

11th Edition of

CSIR Integrated Skill Initiative

Seaweed Cultivation and Processing Technology (SEA-CPT)



CSIR Integrated Skill Initiative



CSIR-CSMCRI

CSIR-Central Salt and Marine Chemicals Research Institute

January 23 – 25, 2023



CSIR-CSMCRI is embarking on implementing “Skill India” mission of the Government of India and is proposing the CSIR's Integrated Skill Initiative program in the area of Seaweed Cultivation and Processing Technology. The main aim of this course is to create qualified skilled workforce relevant to current and emerging needs of seaweed based industries through training/skilling of youth force mainly to promote entrepreneurship. This will bring more visibility to CSIR in general and CSMCRI in particular through focused efforts to enhance bio-economy in the coastal region. This shall enable promoting seaweed based industrial growth through technological interventions and in turn will create employment opportunities and will benefit the society. The skilling and imparting knowledge will also help in nurturing talent and manpower development in the area of seaweed biology and valorization of biomass for diverse applications including plant bio-stimulants for agriculture.

Seaweeds are the future sunrise industry globally. The cultivation of seaweeds is growing rapidly in Europe, America, Canada and Asia. Seaweeds can be collected from the wild but are now being increasingly cultivated to complement their growing demand for sustainably produced, raw materials. China is by far the largest seaweed producer followed by the Republic of Korea and Japan. Seaweeds are cultivated in Norway, America, Canada, Portugal, France, Australia and Asian countries like Japan, China, Malaysia, Indonesia, Korea, Sri Lanka. Uses of seaweeds as food has strong roots in Asian countries such as China, Japan and the Republic of Korea, but the demand for seaweed as raw materials and for food has now also spread to North America, South America and Europe. Various seaweed raw materials are used as soil conditioners, animal feed, fish feed, biomass for fuel, integrated aquaculture and wastewater treatment. As per the recent estimates of FAO of UN commercial harvesting of seaweeds has reached new milestone with 31.2 million tonnes year-1 production with a market value of over US\$ 11.7 billion. India although contributes dismally 0.01% currently to this, its prospects to emerge as important player are high. Much of this owes to viable seaweed farming technologies developed by CSIR-CSMCRI during the past few decades. The seaweeds until recently in the country were collected from wild stock especially from South-eastern coast. The wild harvest represents ₹ 27 crores trade which caters to about 40 MSMEs indigenously producing hydrocolloids. The implementation of *Kappaphycus alvarezii* farming provided assured income of about ₹ 15,000/- month⁻¹ to nearly 1,700 coastal fisher-folks of which 90%



are women. The revenue generated during the last ten years is ca. ₹ 140 million. CSIR-CSMCRI vigorously engaged in Capacity Building and Skill Development projects under CSIR Integrated Skill Initiative Program in association with National Fisheries Development Board, Hyderabad. About 1000 fishermen (mostly women) engaged in seaweed collection were imparted skills in seaweed farming during the last two years. The supply of quality seed material through spore culture – the first of its initiative in the country – was also successfully implemented.

India has been bestowed with a long coast-line touching seven States and four Union Territories. The coastal belt has enormous potential for undertaking commercial cultivation of Seaweeds. The seaweed industry has been thus identified as Focus area of development by both Government and private sectors. India has a vast coastline with over 800 species of seaweed. However the potential in the seaweed farming and value addition sector is vast and advanced research is available in India. To create an appropriate ecosystem for realizing the benefits of the seaweeds and its products, a concerted effort is needed and this specialized training program is first step in this direction. Domestic cultivation and processing of selected seaweeds will greatly reduce high import costs and generate employment.

The three days residential program includes theoretical and practical sessions. The program will involve lectures video sessions for three days in various aspects of seaweed farming and processing of value added compounds by leading researchers from the country and industry experts. Besides the people from financial institutions will also deliver the talk considering providing benefits to young entrepreneur. This is first of its kind skill initiative in seaweed farming and value addition domain. The train manpower will have openings in Aquaculture; Organic fertilizer and hydroponics; seaweed processing industries; hydrocolloid industries besides creating ecosystem for self-employment. The course is non-residential and limited seats are available and registration on or before January 07, 2023 is necessary (form attached below). Payment of complete fees is mandatory during registration. Please write to Dr. Santlal Jaiswar (seactpt2@gmail.com) for the bank details. The confirmation of seat will be made via email and / phone call.



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CSIR- Central Salt & Marine Chemicals
Research Institute, Bhavnagar

23-25, January 2023

Registration form

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|----|----------------------------|---|------------------------|
| 1 | Name of the Candidate | : | Photo |
| | उम्मीदवार का नाम | | |
| 2 | Father's / Guardian's Name | : | |
| | पिता/ पति का नाम | | |
| 3 | Date of Birth | : | |
| | जन्म तिथि | | |
| 4 | Category | : | General / OBC/ SC / ST |
| | वर्ग | | |
| 5 | Address (Permanent) | : | |
| | पता (स्थायी) | | |
| 6 | Urban or rural | : | |
| | शहरी या ग्रामीण | | |
| 7 | Address (Communication) | : | |
| | पता (पत्र व्यवहार) | | |
| 8 | Educational Qualifications | : | |
| | शैक्षणिक योग्यता | | |
| 9 | Phone No. | : | |
| | फोन/ मोबाइल नंबर | | |
| 10 | E mail | : | |
| | ईमेल | | |
| 11 | AADHAAR Card Number | : | |
| | आधार कार्ड नंबर | | |



CSIR Integrated Skill Initiative

Candidate's Signature
उम्मीदवार के हस्ताक्षर

Registration Fee

Category I : Rs. 1000/- + Rs.180/- GST (@18%) =Rs.1180/-

Self- sponsored [Students, Individual (other than student) and Entrepreneur (as an individual)]

Category II : Rs. 5000/- + Rs.900/- GST (@18%) =Rs.5900/-

Any sponsored candidate (Government, Industry and sponsored by Entrepreneur)

Registration detail.....	Amount (INR).....	Payment Details (NEFT) Please mention the bank name, branch, account no., transaction ID and Date
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Kindly submit completed form on / before 7th January, 2023, to Dr. Santlal Jaiswar at

Email: seacpt2@gmail.com