



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



# South-South and Triangular Industrial Cooperation





# South-South and Triangular Industrial Cooperation

---

Vienna, Austria  
2021



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



[www.unido.org](http://www.unido.org)

## 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” or “developing” are intended for statistical convenience and do not necessarily express a judgement 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.

Copyright © 2021 - United Nations Industrial Development Organization  
Images © 2021 - [www.unido.org](http://www.unido.org), [www.adobestock.com](http://www.adobestock.com)  
Design © 2021 - [www.excelcis.com](http://www.excelcis.com)



## Foreword



The United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations mandated to promote and accelerate inclusive and sustainable industrial development (ISID). This mandate is fully recognized in Sustainable Development Goal 9 (SDG 9) and relevant to all goals of the 2030

Agenda for Sustainable Development. Advancing ISID and meeting the SDGs requires the international community to strengthen existing partnerships and networks and to forge new ones on global, regional and sub-regional levels.

The aim of South-South cooperation is to contribute to the achievement of the SDGs by sharing resources, knowledge and solutions among peoples and countries of the South. As such, the South-South cooperation approach is explicitly recognized in the 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda and was subsequently reinforced by the adoption of the Buenos Aires outcome document of the second High-level United Nations Conference on South-South Cooperation held in 2019.

The importance of South-South and triangular cooperation is further underlined in the Abu Dhabi declaration, which was adopted at the eighteenth session of the UNIDO General Conference. The declaration highlights the need for effective international cooperation for inclusive and sustainable industrial development, including South-South and triangular cooperation, through the exchange of knowledge, best practices and capacity-building and the transfer of technology on mutually agreed terms, to respond to the intensifying challenges of poverty and hunger eradication, as well as peace and security, climate change, pollution and environmental degradation, growing inequality and emerging trends such as the Fourth Industrial Revolution.

A handwritten signature in blue ink, consisting of stylized Chinese characters, likely '李勇' (Li Yong).

**LI Yong**

Director General  
United Nations Industrial Development Organization

UNIDO has a long-standing history of supporting and promoting South-South and Triangular Industrial Cooperation (SSTIC) among its Member States. This brochure is published in the context of the expanding role of South-South cooperation in the global development landscape and builds on UNIDO's long-standing experience in promoting South-South cooperation throughout its technical assistance projects, programmes, networks, partnerships, and global forum activities.

Technologies and solutions tried and tested under similar contexts help southern countries to tap into locally available capacities and assets to solve development challenges in a framework of mutually beneficial collaboration. UNIDO's SSTIC modalities not only form the basis of a large number of technical assistance projects, but also feature prominently in the Organization's key programmatic approaches, the Programmes for Country Partnership (PCPs) and the Country Programmes (CPs).

The achievements presented in this brochure serve as a cross-section of UNIDO's SSTIC activities, showing a variety of facets and approaches to SSTIC, which could be replicated by other developing countries and adapted to local needs.

Going forward, UNIDO will continue working closely with its Member States in order to promote ISID supported through the SSTIC modality. In particular, UNIDO is committed to provide a stimulus towards enhanced partnerships by forging strong links among developing countries, while at the same time enabling new partnerships with traditional donor countries. By enabling the sharing of effective solutions, knowledge, skills and resources among its southern Member States, UNIDO is forging new pathways for ISID and the achievement of the SDGs.

# Content



<b>FOREWORD</b>	<b>5</b>
<b>1. UNIDO STRONGLY PROMOTES SOUTH-SOUTH AND TRIANGULAR INDUSTRIAL COOPERATION</b>	<b>8</b>
1.1 SSTIC AT UNIDO	11
1.2 SOUTH-SOUTH AND TRIANGULAR COOPERATION WITHIN THE UN SYSTEM	11
1.3 OUR SERVICES	12
1.4 OUR NETWORKS	14
1.5 OUR PROJECTS	15
<b>2. SSTIC PROJECTS AND PROGRAMMES</b>	<b>18</b>
<b>2.1 COMPREHENSIVE DEVELOPMENT FRAMEWORKS</b>	<b>20</b>
2.1.1 Programme for Country Partnership (PCP)	20
2.1.2 Third Industrial Development Decade for Africa (IDDA III)	28
<b>2.2 CREATING SHARED PROSPERITY</b>	<b>32</b>
2.2.1 Sustainable textile investment and operation in Ethiopia	32
2.2.2 Promotion of Neem-Derived Biopesticides in West Africa	34
2.2.3 Aquaculture and fisheries value chains in Ethiopia	37
2.2.4 UNIDO/World Bank Cooperation: Revitalizing Pakistan's Fisheries	40
2.2.5 Support for agri-business development partnerships with the World Bank	42
<b>2.3 ADVANCING ECONOMIC COMPETITIVENESS</b>	<b>44</b>
2.3.1 International workshops on nanoscience and nanotechnology	46
2.3.2 Linking the tourism industry to productive activities in the Kyrgyz Republic	48
2.3.3 Industrial upgrading and modernization in Cuba	52
2.3.4 Market access of traditional food products between Morocco, Tunisia and Switzerland	56
2.3.5 Improving the carpet weaving sector in Tajikistan	58
<b>2.4 SAFEGUARDING THE ENVIRONMENT</b>	<b>62</b>
2.4.1 Partnership for Action on Green Economy (PAGE)	63
2.4.2 Global Network of Regional Sustainable Energy Centres	66
2.4.3 Scaling up Small Hydro Power (SHP) development	68
2.4.4 Reducing greenhouse gas emissions in Lao People's Democratic Republic	70
2.4.5 Solar Micro Utility Enterprises (SMUEs) for rural energy in Bangladesh	74
<b>2.5 STRENGTHENING KNOWLEDGE AND INSTITUTIONS</b>	<b>76</b>
2.5.1 Promoting women economic empowerment and entrepreneurship	76
2.5.2 UNIDO Centre for South-South Industrial Cooperation (UCSSIC China)	79
2.5.3 International Guidelines for Industrial Parks	81
2.5.4 Study on value chain integration along the BRI	83
2.5.5 Promoting sustainable industrial parks via a South-South and triangular industrial cooperation platform	85

# 1



<b>1.1</b>	<b>SSTIC AT UNIDO</b>	<b>11</b>
<b>1.2</b>	<b>SOUTH-SOUTH AND TRIANGULAR COOPERATION WITHIN THE UN SYSTEM</b>	<b>11</b>
<b>1.3</b>	<b>OUR SERVICES</b>	<b>12</b>
<b>1.4</b>	<b>OUR NETWORKS</b>	<b>14</b>
<b>1.5</b>	<b>OUR PROJECTS</b>	<b>15</b>

# UNIDO strongly promotes South-South and Triangular Industrial Cooperation



**UNIDO is the specialized agency of the United Nations mandated to support inclusive and sustainable industrial development (ISID) and international industrial cooperation. The Organization plays a pivotal role in providing a stimulus to SSTIC by bringing forward its expertise and time-tested field experience in support of industrial development in developing countries, particularly in LDCs. UNIDO has been working with governments, business associations and individual companies to overcome industrial**

**development challenges for more than 50 years, earning a reputation as the world’s most experienced industrial problem solver, as well as a neutral and honest broker in promoting cooperation and coordination among countries around world. UNIDO is fully committed to contributing to the achievement of the SDGs, particularly Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.**

## WHAT IS SOUTH-SOUTH COOPERATION AND TRIANGULAR COOPERATION?



**South-South Cooperation** is “a process whereby two or more developing countries pursue their individual and/or shared national capacity development objectives through exchanges of knowledge, skills, resources and technical know-how, and through regional and interregional collective actions.”



**Triangular Cooperation** is “Southern-driven partnerships between two or more developing countries supported by a developed country(ies) or multilateral organization(s) to implement development cooperation programmes and projects.”



## 1.1 SOUTH-SOUTH AND TRIANGULAR INDUSTRIAL COOPERATION AT UNIDO

The SSTIC modality does not only form the basis for a large number of UNIDO's technical cooperation projects, but also featured as a key component in its programmatic approaches: the Programmes for Country Partnership (PCPs) and the Country Programmes (CPs). The PCP is UNIDO's flagship multi-stakeholder platform, bringing together different ministries, financial entities, United Nations entities and development partners, the private sector and Southern institutions. Throughout this process, UNIDO acts as a neutral broker, promoting cooperation and coordination among these different stakeholders.

UNIDO engages internal capacity-building, advisory services and knowledge management based on success stories, lessons learned and best practices; leverages additional resources from Governments, development organizations, financial institutions and business sector entities committed to promoting South-South cooperation. The Organization further facilitates matchmaking through specialized networks, centers and workshops, provides convening platforms and dialogues among various stakeholders focused on knowledge and experience sharing and engages in Technical Cooperation projects under the SSTIC modality.

## 1.2 SOUTH-SOUTH AND TRIANGULAR COOPERATION WITHIN THE UN SYSTEM

The 2030 Agenda for Sustainable Development recognizes the salient role of South-South cooperation in achieving its goals and targets. Sustainable Development Goal 17 ("Strengthen the means of implementation and revitalize the global partnership for sustainable development") makes explicit references to the role of South-South and triangular cooperation in mobilizing

additional financial resources for developing countries, enhancing access to science, technology and innovation, enhancing knowledge sharing on mutually agreed terms, as well as implementing effective and targeted capacity-building in developing countries, for the achievement of all sustainable development goals.

### INTERNATIONAL DEVELOPMENT FRAMEWORKS

South-South cooperation is also increasingly seen as having immense potential in contributing to the achievement of a wide range of internationally agreed development frameworks.

Major frameworks, including the Addis Ababa Action Agenda of the Third International Conference on Financing for Development, and the Paris Agreement under the United Nations Framework Convention on Climate Change, have given new impetus to South-South and triangular cooperation.

In July 2016, the United Nations General Assembly proclaimed the period 2016 – 2025 as the Third Industrial Development Decade for Africa (IDDAIII), underlining the need for sustainable industrialization of Africa. South-South and triangular cooperation was explicitly called upon for the implementation of IDDA3 in support of Africa's industrialization.

### **BUENOS AIRES OUTCOME DOCUMENT**

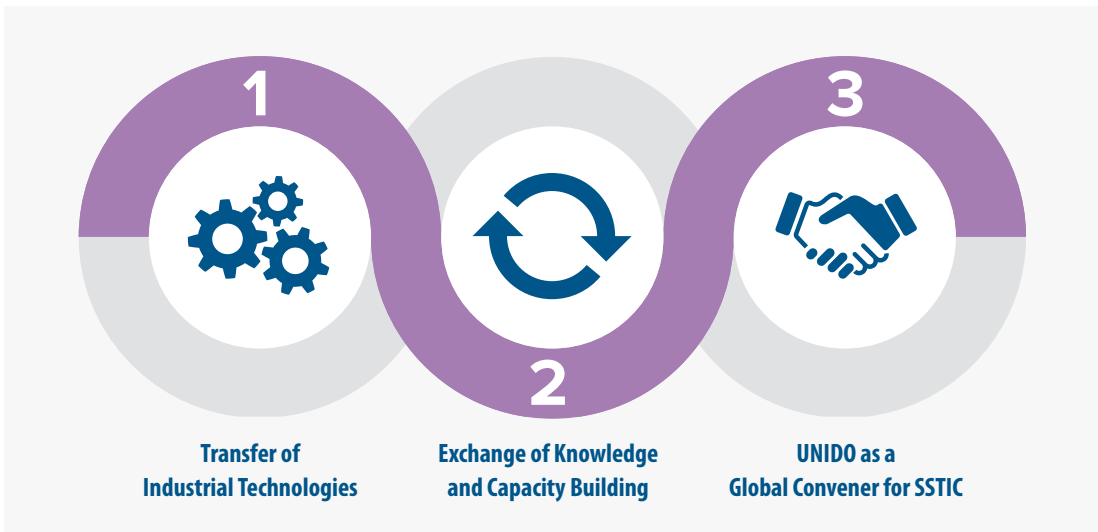
---

A decade after the adoption of the Nairobi Outcome Document, the Second United Nations High-level Conference on South-South Cooperation, known as “BAPA +40 Conference”, was held again in Buenos Aires in 2019.

The BAPA +40 Conference, held under the overarching theme of “Role of South-South cooperation and implementation of the 2030 Agenda for Sustainable Development: challenges and opportunities”, adopted an action-oriented, intergovernmentally agreed Buenos Aires Outcome Document that affirmed the role of South-South cooperation in the evolving landscape of development cooperation.

## **1.3 OUR SERVICES**

---





## Transfer of Industrial Technologies



UNIDO facilitates the transfer of industrial technologies among Southern countries and businesses in a variety of thematic areas such as agriculture, low-carbon power generation and various methodologies for the creation of sustainable industrial products. Technologies can be adapted to the specific needs of developing countries based on the state of

their industrial development, geographic location and national development priorities. The goal of technology transfer is to provide scalable solutions to developing countries, to support their long-term development of their technological capabilities and facilitate their inclusion into global value chains.

## Exchange of Knowledge and Capacity Building



Increasing awareness and promoting Southern narratives, solutions and alternatives for sustainable industrial development is crucial to meeting the demands of UNIDO Member States. While technology transfer is a first step to support ISID in developing countries and economies in transition, the knowledge of how to operate newly acquired technologies, to build businesses around them, to attract investment and to ensure the environmental

and social sustainability of emerging business sectors, is essential for sustainable development. UNIDO supports knowledge exchanges and capacity building among its Southern Member States through study tours, delegate programmes, workshops, trainings and various platforms for the exchange of industrial knowledge to provide developing countries with the necessary expertise to develop their industrial capacities.

## UNIDO as a Global Convener for SSTIC



SSTIC aspires to play a pivotal role in contributing to relevant dialogues on South-South cooperation within the United Nations system as well as to provide new stimuli for industrial cooperation among developing countries. Consequently, UNIDO's SSTIC has contributed to global South-South cooperation forums and conferences, organized South-South focused events and brought together

private sector partners, Government entities and other stakeholders. UNIDO's convening power in the area of industrial development has allowed companies, businesses and government entities in the Global South to access a network of global partners from various industries to forge long-lasting partnerships and achieve scalable results for ISID.

## 1.4 OUR NETWORKS

### Networks & Platforms Focused on South-South Cooperation

Various existing platforms and networks within the UNIDO framework facilitate SSTIC. These further enhance the thematic areas and partnerships for South-South cooperation.

The following are some of the UNIDO networks and platforms that promote ISID through the SSTIC modality:

- The UNIDO Centre for South-South Industrial Cooperation;
- UNIDO Field Offices;
- The International Centre on Small Hydro Power;
- The Resource Efficient and Cleaner Production Network;
- The Climate Technology Centre and Network;
- The Global Network of Regional Sustainable Energy Centres;
- The inclusive and sustainable industrial development operation platform;
- The UNIDO Network of Investment and Technology Promotion Offices.

These centres and networks serve to the activities listed below:

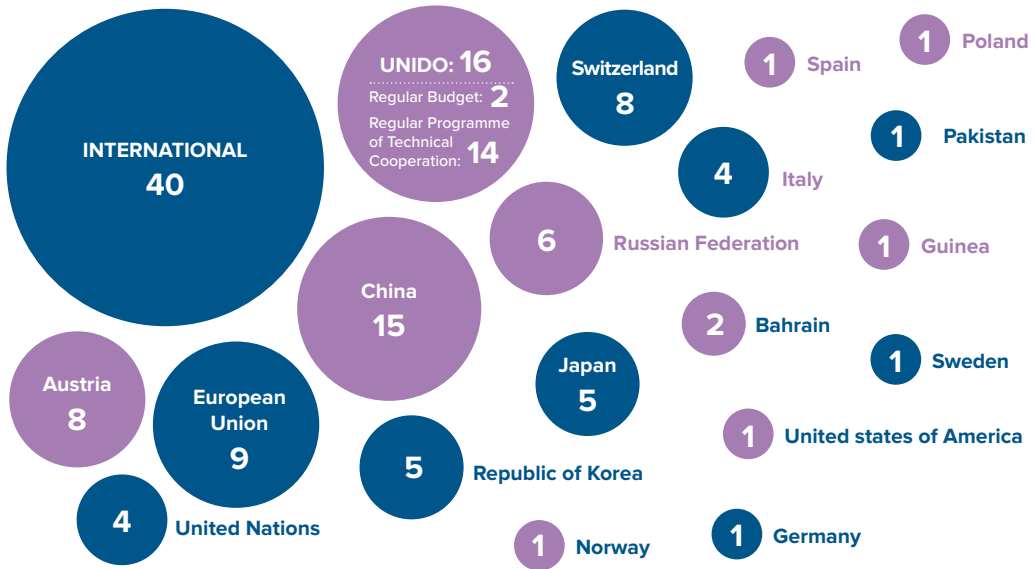
- Strengthen capacities for technology promotion and transfer among developing countries;
- Source technology from developing countries by providing a platform for partners to source suppliers from the Global South;
- Enhance human capacity by developing industrial entrepreneurship and technology skills and competencies;
- Build the capacity of enterprises and local institutions at the regional and national levels;
- Promote mutual recognition of testing certificates, product standards and quality schemes among developing countries;
- Facilitate the exchange and dissemination of knowledge and competencies among stakeholders.

## 1.5 OUR PROJECTS

### DONORS

#### Number of SSTIC projects per donor

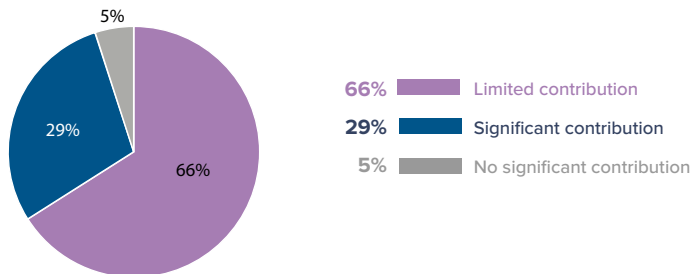
- 130 SSTIC projects are currently being implemented by UNIDO (October 2020)
- A majority of SSTIC projects is supported through international coalitions and multiple donors



### GENDER EQUALITY

#### SSTIC projects gender classification

- Over 90% of projects contribute to gender equality
- More than a quarter of UNIDO's SSTIC projects significantly contribute to gender equality



## COUNTRIES

## Number of SSTIC projects in 2020 per country

Latin America and the Caribbean	Projects
Argentina	1
Barbados	1
Bolivia (Plurinat. State of)	1
Brazil	1
Colombia	2
Cuba	2
Paraguay	1
Peru	1
Regional Latin America and the Caribbean	9
Saint Vincent and the Grenadines	1

Asia and the Pacific	Projects
Bangladesh	1
Bhutan	1
Cambodia	2
China	6
Fiji	1
Indonesia	1
Lao People's Democr. Republic	1
Nepal	1
Pakistan	2
Regional Asia and the Pacific	8
Sri Lanka	2
Thailand	2
Viet Nam	1
Regional Arab	1
West Arab States	1

Europe	Projects
Russian Federation	1
Tajikistan	1

Africa	Projects
Africa Arab States	4
Cabo Verde	2
Cameroon	1
Ethiopia	4
Gambia	1
Ghana	1
Guinea	2
Kenya	2
Madagascar	1
Nigeria	2
Regional Africa	2
Sao Tome and Principe	1
Senegal	1
Sierra Leone	1
South Africa	1
South Sudan	2
Uganda	1
United Republic of Tanzania	2
Tunisia	4

Geographical Area	Projects
<b>Global</b>	<b>38</b>
<b>Africa</b>	<b>31</b>
<b>Asia and the Pacific</b>	<b>30</b>
<b>Latin America and the Caribbean</b>	<b>20</b>
Inter-regional	9
<b>Europe</b>	<b>2</b>

<b>GRAND TOTAL</b>	<b>130</b>
--------------------	------------





# 2



<b>2.1</b>	<b>COMPREHENSIVE DEVELOPMENT FRAMEWORKS</b>	<b>20</b>
<b>2.2</b>	<b>CREATING SHARED PROSPERITY</b>	<b>32</b>
<b>2.3</b>	<b>ADVANCING ECONOMIC COMPETITIVENESS</b>	<b>44</b>
<b>2.4</b>	<b>SAFEGUARDING THE ENVIRONMENT</b>	<b>62</b>
<b>2.5</b>	<b>STRENGTHENING KNOWLEDGE AND INSTITUTIONS</b>	<b>76</b>



# SSTIC Projects and Programmes



## 2.1 COMPREHENSIVE DEVELOPMENT FRAMEWORKS

### 2.1.1 Programme for Country Partnership (PCP)

The Programme for Country Partnership (PCP) is UNIDO's flagship programme to support countries in advancing Inclusive and Sustainable Industrial Development (ISID). The PCP is founded on a multi-stakeholder partnership to ensure synergy between different interventions and to maximize their impact. Each PCP is tailored to country needs, aligned with the national development agenda and owned by the host Government. The PCP delivers an integrated service package by combining UNIDO's advisory and normative services,

technical assistance and convening function. PCP interventions aim to unlock public and private investment in selected priority industrial sectors.

By facilitating the mobilization of partners, expertise and resources, the PCP aims to trigger a long-term development process, contributing to the achievement of SDG 9 and other goals of the 2030 Agenda for Sustainable Development.



Government ownership at the highest political level, which entails leadership of an inter-ministerial national coordination body, and a leading role in partner and resource mobilization, particularly through the Ministry of Finance



Multi-stakeholder partnership from programme design to implementation. The PCP links the efforts of the respective national Government, United Nations entities, financial institutions, the business sector and other development partners, to maximize synergies between interventions and generate greater development impact.



Facilitation of public and private investment towards large-scale industrial projects and priority industrial sectors.



Analytical framework: A country diagnostic is conducted by UNIDO as part of the initial development of the programme to help identify industrial sectors/areas with the most potential for accelerating industrialization.



Focus on priority industrial sectors or areas essential to the Government's development agenda. These are typically selected based on their potential for job creation, availability of raw materials (country comparative advantage), export potential and ability to attract investment.



Programme-level impact towards the advancement of ISID, national development goals and the SDGs.

#### PORTFOLIO

Eleven PCPs at different stages of implementation and development, covering every geographical region of the world (status November 2020).





The piloting phase covered six countries across each geographical region:

- The PCP was first introduced in 2014 in Africa, in Ethiopia and Senegal;
- In December 2015, Peru became the third PCP and the first in the Latin America and Caribbean region;
- In 2017, UNIDO expanded the PCP model to additional geographical regions; Cambodia for the Asia and Pacific region and Kyrgyzstan for Europe and Central Asia;
- In 2018, Morocco was introduced as the first PCP in the Arab region.

In October 2018, four new PCPs were approved for development: Côte d'Ivoire, Egypt, Rwanda and Zambia. In October 2020, Tanzania became the newest PCP approved for development. UNIDO will gradually expand the programme to additional countries and regions.

## UNIDO'S ROLE

The PCP combines UNIDO's advisory and normative services, technical assistance and convening function to deliver an integrated service package to Member States.

- FACILITATES** — Facilitates the convening of partners and the overall coordination of the Programme for Country Partnership
- DESIGNS** — Designs and develops a holistic programmes aimed at upscaling development results and building synergies with partner interventions in the country
- PROVIDES** — Provides normative and advisory services to the government on industry-related issues
- DELIVERS** — Delivers integrated and multidisciplinary technical assistance
- SUPPORTS** — Supports the government in mobilizing large-scale industrial investments from public private partners

## The PCP in practice: Ethiopia's success story



### NATIONAL OWNERSHIP OF THE PCP

Since 2015, PCP Ethiopia is being implemented under the strong leadership of the Government of Ethiopia. The PCP is characterized by strong Government ownership at the highest political level. This entails guidance and leadership of the programme, the setting up of an inter-ministerial national coordination body, and a leading role in partner and resource mobilization. The PCP is rooted in the country's national development strategy for the period 2015 to 2020, the Growth and Transformation Plan (GTP II). The GTP II aims to bring about the structural transformation of the economy from agriculture-based to industry-driven, with the overarching goal of Ethiopia attaining middle-income status by 2025.

### FOCUS ON LARGE-SCALE INDUSTRIAL PROJECTS

The PCP Ethiopia focuses on three light manufacturing sectors: agro-food processing, leather and leather products PCP Ethiopia, and textiles and apparel and focuses on the implementation of flagship large-scale industrial projects. Four pilot integrated agro-industrial parks (IAIPs) are being established in selected regions of Ethiopia, as one of the priority initiatives of the Government. IAIPs will offer modern infrastructure and support services to companies, provide opportunities for skills development, and help attract domestic and foreign investment. Another large-scale industrial project supported by the PCP is the Modjo Leather City (MLC). The MLC is a US\$ 100 million mega project aimed at developing an eco-friendly leather district on the basis of an existing concentration of tanneries in the town of Modjo.



## A COLLECTIVE EFFORT FROM VARIOUS PARTNERS

Since the introduction of the PCP, in-country coordination has improved on issues related to industrialization, both within the national Government and with development partners. A multi-stakeholder partnership of over 20 partners, including financial institutions, bilateral donors, multilateral facilities, private sector actors, and UN entities, in addition to multiple national entities and specialized institutes. Key partners involved in PCP Ethiopia include: the African Development Bank (AfDB), the European Union (EU), the European Investment Bank (EIB), the Food and Agriculture Organization (FAO), the German Cooperation Agency (BMZ), the Italian Agency for Development Cooperation (AICS), the OPEC Fund for International Development, the Swedish International Development Cooperation Agency (SIDA), Austrian Development Agency (ADA), the United Nations Development Programme (UNDP), the World Bank (WB), as well as the People's Republic of China, Japan, the Russian Federation and the Republic of Korea. Business sector partners include Illycaffè and Volvo, among others.



## A FRAMEWORK FOR SSTIC

Based on the country's industrial development plan, the PCP is leveraging the strengths of development partners and stakeholders to overcome strategic constraints to complement the country's industrial development strategy. Within the SSTIC framework, the PCP has been instrumental in facilitating the conception of bilateral and multi-lateral cooperation frameworks with countries like the People's Republic of China, the Republic of Korea and the Russian Federation as well as their development agencies (e.g. MOFCOM-China and KOIKA-Republic of Korea) and regional development financial institutions of the Global South, such as the African Development Bank.

## The PCP in practice: Developing Senegalese industries



### A UNIQUE OPPORTUNITY TO BOOST THE ECONOMY

In February 2014, Senegal launched a new national development strategy entitled "the Plan Sénégal Emergent (PSE)" to guide the country's transformation towards "an emerging country in 2035, with social solidarity and the rule of law". The PSE promotes a holistic development model based on economic, social and environmental pillars and seeks to unlock Senegal's industrial potential to generate inclusive and sustainable economic growth. UNIDO's long-standing technical cooperation with Senegal, combined with its potential for building partnerships with other development actors, provide the Organization with a unique opportunity to offer an integrated package to help the country achieve its national industrial development goals. Since its inception in 2015, PCP Senegal mobilizes development partners, UN agencies, financial institutions and the business sector under the leadership and ownership of the national Government to advance ISID, within the framework of the PSE. Under the leadership of the national Government, PCP Senegal aims to establish a new generation of industrial parks as well as three agro-poles in the North, South and Centre regions of the country.



## FIVE AREAS OF INDUSTRIAL DEVELOPMENT

PCP Senegal focuses on five main areas: i) industrial policy development; ii) the establishment of agro-poles; iii) the operationalization of a new generation of integrated industrial parks; iv) the development of a regional mining hub; and v) special economic zones and investment package reform.

The Programme also integrates complementary cross-cutting interventions according to Government-defined priorities. These include: i) private sector development; ii) investment promotion; iii) environment; iv) energy; v) trade facilitation; vi) South-South and triangular industrial cooperation; as well as vii) innovation, science and technology for industry.

## SUPPORTING SSTIC IN SENEGAL

The PCP is supporting the Government of Senegal in its effort to institutionalize SSTIC. Interventions are aimed at increasing investment, trade, technology and knowledge flows between Senegal and other Southern countries. Improving Senegal's capacity for SSTIC will contribute to an overall increase in trade of value added products, increased and improved manufacturing, and lower production costs for Southern manufacturing companies active in the country. In this context, a programme on rice processing and production was developed in 2015 under the SSTIC component of PCP Senegal, to enhance Senegal's agribusiness capacities and productivity, while addressing food security-related issues, such as food access, availability and use.





## The PCP in practice: Morocco's SSTIC approach



### SUPPORTING MOROCCO'S INDUSTRIAL DEVELOPMENT PLAN

Tailored to Morocco's national development agenda, the Industrial Acceleration Plan (PAI 2014-2020), and being implemented under the leadership of the Government of Morocco, the PCP for Morocco has six core components: Agri-business, Industrial Zones, Energy, Circular Economy, Industry 4.0 and E-commerce. These are supported by four cross-cutting areas: Industrial Development Partnerships, South-South and Triangular Industrial Cooperation, Gender Mainstreaming and Industrial Statistics. PCP Morocco is further aligned with the United Nations Development Assistance Framework (UNDAF) Morocco. The PCP envisions a variety of flagship initiatives such as the upgrading of industrial zones to increase investments and job creation, improving the competitiveness of small and medium-sized enterprises in selected agro-industrial value chains, supporting the implementation of Energy Management Systems (ISO 50001), accelerating green growth through energy recovery and industrial waste recovery, skills and curricula development in topics related to Industry 4.0 as well as supporting women-led micro, small and medium enterprises. PCP Morocco is a multi-stakeholder initiative, that is supported by financial institutions, such as the African Development Bank as well as the Islamic Development Bank, bilateral and multilateral partners such as China, the European Union, the Global Environment Facility, Japan and Italy as well as by several UN entities.



## STRENGTHENING SOUTH-SOUTH COOPERATION IN AFRICA

The Government of Morocco considers SSTIC to be an essential pillar of national and regional economic development, complementing North-South cooperation. In addition, the strategic choice of SSTIC also serves to achieve a broader national vision, which aims to develop economic links across the African continent. Morocco has the potential to become a regional hub for the transfer of technology, knowledge, skills and industrial expertise.

## COMPLEMENTING THE MOROCCO'S EFFORTS IN SSTIC

Building on extensive expertise and field experience in the service of developing countries, UNIDO is playing a supporting and advisory role in institutionalizing SSTIC in Morocco. In line with Morocco's industrial development needs, UNIDO will promote SSTIC through the implementation of specific projects and the convening of dialogues, platforms, and forums, aiming to strengthen the exchange of knowledge and experiences between Morocco and other Southern countries, with a focus on Africa.

The South-South and triangular cooperation component focuses on:

- Supporting the strengthening of institutional capacity of Morocco for SSTIC;
- Knowledge and technology dissemination through Southern networks and dedicated platforms;
- Facilitating matchmaking between technology needs and solutions in the South, supporting the implementation of cost-effective and proven Southern-based solutions;
- Replicating and expanding capacity-building programmes to other Southern countries, with a view to leverage South-South and triangular cooperation for the advancement of ISID;
- Supporting technical cooperation projects with a focus on SSTIC.



## 2.1.2 Third Industrial Development Decade for Africa (IDDA III)

UNIDO supports developing countries by leading the implementation of the Third Industrial Development Decade for Africa (IDDA III) in cooperation with a wide range of partners. The origins of this framework lie in United Nations General Assembly (UNGA) Resolution A/RES/70/293, which was adopted by the UNGA in 2016. The resolution proclaimed 2016-2025 as the Third Industrial

Development Decade for Africa (IDDA III). In its resolution, the Assembly called for stronger and effective private-public partnerships with a range of stakeholders, as well as for enhanced international cooperation including North-South, South-South and triangular cooperation in order to expedite the industrialization of Africa.

### IDDA III JOINT ROADMAP AND IDDA III FOCAL POINTS INITIATIVE

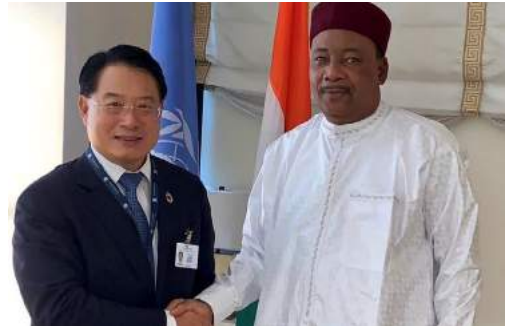
In line with the requirements of the resolution, a joint IDDA III Roadmap to guide the implementation of joint programmes and projects in support of Africa's industrialization has been developed in consultation with various stakeholders through the established IDDA III Focal Points initiative which comprises of 28 UN agencies and institutions including AUDA-NEPAD, ECA, ITU, UNCTAD, OSAA, ITC, ILO, FAO, IFAD, WTO, UNDP, UN Women, WHO, UNOHRLLS, UNFPA, UNGCO, UNOPS, UNEP, UNHABITAT, World Bank, AfDB, Afreximbank, EIB, COMESA, SADC and ECOWAS. The roadmap serves as a guide to facilitate joint programme and project development and implementation.





### IDDA III CHAMPIONSHIP INITIATIVE

In order to leverage high-level political leadership for the promotion and visibility of IDDA III, a Championship Initiative was established by UNIDO and formally launched at a high-level event held in September 2018, during the 73rd session of the General Assembly in New York. Eight heads of state and government are currently part of this initiative namely the Presidents of Côte d'Ivoire, Egypt, Kenya, Madagascar, Niger, Senegal, South Africa, and Zambia.



UNIDO's Director General LI Yong congratulating IDDA III champions.

## COMPREHENSIVE OVERVIEW OF PROGRAMMES AND PROJECTS IMPLEMENTED BY VARIOUS STAKEHOLDERS IN FAVOR OF AFRICA'S INDUSTRIALIZATION

In line with the request made by UNIDO Member States both at the 46th session of the Industrial Development Board and the 18th session of the General Conference, an exercise to map all programmes and projects being implemented by various stakeholders in favor of Africa's Industrialization was launched in May 2020. Apart from providing stakeholders with information the overview will assist in determining existing gaps in ongoing initiatives, identifying additional efforts to be undertaken and will serve as an avenue for the promotion of necessary linkages for joint interventions where possible for increased development impact within the IDDA III Framework. The overview is expected to ultimately contribute to the establishment of a comprehensive database and associated information system for use by various stakeholders.

## GLOBAL FORUMS

Since the proclamation of IDDA III, UNIDO has organized various IDDA III high-level events on the margins of the UN General Assembly held in September of each year.

- The first edition of the high-level event was held in 2017 and provided a platform to reaffirm their commitment to a broad-based international partnership to industrialize Africa in a socially inclusive and environmentally sustainable manner;
- In 2018 the event which was co-organized with the AUC, UNECA, the AfDB and FAO explored key features of the IDDA III initiative and the AfCFTA, and how their implementation support integration and synergies;
- In 2019 the participants deliberated on innovation and infrastructure development as pathways for boosting manufacturing in Africa in the Fourth Industrial Revolution.



DG LI Yong with Dignitaries at the IDDA III High level event held in the margins of the UNGA in September 2019, New York

## AFRICAN UNION SUMMIT ON INDUSTRIALIZATION & ECONOMIC DIVERSIFICATION

The 33rd Ordinary Session of the Assembly of Heads of State and Government of the AU meeting held in February 2020 in Addis Ababa, called on the AUC, UNIDO, ECA and the AfroChampions Initiative to organize a Summit on Africa's Industrialization and Economic Diversification. The Summit, which is planned to be held in early 2021 in Niamey, Niger, is expected to provide a platform to discuss concrete actions to boost Africa's industrial development in the 21st Century and therefore contribute to the UN Decade of Action to accelerate sustainable solutions to the world's biggest challenges.



### South-South and Triangular Cooperation

The IDDA III resolution makes an explicit call for “enhanced international cooperation, including North-South, South-South and triangular cooperation, in support of Africa’s industrialization.” In response to this, UNIDO has enhanced its efforts to mainstream South-South and triangular cooperation through various ways:

- Mainstreaming of South-South and triangular cooperation elements of all the activities being implemented in Africa;
- Promoting and fostering linkages to facilitate the development of joint programmes and projects through the established IDDA III focal points initiative which includes stakeholders from developing countries and developed countries;
- Organization of targeted global forums which serve as platforms for exchange of knowledge to support industrialization of Africa;
- Integrating African industrialization in North-South and South-South economic diplomacy and industrial cooperation and partnerships;
- Promoting and facilitation of South-South and triangular study tours.

## 2.2 CREATING SHARED PROSPERITY

In the face of a rapidly changing global economic landscape and increasing inequalities, a strategy for sustained growth must ensure a form of industrialization that makes opportunities accessible to all people and broadly distributes income and non-income gains across societies. Integrating solutions to social challenges into industrial economic development policies, remains a challenge for many countries. While there has been a broad decline in poverty worldwide, both extreme and moderate poverty remain primarily rural, with 75 per cent of the world's poor living in rural areas where productivity is low, local economic activity is inadequately diversified, unemployment rates are high and jobs are insecure. Rural poverty has usually been reduced in contexts of rapid economic growth. However, it has persisted where policies failed to improve agro-industrial productivity and rural infrastructure as well as providing rural populations with access to social services. Natural crises or conflicts cause social and economic dislocation, which reduces the productive capacity of the economy and the ability of the affected people to generate sustainable livelihoods. Socio-

economic development is a key factor in a country's ability to avoid, withstand or recover from internal and external shocks.

In this context, UNIDO concentrates its efforts on the development of agro-industries, increasing the participation of women and youth in productive activities, and human security in post-crisis situations. UNIDO's services for the development of agro-industries focus on adding value to agricultural production by strengthening linkages between agriculture, industry and markets. UNIDO supports the transformation of enterprises from the informal sector to the formal sector, with a special focus on simplifying and improving access to administrative company registration services. It also strives to improve women's participation in entrepreneurial activities. Based on its experience in post-crisis and human security programmes and projects, UNIDO responds to complex emergencies through activities that contribute to socio-economic as well as environmental and energy security both at national and local level.

### 2.2.1 Sustainable textile investment and operation in Ethiopia

#### SUMMARY



Ethiopia's textile and garment industry is witnessing rapid growth, as a number of domestic and multinational firms are engaged in the production of textile and apparel for domestic and global markets. While companies are moving their manufacturing operations from China to other countries, Ethiopia is rapidly becoming an attractive

destination for investors and textile producers alike. On the path to industrialize Ethiopia, the textile sector is given a prominent position by the Ethiopian Government in boosting the country's exports, creating job opportunities, as well as to serve as a model for other sectors. Ethiopia's textile sector has become a top priority as part of the country's goal to become

a middle-income country by 2025. The key objective of the project is to make the sector globally competitive and to bring the necessary structural transformation to the nation's economy. This entails raising the country's Environmental, Social and Governance (ESG) standards to bolster exports and attract FDI. Currently, many foreign textile and garment manufacturing companies in Ethiopia are facing challenges to understand the local set-up and minimum requirements for social, environmental and corporate governance and sustainability.

With the support of the Peoples Republic of China, the Federal Republic of Germany and the Government of Ethiopia, UNIDO has initiated a project, within the framework of

PCP Ethiopia, to improve the Environmental, Social and Governance (ESG) standard of Ethiopia's textile sector in line with Ethiopia's industrial development priorities. The project aims to build the capacity of foreign and Ethiopian investors and factory and to raise their awareness of ESG standards. Through trilateral cooperation between China, Germany and Ethiopia, the project foresees to incorporate the "Ten Principles" laid out in the UN Global Compact (UNGC), encompassing labor rights, environmental and social standards and developing them into practical strategies, policies and procedures, thus establishing a culture of integrity. With this holistic approach, the target companies are not only upholding their basic responsibilities to people and planet, but also setting the stage for long-term success.

## SOUTH-SOUTH AND TRIANGULAR COOPERATION

The project is based on a cooperation between China (MOFCOM), Germany (GIZ) and UNIDO.

Through triangular industrial cooperation, the project seeks to implement activities including:

- Conducting a baseline assessment of business investment and challenges for compliance with social, environment and corporate governed principles among foreign investors and pilot local textile manufacturers;
- Building the capacity of Chinese local businesses, and local stakeholders including Government, workers, communities, suppliers and customers on sustainability, building on the UNGC's principle-based framework;
- Promoting experience exchanges and collaborations for African stakeholders with Chinese and international brands.



## HIGHLIGHTS



- Triangular cooperation between Germany, China and Ethiopia;
- Building ESG standards in Ethiopia's textile sector to attract FDI and increase the country's exports based on UNGC principals;
- Lessons learned can support future projects in other African and Asian countries.

## 2.2.2 Promotion of Neem-Derived Biopesticides in West Africa

## SUMMARY



Producing enough food for their growing populations remains a challenge for many developing countries. In order to meet the growing demand for food many countries resort to increasing crop yield production per hectare, a practice that is heavily reliant on an increased use of fertilizers and pesticides. Current methods of employing those chemicals often result in soil, water and food contamination and endanger human health. UNIDO is therefore assisting its Member States in developing, producing and applying cost-effective, eco-friendly alternatives to persistent organic pollutants (POP).

In November 2007, the Regional Network on Pesticides for Asia and the Pacific (RENPAAP) presented an Indian model of neem-derived pesticide technology, which uses the neem kernel aqueous extract as an eco-friendly biopesticide. Neem (*Azadirachta indica*) is an evergreen tree native to the Indian subcontinent that can grow in almost all types of soils and agroclimatic conditions. It is now

widespread in many African countries. In 1989, the United States National Research Council classified it as a “tree for solving global problems”, given that its bearing chemicals could serve as environmentally friendly pesticides. Other uses of the neem tree also have the potential to generate additional income and employment opportunities in rural areas.

The project aimed to promote the use and development of production capacity for eco-friendly, cost-effective pesticides derived from neem kernels, focusing on neem-shed development, technology transfer, South-South institutional linkages, skill enhancement, training activities in villages to promote rural development, agribusiness and microindustry promotion, poverty alleviation and employment generation. It also aimed to strengthen environmental protections and eliminate hazards by providing a low-cost, bio-efficient alternative to toxic POPs and chemical pesticides.





## SOUTH-SOUTH AND TRIANGULAR COOPERATION

The project's approach consisted of establishing a national coordination arrangement, providing training for stakeholders and transferring technology to three national technical partners in Ghana, Nigeria and Sierra Leone, supported by the Republic of India.

Within the framework of this project, field trials and phytotoxicity studies were conducted, crop-specific bioefficacy data was generated and three neem centres with production demonstration plants were established. To provide hands-on practical experiences, neem-derived pesticides were demonstrated on various crops in farmers' fields. The equipment, materials and neem centres necessary to train farmers and promote neem-derived pesticides were provided. Awareness-raising and training programmes with field demonstrations for farming communities were conducted as well. Mechanized demonstration plants for the

production of neem-derived pesticides were also established. The machinery, including depulpers, decorticators, crushers and storage facilities, was purchased, installed and tested. In addition, machine operators were trained.

The project has been used as a model for UNIDO and Global Environment Facility regional projects in the Common Market for Eastern and Southern Africa and the Southern African Development Community. These projects aim to strengthen capacity and provide technical assistance for national implementation plans under the Stockholm Convention on Persistent Organic Pollutants in least developed countries in Africa. As a result, a regional strategy was developed for the production and application of neem-based and other biopesticides. The project could be replicated and scaled up in various African countries.



## HIGHLIGHTS



- Introduction of neem-based eco-friendly pesticides as an alternative to persistent organic pollutant (POP) in Ghana, Nigeria and Sierra Leone;
- The project was supported by the Republic of India and with the support and expertise of the Regional Network on Pesticides for Asia and the Pacific (RENPAF);
- The project's approach is replicable and scalable.





### 2.2.3 Aquaculture and fisheries value chains in Ethiopia

#### SUMMARY



Ethiopia has the potential to increase and sustain the productivity of the country's fisheries sector by harnessing its vast aquatic resources, which have remained previously underutilized. The situation of increasing import of fish and fish products, the challenges in nutritional food security, and needs for diversified livelihoods opportunities have led the government of Ethiopia to prioritizing the development of the country's fishery sector, including the development of aquacultures. In order to develop Ethiopia's fisheries sector, the country is in need of investment and private sector involvement including small-scale business development. The fisheries sector growth target under GTP II is to sustainably improve national production output to 15% of

the GDP value of agricultural production. To achieve this target, the Government recognizes the need for well-matched strategies for accelerating human development and enabling policies and regulatory frameworks if the competitiveness of the fisheries sector is to be improved.

The long-term goal of this ongoing project, which was initiated within the framework of PCP Ethiopia, is to support the national agro and food sector productivity growth, adding value with employment and food security, and related institutional capacity building. Sector-wide capacity building through a series of national and international trainings reaching up to 3,000 beneficiaries on quality standards,



processing and storage practices, aquaculture, gear manufacturing and ecotourism. The recently upgraded KEBELE women's fish market in Bahir Dar, Ethiopia will guarantee provision of safe and quality fish products as well as provide decent jobs for women and youth working in the sector on Lake Tana. The established Center of Excellence (CoE) for

Fisheries and Aquaculture will facilitate the national, institutionally and regional adopted and replicable model for addressing the institutional capacity needs of the sector and its value chain actors; the CoE will also facilitate the function of synergies strengthening with partnering technical institutions the Russian Federation and globally.

## SOUTH-SOUTH AND TRIANGULAR COOPERATION



The project is developed in partnership with Government of Ethiopia, UNIDO and benefiting from the financial and technical contribution of the Russian Federation. The project promotes the twinning of partners and mobilising of relevant technical expertise and sharing from experiences of Russian institutions, such as in the areas of development and sustained

management of natural resources in the water and fisheries sectors, which have been key drivers of industrialisation and growth. The project is also benefiting from the experiences made during the implementation of a variety of projects that were supported by the Russian Federation in the past.





## HIGHLIGHTS



- Advanced know-how from Russia for sustainable fishing and aquaculture development in Ethiopia;
- Harmonize sectoral economic growth with effective natural resource management and preservation;
- Value added: contributes to job creation and food security in Ethiopia.



## 2.2.4 UNIDO-World Bank Cooperation: Revitalizing Pakistan's Fisheries

### SUMMARY



Pakistan's fisheries contribute to economic growth and social development, but their full potential is not being realized. Parts of the sector are struggling — the marine capture fishery has suffered a decrease in production and per-unit value due to overfishing over the past two decades. Additionally, the aquaculture industry is growing slowly, and lacks crucial planning and governance arrangements. Post-harvest processing of fish is hampered by poor quality control and outdated processing technologies.

To overcome these challenges, the Government of Pakistan (GoP) and Provincial Sindh Government in particular, requested World Bank, UNIDO and Agence Française de Développement (AFD) to support the development of the country's fisheries sector.

To address this development request, an Action Plan was jointly developed by the three organizations as the basis for a World Bank loan agreement. The World Bank has agreed to further support the Governments of Pakistan and Sindh in fisheries revitalization, including through an investment project. Recognizing UNIDO's experience in supporting the fisheries sector in Pakistan, the World Bank and Pakistan regard UNIDO's technical inputs as essential for mobilizing additional private sector investment in the long-term. Additionally, UNIDO's expertise is particularly contributing to value chain performance improvement, which focuses on enhancing productivity, increasing value addition, enhancing quality and conformity assessment and improving branding and market access.



## SOUTH-SOUTH AND TRIANGULAR COOPERATION



The investment project's initiation has received financial support from the Government of China. Pakistan recognizes China as a strategic partner, and the establishment of China-Pakistan Economic Corridor (CPEC) is further strengthening economic ties between

the two countries. Within this context, the core framework of this project offers an opportunity for the exchange of expertise and technologies between both countries as well as for the mobilization of additional private sector capital to revitalize Pakistan's fisheries sector.



## HIGHLIGHTS



- A pilot example for UNIDO's cooperation with Development Financial Institutions to deploy services of great relevance to the host Government;
- Technical cooperation for value chain performance:
  - Investment in infrastructure and services to add value and enhance quality;
  - Improved productivity for a greater value addition and international competitiveness;
- Enhancing bilateral cooperation through exchanges of expertise and technologies for target sector development.



## 2.2.5 Support for agri-business development partnerships with the World Bank

### SUMMARY



Building on past cooperation with the World Bank and current institutional agreements, UNIDO's Department of Agri-business has forged close links with the Food and Agricultural Global Practice (AGP) of the World Bank (WB). The agri-business development objectives of Members States require a range of technical cooperation services, including assistance to up-scale agricultural and agri-business infrastructure.

Partnering with the World Bank, UNIDO is supporting respective host Governments through technical cooperation services to assist developing countries add value to the output of their agricultural sector and generate

employment opportunities in off-farm activities for rural communities. UNIDO's work in comprehensive value chains analysis offers a basis for the deployment of specialized services such as developing agro industrial infrastructure, supporting SME development, demand driven vocational training, agricultural mechanization, the introduction of modern processing and packaging technologies, promotion of food safety, and improvement of the regulatory environment. UNIDO also brings a wealth of experience with agro-industrial infrastructure development, providing key technical inputs that may be leveraged for additional funding.



## SOUTH-SOUTH AND TRIANGULAR COOPERATION



Supported through contributions by the Government of China, UNIDO is providing technical assistance to World Bank programmes to support agro industrial development in a variety of developing countries. This triangular development approach has proven successful in the past, leveraging additional funding for

downstream implementation of agri-business development projects. The cooperation between the WB and UNIDO has so far proven successful in Bangladesh and can be replicated in other developing countries at the request of host Governments.



## HIGHLIGHTS



- Building a strong relationship with the World Bank while deploying UNIDO's expertise for agro industrial development;
- Leveraging additional funding for agri-business development;
- Member States have better access to appropriate financing and targeted technical assistance for execution of large-scale agri-business projects for their inclusive and sustainable industrial development.

## 2.3 ADVANCING ECONOMIC COMPETITIVENESS

Industry is a seedbed for entrepreneurship, business investment, technological progress, the upgrading of skills, and the creation of decent jobs. All these factors contribute to sustained productivity improvements that can ensure pro-poor outcomes and contribute to increased living standards, particularly in developing countries. In addition, better access to domestic and international markets can make an enormous contribution to developing countries' fight against poverty.

By positioning industries at the right stage of global value chains, countries may benefit from opportunities offered by global trade, including more jobs, exports, and foreign direct investment (FDI). In addition to enhanced resilience, market access can bring the much needed capital and technology essential for growing a strong, inclusive, transformative economy. Participation in global trade is an important aspect of any country's strategic approach to ISID.

Many people in many developing countries, in particular in the Least Developed Countries, live in an agrarian, often subsistence economy. Many young people grow up without opportunities to learn entrepreneurial and industrial attitudes and skills, resulting in poverty with persistent unemployment or underemployment. Entrepreneurship is therefore an inclusive process that enables the bottom billion – women and men – in rural as well as urban areas, to achieve social mobility. Entrepreneurship also transforms economies and enhances industrial development, inclusively and sustainably, from individual and grass-root levels.

Against this background, UNIDO supports programmes towards investment and technology promotion, SME development, trade capacity-building, and entrepreneurship development.

UNIDO provides advisory services to improve the business and policy environment for the private sector, assisting with the creation of productive capacities. Its programmes support investment and technology opportunities to help enterprises, especially SMEs, improve productivity and innovation, and achieve systemic competitive advantages. Building on a robust global network aimed at fostering investment, technology and other partnership opportunities, UNIDO seeks to enable SMEs to capitalize on their unique dynamism and flexibility by strengthening synergies among enterprises and with support institutions.

In the context of trade capacity-building programmes, UNIDO strengthens international trade norms and standards by assisting developing countries and transition economies in upgrading production and processing systems to enhance the quality of local products, in particular through the adoption of improved technologies, and help them conform to the standards required by international markets. UNIDO builds capacities in both public and private institutions to formulate trade policies and strategies based on economic and statistical analysis, as well as benchmarking competitive performance at sectoral and product levels and supporting the establishment of trade-related databases such as inventories of technical barriers to trade (TBT), which are designed to expand exports from the industrial sector.

In the field of strengthening the standards, metrology, testing and conformity assessment infrastructure of its beneficiary countries, UNIDO supports standards institutions as well as TBT and sanitary and phyto-sanitary (SPS) measures enquiry points through various regional programmes and country projects. UNIDO also supports developing economies in addressing the increasingly important issue of voluntary private standards, with emphasis on the uptake of corporate social responsibility



(CSR) standards, as a means towards increasing their competitiveness.

UNIDO also supports, in addition, the development of entrepreneurial culture and skills through improving the performance of public services for businesses to create an environment where entrepreneurial actions are rewarded. Using a bottom-up growth strategy for poverty reduction, UNIDO introduces practical entrepreneurship

curricula at secondary and vocational training institutions, particularly targeting the development of entrepreneurial skills among young people, both girls and boys, before they enter into the workforce. This is enriched through elements of ICT training, combining the basics of entrepreneurship with practical experiences in the use of new technology and thus preparing young people for key labour market requirements and an increasingly networked information society.



### 2.3.1 International workshops on Nanoscience and Nanotechnology

#### SUMMARY



In developing countries, scientists do not necessarily have access to well-equipped infrastructure and lack resources for gaining knowledge and hands-on experience in nanoscience and nanotechnology application, nanoscale materials synthesis, cleanroom micro/nanodevice-processing and process optimization, and cleanroom processing. This could hinder the advancement of technology and research in their countries.

To address these challenges, UNIDO, Turkey's National Nanotechnology Research Centre (UNAM), Bilkent University, Turkish Cooperation and Coordination Agency (TIKA) and the Turkish Ministry of Science, Industry and Technology (MoSIT) are supporting training programmes to present and advance the knowledge and understanding of participants from selected developing countries in the area of nanoscience and nanotechnology application. The programme aims to contribute to building the critical mass required to guide materials and device

processing know-how and nanotechnology development in developing countries and economies in transition. The project is also supporting UNIDO's efforts in the area of gender equality by encouraging female participation in trainings and training female scientists in the application of nanoscience. Moreover, the programme helps to form a network among participants in order to pave the way for future collaboration.

The programme aims to deliver theoretical and practical training in three main areas

- Growth and synthesis of functional nanoscale materials (advanced training);
- Nanotechnology solutions for water filtration (Intermediate training); and,
- Nanobiotechnology and nanomedicine (advanced training).

All workshop programmes include practical laboratory sessions for related materials synthesis and device fabrication projects.

#### SOUTH-SOUTH AND TRIANGULAR COOPERATION



The programme has led to the systemic cross-country transfer of good practices and knowledge among Iran, Turkey, and Yemen, for their mutual benefit in the area of nanotechnology - an advanced technology that is difficult for developing countries to access information on. Participants from Iran and Yemen shared experience on establishing nanotechnology centres in their own countries. Within the programme and training, scholars

from leading universities and research centres from countries such as the United Kingdom and the United States of America are regularly invited to present innovative technological solutions in nanoscience. UNAM further provides a collaborative environment for scientists, who can carry out collective research projects in the field of nanoscale science, including in functional materials and device processing. By employing the



SSTIC modality, and with the support of the Republic of Turkey, the project has managed to expose scientists from developing countries to

cutting-edge science and technology in various subfields of nanoscience and nanotechnology.



## HIGHLIGHTS



- Provide participants with knowledge in the application of nanoscience and nanotechnology including clean room and processing;
- 228 participants trained;
- Beneficiaries in Middle East, Africa, Central Asia and Eastern Europe;
- Training to female scientists to support gender equality.

### 2.3.2 Linking the tourism industry to productive activities in the Kyrgyz Republic

#### SUMMARY



Despite the great economic potential of the Kyrgyz Republic owed to the country's geographical position, rich agriculture and nature-based tourism, the country's poverty

rate rose from 21 to 23 percent in the period from 2010 to 2016<sup>1</sup>, characterized by a growing rural-urban divide. In order to diversify economy, the Government of Kyrgyz Republic



<sup>1</sup> World Bank (2018) Country Partnership Framework For The Kyrgyz Republic For The Period Fy19-Fy22 <http://documents.worldbank.org/curated/en/358791542423680772/pdf/kyrgyz-cpf-fy19-22-oct102018-10122018-636780024730768882.pdf>

prioritized key economic sectors including agriculture and tourism in its Sustainable Development Strategy. Tourism is the most rapidly developing industry in the world that creates jobs, drives exports and eradicates poverty. The sector includes a wide range of other industries, like agriculture, and aims at supporting local producers to enter the international markets.

This project was developed within the framework of PCP Kyrgyzstan with the aim of stimulating economic growth and employment generation in the country. The project aimed to strengthen linkages between tourism and

related productive industries in the Issyk-Kul region of Kyrgyzstan. The project vastly improved the storage, transportation and marketing capacities of local industries. It further improved agro-processing facilities, while building necessary infrastructure as well as the capacities, skills and technological knowhow. The project further addressed issues related to emerging quality and safety standards, the need for effective institutional support systems, as well as the lack of the requisite capacity to run businesses with modern technology and management principles.



<sup>2</sup> FAO, 2014: Eastern Europe and Central Asia agroindustry development country brief: Kyrgyz Republic

## SOUTH-SOUTH AND TRIANGULAR COOPERATION



On 12 August 2015, the Kyrgyz Republic joined Armenia, Belarus, Kazakhstan and Russia in the Eurasian Economic Union (EEU). Accession to the EEU market and removal of tariff and non-tariff barriers to trade within the single market is a great opportunity for Kyrgyz products. In addition, given the cheaper labor cost and the availability of resources, the Kyrgyz Republic is expected to become an attractive location for foreign and local investors who are interested in the EEU market. This also provides an opportunity for local enterprises, especially in agriculture and agro-industries to access regional and global value chains.

Based on historical ties between the countries and sustainable partnership, the Russian Federation, as the most developed country in the region, is actively engaged in supporting the Kyrgyz Republic in knowledge-exchange, improving basic infrastructure and services, revitalizing local communities and empowering vulnerable groups of society. Within the framework of this project, Russian experts have shared technical knowledge and expertise, conducted comprehensive workshops and seminars on Food Safety and HACCP issues, hosted study tours and field trips by showcasing the successful evidence-based results on local development of tourism and agriculture.

## HIGHLIGHTS



- Capacity building on food safety, product design, processing technologies, tourism, marketing and branding with 500 participants trained;
- Constructed 2 Tourism Information Centres in the Issyk-Kul region;
- Established new or modernized existing businesses (provision of equipment and construction work in amount of approximately USD 750,000);
- Tourist attraction and promotional activities: specialized TV show, engagement with social media, events, forums and festivals;
- Introduced products of beneficiaries in supermarkets, hotels, and duty-free shops;
- Attracted additional investments of more than USD 800,000;
- Doubled exports and increased productivity threefold; Generated additional income for more than 900 households;
- Project was acknowledged by the Government of Kyrgyzstan as the best project of the year 2019.







### 2.3.3 Industrial upgrading and modernization in Cuba

#### SUMMARY



Approximately 80 percent of demand for agricultural products in Cuba is covered by imports, a striking figure for a country with abundant natural resources. Apart from the growing domestic demand, agricultural sector faces higher pressures due to increasing tourist influx. Although this trend is expected to bring more foreign currency, it is not sufficient to ensure a full-fledged modernization of the agricultural sector leading to food security. Seeking to cover food supply shortages, Cuba became highly dependant on imported agricultural products along with fertilizers essential for supporting local production. This brought the country to the situation where insufficient local production of such mineral fertilizers like nitrogen, phosphate and potash based products meets constantly increasing consumption rates.

Several tests of the UNIDO project supported CBFERT fertilizer run on vegetables, rice and potatoes demonstrated high favorable yields. Due to these results, the Ministry of Agriculture of Cuba requested to increase the production of CBFERT to meet the national demand from 10.000 liters in 2017 to 400.000 liters for 2020. According to the Sectorial Strategy study published by UNIDO, it is estimated that with the upgraded liquid Calcium Nitrate and CBFERT productions, the project will satisfy 90 percent of the current and future demand of liquid fertilizers in Cuba in order to boost the production of local farmers.



## SOUTH-SOUTH AND TRIANGULAR COOPERATION

Based on the long-standing cooperation with Cuba, the Russian Federation expressed its interest to support the UNIDO Country Programme for Cuba, in particular, by providing funding for the Technological and Enterprise Upgrading Programme, focused on agrochemical and agriculture machinery sector. The project provides direct benefits in terms of South-South and triangular cooperation framework, in which UNIDO plays the role of the implementing agency. To effectively enhance the local production of fertilizers, two fertilizers with high nutritional potential were identified: Liquid CBFERT and Liquid Calcium Nitrate for technological and managerial upgrading. Within project's technological modernization efforts, selected machines and knowhow originate from developing countries. In this way, the project

aims to support agricultural value chain by targeting production of two fertilizer production plants in Havana and Nuevitas. Additionally, the project provides an international marketing and branding strategy for CBFERT fertilizer that together with industrial upgrading measures constitutes a comprehensive capacity-building programme with the aim to facilitate exposure of this project-supported local innovation to the export market primarily to the developing economies of the Latin America and Caribbean (LAC) region. The project, therefore, introduces a number of "good practices" for effective industrial modernization in the agricultural sector that have a proved potential for replication in other developing countries facing similar problems, especially countries of the Caribbean region.



## HIGHLIGHTS



- Liquid fertilizer plants equipped with new laboratory equipment to strengthen quality control system;
- A ventilation system and specialized equipment have been transferred to modernize production plant;
- A set of sprayers catering was transferred to the needs of the Cuban greenhouse agriculture, which served as the first step to localize equipment for application of innovative liquid fertilizers in Cuba;
- A new set of laboratory equipment to strengthen the quality control system in place and the plant will be running at a production capacity of 2.800 m<sup>3</sup> per year.







### 2.3.4 Market access of traditional food products between Morocco, Tunisia and Switzerland

#### SUMMARY



Agriculture is considered to be the main driver of growth and the fight against poverty in Morocco. Within the framework of the Green Morocco Plan, a key role in ensuring sustainable agricultural development beneficial to all regions of the Kingdom is reserved for the development and promotion of local products. These traditional products are a very promising alternative for local, viable and sustainable development, particularly in marginal and difficult areas. At the global level, we see that consumers are increasingly looking for authenticity and are ready to pay a higher price for duly certified local or organic products, which always maintain the same quality and which are well rooted in the popular culture of their regions of origin. The emergence of this growing demand represents a great opportunity for many Moroccan farmers and small and medium-sized enterprises who can increase their income through the promotion of typical products while preserving the historical, cultural and ecological heritage of their regions.

It is in this context that the “Project for access to markets for agrifood and local products (PAMPAT)” was developed. The project aims to improve the performance, market access and socio-economic conditions of the argan and prickly pear cactus / fig value chains of Ait Bâamrane. These two value chains were chosen according to a participatory approach in cooperation with the partners responsible for the strategy of promoting local products (Ministry of Agriculture and Agency for Agricultural Development) because they offer promising prospects in terms of contribution economic growth, job creation, women's empowerment and poverty reduction. Meetings and focus groups were organized with public and private structures directly involved in the development and promotion of the two target products, to identify and validate the results and activities to be retained within the framework of the PAMPAT project.





## SOUTH-SOUTH AND TRIANGULAR COOPERATION

As part of the promotion of South-South cooperation, the Moroccan experience in the promotion of local products was presented as a concrete and successful example. The project is also strengthening national and regional capacities for the development and promotion of local products. Activities include training support institutions, organizing the first

Moroccan Contest for Traditional Products, and fostering the exchange of experiences and best practices at the regional level, between Tunisia, Egypt and Sub Saharan African countries. A twin project, also financed by SECO, is being implemented in Tunisia, where the harissa, fig of Djebba and the Kasserine prickly pear value chains have been selected.



## HIGHLIGHTS

- Strengthening the capacity of public and private actors—Establishing a working group of key actors in the value chain to develop a shared vision and joint action plan;
- Upgrading different links in the value chain—Improving quality, optimizing resource use, increasing productivity and production capacity;
- Strengthening alliances (e.g. cooperatives, consortia) and formalizing linkages between the different actors in the value chain (e.g. supply contracts);
- Ensuring compliance with quality, safety and origin labels. Promoting labels among different actors in the value chain, buyers and consumers;
- Improving market access and the Marketing Mix of companies and consortia (from branding and product development to negotiating new sales contracts);
- Diversification and innovation along the value chain (including creation of new entrepreneurial initiatives and new product development).

### 2.3.5 Improving the carpet weaving sector in Tajikistan

#### SUMMARY



The project's objective is to contribute to the development of traditional textile, carpet weaving, embroidery, and to improve Tajikistan's international position in manufacturing value addition, manufactured exports and global competitiveness. The project aims to contribute to increased job creation capacity, and development of sector specific skills, while improving the gender wage gap and enhancing the position of women in the beneficiary enterprises. It is expected that the practices established as a result of the project implementation in the beneficiary enterprises will stimulate the adoption of similar activities in other enterprises in the

manufacturing sector. As such, the project will contribute to the implementation of the National Development Strategy of the Republic of Tajikistan for the Period to 2030, as well as of the "Programme on development of carpet weaving in the Republic of Tajikistan for the period 2014-2020". This will be achieved through supporting the private sector development, job creation, upgrading of existing industry and fostering ISID, with equal opportunities for all contributing to SDG 5 ("Gender equality"), 8 ("Decent work") and 9 ("Industry, Innovation and Infrastructure").



Within the framework of the regional cooperation and South-South cooperation, taking into account the national development goals of Tajikistan, in 2015, the Governments of the People's Republic of China and the Russian Federation agreed to support the Government of Tajikistan in the implementation of the National Development Strategy of Tajikistan and the sectoral development objectives as identified in the Programme on development of carpet weaving in Tajikistan. The project's pilot phase aimed to increase the productivity and competitiveness of enterprises in Tajikistan, both in the carpet weaving and the embroidering sectors. It did so by identifying regional and international export markets, improving the technological cycle and industrial modernization, introducing innovative marketing tools, and strengthening national expertise to provide required technical support and services to local enterprises on a sustainable basis.

Phase II of this project (2019-2022) will take advantage of opportunities afforded by prospects of regional integration through strengthening productivity, export and employment generation capacities of the national carpet-weaving, embroidery and traditional textile sectors. In particular, the project will facilitate improved productivity and competitiveness of Tajik enterprises operating in the carpet weaving, embroidery

and traditional textile sectors through the identification of regional and international market opportunities, enterprise upgrading and technological modernization, introduction of innovative marketing tools, as well as capacity building of national experts and business support institutions for the long term sustainability of the project.

With the assistance of UNIDO's technical support, project pilot beneficiaries created three new collections under the joint umbrella brand "LA'AL Textiles", including two home textile and accessories (hand and machine made) collections, as well as the machine made and handmade carpet collection. "LA'AL Textiles" won several awards (2017 "Peak of fame", 2018 "Best National Brand to contribute to sustainable development", 2019 "Golden Award") in Tajikistan's "Brand of the year" competition, highlighting that the brand has established itself as a flagship for innovation in Tajikistan's textile industry by adhering to international quality standards and the most modern practices in the field of environmentally friendly production. Overall, since 2016 (source of the collected baseline data), as a direct result of the UNIDO project implementation, employment at the pilot beneficiary enterprises increased by 140% (2.4 times), yearly turnover grew by 68%, while exports and local market sales increased by 106% (more-than-twice) and 66% respectively.

## SOUTH-SOUTH AND TRIANGULAR COOPERATION



The UNIDO technical cooperation project was funded by the Governments of China and the Russian Federation. It covers transfer

of expertise, know-how, best practices in developing the carpet weaving and embroidery industries of Azerbaijan, Iran, Italy and the

Russian Federation with Tajikistan, which resulted in the creation of higher value-added home textile and carpet collections with considerable competitiveness potential in terms of new export markets. Overall, the project will stimulate diversification and better integration of the Tajik economy in regional and global markets.

The project aims to support the retention of knowledge in Tajikistan to ensure the project's long-term sustainability. Expertise and skills

gained through UNIDO's intervention will enable local counterparts and beneficiaries to replicate these experiences and practices in other industrial sectors of the country. Lessons learned during the successful implementation of this project could potentially be replicated in other developing countries and economies in transition, specifically in countries that seek to modernize traditional textile industries.







## HIGHLIGHTS



- Strengthened institutional cooperation between national Governmental, and non-Governmental and vocational training institutions, as well as private sector enterprises;
- A training centre and showroom established for the demonstration of products designed and created by local craftsmen and enterprises;
- 3 new and creative home textile and carpet collections were created as part of the joint brand “LA’AL Textiles”, and were demonstrated at more than 16 national and international exhibitions;
- Commercial contracts for the production of new products were signed with leading international hotel and retail chains in Tajikistan;
- More than 500 Tajiks, most of whom were women, as well as marginalized groups such as refugees from Afghanistan, learned about and were coached on the production and market access cycle, including product design, personnel management, financial management of enterprises, and the marketing of finished products;
- “LA’AL” textiles awarded 2017 “Peak of fame 2019 “Golden Award” in Tajikistan’s “brand of the year” competition as well as a 2018 award for “Best National Brand to contribute to sustainable development”.



## 2.4 SAFEGUARDING THE ENVIRONMENT

Pollution, climate change, habitat destruction and over-exploitation of natural resources such as fresh water and fisheries are posing challenges to developing countries around the world. One of the prerequisites for industry to flourish in a sustainable manner is the availability of an assured supply of affordable and clean energy, together with improved resource efficiency. “Decoupling” natural resource use and environmental impacts from economic growth is a key requirement for overcoming the pressing challenge of growing resource consumption levels.

UNIDO supports countries in their environmental management efforts, including the implementation of multilateral environmental agreements and the provision of sustainable energy. It helps create new green industries, establishing national road maps for greening the supply chain, determining benchmarks and indicators, disseminating and sharing best practices, running clean technology

programmes, undertaking various capacity-building exercises and contributing to international forums with the necessary research and expertise.

UNIDO's services include capacity building, direct technical support to enterprises and assistance to Government institutions on Cleaner Production (CP) policy matters, as well as the promotion, adaptation and transfer of environmentally sound technologies and the implementation of advanced CP business models, such as chemical leasing.

In the field of water management UNIDO focuses on the sustainable use of water resources. This includes capacity-building for the industrial sector to improve water productivity, reuse and recycling, as well as the introduction at all levels of Government policies and training in the adoption of the ecosystem approach and the sustainable use of its living resources.



UNIDO stresses the need to improve industrial energy efficiency by contributing to the transformation of markets for energy-efficient products and services. It promotes sustainable energy solutions for making industries more productive and climate resilient, which in turn promotes green jobs and green growth, including the deployment of industrial energy efficiency standards, smart grids based on renewable energy and renewable energy for industrial applications as well as the promotion of climate resilient industries.

An urgent need also remains to phase out the production and consumption of ozone depleting substances (ODSs), which lead to the continuing degradation of human health and the natural environment. The Vienna Convention and the Montreal Protocol provide a response to that need.

UNIDO assists Governments of developing countries that are signatories to the Montreal Protocol to comply with its requirements through transferring

non-ODS-based technologies to Article 5 countries and supports them to meet the set targets in terms of tonnages of ODS to be eliminated.

There is a commitment on the part of Governments that are parties to the Stockholm Convention on Persistent Organic Pollutants (POPs) to implement legal, organizational and environmental management measures, including substantive technological changes, in order to comply with the requirements of the Convention. The production and use of POPs as well as their presence in the biosphere are causing serious damage to human health and the environment. UNIDO also assist countries in reaching compliance with the Stockholm Convention and develops capacity s in developing countries to protect their populations and their environmental resources from POPs-related pollution. UNIDO also supports countries in addressing the commitments under the Minamata Convention on Mercury.

#### 2.4.1 Partnership for Action on Green Economy (PAGE)

##### SUMMARY



The Partnership for Action on Green Economy (PAGE) is a 7-year programme responding to the Rio+20's call for the UN system to support countries interested in pursuing green economy policies. It is deploying the joint expertise of four UN agencies – ILO, UNEP, UNIDO, and UNITAR – to progressively assist a total of 30 countries in their efforts to embark on green economy pathways. PAGE partner countries receive services for policy development and implementation, capacity building and financing for inclusive green economy transitions, tailored to their individual needs and circumstances. It allows each country to

develop its own pathway to an economy that is low-carbon, resource efficient and equitable. PAGE is proud to be the partner of 20 countries in their efforts for deeper economic reframing around sustainability. UNIDO brings to PAGE its expertise in providing evidence-based industrial policy advice to both Governments and to industry from developing countries and economies in transition. More specifically, UNIDO has contributed to reviewing national environmental assessments, industrial and sectoral baselines, targets, and the evaluation of inter-sectoral implications of policy options. Alongside its PAGE partners, UNIDO has

provided its technical knowhow to support policy implementation, South-South cooperation and public-private partnerships and ensure industry

engagement in policy consultations and related sectoral strategies and action plans.

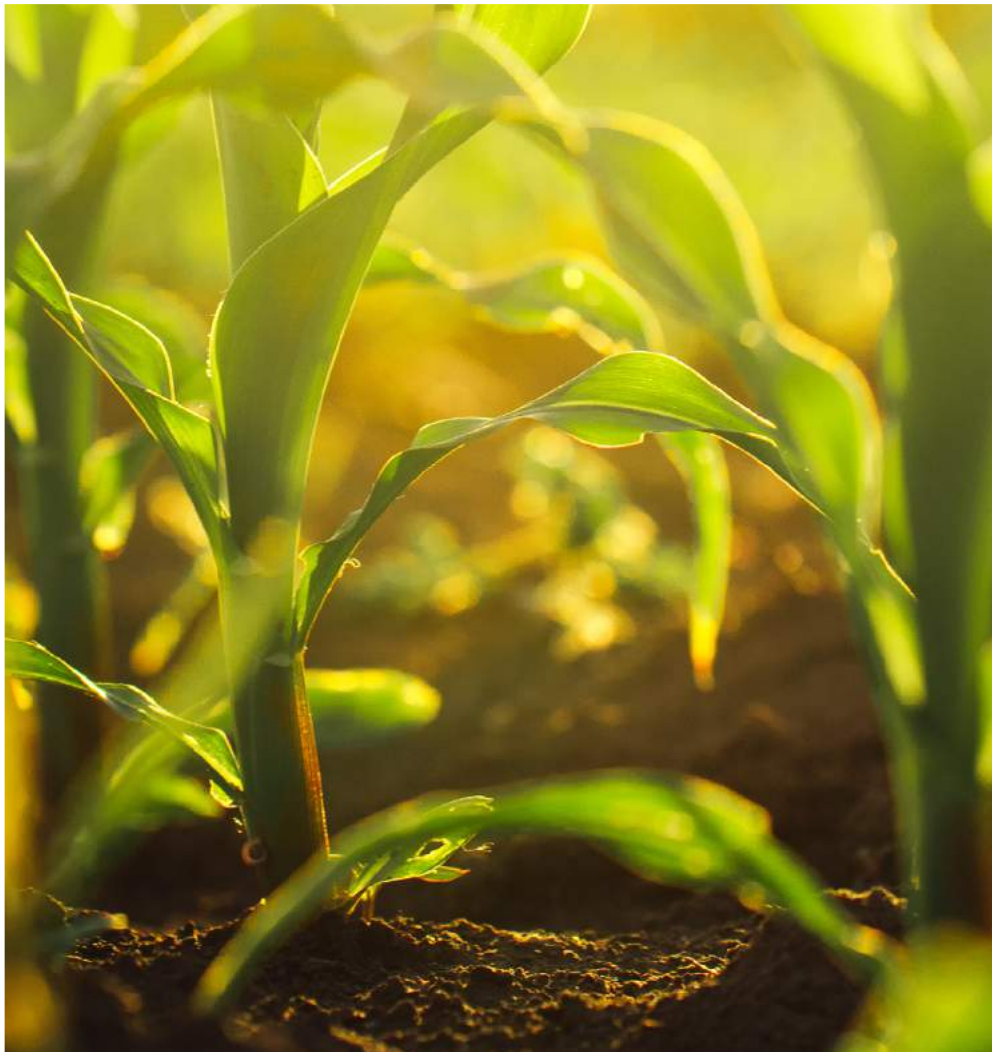
## SOUTH-SOUTH AND TRIANGULAR COOPERATION



The various PAGE learning and skills development activities at national and global level are expected to be implemented with the support of national and regional training institutions. In this regard, to develop institutional capacities and share knowledge through South-North and South-South collaboration, PAGE is supporting the organization of annual global train-the-trainers and knowledge sharing events, focusing on institutional capacity development aspects of

green economy learning and training. These events, together with national training activities will develop into a network of PAGE alumni. In order to facilitate continued interaction, learning and coaching, PAGE will set up a green economy learners network supported by an online database. Countries that benefited so far from the programme include Barbados, Brazil, Burkina Faso, China, Ghana, Guyana, Kyrgyz Republic, Mauritius, Mongolia, Peru, Senegal, South Africa and Uruguay.





## HIGHLIGHTS



- Currently 20 partner countries, 52 countries requested support;
- Offers 17 knowledge products and 15 training packages;
- Supported by four UN agencies;
- Trained over 6000 practitioners to disseminate and retain knowledge among southern countries.

## 2.4.2 Global Network of Regional Sustainable Energy Centres

### SUMMARY



Developing countries face many challenges while transitioning to sustainable energy. High barriers of entry and a lack of common markets and harmonized standards, are just one of many challenges countries of the Global South have to solve in the Sustainable Energy and Climate Technology (SECT) sector. To overcome these challenges and to support achieving SDG 7, 9 and 13, UNIDO in partnership with sub-regional economic communities (RECs) and its Members States, has established the Global Network of Regional Sustainable Energy Centers (GN-SEC), an innovative multi-stakeholder partnership with the purpose of accelerating the energy and climate transformation in developing countries. Since 2010, UNIDO assists RECs in the establishment and operation of sub-regional sustainable energy promotion centres. The gradually expanding partnership comprises a sub-network of centers for the African and the Arab region (in cooperation with the EAC, SADC, ECOWAS, and the Arab League) and a

sub-network for Small Island Developing States (in cooperation with SIDS DOCK, CARICOM, and SPC). Currently, the network is expanding to Central America, Central Asia and the Himalaya-Hindukush region.

The Global Network of Regional Sustainable Energy Centres aims to accelerate the transition to renewable energy sources by creating economies of scales, equal progress and spillover effects between countries. In partnership with UNIDO's Member States and sub-regional entities such as power pools, utility organisations, regulatory authorities and regional banks, the Centres work towards the creation of integrated regional markets for SECT products and services by setting targets, policies, standards and incentives, as well as de-risking of investments through the provision of reliable data, analytics, bundling of projects and convening power.





## SOUTH-SOUTH AND TRIANGULAR COOPERATION



The expanding South-South multi-stakeholder partnership comprises various Regional Sustainable Energy Centres in Africa, the Caribbean, the Pacific and other regions. The Centres respond to the urgent need for increased regional cooperation and capacities to mitigate existing barriers to renewable energy and energy efficiency investment and markets. They enjoy high-level support from the Energy Ministers and respond to the individual

needs of the respective national Governments. The Centres complement and strengthen ongoing national activities in the areas of policy and capacity development, knowledge management and awareness-raising, as well as investment and business promotion. The Global Network of Regional Sustainable Energy Centres offers a common umbrella for promoting SSTIC among the network's Centres.



## HIGHLIGHTS



- Created an innovative institutional environment for Renewable Energy and Energy Efficiency in 6 regions mainly covering LDCs and SIDS with population of more than 1,1 billion people;
- Adopted by more than 97 Ministers of Energy and Heads of State in mostly LDCs and SIDS;
- Leveraged more than USD 300 million direct funding for GN-SEC Programs;
- Developed 4 regional policies (incl. one on gender) and 15 national action and investment plans;
- Develops regional Energy Efficiency standards covering more than 50 countries (e.g. appliances, solar thermal).

### 2.4.3 Scaling up Small Hydro Power (SHP) Development

#### SUMMARY



Energy remains one of the most critical economic, environmental and development issues facing the world today with some 1.06 billion people—about 13 per cent of the world’s population, predominantly in rural areas—still lacking access to electricity. Access to reliable and affordable electricity has an immediate and transformative impact on quality of life, access to basic services (e.g., healthcare, education) and livelihoods. As the lowest cost renewable energy technology, hydropower remains at the centre of international efforts to fight climate change and transition to a clean energy future. Small hydropower (SHP) is an integral part of a broader strategy to promote development

whilst reducing greenhouse gas emissions and promoting greater energy independence, as it is especially suitable for remote rural areas with a low density of energy demand due to its adaptability to the particular community’s needs and local conditions.

UNIDO is implementing a broad range of SHP projects, covering different areas relevant to SHP development. 165 SHP projects developed under the Sarhad Rural Support Programme in Pakistan and the Gura SHP developed by the Kenya Tea Development Agency in Kenya. In these cases, reliable access to electricity through SHP allowed local enterprises to



expand and create new business opportunities through higher efficiency and productivity, and reduced costs. SHP projects in the Dominican Republic, Nicaragua, Zambia, Tajikistan, Japan, the Democratic Republic of the Congo and China demonstrated that SHP can create conditions for communities to improve their quality of life, create employment, increase the standard of public service provision, improve overall

health and education and achieve greater autonomy, even in areas affected by armed conflicts. Additionally, UNIDO is also supporting the financing, technological innovation and environmental sustainability of SHP projects together with its international partners. Currently UNIDO is supporting SHP projects in Nigeria, China and Burundi.

## SOUTH-SOUTH AND TRIANGULAR COOPERATION



SHP has enormous potential for providing developing countries with clean, affordable and renewable energy. On an institutional level, UNIDO's SSTIC efforts in the area of SHP are supported by the International Center on Small Hydro Power (ICSHP), a public and non-profit institution under the auspices of UNIDO and China's Ministry of Water Resources and Ministry of Commerce. It serves as headquarters

of the International Network on Small Hydro Power (INSHP), an international organization with more than 480 members over 80 countries. Through the work of this Center, UNIDO has been able to strengthen South-South cooperation, as well as to build the technical capacity of local engineers in a variety of developing countries, to facilitate the assembly, installation and maintenance of SHP plants.

## HIGHLIGHTS



- UNIDO published a World Small Hydropower Development Report in 2019, which contains 166 national reports and 20 regional reports, with 21 new countries added since its first edition;
- 165 SHP projects developed under the Sarhad Rural Support Programme in Pakistan;
- Partnerships for SHP development with European Bank for Reconstruction and Development and Ping An Bank;
- Supported innovative turbine designs such as Turbulent turbines, which allow harnessing the potential of low head streams and hydrokinetic turbines developed by Smart Hydro Power;
- Capacity building for green SHP, supported by regulations, guidelines, incentive policies and practices;
- International Center on Small Hydro Power (ICSHP) to support developing countries in developing, constructing, operating and maintaining SHP plants.

#### 2.4.4 Reducing greenhouse gas emissions in Lao People's Democratic Republic

##### SUMMARY



The project aims to reduce greenhouse gas emission in the Lao People's Democratic Republic's (PDR) industries by promoting the production and usage of industrial grade solid biofuel for thermal energy generation. Lao PDR's agriculture and forestry sectors produce large amounts of waste, such as rice straw and husks, sawdust, and corncobs. The annual potential of this waste is estimated at 500 million tons of oil equivalent, which can be used as feedstock for power generation. While biomass has previously been mostly used at the household level, the focus of this project is to promote the efficient use of biomass in the industrial sector. Coal along with traditional

biomass are the main fuels used by industries in Lao PDR generating thermal energy for heat application. The major consumers of coal in Lao PDR's industrial sector are the salt, cement and brick industries, but also other industries such as beverage and rubber production, consume large amounts of fossil fuel to generate thermal energy during their production process. There is an increased in demand for fossil fuels, including coal, and traditional biomass over the years due to growth in the identified industries. The project intends to replace the coal consumption in the industrial sector with biomass pellets.





## SOUTH-SOUTH AND TRIANGULAR COOPERATION

UNIDO, in collaboration with the Renewable Energy and New Material Institute (REMI) of the Ministry of Science and Technology (MOST), has recently launched Lao PDR's first Biomass Technology, Information and Learning Centre (BTILC) with the goal of promoting the production of solid biomass fuel for energy generation in the country. BTILC will also build technical capacity and know-how on solid biomass technology as well as establish networks among existing biomass centres and stakeholders in the region including entrepreneurs, producers, end-users, equipment suppliers and other associated

services. To build national capacity partners from the global south are used, such as the Biogas Institute of Ministry of Agriculture of China (BIOMA) a Research Institute in Chengdu, China, Enerteam from Vietnam, and Chiang Mai University in Thailand. Lessons learned from the production and usage of industrial grade solid biofuel for thermal energy in Lao PDR could potentially be transferred to other countries in the region and vice versa experiences from countries in the region inform the project's activities.







## HIGHLIGHTS



- Reduced Lao PDR's dependency on fossil fuels;
- Biomass Information, Technology and Learning Center (BTILC) has been established at the Renewable Energy and new Materials Institute (REMI) in Lao PDR;
- Jacketed steam boiler has been installed as pilot using pellet as fuel for salt production;
- Greenhouse solar dryers for drying salt and brine evaporation has been installed at two salt factories;
- Biomass resource and sink assessment has been conducted to identify potential users and suppliers of biomass fuel;
- Produced a practical guide for project developers on pellet plant development;
- Online training on biomass pelletization technology for BTILC and factories has been conducted.

### 2.4.5 Solar Micro Utility Enterprises (SMUEs) for rural energy in Bangladesh

#### SUMMARY



In Bangladesh, sustained economic growth over the past decade has rapidly increased the demand for energy. Despite significant efforts by the Government of Bangladesh, the country faces widening deficits in the provision of electricity, particularly in rural areas where less than fifty percent of the rural population had access to electricity in 2012. The lack of reliable energy supply significantly hindered the functioning of rural micro-enterprises as well as social and health facilities. In 2013, following discussions among experts from Bangladesh and India, the Solar Micro-Utility Enterprises for Promoting Rural Energy and Productive Uses project was initiated to tackle this challenge. The aim is to provide clean,

reliable and affordable electricity in rural areas of Bangladesh through solar technologies, powering rural health centres and improving health services. Within the framework of the project, five 5 kW Solar Micro-Utility Enterprises (SMUEs) were set up in Barhar and Vikertech Community Clinics in Gazipur District, Arunghati Community Clinic in Jamalpur District, and Urfa and Charmodua Namapara Community Clinics in Sherpur District. Excess electricity was sold to local communities for provision of other basic services and the revenue generated was used to support the operation and maintenance of the SMUEs thereby supporting the sustainable operation of the newly established energy systems.





## SOUTH-SOUTH AND TRIANGULAR COOPERATION



Rural electrification through photovoltaic technology is proving to be a success in developing countries. As part of its work in support of inclusive and sustainable industrial development UNIDO promotes energy access for productive uses, and is currently implementing solar photovoltaic projects in countries like Cabo Verde, Côte d'Ivoire, Guinea-Bissau, India, the Maldives, Nigeria, Tanzania, Uganda and Zambia. While UNIDO played a key role in facilitating and coordinating the project in Bangladesh, UNIDO's counterparts and partners in Bangladesh were responsible for providing the necessary infrastructure and human resources to the project. The project was further supported by the Government of India, which provided expertise for the planning and implementation of the project. India developed significant expertise in the application of research-based approaches to electrification of rural areas by solar photovoltaics to benefit many sectors, including health services. Throughout the implementation of this project, Indian expertise was shared through The Energy and Resources Institute (TERI)

and the UNIDO South-South India office. Indian manufacturers provided additional accessories and components for the construction and installation of the systems. During the project's implementation phase, Bangladeshi contractors worked with suppliers from India and the United States. In countries similar to Bangladesh, where initiatives such as rural health centres or even small-scale enterprises have been established but are not functioning due to unreliable energy supply, the approach adopted in the rehabilitation of the rural health project in Bangladesh can be applied. Above all, the systems should be able to provide reliable energy to operationalize the existing system that was previously non-functional. Integrating SMUEs with other small- and medium-sized enterprises (SMEs) could make this approach financially attractive for investors and economically feasible for the Government in terms of considering further replication. The replication and scaling-up of this approach is highly desirable in countries that want to power already existing infrastructure and can ensure the local coordination and management of the project.

## HIGHLIGHTS



- Provided rural health facilities in Bangladesh with solar power;
- Supported by Indian expertise;
- Scalable and replicable in similar contexts.

## 2.5 STRENGTHENING KNOWLEDGE AND INSTITUTIONS

Strengthening knowledge and institutions is one of the four strategic priorities of UNIDO, which was introduced in the Organization's Medium-Term Programme Framework 2018-2021. This priority is essential to better identify and showcase the contribution of UNIDO's ISID mandate to the achievement of the 2030 Agenda for Sustainable Development. It is different from the other three priorities – i.e. advancing economic competitiveness, creating shared prosperity, and safeguarding the environment – in that it refers to an outcome rather than a thematic focus. More specifically, strengthening knowledge and institutions is a prioritized outcome that is elevated over other high-level results. It describes the Organization's strategic direction towards strengthening the knowledge base for ISID at the project, programme, country and international level, as well as the institutional capacity at the technical, policy and normative level.

On the one hand, this priority describes activities that are, to some degree, already being undertaken by UNIDO; be it within other strategic priorities, in identified crosscutting areas or through analytical

and statistical work. Elevating these activities to a higher priority level shows UNIDO's intention to increasingly focus on these activities and their associated development results. This will allow the Organization to better support countries in achieving ISID and SDGs. On the other hand, strengthening knowledge and institutions prioritizes knowledge and institutional support activities that do not fall within any of the other three strategic priorities, but that are instrumental to advance ISID and to fulfil UNIDO's enhanced role in a new and dynamic development context. This fourth strategic priority thus both strengthens and complements the three "thematic" priorities. It allows UNIDO to better integrate its activities across its functions and to achieve a greater contribution to the 2030 Agenda.

Strengthening knowledge and institutions is also a key element in successful South-South cooperation. SSTIC relies on enhanced access to science, technology and innovation, knowledge sharing on mutually agreed terms, as well as implementing effective and targeted capacity-building in developing countries.

### 2.5.1 Promoting women economic empowerment and entrepreneurship

#### SUMMARY



The new era of industrialization marked by the Fourth Industrial Revolution with digitalization and innovation have been gaining momentum, entailing a range of potential benefits, as well as challenges to be addressed in the area of women's economic empowerment. Women and girls account for half of the world's population,

yet 250 million fewer women than men are online. This makes the digital empowerment of women a prerequisite in achieving sustainable economic growth and increasing prosperity. Implemented since 2018, the project has provided the following key services: sharing knowledge and expertise, forging partnerships



and networking, and developing competencies and capacity building. The project facilitated the creation of a robust inter-regional network of stakeholders representing Governments, the private sector and civil society organizations that are engaged in the promotion of women's economic empowerment, entrepreneurship and leadership. Project activities thus helped foster global knowledge sharing by inviting

prominent women's economic empowerment advocates from all over the world to exchange their expertise at such prestigious global forum events as the Second Eurasian Women's Forum in 2018, the Saint Petersburg International Economic Forum in 2017, 2018 and 2019, and the Second Global Manufacturing and Industrialisation Summit (GMIS) in 2019.



## SOUTH-SOUTH AND TRIANGULAR COOPERATION

The Russian Federation has been actively engaged in knowledge and expertise sharing, innovation and technology transfer, supporting projects across the Global South. Focusing on inter-regional cooperation, the project encourages, supports and scales-up the advancement of the women's agenda in the new industrial and technological environment. It facilitates the sharing of knowledge and expertise and the creation of global networks in the field of women's

economic empowerment, entrepreneurship and leadership, which, among others, reaches out to beneficiary Member States with the aim to further spread the most relevant knowledge and skillsets helping women harness their full creative and productive potential, successfully run and expand businesses or increase employability, ultimately contributing to enhancing the role of women in joint efforts towards achieving the SDGs.



## HIGHLIGHTS

- E-learning training course “Digital Business Innovations for Women Entrepreneurs and Managers” to build capacities of women entrepreneurs, managers and employees;
- Highlighted the indispensable role of women in achieving ISID and showcased many solutions that could be replicated globally;
- Supported by the Russian Federation this inter-regional project brought together women entrepreneurs from a diverse range of backgrounds to share their experiences and knowledge.

## 2.5.2 UNIDO Centre for South-South Industrial Cooperation (UCSSIC China)

### SUMMARY



As a joint collaboration between the Ministry of Commerce of China (MOFCOM), UNIDO and the China International Center for Economic and Technical Exchanges (CICETE), UCSSIC China aims to create a practical, institutional and operational platform for SSTIC and ISID in partnership with relevant institutions, counterparts and stakeholders, both in and outside of China. Over the past decade, UCSSIC China has successfully implemented two phases of the project and effectively utilized its resources to support activities in the fields

of investment promotion, entrepreneurship training, food safety, Green Industrial Parks (GIPs) development, promotion of ISID along the “Belt and Road” and technology transfer through SSC. These project activities have achieved noticeable results and played a catalytic role for industrial development in Southern countries, resulting in the enhanced visibility of UCSSIC China and UNIDO, as a whole, in developing countries and around the world.



## SOUTH-SOUTH AND TRIANGULAR COOPERATION



UCSSIC China is serving as a main hub for SSTIC between China and other developing countries, leveraging Chinese know-how in the area of industrial development for the benefit of UNIDO's Southern Member States. UCSSIC China has been actively promoting technology transfers and the sharing of experiences to support ISID through SSTIC among developing countries, further strengthening their industrial capacities and therefore serving as an important gateway and platform for the promotion of SSTIC globally. The second phase of the project started in January 2014 and concluded in December 2019. During the second phase of the project, in cooperation with UCSSIC's partners, more than 1,500 people received training with support from UCSSIC China. Furthermore, in cooperation with various institutions and centers of excellence, UCSSIC China hosted

several delegations from other developing countries to enable them to meet with relevant Government agencies, associations and enterprises in China. Additionally, UCSSIC regularly conducted outreach and promotional activities to improve private-sector awareness of available technologies and business opportunities, and assisted developing countries in the transfer and application of best practices for technological upgrading. In the third phase of the project, UCSSIC China will continue to explore the technical and human resources available in China and other countries, and carry out activities such as technical training courses, seminars, forums and matchmaking events, in close cooperation with relevant UN agencies and partners in developing countries in Asia, Africa and Latin America.

## HIGHLIGHTS



- Supporting the development of sustainable industrial parks in accordance with UNIDO's "International Guidelines for Industrial Parks";
- Promoted ISID through Partnership Building for Trade and Investment Flows along the Maritime and Continental Silk Road (MCSR);
- Building partnerships between China and other developing countries for technological upgrading, experience sharing and advisory services;
- Facilitate SSTIC in the areas of renewable energy, agribusiness, technology transfer and green/sustainable industrial parks.

### 2.5.3 International Guidelines for Industrial Parks

#### SUMMARY



Since the 1970s, UNIDO has been an active advisor and partner to its Member States in the planning, design and management of industrial parks, export processing zones, special economic zones and eco-industrial parks around the world. Countries have benefited from UNIDO's expertise in capacity-building assistance at different stages of industrial parks development. UNIDO has assisted in the preparation of pre-feasibility and feasibility studies and has facilitated public-private partnerships, and in addressing regulatory and institutional issues.

UNIDO, through the established cross-disciplinary team on industrial parks and wide network of external experts, can offer an integrated approach to successful industrial

parks development. In 2018, UNIDO launched a project to collect, compile, analyze and document available knowledge for the development of industrial parks; and to develop a comprehensive guiding framework for the development, operation and management of industrial parks. In 2019, the International Guidelines for Industrial Parks was launched during the side-event on industrial parks, on the sidelines of the 18th session of UNIDO's General Conference. The publication fills an existing gap in the area of industrial parks development and management, as well setting basic international standards and serving as a tool to promote international good practices. It enhances the Organization's normative function on sustainable industrial parks and facilitating knowledge sharing.





## SOUTH-SOUTH AND TRIANGULAR COOPERATION



This project received technical and financial support from the Government of China, which has a long history of cooperation with UNIDO on the development and promotion of sustainable industrial parks around the world. The project aims to foster partnerships with and among Southern countries to support the improvement of their industrial production capacity through the creation

of sustainable industrial parks. The project also provides an opportunity for Southern countries to share their experience in creating and managing sustainable industrial parks, while at the same time providing technical knowledge on industrial park's planning and design, construction, operations, marketing, investment promotion, waste and energy management.



## HIGHLIGHTS



- UNIDO's normative function on sustainable industrial parks strengthened;
- The International Guidelines for Industrial Parks published to further provide UNIDO's expertise in capacity-building and technical assistance at different stages of industrial park development;
- Three country studies on industrial parks produced for Ethiopia, China and Peru for knowledge sharing;
- The international conference on industrial parks was held in Peru; two seminars organized in China to share the country's best practices and lessons learned on industrial park development;
- A Knowledge hub for sustainable industrial parks is under development.

## 2.5.4 Study on value chain integration along the Belt and Road Initiative

### SUMMARY



Since its announcement in 2013, the Belt and Road Initiative (BRI) has developed into a comprehensive economic cooperation framework with a focus on improving infrastructure connectivity. To provide valuable knowledge on the BRI and to inform policy advice on the role of infrastructure for the achievement of SDG 9, the National Development and Reform Commission, China (NDRC), in cooperation with UNIDO, has coordinated the creation of the report “Promoting Development of Global Value Chains through the Belt and Road Initiative” presented in November 2019. A comprehensive analysis of the BRI’s scope and trajectory over time was so far unavailable. While there is plenty of evidence on the role of infrastructure for trade, the medium- and long-term positive economic effects of BRI and similar infrastructure development initiatives in the countries are not well-studied. Examining the impact of BRI projects can, therefore, provide

important evidence on the role of infrastructure in the integration of developing and emerging economies into Global Value Chains (GVC). The report, which was published as a result of this research project, aims to improve the knowledge of policymakers, entrepreneurs and development practitioners through three different channels: (i) by establishing a quantitative analysis framework on the contributions of infrastructure development to GVC participation in different countries along the BRI corridors; (ii) by contributing to a better understanding of how GVC participation can lead to economic benefits in growth, employment and trade through effect estimations in selected countries; and, (iii) by offering a set of policy recommendations and examine in greater depth the policy instruments suitable for facilitating countries’ GVC participation through infrastructure development projects.



## SOUTH-SOUTH AND TRIANGULAR COOPERATION

The report is drafted as a collaborative effort between teams of experts from established research institutes from across the world. The research contained within draws on evidence from 63 countries and offers in-depth analysis of BRI's potential impact on trade and investment in the context of GVCs. Apart from a thorough descriptive analysis of data on indicators of infrastructure development and trade and international production activity, econometric models are used to identify the influence of infrastructure quality

on key economic variables, including GVC participation. Country studies of existing and planned infrastructure projects in selected countries in Southeast Asia, Central Asia and Eastern Europe offer a concise overview of ongoing activities under the BRI. In-depth analyses for a number of globally integrated manufacturing industries and services (agro-processing, textiles and clothing, electronics and ICT) complement the evidence on the global, regional and country level.



## HIGHLIGHTS

- Key findings provide further evidence to various positive effects of infrastructure development on economic activity;
- Report provides critical evidence on the efficacy of BRI projects and the promotion of GVC participation through infrastructure development among economies of the Global South
- Provides policymakers in the Global South with a strong case for investment into high-quality infrastructure.

## 2.5.5 Promoting sustainable industrial parks via a South-South and triangular industrial cooperation platform

### SUMMARY



The overall objective of this project is to contribute to build the capacity of UNIDO's Member States to effectively plan and execute sustainable industrial park policies, programmes and strategies for the realization of the 2030 Agenda and inclusive and sustainable industrial development (ISID). By establishing a centre of excellence, an online knowledge hub as well as a training academy on sustainable industrial parks, the project will improve the accessibility and availability of industrial knowledge and best practices throughout the Global South.

Developed within the framework of SSTIC, the project will stimulate dialogue and initiatives oriented towards increasing South-South solidarity, mutually beneficial partnerships and networking to achieve industrialization through the sustainable industrial park development modality.

The project will also support the implementation of UNIDO's Programme for Country Partnership (PCP), the Third Industrial Development Decade for Africa (IDDA3) and the Belt and Road Initiative (BRI).

### PUBLICATIONS

Review of the SEZ Policy and Development of Industrial Parks in Rwanda

Implementation handbook for Eco-Industrial Parks

Global Assessment of Eco-Industrial Parks in Developing and Emerging Countries

UNIDO's Contribution to the Development of Special Economic Zones (SEZs) and Industrial Parks (IPs) in China

Third Industrial Development Decade for Africa (2016-2025)

[VIEW ALL](#)

### PARTNERS

[VIEW ALL](#)

## SOUTH-SOUTH AND TRIANGULAR COOPERATION

The project is supported by the People's Republic of China which provided funding and expertise to enhance South-South knowledge sharing. Within the framework of this project, UNIDO is mobilizing partners from academia and development institutions such as the Chinese Academy of International Trade and

Economic Cooperation (CAITEC), Center for International Knowledge on Development (CIKD), Asia-Pacific Finance and Development Institute (AFDI) and Chinese Academy of Social Science (CASS) for joint project implementation.



## HIGHLIGHTS

- South-South knowledge sharing for the establishment and operation of sustainable industrial parks in support of achieving the 2030 Agenda;
- Establishing a centre of excellence, an online knowledge hub as well as a training academy to support Member States in developing sustainable industrial parks and strengthen the dissemination of knowledge of industrial development among countries of the Global South;
- Supported by the People's Republic of China.







# Contact Information

**Mr. Jie Zhao**

Industrial Development Officer and  
Coordinator for South-South and  
triangular cooperation

[j.zhao@unido.org](mailto:j.zhao@unido.org)

**Mr. Ming Zhang**

Team Assistant

[m.zhang@unido.org](mailto:m.zhang@unido.org)

**Mr. Sebastian Schrottenbach**

Project Associate

[s.schrottenbach@unido.org](mailto:s.schrottenbach@unido.org)

■ UNIDO South-South and Triangular Industrial Cooperation (SSTIC)

[Web link](#)



■ UNIDO Programme for Country Partnership (PCP)

[Web link](#)



■ UNIDO Centre for South-South Industrial Cooperation  
(UCSSIC China)

[Web link](#)



■ International Guidelines for Industrial Parks



English: [Web link](#)



French: [Web link](#)



Chinese: [Web link](#)





UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION

**United Nations Industrial Development Organization**

Vienna International Centre  
P.O. Box 300, 1400 Vienna, Austria

Telephone +43 1 260260  
[www.unido.org](http://www.unido.org)

