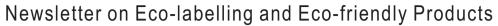


GREENINGHTS



Volume 16 No. 1, April-June 2021

A Report on Green Skill Development Programme 2020-21





Sponsored by:

Ministry of Environment, Forests and Climate Change, Government of India ENVIS Resource Partner on:

Environment Literacy - Eco-labelling and Eco-friendly Products

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EVENTS (April –June 2021)

Green Skill Development Programme is an initiative to develop skills in the environment sector. Realizing the need for developing the green skills, Ministry of Environment Forests and Climate Change (MoEF&CC) is utilising the vast network and expertise of Environmental Information System (ENVIS) hubs and Resource Partners (RPs). ENVIS is a decentralized network of 60 centres of which 26 Centres dealing with "State of the Environment and Related Issues" are hosted by State Government /UT Administrations called ENVIS Hubs and remaining 34 Centres are hosted by environment-related governmental and non-governmental organisations.

Green Skill Development Programme aims to develop green skilled workers having technical knowledge and to contribute to preserving or restoring environmental quality for sustainable future. It also focuses on creating jobs that protect ecosystems, reduce energy and minimize waste and pollution. Green skills are required to adapt processes, services, and products to climate change and associated environmental regulations and requirements. They include the knowledge, skills, values, and attitudes necessary for living, developing and supporting a sustainable and resource-efficient society. The programme offers FREE training, boarding and lodging facilities for the entire course duration.

The skilling programmes cover diverse fields such as pollution monitoring (air/water/soil), Sewage Treatment Plant, Effluent Treatment Plants and Common Effluent Treating Plants (STP/ETP/CETP) operation, waste management, forest management, water budgeting,

auditing, conservation of river dolphins, wildlife management, Parataxonomy, including Peoples' Biodiversity Register (PBRs), mangroves conservation, bamboo management and livelihood generation. The duration of the courses ranges from 80 hours to 560 hours approx. The programme endeavours to develop green skilled workers having technical knowledge and commitment to sustainable development. It will help in the attainment of the Nationally Determined Contributions (NDCs), Sustainable Development Goals (SDGs), National Biodiversity Targets (NBTs), as well as Waste Management Rules (2016).

Consumer Education and Research Centre, Ahmedabad an ENVIS Resource Partner, has developed two courses on Laboratory Technicians/Assistants for Electrical Product Testing and Food Testing. Certificate course on 'Laboratory Technicians /Technical Assistants for Energy Efficiency, Star Labeling and Other Electrical Testing for Environmental Criteria' mainly focusing on the testing of products for their energy efficiency and star labelling. The duration of this course is 264 hrs. The Certificate course on 'Laboratory Assistant for Food Testing Laboratory with Eco-Friendly Practices' focuses on environmental criteria to be considered in the laboratory SOPs while testing food. The duration of the course is 225hrs.

Both the courses comply with the National Skills Qualifications Framework (NSQF) level 6 of National Skills Development Agency (NSDA) framework. CERC has been successfully conducting both the courses since 2018. This issue presents the GSDP report of the both the courses carried out in the Financial year 2020-2021.

GREEN INSIGHTS

FOREWORD

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Certificate Course on 'Laboratory Technicians /Technical Assistants for Energy Efficiency, Star Labeling and Other Electrical Testing for Environmental Criteria'

Ms. Shweta Mahajan Course In Charge & DGM-TORCH, CERC

Green jobs contribute to preserve and restore the environment, be they in traditional sectors such as manufacturing and construction or in new emerging green sector such as renewable energy & energy efficiency. With such training programmes a national level database of skilled manpower is proposed to be created which can be directly utilized by the industry. In today's context of Green Technology, design, raw material, manufacturing and testing have become closely integrated. Industries can make a big difference in global competitions with skilled workforce. A holistic customized training programme of 264 hrs has been designed for developing green skills of youth on sustainable products, lifestyles and sustainable consumer behavior in electrical testing. CERC's Electrical product testing laboratory on the concepts of star labeling criteria & ecofriendly practices has trained GSDP candidates for the past 3 years.

Selection of Candidates

An advertisement for the training course was given in the newspaper, on website:

http://cercenvis.nic.in/PDF/GSDP%2020-21.pdf and all other social media platforms. A total of 79 applications were received for this course. Candidates with relevant qualifications were shortlisted and final interviews were held on 21st and 22nd January through e-platforms due to pandemic restrictions. The candidates were selected based on their technical & core capabilities.

Inauguration of the Training programme

Inauguration ceremony was held on 9th of February, 2021. It began with welcome address by Shri Uday Mawani CEO & Board Secretary, Presidential speech was delivered by Shri Praful R. Amin, Chairman, CERC & TORCH. Our keynote speaker, Shri Rakeshbhai Shah, Member Advisory CERC encouraged students to work better for their future. Shri J.B Patel. Board Member TORCH & Volunteer member CERS gave blessings to the students and motivated youth with his inspirational speech. Ms. Anindita Mehta, Project Coordinator & CGM CERC briefed about the mandates and awareness activities of CERC ENVIS. Dr. Ashoka Ghosh, Member of Advisory Committee, CERC ENVIS addressed the audience about evolution of Green Skill development Programme.



Ms. Divya Namboothiri, Programme Officer, CERC-ENVIS concluded the first session of the programme with a vote of thanks. The technical session on the course structure was delivered by Ms. Shweta Mahajan, Course In-Charge followed by distribution of Training kits and an interactive session will all the students. The entire event was anchored by Ms. Apeksha Sharma, Information Officer, CERC-ENVIS.





Training

Training programme commenced from 9/2/2021. All Trainees were given course material containing training manual, testers, safety helmets, stationary items, mask and a sanitizer. The Training Manual covers topic like introduction of laboratory tools required for preparation of test setup, introduction of instruments and equipments required for performing testing, consumables required during testing, knowledge on calibration of instruments, inspection of test system, primary maintenance & standardized formats for keeping records of every analysis including intermediate checks/cross verifications. It also covers mandatory safety requirements for electrical testing & laboratory operations and quality system for laboratory accreditation with simplified test procedures.

In the Manual, concepts of star labeling criteria and ecofriendly practices adopted by the industry for sustainable future are simplified with methods of identifying eco-friendly star labeled electrical products, details on electrical products covered under energy star labeling criteria by Bureau of Energy efficiency, testing techniques for environmental criteria, green skills for sustainable development with tips & habits to be cultivated to save energy to contribute towards global challenges of climate change. Details are explained creatively using illustrations to facilitate comprehension. Another Manual on cleaner production and

waste minimization was provided to the trainees by Gujarat Cleaner Production Centre, fellow ENVIS, Resource Partner Gandhinagar.

Internal and External faculty

Following Internal & External faculty members/experts have made the training programme interesting and successful with their presentations.

Internal Faculty:

Ms. Shweta Mahajan, Course In Charge

External Faculty:

- Mr. Mihir Vasavada
 Topic: Energy Efficient Machines
- Mr. G.T. Panchal Topic: Power losses in motors
- Mr. Govind Zala (Industry Expert-for demonstrations)
 Topic: Testing techniques for measurement of

energy efficiency of pump sets

 Mr. Arvind Sotha (Industry Expert- for demonstrations)
 Topic: Demonstration on tests as per IS-8034

& IS-9283 & IS-11348

- 5. Mr. Nirav Mehta Topic: Solar grid connected system & business opportunities in solar energy segment
- Mr. Hari Om Mehta
 Topic: OFF Grid solar systems & renewable energy products
- Mr. Kashyap Vaccharajani, Topic: Finance and banking for entrepreneurs.
- 8. Mr. Chandramauli Pathak, Entrepreneurship Development Topic: Entrepreneurship and small business startups.
- Dr. Bharat Jain, Member Secretary GCPC and Project coordinator, GCPC ENVIS RP Topic: Cleaner Production, Waste minimization & Greener Production

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Major Topics Covered

The programme is designed taking into account the expectations of industry for job seekers. Suggestions were taken from industry experts & subject experts to make it comprehensive, which covers a broad category of competence levels in terms of professional knowledge, professional skills, core skills, responsibility and process.

- 1. Recent trends in electrical machines.
- Renewable energy products for green future (Types & basics)
- 3. Design aspects of energy efficient induction motors.
- 4. Process of manufacturing of energy efficient motors for submersible pumps, calculation of losses and finding efficiency.
- 5. Environmental pollution due to noise created by electrical products, home appliances and accessories.
- 6. Measurement of noise & methods of reduction of noise.
- 7. Green practices observed by manufacturers.
- 8. Products covered under voluntary & mandatory labeling schemes of BEE.
- 9. Varieties of labels used on appliances as energy saving guides.
- 10. Sustainable consumption of electrical products.

Field visits

- Visit to two factories of M/S LA-Gajjar Machineries Pvt. One for V6 pump sets (Agricultural Application) and second for domestic pump sets (V3 & V4 type).
- 2. Visit to manufacturing stators site at Amraiwadi.
- 3. Naroda Enviro Plant Ltd, NEPL
- 4. Visit to Savio Sun Energy
- 5. Visit to waterman industries Pvt. Ltd.

Final evaluation of the Trainees

Final evaluation of Trainees was made on the basis of assessment criteria for level 6 NSQF qualifications. Successful Trainees were awarded with certificates during online valedictory function held on 01/04/21. Career counseling sessions were held on professionalism and ethics, interpersonal interactions, quality consciousness, accountability and needs of industry for competence levels with professional skills and leadership qualities.

HR departments of following companies held Placement Interviews:

- 1. Nirdhara Energy and IT solutions
- 2. Bhagvati industries, Ahmedabad
- 3. LA-GAJJAR machineries Pvt. Ltd. Ahmedabad.
- 4. Kirloskar Brothers Ltd, Sanand.
- 5. Waterman industries Pvt.Ltd, Changodar.
- 6. Savio Sun Energy
- 7. Mamata Machineries Pvt. Ltd

A placement brochure was prepared with the CV's of all the trainees. It was circulated among the interviewing and other Companies. Placement and self-employment record of successful trainees is as follows:

- One trainee got placed at Waterman Industries Pvt. Ltd, Ahmedabad
- One trainee placed with Mak Pumps Industries, Ahmedabad)
- One trainee got placed at CYIENT, Hyderabad
- One trainee employed at Airport Authorities of India Ltd, Porbandar
- One trainee employed at Airport Authorities of India Ltd, Diu
- One trainee is exploring start up on renewable energy products at Gandhidham

- Two trainees selected for apprenticeship by LA - GAJJAR Machineries Pvt. Ltd (On Hold due to pandemic)
- Three trainees opted for competitive exams or higher studies

Feedback

My name is Sejal Devadiya and I am from porbandar. First of all I want to thank the whole team of GSDP for giving me this opportunity to learn and improve my skills. Here, I have attended practicals and theory



-Seial Devadiv

lectures. During Practicals, I learned about how star labeling is done, environmental impact of an electrical product, electrical testing, how to manufacture less polluting products etc. During field visit I have learned about submersible pump—its testing, manufacturing, production etc. We have also been given an opportunity to learn about financing and entrepreneurship skills through guest faculties. This has been a beneficial course for me and it has helped me in developing my confidence. I want to thank the team of GSDP.

I am Shubham Shukla. During the course, I have attended many field visit, guest lectures, practicals and regular lectures. In practical sessions, I have learned about energy efficiency of a product, environmental impact of an



-Shubham Shukla

electrical appliance, quality assurance etc. During a visit to a manufacturing company, I learned about the eco-friendly practices adopted by them. I have improved my technical skills as well as communication skills here. Thank you for enrolling me in this course.

Gallery:



Demonstration of tests/practical on Electrical products & Home appliances



Visit to Waterman Industries Pvt Ltd.



Demonstration on testing of Submersible Pump sets



Visit to Savio Sun Energy on 10/03/21



Lecture on finances and start up by Mr. Kashyap Vachhrajani



Career counseling and placement of Trainees

Certificate Course on 'Laboratory Assistant for Food Testing Laboratory with Eco- Friendly Practices'

Dr. Dolly Jani Course In Charge & Senior Scientist, Head of Food Laboratory, CERC

Training to food laboratory technicians is a prerequisite for ensuring quality & safety in analytical environment. The ENVIS Resource Partner, Consumer Education and Research Centre designed and developed this course to ensure widespread and effective delivery of training to food businesses with emphasis on green laboratory practices. The aim of this course is to impart the requisite knowledge and skills, through classroom activity as well as hands-on training, supported by relevant industry visits

During the training, students get the basic knowledge and hands-on training in various analytical techniques used in food laboratories. They are introduced to nutritional aspects, food safety standards and laboratory accreditation system. They have been imparted knowledge regarding Good Laboratory Practices (GLP), sampling procedures, documentation; operation, calibration & maintenance of laboratory equipments. Information regarding eco-friendly laboratory water management and laboratory safety measures is also given through the course.

Selection of Candidates

The process of selection started in the month of January, 2021 through advertisements given in newspapers, website

http://cercenvis.nic.in/PDF/GSDP%2020-21.pdf and social media. Selection process was held through online application submission followed by telephonic/skype interviews due to COVID

restrictions. We received 116 applications which were sorted and short listed as per the eligibility criteria. Out of these 15 candidates were finalized for the training program on the basis of their core capabilities. About two-thirds of the candidates were from outside Ahmedabad and three were locally residing students. The selected trainees were graduates/ post graduates from different fields of Science such as Biotechnology, Food & Nutrition, Botany, Microbiology, Zoology and Environmental Science.

Commencement of Training

Inauguration ceremony was held on 9th of February, 2021. It began with a welcome address by Shri Uday Mawani CEO & Board Secretary, Presidential speech was delivered by Shri Praful R. Amin, Chairman, CERC & TORCH. Our keynote speaker, Shri Rakeshbhai Shah, Member Advisory CERC encouraged students to work better for their future. Shri J.B Patel,







Board Member TORCH & Volunteer member CERS gave blessings to the students and motivated youth with his inspirational speech. Ms. Anindita Mehta, Project Coordinator & CGM CERC briefed about the mandates and awareness activities of CERC ENVIS. Dr. Ashoka Ghosh, Member of Advisory Committee, CERC ENVIS addressed the audience about the evolution of Green Skill development Programme. Ms. Divya Namboothiri, Programme Officer, CERC-ENVIS concluded the first session of the programme with a vote of thanks. The technical session on the course structure was delivered by Ms. Dolly Jani, Course In-Charge followed by distribution of kits and an interactive session will all the students. The entire event was anchored by Ms. Apeksha Sharma, Information Officer CERC ENVIS.

Internal & External Faculty

The training was conducted at CERC's in house Laboratory headed by Dr. Dolly A. Jani (Training In charge). Following Internal and External faculties made this programme a success:

Internal Faculty:

- 1. Dr. Dolly Jani, Course Incharge
- 2. Ms. Kanaklata Goswami, Laboratory Demonstrator

External faculty:

- Dr. Neerajkant Pandey, Lead Auditor, NABL Topic: Introduction to NABL—significance and requirements;
- Ms. Meenal Pandey, Ex. Asstt. Director, BIS
 Topic: Bureau of Indian Standards (BIS) Understanding documents for product/test
 requirements and specifications.
- 3. Mr. Atul Soni, Head, Public Health Laboratory, AMC
 - Topic: Food safety issues and analysis from a regulatory perspective.
- 4. Mr. Kashyap Vaccharajani Topic: Finance and banking for entrepreneurs.
- 5. Mr. Chandramauli Pathak, Entrepreneurship Development

- Topic: Entrepreneurship and small business startups.
- 6. Dr. Bharat Jain, Member Secretary GCPC and Project coordinator, GCPC ENVIS RP Topic: Cleaner Production, Waste minimization & Greener Production.
- 7. Mr. DA Bhavsar, Food Safety Officer Topic: Detection of common food adulterants through spot testing and mobile test vans by Gujarat state FDCA.

Major Topics Covered

This course comprised of classroom lectures and practical training. The concluding sessions entailed a week of assessment and related exercises. Thus a total of 225 hour course schedule was lined out. The main components of the training curriculum were as mentioned below:

- 1. Introduction of Food, Nutritional Aspects and Safety Standards.
- 2. Introduction of Laboratory Accreditation
- 3. Eco Friendly Maintenance of Laboratory Practice
- 4. Eco Friendly Laboratory Waste Management
- 5. Introduction of Basic Laboratory Equipment and their functions
- 6. Certified Reference Materials and Standards and Elemental analysis in Food products.
- 7. Exercises and Assessment

Training

The training was systematically carried out according to the topics lined out in the course module. Each student was provided with a training kit consisting of- Training Manual; stationery items, laboratory protection gear such as aprons, safety goggles, gloves and napkins etc. Various aspects of food testing and good laboratory practices were covered in details through this training. Basic analytical techniques: test methods for common parameters in foods such as Moisture Content, Ash, Acid insoluble ash, Acidity, Fat, Protein, Carbohydrate,

minerals, Adulterants etc. The trainees were given hands on experience operating basic laboratory equipments & their applications in food analysis.

The training manual is structured to provide essential information in a standardized, logical and systematic manner while adhering to effective teaching and learning strategies. The manual provides for the standard operating procedures for general laboratory equipment as well as test methods as per BIS specifications. The training manual details the requirements on safety & quality control to be followed by personnel engaged in the food laboratory. It has been designed according to the flow of operation in the food industry for ease of understanding of the laboratory staff. This comprehensive manual is supplemented with Standard Operating Procedures specific to the food laboratory for facilitating the trainers.

Field Visit

- A study tour was arranged to Forensic Science Laboratory's state of the art -Food Research Laboratory (FRL) at Gandhinagar
- 2. A study trip was arranged to Ahmedabad Municipal Corporation's Public Health Laboratory with state of the art food testing facilities.
- **3.** The Revakant Gir Gaushala is located at Lilapur farms, S.G. Highway, Ahmedabad
- 4. Naroda Environment Project Limited (NEPL)

Evaluation and Assessment

Final evaluation of Trainees was made on the basis of assessment criteria for level 6 NSQF qualifications. They were also graded for their respective field reports, Journals and the classroom presentations. The final assessment exam was conducted online for the trainees.

Valedictory Function

To conclude the two- month training program a virtual valedictory function was organized on 1st April 2021. Concluding speech was delivered by Dr. Dolly A Jani, Course In Charge and a vote of thanks was delivered by Ms. Divya Namboothiri, Programme Officer, CERC-ENVIS RP. Eleven of the trainees were awarded certificates upon successful completion of the GSDP certificate course.

Placement Activity

A placement brochure was prepared with the CV's of all the trainees and it was circulated to prospective employers such as Testing Laboratories, Food Industries and Research Institutions etc. The trainees were given career guidance about jobs in public/ private sector and how to prepare for the tests & interviews. For those who wanted to opt for a business startup were provided entrepreneurship guidance from experts and were ensured support even after the training was over.

Feedback

I am Nancy Singh and I am from Kanpur. I have joined the course on "Laboratory Assistant for Eco-Friendly Food Testing Laboratory". I am glad I joined this course and I have learned a lot here. Accommodation and food



-Nancy Singh

facilities provided were very good. We have visited many Laboratories where we have learned about the new instruments. We have attended many guest lectures arranged by the team. I have gained knowledge from regular lectures & practical which were new to me.

I, Ranjan Kumar Mishra and I am from Bihar. I got enrolled in the course on "Laboratory Assistant for Eco-Friendly Food Testing Laboratory" via GSDP Portal at CERC Ahemdabad. I have learned about food



-Ranjan Kumar Mishro

testing through the practicals.

During theory lectures by course In charge and guest faculties, I have learned about food adulterations, food act, etc. I want to thank coordinators and the other team members who have selected me for this course which has benefited me in various ways for a better future. I have learned more than I expected.

Gallery:



Lecture by Mr.Chandramuli Pathak, on Enterneurship Development



Practical on Quality assurance of different food products



Visit to Naroda Environment Project Limited



Visit to Ahmedabad Municipal Corporation's Public Health Laboratory



Visit to Revakant Gir Gaushala



Visit to Forensic Science Laboratory, Gandhinagar

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EVENTS (April – June 2021)



Poster Making Competition on the theme of Ecosystem Restoration



Webinar on "Restoration of Ecosystem' Link for the Report:

http://cercenvis.nic.in/PDF/REPORT%20WED2021.pdf



'Sustainable Practices and Environment'



Webinar on 'Ek bharat Shreshtha Bharat'



Online Short Video/ GIF/ Photo Collage Competition on the theme of 'Your Contribution towards Sustainable Living' Link for the Report:

http://cercenvis.nic.in/PDF/Report%20on%20EBSB_CERC%20ENVIS%20RP.pdf







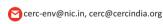
The Environmental Information System acronymed as ENVIS was implemented by the Ministry of Environment & Forests by end of 6th Five Year Plan as a Plan Scheme for environmental information collection, collation, storage, retrieval and dissemination to policy planners, decision makers, scientists and environmentalists, researchers, academicians and other stakeholders. The Ministry of Environment and Forests has identified Consumer Education and Research Centre (CERC), Ahmedabad, as one of the Resource Partners to collect and disseminate information on "Environment Literacy - Eco-labelling and Eco-friendly Products". The main objective of this **ENVIS Resource Partner is to disseminate information** on Eco products, International, and National Eco labeling programmes.

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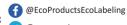
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Write to us: We value your views and suggestions. Please send your feedback on this issue. We would also like to invite your contributions on the Eco Product and Eco Labelling.

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