," possesses rich biodiversity and favorable agro-climatic zones suitable for the cultivation of medicinal and aromatic plants (MAPs). However, limited access to scientific knowledge, market linkages, and value-addition infrastructure has restricted the economic potential of these resources. This project proposes an integrated model that combines scientific research, community-based training, entrepreneurship development, and post-harvest processing to unlock the value of these three selected crops. Cordyceps militaris, a medicinal mushroom known for its bioactive compounds such as cordycepin, is highly prized in the pharmaceutical and nutraceutical sectors. Saffron, one of the world’s most valuable spices, offers potential for cultivation in non-traditional regions like Pauri Garhwal. Origanum vulgare, valued for its essential oils containing antimicrobial compounds like carvacrol and thymol, is gaining demand in the wellness and food industries.

The project aims to develop standardized cultivation protocols for these species tailored to local conditions, establish value chains through product development and processing units, and conduct rigorous bioactive compound evaluations, especially focusing on Cordyceps and oregano for anti-cancer and nutritional properties. Training workshops, capacity-building

sessions, and entrepreneurial support will be provided to farmers, women-led self-help groups (SHGs), and youth. The goal is to create a self-sustaining agro-enterprise ecosystem that boosts incomes, creates local jobs, and reduces dependency on traditional low-yield crops.

Implementation will be phased over three years. In the first quarter, activities will include site selection (Dehradun for Cordyceps and Pauri for saffron and oregano), soil and climate assessments, and community outreach. Subsequent phases will involve setting up controlled cultivation units for Cordyceps, field-level implementation for saffron and oregano, hands-on training in scientific cultivation and harvesting practices, and establishment of processing units. The final phase will focus on developing value-added products such as Cordyceps teas, nutraceutical capsules, saffron-based cosmetics and beverages, and oregano essential oils, followed by market linkages and dissemination of research outcomes.

The anticipated impact of this project is multifaceted. Economically, it will offer a new income source for small and marginal farmers and promote rural entrepreneurship. Socially, the inclusion of women and youth will foster equitable development. Environmentally, the focus on biodiversity-friendly crops and sustainable practices will contribute to conservation goals. Scientifically, the project will generate new data on cultivation technologies and product efficacy, contributing to the broader field of agro-biotechnology.

The total budget includes provisions for infrastructure (₹6 lakhs for equipment like plant growth chambers), manpower (₹19.44 lakhs for three research/field assistants), consumables (₹14 lakhs), and additional costs for training, travel, and contingency. This project will not only enhance Uttarakhand's leadership in medicinal plant-based livelihoods but also serve as a replicable model for other hilly regions of India. It aligns closely with national priorities such as the Make in India initiative, the National Saffron Mission, and the goals of the National Medicinal Plants Board. Through research, innovation, and grassroots empowerment, the project aspires to transform Uttarakhand into a hub for high-value MAP cultivation and processing.