



SUSTAINABLE & ENVIRONMENT-FRIENDLY INDUSTRIAL PRODUCTION (SEIP)

National activities: Monthly Progress Report – September, 2017

“Sustainable and Environment-friendly Industrial Production – SEIP” is a joint project of the Ministry of Environment, Forest and Climate Change (MoEFCC) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH within the framework of Indo-German Technical Cooperation. The objective of the SEIP project is to enable Indian public and private stakeholders to jointly implement strategies for efficient, environment- friendly, and climate-friendly industrial development.

The project aims at mitigating environmental problems caused by industrial production focusing on industrial wastewater and solid waste management. During the project duration, technical solutions as well as business and management models to reduce acute environmental pollution and to improve resource efficiency in industrial production are piloted in five Indian industrial estates. Visible positive direct impacts of the solutions showcased are to improve conditions directly at the sites, and to unfold a strong signal effect leading to the replication and upscaling of solutions in industrial parks throughout India. Project activities focus on wastewater conveyance systems, the treatment, recycling and reuse of wastewater, waste management as well as the management and planning practices in the industrial areas. Solutions are piloted in 5 selected industrial areas located in the states of Delhi, Gujarat and Uttarakhand.

Further cross-cutting activities, such as the development of a market-driven training system for technicians and operators of effluent treatment plants, the development of industry-wide environmental standards, the work on a green rating system for industrial areas, and the setting up of a technology platform offering international exchange of best practice technologies target the improvement of enabling framework conditions for sustainable industrial production in India.

SEIP started in March 2015 and will run until February 2018 (with a likely extension of 12 months) and has a budget of EUR 6.5 million. A brief overview of the SEIP Project is given at Annexure 1.

National Activities

Activities implemented on a national (not state specific) level include:

- 1) Support international and national **technology transfer** through technology partnerships and the establishment of a technology platform (*Franziska*)
- 2) Outreach, upscaling and replication of **best practices** in the Indian context (*Franziska*)
- 3) Development of management and planning methods of industrial area for **promoting women** (*Anshika*)
- 4) Development and introduction of a guideline/funding scheme/policy on **online monitoring** of ETPs/CETPs (*Ashish*)
- 5) Development of a **rating/ certification system** for industrial areas in India along with a supportive scheme (*Anshika*)
- 6) Development and introduction of guideline/funding scheme/policy of **management structures** at industrial areas (*Ashish*)
- 7) Development and introduction of a **training scheme** for technicians and helpers working at ETPs and CETPs (*Franziska*)
- 8) Development of a **national promotional scheme on skilling** of wastewater treatment plant operators and technicians (*Franziska*)
- 9) Development of a national **promotional scheme on skilling** of wastewater treatment plant operators and technicians (*Franziska*)

About the activity: Currently, there is no provision in the Indian law foreseeing a certain educational level of workers in the industrial wastewater sector. In order to install a training system for wastewater treatment plant operators and technicians, a national promotional scheme offering to promote the skilling of wastewater treatment plant operators and technicians on a large scale.

Summary of progress so far:

- a senior national consultant has been contracted to formulate the contents of the promotional scheme to be proposed to MoEFCC

Progress for the current month:

- first draft on promotional scheme to be expected in the course of October 2017

- 10) Development and introduction of guidelines for CETPs (*Ashish*)s
- 11) Development of a proposal for a comprehensive enforcement **directive for tannery sector** and a proposal for uniform consent format (*Ashish*)
- 12) Project **management** and **monitoring** (*Anshika*)
- 13) Annexures

Activities at the national level also comprise punctual actions at the site level. For more detail, please refer to respective state-level progress reports.

1. **Support international and national technology transfer through technology partnerships and the establishment of a technology platform (*Franziska*)**

About the activity:

Objective of this activity is promote technology transfer within Indian as well as from abroad to India in order to reduce pollution and to increase resource efficiency in the Indian manufacturing sectors. The platform is

supposed to comprise of innovative and interactive formats, such as training weeks, B2B meetings, delegation trips and virtual exchange platforms. Further, technology partnerships between Indian and German institutions are to result thereof.

Summary of progress so far:

- MoEFCC expressed keen interest in the establishment of the technology platform and told SEIP to go ahead with the activity.
- Adelphi started working on the pre-feasibility study in July 2017.

Progress for the current month:

- First version of the draft feasibility study was submitted on 22nd of September. Due to a delay in interviews, the work has been delayed and a contract extension till 31st December has been initiated.

2. Outreach, upscaling and replication of best practices in the Indian context (Franziska)

About the activity:

This activities is targeted at upscaling and replicating the solutions identified and showcased through SEIP project-level activities. Successful technical solutions (e.g. improved energy efficiency at a CETP), effective methodologies/ approaches (e.g. Environment Drives), and accompanying capacity training measures (e.g. training of CETP operators) are translated into Best Practices which provide guidelines of how to implement them. Through the targeted dissemination of these best practices, solutions have the chance to be replicated also outside of SEIP project areas.

Summary of progress so far:

- Operational Plan for Replication activities has been developed
- Development of action plan for Success Stories for replication/Best Practices have started

Progress for the current month:

- Documentation of “Environment Drive” as a Best Practice has started
- Collection of data from implemented measures regarding the upgradation in ETPs has taken place from 25th to 29th of September by GIZ. The documentation will happen in October 2017. Data has been collected from
 - Wipro Enterprises Pvt. Ltd.
 - Penta Latex
 - KTL Pvt. Ltd.

3. Development of management and planning methods of industrial area for promoting women (Anshika)

About the activity:

The SEIP project has an indicator related to demonstrating practical examples for management and planning methods of sustainable industrial zones that support women. Moreover, the SEIP project has encountered strong interest from multiple states for the provision of planning inputs for the development of

new as well as the retrofitting of existing industrial parks. The project will provide technical support including the integration of quality parameters for sustainability and provisions for promoting women for the planning of 14 industrial areas in 3 states.

Summary of progress so far:

- Orientation workshop on “Industrial Parks for Women Entrepreneurs” was conducted on 18th January 2017 at Gandhinagar resulting in GIDC’s decision to initiate the retrofitting of five industrial estates (Vapi GIDC, Vatva GIDC, Naroda GIDC, Ankeleshwar GIDC and Rajkot GIDC). Further, the industrial parks for women at Sanand are to be replanned.
- A tripartite MoU worth Rs 1000 crore (~ EUR 137 million) was signed between GoAP, ALEAP and GIZ in January 2017 for the development of five (5) industrial parks for women entrepreneurs in AP.
- Andhra Pradesh Industrial Infrastructure Corporation (APIIC) has expressed its interest in receiving technical inputs in the site master planning of a pharma cluster from SEIP.
- The Telangana State Industrial Infrastructure Corporation (TSIIC) are in need of technical assistance in the master planning of a MSME cluster near Film City and Pharma City located in close proximity to Hyderabad.
- Inputs on scope of work for undertaking a pre-feasibility study and the planning of a pharma cluster was provided to APIIC in February 2017.
- Recommendations on master planning, climate change adaptation and climate risk assessment were provided to TSIIC for the Pharma City at Hyderabad in February 2017.

Progress for the current month:

- Follow-up actions were undertaken to ensure use of tender documents for the engagement of consultants to prepare the retrofitting site master plan of GIDC Vapi Industrial Estate.

4. Development and introduction of a guideline/funding scheme/policy on online monitoring of ETPs/CETPs (Ashish)

About the activity:

The objective of this activity is to review the existing continuous/online monitoring systems at Common Effluent Treatment Plants (CETPs) and Effluent Treatment Plants (ETPs) of industries at SEIP Project sites, and to develop improved guidelines for continuous/online monitoring systems for industrial wastewater. It also includes training for the staff of Central Pollution Control Board (CPCB), State Pollution Control Boards (SPCBs), CETPs and individual industries on theoretical and practical aspects for improving continuous/online monitoring systems for industrial waste water.

Summary of progress so far:

- Site visit of German expert (Aqua Consult) to examine existing online monitoring installations at river (Yamuna), CETPs, individual industries at Delhi & Vapi (Gujarat) in October 2016
- Further visit and half-day workshop with CPCB, 2-day trainings for CETP/ETP managers on continuous/online monitoring systems for industrial waste water in March 2017
- Reports on “Review of Existing Continuous/Online Monitoring Systems”, “Recommendations for Continuous/Online Monitoring Systems for Industrial Wastewater”, and “Suggestions on Existing CPCB Guidelines” shared with CPCB.
- Half day workshop with officials from CPCB (27th March 2017): presentation of German expert’s finding and recommendations for improving the CPCB guidelines (13 scientists from CPCB participated in the workshop)

- 2-day theoretical/practical training programme conducted on “Continuous/Online Monitoring Systems for Industrial Wastewater” (at Delhi on 28-29 Mar, 2017 with 24 participants | at Vapi (Gujarat) on 30-31 Mar, 2017 with 45 participants) with the managers/supervisors from ETPs of industries and CETPs, and officers of CPCB and SPCB (24 participants)
- Final report on the trainings conducted during second mission was received in June 2017.
- Report on the training programme was received from Aqua Consult in June 2017. GIZ to close the contract.
- Dr Subrahmanyam (National Expert) discussed the suggestions given by the German expert with CPCB. CPCB to share comments on the given suggestions by Aug-Sep 2017.

Progress for the current month:

- Dr Subrahmanyam (National Expert) is working on the final draft to be submitted to CPCB.

5. Development of a rating/ certification system for industrial areas in India along with a supportive scheme (*Anshika*)

About the activity:

Currently, there are no uniform standards/benchmarks/guidelines at the national level for developing “green” industrial areas or for measuring how “green” or environment-friendly an industrial area is in India. A “green” rating and certification system for industrial areas is to be developed in partnership with the German Sustainable Building Council (DGNB) and relevant Indian organisations based on a viable business strategy and not-for-profit approach. This shall also be supported by a scheme which can ensure the integration of this rating system in market.

Summary of progress so far:

- Preliminary guidelines for benchmarking of industrial areas submitted to CPCB in June 2016.
- Pre-feasibility study for development of a « green » rating system for industrial areas in India started in August 2016 with Buro Happold Engineering as consultants.
- A multi-stakeholder consultative workshop to discuss a locally supported green rating system applicable for industrial areas in India was held on 22nd September 2016.
- IGBC expressed interest in putting the system in place for India through a partnership with DGNB.
- A detailed matrix of parameters developed jointly with UNIDO and the World Bank provided to Buro Happold Engineering as a reference for development of the new “white label” for industrial areas in India.

Progress for the current month:

- GIZ prepared a draft document on ‘Sustainability standards for planning and retrofitting of industrial parks in Gujarat’ and a similar one aimed at the national level.
- GIZ contacted GCPC to follow up with GIDC on the standards and requirement of scheme to promote them.
- GIZ presented the sustainability standards for planning of industrial areas to DIPP, MoCI and received positive interest.
- IGBC shall follow up with DIPP to move the standards further at the national level.

6. Development and introduction of guideline/funding scheme/policy of management structures at industrial areas (*Ashish*)

About the activity:

The aim of this activity is to provide viable solutions / models to public agencies such as the state industrial development corporations (e.g. Gujarat Industrial Development Corporation – GIDC, Delhi State Industrial Infrastructure Development Corporation – DSIIDC, State Industrial Infrastructure Corporation Ltd. – SIIDCUL) for establishing management structures in industrial areas in India in specific to the selected industrial areas Gujarat (Vapi IA), Uttarakhand (IIE Haridwar), and Delhi (Patparganj IA, Lawrence Road IA, Okhla IA) taking into consideration international best practice examples, legal provisions in India applicable to the selected sites, and the viability in the India situation.

Summary of progress so far:

- Information exchange on existing management structures provided to the German expert (Weber Consulting) from 5 selected sites
- In February 2017 (06-17), the German expert visited to examine the existing management structures at 5 industrial areas (Vapi IA, IIE Haridwar IA, Patparganj IA, Lawrence Road IA, Okhla IA)
- In March 2017, the first draft of report on management structures for the five (5) selected industrial areas received and GIZ shared feedback.
- In May 2017, GIZ submitted the final report on “Management Structures at Industrial Areas” to MoEFCC, SIIDCUL, DSIIDC, and GIDC.
- During July/August, Vapi Cell discussed the German report with Vapi Industrial Estate’s stakeholders (GPCB, NAA, GIDC) separately. The same procedure is planned in the other project sites.

Progress for the current month:

- After collecting the inputs from stakeholders (GIDC, VGEL, NAA etc.) of Vapi Industrial Estate, a concise report was prepared and shared with a proposal on feasible management structures for GIDC’s consideration. It was sent to the Vice Chairman and Managing Director, GIDC along with a formal letter/communication on the 14th September 2017.
- After submitting the report, GIZ requested a meeting with the Chairman and Managing Director, GIDC for discussion over the new management structure for operating and managing the GIDC Industrial Estate, Vapi.

7. Development and introduction of a training scheme for technicians and helpers working at ETPs and CETPs (*Franziska*)

About the activity:

This activity aims at the introduction of a market-based training system for the technicians and helpers employed at CETPs and ETPs. Main partner in this activity is the Skill Council for Green Jobs (SCGJ) which is also responsible for affiliating training institutes to enable them to conduct trainings.

Summary of progress so far:

- Training of trainers (not market-based) took place in 2016 with experts from DWA (9 trainers were trained)
- Pilot trainings (not market-based) took place in 2016 (34 technicians and helpers were trained)
- Qualification Packages for the designations “Helper” and “Technician” have been developed and have been adopted by SCGJ
- Skill competition at IFAT 2016 took place

- Workshop with the consultant, SCGJ, GIZ and stakeholders to finalize scope and content of Handbooks was held on 30th of May 2017 at SDCJ offices.
- Training for wastewater operators/technicians to take place at CETP Mayapuri on 2nd and 3rd of August 2017. 27 participants from all 13 CETP's along with ETP operators participated in the skill programme.
- Training for wastewater operators/technicians to take place at Haridwar on 18 and 19th of August 2017. About 44 participants from 24 companies participated in the training programme.

Progress for the current month:

- SCGJ handed over finalised handbook to publisher.
- The Skill Competition for ETP/CETP operators and technicians at IFAT 2017 was cancelled.
- Mr. Sripati Cowlagi and Mr. Kumar Singh took part in the panel discussion “Unlocking the potential of skilling in the Indian waste and wastewater sector - Impact on efficiency and environment” on 26th September 2017 at IFAT organised jointly by DWA, SCGJ and GIZ.



Figure 1 Speaker of panel discussion at IFAT 2017



Figure 2 Mr. Cowlagi from GIZ speaking on the panel



Figure 3 Mr. Kumar Singh from EMS Infracon Pvt. Ltd. presenting on impacts of skilling on plant performance

8. Development of a national promotional scheme on skilling of wastewater treatment plant operators and technicians (Franziska)

About the activity: Currently, there is no provision in the Indian law foreseeing a certain educational level of workers in the industrial wastewater sector. In order to install a training system for wastewater treatment plant operators and technicians, a national promotional scheme offering to promote the skilling of wastewater treatment plant operators and technicians on a large scale.

Summary of progress so far:

- a senior national consultant has been contracted to formulate the contents of the promotional scheme to be proposed to MoEFCC

Progress for the current month:

- first draft on promotional scheme to be expected in the course of October 2017

9. Development and introduction of guidelines for CETPs (Ashish)

About the activity: Not started yet

Summary of progress so far: Not started yet

Progress for the current month: Not started yet

10. Development of a proposal for a comprehensive enforcement directive for tannery sector and a proposal for uniform consent format (Ashish)

About the activity:

This activity aims at developing a proposal for a comprehensive enforcement directive for the tannery sector and a proposal for a uniform consent format in India based on German/European experience. The proposal will be sent to MoEFCC/CPCB with the aim of it being included in central government policies in order to prevent and reduce pollution and to improve resource efficiency in industrial zones.

Summary of progress so far:

- In September 2016 (19-29), the German expert (ITG) worked jointly with CPCB and visited to tanneries in Uttar Pradesh (Kanpur, Banther, Jajmau etc.) to review the existing situation.
- Training imparted to CPCB and SPCBs based on findings and experienced gained from visits in industries
- German expert's Report/Proposal submitted to MoEFCC & CPCB on developing "Enforcement Protocol/Ordinance for Environmental Compliance in Leather Tannery Sector in India"
- TOR (National Expert for Policy Measures) prepared and consultant appointed for translating the findings of the German expert into draft notification for MoEFCC
- The national expert has prepared the first draft notification on tannery sector for consideration of the Ministry of Environment, Forest and Climate Change (MoEFCC) and discussing with German experts for their views/feedback
- Draft notification sent to CPCB and MoEFCC for review and consideration on 28th April 2017.
- A joint meeting has been conducted between CPCB and GIZ to discuss the draft notification on tannery sector in June 2017.
- After incorporating the final comments/observations from CPCB, the final draft has been submitted formally to CPCB (20th June 2017). The initiation process for its finalisation and publication was requested.
- A meeting was organised with the Chairman CPCB on 7th August 2017. Dr Subrahmanyam apprised the Chairman on the final deliverable submitted by GIZ. During the meeting, the Chairman directed to formulate a working group by CPCB and invite suggestions/comments on the draft notification by mid of September 2017.
- A letter from CPCB received by GIZ on 9th August 2017 wherein CPCB requested MoEFCC for reviewing and considering the proposal of GIZ.

Progress for the current month:

- After meeting with the Chairman CPCB on 7th August 2017, a formal letter was issued to the Member Secretary, CPCB by GIZ on 11th August 2017 with a draft proposal on constitution of an Expert Committee by CPCB to finalise the proposed Draft Notification / Enforcement Protocol for strengthening environmental compliance in Leather Tannery Sector. CPCB to arrange a meeting and invite stakeholders for discussion over the document "Draft Notification for Leather Tannery

Sector” submitted by GIZ. GIZ has been following to CPCB on this subject.

11. Project management and monitoring (Anshika)

About the activity:

This section provides updates from project management (such as Capacity WORKS tools, result based monitoring, Operational Plans, etc.)

Summary of progress so far:

- SEIP project presented the progress during JPSC on 9th December 2016
- Result based monitoring system developed
- Capacity WORKS standards uploaded at the DMS under “F-Implementation” folder.
- An indicator-wise compilation of all the sources of verification (reports, documents etc.) was created at DMS.
- Operational planning workshops conducted and concluded at Haridwar and Vapi with partners to finalize the “operational plans” before submitting to MoEFCC for approval.
- An interim submission of all OPs (Delhi, Gujarat and Uttarakhand) submitted to MoEFCC.

Progress for the current month:

- The tool on ‘Map of actors’ was explained to Vapi, Delhi and Haridwar teams. The results-documented working aids have been uploaded at the DMS.
- The tool on ‘Steering structure’ tools was explained to Delhi and Haridwar teams. The results-documented working aids have been uploaded at the DMS.
- The tool on ‘Capacity Development Strategy’ is being updated for Vapi

12. Annexures

Annexure 1: SEIP Project Overview

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Objective: The SEIP project has focus on efficient, and environment and climate-friendly industrial development. The objective of the project is: “Private and public stakeholders jointly implement strategies for efficient, and environmental and climate-friendly industrial development.”

Duration: The project has a duration of 3 years from March 2015 to February 2018. The project is likely to be extended by about 8 to 10 months.

Budget: The total budget available for the duration of the project is 5 million EUR. An additional budget of 1.5 million EUR has been committed by the German for augmenting the activities for controlling industrial pollution to River Ganga.

Project Sites: The project has its focus in selected sites at the Gujarat Industrial Development Corporation’s (GIDC) Industrial Estate at Vapi (Gujarat), Delhi Industrial Infrastructure Development Corporation’s (DSIIDC) industrial areas at Patparganj, Mayapuri and Lawrence Road (Delhi), and the Integrated Industrial Estate State Industrial Infrastructure Development Corporation of Uttarakhand Ltd. (SIIDCUL) in Haridwar (Uttarakhand).

Partners: The Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India and GIZ are the main project partners. An Implementation Agreement has been signed between MoEF&CC and GIZ on 16th June 2016. The Central Pollution Control Board, as a technical arm of MoEF&CC, plays an important role.

Approach

The SEIP project works on selected environmental problems of national importance, with the main thematic focus on industrial wastewater and solid waste management. The project aims to showcase solutions on how acute environmental pollution can be reduced and how resource efficiency in industrial production can be improved. Project outputs are grouped into 3 areas:

- Output A: Environment-oriented modernisation of three industrial areas (showcasing solutions),
- Output B: Establishing appropriate framework conditions at the national and state levels, and
- Output C: Knowledge management and dissemination.

To accomplish these outputs, various activities are being taken up at the national level as well project site level. The project activities are focused on wastewater conveyance, treatment, recycle/reuse, waste management, monitoring, process modification in individual industries etc. These will be complemented by training and skills development, and setting up of a technology platform. At the national and state level, the

project supports the creation of an enabling framework by suggesting measures for new policies, plans and support programmes to prevent and reduce pollution and improve resource efficiency in industrial zones. Further, the project will create practical examples of management and planning for sustainable industrial zones supporting women. The project will include private stakeholders such as industry associations, operators of industrial sites and companies, and relevant entities in the states and the centre. The public and private sectors will be effectively engaged at various stages of the project.

Expected Results of SEIP Project

The SEIP project will demonstrate solutions resulting in positive impacts and improved environmental conditions at the selected sites. The successful cases will serve as models that can subsequently be taken up on much larger scales. The key indicators for measuring the results are:

- Decrease in pollution by an average of 20 percent in the surroundings of three industrial sites.
- Launch of development programmes and promotional guidelines that aim at increasing resource efficiency and reducing pollution in selected states.
- Launch of two additional compulsory central government policies, plans and/or programmes, and measures to prevent and reduce pollution as well as improve resource efficiency in industrial zones.
- Adoption of best practices through technology and management methods for an efficient, environment- and climate-friendly industrial development in 10 industrial zones.
- Provision of two additional practical examples regarding management and planning methods of sustainable industrial zones that support women.

