

# Forth Interim Report on Promotional Activities of Cleaner Production

(Supported by Gujarat Pollution Control Board)

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(Established by Industries & Mines Department, Govt. of Gujarat)

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## Content

<i>Sr. No</i>	<i>Subject</i>	<i>Page No</i>
1	<i>Project Background</i>	3
<i>Part – A cleaner Production Promotion Programme at Industrial Estates</i>		
2	<i>Cleaner Produciton Promotion Programme at Unjha Spices Cleaning Association, Unjha, Mehsana, Dated: 21 August 2014</i>	7
3	<i>Cleaner Produciton Promotion Programme at Vatva Industrial Estate, Vatva, Ahmedabad, 21 September 2014</i>	13
4	<i>Cleaner Produciton Promotion Programme at Kalol Industrial Estate, Kalol, Mehsana, 10 August 2014</i>	17
<i>Part - B Cleaner Production Promotion Programme at Collages</i>		
1	<i>Cleaner Production Promotion Programme at PDPU College, Gandhinagar, Dated: 12th September 2014</i>	23
2	<i>Cleaner Production Promotion Programme at Marwadi College, Rajkot, Dated:16th September 2014</i>	24
3	<i>Cleaner Production Promotion Programme at Government Engineering College, Bhuj, Dated: 18th September 2014</i>	26
4	<i>Cleaner Production Promotion Programme at Nirma University, Ahmedabad Dated: 19th September 2014</i>	27
5	<i>Cleaner Production Promotion Programme at L.D. Engineering College, Chemical Department , Ahmedabad, Dated: 25th September 2014</i>	28
6	<i>Cleaner Production Promotion Programme at L.D. Engineering College, Environmental Department , Ahmedabad, Dated: 25th September 2014</i>	28
7	<i>Cleaner Production Promotion Programme at Central University of Gujarat College, Gandhinagar, Dated: 29th September 2014</i>	29

## *Forth Interim Report on Promotional Activities*

*Of*

## *Cleaner Production*

### *Project Background:*

Cleaner Production, with great vitality and buoyancy, begin a new era of “Pollution Prevention” in the history of Environmental Promotion and will become the best approach for pollution control in this new century.

GCPC is actively engaged in promotional activities of Cleaner Production. To motivate the industries, Gujarat Pollution Control Board authorities have also initiated concepts of pollution prevention. GPCB is also now working on Proactive Concepts and supporting in implementation of Cleaner Production. As a part of this activity GPCB assigned a project of Awareness Programme on Promotional Activities of Cleaner Production at different sectors & different group in Gujarat to Gujarat Cleaner Production Centre.

The main objective of the Awareness Programme is to spread awareness on Cleaner Production in different Sectors. GCPC, thereafter, submitted inception report covering overall objective of the project, structure of the project, methodology, scope of work and expected outcome.

As mentioned, after receiving approval from GPCB, the selected industries association were contacted through mails, letters, phones and personal visits for fixing up time and date for the awareness programme. Also, senior officials of GPCB were contacted for their availability in the proposed programme.

### *Purpose:*

This Forth Interim report includes the progress of the Cleaner Production Awareness Programme at Industrial Estates and Colleges.

*Part A: Cleaner Production Promotion Programme at Industrial Estate:*

After receiving confirmation from respective industries association and officials from GPCB, awareness programme were conducted as below.

1. Cleaner Production Promotion Programme at **Unjha Spices Cleaning Association, Unjha, Mehsana Dated: 21 August 2014**
2. Cleaner Production Promotion Programme at **Vatva Industrial Estate, Vatva, Ahmedabad, Dated: 21 September 2014**
3. Cleaner Production Promotion Programme at **Kalol Industrial Estate, Kalol, Mehsana, Dated: 10 October 2014**

*Part B: Cleaner Production Promotion Programme at Colleges:*

After receiving confirmation from respective colleges, awareness programme were conducted as below.

1. Cleaner Production Promotion Programme at **PDPU College, Gandhinagar, Dated: 12<sup>th</sup> September 2014**
2. Cleaner Production Promotion Programme at **Marwadi College, Rajkot, Dated: 16<sup>th</sup> September 2014**
3. Cleaner Production Promotion Programme at **Government Engineering College, Bhuj, Dated: 18<sup>th</sup> September 2014**
4. Cleaner Production Promotion Programme at **Nirma University, Ahmedabad Dated: 19<sup>th</sup> September 2014**
5. Cleaner Production Promotion Programme at **L.D. Engineering College, Chemical Department, Ahmedabad, Dated: 25<sup>th</sup> September 2014**
6. Cleaner Production Promotion Programme at **L.D. Engineering College, Environmental Department, Ahmedabad, Dated: 25<sup>th</sup> September 2014**
7. Cleaner Production Promotion Programme at **Central University of Gujarat College, Gandhinagar, Dated: 29<sup>th</sup> September 2014**

### Preparation of Awareness Programme:

Though to conduct Awareness Programme on Cleaner Production is a routine activity, but for this project an exclusive team of senior officials from GCPC have been formed under direct supervision of Member Secretary, GCPC.

A descriptive presentations covering following themes have been prepared:

#### → Industrialization & CP

- *Industrial Scenario of Gujarat*
- *Measure for Environment Protection with EOP, i.e Treatment & Disposal*
- *Concept of CP*
- *Establishment of GCPC*
- *Support by GPCB*
- *Barriers*

#### → CP Tools

#### → CP Methodology

#### → Success Stories of CP

- *Textile Sector*
- *Chemical Sector*
- *Electroplating Sector*
- *Service Sector like Hotel & Hospital*
- *Foundry Sector*
- *Fish Processing Sector*

#### → Financial Assistance

- *Scheme of financial assistance for CP Implementation under Industrial Policy-2009 of Industries Commissionerate, GoG*

*An environment friendly Jute Bags consisting of:*

- CD Comprising:
  - Guidelines on Cleaner Production Implementation in Textile Sector, Posters, Cleaner Production Booklet prepared by GCPC
  - Schemes of assistance for Environment Protection and Measures of Gujarat Industrial Policy 2009
  - Copy of Powerpoint Presentations
- Writing Pad made of Recycled Paper
- Pen and
- Programme Schedule

was distributed to all participants.

The details of the awareness programme are given in the following pages.

Part A: Cleaner Production Promotion Programme at Industrial Estate:

**“Environment Clinic / Cleaner Production Promotion at Spices cleaning units  
at Unjha- Mehsana”**

Date: August 21, 2014

Time: 03.00 pm to 5.30 pm

Venue: Rotary Club Hall, Near Nagar Palika, Unjha, Mehsana

Programme Attendees:

<b>Organization</b>	<b>Name of the Official / Participants</b>
GPCB	Mr. B. L. Maru, RO, Mehsana
	Mr. P. S. Rathod, SSO, Mehsana
	Mr. Pritesh Prajapati, AEE, Mehsana
GCPC	Mr. P. R. Rathod, Sr. Project Engineer
	Mr. Sumit Patel, Asst. Project Engineer
Unjha Spices Cleaning Association	Mr. Maheshbhai Patel, President
	Mr. Nileshbhai Patel, Member
	Mr. Chindubhai Patel, Member
Spices Cleaning Units	More than 72 units

Gujarat Pollution Control Board (GPCB) has organized Environment Clinic for Spices Cleaning Units at Unjha with the technical support of Gujarat Cleaner Production Centre (GCPC) on 21<sup>st</sup> August 2014.

Unjha is known as Spices Hub in India. There are more than 100 spices cleaning units in and around the town of Unhja (Dist.Mehsana). The units are engaged in cleaning process of spices by mechanical sieving, destoner, gravity classifier and by manually sieving. It was observed that, in the cleaning processes, the dust that was generated caused air pollution and also affected the health of the workers and local residents. To overcome this situation, GPCB has requested to GCPC to provide technical advice to prevent / control Dusting Problem at Unjha.

The environment clinic / CP promotion was inaugurated by Mr. Nileshbhai Patel, Member, Unjha Spices Cleaning Association. Mr. B. L. Maru, Regional Officer, Mehsana – GPCB, Mr. P. R. Rathod, Sr. Project Engineer, GCPC, Mr. Maheshbhai Patel, President, Unjha Spices Cleaning Association, Mr. Mr. Chindubhai Patel, Member, Unjha Spices Cleaning Association were present. Mr. Maheshbhai Patel, President, Unjha Spices Cleaning Association welcomed the representatives of GPCB, GCPC and participants from Unjha Spices Cleaning Units. More than 75 participants attended the programme.

Mr. Maru greeted everyone and conversed the objectives of the programme. Mr. Maru said that GPCB is now playing a role of doctor to advise industries and providing solutions to reduce the identified problems of sector specific issues. He added that cleaning process of spices by mechanical sieving, destoner, gravity classifier and manual sieving generates dust which is harmful to human and environment.

Mr. Rathod described the difference between end of pipe and proactive treatment. He also presented cleaner production concept with Tools & methodology for successful implementation of CP in Spices Cleaning Units. He explained source of dust generation, adverse effect of dust emission, cleaner production measures for dusting problems like dust containment enclosures, proper position of Sieve and energy conservation etc.

The second presentation on “In innovative approach in spices cleaning industries” was made by Mr. Krunal Pandya, Aurochem which included material handling and anti-dusting mechanical technology available in India.

The third presentation was on “Financial assistance to implement cleaner production” made by Mr. Rathod. He requested industries to enhance the participation and utilize the Government incentive for installation of cleaner/greener processes. He elucidated Industrial Policy-2009 of Industries Commissionerate, GoG for financial assistance to implement cleaner production options in industry.



In the last presentation, Mr. P. S. Rathod, SSO, Mehsana gave detailed information about the procedure to fill the form for CCE, CCA through XGN - GPCB online website, about document preparation, form submission etc.

Mr. B. L. Maru expressed his gratitude towards the gathering for their participation. He enlisted the initiatives by Gujarat Cleaner Production Centre across various sectors that have contributed towards the environmental up gradation of the state.

Thereafter the representatives of GPCB, GCPC and Unjha Industries Association representative have discussed the further action to be carried out to solve dusting problem of spices units.

The discussions and thereby taken decisions are given below:

1. Selection of atleast five voluntary spices cleaning units.
2. Identification of probable solution for dusting problem.
3. Implementation of selected solution to five voluntary units as demonstration units.
4. Application for Cleaner Production Implementation under Gujarat Industry Policy 2009 of Industries Commissionerate, GoG for financial assistance. (If applicable)
5. Replication of the implemented solution to other spices cleaning units of Unjha.

The activities listed above and detailed schedule of action plan to be initiated will be submitted to Regional office – Mehsana, GPCB by Unjha Industries Association (Unjha Spices unit Members). The technical guidance will be provided by GPCB & GCPC.

**Photos:**



Mr. P. R. Rathod, Sr. Project Engineer, GCPC, Mr. B. L. Maru, RO, Mehsana, GPCB, Mr. Chindubhai Patel, Member, Unjha Spices Cleaning Association on the dias. (R to L)



Mr. Bipinbhai Patel, President, Unjha Spices Cleaning Association welcoming participants.



Mr. B. L. Maru, RO, Mehsana-GPCB addressing the participants.



Mr. P. R. Rathod, Sr. Project Engineer, GCPC presenting Cleaner Production opportunities in Spices Cleaning units.



Mr. P. S. Rathod, SSO, Mehsana presenting procedure for online application form through XGN - GPCB online website



A view of participants

**“Cleaner Production Promotion Programme at Vatva Industrial Estate”**

Date: September 12, 2014

Time: 3.00 pm to 5.00 pm

Venue: Vatva Industries Association Hall, GIDC, Vatva

**Programme Attendees:**

<b>Organization</b>	<b>Name of the Official / Participants</b>
GPCPC	Mr. P. R. Rathod, Sr. Project Engineer
	Mr. Hiren Bhendwal, Sr. Project Engineer
	Mr. Gopal Chaudhary, Project Engineer
	Ms. Dipali Parekh, Project Engineer
GPCB	Smt. Nehal Ajmera, DEE, RO Ahmedabad
	Mr. Mehul Patel, Assistant Engineer, RO Ahmedabad
Vatva Industries Association / CETP	Mr. Deepak Davda, CEO, GESCSL, Vatva
	Smt. Neerja Desai, Environment Consultant, GESCSL, Vatva
Industries form Vatva	More than 35 industries

Gujarat cleaner production centre (GCPC) has organized Cleaner Production Promoting Programme at Vatva Industrial Estate on 12<sup>th</sup> September 2014. The program was meant to upgrade knowledge of Cleaner Production Concept & eradicate Specific barriers include: (i) limited in-house technical expertise to identify and implement cleaner production projects, (ii) lack of knowledge about appropriate cleaner production technologies and possible cost savings, and (iii) lack of access to appropriate financing, to implement CP at Industry and Estate Level.

Mr. Deepak Davda welcomed the representatives of GCPC, GPCB and participants from Vatva Industrial Estate. More than 35 participants had attended the programme.

Ms. Dipali greeted everyone and elucidated the objective of the Cleaner Production Promotion programme at Vatva Industrial Estate. She described the difference between end of pipe and proactive treatment and also described various Cleaner Production Tools with Methodology which can be helpful to implement CP in any industry.

Mr. Gopal Chaudhary presented a case study on successful implementation of Cleaner Production in CPC Blue manufacturing industry. Mr. Chaudhary explained Cause Analysis & CP opportunities and Implemented CP Options with financial and environmental benefits.

In the third presentation, Ms. Dipali explained “Responsible Production” A Framework for Chemical Hazard Management for small and Midium Scale industries which Improves chemical hazard management, Increase overall safety and reduction of chemical emergencies and provides guidance on understanding and addressing chemical hazards and controlling chemical exposure.

In next Presentation Mr. Bhendwal explained Industrial Policy-2009 of Industries Commissionerate. GoG for financial assistance to implement CP. He requested industries to enhance the participation and utilize the Government incentive for installation of cleaner/greener processes at industry and cluster level.

At the end of the programme, various questions were asked, pertaining to various technology options available, ongoing issues of industries and industrial policy. GCPC Team deliberated on those issues and also gave technical explanation for the given problems.

The programme was concluded with vote of thanks to all the participants.

**Photos:**



Ms. Dipali Sankharia, Project Engineer, GCPC presenting Cleaner Production Concept, Tools and Methodology.



Mr. Gopal Chaudhary, Project Engineer, GPCPC presenting Cleaner Production Case Study on CPC Blue.



A snap of Participants



## “Cleaner Production Promotion Programme at Kalol GIDC Industrial Estate”

Date: October 10, 2014

Time: 11.00 am to 2.30 pm

Venue: Kalol Industries Association Hall, Kalol

### Programme Attendees:

Organization	Name of the Official / Participants
GCPC	Mr. P. R. Rathod, Sr. Project Engineer
	Mr. Hiren Bhendwal, Sr. Project Engineer
GPCB	Mr. Unnat R Shah, Ass. Environment Engineer, Regional Office-Gandhinagar
Kalol Industries Association	Mr. Ganpatbhai Patil, President
	Mr. Kantibhai Patel, Vice President
Industries form Kalol	More than 45 industries

Gujarat cleaner production centre (GCPC) has organized Cleaner Production Promoting Programme at Kalol GIDC Industrial Estate on 10<sup>th</sup> October 2014. The program was meant to upgrade knowledge of Cleaner Production Concept & eradicate Specific barriers include: (i) limited in-house technical expertise to identify and implement cleaner production projects, (ii) lack of knowledge about appropriate cleaner production technologies and possible cost savings, and (iii) lack of access to appropriate financing, to implement CP at Industry and Estate Level.

The CP promotion Programme was inaugurated by Mr. Ganpatbhai Patil, President, Kalol GIDC Industries Association. Mr. P R Rathod, Sr. Project Engineer, GCPC, Mr. Hiren Bhendwal, Sr. Project engineer, GCPC, Mr. Unnat Shah, GPCB were present. Mr. Ganpatbhai Patil welcomed the representatives of GCPC, GPCB and participants from Kalol and Chatral Industrial Estate. More than 45 participants had attended the programme.

Mr. Rathod greeted everyone and elucidated the objective of the Cleaner Production Promotion programme at Kalol GIDC Industrial Estate. Mr. Rathod said that GCPC is always trying to help industries to suggest and implement CP with best available techniques and technology transfer across the state. He described the difference between end of pipe and proactive treatment. He explained the concept of Cleaner Production with its triple bottom line – Environmental, Financial, and Social and also described various Cleaner Production Tools with Methodology which can be helpful to implement CP in any industry.

Mr. Hiren Bhendwal presented a case study on successful implementation of Cleaner Production in 2-Amino Diphenyl Ether manufacturing industry. Mr. Bhendwal explained chemical synthesis, component balance of waste stream, Waste stream characterization and cost assignment, Cause Analysis & CP opportunities and Implemented CP Options with financial and environmental benefits. He also presented a case study of pilot implementation of Environment Friendly Techniques in Textile industries at Narol Industrial Estate of GCPC.

In the third presentation, Mr. Rathod explained “Financial assistance to implement cleaner production” under Industrial Policy-2009 of Industries Commissionerate. GoG. He requested industries to enhance the participation and utilize the Government incentive for installation of cleaner/greener processes at industry and cluster level.

At the end of the programme, various questions were asked, pertaining to various technology options available, ongoing issues of industries and industrial policy. GCPC Team deliberated on those issues and also gave technical explanation for the given problems.

In concluding session, Mr. Ganpatbhai Patil expressed his gratitude towards the gathering for their participation. He enlisted the initiatives by Gujarat Cleaner Production Centre across various sectors that have contributed towards the environmental up gradation of the state.

Thereafter the representatives of GCPC, GPCB and Kalol GIDC Industries Association representative have discussed the further action to be carried out at Industry level and Cluster level at Kalol GIDC Industrial Estate.

The discussions and thereby taken decisions are given below:

**Cluster Level:**

6. As a cluster level initiative, there is a need to upgrade/improve CETP of kalol GIDC industrial estate. It was discussed that GCPC can help CETP to suggest improvement option for better functioning and maintaining stipulated standards of state pollution control board.
7. The Kalol GIDC Industries Association has requested GCPC to show the case study of Climate Change Adaptation Plan (Climate Proofing) prepared for Naroda Industrial Estate. KIA has willing to carry out the Climate proofing which can identify Climate change Adaptation Plans for Industrial Estate integrating various strategies and implementation possibility like up gradation of existing infrastructure / common facilities etc and also identify the demonstrative area for Planning and design Interventions.

**Industry Level:**

1. Selection of atleast five to ten voluntary industries for CP Assessment at industry level.
2. Detailed Cleaner Production Assessment in selected industries.
3. Identification of process / environment problems and specific solution.
4. Implementation of selected solution to five voluntary units as demonstration units.
5. Application for Cleaner Production Implementation under Gujarat Industry Policy 2009 of Industries Commissionerate, GoG for financial assistance. (If applicable)
6. Dissemination of the case studies.

KIA / CETP Kalol will initiate the activity with the support of GCPC/GPCB. The technical guidance for the activities listed above will be provided by GCPC and GPCB.

**Photos:**



Mr. Ganpatbhai Patil, President, KIA welcoming participants



Mr. P. R. Rathod, Sr. Project Engineer, GCPC presenting Pollution Prevention / Cleaner Production Techniques.



Mr. Hiren Bhendwal, Sr. Project Engineer, GCPC presenting Cleaner Production Case studies of Chemical & Textile Industries.



A view of participants.

*Part B: Cleaner Production Promotion Programme at Colleges*

**1. PDPU College, Gandhinagar :**

**Date:** 12<sup>th</sup> September 2014

**Time:** 2:00 – 4:00 pm

**Venue:** Chemical Department, PDPU campus , Gandhinagar

**Participated:** 61 students

Presenter	Theme covered
Dr. Bharat Jain	Industrialization CP Concept Case Studies
Ms. Chinkal Patel	CP tools CP Methodology



Dr. Bharat Jain Presenting Cleaner Production concept and its implication to industries at PDPU College, Gandhinagar.

## 2. Marwadi College, Rajkot :

**Date:** 16<sup>th</sup> September 2014

**Time:** 12:00 – 2:00 pm

**Venue:** Environmental Science and Engineering, Marwadi campus , Morbi road, Rajkot

**Participated:** 54 students

Presenter	Theme covered
Ms. Chinkal Patel	Industrialization CP Concept CP tools
Ms. Dipali Parekh	CP Methodology Case Studies
Ms. Divya Namboothiri	ENVIS concept & features





GCPC Officials are presenting Cleaner Production conceptualization and Case Studies at Marwadi College, Rajkot.



### 3. Government Engineering College, Bhuj :

**Date:** 18<sup>th</sup> September 2014

**Time:** 11:00 – 1:00 pm

**Venue:** Bio Medical Department, L.D. Engineering Campus, Ahmedabad

**Participated:** 23 students

Presenter	Theme covered
Ms. Chinkal Patel	Industrialization CP Concept CP tools
Ms. Dipali Parekh	CP Methodology Case Studies



GEC, Bhuj students are participating in Cleaner Production Promotional Activity.

#### 4. Nirma College, Ahmedabad :

**Date:** 19<sup>th</sup> September 2014

**Time:** 2:00 – 4:00 pm

**Venue:** Post Graduate Department, Nirma campus , Ahmedabad

**Participated:** 37 students

Presenter	Theme covered
Dr. Bharat Jain	Industrialization CP Concept Case Studies
Ms. Chinkal Patel	CP tools CP Methodology



Dr. Bharat Jain is presenting Cleaner Production conceptualization and its implication for industries at Nirma College, Ahmedabad.

#### 5. L.D. Chemical Engineering College, Ahmedabad :

**Date:** 25<sup>th</sup> September 2014

**Time:** 11:00 – 1:00 pm

**Venue:** Chemical Department, Ahmedabad

**Participated:** 36 students

Presenter	Theme covered
Ms. Divya Naimbootri	Industrialization CP Concept
Ms. Dipali Parekh	CP tools CP Methodology Case Studies

#### 6. L.D. Environment Engineering College, Ahmedabad :

**Date:** 25<sup>th</sup> September 2014

**Time:** 2:00 – 4:00 pm

**Venue:** Environment Department, Ahmedabad

**Participated:** 45 students

Presenter	Theme covered
Ms. Dipali Parekh	CP tools CP Methodology Case Studies

#### 7. Central University of Gujarat College, Gandhinagar :

**Date:** 29<sup>th</sup> September 2014

**Time:** 11:30 – 1:30 pm

**Venue:** School of Environment and Sustainable Development, Gandhinagar

**Participated:** 43 students

Presenter	Theme covered
Dr. Bharat Jain	Industrialization CP Concept Case Studies
Ms. Chinkal Patel	CP tools CP Methodology



Dr. Bharat Jain, Member Secretary, GCPC is presenting Cleaner Production Conceptualization to students and staff of Central University of Gujarat at Gandhinagar.