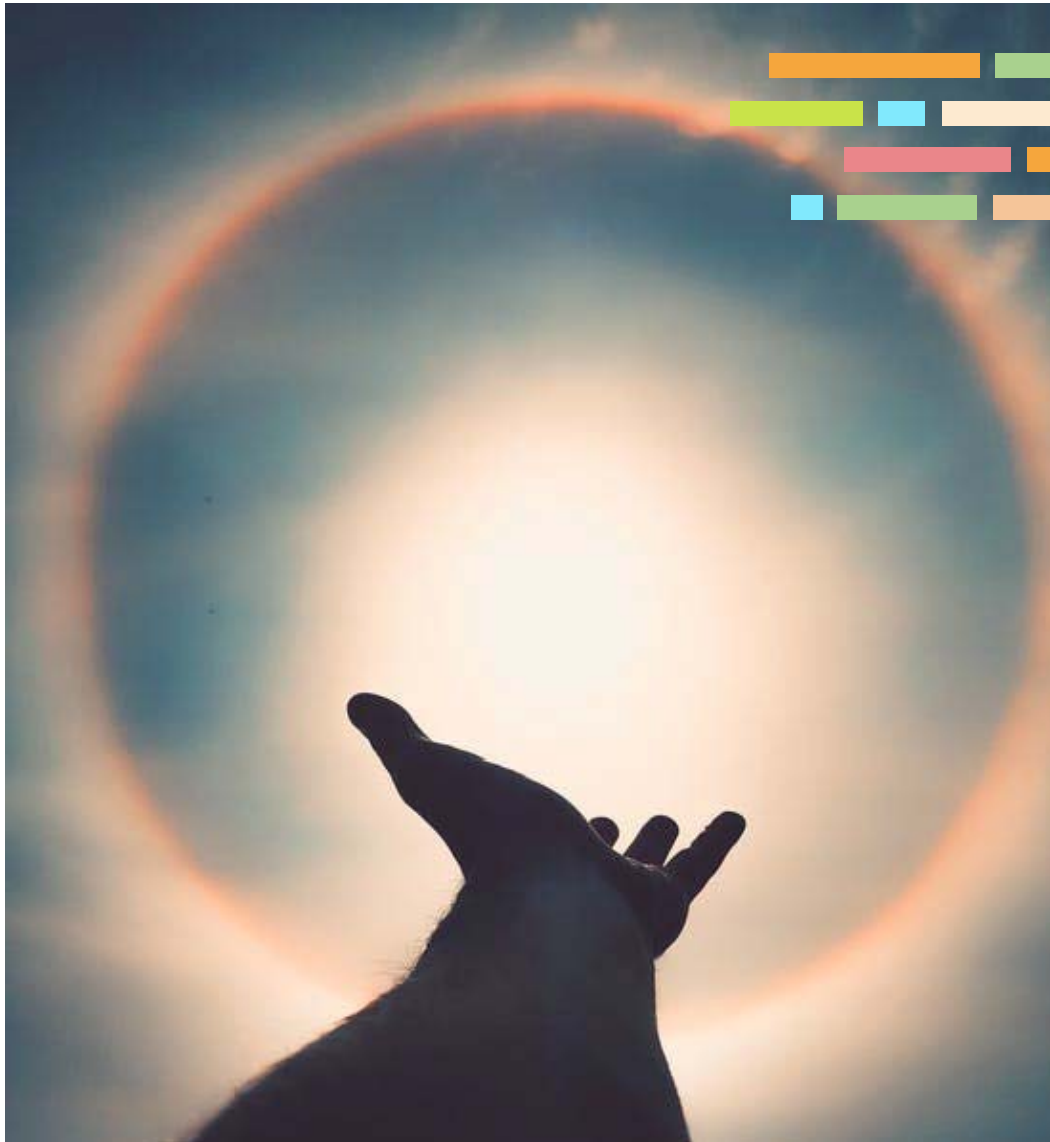


# GREEN JOBS NEWSLETTER

ISSUE 11 | July - 2020



## Highlights

**SUSTAINABLE  
DEVELOPMENT AND  
GREEN JOBS**

**REDEFINING SKILLING IN  
COVID 19 PANDEMIC**

**CYBER SECURITY ISSUES IN  
POWER SECTOR**

**SKILL TRAINING  
EFFECTIVENESS-  
WASTEWATER TECHNICIAN**

**PREVENTION OF  
HAZARDOUS CLEANING OF  
SEWERS AND TANKS**

Be Digital and  
moves toward  
**New Normal**

## SUSTAINABLE DEVELOPMENT AND GREEN JOBS

India has adopted several ambitious measures for Sustainability, renewable energy, energy efficiency in various sectors of industries, achieving lower emission intensity in the non-fossil based electricity generation. Thrust on Renewable Energy, Promotion of Clean Energy, Enhancing Energy Efficiency, Developing Climate resilient Urban Centres and Sustainable Green transportation Network are some of the measures for achieving this goal.

The Indian NDC brings a huge responsibility on the country and equally big opportunity for green business and poses skilled manpower requirement. The midyear 2020 ended with a total Installed Capacity of 370.5 GW which includes 230 GW from Thermal, 0.457 GW from Hydro, 0.06 GW from Nuclear and 87.38 GW from various Renewable Energy Sources. The 87 GW Installed Capacity from renewable energy includes 37.7 GW from wind energy, 35 GW from solar energy and 15 GW from biomass, small hydro and waste to energy.

Manufacturing sector has always been the biggest employment source for the country and to develop RE manufacturing in India it is important to not only have skilled manpower but also invest in R&D which should be at par to compete at the global market.

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With the government's pledge under the NDC to scale up renewables in the country, net employment (measured in full-time employees) can be expected to increase by an additional 30 per cent by 2030.

Skills development is seen as the shared responsibility of the key stakeholders viz. Government, the entire spectrum of corporate sector, community based organizations, those outstanding, highly qualified and dedicated individuals who have been working in the skilling and entrepreneurship space for many years, industry and trade organizations and other stakeholders. The policy links skills development to improved employability and productivity in paving the way forward for inclusive growth in the country. The skill strategy is complemented by specific efforts to promote entrepreneurship in order to create ample opportunities for the skilled workforce.

A Green job is defined as the one that helps bring about and maintain a transition to environmentally sustainable forms of production and consumption. It cut across all the sectors, be it energy, materials, water conservation, waste management, pollution control etc. The green skill can be divided in to two categories vis developing green skills to existing work force and skilling workforce for green jobs. While the 'Skill Council for Green Jobs' proposes to target both, the immediate focus would be to skilling workforce for green jobs for renewable energy, energy efficiency and waste treatment. Training and skilling workforce in R&D and Manufacturing is the special focus of the council.

The focus of SCGJ has been to establish a strong industry connect in all its areas of work, talk to large industry to understand the manpower requirement and establish long term contacts to improve employability of trained and skilled manpower. It has already established strategic alliances with about 500 Industries, organizations and State skill missions. Skill council for Green Jobs has affiliated about 340 training institutions, PAN India, to deliver training in its domain. These institutions have imparted training to over 4 lakh candidates on the 50 National Standards developed by SCGJ.

SCGJ is building on its industry connect with a government-industry interface and partnership with stakeholders from industry, labour as well as the academia. Its activities are linked to Skill India Mission, National Solar Mission, Swachh Bharat Mission and Make in India initiative of Government of India. SCGJ is closely interacting with Ministry of New and Renewable Energy, Ministry of Environment, Forest & Climate Change, Ministry of Urban Development, Ministry of Water Resources and Niti Aayog to cater to the skilled manpower requirements for the changing scenario.

Skill council for Green Jobs is working towards introducing environmental friendly and sustainability in existing job roles as well. This translates into a huge opportunity for additional job creation and impetus for Skilling & Entrepreneurs Development. Currently, Green Business sector generates about 22 lakh Jobs,

## SUSTAINABLE DEVELOPMENT AND GREEN JOBS

It is estimated that about 2 crore additional jobs will be created by 2030 due to strategic shift of India towards sustainable development and climate justice.

R&D and advanced technologies in manufacturing is a backbone for sustaining the growth of any sector. MNRE has been extremely focussed on giving impetus to Renewable Energy R&D through various initiatives. Research and Development efforts in renewable energy continued to make advances in making such technologies affordable and sturdy with assured quality. Skill Council for Green Jobs has systematically planned to meet the skilled manpower requirement and is geared to supplement the national efforts of moving towards sustainability. The training centres of SCGJ are strategically co-located with on-going or existing Solar PV or Wind Power Plant sites and manufacturing units, so that local manpower can be skilled and a sustainable employment cycle is established.

The success of any technology or technological shift is greatly dependent on its proper execution on ground through trained man power. It may not be possible to achieve the desired results of any strategic shift unless our human resource and skill development policies are aligned to address the needs. MSDE skill initiatives are comprehensive in meeting the skill workforce for R&D, manufacturing and project development. It will be further strengthened with Industry participation and up gradation of skills to meet all future challenge. Each job or Job role has to contribute in the sustainable development and undertake work in an environmentally benign manner.

NSQF Levels	Key Tasks			Implementation Levels	
	Solutions	Policies	Implementation		
8 to 10	Design greening solutions to make the organization more sustainable	Design organizational greening policies in line with govt policies/acts of the sector to implement sustainability at workplace/organizations	Strategize the implementation of greening policies at an organizational level	Practice greening values at individual level	Management + Organizational Level
5 to 7	Interpret & implement greening solutions	Interpret & implement organizational greening policies and obtain required regulatory approvals	Supervise implementation of all greening practices  Create awareness about the policies		Individual + Organizational Level
1 to 4	Follow greening solutions, policies & practices				Individual Level



Dr. P.Saxena, CEO, SCGJ

## REDEFINING SKILLING IN COVID 19 PANDEMIC

Covid 19 pandemic is a human crisis of very high magnitude which has impacted globally, not only our daily life but also triggered a deep economic crisis. The Indian economy has also been impacted severely and current GDP growth was slowest in the last one decade. Hence there is a need to transform rapidly so that we adapt to the post pandemic world and revive the economy. Though this recovery may take long, this pandemic has also provided both opportunities and challenges to our country.

In the changed scenario, global businesses are realigning to meet the changing demands. Skill gap continuous to remain a critical challenge and there is an urgent need to redefine skillsets and competencies in our workforce and also to proceed towards digital transformation. Focus should be now on upskilling and reskilling of existing workforce for successful execution of new business models. This can be possible through effective use of technology and more opportunities to technology providers and market places to reorient learning needs. In fact the need of the hour is to prioritize learning and upskill the existing workforce for their survival in these unprecedented times. So with work processes changing a lot of upskilling need to happen to digitally transform the skilling platform with the use of new applications

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Academic and subject matter experts need to be encouraged as the earlier traditional tools of training such as summits, seminars, on ground workshops etc. are being replaced by virtual events, demonstrations, webinars and online courses, which are the preferred tools for skilling. With virtual learning emerging as one of the best practices there is a need for updating on new-age skills like Artificial Intelligence (AI), Big Data, 3D - Technology, Cloud Computing, Cyber Security and use of smart devices for a smooth transition to post Covid 19 World. It is clear that there is going to be a great demand for workforce with the right skill sets.

Government of India has also proactively taken skilling initiatives to benefit from this opportunity and unlock our potential. GoI has initiated various programmes and promoting digital learning platforms so as to facilitate full access to study materials and also engage in online courses with interaction of teachers/trainers like the physical class room setting. Similarly, State Government is also promoting Smart classes to engage skilled instructors to impart skilling in remote areas. NSDC has also developed e-Skill India Portal, a unique initiative by Ministry of Skill Development and Entrepreneurship which aggregates best of content available with the leading content providers, training partners and professionals across the entire skilling ecosystem. This platform provides opportunities to training partners and skill seekers to choose resources from a catalogue that aggregates materials for various partner platforms.


It is expected to create a digitally skilled workforce with industry specific skills to meet the current changed demand. Virtual labs is the initiative of Ministry of Human Resource Development (MHRD) which does not require any additional infrastructural setup for conducting experiments at user premises. The simulations-based experiments can be accessed remotely via internet. Similarly Microsoft in collaboration with NSDC is conducting digital skilling awareness on cloud computing and Artificial Intelligence and providing numerous opportunities for upskilling.

In order to cater to the Industry 4.0 requirements, there is a need to create opportunities for Young India with focus on e-skilling. SCGJ has thus developed an e-learning platform to widen the scope of virtual experimentation in line with Digital India initiatives by the Government of India. Skill Council for Green Jobs (SCGJ) has a strong industry connect to improve employability of trained and skilled manpower. SCGJ is also having strategic alliances with about 400 Industries, organizations and State skill missions. It has signed MoUs with over 40 industries and skill development missions for long term relationship in connection with quality training and better employment. In very short span, SCGJ has affiliated over 500 training institutions, PAN India and delivered to deliver trainings over 2,00,000+ candidates on the 51 National Standards developed by SCGJ in the renewable energy and waste management domain.

# REDEFINING SKILLING IN COVID 19 PANDEMIC


SCGJ e-learning Management System (SEMS) will facilitate online skill activity in the green jobs sector by aggregating all its partners on a single digital platform and then making learning activities accessible to the candidates across India. This dedicated portal will support training partners to conduct conventional and new learning initiatives and give a momentum to skill development activities so as to empower students/candidates with diverse e-learning options in the green job sector. This initiative has received a lot of support and encouragement and a total of 30 Training Partners have already registered with this portal. Thus SCGJ is moving forward for creating a platform to reorient skills.

The current environment is not likely to change soon .We need to build technological capabilities and reskill / upskill the existing workforce through online trainings to help achieve the goals of their organization The SEMS developed by SCGH would certainly help students / candidates to realize their career potential and be highly rewarding in years to come.



### SCGJ E-learning Management System (SEMS)

An initiative of Skill Council for Green Jobs to facilitate online skill activities in the Green Jobs sector by aggregating all its partners on a single digital platform and then making learning activities accessible to all candidates across India



**PRIMARY OBJECTIVES**

- Support training partners to conduct conventional and new e-learning initiatives
- Re-gain momentum of skill development activities and adapt to new normal
- Encourage partners to share their knowledge through webinar series
- Empower students with diverse e-learning options in the Green Jobs sector

**KEY HIGHLIGHTS FOR OUR TRAINING PARTNERS**

<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>
<b>E-Trainings</b>	<b>Candidate Mobilization</b>	<b>MCQ Tests</b>	<b>E-Training Certificate</b>	<b>Communication Interface</b>
Dedicated portal to put information about your e-trainings supported by SCGJ.	Option for candidates to register in your e-learning activities from SEMS portal.	Feature for TPs to create online MCQ test for each e-learning activity.	Instant certification generation for candidates who clear assessment.	Interface to interact with SCGJ for all TOT programs conducted online.
TPs can spread awareness about innovative e-learning initiatives (webinars etc.)	Candidates can view Training partner details (website) before registering.	Option for candidates to attempt assessment test and view their result.	Study resources related to e-training can be made accessible to students.	Personalized TP Dashboard to monitor self performance.

**EXECUTION OF SEMS**

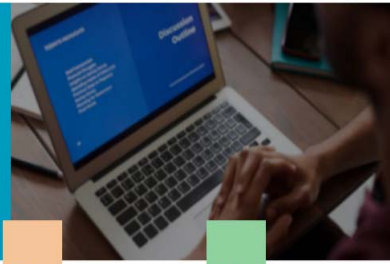
SCGJ plans to launch the beta version of this platform on or before August 15<sup>th</sup> 2020. For this, we would invite a total of 150 training partners on a first-cum-first serve basis in the first phase of enrollment. SCGJ shall re-open the enrollments at regular intervals for other training partners to get onboard.

**REGISTRATION OF INTEREST TO JOIN SEMS**

Interested training partners must fill a registration form at [www.surveymonkey.com/r/scgjsems](http://www.surveymonkey.com/r/scgjsems). SCGJ shall close first phase of registration with first 150 applications. An annual membership fees of INR 2000 needs to be paid for this platform to SCGJ.

**QUERIES**

Please feel free to write an email to **Mr. Arpit Sharma - Head Assessment & Assurance** at [assessment.greenjobs@gmail.com](mailto:assessment.greenjobs@gmail.com) in case you need any clarification.




**Dr.(Mrs.) Parveen Dhamija**  
**Advisor, SCGJ**  
**(Biomass & Sustainable Livelihood)**

## CYBER SECURITY ISSUES IN POWER SECTOR

### Cyber Security in Indian Power sector

#### Indian Electricity Grid code Clause 4.6.

All utilities shall have cyber security framework to identify the critical cyber asset and protect them so as to support reliable operation of the grid

#### IS-16335 :2015 Power Control Systems-Security Requirement

It specifies requirement for identification and protection of critical assets for all entities involved in generation, transmission, distribution and trading of electric power.

#### CERC (Communication System for inter-State transmission of Electricity) Regulations, 2016

CEA shall formulate and notify technical standards, cyber security requirements, protocol for the communication system for Power Sector within the country including the grid integration with the grid of the neighboring countries.

### Cyber-attacks targeting Indian energy companies

<b>Bharat Coking Coal Limited</b>	The site was hacked twice in 3 months during Oct-Dec 2015
<b>Oil and Natural Gas Corporation</b>	Company lost Rs 197 crores because of an email fraud
<b>UP Power Corporation Limited</b>	The company's online billing system was hacked and power bills of consumers was affected
<b>Indian Oil Corp Ltd</b>	The company's website was hacked by a Turkish group named 'TurkGuvenligi'

The Indian power sector has seen a significant growth over the years – from 1.35 GW installed capacity at the time of independence to 370.106 GW (as of March 2020). Designing smart grids without a proper security plan in place can lead to a crisis situation and result towards weakening of the country's power sector stability. While most of the early cyber-attacks and breaches were motivated by financial gain, there has been an increase in instances where nations' electric grid, power and utilities have been the target of cyber-attacks.

#### Addressing Key Challenges of Cyber Security

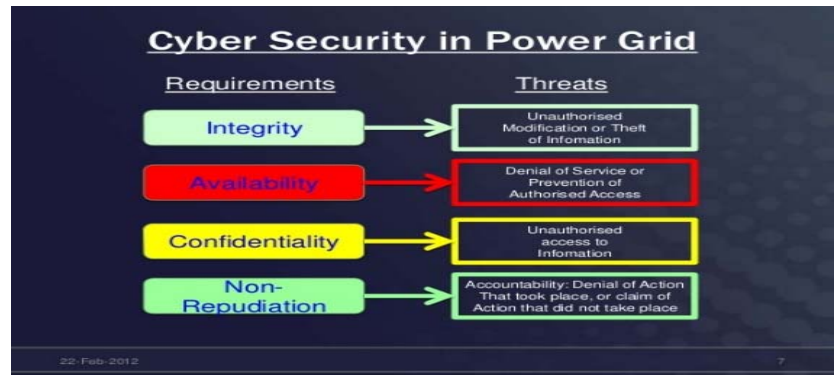
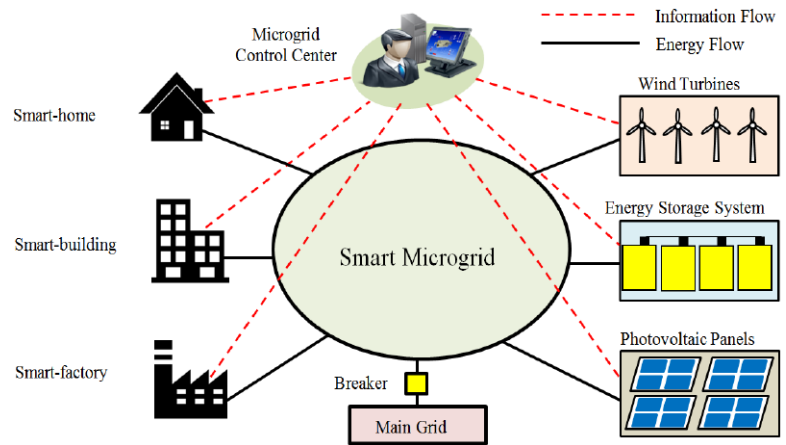
- Appreciation of the threat itself.
- Challenges in the discovery of the exposure/threat.
- Attribution or identifying the perpetrator or the source of the threat.
- Determining the appropriate response.
- Jurisdiction.
- Information sharing and collaboration.
- Lack of international legal framework.

# CYBER SECURITY ISSUES IN POWER SECTOR



**There are six areas, which need to be addressed for cyber security:**

1. Vulnerability assessment in order to categorize the devices in terms of high risk and general vulnerabilities.
2. Vulnerability assessment area, extended to attacks from an insider, attack on the computer monitoring and controlling devices, attack on the SCADA network, and programming of malware into the control system devices
3. Prepare framework for testing of equipment.
4. Asset mapping of all critical infrastructure equipment and periodic monitoring of these equipment for cyber security compliance.
5. Provide a complete monitoring solution to report on malicious connections.
6. Auditing and conformance procedure



**Mr. Vibhash Trivedi**  
 Technical officer, SCGJ

## SKILL TRAINING EFFECTIVENESS- WASTEWATER TECHNICIAN

In the National Capital of India, New Delhi, there are several Industrial clusters having different types of Industrial units such as Textile, Electroplating, Automotive, Oil processing and many more. The industrial cluster of New Delhi also houses various Community centers, Banquet Halls that operate in their region. These Industries discharge hazardous effluents that need to be treated to desired permissible levels before they are being discharged to the mainstream. However, many of these Industries do not have requisite space to install Effluent Treatment Plants and solely rely on DSIIDC's Effluent Treatment Plants (CETPs) which are managed by the CETP Society.

Workers in the wastewater treatment sector are responsible for the day-to-day operation, maintenance, troubleshooting and handling of special problems of wastewater treatment plants. Occupations can include Plant Operator, Senior Operator, Water Resources Specialist, Maintenance Operator, etc in both municipal and private facilities. There is also exposure to hazards related to work in confined spaces.

The CETP societies often lack skilled workforce which is involved in the operation and maintenance of these plants resulting in various hazards such as, Activity Hazards, Chemical Hazards, Accidental Hazards, Fire Hazards, Electrical Hazards & Biological Hazards.

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## SKILL TRAINING EFFECTIVENESS- WASTEWATER TECHNICIAN

Acknowledging that demand for qualified skilled staff in the Water and Wastewater Industry is high while qualification pathways are diverse and complex, SCGJ addressed the above issue by Training 118 wastewater treatment plant technicians. The Waste Water trainings were conducted in the month of February and March 2020. The Skill Training was provided to the CETP Staff in order to improve in the following areas:

- Plan, monitor, control and document operational processes.
- Recognise faults in the operational process and initiate measures to eliminate the fault
- Recognise dangers in the operational process and carry out safety measures
- Operate plant and machinery, inspect, service and maintain machines, equipment, piping systems and structural facilities
- Recognise the dangers in dealing with electricity; assess faults; and carry out electrical engineering tasks
- Collect and evaluate data and optimise processes
- Monitor and document compliance with legal requirements
- Work in costs-, environmental and hygiene-conscious manner.

The Skills Training was imparted in different Wastewater treatment plants of Delhi, namely **Mayapuri, Bawana, Badli and G.T.Karnal Road CETPs.**



**Mr. P.B.Singh**  
**Technical officer, SCGJ**

# PREVENTION OF HAZARDOUS CLEANING OF SEWERS AND TANKS

Manual scavenging refers to the practice of manually cleaning, carrying, disposing or handling in any manner, human excreta from dry latrines and sewers. The practice is deeply rooted in the country and is against human dignity for the communities engaged in this work and also poses a major health hazard.

To address this critical issue, PAN India Workshop on “Prevention of Hazardous cleaning of sewers and septic tanks” was organized by SCGJ and supported by National Safai Karamcharis Finance & Development Corporation (NSKFDC).

This workshop was organized as a part of yearlong commemoration of 150<sup>th</sup> birth anniversary of the father of nation, Mahatma Gandhi and has been successfully completed at various locations of the country.

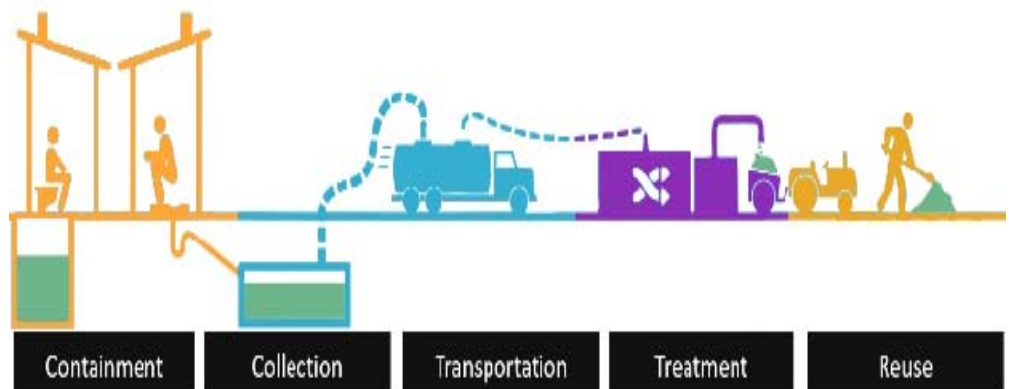
Due to this initiative of Ministry of Social Justice and Empowerment and SCGJ, the sanitation workers, officers of urban local bodies etc. would directly and indirectly gain valuable insight into the hazardous cleaning of sewers and septic tanks and the scenario of accidents and deaths during cleaning sewers and septic tanks would get changed comprehensively.

Topics Covered in the Workshop were:

- Manual Scavenging and Hazardous Cleaning in India.
- Legal provisions for the welfare of Manual Scavengers.
- Punishment as per MS ACT 2013.
- Protective gear and safety devices to be used for manual cleaning of Sewer and Septic Tank.
- Precautions to be observed for cleaning of Sewer and Septic Tank .
- Schemes for rehabilitation of manual scavengers
  - Self-Employment Scheme for Rehabilitation of Manual Scavengers
  - Loan schemes of NSKFDC
  - Loan for sanitation machineries with agreement with municipalities

**SCGJ has successfully completed 247 workshops under 196 Municipalities across India.**

State	Number of Workshops conducted
Andaman & Nicobar	1
Andhra Pradesh	3
Assam	1
Bihar	3
Delhi	4
Gujarat	7
Haryana	10
Jammu & Kashmir	49
Jharkhand	3
Karnataka	2
Madhya Pradesh	10
Maharashtra	28
Odisha	5
Punjab	1
Rajasthan	18
Tamil Nadu	69
Uttar Pradesh	17
West Bengal	16
<b>Grand Total</b>	<b>247</b>





**Short heart touching movie on the life of the Manual scavengers created by SCGJ.**

<https://www.bing.com/videos/search?q=+skill+council+for+green+jobs+manual+scavenging&&view=detail&mid=4C5EA1553CB481B9A8B74C5EA1553CB481B9A8B7&&FORM=VRDGAR>



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Sarvesh is working as Senior Technical Officer in SCGJ and involved in R&D in Skill Development activities for six sectors viz Water Management, Solid Waste Management, E-Waste Management, Carbon Sinks, Green Construction and Clean Cooking along with the implementation of CSR sustainability project in villages of Haryana. Sarvesh is passionate about the circular economy advocating Bio-energy and efficient waste management.



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