



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

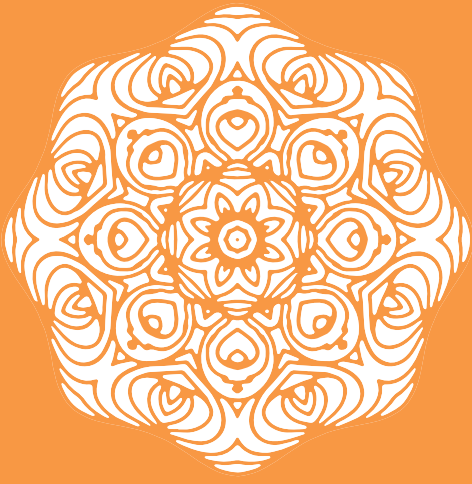
CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

Marking the 50th Anniversary of UNIDO **UNIDO-India cooperation**





Disclaimers

The brochure aims to provide a reference framework that will help to increase awareness of the collaboration between UNIDO and India on UNIDO's 50th Anniversary. We wish to celebrate and commemorate this period of cooperation, and give the readers a glance of history in a relevant and reliable manner. However, it does not intend to provide any official data or information concerning any disputable issues.

The views expressed in this publication are those of the contributors and do not necessarily reflect the views of UNIDO. UNIDO does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any information contained in this publication.

UNIDO 50th Anniversary: UNIDO-India Cooperation

Edited by Ms. Shraddha Srikant

Proofread by: Ms. Ayumi Fujino

Designed by red hot 'n' cool

50 Years of UNIDO-India Cooperation 1966-2016

2	Foreword	50	Global Forums, Platforms and Networks in India
4	Overview of Unido	54	Gender Focus
20	Unido in India	58	UNIDO's organizational network in India
20	India: Country Profile	60	UNIDO Regional Office in India
22	Main Features of UNIDO's Technical Cooperation in India	60	International Centre for Inclusive and Sustainable Industrial Development (IC-ISID)
24	UNIDO Projects in India	62	Department of Industrial Policy and Promotion (DIPP), Government of India
30	Unido's Initiatives in India	63	RECP centres
32	Promoting industrialisation to enhance economic competitiveness	64	REN PAP
36	Green industry development	65	UNIDO's association with research institutes in India
38	Implementing multilateral environmental agreements	66	Subcontracting and Partnership Exchange (SPX)
38	Research and policy advice	66	UNIDO and UN-wide collaboration in India
42	Partnerships	68	Way Forward
44	Partnerships with private companies UNIDO – Mahindra & Mahindra	74	Acknowledgment
45	Partnership with regional counterparts UNIDO – SAARC		
46	Partnership with other UN agencies		
47	South-South cooperation		

Foreword



The United Nations Industrial Development Organization (UNIDO) is a specialized agency of the United Nations that promotes industrial development for poverty reduction, environmental sustainability and inclusive economic growth. Grounded in 1966, UNIDO has assisted various developing countries across the globe in moving towards this goal.

UNIDO's mandate, as enshrined in the Lima Declaration at the fifteenth session of the UNIDO General Conference in 2013, is to promote and accelerate **"Inclusive and sustainable industrial development" (ISID)** in developing countries. The 2030 Agenda for Sustainable Development adopted by the UN General Assembly in 2015 also acknowledges the relevance of UNIDO's ISID mandate. Through sustainable development goal 9, the Member States of the United Nations call upon the international community to "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation". At all levels of development, industry has been identified as the primary driver in alleviating poverty, achieving food security and minimizing damage to the environment. Specific industry-related targets have also been identified under each sustainable development goal.

UNIDO's programmatic activities in achieving inclusive and sustainable industrial development are divided between three thematic areas: creating shared prosperity, advancing economic competitiveness, and safeguarding the environment. Further to that, technical cooperation projects range across agribusiness and rural entrepreneurship development, productive activities for women and youth, human security and post-crisis rehabilitation, investment and technology promotion, SME and entrepreneurship development, competitive trade capacities and corporate responsibility, resource-efficient and low-carbon production, clean energy access for productive use, and implementation of multilateral environmental agreements. UNIDO's programmes are tailored to the country or regional dimensions of international development cooperation. Cross-cutting functions of UNIDO include analytical and policy advisory work, standard setting and compliance, and convening stakeholders for knowledge transfer and networking.

UNIDO has a long history of cooperation with India. India is one of the founding members of UNIDO, and hosts one of UNIDO's largest technical cooperation portfolios among all its member states. The UNIDO-India collaboration has been extensive and multifaceted. UNIDO's projects in India have placed special emphasis on SME development, partnerships with the private sector, and research. In recent years energy and environment have become the special focus. UNIDO

has also assisted India in fulfilling its obligations under various multilateral agreements, as well as in becoming a key player for South-South cooperation.

This publication illustrates the various fields of the UNIDO-India cooperation. Technical cooperation projects, private partnerships, regional projects, South-South cooperation initiatives and global forums have been highlighted here to demonstrate the multidimensional nature of the partnership. UNIDO has partnered with a number of government ministries, industry associations and institutes in India, resulting in the successful implementation of a large number of projects and the transfer of technology and expertise to other developing countries, especially to LDCs in Africa.

UNIDO's interventions in India are clearly aligned with the priorities set by its Government. The new Government formed by Prime Minister Narendra Modi launched the "Make in India" initiative, which aims to make India a global manufacturing hub. In this context, UNIDO and India have developed a strong working relationship to build a solid industrial sector to generate employment, alleviate poverty and protect the environment. UNIDO's activities are also concurrent with other initiatives by the government, such as "Smart Cities" and "Swachh Bharat" ("Clean India").

The UNIDO-India cooperation currently focuses on fostering sustainable development through implementing energy and

environment-related projects, as well as through technology development and productivity-enhancing activities.

A new institutional structure of UNIDO, the International Centre for Inclusive and Sustainable Industrial Development (IC-ISID), was launched in New Delhi in 2015.

I am confident, that with the firm support of the Government of India, the UNIDO-India cooperation 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 inclusive and sustainable industrial development not only in India, but in various developing countries across the world.

Li Yong
United Nations Industrial Development Organization
Director General



Overview of Unido

The United Nations Industrial Development Organization (UNIDO) was established on **17 November 1966**, with a mission to “accelerate industrial development in developing countries”. Since its inception, UNIDO has assisted many countries in meeting their development goals by furthering industrial development as an important means of creating employment and income to overcome poverty. UNIDO helps developing countries produce goods they can trade in the global market and provides assistance in accessing training, technology and investment, to make them competitive in the global market. UNIDO provides individual services and custom-made packages of services, and helps countries meet their obligations under multilateral environmental agreements.





UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO Headquarters,
Vienna International Centre, Vienna

UNIDO 1966 – 1975



Ibrahim Helmi Abdel-Rahman (Egypt) becomes first Executive Director.



A Light Industries Section established to provide technical assistance for textiles and garment-making, leather-tanning, woodworking, food-processing, ceramics, brick-making and other sectors.

UNIDO established

1966

17 November, UN General Assembly Resolution 2152 (XXI) establishes UNIDO.



1966

Ibrahim Helmi Abdel-Rahman

Identifying challenges

1968

Industrial Surveys and Studies programme focuses on problem areas in industrial development.



1969

Supporting light industries



Joint programme with UNEP helps preserve the environment without slowing down the rate of industrial development.

Assisting African countries

1973

Encouraging economic and technical cooperation among developing countries.



1974

Protecting the environment



Joint programme with UNEP helps preserve the environment without slowing down the rate of industrial development.

Abd-El Rahman Khane

1975

New Executive Director, Abd-El Rahman Khane (Algeria) takes up office.



1975

**The First Lima Declaration
First Conference of African
Ministers of Industry**



Second General Conference adopts Lima Declaration and Plan of Action on Industrial Development and Cooperation.

First biennial forum for African leaders and other stakeholders to review progress with Africa's industrialization.

UNIDO 1978 – 1993

Export processing zones



Vienna International Centre (VIC) custom-built by Austrian Government.



UNIDO becomes a specialized agency under newly elected Director General, Domingo L. Siazon Jr (Philippines).

Integrated approach

Investment technology promotion

1978 1979 1981 1985 1986

UNIDO and regulatory authorities of export processing zones (EPZs) from 29 countries form World Export Processing Zones Association.



New headquarters

Investment projects

Analytical methodology with computer model (COMFAR) improves quality of investment projects in developing world.



Domingo L. Siazon Jr

UNIDO strengthens links between industry and agriculture, and service sectors.

First investment promotion services introduced to become future network of Investment and Technology Promotion Offices (ITPOs).





International Centre for Genetic Engineering and Biotechnology opens facilities in Italy and India.

Unit for the integration of women in industrial development created.

1987

New technology centre
Women's empowerment

Preserving the ozone layer

UNIDO assists countries phase out use of ozone-depleting substances under Montreal Protocol.



1992



Mauricio de Maria y Campos (Mexico) is elected Director General.

1993

Mauricio de Maria y Campos

Cooperation with EU

UNIDO and the European Union sign Cooperation Agreement.



1993



The first Multi-function Platform projects implemented to provide affordable and modern energy services to rural populations in Mali and Burkina Faso.

1993

The Multi-function Platform

UNIDO 1994 – 2006

SME cluster and network development



UNIDO and UNEP jointly establish the first National Cleaner Production Centres.

Build-Operate-Transfer (BOT)



Carlos Magariños (Argentina) is elected Director General.

Public-private partnerships

1994

New programme focuses on networking to develop small-scale enterprises (SME).



1995

Cleaner production centres

1996

Publication of Guidelines for Infrastructure Development through Build-Operate-Transfer Projects.



1997

Carlos Magariños

1998

UNIDO and Fiat agree to upgrade car component suppliers in India. Public-private partnerships with Microsoft, Hewlett Packard, Metro Group, AEON, Samsung and Volvo follow.





Partnership with Global Environment Facility enhanced with focus on persistent organic pollutants reduction and sound chemical management.

2000

Global Environment Facility

Stockholm Convention

UNIDO becomes major implementing agency under Stockholm Convention on Persistent Organic Pollutants.



UNIDO becomes key player in WTO-led Aid for Trade initiative.

The Kyoto Protocol establishes legally binding obligations for developed countries to reduce their greenhouse gas emissions.

2005

**Aid for Trade
Kyoto Protocol**

Kandeh Yumkella

Kandeh Yumkella (Sierra Leone) is elected Director General.



UNIDO Centre for South-South Industrial Cooperation established in China.

New programme to support the local production of essential medicines in developing countries.

2006

**South-South Industrial Cooperation Centre
Manufacture of essential medicines**

UNIDO 2009 – 2013



Vienna Energy Forum Green Industry Conference

New policy on gender equality and women's empowerment adopted.

Network for Resource Efficient and Cleaner Production



Organization-wide change programme streamlines business processes and implements Enterprise Resource Planning system.

2009

2009

2010

2010

First Vienna Energy Forum (VEF) is held.

Government of the Philippines hosts first Green Industry Conference.

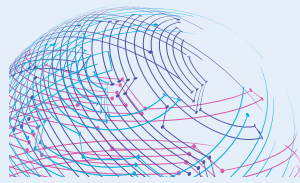


Gender equality policy

UNIDO helps form Global Network for Resource Efficient and Cleaner Production (RECPnet).

Change and organizational renewal





**ISO 50001 standard
Cleantech Innovation
Programme**

UNIDO Institute for Capacity Development established to provide training on key aspects of industrial development.

**Sustainable energy
initiative
Climate Technology Centre
and Network**



LI Yong (China) is elected Director General.

2011 2011 2012 2013

ISO 50001 standard on energy management developed with key support from UNIDO.

**Institute for Capacity
Development**

Ministerial Energy Forum in Ghana paves way for Global Network of Regional Sustainable Energy Centres.

LI Yong

UNIDO and the Global Environment Facility GEF partner to launch Global Cleantech Innovation Programme for SMEs.

Conference of Parties to UN Framework Convention on Climate Change entrusts UNIDO and UNEP with establishing Climate Technology Centre and Network.



UNIDO 2013 – 2016



Second Lima Declaration sets foundation for new vision of inclusive and sustainable industrial development (ISID).



EU introduces circular economy action plan and G7 finds an alliance for resource efficiency.

Minamata Convention

Programme for Country Partnership

Resource efficiency and circular economy

2013

2013

2014

2015

UNIDO is actively involved in UNEP-led intergovernmental negotiations which result in signing of Minamata Convention on Mercury.

Second Lima Declaration adopts ISID mandate

Partnerships facilitate ISID efforts of stakeholders and align investment flows into national industrialization programmes.

Series of ISID Forums follow.



Minamata Convention on Mercury





2030 Agenda for Sustainable Development adopted, with 17 Sustainable Development Goals (SDGs). SDG 9 reflects UNIDO's mandate.

**Financing for development
Gender equality strategy**

**G20 highlights role of
industry**



TOGETHER
for a sustainable future

2015

2015

2016

2016

Third International Conference on Financing for Development takes place in Addis Ababa, Ethiopia.

Strategy on gender equality and the empowerment of women introduced.

**Sustainable
Development Goals**

UNIDO presents Industrialization in Africa and Least Developed Countries report to G20.

**UNIDO celebrates
50 years**



UNIDO's ISID mandate

UNIDO's mandate is **Inclusive and Sustainable Industrial Development (ISID)**. This approach is based on three main pillars: (i) Creating shared prosperity for All, (ii) Advancing economic competitiveness and (iii) Safeguarding the environment. This applies to all fields of work that UNIDO is engaged in, including technical cooperation, analytical and policy advisory services, standard setting and compliance and a convening function for knowledge transfer and networking. UNIDO also provides cross-cutting services, which include South-South cooperation and the empowerment of women.

In delivering technical cooperation services, UNIDO develops partnerships with national governments, other international development organizations and the private sector to establish networks centres, forums and platforms, and works in alignment with national government priorities. UNIDO uses country programmes, country service frameworks and the Programme for country partnerships as streamlined instruments to bring together an array of projects and interventions in developing countries. This approach aids effective and directed interventions in specific areas that each country requires, and ensures that industrialization is coherent and inclusive. It also enables multiple stakeholders to come together and combine resources and expertise within and among countries.



UNIDO has two main policymaking organs: the General Conference and the Industrial Development Board. The Programme and Budget Committee is a subsidiary organ of the Industrial Development Board. It draws on a regular and operational budget, as well as technical cooperation activities. UNIDO currently has 170 member states. It operates with a field network of 29 regional and country offices around the world, some of which cover more than one country. The headquarters is in Vienna, and UNIDO maintains offices in Brussels (European Union), Geneva (United Nations), and New York (United Nations), as well as a Centre for Regional Cooperation in Turkey.

As UNIDO celebrates its 50th anniversary, it remains committed to use its technical expertise and knowledge to assist developing countries in achieving inclusive and sustainable industrial development.

UNIDO and the SDGs

In September 2015, the UN Member States adopted the 2030 Agenda for Sustainable Development, including a set of Sustainable Development Goals (SDGs), at the Sustainable Development Summit. UNIDO's activities and interventions are aligned with the Sustainable Development Goals of the 2030 Agenda for Sustainable Development, especially **with goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation**. Other SDGs relevant to UNIDO's activities include SDG 5 (gender equality), SDG 7 (energy for all), SDG 11 (sustainable cities) and SDG 13 (climate change).

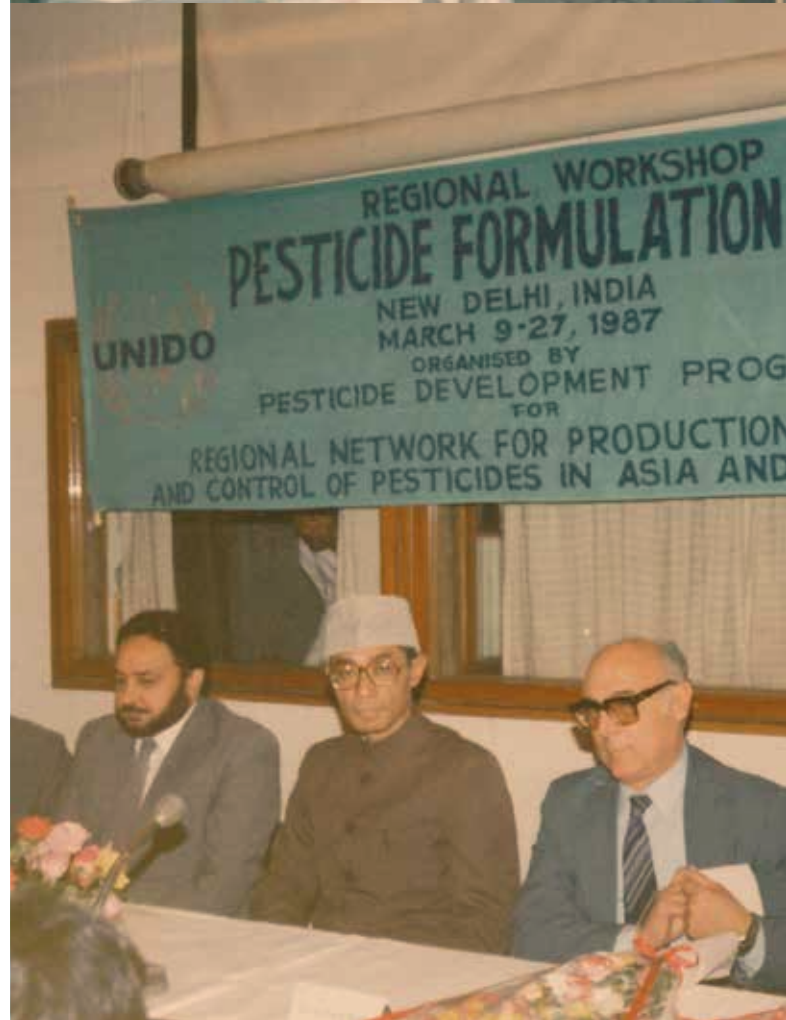
As a specialised agency, UNIDO aims to promote industrial development for poverty reduction, inclusive globalisation and environmental sustainability. Through SDG 9, UNIDO's ISID mandate can serve as an engine for job creation, economic growth, technology transfer, investment flows and skill development. The Addis Ababa Action Agenda adopted at the Third International Conference on Financing for Development, acknowledged UNIDO's unique role in this regard. Specific industry-related targets have also been identified in other SDGs, making UNIDO's interventions central to the global development discourse. UNIDO's extensive expertise in supporting industrialisation in developing countries makes the organization a pivotal point in implementing the industry-related targets across the SDGs.



**Build resilient infrastructure,
promote sustainable industrialization
and foster innovation**



Unido in India





India: Country Profile

The Indian economy is a bright spot in the global landscape. The country's gross domestic product (GDP) achieved the annual growth of 7.6 per cent in 2015. In 2014, the World Bank assessed that the Indian economy was the world's third largest in the purchasing power parity terms. In real terms, the country is predicted to become the world's third largest economy by 2030. As countries like China, Brazil and Russia have slowed down; India is becoming the fastest growing major economy. India is also the sixth largest manufacturer in the world¹. In the past decade, India has displayed notable resilience to the downturn affecting the global economy. With a GDP of over 2 trillion US Dollars, the economy is undergoing structural and policy reforms to promote growth and ensure inclusivity of growth outcomes.

India is home to approximately 1.29 billion people, and 70 per cent of them are rural and depend on agriculture and other non-farming activities. The country has around 470 million workers, representing one fifth of the world's working population, but 92 per cent of them are informal workers².

In absolute terms, the number of poor people has declined in India, with the current poverty ratio of 12.4 per cent (World Bank, 2015). However, inequalities based on gender, social class, age and migrant status remain prevalent. Millions of people are believed to have overcome poverty, but they are still vulnerable and unable to meet their basic needs. According to McKinsey Global Institute³, 680 million Indians (56 per cent of the population) still live below the minimum acceptable standard in terms of access to food, housing, education, energy, drinking water, sanitation, healthcare and social security. Nearly 107 million rural households are labeled as "deprived", meaning they either live in a single room made of mud and straw, have no earning adult male or no literate adult. India's Human Development Index rank has risen over the years, but it still lies in the "middle human development" category.

¹ UNIDO Industrial Statistics Yearbook 2016

² India Labour and Employment Report 2014

³ McKinsey Global Institute "From Poverty to Empowerment"(2014)

Key Indicators*

Population	1,295,291,543 Rural: 72.2% – Urban: 27.8 Female: 48% – Male: 52% 0-14 years: 28.75% ; 15-64: 65.9% ; 65+ years: 5.36% (Median age: 29 years)
GDP per Capita (US \$)	US\$ 5,630 (PPP); US\$ 1,570 (current prices) (2014)
Income group	MIC (Lower Middle Income)
Economic growth (%)	7.6% (2015)
Origin of GDP (%)	Agriculture: 15.3% (50% of the workforce); Industry: 31.2% (22% of the workforce); Services: 53.4% (28% of the workforce)
Main natural resources	Coal, iron ore, manganese, mica, bauxite, rare earth elements, titanium ore, chromite, natural gas, diamonds, petroleum, limestone, arable land



Competitiveness index

55th out of 140 countries

Trade

Exports: Refined Petroleum, Packaged Medicaments, Jewellery, Rice and Cars

Imports: Crude Petroleum, Gold, Coal Briquettes, Petroleum Gas and Diamonds.

Main trading partners

The United States, the United Arab Emirates, China, Singapore and the United Kingdom.

Employment Rate

94.55%

Development indicators

Literacy rate: 75% (NSSO Survey 2015)

HDI: 0.609 (rank 130 out of 187 countries)

Poverty: 12.4% of the population below poverty line (\$1.90 per day)

Gender discrimination and women's limited participation in the workforce have been persistent issues in India. Women perform poorly against indicators of health, financial stability, education and political involvement. Only 65.4 per cent of Indian women are literate⁴. According to recent census data, 160 million women in India are confined to household duties rather than being officially employed, although 88 per cent of them are of working age (15 to 59 years). A 2013 Global Gender Gap survey ranked India the 101st among 136 nations.

Environmental issues that India faces include deforestation, soil erosion, overgrazing, desertification, pollution from industrial effluents and vehicle emissions, water pollution from raw sewage and runoff of agricultural pesticides, change in rain patterns, climate change and a strain on natural resources due to the country's growing population. Largely dependent on fossil fuels, India is the world's third largest emitter of polluting greenhouse gases in absolute terms. However, the country ranks low in terms of per capita fuel consumption.

The consumption of chlorofluorocarbons compounds (CFCs) has declined but, in contrast, carbon dioxide emissions (in metric tons per capita) have been growing fast in recent years at above South Asia levels⁵. In addition, the production of Ozone Depleting Substances (ODSs) has been rising in the last decade, according to official sources. The International Energy Agency projects that India's energy consumption will be more than OECD Europe combined, and approaching that of the United States, by 2040⁶. The average electricity losses (from transmission and distribution) in India are very high and therefore the application of energy-efficient technologies is important.

* <https://www.cia.gov/library/publications/the-world-factbook/fields/2111.html>
<http://databank.worldbank.org/data/reports.aspx?source=2&country=IND&series=&period>
<http://atlas.media.mit.edu/en/profile/country/ind/NSSO Data>

4 Indian Census 2011

5 World Bank

6 Coal in India 2015, Department of Industry, Government of Australia

Main Features of UNIDO's Technical Cooperation in India

The UNIDO-India technical cooperation partnership has been long and effective. Over the past 50 years the Indian industrial sector has benefitted greatly from the expertise and technical expertise of UNIDO. India is currently a member of all policy-making organs of UNIDO: the General Conference, Industrial Development Board and the Programme and Budget Committee. UNIDO implemented its first technical cooperation project in India in 1968.

India hosts one of UNIDO's largest technical cooperation portfolios among all its member states. There are currently 17 ongoing projects in India with a budget of around US\$ 70 million. These projects are part of the UNIDO 2013-2017 country programme.

India is a recipient and contributor to UNIDO programmes. The country contributes to UNIDO's regular budget EUR 0.8 million annually. In addition, India makes an annual voluntary contribution of US\$ 1.2 million to the Industrial Development Fund (IDF) of UNIDO. This contribution has two components⁷:

- » A general purpose component of US\$ 0.1 million, which is used by UNIDO for its technical cooperation activities in developing countries
- » A special purpose component of US\$ 1.1 million used by UNIDO to implement projects in India

A great strength of UNIDO's interventions in its member states is its needs-based approach. Technical cooperation has always aimed to complement national priorities and economic policies of the recipient country. In India UNIDO has constantly adapted its programmes to the changing industrial policy resolutions, global economic environment and government directives. The Organization's technical cooperation has mirrored the various transformations and policies of the Indian economy.

India's total assessed contributions over the past 30 years

Years	US\$	Years	EUR
1987	207,737	2002	326,872
1988	57,566	2003	322,861
1989	57,566	2004	344,180
1990	46,391	2005	344,180
1991	44,663	2006	484,209
1992	35,494	2007	462,158
1993	35,494	2008	484,288
1994	44,759	2009	483,197
1995	44,759	2010	489,404
1996	40,425	2011	489,404
1997	40,341	2012	564,115
1998	51,382	2013	622,888
1999	51,382	2014	703,644
2000	53,004	2015	781,246
2001	53,004	2016	759,840
Total	US \$ 863,967	Total	Euro 7,662,486

In the late 1960s and 1970s, the government focused on heavy industries. As the economy was predominantly controlled by the government, the country needed to establish small industries and a manufacturing base that could produce basic goods and generate jobs.

The 1970s saw a shift towards light industries and agro-industries. To this end, UNIDO provided such services as metrology, testing and quality control, research and development, marketing, and export promotion. Also, during this phase, environmental protection came under the spotlight and initiatives such as waste treatment and management, pollution containment and cleaner production technologies were introduced.

⁷ DIPP Website



Improving practices in a knitwear cluster

(Source: UNIDO)



Calibrating sample lenses at the Instruments Design Development and Facilities Centre, Ambala (Source: UNIDO)

In the 1980s and 1990s the Indian economy moved towards deregulation. In the wake of privatization and liberalization, UNIDO's interventions shifted towards enhancing productivity and efficiency, and increasing avenues of investment for small enterprises and manufacturing units.

Most recently, the Indian economy has been dominated by the service sector. To ensure a balanced sectoral growth and an alignment with government initiatives such as "Make in India", UNIDO's interventions focused on strengthening the

manufacturing sector, with an emphasis on environmental sustainability and renewable energy to promote sustained and responsible operation of industrial units.

Before 2001 UNIDO implemented many independent projects in various sectors and areas. Since 2001, however, UNIDO has undertaken a more streamlined and coordinated approach and organised its interventions into **the Country Service Framework and the framework of the Country Programme**.

UNIDO's recent interventions in India focus on environmental sustainability and on the energy sector. These interventions include solid waste management, e-waste, compliance with environmental regulations and renewable energy sources (mini-hydro and eco-system preservation, solar energy, etc.). To capture all these interventions under the single umbrella, UNIDO conceptualized the notion of "green industry" to place sustainable industrial development in the context of new global sustainable development challenges.

UNIDO's energy and environment portfolio in India increased considerably after India's accession to the Global Environment Facility (GEF) trust fund in 2006.

UNIDO Projects in India

This section chronologically presents a portfolio of projects and interventions that UNIDO implemented in India between 1966 and 2016.

UNIDO's technical cooperation with India was initiated in 1968, when a project to create a Design Centre for Electrical Measuring Instruments (with a budget of US\$ 0.5 million) was signed. The project aimed to provide technical knowledge to increase the productivity of manufacturers of electrical equipment.

In 1973, UNIDO assisted the Government of India in establishing central creep testing facilities at the National Metallurgical Laboratory in Jamshedpur. UNIDO helped install the equipment and provided high-level expertise in training operational personnel. The main objective of the assistance was to transfer knowledge and experience to local specialists who would operate plants of such magnitude.



Institute for the Design of Electrical Measuring Instruments

(Source: UN Photos)

In 1974, India received a large amount of technical assistance funds worth US\$ 19 million from UNIDO. UNIDO's assistance to the country was directed largely towards product development and advanced technology in the fields of

metallurgy, engineering, petrochemicals, fertilizers, textile and leather industries. In particular, UNIDO helped establish the Institute for the Design of Electrical Measuring Instruments with a contribution of US\$ 1 million from the United Nations Development Programme (UNDP).

In the same year, an international technology transfer cooperative programme on industrial technology was successfully implemented. It brought many international specialists to India to gain expertise in a variety of fields, ranging from electrical and mechanical engineering, electronics, metallurgy, fertilizers, pesticides, and agricultural equipment to chemical and light industries.

In 1977, UNIDO began the implementation of another large-scale project worth US\$ 18 million, to establish a demonstration plant for producing highly metalized sponge iron. UNIDO also inaugurated a chemical industry project at the Silk and Art Silk Association (SASMIRA). This project involved six national institutes in India, and was a joint effort by UNIDO and the Government of Germany. In addition, initial work on plastic composites in the country helped trigger similar actions in other countries such as Bangladesh.

In 1980, the third General Conference of UNIDO convened in New Delhi for three weeks in January and February. A round-table ministerial meeting on industrial and technological cooperation among developing countries was also organised by UNIDO in New Delhi.

The following year, UNIDO started technical interventions in pharmaceutical and essential oil industries and helped establish pilot plants for local drug production. Between 1980 and 1983, UNIDO helped equip the Numerical Control Centre for the Metalworking Industry in Bangalore with up-to-date numerically controlled machine tools, digital measuring devices and a computer. As such, it was able to diffuse NC/CAM technology throughout the national industrial base.

The Indian Industrial Policy

When India became independent in 1947, the society was primarily agrarian and the need for rapid industrialisation was recognised to achieve fast economic growth and economic sovereignty. The government assumed a key role in driving the economy and pursuing industrialisation. With the creation of the Planning Commission in 1951 and the introduction of five-year plans, centralised industrial planning shaped the young economy. The first plan was followed by the Industrial Policy Resolution of 1956 encouraging the growth of diverse manufacturing and heavy industries.

During the 1960s, in order to foster basic and heavy industries, the government of India levied high tariffs and imposed import restrictions, while subsidizing nationalized firms with the view of promoting Import-Substitution Industrialization (ISI). A licensing system was used to channel investments and control firms entering domestic industries.



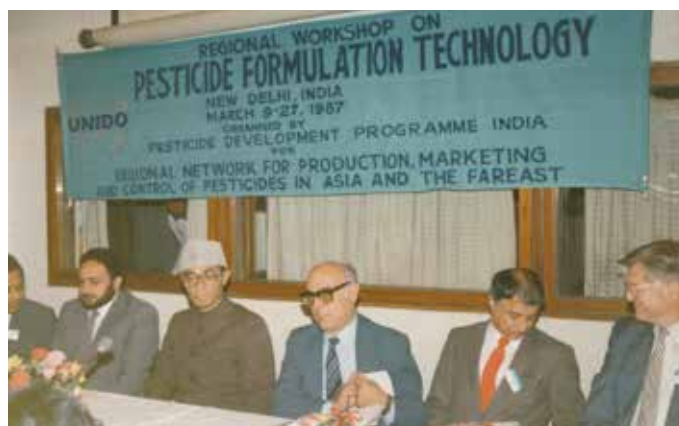
Indian Planning Commission Meeting, 1951

(Source: LIFE Archive)

The **Industrial Policy of 1977** was then developed to stimulate small-scale producers by restricting import and listing goods exclusively reserved for domestic production. It furthered import substitution by discouraging foreign investment in certain fields of national interest.

UNIDO also actively supported the R&D efforts in coal gasification and liquefaction. The project helped establish a pilot gasifier plant and provided technical guidance and modern instruments.

In 1985, a project aimed at enhancing the management and productivity of the cement industry was launched. Under its “Centres of Excellence” programme, UNIDO provided technical assistance and computerization facilities to the National Small Industries Extension Training Institute in Hyderabad. Other important activities that year included upgrading of physical facilities and technical skills and a work programme in the production of agricultural machinery at the institutional level.



Regional Workshop on Pesticide Formulation Technology 1987

In 1988, the first phase of pesticide development programme provided hands-on training in formulation technology at the national and regional levels. In the electrical subsector, projects involving product development were initiated in India. Following the successful completion of a project that introduced energy-saving measures into plants of the Steel Authority of India, a rehabilitation programme for over 150 mini steel mills was introduced to reduce energy consumption. A large-scale project to establish an aluminum research, development and design centre was initiated.

During the early 1990s, several projects dealing with the characterization, manufacturing and evaluation of catalysts used in refining petroleum and producing petro-chemicals were implemented successfully.

In 1992, the Institute of Pesticide Formulation Technology was launched thanks to a joint UNDP and UNIDO initiative. The Institute became an independent body to promote modern and safe technologies. As a result, pesticide formulation plants significantly reduced their toxic emissions.

Pertinent Indian Industrial Policy

Since the 1990s, industrial policy has been more pragmatic and less interventionist. The **Industrial Policy Statement of 1991** aimed at liberalisation, privatisation and globalisation, while developing capital markets and fostering productivity.

Since the late 1990s, services have been growing faster than either industry or agriculture with the business services, communication, and banking sectors expanding fast. India has thus become a knowledge-based economy and became famous for its information technology.



Project Management Committee meeting –
Regional Network on Safe Pesticides production Network 1993

In 1994, UNIDO started implementing projects on entrepreneurship development, quality management and the promotion of small-scale and rural industries in India. It developed an intelligent decision support system (COMPSTRAT) for the formulation of competitiveness strategies in India and Mexico, and organised a regional workshop on quality management and ISO 9000 in software development.

In the same year, UNIDO trained over 100 employees at the Central Footwear and Training Centre and the Indian Institute for Leather Products. UNIDO also assisted small-scale leather goods manufacturing units in West Bengal.

In 1996, UNIDO established SITARC pump institute to upgrade the technology of irrigation pump sets and prime movers manufactured by small-scale companies in India. An Investment and Technology Promotion Initiative (ITPO) to promote industrial cooperation between companies in India and developed/developing countries and create new employment opportunities through investments and technology in SMEs was also established.

In 1997, UNIDO implemented a project funded by the Government of Switzerland on the treatment of tannery effluent in the state of Tamil Nadu. The main objective of the project was to support the introduction of low-waste leather finishing operations in selected SMEs engaged in tannery.

In 1999, UNIDO partnered with Fiat through Magneti Marelli, one of its subsidiaries with automobile production plants in India, to improve the quality of automobile parts produced by local suppliers. The project inspired other transnational corporations which sought to replicate the successful case in other developing countries and other sectors of industry.

Pertinent Indian Industrial Policy

2001 onwards, products like leather goods, shoes and toys were de-reserved, 100% FDI was permitted for selected manufacturing and service industries and industries like the defence sector were opened for 100% private participation (subject to licensing). In order to promote domestic manufacturing in line with the National Manufacturing Policy, in March 2013, the government issued norms for setting up of National Investment and Manufacturing Zones (NIMZs) with benefits such as exemption from capital gains tax.

Country Service Framework (CSF) 2001-2007

The Country Service Framework was developed by UNIDO in close consultation with the Ministry of Commerce and Industry as a dynamic, flexible and strategic tool for greater programmatic coherence and developmental impact. The overall development goals of the CSF were poverty alleviation and environmental sustainability. It covered four main thematic areas:

1. Strengthening the competitiveness of SMEs through technology-led interventions;
2. Promoting FDI;
3. Promoting cleaner and environmentally friendly technologies and policies; and
4. Alleviating poverty and promoting industrial growth in less developed areas.

The CSF was a landmark in UNIDO's cooperation with India. It was the first initiative that brought multiple stakeholders together to determine the direction of UNIDO's interventions. It not only identified India's main industrial development challenges, but also encouraged active dialogue between the central government, state governors, the private sector and civil society. At the inception of the CSF, UNIDO's portfolio in the country covered 19 states and 11 sectors. With a budget of US\$ 11.8 million, the CSF comprised 38 projects. The CSF subsequently led to the formulation of the Country Programme 2008-2012, in line with India's 11th five-year plan.

Some of the initiatives implemented under the CSF included support to the Centre for Development of the Glass Industry in Firozabad (which accounts for 70 per cent of the total glass production in India); aid in the recovery of coastal fisheries after a tsunami hit southern India in 2005; and promotion of the use of bamboo as a fast growing, environmentally sound and economically viable raw material for goods ranging from handicrafts to industrially produced floorboards. The latter project also supported the Cane and Bamboo Technology Centre which founded 27 bamboo-processing companies, trained 900 people and created 300 jobs.

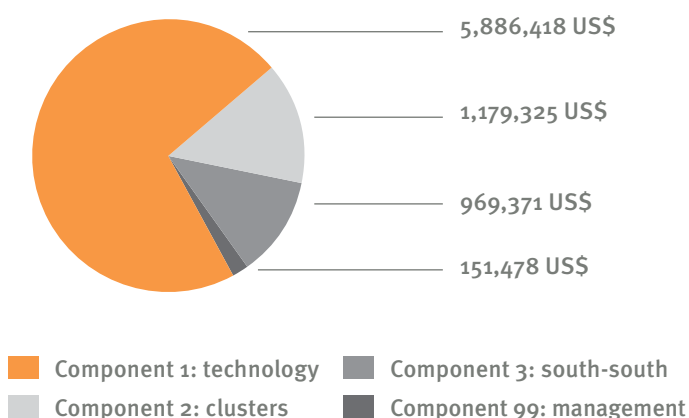
In 2006, the UNIDO Centre for Industrial South-South Cooperation (UCSSIC) was established in New Delhi to mobilise technical, financial and managerial resources to enhance production capacities, provide a platform for sharing development knowledge and solutions and promote regional trade.

Country Programme (CP): 2008-2012

Between 2008 and 2012, UNIDO formulated a Country Programme (CP) for India to strengthen competitiveness and productivity of industrial enterprises. The programme had a budget of US\$ 42 million and comprised of 34 projects. These projects included developing a National Implementation Policy for POPs elimination, promoting cleaner technology in India and supporting SMEs in the automotive industry.

A breakdown of the CP shows a strong emphasis on technology promotion, particularly in relation to environmental protection in manufacturing activities. The projects within the CP framework were funded by the Government of India, the Montreal Protocol and the Global Environment Facility (GEF). Some of these projects aimed to support India in meeting its obligations under multilateral environmental agreements, such as the Stockholm Convention on Persistent Organic Pollutants (POPs) and the Montreal Protocol on Ozone Depleting Substances (ODS). Other projects targeted cleaner production and energy efficiency.

Generation Projects as of May 2008



The Indian delegation with UNIDO Director General Yumkella after signing the CP, Vienna

(Source: UNIDO)

The Independent Evaluation conducted on the CP 2008-2012 concluded that UNIDO was an effective partner which provided added value to a large variety of government-owned initiatives. The high level of national commitment and ownership as well as high degrees of consultation made the programme truly aligned with national priorities and strategies.

Pertinent Indian Industrial Policy

The most recent Indian industrial policy is based on the 12th Five-Year Plan (2012-2017). With an agenda of *Faster, Inclusive and More Sustainable Growth*, the Five-Year Plan had the following objectives:

- » Boosting Agricultural GDP for maximum impact on labour and inclusivity
- » Developing a higher percentage of non-agricultural productive employment.
- » Encourage the private sector to stimulate growth.
- » Poverty reduction through productive activity.
- » Environmental sustainability of growth strategies.

Country Programme (CP) 2013-2017

At the time of inception, the Country Programme (2013-2017) had a budget of **US\$ 101.15** million covering **22 current generation and 21 next generation projects**. It was formulated in alignment with India's 12th Five-year plan that aims to achieve faster, sustainable and more inclusive growth. An important guiding policy document was the National manufacturing policy of 2011. Both these policy documents identify Textile and Garments, Leather and Footwear, Gems and Jewellery and the Food processing Industry as employment intensive industries. To stimulate the manufacturing sector, the aim is to activate comparative advantages in the automotive sector, pharmaceuticals and in the medical equipment sector.

In 2015, in response to a request by DIPP, the CP document was extensively reviewed to reflect the current status of programme formulation and implementation. Consequently, **an addendum of CP 2013-2017 has been finalized according to which, 20 projects have been completed, 20 are on-going projects and 8 are pipeline projects with a budget of approximately US\$ 170 million**. The expanded portfolio is attributed to the forthcoming GEF projects in relation to Climate Change and Smart Cities, the newly established UNIDO Centre (IC-ISID) as well as industrial subsector interventions (e.g., leather, cement, pulp and paper, bicycle and industrial clusters) to be implemented under the IC-ISID.

The CP consists of **two components: Promotion of green industrial development and inclusive economic development**. The CP therefore aims to address these broad thematic areas by targeting the manufacturing sector, MSMEs, agro-processing and supply chains development and energy and environment related projects.

In line with the new national priorities, several new projects such as the “Sustainable cities: integrated approach plan in India”, and the “air quality index” are being formulated to further the industrial development in India, in concomitance with national initiatives such as ‘Smart Cities’ and ‘Swachh Bharat’.



CP 2013-2017 Document Signing

(Source: UNIDO)

Pertinent Indian Industrial Policy

In 2014, the Government of India launched the “Make in India” Initiative, which aims at making India a global manufacturing hub. The Make in India programme aims to facilitate investment, foster innovation, enhance skill development, protect intellectual property, and build manufacturing infrastructure. It covers twenty-five sectors, FDI policy, National Manufacturing Policy, intellectual property rights, and National Industrial Corridors. The initiative aims to enhance the manufacturing sector to achieve a 25% contribution of manufacturing to GDP, along with 100 million jobs by 2022.



Unido's Initiatives in India

This section showcases selected projects illustrating the scope of UNIDO's multidimensional interventions in India over the last 50 years.





Promoting industrialisation to enhance economic competitiveness

UNIDO works towards mobilizing the industrial sector to achieve equitable economic growth. UNIDO's programmes support enterprises, especially SMEs, in improving their trade capacity, managerial skills of employees and innovation capacity. These factors improve productivity, job creation and integration with global markets.

The population of developing countries, and especially least developed countries, is dominated by agrarian communities affected by high poverty rates and persistent unemployment. In response to this, UNIDO works towards developing value chains and promotes foreign investment. UNIDO also strengthens international trade norms and standards by helping with the upgrade of production and processing systems and improving the quality of products.

(i) SME development, cluster development and trade capacity building

UNIDO assisted several successful product clusters: the block printing cluster of Bagru in Jaipur, the food processing cluster in Pune, the textile cluster in Tirupur and the sports goods cluster in Jalandhar.

UNIDO facilitated the establishment of the Trade Development Authority in 1972 and a free Trade Zone for Industries in 1974, and helped develop an Integrated Programme of Technical Cooperation in Trade Promotion in 1979 and the Trade-Related Entrepreneurship Assistance and Development Programme for Women in India in 1998.

CASE 1:

UNIDO-ACMA partnership programme for the Indian automotive component industry

UNIDO, jointly with the Ministry of Heavy Industries and the Automotive Component Manufacturers Association of India

(ACMA) launched the US\$ 1.5 million partnership programme for the Indian automotive component industry in 1999. When the programme was introduced, the industry consisted of 500 firms in the organised sector and around 31,000 enterprises in the unorganised sector. The objective of the programme was to strengthen the capacity of small- and medium-sized automotive component manufacturers to meet the quality requirements of vehicle manufacturers and to enhance their productivity and performance levels so as to facilitate their inclusion into the domestic and global automotive supply chains¹. By the time the programme was closed in March 2010, a total of 133 companies located in 17 different clusters benefited from it.

CASE 2:

A pilot plant for the production of sponge iron at Kothagudam, Andhra Pradesh

With technical assistance from UNDP/UNIDO and the Lurgi Chemie Technique company in the then West Germany, and with funds worth US\$ 2 million from the Indian government, a pilot sponge iron plant (producing a substitute for ferrous scrap used by induction and electric arc furnaces) was established with a capacity of 30,000 tpa. The four-year (1971-1975) UNDP/UNIDO project aimed to establish the local capacity of producing sponge from lump iron ore and 100% non-coking coal. The pilot plant, using non-coking coal produced by Singareni Collieries Company Limited and iron ores available at various regions in Andhra Pradesh and neighbouring states, went into regular production in November 1980. Several modifications were made to the plant based on rotary kiln process to suit the local raw materials and operating conditions. The plant had the flexibility to work with different combinations of ores and coals. Subsequently, in 1985 the company commissioned the second unit with a capacity of 100 tpd at the same location. The company's current annual capacity is 60,000 TPA of sponge iron.

¹ Final report UNIDO-ACME Partnership Programme Project Phase I-III (1999 to 2010) Oct 2010

The initiative helped develop new technology and paved way for the development of sponge iron industry in the country. Other sponge iron plants were subsequently developed based on this technology.

CASE 3:

Consolidated project for SMEs development

The project integrated standard UNIDO approaches such as cluster development, and investment and technology promotion, with innovative credit delivery mechanisms such as Mutual Credit Guarantee Schemes and Private Equity/Venture Capital. The project started in 2007 and received funds worth US\$ 3.5 million from the Government of Italy. The Department of Industrial Policy and Promotion and the Ministry of Micro-, Small and Medium Enterprises (MSME) were the major national counterparts. The project consisted of two clusters: a leather

cluster (tanning and footwear in Chennai and Shantiniketan) and automotive cluster (Chennai, Pune, and NCR Delhi).

The project comprised three interdependent components: cluster twinning, investment and technology promotion and mutual credit guarantee schemes (MCGS). It also included a component called “social aspects” to address issues pertaining to the environment, occupational health and safety, as well as to various social commitments on women employees and child labour.

The project directly benefited more than 150 SMEs in the above sectors, along with five associations and two leading institutes. It improved productivity through better utilization of capacities, increased profit through waste minimization and efficient practices, and created responsible employment through motivated employee/effective workforce orientation.

UNIDO-ACMA

(Source: UNIDO)



Automotive components cluster and leather sector

(Source: UNIDO)



(ii) Development of agro-industries

Agro-industrial activities benefit many groups, including poor and marginalized rural populations, urban agro-industries and communities facing human security challenges or requiring urgent supplies of agricultural equipment. UNIDO provided technical cooperation and capacity-building services agro-based and agro-related businesses and industries in India, in sectors such as food, leather, textiles, wood and agricultural equipment. In particular, UNIDO's services for the development of agro-industries focus on adding value to agricultural production by strengthening linkages between agriculture, industry and markets.

CASE 1:

Promoting livelihoods in North Eastern India: The cane and bamboo networking project

The project was set up to complement the strategies of the National Bamboo Mission of the government and India's United Nations Development Assistance Framework (2008-2012).

With US\$ 1 million funds, the project established the Cane and Bamboo Technology Centre. Subsequently, UNIDO organised training events on the supply chains — from plantation management and pre-processing to industrial processing and marketing — for the cane and bamboo farmers and producers.

The project facilitated the adoption of appropriate technologies and capacity-building plans that could be integrated into community programmes for income generation.

CASE 2:

MSME cluster development programme in the State Of Orissa

UNIDO developed a support programme in partnership with the Ministry of MSMEs to strengthen four selected clusters and their SME networks that work with handlooms, handicrafts and non-timber forest products. With funds worth US\$ 1 million from the UK, the project helped organize artisans belonging to the same product categories into clusters to facilitate access to formal credit. To increase productivity, UNIDO promoted the development of joint activities and supplied modern machinery. It also helped artisans establish direct linkages to national and international markets by organizing study tours to high-end markets in Bangalore, Delhi, Jaipur and Hyderabad. Female artisans enjoyed special attention in the cluster: they participated in health awareness seminars and received support in forming their own cooperatives.

Additionally, to reduce the environmental pollution related to hazardous dyes, UNIDO provided the handloom cluster with eco-friendly quality dyes.

The increased contact between artisans and wholesale sellers (buyers) stimulated the production of higher-quality products and an increase of 15-20 per cent in productivity, generating more income and creating better living conditions for the artisans.



Bamboo products

(Source: UNIDO)

CASE 3:**Strengthening handmade paper industry**

This project was coordinated by the Khadi and Village Industrial Commission (KVIC) under the Ministry of Industry with financial support of US\$ 0.7 million from the Department of Industrial Policy and Promotion. The six-year project assisted the handmade paper industry in India in producing high-quality handmade paper and cardboard through the establishment of a testing laboratory and a demonstration plant. The centre, which has been operational since 1995, enabled testing new raw materials, processes and technologies, and helped formulate a new marketing strategy. It also stimulated sales on domestic and export markets.

The project also provided consultancy services to the handmade paper industry, and executed training courses for 550 persons in 56 units representing 15 states.

Handmade paper industry in Jaipur

(Source: UNIDO)

**CASE 4:****Development of the knitwear industry, Ludhiana**

Between 1997 and 2002, UNIDO developed a cluster approach to strengthen the knitwear industry of Ludhiana. By promoting business linkages and promoting private-public partnerships, this approach enabled the region's knitwear industry to expand to international markets. Over the span of the project more than 110 women received training at seven training sessions. 80 per cent of those women were immediately employed by the cluster. The project helped generate US\$ 4.4 million of additional income for the cluster in Ludhiana, and saved US\$ 1.3 million. Twenty-two units benefitted from an additional investment of US\$ 8 million.

Training of women workers in Ludhiana

(Source: UNIDO)



Green industry development

UNIDO has facilitated environmental management efforts in India, including helping it fulfill obligations under multilateral agreements, develop sustainable energy, create green industries, develop energy-efficient technologies and resource-efficient/low-carbon production, and promote innovation.

CASE 1:

Climate-friendly refrigerators: promoting cleaner technologies

Since 1990s, UNIDO has been promoting cleaner production techniques. One of the Organization's projects in this field was the elaboration of new Clean Development Mechanism (CDM) methodologies. Funded by the Swiss State Secretariat for Economic Affairs (SECO), the project worked towards reducing environmental pollution while improving competitiveness of the refrigerator sector. The project helped develop some innovative climate and ozone-friendly production methods which became accessible by the refrigerator manufacturers worldwide.

CASE 2:

Promoting energy efficiency and renewable energy in selected MSME clusters in India

UNIDO, with the support of US\$ 7 million from the Global Environment Facility (GEF), initiated this project in September 2011 to introduce energy efficiency and enhance the use of renewable energy technologies for process applications in selected MSME clusters, especially in five energy-intensive sub-sectors: brass, ceramic, dairy, foundry and hand tools. The project formed collaborations with the Bureau of Energy Efficiency and local industry associations, as well as local service providers and technology suppliers. As a result, the project improved the productivity and competitiveness of the five units and reduced the overall CO₂ emissions in ten clusters across the country.

Metal pouring in
Coimbatore Cluster

(Source: UNIDO)



CASE 3:**Cleantech programme for small- and medium-sized enterprises (SMEs)**

UNIDO and GEF launched the Cleantech Programme in 2013 to promote clean, low-carbon technologies, and particularly in MSMEs. By connecting Indian Cleantech counterparts (GEF, Federation of Indian Chambers of Commerce and Industry (FICCI) and MSMEs) and entrepreneurs with potential partners in countries such as Malaysia and South Africa, the programme fostered entrepreneurship in the clean energy technology sector. It also helped build national capacity of developing clean technologies by providing training, mentoring, access to capital, and opportunities to showcase promising technologies. The programme focused on eight specific technology categories: energy generation; energy distribution and storage; energy efficiency; chemicals and advanced materials; information and communication technologies; green building; transportation; and agriculture, water and waste.

CASE 4:**UNIDO regional centre for small hydro power, Kerala**

UNIDO set up a regional centre for small hydro power located in Trivandrum, Kerala. The project enhanced the Energy Management Centre in the Kerala region by improving its setup, structure and activities. With the active intermediary support of the Center, the Kerala State Electricity Board tied up with the UNIDO-sponsored International network on small hydro power (IN-SHP), and implemented 18 SHP projects with the total capacity of 107 MW. It also completed the technical consultancy assignment for the finalization of detailed project report for Meenvallom SHP (3 MW).

GCIP 2015

(Source: UNIDO)

Implementing multilateral environmental agreements

UNIDO supports countries in meeting their obligations under the major multilateral environmental agreements, such as the Montreal Protocol, the Stockholm Convention, the Minamata Convention on mercury, and the United Nations Framework Convention on Climate Change (UNFCCC). In particular, UNIDO promotes and assists countries in accessing non-ozone-depleting technologies and builds capacities of public bodies and government institutions responsible for their implementation.

CASE 1:

The national implementation plan on the phase out of persistent organic pollutants (POPs)

In 2007, jointly with GEF and the Ministry of Environment, UNIDO implemented a project “Forest and climate change to

draft a national implementation plan (NIP) for India, one of the four largest non-industrialized parties to the Stockholm Convention.

The project exposed the extent of POPs contamination in India, quantified polychlorinated biphenyls (PCB) contamination in electric transformer oil, identified unintentional emissions of POPs from four main sources and provided estimates of the quantities of obsolete pesticide stocks. It also compiled information on the production and use of DDT for controlling vectors that cause diseases. After the NIP was formulated, GEF approved funding for several projects in India. The approval indicated confidence of the donor community in UNIDO's execution capacity. The national implementation plan on POPs was published in April 2011.

Research and policy advice

UNIDO has continuously provided sound industrial policy advice and helped translate it into effective industrial strategies in India. This arm of UNIDO's services contributes to the diversification of productive capacity and the advancement of industry. UNIDO's approach derives from the publication on “Good principles for a new industrial policy”. Both researchers and practitioners agree that a focus on the process of policy rather than on the outcome (e.g. a strategy paper) is one of the key elements of successful industrial policies. The strategic industrial policy (SIP) process comprises four stages: diagnosis, design, implementation and evaluation.

UNIDO provides capacity development, technical advice and facilitation throughout the process. Being a rich source of expertise and technical knowledge, UNIDO has not only supported many research institutions, but also facilitated knowledge-sharing and -transfer, diagnostic studies and evidence-based analysis across sectors. UNIDO conducts applied research and evidence-based analysis of economic growth and industrial structural change, and disseminates its findings within the Organization and to the community of development practitioners. On this basis, it advocates the importance of accelerated industrial development and improved industrial competitiveness as instruments to reduce poverty and contribute to inclusive and sustainable development.

(i) Industrial policy advice

UNIDO assisted the states of Gujarat (2000), Orissa (2001) and Punjab (2008) with the formulation of their industrial policies. UNIDO not only assisted individual states in drafting their industrial policies, but also executed integrated programmes for specific sectors in these states. The Integrated investment and technology promotion programmes for West Bengal and Rajasthan; and Intech arts for Gujarat and Madhya Pradesh are just a few examples of such initiatives. More recently, UNIDO's commitment to industrial policy is reflected in its implementation frameworks, i.e. country service frameworks and country programmes designed in alignment with the Government's five-year plans.

CASE 1:

Industrial policy in the state of Orissa²

In 2000, the Orissa State Government invited UNIDO to offer advice to its industrial policy, and further assist in its implementation. UNIDO proposed a three-phase approach:

- » First phase: conducting a socioeconomic analysis of manufacturing growth prospects
- » Second phase: facilitating a participatory exercise to bring stakeholders together to shape a common development vision
- » Third phase: to ensuring a long-term engagement of stakeholders to support the execution of the policy.

Phases I and II were implemented by mid-2001, under a project jointly funded and executed by the United Kingdom's Department for International Development (DfID) and UNDP. After internal review, an industrial policy resolution was approved by the State Government, and other local authorities eagerly solicited UNIDO's future services. By the end of 2001, UNIDO elaborated the terms of reference featuring a seamless cooperation between DfID and the local government. A joint programme mission was scheduled for early 2002 and the DfID set aside approximately US\$ 8 million to implement technical cooperation projects.



Launch of Orissa Project Advisory Centre

(Source: UNIDO)

² UNIDO Annual Report 2001.

(ii) Research support to institutes and knowledge-sharing

Through its policy advisory, research and statistics services, UNIDO provides Member States and international and regional organizations with timely, relevant and evidence-based applied analysis of industrial development and strategic area-specific industrial policy advice. Over the years, UNIDO initiated and completed multiple projects to provide industrial sectors in India with analytical research and data regarding their development potential.

Since 1969, UNIDO conducted many research projects in India, including studies on:

- » Export potential in the fields of pharmaceuticals, essential oils, toiletries, cosmetics and dyes and dye intermediates
- » Electric metallurgical processing of ilmenite concentrates
- » Technology in steel-making and electrical industry (furnace transformers)
- » Designing and detailed engineering of pulp and paper mills
- » Industrial utilization of red mud waste from bauxite processing in Korba
- » The development and application of plastic in agriculture
- » The promotional framework for the development of small-scale industries in India and selected South-East Asian countries with a special emphasis on industrial sub-contracting
- » The impact of industrial water price reforms on effluent discharges, conservation and recycling measures

These research initiatives give a snapshot of UNIDO's approach to evaluating the targeted industrial sectors, and designing technical cooperation projects accordingly. UNIDO also supported many research and industrial institutes by providing research and expertise services.

CASE 1:

International Centre for Genetic Engineering and Biotechnology (ICGEB)

The ICGEB is an international, nonprofit research organization and part of the United Nations System. Established with the support of UNIDO, it became fully autonomous in 1994 and has over 60 Member States now. It creates a scientific and educational environment of the highest standard enabling it to conduct innovative research in life sciences for the benefit of developing countries. It strengthens research capabilities of its members through training and funding programmes and advisory services, and follows a comprehensive approach to promoting biotechnology internationally. With components in Trieste (Italy), New Delhi (India) and Cape Town (South Africa), the Centre forms an interactive network with affiliated centers in ICGEB Member States.

The ICGEB New Delhi comprises 32 research groups. The component administers a flourishing PhD programme in association with the Jawaharlal Nehru University (JNU). With the help of UNIDO, the ICGEB's principal investigators obtained research grants from various funding agencies within the country, as well as extra-mural funds from international agencies, such as the Wellcome Trust, European Malaria Vaccine Initiative, European Commission, International Aids Vaccine Initiative, National Institute of Health, Bill and Melinda Gates Foundation, DuPont and PepsiCo.

CASE 2:**Establishment of a National Welding Research Institute**

National Welding Research Institute (WRI) was established in 1975 by the Government of India with the assistance from UNIDO/UNDP under the aegis of Bharat Heavy Electricals Limited, Tiruchirappalli, India. UNDP funded phase I (US\$ 2 million) and phase II (US\$ 2.5 million) of the institute's establishment. WRI is known for its technological excellence and contribution towards modernizing the Indian industries.

The institute has assimilated high level of technological excellence for over three and half decades and assisted the Indian industrial sector in applying latest materials as well as joining and allied techniques to upgrade quality and productivity. Partnering with academia and international research organizations, WRI is steadily transforming into a world-class welding research center.



Partnerships





Partnerships with private companies

UNIDO has collaborated with a wide range of private-sector actors to institute multi-stakeholder partnerships for inclusive and sustainable industrial development in India. UNIDO recognizes that aligning business strategies, operations and supply chains with sustainable development outcomes is not only business-oriented, but also socially responsible. Through collaborations with the private sector, UNIDO has succeeded in providing innovative tools and services, supporting local business development, building sustainable value chains, improving compliance with international standards, promoting green industry and expanding access to energy.

UNIDO – Fiat¹

Fiat and UNIDO signed a partnership agreement in 1998 to implement an upgrading programme for SME component suppliers in India's automotive industry. Fiat was represented in this programme by its subsidiary, Magneti Marelli.

UNIDO-Fiat Collaboration (Source: UNIDO)



This partnership aimed to facilitate access for Indian SMEs to the global automotive market. The programme also promoted better access to financial and human resources. It resulted in a more than 50-per cent increase in the capacity of the 20 participating enterprises.

UNIDO – Mahindra & Mahindra

UNIDO's International Centre for Hydrogen Energy Technologies, in collaboration with Mahindra & Mahindra, IIT Delhi and the Ministry of New and Renewable Energy developed project "DelHy 3W" to build a fleet of 15 hydrogen-fueled three-wheelers. This three-year-long project with the budget of US\$ 1million promoted hydrogen technologies developed by Indian partners for the Indian transport sector. The vehicles were used by the India Trade Promotion Organization (ITPO) on an experimental basis.

Mahindra and Mahindra upgraded the vehicle with all necessary modifications to the engine, safety systems, fuel tank and fuel lines. Air Products USA, acting as a project partner and sponsor, provided hydrogen refueling station, as well as management and technical services. UNIDO's Regional Office in India facilitated the realization of the project.



The world's first fleets of hydrogen-fueled 3-wheelers, or rickshaws, were launched in New Delhi on 9th January 2012.

(Source: UNIDO)

¹ The UNIDO-Fiat Partnership, UNIDO : www.unido.org/fileadmin/media/documents/pdf/Services.../csr_FIAT.pdf

Partnership with regional counterparts

UNIDO has actively participated in inspiring projects that bring together several developing countries to jointly promote industrial development. India too, has engaged in such collaborations not only by facilitating industrial and trade connections with other countries, but also by providing resources and guidance to projects implemented in the subcontinent.

For example, in 2001 UNIDO launched a Triple Bottom Line (TBL) project in India, Pakistan, Sri Lanka and Thailand to facilitate market access for suppliers from developing countries. UNIDO Technical Cooperation funded the project with US\$ 2 million for three years (2001-2003). The first version of responsible entrepreneurs achievement programme (REAP) offered the project a CSR methodology to improve business performance against any chosen standard, particularly in environmental and labor practices, not covered by conventional accounting systems.

This project promoted best practices in the areas of cost-saving (e.g. reduction in water, electricity and raw material consumption), safeguarding the environment (e.g. reduction in solid waste generation and addressing waste water quantity and quality), improving social aspects (e.g. accident-risk reduction, promoting better working conditions and providing better care for employees' health) and promoting the quality of products.

Packaging and
Standard-compliance
(Source: UNIDO)

UNIDO –SAARC

The South Asian Association for Regional Cooperation (SAARC) was established in 1985. The member countries are Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. The SAARC Secretariat was established in Kathmandu in 1987.

Market access and trade facilitation support for South Asian LDCs through strengthening institutional and national capacities related to standards, metrology, testing and quality

The market access and trade facilitation project was implemented as a regional programme for the four LDCs (Bangladesh, Bhutan, Maldives and Nepal) in SAARC. This is an ongoing project which started in 2007.

The objectives of this project are to upgrade technical infrastructure required for standard development and harmonisation, strengthen metrology and testing laboratories in selected sectors; and to improve the standards for labeling and accreditation and/or certification of laboratories and quality systems.



The Low Carbon Emission Clean Energy Technology Transfer (LCET) Programme

UNIDO and the Japanese Ministry of Economy, Trade and Industry (METI) are implementing a collaborative global programme to promote rapid deployment and dissemination of LCETs through demonstration, capacity-building and knowledge-management projects. This project started in 2013 with the budget of US\$ 5.6 million. The programme identifies business models and market conditions to facilitate investments in LCET in the chosen developing countries.²

The technology transfer mechanism developed by the programme rests on three main components: identifying appropriate LCETs and conducting feasibility studies to assess techno-socio-economic needs during the inception stage and design and implementation of pilot demonstration projects; establishing public-private partnerships for scaling-up the

demonstrated technologies; and knowledge management and policy recommendation for replication, and market environment development towards dissemination. The programme focuses on LCETs such as micro-hydro power, solar energy and waste-to-energy technology.

Promoting low – head micro hydropower mini grids to increase access of energy in rural India

This UNIDO pilot project is part of the current country programme (2013-2017), funded by Government of Japan with US\$ 1.3 million. It successfully installed a 10kW ultra-low head micro hydro-power system. Initial business partnerships were established for local manufacturing. The project is currently conceptualizing a master plan and capacity development plans for partnerships with Indian counterparts (UREDA). The main objective of the micro-hydro power project is to increase access to renewable energy for productive uses in Uttarakhand.

Partnership with other UN agencies

Improving Mizoram bamboo value chain: strengthening production, processing and marketing capacities

Upon request from the Government of the State of Mizoram, UNIDO led a joint start-up mission with UN system agencies (ILO, IFAD, UNDP and FAO) and with local partners (DIPP and North East Council) to develop a plan for safeguarding the state's ecosystem, identify markets for local agriculture, horticulture and select non-timber forest products, as well as

conduct livelihood skills development programmes. These projects represent a joint UN contribution to the state's development. The project scheduled for 2016-2019 received funding – US\$ 2.2 million – from the Government of Mizoram.

UNIDO and its partner UN organizations have drawn up a detailed work plan for their joint project. Its overarching objective is to improve incomes and extend employment opportunities in the Bamboo value chain in Mizoram by strengthening production, processing and marketing capacities.

² Project factsheet: https://www.unido.org/fileadmin/media/images/worldwide/Fact_sheets_new/Fact_sheets-2014/LCET_Factsheet.pdf

South-South cooperation

South-South cooperation has been steadily gaining momentum since the 1978 Buenos Aires Plan of Action promoting and implementing technical cooperation among developing countries. As a methodology, South-South cooperation facilitates the exchange of knowledge, experience, technology, investment, information and capacity among southern countries and thereby complements the existing North-South Cooperation. UNIDO strongly supports South-South Cooperation by implementing relevant TC projects, acting as a global convener for South-South and Triangular cooperation and establishing platforms, networks and partnerships. Recognising India as one of the key players for South-South Cooperation, UNIDO established the UNIDO Centre for South-South Industrial Cooperation (UCSSIC) in New Delhi in 2006. In 2015, the UCSSIC and the ICAMT were merged to form the International Centre for Inclusive and Sustainable Industrial Development (IC-ISID).

The UCSSIC successfully implemented projects across sectors in several countries, particularly in Africa and Asia and the Pacific.

The interventions of the former South-South Centre ranged across agro-industry, energy and capacity development.



AGRO-INDUSTRY

Bamboo skills development, production and demonstration centre – Timor-Leste

The “Bambo skill development project” was incepted in partnership with the Cane and Bamboo Technology Centre (CBTC), and South Asia Bamboo Foundation (SABF) in Guwahati, India. Funded by DIPP in the amount of US\$ 1 million, the project was implemented between 2008 and 2012. The main objective of the project was to disseminate technologies for economic enhancement of craftspeople and small and medium-sized entrepreneurs in the cane and bamboo sector of Timor-Leste. The project also sought to strengthen the capacity of existing institutions through networking and linking them with specialized bodies in China, India and Europe. The development objective was poverty reduction through employment and income generation in a post-crisis environment.

The project established a centre with 40 trained employees, equipped with a bamboo laminate board production line with a capacity of 1000-m² per month. The project also helped procure equipment, facilitated training of farmers, provided technical expertise on furniture design, helped diversify product lines and enabled participation of project recipients in international trade fairs.

DG UNIDO Kandeh Yumkella
with the UCSSIC Team, 2008

(Source: UNIDO)

ENERGY

Renewable energy through biomass gasification for productive uses and rural transformation in West Africa – Nigeria and Benin

Implemented between 2010 to 2012, the biomass gasification project aimed to demonstrate the use of biomass gasification to generate electricity for productive uses in rural areas. DIPP allocated US\$ 630,000 to fund the project.

The project resulted in installing equipment with generating capacity of 50kW of renewable energy in two locations and offered training to local residents on maintenance. The main strategy was to facilitate technology transfer from India to provide the recipient communities with clean, reliable and affordable energy.

This project set a good example and increased potential for replicating this technology in other parts of West Africa.

CAPACITY DEVELOPMENT

Establishment of UNIDO-VIMTA South-South training facility for testing laboratories (UVSSTF)

DIPP funded this project (2010-2011) with US\$ 470,000 to establish a training facility for chemists, scientists, analysts and laboratory management from food, agro and drug testing laboratories, in Hyderabad, India. Vimta Labs, Genome Valley in Hyderabad facilitated training, knowledge transfer and skill development activities. The project helped organize 13 courses for 89 participants from 45 laboratories in 23 developing countries.

When the UCSSIC and ICAMT were merged to form the IC-ISID in 2015, the new centre took the mandate of South-South cooperation forward. The centre aims to implement projects in five key areas – leather, cement, paper and pulp, bicycle and cluster development. The IC-ISID reiterates the concept of the 2030 Development Agenda, and will be a model centre to promote targeted interventions in selected industrial and manufacturing sectors.



Inauguration of the UNIDO-VIMTA South-South Training Facility, Hyderabad, September 2010

(Source: UNIDO)



Inauguration of the International Centre for Inclusive and Sustainable Industrial Development New Delhi, 2015

(Source: UNIDO)



Global Forums, Platforms and Networks in India

UNIDO designs sustainable industrial solutions in a holistic and coherent way. The Organization prioritizes advocacy, research, and knowledge management and dissemination as its key activity areas in pursuing ISID. Member states appreciate UNIDO as a global platform for sharing expertise, technical knowledge and building awareness across developing countries. Apart from participating in various national conferences and events organised by the government or other stakeholders, UNIDO hosted a number of large-scale interactive forums in India.

UNIDO's Third General Conference was held in January 1980 in New Delhi. The Conference resulted in a pioneer study of the main trends in transnational corporations' (TNCs) involvement in industrial development in developing countries. A respective report focused on ways of transferring the best practices in operations management from leading international companies to developing countries to boost their national production capacities.





Regional meeting of ministries of industry of Asia and the Pacific¹

A Regional meeting of ministries of industry of Asia and the Pacific was held in New Dehli between 19 and 20 October 1995. The meeting focused on reviewing regional cooperation in the industrial sector within the framework of UNIDO's special programme for the industrial development of Asia and the Pacific. Under the theme "Accelerated industrial development and competitiveness in the Asia and Pacific region", the meeting analyzed intense competition in an increasingly globalized economy and its effect on the industry in the region.

Jointly organised by the Secretariats of UNIDO and ESCAP, the meeting gathered 90 representatives from the regional countries and institutions. Its deliberations concentrated on: i) perspectives for competitive industrial development in

Asia and the Pacific in the context of evolving global trends; ii) coping with the challenges of competition at the enterprise level: innovation, new technologies and institutional support; and iii) environmentally sustainable industrial development and Least Developed Countries in the region.

Discussions between the ministers of industry and senior government representatives resulted in the adoption of the New Delhi Declaration on Accelerated Industrial Development and Competitiveness in the Asia and Pacific Region. The Declaration outlined priority services required from UNIDO and strongly affirmed the central and vital role of the Organization in the United Nations system in the field of industrial development.



Third UNIDO General Conference Holds Inaugural Ceremony in New Delhi, 21st January 1980

(Source: UN Photos)

¹ UNIDO Annual Report 1995.

Global Agro-Industries Forum

The Global Agro-Industries Forum (GAIF 2008) was hosted by India in April 2008. It was organised jointly by the UN Food and Agricultural Organization (FAO), the International Fund for Agricultural Development (IFAD), UNIDO and the 3ADI initiative. The Forum promoted agro-industries as important agents of economic development and poverty reduction and focused on strategies and activities for improving agro-industrial competitiveness to achieve broad-based economic development and poverty alleviation.

Sustainable Energy Leadership Programme

In collaboration with the Energy and Resources Institute, UNIDO has organised the annual Sustainable Energy Leadership Programme (SELP) in New Delhi for decision-makers from Africa, Asia and the Pacific, Europe and Central Asia since 2014. The programme brings together senior officials from UNIDO and representatives of various governments for a series of activities, including lectures, panel discussions, group exercises and field visits centered on sustainable energy.

The SELP series has trained 75 officials from 20 countries.

Apart from the forums mentioned above, UNIDO also participates in numerous other forums, conferences and summits organised by Indian public institutions and organizations. These include the International Conference on Make in India/Make in India Week (DIPP, February 2016), the Partnership Summit (CII), the Confederation of Indian Industry's National Cluster Summit and the Delhi Sustainable Development Summit.

Historically, UNIDO has helped organize workshops, events and seminars in India for academic discussions, expertise-sharing and increased exposure for players from Indian industries. For example, in 2011 UNIDO organised a pro-poor value chain development workshop in Kerala, India.



Left to right: Secretary-General Kurt Waldheim, Prime Minister Indira Gandhi, and M. A. Ranqaswamy, Secretary of the Conference. 21st January 1980 New Delhi, India.

(Source: UN Photos)



Gender Focus

According to the latest report of the McKinsey Global Institute¹, advancing women's equality could add US\$ 28 trillion to the global GDP by 2025; and India alone could experience a 16-per cent increase in GDP. Recognising the potential of women's participation in economic activities, UNIDO incorporates gender mainstreaming principles at the organizational level and in broad intervention programmes. With the help from other UN organizations, the private sector and individual country-level partners, UNIDO promotes gender-specific policies, programmes, projects and technical cooperation activities. UNIDO's project portfolio supports women in acquiring skills and access to economic communities.

UNIDO adopted its gender policy in 2009, updated it in 2015, and further fine-tuned it into the Gender Equality and Empowerment of Women Strategy 2016-2019 in December 2015.



¹ The Power of Parity, 2015



The Orissa Cluster Development Project

The Orissa Cluster Development Project completed in 2008 targeted MSMEs in order to alleviate poverty and bring about equitable development. In the Ikat Handloom Cluster of Barpalli, Orissa, UNIDO facilitated the engagement of women in economic activities, and promoted the establishment of a federation of women.

Another notable endeavor was the UNIDO Training Programme for Women Entrepreneurs in the Food Processing Industry, implemented in 1997 with the budget of US\$ 300,000. The project provided women entrepreneurs with the skills required to set up and operate viable micro and small-scale agro-processing units efficiently.

Trade-related entrepreneurship assistance and development programme (TREAD)

UNIDO implemented the Trade-Related Entrepreneurship Assistance and Development Programme (TREAD) for Women in India (1998), with the budget of US\$ 290,000. The project helped 45,000 women in rural and urban areas to achieve self-reliance through self-employment and entrepreneurship development. One of the objectives of the project was to improve work skills and business proficiency of female entrepreneurs.

Gender mainstreaming was crucial for the development of newer projects, such as the “Sustainable cities: integrated approach pilot (SC-IAP) project” covering five cities in India: Bhopal, Jaipur, Mysore, Guntur and Vijayawada. The overarching aim is to achieve greater resource efficiency, improve life quality and enhance environmental performance.



Women's group, Roorkee, Ultra Micro Hydro power project

(Source: UNIDO)



UNIDO's organizational network in India

India has one of the largest and most diversified project portfolios implemented by UNIDO in the world. To implement this portfolio effectively and assist other member states in the subcontinent, India hosts a Regional UNIDO Office for South Asia, UNIDO-affiliated RECP centres and the International Centre for Inclusive and Sustainable Industrial Development. With such an extensive network in India, UNIDO is a pivotal organization for the implementation of industrialization projects within the country, and important facilitator of South-South and Triangular Cooperation. Through its integrated multi-stakeholder approach, UNIDO implements TC projects throughout India and in its neighbour states.





UNIDO Regional Office in India

UNIDO utilized a decentralization strategy to maximize its assistance to member states. Initially, UNIDO maintained its field presence through the Senior Industrial Development Field Advisor Programme (SIDFA) initiated in 1967 in cooperation with UNDP.

In 1986, following the review of the SIDFA programme, UNIDO's representation in India was upgraded to the Country Director who also served as a UNDP Resident Representative.

At its 1998 General Conference UNIDO approved a programme and budget for field representations, establishing field offices in 30 countries headed by UNIDO Representatives (UR)¹.

India currently hosts a regional office in New Delhi headed by a UNIDO Representative. Established on 1 January 2000, the office covers seven countries – Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka. It acts as a focal point to mobilise knowledge, information, skills and technology for promoting productive employment by applying best practices and approaches to common problems of the region.

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

In 2006, the UNIDO Centre for South-South Industrial Cooperation (UCSSIC) was established in New Delhi to encourage closer industrial cooperation among developing countries and design practical and innovative projects facilitating the transfer and diffusion of appropriate technologies, best practices and skill development.

The centre facilitated South-South cooperation through technology sharing, information and knowledge dissemination, and replication of Indian practices. Apart from TC projects, the centre also established a practical model for the multi-sectoral delivery of south-south development initiatives, facilitating close coordination between India, the governments of the beneficiary countries,

technical partners and UNIDO, and the leveraging of funding, technology and expertise.

The International Centre for Advancement of Manufacturing Technology (ICAMT) was launched under a joint project by the Government of India and UNIDO in 1999. It was designed to promote manufacturing technology and innovation to enhance industrial competitiveness in India and other developing countries. UNIDO-ICAMT also provided an international forum to monitor technological trends and build awareness among industries, research communities and governments on technological advances and innovations. The project targeted three sectors: machine tools, foundry products, and plastics.

¹ http://www.kingzollinger.ch/pdf/UNIDO_EVA_Field_Mobility_final_report.pdf

Inauguration of UCSSIC, New Delhi, 2006

(Source: photodivision.gov.in)

In 2015, the **ICAMT** and **UCSSIC** were merged to form the **International Centre for Inclusive and Sustainable Industrial Development (IC-ISID)** in New Delhi. This centre aims at increasing industrial competitiveness through the upgrading of technology, employment generation for both men and women, access to energy and safeguarding the environment. The Centre upgrades manufacturing technologies and transfers technology from India to Least Developed Countries (LDCs) in Africa and Asia.



DG UNIDO Li Yong at the International Centre for Inclusive and Sustainable Industrial Development (IC-ISID)

(Source: UNIDO)

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

The **Department for Industrial Policy and Promotion (Ministry of Commerce and Industry)** is the nodal department of the Government that coordinates all UNIDO activities and operations in India. DIPP was established in 1995 and merged with the Department of Industrial Development in 2000.

The functions of the Department of Industrial Policy and Promotion primarily include:

- » Formulating and implementing industrial policy and strategies for industrial development in conformity with the development needs and national objectives;
- » Monitoring industrial growth in general and performance of industries specifically assigned to it including advice on all industrial and technical matters;
- » Developing Foreign Direct Investment (FDI) Policy and promoting, approving and facilitating FDI;
- » Encouraging foreign technology collaborations at enterprise level and formulating relevant policy parameters;
- » Designing policies relating to Intellectual Property Rights in the fields of patents, trademarks, Industrial Designs and Geographical Indications of Goods and administration of regulations, rules made there under;
- » Implementing the Industries (Development & Regulation) Act, 1951
- » Promoting industrial development of industrially backward areas and the North Eastern region including international co-operation for industrial partnerships; and
- » Fostering productivity, quality and technical cooperation.



Make in India: Pioneered by DIPP, the “Make in India” programme facilitates investment, fosters innovation, enhances skill development, protects intellectual property, and builds manufacturing infrastructure. The initiative aims to enhance the manufacturing sector to achieve a 25-per cent contribution of manufacturing to GDP, and create 100 million jobs by 2022. In its first year of implementation, the Make in India campaign achieved a 40-per cent surge in FDI, a pick-up in investment and sizeable contracts with the private sector.

The industrial development agenda in India strives to make manufacturing the engine of economic growth, generate employment-creating economic activity and ensure environmental and infrastructural sustainability of development phenomena, such as urbanisation and increased consumption of resources. The manufacturing motto is to follow a “Zero effect, zero defect” agenda to minimise impact on the environment and maximise quality.

Apart from coordinating national initiatives; Make in India, Ease of Doing Business, Start-up India, Ease of Doing Business, Invest India and the eBiz Project — DIPP is a major counterpart in the implementation and funding of numerous projects under the country programme. In the current country programme for 2013-17 (see the Addendum), DIPP funds around 20 projects.

UNIDO also partners with a wide range of other Indian ministries, including the Ministry of Environment, Forest and Climate Change (MoEF&CC), Ministry of New and Renewable Energy (MNRE), Ministry of Urban Development (MoUD), Ministry of Heavy Industries (MoHI), Ministry of Micro, Small and Medium Enterprises (MoMSME), Bureau of Energy Efficiency (BEE), Ministry of Health and Family Welfare (MoHFW), Ministry of Earth Sciences (MoES), Ministry of

Chemicals and Petrochemicals, Ministry of Food Processing and the North east council, among others.

With the Organization cooperates with industry associations CII, FICCI, ASSOCHAM and ACMA and with local focal-point organizations to ensure coordination with targeted enterprises.

RECP centres

Recognizing that resource efficiency requires cleaner production and vice-versa, UNIDO and UNEP have moved towards **Resource Efficient and Cleaner Production (RECP)**. UNIDO collaborates with members of the global network for RECP and their governments and industry partners to deliver value-adding services to enterprises, government agencies and other organizations. RECP, therefore, builds upon CP in accelerating the application of preventive environmental strategies to processes, products and services to increase efficiency and reduce risks to humans and the environment. RECP addresses the three sustainability dimensions individually and synergistically:

- » Production efficiency: optimization of the productive use of natural resources (materials, energy and water);
- » Environmental management: minimization of impacts on environment and nature through reduction of wastes and emissions; and
- » Human development: minimization of risks to people and communities and support for their development.

Their key services include:

- » Information dissemination and awareness creation
- » Professional training
- » In-plant assessments and demonstrations
- » Policy advice
- » Support for the transfer of environmentally sound technologies

India hosts four UNIDO-affiliated RECP centres in New Delhi, Bangalore, Gandhinagar and Hyderabad, to foster responsible production of chemicals, dyes, pulp and paper, dairy, textile, electroplating, fishery and stones.

RENAP

The Regional Network on Pesticide for Asia and the Pacific (RENAP) programme aims to promote user-friendly crop protection agents through the adoption of cleaner production and sound management practices supporting safety, health and environmental protection. The network achieves this goal by supporting pollution prevention, waste management, monitoring of residues in the ecosystem, eco-toxicology, effluent treatment and safe disposal of obsolete pesticides and by the establishment of an information exchange system. RENAP uses a harmonized approach in collaboration with national programmes to promote clean technologies, upgrading old production facilities and personal protection equipment.

The Regional Network on Pesticides for Asia and the Pacific (RENAP) is one of the largest networks comprising 16 member countries. It uses its coverage to (i) transfer technology, (ii) promote south-south cooperation, and, (iii) further compliance of its members with the Montreal Protocol.

RENAP completed its most successful technology transfer from India to China under the Sustainable Pest Control and Soil Fertility Programme, where it developed a country programme and monitored its implementation.

RENAP assisted many countries of the RENAP, including Indonesia, India, China, Nepal and Myanmar, in the preparation of their proposals on POP-enabling activities towards preparation of national implementation plans. A full-scale project for India, “Development of a national implementation plan in India as a first step to implement the Stockholm Convention on persistent organic pollutants (POPs)”, was implemented through RENAP. Under the current country programme (2013-2017), RENAP is currently implementing a post-NIP project on “Environmentally sound management and final disposal of PCBs in India”.

Regional Meeting of the RENAP team, 2014

(Source: UNIDO)



UNIDO's association with research institutes in India

UNIDO enjoys fruitful cooperation with The Energy and Resource Institute (TERI). The organizations implemented a number of projects together, including regional workshops on “Global transformation pathways and policy tools” (2012), and on “Promoting renewable energy for industrial applications in India” and a study on “Local manufacturing of renewable energy technology components in East Africa”. UNIDO and TERI also developed a framework for cooperation for the identified MSME clusters. Several ongoing projects include a Joint UNEP-UNIDO programme to host and manage the Climate Technology Centre and network and energy audit and dissemination activities in the Coimbatore foundry cluster.

UNIDO collaborates with academic institutes, such as the Indian Institute of Technology (I.I.T.) Roorkee. Together they installed a 10kW ultra-low-head micro hydro power unit in Uttarakhand in 2013 and successfully tested it in 2014 with the assistance from the Alternate Hydro Energy centre (AHEC), I.I.T. Roorkee. AHEC was one of the stakeholders in the UNIDO initiative, along with NEDO, MNRE, and UREDA.²



Director General
Li Yong and Leena
Srivastava,
The Energy and
Resources Institute
(TERI)

(Source: UNIDO)

Additionally, UNIDO works together with the Indian Institute of Science (IISc.), in Bangalore to implement projects such as “Industrial applications of biomass energy technologies in selected SMEs”.

² http://ureda.uk.gov.in/files/Newsletter-Issue-Dec_2014_2.pdf

Subcontracting and Partnership Exchange (SPX)

SPX is a technical cooperation programme that links domestic enterprises in developing countries to the supply chains of large domestic or international companies. The aim of the UNIDO SPX programme is to develop the capacities of local SMEs to meet buyers' needs and to identify profitable business and investment opportunities for them.

UNIDO introduced SPX in India in 1989 in partnership with the Ministry of Medium and Small Enterprises of India. It covered the general engineering sector and was later extended to the textile sector in Tirupur. A consolidated project for SME development took over the management of SPX in 2007. The programme established SPX Centres in New Delhi, Pune and Chennai for automotive components, leather and footwear.



Chongqing delegation from China, at Eicher Motors, India under the SPX programme (Source: UNIDO)

UNIDO and UN-wide collaboration in India

UNIDO in the United Nations system-wide coherence and delivering as one³

The Quadrennial comprehensive policy review institutionalized in December 2012 the UN's "Delivering as One (DaO)" approach to increase UN system-wide coherence, effectiveness and efficiency at the country level. Eighteen Heads of UN programmes and specialized agencies signed the "Standard Operating Procedures"⁴, making it an important guideline to implement the SDGs. Under this structure, 45 countries adopted the DaO Framework (as of May 2015) and 117 countries endorsed the UN Development Assistance Framework as a collaborative national development strategy.

The current setup allowed UNIDO to upscale its interventions by cooperating with a powerful UNIDO field network at the policy and implementation levels. Joint programming also enables UNIDO to mobilise necessary financial resources. The Asia and Pacific region is actively engaged in this framework, with Pakistan and Viet Nam among the eight pilot DaO countries. Between 2013 and 2016, twenty UNDAF/CCA rollout exercises took place. Four of them —Afghanistan, Bangladesh, Cambodia and **India** are in the Asia Pacific region where UNIDO is the leading agency on economic issues.

³ https://www.unido.org/fileadmin/media/images/worldwide/UNIDO_in_UNSWC_DaO.pdf

⁴ "Standard Operating Procedures" 18 signatories: UNDP, FAO, ILO, OHCHR, UNAIDS, UNDESA, UNEP, UNESCO, UNFPA, UN-HABITAT, UNHCR, UNICEF, UNIDO, UNODC, UNOPS, UN Women, WFP and WHO



Way Forward

India has a dynamic economy with a tremendous potential to achieve equitable growth and development. To tap into the country's main assets – abundant and skilled workforce, research and development capabilities, and the potential for innovation in Asia and the world – there has to be a strong synergy between national priorities and policies, international cooperation, expertise-sharing and technical guidance that the country receives.

India's association with UNIDO has been effective and fruitful. Together they implemented a great number of technical projects, conducted sectoral analysis and prepared policy advisories. They also offered support to and shared expertise with technical and research institutions. . All this helped develop close ties between UNIDO, the Indian Government, private sector and various civil society organizations to contribute to the industrial development of the country. Poverty reduction, economic development and climate change are the primary concerns that the Government of India and UNIDO have been dealing with together over years.

Looking ahead, UNIDO and India are resolute to expand their cooperation to respond to evolving challenges facing industries and development in line with the international development agenda. They will proactively develop and augment existing partnerships with other developing countries to foster technology transfer and knowledge sharing.

In this regard, the south-south cooperation, the 2030 Agenda for Sustainable Development and further embedding the ISID mandate in developing countries will be pivotal endeavours.

South-south cooperation has gained traction with a marked increase in intra-regional trade, investment, expertise and technology transfer, and development cooperation. Some countries are clearly the major driving forces of south-south cooperation such as the BRICS economies. In view of the fact that most of them, except India, have recently experienced



Sustainable Development Goals

Picture source: <http://www.globalgoals.org/>

slowdowns in growth, India's role to promote this movement in the near future will become more prominent. According to a UNDP report¹, "For the first time in 150 years, the combined output of the developing world's three leading economies – Brazil, China and India – is about equal to the combined GDP of the longstanding industrial powers of the North – Canada, France, Germany, Italy, the U.K. and the U.S. – which is 6 of the G7". This indicates that south-south cooperation will be growing as an effective parallel paradigm to help economies in transition across Asia and Africa to establish a robust industrial base.

With the recognition of the role of industrialisation in the 2030 Development Agenda (SDG 9: Infrastructure, Industrialisation and Innovation), UNIDO will have to play a more prominent role in the growth and development strategies of countries across the world.

On the other hand, India is evidently no longer just a recipient of international technical cooperation aid and expertise. Industrial, technological and analytical research competencies have enabled India to transfer technology and knowledge to other developing countries in need. UNIDO has been instrumental in this process. The Organization operates multiple platforms and networks to facilitate industrial development in India.

In its interventions, UNIDO receives support from its extensive networks of Cleaner Production Centres, Investment and Technology Promotion Offices, the Subcontracting and Partnership Exchanges (SPXs), South-South Cooperation Centres, and various technology centres in India and other parts of the world. Such collaborations and linkages will continue to strengthen the Indian industry in the future.

Another notable feature of UNIDO's interventions in India is the alignment with its national priorities and the high level of coordination with the Government. India's recent

¹ The Rise of the South (2013).



This (Make in India initiative) is a truly commendable plan and UNIDO stands ready to support it within the framework of its mandate and is keen, under the strong leadership of the Indian Government, to partner with financial institutions, the private sector, industry organizations, and other stakeholders, to make this industrialization initiative come true.”

Li Yong, Director General of UNIDO

development initiatives were acknowledged as greatly complementary to UNIDO’s ISID mandate. The “Make in India” initiative, for example, aims to make India a global manufacturing hub by developing the necessary infrastructure, advancing new and renewable energy technologies, and by supporting traditional and modern industrial sectors and suitable policies. Thus, the initiative is in complete harmony with UNIDO’s endeavours.

UNIDO’s ISID mandate – covering social equity, economic growth and environmental protection – is in accord with requirements set by other national schemes such as the Swachh Bharat mission, Smart Cities and Skill India. UNIDO and the Government of India will continue to collaborate on these initiatives contributing to sustainable industrialization.

India is the fastest growing large economy of the world. Counting for almost 70 per cent of the GDP in Asia², India will continue to be a major player in the region. India has

now moved up to the 6th position in the list of the top manufacturers of the world³. UNIDO and the Government of India will continue to work together to maintain India’s economic resilience and achieve a continued convergence between the GDP growth rate, the Index of Industrial Production and the sectoral contribution of the manufacturing sector for equitable and sustainable growth.

To continue to add value to the industrial sector in India, UNIDO will offer innovative services inspired by technical operations across the globe, strengthen the Indian industrial sector, expertise and knowledge and ensure sustainability of industrial operations. Furthermore, UNIDO will continue to stimulate entrepreneurship, facilitate innovation, promote investments in disadvantaged regions, establish best practices and strengthen local economic systems.

² World Economic Prospects, UN, 2016

³ UNIDO Industrial Statistics Yearbook 2016

References

- Bhagwati, J. and Desai, P., 1970. *Planning for Industrialization: Indian Industrialization and Trade Policies Since 1951*. Oxford University Press. Oxford.
- Binswanger-Mkhize, H. P. (2012). *India 1960-2010: Structural Change, the Rural Non-farm Sector, and the Prospects for Agriculture*. Center on Food Security and the Environment, Stanford.
- Browne, S. (2012). *United Nations Industrial Development Organization: Industrial solutions for a sustainable future*. Abingdon, Oxon: Routledge.
- Compendium of the Work of UN Agencies in India, Sustainable Energy For All (2014), United Nations, New Delhi.
- Dasgupta, S., & Singh, A. (2006). "Manufacturing, Services and Premature De-Industrialisation in Developing Countries: A Kaldorian Empirical Analysis," 327.
- DeLong, J.B., 2001. *India Since Independence: An Analytic Growth Narrative*.
- DIPP (Department of Industrial Policy & Promotion), 2013. *DIPP Annual report 2012-2013*. Government of India.
- Government of India, 2013. *Twelfth Five Year Plan (2012–2017). Economic Sectors Volume I, II*.
- Government of India, 2013a. *Statistical Yearbook, India, 2015*. Ministry of Statistics and Programme Implementation. Available at:
- Government of India, 2013b. *Annual Report 2012-13*. Ministry of Micro, Small and Medium Enterprises.
- Government of India, undated. *The Manufacturing Plan. Strategies for Accelerating Growth of Manufacturing in India in the 12th Five Year Plan and Beyond*.
- Government of Orissa, 2001. *Resolution of the Government of Orissa: Industrial Policy 2001*.
- IMF. *World Economic Outlook*. April 2013. *Hopes, Realities, Risks*. Available at:
- Makino, M., 2006. *India: Water Supply and Sanitation - Bridging the Gap between Infrastructure and Service - Urban Water Supply and Sanitation*. The World Bank. Background paper. January 2006.
- McKinsey Global Institute. (2014). *India's path from poverty to Empowerment*. MGI.
- Meier, R. (1965). *Development Planning*. New York: McGraw-Hill.
- Ministry of Rural Development. (2015*). *Socio Economic and Caste Census (Provisional)*. Government of India.
- MoEF&CC, (2015), GEF India: "*Enabling Transformations*", New Delhi.
- Osmańczyk, E. J., & Mango, A. (2003). *Encyclopedia of the United Nations and international agreements*. New York: Routledge
- Papola, T., & Sahu, P. (2012). *Growth and Structure of Employment in India: Long Term and Post-Reform Performance and the Emerging Challenge*. Institute for Studies in Industrial Development.
- Planning Commission of India. (2012). *Twelfth Five Year Plan (2012-2017)*.
- Reserve Bank of India. *Annual Report 2014-15*.
- Singh, A., 2008. *The Past, Present and Future Of Industrial Policy in India: Adapting to the Changing Domestic and International Environment*. Centre for Business Research, University of Cambridge Working Paper No. 376. December 2008
- UNDP. (2015). *World Population Prospects*. United Nations, New York.
- UNIDO Inclusive and Sustainable Industrial Development brochure
- UNIDO Sustainable Development Goals Brochure
- UNIDO, 2000. *Cluster Development and Promotion of Business Development Services (BDS): UNIDO's Experience in India*. UNIDO Working Paper n.6. Private Sector Development Branch Investment Promotion and Institutional Capacity Building Division
- UNIDO, 2001. *Industrial Policy Resolution 2001 of the State of Orissa*. Vol. I: Proceedings of the policy review workshop, economic analysis and policy recommendations.
- UNIDO, 2002. *Support to the Implementation of Orissa's Industrial Policy Resolution 2001 - Project Memorandum*. Partial draft.
- UNIDO, 2011. *Industrial policy for prosperity: reasoning and approach*. [pdf], UNIDO Development Policy, Statistics and Research branch working paper 02/2011. Prepared by: Günther, T. y Alcorta, L. Vienna: UNIDO.
- UNIDO, 2013. *International yearbook of industrial statistics 2016*. Vienna: UNIDO. Edward Elgar Publishing.
- World Economic Forum (2013), *The Global Gender Gap Report*.

List of Abbreviations

HP LIFE	Hewlett Packard's Learning Initiative for Entrepreneurs	MNRE	Ministry of New and Renewable Energy
ICAMT	International Centre for Advancement of Manufacturing Technology	MoEF&CC	Ministry of Environment, Forest and Climate Change
IC-ISID	International Centre for Inclusive and Sustainable Industrial Development	MoES	Ministry of Earth Sciences
IDF	Industrial Development Fund	MoHFW	Ministry of Health and Family Welfare
IFAD	International Fund for Agricultural Development	MoHI	Ministry of Heavy Industries
IISc.	Indian Institute of Science	MoMSME	Ministry of Micro, Small and Medium Enterprises
IIT	Indian Institute of Technology	MoUD	Ministry of Urban Development
IP	Industrial Policy	MPCE	Monthly Per Capita Expenditure
ISI	Import Substitution Industrialization	MSME	Micro, Small and Medium Enterprises
ISID	Inclusive and Sustainable Industrial Development	MVA	Manufacturing Value Added
IT	Information Technology	NCR	National Capital Region
ITP	Investment and Technology Promotion	NEDO	Department of the New Energy and Industrial Technology Development Organization
ITPO	Investment and Technology Promotion	NGO	Non-Government Organization
KIRDI	Kenya Industrial Research and Development Institute	NIMZ	National Industrial Manufacturing Zones
LCET	Low carbon Emission Clean Energy Technology Transfer	NIP	National Implementation Plan
LDC	Least Developing Country	NITI Aayog	National Institution for Transforming India Aayog
MCGS	Mutual Credit Guarantee Scheme	ODS	Ozone Depleting Substances
MCPC	Ministry of Chemicals and Petrochemicals	OECD	Organization for Economic Co-operation and Development
MDGs	Millennium Development Goals	PCB	Polychlorinated Biphenyls
METI	Ministry of Economy, Trade and Industry, Japan	POPs	Persistent Organic Pollutants
MFA	Multi Fibre Agreement	RE	Renewable Energy
MFP	Ministry of Food Processing	RECP	Resource Efficient and Cleaner Production
MGI	McKinsey Global Institute	RENAPAP	Regional Network on Pesticide for Asia and the Pacific
		RO	Regional Office

SAARC	South Asian Association for Regional Cooperation	UNDP	United Nations Development Programme
SDGs	Sustainable Development Goals	UNEP	United Nations Environment Programme
SECC	Social and Economic Caste Census	UNESCO	United Nations Educational, Scientific and Cultural Organization
SELP	Sustainable Energy Leadership Programme	UNFPA	United Nations Population Fund
SEWA	Self Employed Women's Association	UR	UNIDO Representative
SHP	Small Hydro Power	UREDA	Uttarakhand Renewable Energy Development Agency
SIDA	Swedish International Development Authority	US	United States
SIDFA	Senior Industrial Development Field Advisors	WEF	World Economic Forum
SIDBI	Small Industries Development Bank of India	WHO	World Health Organization
SIIL	Sponge Iron India Limited	WRI	Welding Research Institute
SME	Small and Medium Enterprises	YES-DI	Youth Entrepreneurship & Skills Development Initiative
SMI	Small Manufacturing Industries		
SPX	Subcontracting and Partnership Exchange Programme		
TBL	Triple Bottom Line		
TC	Technical Cooperation		
TERI	The Energy and Resources Institute		
TNC	Trans National Corporation		
TPA	Tera pascal		
TREAD	Trade-Related Entrepreneurship Assistance and Development Programme		
UCD	UNIDO Country Director		
UCSSIC	UNIDO Centre for South-South Industrial Cooperation		
UK	United Kingdom		
UN	United Nations		
UNCT	United Nations Country Team		
UNDAF	United Nations Development Assistance Framework		



TOGETHER
for a sustainable future

Vienna International Centre · P.O. Box 300 · 1400 Vienna · Austria
Tel.: (+43-1) 26026-0 · E-mail: info@unido.org
www.unido.org