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UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Annual Report 2015

UNIDO operations in India



FOREWORD

2015 was an eventful and important year for UNIDO operations in India. The scale of technical cooperation projects increased considerably with the introduction of many new projects and partnerships.

UNIDO has been striving to take its mandate, **Inclusive and Sustainable Industrial Development (ISID)** forward on a larger scale in the wake of the newly adopted **Sustainable Development Goals (SDGs)**. Specifically, **Goal 9: 'Build Resilient Infrastructure, promote inclusive and sustainable industrialisation and foster innovation'** has validated UNIDO's mandate in the international development framework. The other SDGs also have specific industry-related targets highlighting the multiple links between industrialisation and economic growth and development.

The UNIDO Country Programme in India is one of the largest and most diversified portfolios out of UNIDO's interventions in all its member states. The Country Programme (2013-2017) for India originally comprised 43 projects with a total budget of US\$ 101.15 million. In 2015, UNIDO and DIPP revised the Country Programme to more accurately reflect current implementation and the CP now comprises **48 projects** with a total budget of approximately **US\$ 170.3 million**. The expanding portfolio is attributed to the approval of new GEF projects, projects under the International Centre for Inclusive and Sustainable Industrial Development (IC-ISID) and a widened scope of activities (both energy/environment and economic development).

The newly formed IC-ISID was officially launched in August 2015, merging the former UNIDO Centre for South-South Industrial Cooperation (UCSSIC) and the International Centre for the Advancement of Manufacturing Technology (ICAMT). The Centre will contribute substantially to India's role in South-South Cooperation, transfer of technology and best practices and expertise sharing within the country, in the region and globally. This makes UNIDO an important player in addressing industrial development issues on a much larger scale.

New projects such as the 'Sustainable Cities Integrated Approach Plan in India', and the 'Air Quality Index' are examples of the opportune new initiatives that UNIDO is undertaking in India, which are also in concomitance with national initiatives such as 'Smart Cities' and 'Swachh Bharat'. Through these projects, UNIDO is forging new partnerships with the Government by collaborating with the Ministry of Urban Development and the Ministry of Earth Sciences respectively.

UNIDO's commitment to the 'Make in India' campaign has also been more than evident in its project portfolio. UNIDO's involvement and participation in international and national initiatives of the host Government such as the International Solar Alliance, RE-Invest, Partnership Summit, among others, reflects the integrated and wide-ranging partnership UNIDO and India have formed.

I am confident that the UNIDO-India technical cooperation and partnership will continue to be as fruitful and successful as it has been in the past. Through an increased project portfolio, integration with national priorities and cohesive execution of projects, UNIDO is committed to furthering sustainable industrial development in India.

Ayumi Fujino
Representative in India and Head,
Regional Office for South Asia

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LIST OF ABBREVIATIONS

ACMA	Automotive Component Manufacturers of India
ADA	Austrian Development Agency
BAT	Best Available Techniques
BEE	Bureau of Energy Efficiency
BEP	Best Environmental Practices
BSP	Bhilai Steel Plant
CAD	Computer Aided Design
CAM	Computer Aided Manufacturing
CBWTF	Common Biomedical Waste Treatment Facilities
CFCs	Chloro Fluoro Carbons
CII	Confederation of Indian Industries
CLRI	Central Leather Research Institute
CO	Country Office
CP	Country Programme
CPPRI	Central Pulp & Paper Research Institute
CPRI	Central Power Research Institute
CST	Concentrated Solar Thermal
CT	Cleaner Technology
CTC	Carbon tetrachloride
DC	Development Commissioner
DDT	Dichlorodiphenyltrichloroethane
DG	Director General
DIPP	Department of Industrial Policy and Promotion, Government of India
E & E	Energy and Environment
EE	Energy Efficiency
EESL	Energy Efficiency Services Limited
ESCAP	Economic and Social Commission for Asia and the Pacific
FICCI	Federation of Indian Chambers of Commerce and Industry
GC	General Conference

GEF	Global Environment Facility
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
Goi	Government of India
HBTI	Harcourt Butler Technological Institute
HIO	High Impact Opportunities
HQ	Head Quarters
IARPMA	Indian Agro & Recycled Paper Mills Association
ICAMT	International Centre for Advancement of Manufacturing Technology
IC-ISID	International Centre for Inclusive and Sustainable Development
IIASA	International Institute for Applied Systems Analysis
IIT	Indian Institute of Technology
INMA	International News media Marketing Association
IPMA	Indian Paper Manufacturers Association
IPR	Intellectual Property Rights
IREDA	Indian Renewable Energy Development Agency
IRPMA	International Research Based Pharmaceutical Manufacturers Association
ISA	International Solar Alliance
JNNSM	Jawaharlal Nehru National Solar Mission
KIRDI	Kenya Industrial Research and Development Institute
LDCs	Least developed countries Least Developed
MDGs	Millennium Development Goals
MNRE	Ministry of New and Renewable Energy, Government of India
MoEF&CC	Ministry of Environment, Forests and Climate Change, Government of India
MOHI	Ministry of Heavy Industries, Government of India
MoUD	Ministry of Urban Development, Government of India
MSMEs	Micro, Small and Medium Enterprises
NAPCC	National Action Plan on Climate Change
NCCBM	National Council for Cement and Building Materials



NGO	Non-Government Organisation
NIP	National Implementation Plan
NNCC	National Neem Coordinating Cell
NPC	National Project Coordinator
ODS	Ozone-depleting substances
OSH	Occupational Safety and Health
PCB	Polychlorinated biphenyls
PDU	Pilot Demonstration Units
POPs	Persistent Organic Pollutants
PPG	Project Preparation Grant
PPP	Public Private Partnership in Infrastructure Development
PSAC	Project Steering & Advisory Committee
PSC	Project Steering Committee
PTC	Programme Development and Technical Cooperation Division, UNIDO
RE	Renewable Energy
RECP	Resource Efficient and Cleaner Production
REN21	Renewable Energy Policy Network for the 21st century
RENAP	Regional Network on Pesticides for Asia and the Pacific
RO	Regional Office
SDGs	Sustainable Development Goals
SE4ALL	Sustainable Energy For All
SELP	Sustainable Energy Leadership Programme
SIDBI	Small Industries Development Bank of India
SIDS	Small Island Developing States
SMEs	Small and Medium Enterprises
SSI	Small Scale Industry
TC	Technical Cooperation
TERI	The Energy and Resources Institute
TOR	Terms of Reference



UCSSIC	UNIDO Centre for South-South Industrial Cooperation
ULH-MHP	Ultra Low Head – Micro Hydro Power
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
UPLIA	Uttar Pradesh Leather Industries Association
URO	UNIDO Regional Office
UREDA	Uttarakhand Renewable Energy Development Agency
VEF	Vienna Energy Forum
WHO	World Health Organisation

1. HIGHLIGHTS OF 2015

2015 was a busy year for UNIDO India. With an increase in the project portfolio, numerous national events and project workshops, high profile visits from the UNIDO Headquarters and foreign delegates, UNIDO India was actively engaged in various activities. Monthly highlights are presented below:

JANUARY: The DG participated in the Partnership Summit, held in Jaipur from 15th – 17th January, 2015. He delivered a speech at the conference, wherein he highlighted the importance of strategic partnerships for complex development challenges.



DG Speech at the Partnership Summit 2015

During his mission to India, the DG met with Ms. Nirmala Sitharaman, Minister of State of Commerce and Industry of India, Mr. Amitabh Kant, the then Secretary of the Department of Industrial Policy and Promotion (DIPP) and Ms. Vasundhara Raje,

Chief Minister of the Government of Rajasthan. He also visited The Energy and Resources Institute (TERI).

FEBRUARY: UNIDO participated in the 1st Renewable Energy Global Investors Meet, 'RE-INVEST 2015' (15th – 17th February) in New Delhi. The conference was hosted by MNRE in partnership with IREDA, CII, FICCI and the Make in India Campaign. Its objective was to showcase the Indian Government's commitment to the development and scaling up of renewable energy in India to meet the national energy requirement in a socially, economically and ecologically sustainable manner.

APRIL: The Sustainable Energy Leadership Programme, organised jointly by UNIDO, The Energy and Resources Institute (TERI) and TERI University (TERI U) was conducted in New Delhi to help build awareness and knowledge on key global trends, innovative technologies, policies and interdisciplinary solutions in the fields of energy, climate change and sustainable development.

The programme, which was conducted from 6th-17th April 2015, brought together over 20 government officials, policy makers, and experts from 20 countries in Africa, Asia and Europe.



Sustainable Energy Leadership Programme 2015

A delegation from the UNIDO HQ in Vienna (comprising Ms. Amita Misra, Mr. Ludovic Bernaudat, Ms. Tonilyn Lim and Dr. Mohammed Lamine Dhaoui) visited India to attend a workshop on National Industrial Corridors and Sustainable Cities. The workshop was organized by DIPP to aid the establishment of industrial corridors across the country to boost manufacturing and the parameters of Smart cities in India.

MAY: The ITPO Russia team visited India (11th – 16th May) with reference to the UNIDO-BRICS project: “Partnership between Russia and Brazil in Technology and Innovation for Development of SMEs”, to discuss the motivation for the extension of the project to BRICS Countries and the strategy for prolongation of the project for 2015 – 2018.

UNIDO also participated in the Global Environment Facility (GEF) National Workshop organized by MoEF&CC in association with the GEF Secretariat, on May 12th and 13th, 2015. The event was mainly conducted to identify and finalize the project pipeline for GEF-6 cycle and to review the impact of completed and ongoing GEF projects in India.

A Regional ISID Workshop was conducted in Bangkok with RO Thailand and CO Viet Nam, on 21st May, 2015. The workshop was a side-event to the Asia Pacific Forum on Sustainable Development, hosted by ESCAP. Panelists from Bangladesh, China, Thailand and Viet Nam attended the event. The Planning Commission of Bangladesh requested the assistance of UN India to include industrialization in the next Five Year Development Plan of Bangladesh.

JUNE: India participated in the Vienna Energy Forum (VEF, 18th-20th June). The theme of the forum was ‘Sustainable Energy for Inclusive Development’. During the meeting, a number of initiatives and projects were launched, including the SE4All Global Tracking Framework, the Multi-tier Access Framework, the UNIDO-Global Green Growth

Institute (GGGI) Global Green Growth Report and the Renewable Energy Policy Network for the 21st century (REN21) Renewables 2015 Global Status Report.

The National Steering Committee meeting was also conducted in June in New Delhi, wherein the implementation status of the Country Programme (2013-17) was discussed. As a result of this meeting, the Country Programme was revised to more accurately represent the on-ground implementation of UNIDO projects.

JULY: Dr. Kandeh Yumkella, former DG UNIDO, visited India as the Special Representative of the UN Secretary General and Chief Executive responsible for Sustainable Energy for All (SE4ALL), for a UN Public Lecture on ‘Sustainable Energy to Secure a Sustainable Future’. More than 85 developing countries and numerous developed countries have partnered with SE4All to advance the programme’s objectives at the country level. Over 50 High Impact Opportunities (HIOs) have been identified, with a wide range of stakeholders undertaking actions that will have significant potential to advance Sustainable Energy.

AUGUST: The International Centre for Inclusive and Sustainable Industrial Development (IC-ISID) was formally launched on 27th August, 2015, in the presence of Mr. Amitabh Kant and Mr. Philippe Scholtes. The new centre aims to facilitate South-South Cooperation in other developing countries and implement targeted interventions in selected



Mr. Kandeh Yumkella at the UN Public Lecture

industrial and manufacturing sectors within India. The first Steering Committee meeting of IC-ISID took place subsequently. Under IC-ISID, UNIDO is implementing five priority projects related to Leather, Cement, Paper & Pulp Bicycle and Cluster Development in India, apart from two projects in Africa.

SEPTEMBER: A Retreat was organised to Belgaum, Karnataka from 24th to 27th September, 2015 to visit the Belgaum Foundry Cluster. This visit was under the project, 'Promoting Energy Efficiency and Renewable Energy In Selected Micro, Small and Medium Enterprises (MSME) Clusters in India.' During the visit, the UNIDO team visited selected foundry enterprises, the cluster association as well as a sand reclamation facility.

NOVEMBER: A UNIDO HQ Mission, together with the representatives from GEF Secretariat and International experts, was organised to launch the Preparatory Assistance activities for the Sustainable Cities project baseline study. The team visited the selected cities, collected the necessary baseline data, conducted discussions with respective Municipal Corporation authorities and participated in civic consultation workshops to identify critical areas for intervention. The Sustainable cities project is a new project being implemented in 5 cities – Vijayawada, Guntur, Mysore, Bhopal and Jaipur.

DECEMBER:

India and France announced the formation of the International Solar Alliance (ISA) at the CoP21 Climate conference held in December 2015. The main objective of the alliance is to share costs and



Launch of IC-ISID by Mr. Amitabh Kant, Secretary, DIPP

technology to set up solar power generation and storage technologies across countries. U.N. Secretary-General Mr. Ban Ki-moon said the United Nations would work closely with the ISA, and commended India's success in adopting the technology, as witnessed in the solar projects in Gujarat. The Government of India requested UN support for ISA, particularly, policy advice and technology transfer. UNDP is the leading agency in this effort, and UNIDO has expressed interest in assisting with the Initiative.

Country Programme (2013-17) Addendum:

In December 2015, the Addendum to the Country Programme Document (2013-17) was approved by DIPP, Government of India. The Addendum to the CP document comprises 48 projects (43 as per the original document) and the value of the project portfolio has increased from US\$ 101.15 million to approximately US\$ 170.3 million.

2.SERVICE DELIVERY - EXPANSION OF THE PORTFOLIO

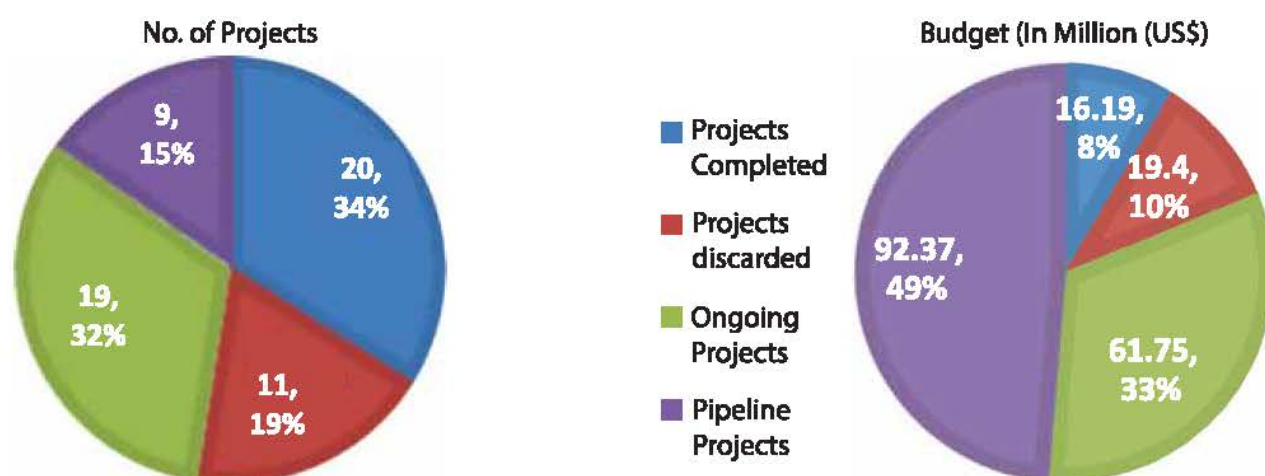
2.1 SALIENT FEATURES

The Regional Office India is one of 10 UNIDO regional offices and part of a larger network of field representation. The present coverage is Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka.

The RO is headed by a UNIDO Representative. In India, the RO is currently responsible for the implementation and coordination of the Country Programme (2013-2017). The CP originally comprised 43 projects with a total budget of US\$ 101.15 million. In 2015, the CP underwent a review, and an addendum was approved by DIPP and UNIDO according to which, the CP now comprises 48 projects with a budget of approximately US\$

170.3 million. Of the 48 projects, 20 (US\$ 23.98 million) have been completed, 19 (US\$ 61.75 million) are under implementation, and 9 (US\$ 92.37 million) are pipeline projects. 11 projects (US\$ 19.40 million) were discarded under the Addendum.

The Country Programme for India is one of the largest and most diversified initiatives by UNIDO among all its interventions in its member states. The project portfolio is broadly divided into two components: Green Industrial Development and Inclusive Economic Development, apart from crosscutting issues such as gender mainstreaming and South-South cooperation. The status of the UNIDO Country Programme portfolio as in India of December 2015 is shown below:



UNIDO operations in India – December 2015

2.2 Overview of the Country Programme (2013-2017) – Addendum (as of December 2015)

Criteria	Components	No. of projects
Component wise	Inclusive Economic Development (IED)	21
	Green Industrial Development (GID)	19
	South-South Cooperation (SSC)	7
	Field Institutional Support (FIS)	1
CP Programme Structure as per CP document (Addendum)	Current Generation (completed and ongoing)	39
	Next Generation	9
Implementation Status (as of December 2015)	Total Completed	20
	Projects Discarded (not counted in Total)	11
	Ongoing	19
	Pipeline / under review	9

2.3 OVERVIEW

2.3.1 Projects Completed¹ in 2015

Ref No.	Project	Budget (US\$)
A4	Demonstration and Promotion of Coconut Husk Processing for Income Generation in Rural Communities in Coastal Province, Kenya	170,630 ²

2.3.2 Ongoing projects in 2015

Ref. No.	Project	Budget ³ (US\$)
C9, C19	Promoting Energy Efficiency and Renewable Energy in selected Micro, Small and Medium Enterprises (MSME) clusters in India	7,172,097
C15	Environmentally Sound Management and Final Disposal of PCBs in India	14,100,000
C16	Environmentally Sound Management and Final Disposal of Medical Wastes in India	10,000,000
N4	Cleantech Programme for SMEs in India	1,000,000

1. This project was discontinued by the donor ministry after careful review.

2. Including agency fee

3. Project Budgets do not include agency fee

N5	Organic waste streams for industrial renewable energy application in India	3,333,000
N6	Promoting business models for increasing penetration and scaling up of Solar Energy	4,365,174
N7	Development and promotion of Non-POPs alternatives to DDT*	10,000,000
N8	Promoting low – head micro hydropower mini grids to increase access to energy for productive uses in rural India	1,300,000
N11	Supporting small and medium-sized manufacturers in the automotive component industry in India: deepening and widening the service provided within the framework of the UNIDO-ACMA-MOHI	909,674
A1	Regional Network on POPs and pesticide for Asia and the Pacific (RENAP)	515,736
A2	Promotion of Neem derived bio-pesticide in West Africa (Ghana, Nigeria, Sierra Leone)	275,000
A3	Strengthening the technical service capabilities of the Kenya Industrial Research and Development Institute (KIRDI) in collaboration with the framework of the Kenya Subcontracting and Partnership in Coastal province, Kenya	200,000
A5	Ecosystem based livelihood promotion in the North East (Mizoram) - PA	120,000
A6	International Centre for Inclusive and Sustainable Industrial Development (IC-ISID)	928,078
A7	Kanpur Leather Development Project 2015-2017	884,955
A8	Development and Adoption of appropriate technologies for Enhancing Productivity in the Cement Sector in India	1,124,500
A9	Development and adoption of green technologies for enhancing utilisation of Waste Material in the Pulp and Paper sector	1,455,000
A10	Facility for low carbon technology deployment programme*	8,712,328

*These projects were approved by the GEF secretariat and all stakeholders and are ready for implementation.

2.3.3 Next generation projects under discussion / due for implementation

Ref. No.	Project	Budget (US\$)
N3	Promoting market transformation for energy efficiency in Micro, Small & Medium Enterprises ⁴	4,465,455
N10	Promoting Industrial maintenance (TPM and corrosion management) amongst SMEs in selected manufacturing sectors in India-Methodology and skill development project	1,924,650
N18	Technology Upgradation of Bicycle and Bicycle Parts Industry	1,592,920
A11	National Air Quality Index	5,000,000
A12	Sustainable Cities Integrated Approach (SC-IAP Climate Change)	13,500,000
A13	Integrated Chemicals and Waste Approach for Sustainable Cities in India (SC-IAP Chemical)	45,000,000
A14	Implementation of the BAT/ BEP strategies for elimination / reduction of U-POPs emission of the priority industry sectors identified in the NIP of India	12,000,000
A15	UNIDO- ACMA-MoHI (Phase II)	2,500,000
A16	Cluster Development Project	1,800,000

4. The project was originally named "Promoting industrial energy efficiency through energy management standard, system optimization and technology incubation"

3. Project Details and Progress in 2015

UNIDO's initiatives in India are spread across two broad components as per the Country Programme: Inclusive Economic Development and Green Industrial Development. The project portfolio also covers crosscutting issues like South-South cooperation and gender mainstreaming. A majority of UNIDO's interventions in India fall under the Energy and Environment portfolio. UNIDO targets various potential dimensions of the energy sector such as renewable energy, energy efficiency, low carbon technology, waste to energy and innovation. Similarly, the environment related projects involve environmentally sound management and final disposal of PCBs, medical waste disposal and the development and promotion of Non-POPs as an alternative to DDT. This increase in energy/environment related projects can be attributed to UNIDO's accession to the GEF fund and the policies of the Government of India that promote renewable energy, encourage reduced GHG emissions and address climate change more proactively.

Another noteworthy feature of UNIDO's projects in India is Cluster Development. UNIDO provides

services related to technical assistance, technology transfer, expertise sharing, demonstration and fostering entrepreneurship by targeting micro, small and medium enterprises.

To help these MSMEs take advantage of collaborations, economies of scale and shared learning, UNIDO targets clusters of SMEs involved across various industrial sectors such as the automotive components industry, foundries, ceramics, dairy, hand tools and metals, among many others, spread across the country. Cluster development also stresses on developing a pool of experts to become trainers and cluster counsellors for greater impact.

An overview of the projects UNIDO is currently implementing in India and their progress in 2015 is given in the following section. These projects are implemented with multiple stakeholders like industry associations, academic institutes, banks, in collaboration with the concerned ministries of the Government of India at central and state level and a range of experts and organisations from across the world.



Metal Pouring in a Foundry In the Coimbatore cluster

3.1 Promoting energy efficiency and renewable energy in selected micro, small and medium enterprises (MSME) clusters in India

Planned budget: US\$ 7,172,097

Donor : GEF

Duration : 60 months

Status : Ongoing

Partners:

- Global Environment Facility (GEF)
- Ministry of Micro, Small and Medium Enterprises (MSME)
- Bureau of Energy Efficiency (BEE), Ministry of Power
- Ministry of New and Renewable Energy (MNRE)

Brief description:

This project aims to develop a market environment for enhanced use of energy efficient and renewable energy technologies in energy-intensive clusters belonging to five MSME industrial sectors in India. The project intends to improve the productivity and competitiveness of units as well as to reduce overall carbon emissions and improve the local environment. The project is currently working in 10 clusters across the country. It will also work at the policy level to achieve its aim.

The project involves a combination of approaches to achieve this objective – demonstrations projects, implementations, capacity building and training, exposure visits and study tours and eventually policy level work to achieve its targets.

In the cluster mode the project has formed collaborations with local industry associations, who in many cases anchor the activities on ground. It also works with local service providers and technology suppliers and the individual units themselves.

The project looks at energy efficient alternatives and renewable energy to control/reduce CO₂ emissions and overall impact on the environment. It targets a total energy saving of 276,600 MWh annually and avoidance of 84,700 tonnes of carbon

emissions per year by 2017. It also aims to achieve an investment of US\$ 16 million in energy efficiency and renewable energy technologies by 2017-18.

The following five energy intensive sub-sectors are covered in the project: brass, ceramic, dairy, foundry and hand tools, across ten (10) clusters in India. These are:

Brass:	Jamnagar in Gujarat
Ceramics:	Khurja in Uttar Pradesh and Thangadh in Gujarat
Dairy:	Gujarat and Sikkim ⁵
Foundry:	Belgaum in Karnataka, Coimbatore in Tamil Nadu and Indore in Madhya Pradesh
Handtools:	Jalandhar in Punjab and Nagaur in Rajasthan

Progress in 2015:

1. Two demonstrations were initiated in the Belgaum Foundry Cluster and Coimbatore Foundry Cluster on Energy Performance Data Collection and Analysis.
2. One demonstration is in an advanced stage at

Amul, Gandhinagar, for steam generation through CSP (concentrated solar power) - a parabolic trough design is used here.

3. Sample energy audits were conducted (6 in each of the 9 clusters) to identify the areas for energy efficiency and develop specific recommendations. The energy audit exercise also helped develop a set of best operating practices for each cluster, which were then shared with the clusters in 54 workshops across nine (9) clusters.
4. 21 Case studies have been prepared, and are being published. 15 DPRs were prepared and these are being pursued to result into investments.
5. 9 best operating documents (as in 3 above) are being published.
6. Two inter cluster visits and one international study tour were completed.
7. List of local service providers has been drawn up for further action.
8. Background work is being completed for setting up of Energy Management Centres in 9 clusters.



Forging press in Jalandhar Hand tools Cluster

5. Recent inclusion, activities yet to begin



Testing at CPRI

3.2 Environmentally sound management and final disposal of PCBs in India

Planned budget: US\$ 14,100,000

Donor : GEF

Duration : 60 months

Status : Ongoing

Partners

- Global Environment Facility (GEF)
- Ministry of Environment, Forests and Climate Change (MoEF&CC)
- Bhilai Steel Plant
- Central Power Research Institute (CPRI) Bangalore
- RENPAP

Brief description:

UNIDO played a key role in the formulation of the National Implementation Plan as per the requirements of the Stockholm convention in 2010. With India having ratified the Stockholm Convention on Persistent Organic Pollutants (POPs) in 2006, UNIDO is implementing several projects targeting environmental sustainability. This project targets polychlorinated biphenyls (PCBs), a group of substances that can be found in electrical equipment and in additives for paints and lubricants.

This project is aimed to reduce or eliminate the use and release of PCBs and their related effects on the environment through environmentally sound management and disposal of 1,700 tonnes of pure PCBs and 6,000 tonnes of PCB-contaminated equipment, PCB-contaminated mineral oils and wastes. National priorities such as improving legislation on POPs, boosting environmental performance in power and industry sectors, identification of PCB wastes and contaminated sites and their sound and safe management come under the purview of this project.

The Central Power Research Institute (CPRI), an autonomous body under the Ministry of Power, located in Bangalore, is the main agency responsible for this project. CPRI has already been involved in the development of the NIP for the section on PCBs. The institute also has tremendous expertise in the management of PCB oils and other PCB-containing

hazardous materials through for research and consultancy activities. Static facilities destruction of pure PCBs and decontamination of PCBs contaminated oil, equipment and waste are being commissioned at the Bhilai Steel Plant of the Steel Authority of India Limited at Bhilai, Chhattisgarh. Mobile facility for treatment of the low concentration of PCB contaminated oil is hosted by CPRI and would undertake operation at different locations in different region of India.3

Progress in 2015:

1. An expert was recruited in the Ministry of Environment, Forest and Climate Change (MOEF&CC).
2. Central Power Research Institute (CPRI) was sub-contracted to implement the project activities.
3. PCB management guidelines developed and provided to the stakeholders.
4. UNIDO issued contract to the technology provider to commission the dechlorination static facility for the treatment of the low concentration PCBs oils, equipment and wastes.
5. UNIDO issued contract to the technology provider to commission the static facility (plasma based) for the destruction of pure and high concentration PCBs and also a facility for the treatment of PCBs contaminated porous material including paper, wood, etc.
6. Inventory developed during the NIP validated for the proper assessment of the treatment facility requirement.
7. Pure PCBs inventory at Bhilai Steel Plant identified and labelled. Management Plan prepared to destroy pure PCBs oil from 524 transformers and also stock of PCBs oil stored in 200 drums at Bhilai Steel Plant.
8. Thirty four awareness raising programme /training workshops organized successfully at different parts of the country for the PCBs owners.
9. Large number of senior level officers, engineers, policy makers, researchers and PCB owners handling PCBs contaminated oil and equipment trained on the management of PCBs
10. Training guidance document prepared and provided to the stakeholders who are owners of the PCBs contaminated oil and equipment.
11. Safety guidance manual developed.
12. The inventory of PCBs updated.
13. The roadmap for the treatment of low concentration PCBs using a mobile facility is being finalized.
14. All statutory environmental clearances/ approval obtained from the competent authorities
15. Three facilities are being commissioned under the project.



Equipment provided by UNIDO



Project partners' meeting

3.3 Environmentally sound management of medical wastes in India

Planned budget: US\$ 10,000,000

Donor : GEF

Duration : 60 months

Status : Ongoing

Partners:

- Global Environment Facility (GEF)
- Ministry of Environment, Forests and Climate Change (MoEF&CC)
- Ministry of Health and Family Welfare
- Governments of Karnataka, Maharashtra, Gujarat, Odisha and Punjab

Brief description:

- This project targets persistent organic pollutants (POPs) and other harmful pollutants in the environment, as per the obligations of the Stockholm Convention.
- Promotes the adoption of Best Available Techniques (BATs)/ Best Environmental Practices (BEPs) in health care institutions across the country.
- The hospitals/healthcare institutions targeted differ greatly in their size and structure as well as in the respective medical waste management infrastructure.

The main objective of the project is to address hazardous medical waste segregation and disposal such that the environmental impact is minimized through reduction of dioxin generation due to improper incineration. The project addresses the reduction of PCDD/PCDF and other POPs released into the atmosphere, the reduction of which is a global priority.

Progress in 2015:

1. Meetings for reviews of the project were conducted (30th June 2015, 26th August 2015).
2. 28 hospitals to be taken up for the project in the five States have been Identified.
3. The Baseline survey has been completed in all the five states for the 28 identified hospitals.
4. The Gap analysis report was compiled for Punjab, Odisha, Maharashtra and Karnataka and the procurement of colour coded bins, covered trolleys etc. was initiated.
5. Model districts have been Identified in Punjab, Odisha, Maharashtra, Gujarat and Karnataka.
6. Punjab and Gujarat have submitted their Annual Action Plans for 2016.
7. Technical specifications finalized and requisition for procurement of Color Coded Bins, Waste and Collection Trolleys were received from all the 5 participating States.



Retrofitting with incineration technologies



National Jury Round 2015

3.4 Cleantech Programme for SMEs in India

Planned budget: US\$ 1,000,000

Donor : GEF

Duration : 36 months

Status : Ongoing

Partners:

- Global Environment Facility (GEF)
- Ministry of Micro, Small and Medium Enterprises (MSME)
- Federation of Indian Chambers of Commerce and Industry

Brief description:

This project is a part of the Global Cleantech Innovation Programme of UNIDO which aims to promote clean low carbon technologies to reduce energy consumption and CO₂ emissions of the Indian industrial sector. The project focuses on clean technology innovations focused on the manufacturing sector, coming specifically from existing MSMEs. This promotes technologies that are marketable and tested, and facilitates the efficient performance of industrial sub-sectors. Such coverage not only reduces environmental impact, but also helps in alleviating energy poverty and maintaining steady growth. The project focuses on SMEs that have innovated and can develop commercially viable, clean, low carbon technologies to reduce GHG emissions. The programme also gives SMEs international exposure by providing them a platform to compete globally. The winners of the national competition are given an opportunity to compete at the Global Cleantech open US, which is the knowledge platform of UNIDO for this programme. The participants get to interact with mentors and SMEs from all over the world at the Global forum.

Progress in 2015:

1. Five regional awareness and capacity building workshops were organized at the national level for Indian SMEs.
2. A National Platform was established for the promotion of clean technology innovations and business models for SMEs; Accelerator was launched on 15th April, 2015.
3. 158 applications were received in the second year of the Global Cleantech Innovation programme, of which 20 were selected as semi-finalists by a screening committee in the first round of judging.
4. Experts from industry, academia, banks, venture capitals, ESCo's were identified as volunteer mentors for the programme.
5. Three-day national academy/workshop was organized in July 2015 with participation from 18 SMEs, 15 mentors and a group of panelists.
6. The semifinalists prepared eight worksheets along with executive summaries and investor presentations.
7. The national Jury round comprising Dr. Pradipto Ghosh, Mr. Anil Razdan, Dr. Saurabh Srivastava and Mr. Saibaba Vaturi was presided over by Secretary MSME Dr. Anup K. Pujari. Agnisumukh was declared the national winner and Promethean energy was the runner-up team. The event was organized in partnership with FICCI, the national implementing partner of UNIDO for the programme.
8. The Indian Delegation went to San Francisco to participate in the Global Forum led by Additional Secretary & Development Commissioner, Ministry of MSME, Government of India, Mr. Surendra Nath Tripathi along with the national winner and runner up teams.
9. "Promethean Energy" was declared the winner at Global Forum in the runner up category for the energy efficiency vertical of the GCIP UNIDO programme from among the six participating countries.



National Workshop



Dairy Workshop

3.5 Promoting business models for increasing penetration and scaling up of solar energy

Planned budget: US\$ 4,365,174

Donor : GEF

Duration : 60 months

Status : Ongoing

Partners:

- Global Environment Facility (GEF)
- Ministry of New and Renewable Energy (MNRE)
- Ministry of Micro, Small and Medium Enterprises (MSME)
- Indian Renewable Energy Development Agency (IREDA)

Brief description:

The project focuses on developing business models for promoting solar energy based heating and cooling applications in selected Industrial sectors in line with the priorities outlined in the National Action Plan on Climate Change (NAPCC) and the Jawaharlal Nehru National Solar Mission (JNNSM), with the overall view to reduce greenhouse gas (GHG) emissions and increase industrial competitiveness of the national economy.

The expected outcomes of the project are as follows:

- Enhanced penetration and scaling up of solar energy in medium and high temperature applications in identified industrial sectors building upon existing frameworks and central support instruments of MNRE.
- Demonstrated technical and financial viability of projects.
- Enhanced local manufacturing capability for industrial applications.
- Developed pipeline for replication.
- Assistance to similar projects in the country through financing facility.

- Quality assurance and certification.
- Enhancement of capacity of key players in target Industries.
- Promotion of technology transfer, information sharing and dissemination of best practices.

Progress in 2015:

1. The Project document was approved and endorsed by the GEF Secretariat.
2. The Project office was established.
3. The Inception phase of the project has been completed with Government Partners (MNRE).
4. The 1st Project Steering & Advisory Committee (PSAC) meeting was conducted on 11th March 2015.
5. A National Technical Officer and a National finance expert were appointed.

6. Due diligence and Expression of Interest guidelines were developed.
7. An Initial brainstorming interactive meet with all stakeholder groups was conducted on 1st July 2015.
8. Workshops targeted for specific industrial sector were initiated. The first workshop was conducted for the dairy sector on 12th October 2015.
9. A seven-day international study tour from 23rd to 29th August 2015 was organized to experience off-grid thermal applications (specifically – Concentrated Solar Technologies (CSTs)) across various Industries in Austria, Switzerland and Germany.
10. IREDA was chosen as the fund manager.



CST Technology



Ultra Low-Head Micro Hydro Power Plant in Uttarakhand

3.6 Promoting innovative energy solutions with Ultra Low Head Micro-Hydro Power technology in India

Planned budget: US\$ 1,300,000

Donor : Govt. of Japan

Duration : 36 months

Status : Ongoing

Partners:

- Ministry of New and Renewable Energy (MNRE)
- Uttarakhand Renewable Energy Development Agency (UREDA)
- IIT Roorkee

Brief description:

This project aims to increase the access to renewable energy for productive uses for the rural communities in the State of Uttarakhand, India. The project agenda includes the demonstration, deployment, and transfer of Ultra-Low Head (ULH) Micro Hydro Power (MHP) technology from Japan to the State of Uttarakhand. Through a community based project approach, the project invites proposals from the local communities and entrepreneurs in Uttarakhand through the state government agency, UREDA, to own ULH-MHP technology for various productive purposes. When a request is received from the local communities, reviews, analyses and surveys are conducted. The reviewed and approved proposals are taken forward by the Project Steering Committee represented by the national government, the state government, a competent technical institution in India and the Government of Japan.

The key areas of intervention in the first phase of the project are:

- Installation of the ULH technology to demonstrate mini-grid systems for productive uses;
- Capacity building and institutionalization in the

ULH-MHP sector to develop a knowledge hub;

- Awareness raising and working on market / investment opportunities to mainstream this new technology as a new sector.

The pilot installation will result in developing replicable business models of ULH-MHP mini-grid systems in the state of Uttarakhand. Being an innovative solution to generate electricity of around 10kW at ultra-low head (below 3.0m) with a discharge of only 0.8-3.0 m³/s, the establishment of a favourable environment for the local technology deployment is envisaged.

Progress in 2015:

1. The 1st demonstration site of 10kW, in a government owned campus office was connected to the mini-grid and handed over to state government. A Power Purchase Agreement was signed with power utility (first time in state) to sell electricity to the grid, which generates 70,080 kWh electricity (INR 308,352 of income) annually.
2. Over 250 national & international visitors visited the 1st demonstration site.
3. ULH-MHP 20kW localized technology system was developed, installed and adaptation measures are ongoing.
4. Over 80 local users and entrepreneurs were trained in various enterprise development activities with 36% female representation. 13

local operators and key personnel were trained in micro-hydro operation.

5. The UNIDO project team supported and facilitated the process of identification of additional technology developers for a pilot demonstration on innovative ULH-MHP technologies in Uttarakhand resulting in the identification of 4 agencies.
6. A Master Plan of the state regarding the potential for ULH - MHP system installation at canal fall is underway, through 40% co-financing of the central and state government.
7. ULH-MHP site-2 development as green label for organic farming, 3rd as green products supply in eco-tourism sector, while 7x business trainings conducted (finance and book keeping training & marketing and branding),
8. Co-financing of 40% (UNIDO: 60%) for the preparation of 'Master Plan for State Uttarakhand for ULH-MHP' was agreed upon and released.
9. Study on Market potential analysis and study on marketing strategy were developed.
10. Baseline survey at two pilot sites were completed, and adequate infrastructure developed e.g. bypass channel with watermill improvement and productive use shed construction, etc.



First Pilot Site



UNIDO-ACMA-DHI Partnership

3.7 Supporting small and medium-sized manufacturers in the automotive component industry in India: Deepening and widening the services provided within the framework of the UNIDO-ACMA-MoHI partnership programme

Planned budget: US\$ 909,674

Donor : MoHI

Duration : 36 months

Status : Ongoing

Partners:

- Ministry of Heavy Industries (MoHI)
- Automotive Component Manufacturers Associations (ACMA)

Brief description:

This project was initiated after the success of its preceding project over the period 2005- 2009. The mandate of the current project is to take forward the interventions executed by its predecessor and to further strengthen Indian small and medium-sized automotive component suppliers to meet the requirements of vehicle manufacturers and Tier-1, Tier-2, Tier-3 and other automotive component manufacturers. The project hinges on the collaboration between ACMA and UNIDO to make SMEs in the auto component sector more in line with international standards and international trade requirements.

The project aims to facilitate the inclusion of these SMEs into national, regional and global supply chains and meeting relevant supply chain requirements (quality, cost, and delivery, as well as OHS, energy efficiency and environmental management standards). The project also looks to consolidate the institutional set-up, the UNIDO-ACMA methodology and a pool of well-trained national experts and counsellors in an effort to

better assist auto component manufacturers to make use of the partnership and to enhance the competitiveness of the target companies along the supply chain in India, including lower tier suppliers.

Progress in 2015:

- The second instalment of funds was released in August 2015.
- A Steering Committee Meeting was held on 25th June 2015 and 1st September 2015 to assess the progress of the project.

• **Project Overview (Current Status)**

A. Total no of Clusters: 10 (60 companies)

a) closed: 4 (22 companies)

b) ongoing: 6 (38 companies)

B. Proposed Cluster (March 2016): 1 (12 companies) Grand Total: 72 companies (11 clusters)

• **International Expertise:**

A. Counselors were sent to Japan on study tour for a 1 week training on lean manufacturing.

B. UNIDO's International expert visited India for counselors' training on international best practices on lean manufacturing in November 2015.

C. Ongoing Benchmarking activity was conducted with B&M Analyst, a South African firm which provides specialized services to assess relative competitiveness of firms in relation to their performance, practices and processes.

- 48 companies submitted baseline data.

- Additional training on data collection was provided for ACMA counselors.

D. RECP component inclusion:

- Implementation started for 10 suppliers from September 2015 as a pilot.

- On-the-job training for ACMA counselors was carried out.



Rubber component manufacturer - beneficiary unit at Ballabgarh



Field visit to Bio CNG plant In Ambala

3.8 Organic waste streams for industrial renewable energy applications in India

Planned budget: US\$ 3,333,000

Donor : GEF

Duration : 60 months

Status : Ongoing

Partners:

- Global Environment Facility (GEF)
- Ministry of New and Renewable Energy (MNRE)
- Ministry of Micro, Small and Medium Enterprises (MSME)
- Small Industries Development Bank of India (SIDBI)

Brief description:

The project focuses on using organic waste streams for industrial renewable energy (RE) applications in SMEs, in support of the energy policy priorities, with the overall aim to promote the application of innovative and adaptive technology in the target SME sectors to reduce their dependency on fossil fuels. The expected outcomes of the project are as follows:

- Enhanced use of organic waste streams for industrial RE applications in target SME sectors through a strategic roadmap.
- Demonstrated technical and financial viability of 2-4 projects in the range of 0.25 – 2 MW (or equivalent thermal energy).
- Sustainable replication model for effective scaling up of different technologies across target industries.
- Enhanced capacity of key players in target industries, promotion of knowledge and information sharing and dissemination of best practices.

Progress in 2015:

1. The Project Steering committee meeting of the project was constituted and the first meeting was held on 12th September 2015.
2. The TOR for the roadmap for bio-resource mapping has been finalized and proposals are awaited.
3. The start date for the project was shifted to July 2015.



Project launch event

3.9 Development and promotion of Non-POPs alternatives to DDT

Planned budget: US\$ 10,000,000

Donor : GEF

Duration : 60 months

Status : About to start

Partners:

- Global Environment Facility (GEF)
- Ministry of Environment, Forest and Climate Change (MoEF&CC)
- United Nations Environment Programme (UNEP)

Brief description:

The project aims to introduce bio and botanical pesticides and other locally appropriate cost effective and sustainable alternatives to DDT as the first step for reduction and eventual elimination of dependency on DDT, ensuring food safety, enhancing livelihood and protecting human health and the environment. The project targets scaling-up of various neem based pesticide formulations under PPP mode, technical training, production and promotion of neem based pesticide formulations for malaria vector control, propagation of new draft cultivars with early maturity with higher lemonoids yield, setting up of production facilities for the Bt. based larvicides for malaria vector control, the development and pilot production of Long Lasting Insecticidal Nets (LLIN) as an alternative to DDT, Domestic production and promotion of Long Lasting Insecticidal Nets (LLIN) under PPP mode and technical training, production and promotion of LLIN for malaria vector control.

Progress in 2015:

The Launching ceremony took place in Delhi in August 2015, and the project document was signed by UNIDO and UNEP subsequently.



Pollution by industries

3.10 Facility for low carbon technology deployment programme

Planned budget: US\$ 8,712,328

Donor : GEF

Duration : 60 months

Status : About to start

Partners:

- Global Environment Facility (GEF)
- Bureau of Energy Efficiency (BEE)

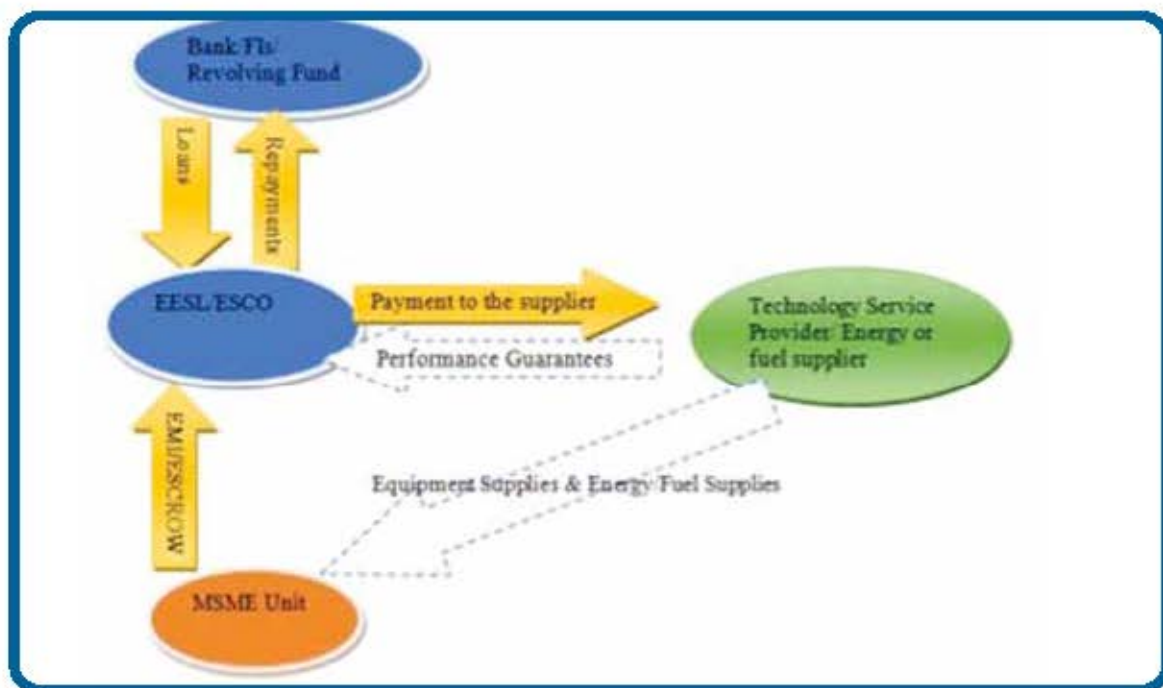
Brief description:

The UNIDO Facility for Low Carbon Technology Deployment in India aims to facilitate the adoption of improved low-carbon technologies across the Indian industrial sector. The project aims at strengthening the collaboration between government agencies, industry, innovators, the research community, financing institutions, and technology experts in the field of innovative low-carbon technologies and establishing an innovation ecosystem for such technologies to thrive.

The Project is aligned with the goals of India's National Action Plan on Climate Change (NAPCC), and specifically its sector specific National Mission on Enhanced Energy Efficiency (NMEEE). This Facility was proposed amongst a suite of projects to support India's NMEEE implementation by the Bureau of Energy Efficiency. The proposed Facility will help Indian and other countries' entities to work collaboratively on solving the major prioritized climate mitigation technology challenges, guided by industry and academic experts.

Progress in 2015

The project was approved by the GEF Secretariat.



Financing model under the project

3.11 Promoting market transformations for energy efficiency in MSMEs

Planned budget: US\$ 4,465,455

Donor : GEF

Duration : 60 months

Status : About to start

Partners:

- Global Environment Facility (GEF)
- Ministry of Micro, Small and Medium Enterprises (MSME)
- Energy Efficiency Services Limited (EESL)

Brief description:

This project aims to reduce barriers to industrial energy efficiency by promoting energy management system standards, system optimization and technology innovation using the tools of training and capacity building; demonstration projects; knowledge dissemination and networking; and financial linkage development. A special feature of the project is its Revolving Fund mechanism. The project will build upon the ongoing efforts of the Indian government and strengthen areas requiring external support for barrier removal and build on the activities undertaken in the GEF 4 projects in India. The project will accelerate penetration of energy management practices across different Indian industries and thereby contribute to CO₂ emission reductions and added global environmental benefits.

Progress in 2015

1. Endorsement received from the GEF Secretariat.
2. Co-financing terms were secured from other Stakeholders to meet the GEF's criteria.



Bamboo culms in Mizoram

3.12 Ecosystem based Livelihood Promotion in the North East (Mizoram) (Preparatory Assistance)

Planned budget (PA): US\$ 120,000

Donor : Government of Mizoram

Duration : 12 months

Status : PA activities completed

Partners:

- Department of Industries
- Bamboo Development Agency
- Bamboo Handicraft Societies
- Local Bamboo Industries
- Department of Environment and Forest

Brief description:

This UNCT Joint Initiative project is being implemented in Aizawl, Mizoram. The project aims to make the bamboo sector an additional source of income for the villagers through:

- Improvement of the local traditional skills of bamboo handicraft by imparting knowledge and techniques to improve productivity, quality, and marketing.
- Building local capacity to protect and preserve bamboo plantation by application of scientific harvesting of bamboo.
- Support the creation of village-based bamboo pre-processing units as an important link in the bamboo supply chain.
- Address policy and barriers for use of processed bamboo products as viable alternative to teakwood within Mizoram.

Progress in 2015:

As an outcome of this PA work, the project 'Improving Mizoram bamboo value chain: strengthening production, processing and marketing capacity' has been submitted to the Government of Mizoram. Based on the approval by the Government of Mizoram, the project (Budget US\$ 2.5 million) will commence for 3 years.

Projects under the International Centre for Inclusive and Sustainable Industrial Development (IC-ISID)

A major development in 2015 was the launch of the International Centre for Inclusive and Sustainable Industrial Development in New Delhi in August. The centre was set up by merging the two erstwhile centres—the UNIDO Centre for

South-South International Cooperation (UCSSIC) and the international Centre for Advancement in Manufacturing Technology (ICAMT). IC-ISID will now carry out functions of furthering specific industrial development projects in India as well as implement South-South Cooperation projects.



Inauguration of IC-ISID

3.13 International Centre for Inclusive and Sustainable Industrial Development (IC-ISID)

Planned budget: US\$ 928, 078

Donor : DIPP

Status : Ongoing

Partners:

- Department of Industrial Policy and Promotion (DIPP)

Brief description:

The International Centre for Inclusive and Sustainable Industrial Development was established upon the merger of two erstwhile centres - International Centre for Advanced Manufacturing Technology (ICAMT) and UNIDO Centre for South-South Industrial Cooperation (UCSSIC).

Progress in 2015:

1. Project document for IC-ISID signed by DIPP and UNIDO in April 2015.
2. The Centre was formally inaugurated by Secretary, DIPP and Managing Director, PTC, UNIDO on 27th Aug 2015.
3. Since its inception, three new projects for Indian sectors (leather, cement and pulp & paper) have been finalized, approved and started, along with two South-South Cooperation Projects.

INDIA-BASED PROJECTS



Leather tannery

3.14 Kanpur leather development project

Planned budget: US\$ 884,955

Donor : DIPP

Duration : 24 months

Status : Ongoing

Partners:

- Department of Industrial Policy and Promotion (DIPP)
- Uttar Pradesh Leather Industry Association
- Central Leather Research Institute
- Council of Leather Exports

Brief description:

The project aims to address sustainability and minimisation of waste at source, cleaner tanning technologies in the tanning sector, improving the efficiency of effluent treatment plants, common waste management facilities and productivity /quality improvement to subsequently improve company performances and business linkages. The ultimate objective of the project is to improve employment possibilities of people located in the targeted leather clusters. There shall be an active effort to ensure the inclusion of SMEs in domestic and international supply chains to strengthen backward and forward linkages for a sustained impact.

Progress in 2015:

1. The 1st tranche of funds were received in October 2015.
2. The local project office has been operationalized out of UPLIA- premises in Kanpur and the National Project Coordinator (NPC) has been appointed w.e.f. 1st Dec 2015.
3. The 1st consultation meeting was held on 3rd November 2015 with participation from various stakeholders.
4. A Manual on "How to Deal with Hydrogen Sulphide gas in tanneries and effluent treatment plants" was translated into Hindi, hosted on UNIDO's leather panel website and circulated among the tanners in Jajmau, Unnao and Banthar clusters.
5. A benchmarking tool was developed in excel format to be initially used by tanneries to benchmark themselves.
6. The Structure of the training on "Cleaner tanning technologies" was prepared and circulated among the tanners in Jajmau, Unnao and Banthar.
7. A Training centre, developed by KULC, has been identified as a counterpart agency for organization of training.
8. Technical specifications for the equipment to be purchased for the 3 key Pilot Demonstration Units (PDUs) were prepared and prospective equipment vendors were identified.
9. UPLIA nominated three tanneries for the demonstration of PDUs.
10. Baseline data on the existing processes was ascertained. CLRI, HBTI and IIT Kanpur have been identified for analysis.
11. For the PDU on solar water heating, Hair Save System and Water measurement and mixing, offers were received and evaluated.
12. Tanneries were identified for the pilot implementation of environmental audits and OSH.
13. An Inventory of manuals and guidelines were prepared for occupational safety and health in tanneries.



Tannery Processing



NCCBM Building, Ballabgarh, Faridabad, Haryana

3.15 Development & adoption of appropriate technologies for enhancing productivity in the cement sector in india

Planned budget: US\$ 1,124,500

Donor : DIPP

Duration : 22 months

Status : Ongoing

Partners:

- Department of Industrial Policy and Promotion (DIPP)
- National Council for Cement and Building Materials (NCCBM)

Brief description:

The objective of this project is to bolster the capacity and capability of technical institutions such as the NCCBM to enable them to better support clusters and individual SMEs in their efforts to enhance their productivity performance and enter export markets. Such support involves advanced technology transfer, skills development, enhanced management practices and building knowledge for increased resource efficiency and emission reduction. The project covers the following areas:

- Reports of the cement sector covering: Review of global best practices on management of the cement sector. Global view of: Energy usage and energy efficient solutions; Waste derived fuels; CO₂ emissions and green technologies; Patents and IPRs; Global best practices; Up-to-date technologies.
- Diagnostic studies of NCCBM covering:
 - Analysis of the Issues / technology gaps faced by NCCBM
 - o Analysis of the skills gaps faced by NCCBM
 - o Analysis of the gaps in management best practices faced by NCCBM
 - o Analysis of NCCBM's International and technical support network
 - o Analysis of current technology types promoted by NCCBM (the usage of energy, type of process, fuel type, CO₂ emissions, waste etc.)

Progress in 2015:

1. The 1st tranche of funds was received in November 2015.
2. The 1st consultative meeting of the project manager with NCCBM was held on 10th December, 2015.
3. For sector report and diagnostic study:
 - o TORs for engaging international experts/ institutions have been prepared and sent to various potential experts and institutions, including various Embassies/ High Commissions (e.g. UK,) and leading consulting firms for nominating experts.
 - o Contracts are being issued to selected experts and institutions.
4. As part of the diagnostic study, detailed information pertaining to NCCBM has been collated that includes organograms, areas of

activities, information on firm structure in the cement sector, key legislations pertinent to the sector, CVs of staff to be trained, list of global firms/ institutes for capacity building/ study tours, directory of institutions present at the biennial international symposium of NCCBM, list of countries where training has been delivered and alumni network of the past staff.

International study tour: The following details have been compiled:

- o List of 23 international organisations, their areas of expertise and contact details.
- o List of 20 international experts and their contact details.
- o Relevant details of NCCBM officials (area of work, seniority/ grade, educational details) for study and fellowship tours.



Raw material storage at the paper unit in Vapi

3.16 Development and adoption of green technologies for enhancing utilisation of waste materials in the pulp and paper sector

Planned budget: US\$ 1,455,000

Donor : DIPP

Duration : 21 months

Status : Ongoing

Partners:

- Department of Industrial Policy and Promotion (DIPP)
- Central Pulp and Paper Research Institute (CPPRI)
- Indian Paper Manufacturers Association (IPMA)
- Indian Agro and Recycled Paper Mills Association (IARPMA)
- Indian Newsprint Manufacturer's Association and the Indian Recycled Paper Mills Association (IRPMA)
- Indian Recycled Paper Mills Association (IRPMA)

Brief description:

The objective of the project is to introduce new and more advanced technologies, provide up-to-date skills to staff and transfer knowledge /expertise in the paper and pulp sector. The target beneficiaries include both selected firms, which serve as demonstration units, and technical institutions such as the Indian Paper Manufacturers Association (IPMA), the Central Paper and Pulp Research Institute (CPPRI), the Indian Agro and Recycled Paper Mills Association (IARPMA), the Indian Newsprint Manufacturer's Association and the Indian Recycled Paper Mills Association (IRPMA). The immediate agenda of the project is to achieve the following:

- Identification of target clusters/units.
- Report of paper and pulp sector covering: Study of the technology status of the pulp and paper sector with a focus on selected clusters in India.
- Review of global best practices and state of the art technologies, including green technologies, for the pulp and paper sector.

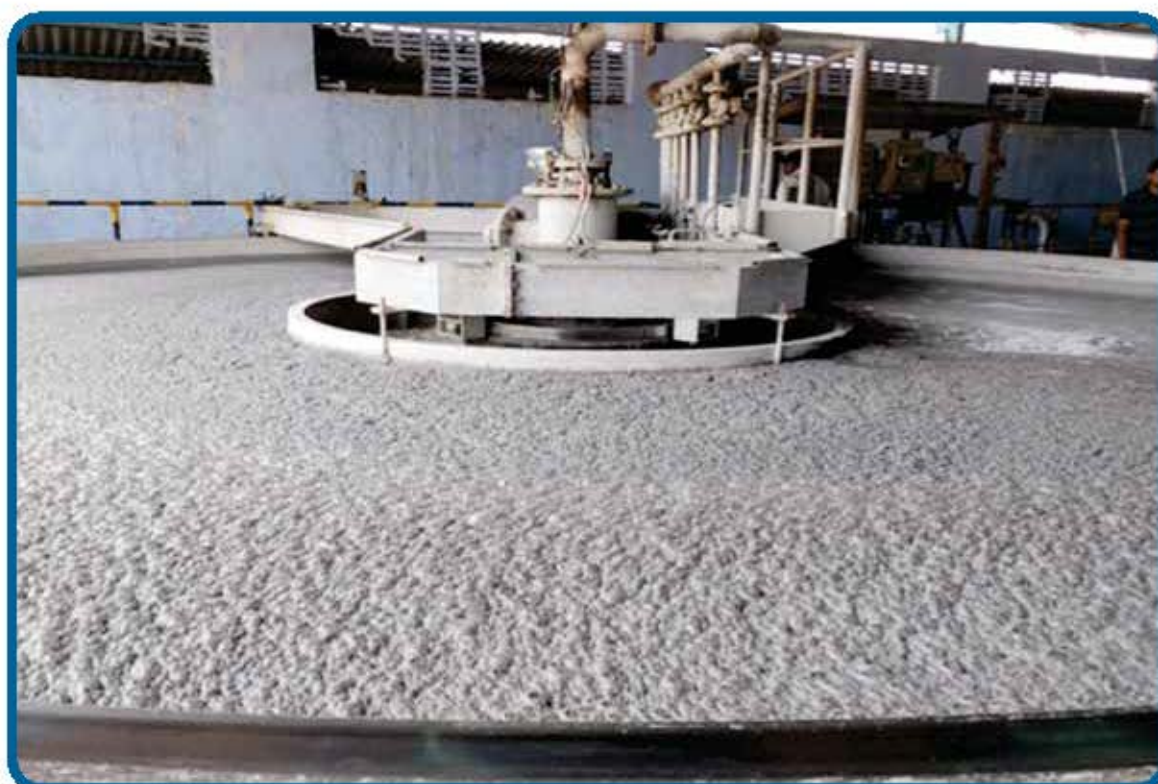
- Diagnostic studies of CPPRI, IPMA, IARPMA, INMA, IRPMA and selected units covering: Assessment on key aspects: R&D Infrastructure /skills, gaps faced and the requirement of International and technical support network, etc.
- Analysis of the prevalent technologies used and the issues/ technology gaps faced by the selected units.
- Conduct analysis such as: SWOT, five forces, and PEST or PESTLE.

Progress in 2015:

1. The 1st tranche of funds was received In November 2015.
2. The 1st consultative meeting of the project manager with CPPRI and industry associations was held on 8th December, 2015.
3. The Job Description for the National Project Coordinator (NPC) has been prepared.
4. For sector report and diagnostic study:
 - a. TORs for engaging International experts/

institution have been prepared and sent to various potential experts and Institutions, including various Embassies/ High Commissions (e.g. Sweden, Canada, Norway, Finland, UK, etc.) and leading consulting firms for nominating experts.

- b. Contracts are being issued to selected experts and institutions.
5. As a part of diagnostic studies, detailed information pertaining to CPPRI and associations is being collated that includes organogram, areas of activities, database of members from each association, key legislations pertinent to sector, CVs of staff to be trained and list of global firms/ institutes for capacity building/ study tours.
6. Technology demonstration: Three potential areas for technology transfer have been identified in consultation with CPPRI, which would be finalised based on outcomes of sector report and diagnostic study.



Effluent treatment plant during visit to a paper unit in Vapi

SOUTH-SOUTH COOPERATION PROJECTS



Application Of Neem Derived Bio-pesticides

3.17 Development of production capacity and promotion of Neem derived bio-pesticides as a low cost and eco-friendly alternative to chemical pesticides In West Africa

Brief description:

The programme focuses on promoting the use and development of production capacity of ecofriendly and cost-effective pesticide derived from neem kernels, in three countries of West Africa, e.g. Ghana, Nigeria and Sierra Leone. This project aims to arrange national coordination, provide training to key personnel involved in field implementation, sensitize potential stakeholders and finalize individual work-plans through Inception Workshops Neem-derived bio-pesticides sector in West Africa. The production and use of neem kernel-derived bio pesticides is aimed at boosting rural development, agribusiness and micro-industries promotion, poverty alleviation and employment generation, while at the same time strengthening environmental protection and elimination of health hazards by providing a low-cost bio-efficient alternative to toxic POPs and non-biodegradable chemical pesticides, and supporting organic food production. This ongoing project has a budget of US\$ 275,000.

Progress in 2015:

1. NPC for Ghana & Sierra Leone are in place; in Nigeria, the ministry cleared the appointment.
2. National Neem Coordinating Cell (NNCC) has been established in Ghana, Nigeria and Sierra Leone.
3. Neem census and plantation work is in progress in Ghana and Sierra Leone. TORs for the technical partnering institutions in Ghana, Nigeria and Sierra Leone have been prepared and subcontracts issued in Ghana & Sierra Leone.
5. Scientific field trials on different crops have been undertaken in Ghana and Sierra Leone.
6. Technical specifications for the machinery to be procured have been drafted and vendors from India have been identified. Procurement process for the machineries from India for Ghana and Sierra Leone took place in December 2015. Three quotations were received from suppliers.
7. Training for farmer trainees and selected farmer groups was conducted on 8th December 2015 in Ghana.



Training at KIRDI

3.18 Strengthening the technical service capabilities of the Kenya Industrial Research and Development Institute (KIRDI) in collaboration with the Kenya Subcontracting and Partnership Exchange programme

Brief description:

The project aims at improving the capacity of KIRDI to enhance productivity and quality of industrial training and to become a Centre of Excellence in industrial research, technology and innovation in Kenya, and to expose senior policy makers and technocrats from Kenya to the latest trends in industrial policy development and appropriate technologies, and establish institutional linkages with Indian industrial R&D institutions. The main focus areas of the project are as follows:

- Product design capability of KIRDI through the increased application of CAD/CAM
- Product testing capabilities in KIRDI Holistic support services to prospective Kenyan suppliers in the metal and electronics sector (Subcontracting and Partnership Exchange)

This ongoing project has a budget of US\$ 200,000.

Progress in 2013:

1. Details of training programmes for KIRDI professionals have been finalized in consultation with IMTMA. (Indian Machine Tool Manufacturers Association)
2. The trainees have been shortlisted and their CVs have been shared with IMTMA.
3. For procurement of equipment and software: TORs were prepared, the procurement process has been initiated and three offers have been received for equipment as well as software. Contracts are being issued to the vendors.
4. The TORs of the subcontract with KenInvest for the operationalization of the SPX Centre were updated and formally agreed upon with KenInvest.
5. KenInvest has been approached to deploy one staff member of KenInvest to KenInvest's SPX Department. Recruitment process for second SPX expert has been initiated.



Coconut husk

3.19 Demonstration and promotion of coconut husk processing for income generation in rural communities Coast province, Kenya

Brief description:

The objectives of the project are to:

- Establish a Coconut Husk Utilization (CHU) Demonstration Facility at the Malindi Industrial Estate in the KCDA-KIE Centre of Excellence for Development of Coconut Products
- Train KCDA staff in coconut husk processing
- Conduct Coconut husk processing demonstration events/ Investments promotion events
- Explore market linkage with the local/ regional floriculture industry.

Progress in 2015:

1. The construction of Malindi Centre of Excellence was completed during phase-1. The Country Technical Committee visited the site and prepared a draft layout in accordance to supply of machinery.

2. An Inception workshop was conducted and NPC was appointed. NCRMI, Kerala has been identified as the Indian technical partner institution.
3. A Training programme was conducted for KCDA at NCRMI.
4. A Draft business plan for husk processing was developed.
5. A Tender process was conducted for procurement of equipment. However, the offers received were higher than the available budget. The original budget of this project was US\$ 170,630 (including agency fee). The project has been stalled at the stage of procurement of equipment; all the quotations received were for higher than the budgeted amount (shortfall of USD 80,000). A review of the project was conducted, and the project has now been discontinued.

4. PROGRAMME DEVELOPMENT - KEY AREAS OF COOPERATION

Key initiatives and developments in 2015:

➤ UNIDO's ISID Mandate and the SDGs:

The newly adopted 2030 Development Agenda lists 17 Sustainable Development Goals. Goal 9: Build Resilient Infrastructure, promote inclusive and sustainable industrialisation and foster innovation' recognises the importance of inclusive and sustainable industrialisation as an important driver of economic growth and sustainable development. Thus, UNIDO's ISID mandate has been brought to the fore.

As a specialised agency, UNIDO aims to promote industrial development for poverty reduction, inclusive globalisation and environmental sustainability. Through SDG 9, UNIDO's ISID mandate can serve as an engine for job creation, economic growth, technology transfer, investment flows and skill development, as also acknowledged in the Addis Ababa Action Agenda of the Third International Conference on Financing for Development held in July 2015.

Specific industry-related targets have also been identified for the other SDGs, making UNIDO's

interventions central to the global development discourse. UNIDO's extensive expertise in supporting industrialisation in developing countries makes the organisation a pivotal point in implementing the industry-related targets across all the SDGs. In line with this new development agenda, UNIDO is guided by three thematic approaches: Advancing Economic Competitiveness, Creating Shared Prosperity and Safeguarding the Environment.

➤ Alignment with India's National Priorities and Policies

UNIDO's newest interventions and projects in India complement national development priorities and schemes in India. Since the launch of the 'Make in India' campaign in September 2014, UNIDO's ISID mandate has worked in consonance with this campaign to boost industrial development. UNIDO's activities also work with other initiatives and such as the 'Swachh Bharat Mission' and the 'Smart Cities' project.



SDG 9 highlights UNIDO's ISID mandate



Government of India's flagship programme

The Government of India has launched the 'Smart Cities Mission'. Under the first phase of this initiative, the Government has selected 20 cities (out of a total target of 100 cities) for urban renewal and retrofitting to make cities across the country more citizen friendly and sustainable. The aim is to ensure the basic infrastructure in cities such as water supply, electricity, sanitation, urban mobility, housing, connectivity and digitalisation, good governance, environmental sustainability, safety, health and education.

➤ **International Centre for Inclusive and Sustainable Industrial Development**

The newly launched International Centre for Inclusive and Sustainable Industrial Development (ICISID) was formed by merging the erstwhile UCSSIC and the ICAMT. The new centre will now carry forward the roles played by both the former centres. It aims to facilitate increased industrial competitiveness, upgradation of technology, innovation, protection of the environment and access to energy. The centre simultaneously encourages the introduction of advanced manufacturing technologies in Indian industries and the transfer of proven technology-solutions from India to other developing countries through South-South cooperation modalities. The centre will therefore play a dual role in facilitating various Indian industries and aiding South-South cooperation. The focus within India will

be to establish mechanisms that target productivity and competitiveness of SMEs through inward technology transfers from OECD countries, demonstrations of working industrial models and providing a networking platform for SMEs. As a nodal point for South-South Cooperation, the centre will look to continue facilitating the sharing of technology, information, knowledge and business models for replication of Indian best practices in Least Developed Countries, especially in Africa.

IC-ISID became operational in 2015, which will prove to be a milestone in UNIDO's operations in India. The centre will act as a pivotal point of furthering industrial competence in India and to collectively support other developing countries. The centre is currently managing 3 projects in India, and 2 projects in Africa, with two additional projects in India in the pipeline. Through these projects, the centre will look to develop and share Indian expertise to aid Indian industries, assist other LDCs and develop greater partnerships on a national and international level.

➤ **Revision of the Country Programme (Addendum 2013-17)**

At the request of DIPP, the Country Programme (2013-2017) was reviewed and there was found to be a need to update the document and to reflect the actual implementation status of UNIDO projects in India. The Addendum to the original CP document was approved by DIPP in December, 2015.

➤ **New projects/initiatives:**

The Addendum to the Country Programme (2013-17) formalised the addition of new projects that were not a part of the original CP 2013-17. UNIDO has initiated the project, **‘Sustainable Cities Integrated Approach Plan for India’**, under GEF’s multi-million dollar initiative, "Global Platform for Sustainable Cities", implemented by UNIDO in Senegal, Ivory Coast, India and Malaysia. The first phase of the project in India targets 5 cities – Vijayawada, Guntur, Jaipur, Mysore and Bhopal. By providing solutions and support for sustainable urban planning, low emission technologies and financing for sustainability, the project aims to target climate change in its first phase, and chemicals and waste management in the

second phase. In the second phase of the Sustainable Cities Integrated Approach Plan for India, where UNIDO is focusing on chemicals and waste management, two additional industrial cities, Indore and Visakhapatnam, will be included. The project is currently at the preliminary stage and is awaiting approval from MoUD for PPG work.

The other important initiative is a project on National Air Quality Index, where UNIDO is collaborating with MoES and MoEF&CC. The objective of the project is to address air pollution and human health.

New projects under the addendum:

	Project Title	Budget	Status
1.	Ecosystem based Livelihood Promotion in the North East (Mizoram) - PA	120,000	Ongoing
2	International Centre for Inclusive and Sustainable Industrial Development (IC-ISID)	928,078	Ongoing
3	Kanpur Leather Development Project 2015-2017	884,955	Ongoing
4	Low Carbon Facility	8,712,328	Pipeline
5	National Air Quality Index	5,000,000	Pipeline
6	Sustainable Cities Integrated Approach Plan for in India I	13,500,000	Pipeline
7	Sustainable Cities Integrated Approach Plan for in India II	45,000,000	Pipeline
8	Implementation of the BAT/BEP strategies for elimination / reduction of U-POPs emissions of the priority industry sectors identified in the NIP of India.	12,000,000	Pipeline
9	UNIDO-ACMA-MOHI (Phase II)	2,500,000	Pipeline
10	Development and Adoption of Appropriate Technologies for Enhancing Productivity in the Cement Sector in India	1,124,500	Ongoing
11	Development and adoption of green technologies for enhancing utilization of waste materials in the pulp and paper sector.	1,455,000	Ongoing
12	Cluster Development Project	1,800,000	Pipeline



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