



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



# Annual Report 2014

UNIDO operations in India



# Foreword

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The year 2014 was full of challenges and opportunities for UNIDO in general and for UNIDO's activities in India particularly.

At the General Conference of UNIDO held in December 2013, UNIDO was given a mandate, through its adoption of the Lima Declaration, to support the efforts of countries towards achieving Inclusive and Sustainable Industrial Development (ISID). It further states that poverty eradication remains the central imperative, and that this can only be achieved through strong, inclusive, sustainable and resilient industrial and economic growth, as well as the effective integration of the economic, social and environmental dimensions of sustainable development. Hence, to eradicate poverty, to reduce inequalities and to share prosperity throughout societies, industries have to grow in an *inclusive and sustainable manner*. This is also in line with the process of Post-2015 development agenda. Industrialization, in recognition of its significant contribution to the sustainability of economic activities and the advancement of social inclusion, is addressed at the levels of goals and targets. As a result, industrialization is reflected in the proposed SDG 9: *Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation*, while target 9.2 specifies: *Promote inclusive and sustainable industrialization, and by 2030 raise significantly industry's share of employment and GDP in line with national circumstances, and double its share in LDCs*.

For UNIDO in India, 2014 was a year of inspiration and action – inspiration in terms of new projects being initiated especially in the area of energy and environment and substantial progress in implementation of all ongoing projects in India. During the same period UNIDO successfully completed several projects which continued from the last country programme 2008-12. Some programmes and activities were revisited by reflecting the changing development scenario of India, particularly within the framework of various Government initiatives. Matching with requirements for more innovation and technology orientation in response to the flagship initiative, Make in India, the year was a testimony of UNIDO's assertive focused approach, accountability towards project outcome and responsiveness towards India's changing needs for industrial development. This also provided UNIDO the opportunity to consolidate its expertise and indicate our commitment in the Inclusive and Sustainable Industrial Development of India.

UNIDO has always been spearheading the activities for technology upgradation and South-South Cooperation. The assistance provided to various industrial clusters, such as plastics, foundry, engineering and machinery sectors, saw a notable emergence of better quality and increased quantity of production among Indian small and medium enterprises. A series of South South Cooperation projects were launched mainly in Africa to address the capacity building of local institutions and technology upgradation through two centres, i.e., International Centre for Advanced Manufacturing Technology (ICAMT) in Bangalore, and UNIDO Centre for South South Industrial Cooperation (UCSSIC) in Delhi. With a view to responding more proactively to the new initiatives of the Government of India as well as to addressing the changing needs of manufacturing industries in and outside of India, UNIDO established a new centre, International Centre for Inclusive and Sustainable Industrial Development (IC-ISID) merging the functions of ICAMT and UCSSIC. IC-ISID will serve this objective with increased capacity and knowledge base for bringing in best practices and new and improved technologies to Indian industries as well as to those in other developing countries in the region and globally.

With the new institutional set-up such as IC-ISID and further expansion of the UNIDO portfolio in India, I would like to reiterate our commitment on pursuing our new mandate, Inclusive and Sustainable Industrial Development. UNIDO is ready to further contribute to the Government of India's Initiatives by aligning our programmes and activities to the government policies and strategies.

*Ayumi Fujino*  
*Representative in India, and*  
*Regional Director for South Asia*



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# List of abbreviations

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ACMA	Automotive Component Manufacturers of India
3 ADI	Accelerated Agribusiness and Agro-industries Development Initiative
AIEMA	Ambattur Industrial Estate Manufacturers Association
AIPMA	All India Plastics Manufacturers Association
ASSOCHAM	Associated Chambers of Commerce and Industry of India
BATs/BEPs	Best available techniques & Best environmental practices
BEE	Bureau of Energy Efficiency
BSP	Bhilai Steel Plant
CAB	Cane and Bamboo
CBTC	Cane and Bamboo Technology Centre
CDA	Cluster Development Agent
CDC	Community Development Centers
CDM	Clean Development Mechanism
CER	Carbon Emission Reduction
CFC	Common Facilities Centre
CFCs	Chloro fluorocarbons
CFTI	Central Footwear Technology Institute
CII	Confederation of Indian Industries
CII SG-GBC	CII-Sohrabji Godrej Green Business Centre
CIPET	Central Institute of Plastics Engineering and Technology
CLRI	Central Leather Research Institute
CMTI	Central Manufacturing Technology Institute
CNC	Computer numerically controlled machines
COINDIA	Coimbatore Industrial Infrastructure Association
CP	Cleaner Production
CP	Country Programme
CPCB	Central Pollution Control Board
CPRI	Central Power Research Institute
CPPRI	Central Pulp and Paper Research Institute
CT	Cleaner Technology
CTC	Carbon tetrachloride
DDT	Dichlorodiphenyltrichloroethane
DIPP	Department of Industrial Policy and Promotion, Government of India
EA	Energy Audit
E & E	Energy and Environment
EE	Energy Efficiency
EHS	Environment, Health and Safety practices
ESM	Environmentally sound management
ETP	Effluent Treatment Plant
FICCI	Federation of Indian Chambers of Commerce and Industry
FMC	Foundation for MSME Clusters
GC	General Conference
GEF	Global Environment Facility

GHG	Greenhouse gas
GOI	Government of India
GTZ	German Technical Corporation ( a German acronym)
GWP	Global Warming Potential
HIL	Hindustan Insecticides Limited
ICAMT	The Centre for Advancement of Manufacturing Technology
ICDP	Integrated Cluster Development Programme
IDF	UNIDO Industrial Development Fund
IFLMEA	Indian Finished Leather and Manufacturers Association
IILF	India International Leather Fair
IISc	Indian Institute of Science
IIUS	Industrial Infrastructure Upgradation Scheme
IMTMA	Indian Machine Tools Manufacturers Association
IMTS	International Machine Tools Show
INCPC	Indian National Cleaner Production Centre
IREDA	Indian Renewable Energy Development Agency
ISF	Indian Shoe Federation
IVCA	Indian Venture Capital Association
KEFRI	Kenya Forest Research Institute
LDCs	Least developed countries
LGED	Local Government Engineering Department of Bangladesh
MCCIA	Mahratta Chamber of Commerce, Industry and Agriculture
MCGS	Mutual Credit Guarantee Scheme
MDGs	Millennium Development Goals
MNRE	Ministry of New and Renewable Energy, Government of India
MOEF	Ministry of Environment and Forests, Government of India
MOHI	Ministry of Heavy Industries, Government of India
MP	Montreal Protocol
MRU	Mano River Union
MSMEs	Micro, small and medium enterprises
NCR	Delhi National Capital Region
NEC	North Eastern Council
NEERI	National Environmental Engineering Research Institute
NEHHDC	North East Handicrafts and Handlooms Development Corporation
NID	National Institute of Design (India)
NIP	National Implementation Plan
NIIST	National Inter-disciplinary Institute of Science and Technology
NGO	Non-Government Organisation
ODG/EVA	Office of Director-General/Evaluation
ODS	Ozone-depleting substances
OECD	Organization for Economic Cooperation Development
OVOP	One Village One Product
PCB	Polychlorinated biphenyls
PDPI	Pesticides Development Programme India
PFS	Pre-feasibility study
PIF	Project Information Form
PMI	Permanent Mission of India in Vienna

POPs	Persistent Organic Pollutants
PPG	Project Proposal Grant
PPP	Public Private Partnership in Infrastructure Development
PSD	Private Sector Development
RE	Renewable Energy
RECP	Resource Efficient and Cleaner Production
RENAPAP	Regional Network on Pesticides for Asia and the Pacific
RSF	Regional Strategies and Field Operations Division
SG-GBC	Sohrabji Godrej Green Business Centre
SIDBI	Small Industries Development Bank of India
SIDS	Small Island Developing States
SMEs	Small and Medium Enterprises
SMUE	Solar multi-utility enterprise
SPV	Special Purpose Vehicle
SPX	Subcontracting and Partnership Exchange
SSI	Small scale industry
SSS	Service summary sheet
STC	Screening and Technical Review Committee
TC	Technical cooperation
UCSSIC	UNIDO Centre for South-South Industrial Cooperation
UNIC	United Nations Information Centre – (for India and Bhutan)
UNDAF	United Nations Development Assistance Framework
UNIDO	United Nations Industrial Development Organization
UR	UNIDO Regional Office
UVSSTF	UNIDO-VIMTA South-South Training Facility
YES-DI	Youth Entrepreneurship and Skills Development Initiative



# 1. Highlights of 2014

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The year has seen some high profile visits from UNIDO Headquarter and foreign delegates.

Project on Penetration of solar thermal technologies in the industrial sector in India received GEF Endorsement. This project will be conducted in association with the Ministry of New and Renewable Energy (MNRE). The project will work at both sector and policy level to promote application of solar thermal technologies in the identified industrial sectors.

A joint programme by the United Nations Industrial Development Organization (UNIDO), The Energy and Resources Institute (TERI) and TERI University (TERI U) helps build awareness and knowledge on key global trends, innovative technologies, policies and inter-disciplinary solutions in the fields of energy, climate change and sustainable development.

The two-week Sustainable Energy Leadership Programme (SELP), that ended in New Delhi on 14<sup>th</sup> Feb 2014, brought together over 20 government officials, policy makers, and experts from 20 countries in Africa, Asia and Europe.

The programme, first of its kind, allowed participants to interact with ongoing energy projects in India, discuss sustainable energy solutions from a practitioner's perspective, and attend high-level discussions in a global context.

Participants visited projects in the field, including energy efficient furnaces in the glass making clusters of Firozabad, small hydropower applications in Roorkee, and solar-powered micro-grids powering the Ahroha Bhawani Square Marketplace in the Singhpur Block, Uttar Pradesh.

Participants also attended the Delhi Sustainable Development Summit (DSDS) 2014 that featured high-level ministerial panels and workshops on "Attaining Energy, Water and Food Security for All." They learned about innovative technologies and policy solutions, and were able to interact with international experts in the field.

The first National Steering Committee for the Country Programme 2013-17, chaired by the Secretary, DIPP, was organized in order to make an effective coordination of projects under the CP 2013-17. The NSC membership includes the representatives from all concerned stakeholders and the UNIDO Representative in India. UNIDO Regional Office in India serves as Secretariat of the Committee.

The Terms of Reference of the National Steering Committee (NSC) are:

- To ensure the activities and programmes conducted under CP 2013-17 are in line with the national development priorities in India and contributing to the strengthening of industry sectors.
- To ensure that projects and activities are implemented in compliance with both national and UNIDO regulations.



*Figure 1: Mr. Pradeep Monga, Director UNIDO's Energy and Climate Change Branch and Dr. Leena Srivastava, Vice Chancellor; TERI University with participants*

At the NSC meeting, an overview of the government support and UNIDO activities was provided, with the information on the achievements and modalities of implementation. A summary document, indicating the key progress of the projects, was also circulated during the meeting.

UNIDO approached several UN agencies based in New Delhi, India to understand how the absence of reliable source of energy affects the success of their interventions cross the country. The results of these interactions were published in the form of a compendium documenting all the areas of collaboration. A public lecture on sustainable energy for all was also organized on 28<sup>th</sup> June 2014.

In this lecture, the key factors that are behind the deficiency in reliable and modern energy supplies and prevent fulfillment of the basic needs of a large population was discussed. Therefore the concept of 4 “A” of Accessibility, Availability, Affordability and Accountability were elaborated in detail.

*Accessibility* is the de-facto existence of modern energy in the form of electricity and clean cooking fuel to address energy poverty in a location. In India, currently there are 76 million households living without electricity and about 143 million households without the provision of clean cooking fuels. Lack of energy access also limits the access to basic services such as health amenities, education, employment opportunities.

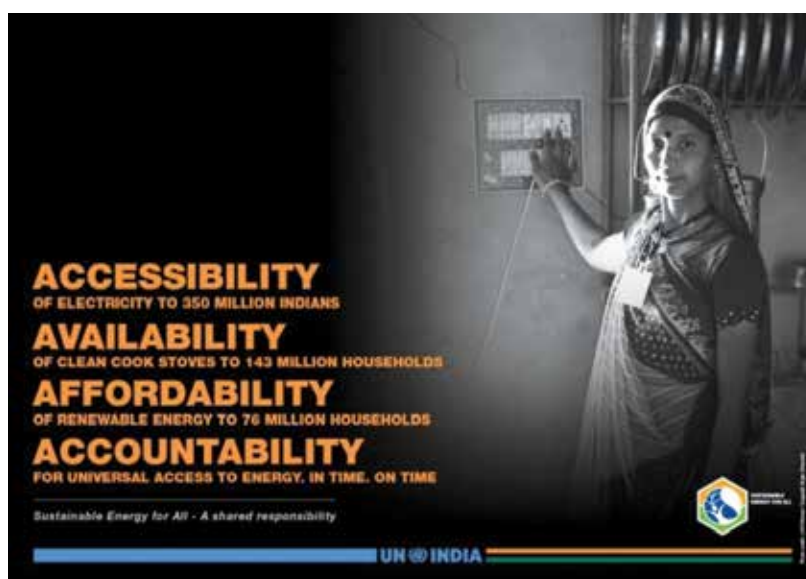


Figure 2: Sustainable Energy for All (SE4ALL)

Along with accessibility, the *availability* of electricity and other modern energy supplies

continues to remain a concern. Due to perennial demand-supply mismatch in the grid, electricity supply especially in the rural areas of many States remains erratic and unreliable with consumers often receiving electricity supply for less than eight hours a day.

Efforts are needed to ensure that such alternative clean energy solutions are available at a price that is *affordable* and encourages market development. Affordability is thus the price of energy required for maintaining sustained energy production, and the maximum per unit price which a consumer would be willing to pay.

The fourth A of *Accountability* cuts across the previous three critical areas of accessibility, availability and affordability and ensures that these remain relevant for providing sustainable energy. Accountability delineates the roles and responsibilities of all stakeholders in the energy supply planning, delivery and utilization.

Launch of the Joint UN initiative in Mizoram: UNIDO in association with FAO, UNDP and ILO collaborated on a project aiming at ecosystem management in Mizoram, India. Each agency with its expertise will aim to strengthen the capacity of state government and communities in Mizoram to better manage ecosystem through a combination of skill development, adaptation of best practices, use of indigenous knowledge and promotion of sustainable livelihood, with special emphasis on inclusion of women. UNIDO is the lead agency for this initiative.

## 2. Service delivery – Expansion of portfolio

### Salient features

The Regional Office in India is one of the 10 UNIDO regional offices and is part of a larger network of field representation. Its regional coverage includes India, Afghanistan, Bangladesh, Bhutan, Maldives, Nepal and Sri Lanka. According to the Country Evaluation 2011, however, a large part, around 70% of its staff time is devoted to India-based operations.

Headed by a UNIDO Representative, it managed a portfolio of 43 projects, for a total stock value of \$ 101 m. UNIDO India portfolio is one of the biggest and very diversified. It gets programmatic thrust from CP 2013-17 which has two major components, namely:

- **Component 1: Green Industrial Development of India**

*Component objective: To promote more sustainable and cleaner technology development and transfer as well as knowledge management based on the implementation and application of various technical and policy tools and methodologies.*

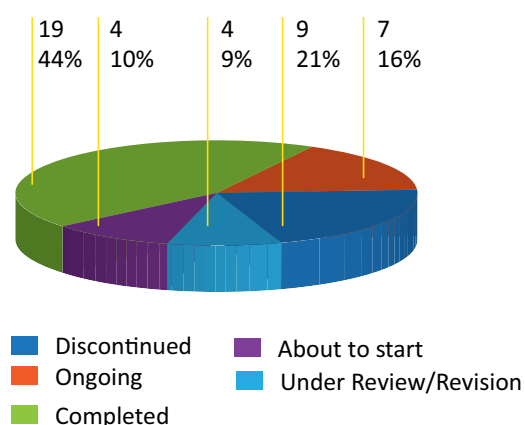
- **Component 2: Inclusive Economic Development**

*Component objective: To increase the competitiveness of private sector, particularly MSMEs and industrial clusters and thereby to facilitate the establishment of viable supply and value chains with improved access to technologies, markets, skill building, financial and employment opportunities.*

Out of a total of 43 projects under CP 2013-17 worth of approximately \$101.15 m, 16 projects are towards **Green Industrial Development of India** and 22 projects are allied with **inclusive economic development**. The remaining 5 projects related to field support and south-south cooperation. More than 60% of the programme funds related to **Green Industrial Development**.

The status of UNIDO Country Programme portfolio as on Oct 2014 is shown below:

#### Nos. of Projects as on Oct 2014



#### Budget in (MUS\$)

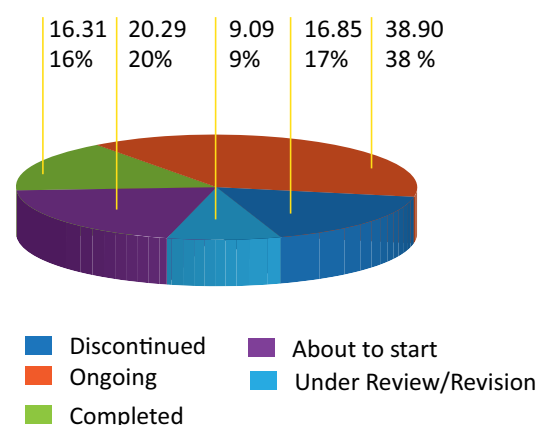


Figure 3: UNIDO operations in India 2014

## Overview

### 2.1.1 Projects completed in 2014

Code	Title	Total Budget <sup>1*</sup> (US\$)
USIND08006 SFIND08005	National programme for technology upgradation of Brass and Bell Metal Industry/Artisan enterprises in Khagra & other areas in the West Bengal and neighbouring states (Phase I)	200 ,000
USIND09006 SFIND09007	Technology upgrading and productivity enhancement of the machine tools industry in India	1,175 ,000
S F I N D 0 9 0 1 3 USIND09012	National programme for developing plastics manufacturing industry in India	799 ,940
USIND10002	Technology up gradation and productivity enhancement of foundry industry at Coimbatore and Belgaum	1,000,000
XPIND12005	INTEGRATED CLUSTER DEVELOPMENT PROGRAMME - PREPARATORY ASSISTANCE	41,804
UCIND12001 TEIND12002	Promoting rural micro industries and value chain development in the food processing sector (in selected poor region of India) - Preparatory Assistance	76,666
USGLO08010 SFGLO08009	Operational phase of the International Centre for Advancement of Manufacturing Technology (ICAMT)	1 ,940 ,536
USIND08007	Support to the operation of the UNIDO Regional Office in India in a Result-Based Management Framework	571,823
<b>Total 8</b>		<b>5,805,769</b>

### 2.1.2 Projects under execution in 2014

Code	Title	Total Budget (US\$)
G F I N D 1 1 0 0 1 XPIND11002	Promoting energy efficiency and renewable energy in selected Micro, Small and Medium Enterprises (MSME) clusters in India	7 ,209 ,746
GFIND10001	Environmentally sound management and final disposal of PCBs in India	14 ,100 ,000
GFIND11004	Environmentally sound management of medical wastes in India	10 ,000 ,000
GFIND_120345	Clean technology and energy efficiency for micro, small and medium enterprises (MSMEs)	1 ,000 ,000
GFIND12003	Promoting business models for increasing penetration and scaling up of solar energy	4 ,365 ,174
TEIND_120182	Promoting low – head micro hydropower mini grids to increase access to energy for productive uses in rural India	1 ,300 ,000
SFIND_100245	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	1,027,931
<b>Total 7</b>		<b>39,002,851</b>

<sup>1</sup>The total budgets for the completed projects are unaudited figures as on Oct 2014 (as per SAP system) and the final audited budget amount may vary.

\* The total budget also include UNIDO agency fee.

### 2.1.3 Next generation projects under discussion/about to start

Code	Title	Total Budget (US\$)
GFIND_120299	Organic waste streams for industrial renewable energy application in India	3,333,000
GFIND_120115	Development and promotion of Non-POPs alternatives to DDT	10,000,000
XXINDXXXXX	Promoting Industrial maintenance (TPM and Corrosion maintenance) amongst SMEs in selected manufacturing sectors in India-Methodology and skill development project	1,924,650
XXINDXXXXX	UNIDO Centre :UCISID	5,869,000
<b>Total 4</b>		<b>21,126,650</b>

### 2.1.4 Next generation projects under revision

Code	Title	Total Budget (US\$)
XXINDXXXXX	Promoting industrial energy efficiency through energy management standard, system optimization and technology incubation	4,460,000
XXINDXXXXX	Technology Up gradation of Bicycle and Bicycle Parts Industry	1,380,000
XXINDXXXXX	Development of Dimensional Stone Industry in India with special focus on Rajasthan, through technology modernization, skill up gradation, market development and strengthening of common facilities at Centre for Development of Stone.	1,500,000
XXINDXXXXX	Programme for skill development and technology up gradation of the plastic manufacturing industry in Rajasthan	1,750,000
<b>Total 4</b>		<b>9,090,000</b>

### 2.1.5 New projects concepts

Code	Title	Tentative Budget (US\$)
	Kanpur Leather Development Programme	1,000,000
	Development and adoption of green technologies for enhancing utilization of waste materials in cement manufacture	2,100,000
<b>Total 2</b>		<b>3,100,000</b>

## 3. Project-by-project initiatives

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

**Project** : GF/IND/11/001  
**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
- Indian Renewable Energy Development Agency (IREDA), Ministry of New and Renewable Sources of Energy (MNRE)
- Small Industries Development Bank of India (SIDBI)



Figure 4: Energy Efficiency Measures in Dairy Sector

#### Brief description:

As part of UNIDO's overall strategy to promote Green Industry initiatives, the project aims to develop and encourage a market environment for enhanced use of energy efficient and renewable energy technologies in process applications in 12 energy-intensive clusters belonging to five MSME industrial sectors in India. Expansion to more clusters would be looked into later, in order to improve the productivity and competitiveness of the enterprises as well as to reduce overall carbon emissions and improve the local environment. The clusters have been selected by The Energy and Resources Institute (TERI) and the project will work at both the cluster and policy levels to achieve its aim.

The project targets achievement of total energy saving of 276,600 MWh annually and avoidance of 84,700 tonnes of carbon emissions per year by 2017. It is also targeting investment of US\$ 16 million in energy efficiency and renewable energy technologies by 2017-18.

The following five energy intensive sub-sectors covering 12 clusters will be covered in the project:

MSME sub-sectors	Clusters
Brass	Jagadhri, Jamnagar
Ceramic	Khurja, Morbi, Thangarh
Dairy	Gujarat, Punjab
Foundry	Belgaum, Coimbatore, Indore
Hand tools	Jalandhar, Nagaur

### Progress in 2014:

- Project Management Unit set up
- Nine out of twelve cluster leaders recruited
- Baseline survey of energy usage data conducted in nine clusters
- Three DPRs prepared for technology demonstration projects and approved for support, namely (a) Solar thermal technology for steam production in dairies, (b) Unit level APFC demonstration in Foundry unit, and (c) Biomass gasifier for cluster level sand recycling facility in Foundry cluster
- Proposal obtained and approved for energy data analytics for two foundry clusters. To be initiated within a month.
- Proposals obtained and evaluated from two IITs (namely IIT Ropar and IIT Indore) and Central Glass and Ceramics Research Institute (CGCRI), Khurja for modification of existing technologies.
- Procurement of consultancy services done for baseline energy audit and capacity building work through BEE. EoIs issued.
- Three more DPRs prepared for:
  - (a) Better air delivery in cupola furnaces at Coimbatore,
  - (b) Induction reheating furnace in Nagaur and
  - (c) Under process – solar water heating in jalandhar



Figure 5: UNIDO intervention in Foundry cluster, Coimbatore

## 3.2 Environmentally sound management and final disposal of PCBs in India

**Project** : GF/IND/10/001  
**Planned budget** : US\$ 14,100,000  
**Donor** : GEF  
**Duration** : 60 months  
**Status** : Ongoing

### Partners:

- Global Environment Facility (GEF)
- Ministry of Environment and Forests (MOEF)
- SAIL (Bhilai Steel Plant) and CPRI Bangalore
- RENPAP

### Brief description:

India ratified the Stockholm Convention on Persistent Organic Pollutants (POPs) in 2006 in order to protect human health and the environment from the adverse effects of POPs. One of the POPs chemicals covered by the project is PCBs or polychlorinated biphenyls—a group of substances that can be found in electrical equipment and, for example, in additives for paints and lubricants.

The PCB project aims at reducing or eliminating the use and release of PCBs and related effects on the environment through environmentally sound management and disposal of approximately 2,700 tonnes of pure PCBs and 5,000 tonnes of PCB-contaminated equipment, PCB-contaminated mineral oils and related wastes in three pilot States of India. The project addresses national priorities such as to improve legislation on POPs chemicals, to improve environmental performance in power and industry sectors, and to identify PCB wastes and contaminated sites and their sound and safe management.

The main institute in charge of executing the project—the Central Power Research Institute (CPRI), an autonomous body under the Ministry of Power, located in Bangalore – has already been involved in the development of the National Implementation Plan (NIP) for the part related to PCBs and has experience in the management of PCB oils and other PCB-containing hazardous materials through its research and consultancy activities in the field of electrical equipment and related materials.

“In particular, CPRI’s expertise and established relationship with the power industry facilitated the collection of information for the preliminary inventory of PCBs and PCB containing materials conducted during the NIP preparation and subsequent research for the preparation of the PCB project. Besides, the institute managed to overcome resistance from the industry to provide information by involving central and state government bodies”, the Independent Country Evaluation India 2011 observes.



*Figure 6: PCBs collection from transformers*



## Progress in 2014

The project has been successful in the development of guidelines, revalidation of the inventory, awarding of the contract for static facility for the treatment of 3400 tonnes of PCB contaminated oil, wastes and equipment. Much delayed sub-contract with Central Power Research Institute has also been signed by CPRI with the agreed and approved TOR. The project has successfully implemented the following activities:

- UNIDO contract awarded for commissioning of the facility
- Transformers filled with pure PCBs identified and labelled for PCBs destruction
- Four Guidelines on the management of PCBs drafted
- Stakeholders and owners of largest stocks of PCBs contaminated oil and equipment have been trained
- Over 70 senior level officials handling PCBs contaminated oil and equipment trained on the management of PCBs
- Training material guidance prepared and provided to the stakeholders who are one of the largest owners of the PCBs contaminated oil and equipment.
- Notification by Government of India on PCB drafted
- Secured co-financing to manage PCBs in environmentally sound manner
- Site inspection, requirement under the permit, by the State authority completed
- Civil drawing, electrical drawings, furniture, fixtures requirements finalized
- TS for the civil work finalised and kept ready
- TS for geo-technical survey and assessment of the site drafted, discussed and finalised Tenders floated
- Phase out plan of the transformers drafted and discussed with BSP-SAIL
- A study tour organised to study Plasma based PCBs destruction facility in Australia and Japan
- TOR on Specification for the provision of a destruction system for high level or pure PCB liquid wastes and decontamination of porous material contaminated with PCBs finalized and bids invited globally
- Technical Working Group (TWG) evaluated the Technical and Commercial offers of the bids received
- All environmental clearances for the concerned authorities obtained
- Consent for establishment (CFE) approved and issued by the Chhattisgarh Environment Conservation Board. The same has been received by the BSP/SAIL
- Following the global tenders floated by UNIDO, order has been placed for commissioning of the static facility for the treatment of 3400 tonnes of PCB contaminated oil, wastes and equipment at Bhilai Steel Plant to dispose of PCBs in an environmentally sound manner

### 3.3 Environmentally sound management of medical wastes in India

<b>Project</b>	: GF/IND/11/004
<b>Planned budget</b>	: US\$ 10,000,000
<b>Donor</b>	: GEF
<b>Duration</b>	: 60 months
<b>Status</b>	: Ongoing

#### Partners:

- Global Environment Facility (GEF)
- Ministry of Environment and Forests (MOEF)
- Ministry of Health and Family Welfare, Government of India
- Governments of Karnataka, Maharashtra, Gujarat, Orissa and Punjab
- RENPAP

#### Brief description:

According to statistical data, India produces some 330,000 tonnes of health care waste annually, which amounts to 904 tonnes per day. As it is not segregated at source, it is considered to be hazardous in entirety despite the fact that only 5 to 10 per cent is actually hazardous and/or infectious in nature.

The main objective of the project is to reduce and ultimately eliminate the release of unintentionally produced persistent organic pollutants (POPs) and other globally harmful pollutants into the environment, and assist India in implementing its relevant obligations under the Stockholm Convention. The project will promote the country-wide adoption of Best Available Techniques (BATs)/ Best Environmental Practices (BEPs) in the health care institutions widely differing in their complexity and size as well as in the evolving medical waste management infrastructure and industry in a manner that reduces adverse environmental impacts and protects human health.

The project document builds on thorough baseline information collected through a survey of 57 common biomedical waste treatment facilities (CBWTF) incinerators which represent 40% of all CBWTFs of the country and detailed assessment studies in the five selected states. The Ramaiah Medical College and Hospital, Bangalore is the executing agency. The college is a private institution which has already been involved in related projects, notably with the World Health Organization (WHO). It benefits from hands-on experience on medical waste management and more generally, an extensive knowledge of local conditions and the medical industry.

#### Progress in 2014:

- The State Pollution Control Boards (SPCBs) of Punjab, Odisha, Maharashtra and Gujarat have signed the contract issued by UNIDO for the implementation of project activities. Subsequent to the signing of contract, UNIDO has released the first instalment of project funds amounting to 41,250 USD each to the 4 SPCBs
- In case of Karnataka, the State Implementing Agency for the project has been changed from Karnataka State Pollution Control Board to State Health Dept. The contract is being issued to the Director, Department of Health, Government of Karnataka by UNIDO for formalizing the project implementation arrangement
- All the 5 States have constituted State Project Steering Committees (SPSCs) and State Project Management Units (SPMUs)

#### Incineration of medical waste: Some Issues



Figure 7: Incineration of medical wastes

- All the 5 states have consolidated the list of 28 hospitals identified from each of the State for implementation of project activities.
- Orientation workshops for the nodal officers designated by the participating hospitals have been organized in the States of Punjab, Maharashtra and Odisha.
- In the state of Punjab, baseline data collection from the identified 28 hospitals has been completed. Gap analysis and preparation of action plan for these 28 hospitals is in progress.
- At the centre level, Project Management Unit (PMU) is functional and the first meeting of the Project Management Committee has been convened on 4th March 2014 under the chairmanship of Joint Secretary, HSMD, MoEF.

### 3.4 Clean technology and energy efficiency for micro, small and medium enterprises (MSMEs)

**Project** : GFIND\_120345  
**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)
- Small Industries Development Bank of India (SIDBI)



Figure 8: Promoting innovation in MSMEs

#### Brief description:

Investing in clean low carbon technologies is seen as a solution that can significantly reduce energy consumption and CO2 emissions in India's industrial sector, while enabling the Indian economy to alleviate energy poverty and maintain steady growth. The project will help to promote SMEs that can innovate and develop commercially viable clean low carbon technologies to reduce GHG emissions.

#### Progress in 2014:

- The training webinar series for country project teams were conducted from April 1 till May 15, 2014.
- The call for the applications under the 1st Cleantech Competition was announced on 15 May 15 2014, with the registration deadline on 31 July, 2014.
- Five regional workshops were organized at national level for Indian SME's to facilitate awareness generation.
- National Platform was established for promotion of clean technology innovations and business models for SME's wherein National Cleantech Programme was hosted by FICCI.
- Total 183 applications were received in the first year of Global Cleantech Innovation programme out of which 25 were selected as the semi-finalists and 3 as finalists.
- Two SME's viz. Gyatk and Neogi Technologies went to California to compete at Global Cleantech Forum.
- 29 applications from experts were received for the voluntary mentoring process, out of which 12 were selected as the potential mentors.

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

<b>Project</b>	: GFIND12003
<b>Planned budget</b>	: US\$ 4,365,174
<b>Donor</b>	: GEF
<b>Duration</b>	: 60 months
<b>Status</b>	: Ongoing

#### Partners:

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



Figure 9: Use of Solar Energy in MSME industrial sector

#### Brief description:

This project will focus 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 2014:

- Workshops at cluster level organized in Coimbatore, Pune, Baddi and Faridabad.
- Co-financing letter from IREDA secured.
- Secured endorsement from GEF OFP and GEF Secretariat
- Project Monitoring Unit set up in MNRE ministry.

## 3.6 Promoting Innovative Energy Solutions with Ultra Low Head (ULH) Micro-Hydro Power (MHP) Technology in India

<b>Project</b>	: TEIND_120182
<b>Planned budget</b>	: US\$ 1,300,000
<b>Donor</b>	: Govt. of Japan
<b>Duration</b>	: 36 months
<b>Status</b>	: Ongoing

### Partners:

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



Figure 10: Ultra low-head micro hydro plant in Uttarakhand

### Brief description:

This project will lead to an increase in the access to renewable energy for productive uses for the rural communities in the State of Uttarakhand, India.

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 m<sup>3</sup>/s, the establishment of a favorable environment for the local technology deployment is envisaged.

### Progress in 2014:

On 4<sup>th</sup> December 2013, the first installation of a 10kW of Ultra Low Head-Micro Hydro Power (ULH-MHP) technology unit has been completed on the campus of Hydraulic Research Station (HRS) of Irrigation Research Institute (IRI) of the Government of Uttarakhand, India. This project is expected to generate approximately 78,840 units of electricity annually. The output of the system after a testing by IIT Roorkee shows that it fulfils the electricity requirement of the research station. This institute generally caters the need of all types of hydraulic physical modelling studies and also builds awareness and local human capacity for government officials. The campus was also visited by the participants from different countries worldwide. The Institute is engaged in research and development activities for river valley projects in India and abroad. This irrigation research station is also important as it is placed in the upper Ganges canal, which caters the irrigation needs of major parts of North & Eastern India. This site will serve the purpose of incubation, demonstration, local capacity development, generating awareness and advocating Ultra Low Head (ULH) based micro hydropower technologies among government functionaries, policy makers and other stakeholders in India and beyond.

### 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-DHI Partnership Programme

**Project** : SFIND\_100245  
**Planned budget** : US\$ 1,027,931  
**Donor** : MoHI  
**Duration** : 36 months  
**Status** : Ongoing

#### Partners:

- Ministry of Heavy Industries
- ACMA



Figure 11: Implementing 5Ss in automotive sector

#### Brief description:

The overall objective of this project is to broaden and deepen the scope and outreach of already established programme services (implemented in a predecessor project over the period 2005-2009), and to further strengthen Indian small and medium-sized automotive component suppliers to meet the requirements of vehicle and Tier-1 automotive component manufacturers. This project, which builds on close cooperation and coordination between ACMA and UNIDO, pursues the following core objectives:

- Enhancing the performance of domestic SMEs in the automotive component industry to facilitate their inclusion 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).
- Enhancing the sustainability of the Partnership Programme through the consolidation of the institutional set-up, expansion of the UNIDO-ACMA methodology and the extension of the pool of well-trained national experts and counsellors.
- Expanding the outreach of the Partnership Programme to upgrade and enhance the competitiveness of an increasing number of target companies along the supply chain in India, including lower tier suppliers.

#### Progress in 2014:

- Excel monitoring and evaluation tool for cluster and individual company performance developed including 38 indicators out of which 23 are mandatory KPIs and 15 are optional indicators not tracked by all counsellors and/or clusters and labelled as “optional parameters”
- 4 clusters including 23 firms assessed on the basis of up to 23 KPIs (baseline data)
- 7 companies from one location surveyed
- UNIDO-ACMA-DHI methodology codified
- 12 experts involved in the codification process during brainstorming and feedback sessions
- 12 core modules codified, 6 counsellors appointed and 2 senior counsellors enrolled

## 3.8 Organic waste streams for industrial renewable energy applications in India

<b>Project</b>	: GFIND_120299
<b>Planned budget</b>	: US\$ 3,333,000
<b>Donor</b>	: GEF
<b>Duration</b>	: 60 months
<b>Status</b>	: Approved

### Partners:

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



Figure 12: Validation Workshop

### Brief description:

The proposed project will focus on using organic waste streams for industrial renewable energy (RE) applications in SMEs, in support of the energy policy priorities, with the overall aim for promoting 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 2014:

- Validation workshops conducted in New Delhi
- Workshops organized at Cluster level in Pune, Chandigarh, Belgaum and New Delhi.
- Co-financing letters from SIDBI and AXIS Bank are secured



## 3.9 Development and promotion of Non-POPs alternatives to DDT

<b>Project</b>	: GFIND_150058
<b>Planned budget</b>	: US\$ 10,000,000
<b>Donor</b>	: GEF
<b>Duration</b>	: 60 months
<b>Status</b>	: Approved

### Partners:

- Global Environment Facility (GEF)
- Ministry of Environment, Forest and Climate Change (MoEF&CC)
- Indian Renewable Energy Development Agency (IREDA),
- Small Industries Development Bank of India (SIDBI)

### Brief description:

To introduce bio- and botanical pesticides and other alternatives to DDT as first step for elimination of dependency on DDT, ensuring food safety, enhancing livelihood and protecting human health and the environment. The project will demonstrate cost-effective, socially acceptable and environmentally sustainable alternatives to DDT and other POP chemical of similar use. The expected outcomes of the project are as follows:

- Adoption and enforcement of legislative and policy framework and strengthening of Capacity
- Development and production of bio-and botanical pesticides as well as other alternatives to DDT
- Promotion of IPM and new dwarf cultivars with early maturity and higher lemonoids yield

### Progress in 2014:

The project secured a co-financing (in kind/cash) to the tune of US\$15.5 million from National Botanical Research Institute (NBRI) of the Council of Scientific and Industrial Research for implementing component 2 and 3 of the project component.

### 3.10 National programme for technology up gradation of brass and bell metal industry/artisan enterprises in Khagra and other areas in West Bengal & the neighbouring states (Phase I)

**Project** : SF/IND/08/005;US/IND/08/006  
**Budget** : US\$ 200, 000  
**Donor** : India  
**Duration** : 56 months  
**Status** : Completed

#### Partners:

- Ministry of Micro, Small and Medium Enterprises (MSME), Government of India
- Department of Industrial Policy and Promotion (DIPP), Government of India.
- State Government of West Bengal



Figure 13: Improving competitiveness of brass metal cluster

#### Brief description:

The National Programme for Technology Upgradation of Brass and Bell Metal Industry/Artisan Enterprises in Khagra & Other Areas in the West Bengal & Neighbouring States (Phase I) was initiated in 2008 with five immediate objectives to be attained:

1. Create awareness, attitudinal changes and motivation of Brass and Bell Metal artisans for acceptance and adoption of changes in society and economy.
2. Improve the process efficiency of brass and bell metal artisan enterprises as per acceptable level of productivity, wastage, etc.
3. Bring the Brass and Bell Metal artisan sector of Khagra to the position of a major producer to tap the emerging potential in the domestic and global market.
4. Strengthen/set up the institutional mechanisms for common facilities, training, technology demonstration, product development, marketing, testing, raw materials etc. for sustainability of the upgradation process.
5. Develop linkages with other Brass and Bell metal artisan enterprises in West Bengal and other states.
6. Develop a self-sustainable model for the future.

#### Project activities in 2014:

- Member artisans of the special purpose vehicle (SPV) were regrouped and motivated after a two year period without coaching. Fresh election for the Executive Committee of the SPV was conducted during General Body meeting held on 24.06.2014 and a new Executive committee has started functioning immediately, including induction of four Associate Members.
- Orders for spinning lathe, general purpose lathe, ball press, hydraulic press, circle cutting machine, bench press, digital weighing machine, moulding boxes, immersion type pyrometers and computers for office were placed with the suppliers and are ready for Supply/installation/commissioning.

- The Government of West Bengal sanctioned an amount of Rs. 5.40 Lakhs to the SPV towards cost of expenditure for getting the pollution clearance and electrical connections (including cost of a 160KVA Transformer). DIC, Murshidabad accorded necessary clearance on behalf of the Pollution Control Board. The work order for installation of the transformer was issued by the WBSEDCL on 21.03.2014.
- As requested by the WBSEDCL, a Meter Room was constructed in the CFC premises at a cost of approx. Rs. 1.40 lacs. The expenditure to this effect has been borne by the SPV.
- Further, on 04.06.2014, the WBSEDCL requested for installation of a capacitor bank. The matter was immediately brought to the notice of the Programme Manager of the Programme at Vienna and the same was purchased at a cost of Rs. 1.12 Lacs and installed at the CFC on 27.06.2014.
- Finally, the WBSEDCL gave electrical connection to the premises on 29.06.2014.
- The works, required for handing-over the CFC from the State Government to the SPV, were finalized. Remaining tasks before handing over include installation of water tank, toilet facilities in the office room and minor repairing works all of which are to be by WBSIDC. This work was pending due to non-availability of electricity in the premises.
- 10 artisans have received credit facilities under Artisan's Credit Card scheme through the UCO Bank, Berhampore.
- Three artisans received credit under the PMEGP scheme and another two proposals are pending with the bank.
- 10 Proposals for grant of credit under PMEGP during 2014-15 are pending at DIC, Murshidabad.
- Two visits of the Project Manager from UNIDO Vienna to meet with artisans, equipment providers and government officials, and attend steering committee meetings.

### 3.11 Technology upgrading and productivity enhancement of the machine tool industry

**Project** : US/IND/09/006; SF/IND/09/007  
**Total budget** : US\$ 1,175, 000  
**Donor** : India  
**Duration** : 36 months  
**Status** : Completed

#### Partners:

- Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce & Industry, Government of India,
- The Office of Development Commissioner, Ministry of Micro Small and Medium Enterprises, Government of India,
- Indian Machine Tools Manufacturers' Association (IMTMA)
- Central Manufacturing Technology Institute (CMTI)
- Regional Machine Tool Associations of Punjab, Gujarat and Karnataka



Figure 14: Machine Tool Technology Upgradation

#### Brief description:

Machine tool industry is the backbone of the engineering sector in India and has reached a critical phase of development. The industry is now focusing on the production of efficient and reliable precision machines to meet the growing needs of machine tools users. The project aims to further strengthen the competitiveness of Indian machine tool industry, particularly its SME sector, to achieve cost-effective production of high quality machine tools through technological upgrading of the industry and market development. This will lead to development; growth and increase of world market share of the Indian machine tool industry and achieve sustainable growth of this sector.

The programme intervention is intended to address the factors of low volume operations, poor process capability, quality and reliability, and weak R&D base in the machine tools sector. It particularly aims at imbibing global technical skills in management of the manufacturing firms, building up relevant absorptive capacity of machine tool industry to be globally competitive. The programme is intended to address technology needs through access to appropriate technology, training, hand-holding and other technology support services.

#### Progress in 2014:

- To further develop skills of practicing technicians in the machine tool industry, a six day Advanced Training on CNC Programming – Machining and Turning was conducted for SMEs in Bangalore.
- In order to make vocational students industry ready, UNIDO ICAMT conducted comprehensive four day training on CNC Machining and Turning for Apprentices of SJ Government Polytechnic in 2014.

## 3.12 National Programme for developing plastics manufacturing industry in India

**Project** : US/IND/09/012; SF/IND/09/013  
**Budget** : US \$ 799, 940  
**Donor** : India  
**Duration** : 3 years  
**Status** : Completed

### Partners:

- Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce and Industries, Government of India
- Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers, Government of India
- Central Institute of Plastics Engineering and Technology (CIPET)
- All India Plastic Manufacturers Association(AIPMA)
- Regional Industry Associations –in Gujarat, Tamil Nadu, Orissa



Figure 15: Plastics manufacturing industry capacity building

### Brief description:

Indian plastics industries have a tremendous scope for growth owing to rising demand for polymers in India and future expansion and augmentation of petrochemical complexes. The development of downstream plastics manufacturing units, mostly SMEs, would facilitate the creation of job opportunities and contribute to the national economic development. The objective is to strengthen the competitive position of plastics industry in India, increase world market share by enhancing manufacturing capacity, strengthen its technological and market development capacity and support testing and R&D activities on biodegradable plastics in India, an emerging technology area for plastics waste management in the country.

### Progress in 2014

- Group Participation of plastics units was organized during Plastivision Arabia at Sharjah during April 2014.
- Manual for 'energy efficiency in plastic processing' developed to document the learnings from the energy audits conducted in various plastic clusters.
- Gas Chromatographer and the CHNSO Analyser purchased and installed at CIPET Chennai and LARPM, Bhubaneswar to increase capacity of centres on testing of biodegradable plastic.

### 3.13 Technology up-gradation and productivity enhancement of foundry industry at Coimbatore and Belgaum

**Project** : US/IND/10/002  
**Total budget** : US \$ 1,000,000  
**Donor** : India  
**Duration** : 3 years  
**Status** : Completed

#### Partners:

- Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce and Industries, Government of India
- Coimbatore Industrial Infrastructure Association (COINDIA)
- Belgaum Foundry Cluster
- The Institute of Indian Foundrymen
- Quality Council of India
- National Productivity Council



Figure 16: Exposure to new developments in foundry sector

#### Brief description:

Foundry industry is the mother industry for most of the manufacturing industries. It provides basic structures and body masses for production of machines, components and equipments. The objective of the project is to strengthen the national competitiveness of the foundries in Coimbatore and Belgaum with special focus on cost effective production of quality metal casting through technology upgradation, productivity enhancement and quality improvements.

#### Progress in 2014:

- Participation in the 62nd Indian Foundry Congress – cast expo meet, technical sessions and factory visits to various foundries in Gujarat were undertaken.
- Certification course on foundry technology for middle managers completed along with Belgaum Foundry Cluster (BFC) and Gokte Institute of Technology (GIT). Technology exposure visit organised to foundries in Shimoga, Karnataka.
- Technical Training on foundry technology conducted at both Belgaum and Coimbatore through National Institute for Foundry and Forge Technology (NIFFT), Ranchi.
- As a follow up to the strategic marketing initiative, a two day workshop on international marketing and exports was executed by FIEO (Federation of Indian Export Organisation) at both Belgaum and Coimbatore.

### 3.14 Integrated cluster development programme – preparatory assistance

<b>Project</b>	: XP/IND/12/005
<b>Budget</b>	: US \$ 41,804 (preparatory phase)
<b>Donor</b>	: UNIDO programmable funds (preparatory phase) IDF/TF (DIPP) - for main project
<b>Duration</b>	: 36 months
<b>Status</b>	: Completed

#### Partners:

- Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry, Government of India

#### Brief description:

The Integrated Cluster Development Programme (ICDP) is designed to provide a comprehensive, integrated answer to a host of constraints affecting the performance of SMEs in four pre-selected clusters – productivity improvement, quality enhancement, business expansion, income and job creation; cluster and institutional development as well as the facilitation of (business) linkages; and resource efficiency, cleaner production and waste management. It will do so through a strategic deployment of UNIDO services reflecting the specific needs of each cluster. The programme will complement the assistance to the same clusters already being extended by DIPP under its Industrial Infrastructure Upgradation Scheme (IIUS).

The following are the steps as part of the preparatory assistance for the ICDP:

- Integrated Cluster Development Programme 2009-2014: Project “Coordination facility” (Planned budget: US \$ 416,000; Original duration: 36 months).
- Selection of a revised set of clusters for pre-assessment, including Engineering, Nashik (Maharashtra); Engineering, Trichy (Tamil Nadu); Steel and Metallurgy, Jajpur (Orissa); and Leather, Kanpur (Uttar Pradesh).
- Integrated Cluster Development Programme 2011-2014: Project “Resource Efficient and Cleaner Production (RECP) in four Indian industry clusters”. (Planned budget: US \$ 700,000; Original duration: 36 months)
- Integrated Cluster Development Programme 2011-2014: Project “Total Quality Management and Cluster Development with a focus on engineering and metallurgy clusters”. (Planned budget: US \$ 1,740,200,000; Original duration: 36 months)
- Integrated Cluster Development Programme 2011-2014: Project “Leather technology, productivity and design”. (Planned budget: US \$ 1,235,090; Original duration: 36 months).

#### Progress in 2014:

- As a part of this exercise, a project document for the “Kanpur Leather” was prepared and submitted to ministry for necessary approval.

### 3.15 Promoting rural micro industries and value chain development in the food processing sector (in selected poor region of India) - Preparatory Assistance

<b>Project</b>	: UC/IND/12/001; TE/IND/12/002
<b>Budget</b>	: US\$ 76,666
<b>Donor</b>	: DIPP, UNIDO Trust Fund Agro Industry
<b>Duration</b>	: 60 months from start of implementation (2011-2016)
<b>Status</b>	: Completed

#### Partnerxs:

- Department of Industrial Policy and Promotion of the Ministry of Commerce and Industry
- Ministry of Food Processing Industries
- The Associated Chambers of Commerce and Industry of India (ASSOCHAM)
- Indian States (Kerala, Bihar, West Bengal, Uttar Pradesh)

#### Brief description:

Preparatory Assistance to enable the Government of the Indian States and their poverty missions as well as private sector entities (individual enterprises and farmers/processors groups) to promote fruit and vegetables processing knowledge and technology, and contribute to integrated development in selected fruit and vegetable value chains.

#### Progress in 2014:

- Development of project proposal; project completed.



## Project-by-project: regional/global initiatives

### 3.16 The UNIDO Centre for South-South Industrial Cooperation

<b>Project</b>	: US/GLO/06/015
<b>Total budget</b>	: US\$ 4,500,000
<b>Donor</b>	: India
<b>Duration</b>	: 60 months
<b>Status</b>	: Merged into ICISID

#### Partners:

- Department of Industrial Policy and Promotion (DIPP), Government of India



Figure 17: Capacity building of LDCs through South-South cooperation

#### Brief Description:

The essence of south-south cooperation is that the wealth of knowledge and capacity in the South, when systematically mobilized and shared, can facilitate the effective participation of developing countries in the global economy through the creation and strengthening of technical and business capacity, and thereby complement north-south cooperation.

The mandate of the Centre is to:

- Promote industrial cooperation between developing countries, particularly between the more developed among them and the Least Developed Countries (LDCs) of the world;
- Facilitate transfer of modern and appropriate technologies and tailor them to the specific needs of recipient developing countries;
- Organize training, skills development and capacity enhancement in beneficiary countries by utilizing the institutional strengths available in developing countries;
- Assist in adapting and disseminating successful policies and best practices among developing countries in attracting investment, developing trade capacity and enhancing income-generation;
- Focus on MSMEs to make them more productive and competitive; and
- Improve networking among developing countries for the promotion of innovation and industrial development.

In order to facilitate this cooperation, the UCSSIC develops projects that involve transfer of technology, replication of best practices, training and skills improvement, capacity enhancement, promotion of trade and investment and institutional networking. UCSSIC does not fund these projects fully but uses its financial resources as seed money to leverage more funds from private entrepreneurs, donor governments, beneficiary countries and other stakeholders.

## Progress in 2014:

### Ongoing Projects:

#### 1. **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:**

- The first consultative meeting and inception workshop was held in Accra during 3-7 February 2014 along with various stakeholders from Ghana and Neem Experts from Nigeria and Sierra Leone to commence the project implementation. During the inception workshop, a detailed work plan and budget for three years was discussed. Neem-shed sites around Accra were visited. Project activities in Ghana, Nigeria and Sierra Leone were finalized. Technical arrangements and modalities were discussed with anchor institutions to locate the Neem bio-pesticide demonstration production centres; and to finalize the strategy for project implementation and monitoring.
- 3 Neem Sheds, one each in Ghana, Nigeria and Sierra Leone, were finalized to be established by the National Technical Partner/Anchor Institutions in the respective countries.
- Project Document was signed between Country Government nodal ministries and UNIDO.
- Neem Coordination Cell is being established in each country under the sponsorship of Country Governments under the nodal ministries i.e. Ministry of Agriculture & Food in Ghana, Ministry of Environment in Nigeria and Ministry of Agriculture in Sierra Leone. All other related Ministries will be taken on board by the respective Nodal Ministries. National Neem Coordinators have initiated action in this regard by effective local coordination for the establishment of National Neem Coordination Cell.
- Training Programme for 8 participants from the 3 countries was organized in India by RENPAP, UNIDO and UCSSIC in June- July 2014. The arrangements were made in this regard by the Indian Technical Partner Institutions: Neem Foundation (Nagpur) and Vivekananda institute of Bio-technology (Nimpith, West Bengal) and RENPAP along with UCSSIC.

#### 2. **Strengthening the technical service capabilities of the Kenya Industrial Research and Development Institute (KIRDI) in collaboration with the Kenya Subcontracting and Partnership Exchange Programme:-**

- Partner institutions and their focal points in India have been identified: IMTMA along with ICAMT will be partnering the cooperation in the area of Machine tools.
- Project Document submitted by UNIDO HQ to Kenyan Ministry of Industrialization and Enterprise Development to receive waiver on import duty for equipment & machinery imported to Kenya as well as being countersigned by Govt. of Kenya.
- IMTMA has been approached by ICAMT seeking their inputs on the training curriculum on AUTOCAD, Pro-Engineering, CNC turning and CAM application.
- Mr. Krishna Moorthy, Director IMTMA, has been identified as the Expert by UNIDO HQ in consultation with ICAMT. Expert is expected to undertake mission to Kenya to assess product design capabilities, training & equipment needs, product testing capabilities and assessment of in-house skills presently available at KIRDI.

#### 3. **Demonstration and promotion of coconut husk processing for income generation in rural communities Coast province, Kenya:-**

- Project Manager organized the inception workshop with all the stakeholders in Kenya and worked out a detailed work plan for project implementation.

- The Coconut Stakeholders' meeting was held in Mombasa. Project Steering Committee constituted and its first meeting was held on 20 February 2014 in Mombasa.
- National Project Coordinator identified along with International Coconut Fibre Processing Expert by UNIDO HQ. Both have been taken on board for the project.
- UCSSIC is working jointly with Indian Technical Partner institution- NCRMI in Kerala. Consultations made with NCRMI along with International Coconut Fibre Processing Expert. ToR for issuing sub-contract to NCRMI were drawn and sent to HQ for finalization. Technical specifications of equipment were discussed with NCRMI and Coconut Expert.
- KCDA nominated 3 Trainers for being trained at NCRMI.

### Evaluation of Potential New Projects:

Following new potential projects were evaluated by DIPP and UNIDO:

- 1. Capacity building and technology upgrading of stone quarrying & processing for inclusive development and promoting activities.** Preparatory Mission for this project was undertaken during 08-12 March 2014 at Jaipur by then Acting Director, UCSSIC.
- 2. Establishing Bamboo Skills Development Facility and Technology Demonstration Centre for development of small scale bamboo enterprises for poverty alleviation in Myanmar.** Preparatory Mission to Myanmar and Thailand was undertaken during 02-09 March 2014 jointly by the then Acting Director, UCSSIC along with other UNIDO officials. In India, the Preparatory Mission was undertaken by then Acting Director, UCSSIC during 15-18 June at Bangalore and Mysore.
- 3. Youth Entrepreneurship Skills Development Initiative (YES-DI), Phase 2 (East Africa).** Preparatory Mission was undertaken by then Acting Director, UCSSIC and Mr Tillman Guenther, International Expert, UNIDO HQ during 19-22 July 2014 to Chennai (Vellore).

### Seminars / Conferences:

- Participated in Cluster Development Workshop of FMC 2014 during 21 February 2014 at New Delhi.
- Participated in the CII- National Conference and Annual Session 2014 "Manage Change: Role of Leadership & Institutions" during 26-27 March, 2014 at New Delhi.

*It was decided by DIPP during the year 2014 that the two UNIDO Centres on South-South Cooperation and the ICAMT will be merged into a new Centre to optimize utilization of resources, avoid duplicity of similar works and to improve the quality of UNIDO's intervention.*

### 3.17 Operational Phase of the International Centre for Advancement of Manufacturing Technology (ICAMT)

**Project** : SF/GLO/08/009  
US/GLO/08/010

**Budget** : US\$ 1, 924, 650

**Donor** : DIPP, India

**Duration** : 60 months

**Status** : Completed

#### Partners:

- Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry, Government of India
- Ministry of Micro, Small and Medium Enterprises, Government of India
- Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers, Government of India
- Industry Associations and Institutions from assisted sectors



Figure 18: Technology exposure visit to Shimoga Foundries

#### Brief description:

The manufacturing sector is the driver of a country's economic growth as it induces growth in other sectors of the economy. UNIDO ICAMT provides services for the advancement of manufacturing technology and innovations in India and other developing countries.

The objective of UNIDO ICAMT is to stimulate the diffusion of new technologies and innovations by catering to the technology needs of enterprises in select industrial sectors. UNIDO ICAMT acts as catalyst to bridge the gap between demand for new products and industry needs for new technologies. ICAMT provides an international forum for member states for monitoring technological trends and building awareness of industries, research communities and governments on technological advances and innovations.

#### Progress in 2014:

##### 1. Machine tools project:

- UNIDO ICAMT completed the implementation of "Action Plans" in 106 units in the six clusters of Delhi, Rajkot, Ludhiana, Bangalore, Hyderabad and Pune.
- A six day Advanced Training on CNC Programming – Machining and Turning was conducted for SMEs in Bangalore to further develop skills of practicing technicians in the machine tool industry.
- Training was also provided on Industrial Lubrication and Tribology, to inform units of the basics of industrial lubricants, management of used oils and their correct application.
- In order to make vocational students industry ready, UNIDO ICAMT conducted a comprehensive four day training on CNC Machining and Turning for Apprentices of SJ Government Polytechnic in 2014.

- A two week hands-on training programme for Assembly Fitter Skills in Machine Building was organized. The training focused on the practical aspects of machine building skills such as scraping, alignment of ball screws and LM guide-ways, assembly of head stock/spindle, sub-assemblies of saddle assembly, tail stock assembly, etc.
- As a follow up to previous management trainings, and to focus exclusively on meeting the needs of SME CEOs who have had limited exposure to professional business practices, ICAMT developed a series of training programmes on management excellence to meet their needs. These consisted of workshops on business modelling; innovation for new products and services; digital marketing for global growth; leadership breakthrough practices and succession and exit planning. Training was also provided in the areas of managing SMEs, lean manufacturing and use of ICT in SMEs.
- International expertise was provided to three units in the areas of improvement in assembly processes of rotary tables; productivity improvement and the development of high frequency internal grinding spindles and CNC internal grinding machines.
- Additionally, design projects were identified with units resulting in the design of the high energy ball milling machine.

## **2. Plastics project:**

- ICAMT completed the implementation of “Action Plans” in 100 Plastics units in five clusters - Chennai, Bhubaneswar, Ahmadabad, Delhi NCR and Mumbai.
- Group participation of plastics units was organized during Plastivision Arabia at Sharjah during April 2014.
- Manual for ‘energy efficiency in plastic processing’ developed to document the learnings from the energy audits conducted in various plastic clusters.
- Gas Chromatographer and the CHNSO Analyser purchased and installed at CIPET Chennai and LARPM, Bhubaneswar to increase capacity of centres on testing of biodegradable plastic.

## **3. In the Foundry project:**

- ISO consulting and Certification undertaken for 15 units.
- UNIDO ICAMT LEAP (Lead Educate Apply Prosper) Foundry was organized between 25 -27 April 2014 in Goa with the objective of providing a platform where a substantial section of the foundry industry could meet to discuss, deliberate and share the various success stories of UNIDO ICAMT’s intervention and find solutions to key issues faced by the industry. The Programme was held in association with Belgaum Foundry Cluster, COINDIA and Indian Institute of Foundrymen (IIF) and was attended by 103 members of the Foundry Industry.
- Participation in the 62nd Indian Foundry Congress – cast expo meet, technical sessions and factory visits to various foundries in Gujarat were undertaken.
- Participation at Cast India Expo 2014 coinciding with 62nd Indian Foundry Congress. UNIDO ICAMT paper was presented in the BRICS forum at the Expo.
- Rejection analysis was completed in all 50 units. A cluster meeting to share improvements was undertaken in Belgaum and Coimbatore. As a result total rejections in the cluster reduced from 9.5% to 7.6%.
- Certification course on foundry technology for middle managers completed along with Belgaum Foundry Cluster (BFC) and Gokte Institute of Technology (GIT). Technology exposure visit organised to foundries in Shimoga, Karnataka.

- Technical Training on foundry technology conducted at both Belgaum and Coimbatore through National Institute for Foundry and Forge Technology (NIFFT), Ranchi.
- As a follow up to the strategic marketing initiative, a two day workshop on international marketing and exports was executed by FIEO (Federation of Indian Export Organisation) at both Belgaum and Coimbatore.
- With a view to upgrade testing facilities for biodegradable plastics in the country ICAMT has completed a technology evaluation and benchmarking of CIPET, the main body for plastics engineering and technology. Procurement of testing equipment was initiated and the biodegradable plastics centre is being established.



*Figure 19: Technical Training on Foundry Technology to COINDIA members*

### 3.18 Regional Network on Pesticides for Asia and the Pacific (RENPAW)

<b>Project</b>	: TF/RAS/09/004/104088, TF/RAS/09/004; TF/RAS/04/001, RAS/00/A01, XP/RAS/00/014; RAS/93/061
<b>Budget</b>	: US \$ 200,000 of the Trust Fund phase
<b>Donor</b>	: Trust Fund partner countries
<b>Geographic focus</b>	: Seventeen countries in the Asia and the Pacific region



Figure 20: Regional meeting of RENPAW team

#### Brief Description:

Promotion and augmentation of technological development and production of environmentally safer chemical crop protection agents through adopting best available techniques and environmentally sound management strategies. RENPAW is engaged in the, development and production of safer alternatives to POP chemical pesticides, promoting safety, health and environmental protection encompassing waste management, monitoring of the ecosystem, eco-toxicological assessment of POP, effluent treatment and safe disposal of obsolete POP Pesticides aiming at reduction of risks in the use of toxic crop protection chemicals thereby increasing agricultural production and ensuring safety to the farmers / workers and the environment at large

The Regional Network on Pesticides for Asia & the Pacific (RENPAW) is one of the largest networks comprising 17 member countries which are at different stages of development with regard to production and the use of safer and environment friendly pesticides.

The following outcomes are set for the project:

- To promote development and production of the latest varieties of user and environment friendly water based pesticide formulations, Bt based bio-pesticides as alternative to POPs pesticides, to upgrade production technology and promote large scale production, quality assurance and use of Neem based pesticides as alternative to POPs pesticides and to strengthen the quality assurance capabilities of the member countries.
- To upgrade facilities for monitoring of pesticide and encourage ecological risk assessment needed for protecting the environment.
- To upgrade standards for the safety of the workers engaged in the production, transport and usage of pesticides.
- To adopt improved technologies for the treatments and disposal of effluents and obsolete pesticides through recycling/treatment essential for ensuring sound management of chemicals.
- To strengthen information technology system of pesticides for providing the member states with appropriate alternatives to hazardous materials in order to reduce the risk of toxic crop protection chemicals.
- To implement the Post NIP Projects on “Environmentally Sound Management and Final Disposal of PCBs in India” and “Environmentally Sound Management and Final Disposal of Medical Waste in India” and also the project “Development and Promotion of Non-POP Alternatives to DDT” in the near future.

### **Progress during 2014:**

To achieve its objectives and outcomes, the RENPAP project undertook the following activities:

- Workshop on Eco toxicological Implication of Pesticide Residues, Islamabad, Pakistan.
- Workshop on Production of User and Environment Friendly Pesticides Formulations, New Delhi.
- Workshop on Integrated Pest Management with special emphasize on Bio-Pesticide component, Kathmandu, Nepal, August 2015
- Workshop on Occupational Health, Safety and Hygiene, Manila, Philippines, September 2015
- TPR/PMC meeting of RENPAP, back to back with workshop on Production and Application of Bio-botanical pesticide Formulations, Nantong, PR China, October 2015

### **Synergies with other projects:**

As the spin off effect of the successful implementation of the RENPAP programme, the following country programmes have come into being with significant contributions from the member countries:

- Environmentally Sound Management and Disposal of PCBs in India
- Environmentally Sound Management of Medical wastes in India
- Development of a National Implementation Plan in India as a First Step to Implement the Stockholm Convention on Persistent Organic Pollutants (POPs)
- Neem Project Phase-II
- Preliminary assessment to identify the requirements for developing a National Implementation Plan in India as a first step to implement the Stockholm Convention on Persistent Organic Pollutants (POPs)
- Technical Support for Development and Cleaner Production of Neem Products as Environment Friendly Pesticide – India
- Development and Use of Computer Software for Pesticide Data Inputs, Storage, Retrieval and Dissemination – Regional
- Ecotoxicology Centre – Pakistan
- Sustainable Pest Control & Soil Fertility Programme – P.R. China
- Strengthening of Pesticide Development Centre – India
- Pesticide Development Programme India (PDPI) – India



## 4. Programme development – Key areas of cooperation

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### Key initiatives and developments in 2014:

#### Inclusive and Sustainable Industrial Development (ISID) from Lima Declaration:

With the Lima Declaration adopted by the General Conference in December 2013, UNIDO has positioned itself as an agency dedicated to the “Inclusive and Sustainable Industrial Development”. This declaration was endorsed by more than 170 countries including India, which demonstrated the importance and relevance of this initiative. This mission reiterates that all countries should have the opportunity to grow a flourishing productive sector, to increase their participation in international trade and to safeguard their environment. It therefore means:

- Every country achieves a higher level of industrialization in their economies, and benefits from the globalization of markets for industrial goods and services.
- No one is left behind in benefiting from industrial growth, and prosperity is shared among women and men in all countries.
- Broader economic and social growth is supported within an environmentally sustainable framework.
- Unique knowledge and resources are combined of all relevant development actors to maximize the development impact of ISID.

#### UNIDO’s Role In Make in India initiative in India:

The aim is to push manufacturing’s contribution to GDP from the present 16% to 25% by 2022. In doing so, the policy intends to create an additional 100 million jobs and support required skills development programmes. Other key objectives of the policy include:

- Creation of National Investment and Manufacturing Zones (NIMZs)
- Development of Small and Medium Enterprises (SMEs)
- Implementation of industrial training and other skill upgradation measures
- Promotion of Green Manufacturing
- Rationalization and simplification of business regulations



UNIDO’s new flagship, ISID, could be well placed to firmly compliment this initiative of the Government of India, particularly technology upgradation and bring in best practices in various industrial clusters.

#### New International Centre for Inclusive and Sustainable Industrial Development” (ICISID):

The UNIDO “International Centre for Inclusive and Sustainable Industrial Development” (ICISID)”, India, is a new framework designed to foster the holistic approach of interlinked development strategies UNIDO calls for.

As such, it aims at increased industrial competitiveness, technology upgrading and innovation, generation of decent jobs for men and women and sustainable environment and energy access. Under this new framework, the Centre promotes the introduction of advanced manufacturing technologies in the manufacturing sector in India and, at the same time, the best and proven technology-led solutions from India will be identified and transferred through the South-South Cooperation modalities to developing countries, and in particular Least Developed Countries, with the financial support and assistance of the Government of India.

The new framework of the “International Centre for Inclusive and Sustainable Industrial Development” (ICISID) was the result of the merger of two UNIDO Centres in India: the UNIDO Centre for South-South Industrial Cooperation (UCSSIC) and the International Centre for Advancement of Manufacturing Technology (ICAMT).

The two Centres had different but complementary functions. Whereas the objective of ICAMT was to act as a tool and mechanism for the development and implementation of projects *in India* to strengthen the productivity and competitiveness of MSMEs through technology-led interventions, that of UCSSIC was to facilitate the transfer and diffusion of best Indian proven industrial technology-led solutions in partner beneficiary countries, in particular Least Developed Countries (LDCs), as well as assist their replication, training, skill development and capacity enhancement.

The new framework will be implemented with an integrated approach, which focuses on products and markets, technology and innovation, manufacturing excellence, cluster capacity building, and partnerships. It offers a wide range of services that ultimately allow these industries in India and other developing countries to enhance their productivity strengthen their international competitive position and create inclusive employment in a sustainable environment.

The two UNIDO Centres in India have achieved significant results in past years. For example, the UCSSIC has provided a practical institutional and operational framework for South-South industrial cooperation, and has successfully tested its importance and relevance in partnership with developing countries and LDC governments, relevant institutions, counterparts and various stakeholders. Thus far, UCSSIC India has developed 13 projects (10 completed, and 3 under implementation) in various sectors such as agro-industries, renewable energy, cluster development and capacity enhancement. Through these projects, UCSSIC India has facilitated South-South Cooperation (SSC) by sharing technology, information, knowledge and business models for replication of best Indian practices. It has also established institutional networking and capacity building with 12 developing countries and LDCs (10 in Africa and 2 in Asia) during the last six years.

The other centre of UNIDO, ICAMT, also played a critical role in the past to transfer relatively sophisticated technology to India from OECD countries as well as from other advanced countries in Asia. ICAMT functioned as a good platform for mobilizing a wide range of SMEs in India and demonstrated good working models and methods for assistance and upgrading of Indian SMEs. The holistic, long term approach used by UNIDO-ICAMT has led to an established international model for support to SME-sector companies which benefited from the best available technology and techniques.

The objective of the new merged Centre, ICISID, is to continue the work of these two Centres by drawing on their past achievements and lessons learned. Hence, the focus continues to be the strengthening of MSMEs’ productivity and competitiveness in priority manufacturing sectors in India as well as in other developing countries through UNIDO’s technology transfer and dissemination mechanisms, and adoption, adaptation, and application of advanced and appropriate manufacturing technologies and know-how.

This new centre will be operational from 2015 and will utilise UNIDO network to use Indian expertise and capabilities to solve the international issues specially LDC and also develop the greater partnership approaches between countries.

### **Skill Development initiative:**

Skills and knowledge are the driving forces of economic growth and social development for any country. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of world of work. Major challenge of skill development initiatives is also to address the needs of huge population by providing skills in order to make them employable and help them secure, decent work. This will also inculcate dignity of labour and create greater awareness towards environmental, safety and health concerns.

UNIDO carries out a wide range of capacity building initiatives targeting public and private business support and advisory institutions working with SMEs. UNIDO organizes courses as well as on-the-job training for local experts enabling them to support companies in the implementation of socially and environmentally responsible business practices. Thereby, they will gain the skills they need in order to be able to offer CSR-related services after the completion of a project to SMEs and respective support institutions on a sustainable basis. During the trainings UNIDO's approach to CSR – the Triple Bottom Line approach (TBL) – is illustrated and all the relevant aspects of it (economic, environmental and social domains) covered. Parts of the UNIDO CSR training material are translated into the local languages and adapted to country-specific situations and sector-specific particularities, as deemed appropriate.

# 5. Communication

Communication initiatives in the URO played a key role in raising the visibility of the India-UNIDO partnership in particular and UNIDO in general as the exclusive global organization for promoting inclusive and sustainable industrial development through regular coverage of project activities in the Indian media.

## UNIDO in the news:



<http://profit.ndtv.com/news/economy/article-india-needs-more-investment-to-boost-manufacturing-unido-386128>

**India needs more investment to boost manufacturing: UNIDO**  
 Press Trust of India | Updated On: April 21, 2014 21:17 (IST)

India needs more investment in the manufacturing sector for increasing its contribution to the economic growth, an official of UNIDO said today.

"Of course India has to do a bit more for manufacturing sector," India Representative and Head of the UNIDO Regional Office in India Ayumi Fujino said, while citing China's case where industry and agriculture accounts for 40 per cent each.

The services segment contributes just 20 per cent in China.

"In case of India, it's 50 per cent of agriculture, and almost 30-35 per cent services and manufacturing is the smallest. And that I think you (India) need to do little bit more investment," Fujino said on the sidelines of an industry event here.



The United Nations Industrial Development Organisation (UNIDO) is a specialised agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalisation and environmental sustainability.

UNIDO is working in the areas of poverty alleviation, energy & environment and capacity building in India, Fujino said.


"We are aiming at to really promote industrial capacity, particularly manufacturing sector," she said.

When asked about challenges, she said from the perspective of an international development agency, India is full of challenges, but there are opportunities as well.


"In terms of challenges, it's bigger because of vast diversity and geography. All the international agencies are struggling...some bilateral donors are very much struggling how to find the most effective means for the interventions," she added.

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