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# **Knowledge exchange in the field of industrial development: The case of the Industrial Knowledge Bank**

South-south cooperation in Latin America and the Caribbean promoted by the United Nations Industrial Development Organization

Master's thesis in Industrial Ecology

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Department of Energy and Environment  
CHALMERS UNIVERSITY OF TECHNOLOGY  
Gothenburg, Sweden 2018  
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Master of Science Thesis  
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United Nations Industrial Development Organization panoramic view of the main building, taken from the main entrance.  
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## Abstract

To achieve the Sustainable Development Goals (SDGs), a new paradigm in development cooperation is needed. New actors and new forms of delivering aid are arising. The Agenda 2030 brought together several actors and the United Nations Industrial Development Organization (UNIDO) undertook the role of implementing agency of the SDG9 targets related to industrialization. One mechanism design to exchange knowledge in the field of industrial development is the Industrial Knowledge Bank (IKB), a project of the Latin America and the Caribbean Division of UNIDO. The present study analyzes through an embedded single case study how the IKB supports the achievement of UNIDO's objective and how can it support the achievement of the SDG9 targets related to industrialization.

Keywords: development cooperation, industrialization, knowledge exchange, sustainable development goals, UNIDO.

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“To be alive in this beautiful, self-organizing universe—to participate in the dance of life with senses to perceive it, organs that draw nourishment from it—is a wonder beyond words.”

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## List of Abbreviations

IKB	Industrial Knowledge Bank
ISID	Inclusive and Sustainable Industrial Development
LAC	Latin America and the Caribbean
MDGs	Millennium Development Goals
SDGs	Sustainable Development Goals
UNIDO	United Nations Industrial Development Organization

# 1 Introduction

## 1.1 Background

Development and growth have been central topics at international negotiations and discussions for a long time. Since the beginning of the United Nations Organization (UN), one of the core issues has been to support and assist the development of less-developed countries. In fact, the UN designated the 1960s as the United Nations Development Decade (Stokke, 2009) adopting an international development strategy, and in 1966, the UN set in place a specialized agency with the mission to promote and accelerate the industrialization of developing countries- the United Nations Industrial Development Organization (UNIDO) (United Nations General Assembly UNGA, 1966).

UNIDO was created following a decade of debate over industrialization and the role it plays in a country's development. (UNIDO, 2016b). Back in the time when UNIDO was created, the world's leading economists identified that industrialization was a country's engine for growth (e.g. Nicholas Kaldor and Albert Hirschman) (Kaldor, 1967) and (Andreoni and Gregory, 2014) and so UNIDO's creation served the need to promote industrialization in developing countries.

Considered as an engine for growth in economic development (Szirmai, 2012), industrialization offers special opportunities for capital accumulation, economies of scale and technological progress (Szirmai and Verspagen, 2010). Industrialization also offers new opportunities for value creation across the supply chain (Pencea, 2010) and promotes innovation. Moreover, the industrialization has significantly raised the standard of living for certain individuals of the world's population (Ponting, 2007) since the Industrial Revolution.

Nevertheless, the development paradigm that promoted industrialization as engine for growth-inherited from the economic-oriented view in the 1950s-1960s- failed to advert the social and environmental costs of development. However, when the work *Limits to Growth* (Meadows et al., 1972) was published in 1972, the social and environmental impacts of development were questioned and thus, integrated into the development debate.

In fact, the UN brought together leaders from all over the World to discuss the topics of development and environment. The outcome of this discussion was the Brundtland Report, published in 1987, where the term sustainable development was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations UN, 1987). After this, sustainable development has come to impregnate the ideology of development cooperation, leading to changes in development approaches from a purely economic towards a multi-disciplinary one (Sumner, 2006).

Today's multi-disciplinary approach to development has materialized into the Sustainable Development Goals (SDGs). These goals are a set of international objectives to eradicate poverty in the World and thus, pave the path to achieve sustainable development. The SDGs are contained in the *Transforming our World: The 2030 Agenda for Sustainable Development*, a Resolution agreed in September 2015 by the United Nations General Assembly (UNGA, 2015). The agenda contains seventeen goals with one hundred sixty-nine targets that cover several areas of development and the time-line to be achieved is fifteen years. These goals were designed and agreed by stakeholders of all kind -governments, NGO's, private sector, academia, etc.

The SDGs build on the Millennium Development Goals<sup>1</sup> (MDGs), approved in 2000 with the Millennium Declaration (UNGA, 2000). Like the SDGs, each of the eight MDGs had specific

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<sup>1</sup>The eight Millennium Development Goals (MDGs) were: Goal 1: Eradicate extreme poverty and hunger; Goal 2: Achieve universal primary education; Goal 3: Promote gender equality and empower women; Goal 4: Reduce child mortality; Goal 5: Improve maternal health; Goal 6: Combating HIV/AIDs, malaria, and

targets that governments around the world were encouraged to pursue through policies and programs. However, the MDGs expired in 2015 and the SDGs were designed to replace them and continue the work these promoted (Sustainable Development Goals Fund, 2017). In contrast with the MDGs, the SDGs include new areas and targets in an acknowledgement of the multi-dimensional nature of development (Bhattacharya et al., 2014); areas like climate change, economic inequality, consumption, innovation, justice, among others (United Nations Development Programme UNDP, 2017).

Due to UNIDO's mission related to industrialization, it has taken the enterprise to promote goal 9 within their activities. Goal 9 aims to "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation." This goal addresses three important aspects of sustainable development: infrastructure, industrialization and innovation (UN, 2016). It contains eight targets and acknowledges that industry and industrialization are the main drivers of sustained economic growth, environmental sustainability and shared prosperity (UNIDO, 2015c).—Furthermore, according to UNIDO, goal 9 is aligned with the core concept of the organization's mission: Inclusive and Sustainable Industrial Development (ISID).

The concept of ISID, coined by UNIDO in 2013 (UNIDO, 2013a), integrates the concept of sustainable development into industrial development. According to UNIDO (2016), "ISID advocates that industrial output be underpinned by a robust social and environmental framework, ensuring that all people, whether they are men or women, young or old, urban or rural dwellers alike can reap the cross-dimensional benefits of greater industrial productivity". Using this concept as guiding principle, the organization's programs, projects and policies have the overall objective to achieve ISID.

One of the regions where UNIDO works with to promote ISID is the Latin America and the Caribbean (LAC) Region. The region has approximately 635 million inhabitants (CEPALSTAT, 2016), of which 12% live in extreme poverty (CEPALSTAT, 2010). In the context of the Agenda 2030, eradication of poverty is the main goal to follow during the upcoming years to achieve sustainable development.

The LAC Division oversees thirty-three countries. Five of them belong to the World's emerging markets: Brazil, Chile, Colombia, Mexico and Peru (MSCI, 2016). The region is a fast-growing industrialized region where industry is an important economic activity for growth, and the topic of industrial development is relevant for every country. The UNIDO LAC Division has several projects aimed to assist the process in industrialization of developing countries, and one of these projects is the Industrial Knowledge Bank (IKB).

The IKB is a project that manages technological knowledge and enhance cooperation among LAC countries (UNIDO, 2014). It is an instrument that acts as an intermediary between organizations that request knowledge (recipients) and organizations that provide knowledge (donors). When an organization from any of the LAC countries identifies that there is a need of expertise in one of their projects or activities, it approaches the IKB to ask for assistance finding a stakeholder that has the expertise needed. Since the IKB has a large database of stakeholders (institutions) and information regarding their expertise, it can help the requesting organization find a donor stakeholder that has the expertise it seeks.

Due to the scope of the project (it reaches many stakeholders and many areas of expertise), the impact that it can have to foster learning for sustainable development is immense. For UNIDO,

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other diseases; Goal 7: Ensure environmental sustainability; Goal 8: Develop a global partnership for development.

the IKB is a key instrument to fulfill its mandate by creating knowledge networks that allow all actors the sharing of experiences and knowledge in the field of industrialization.

## 1.2 Aim and Research questions

With the approval of Agenda 2030, new challenges for development cooperation occur. Managing knowledge-sharing projects and programs that effectively contribute to the fulfillment of SDGs and international development objectives is essential. Hence, projects like the IKB need to be studied and understood in order to know how they can contribute to this fulfillment, so they become examples to be replicated in other regions.

Projects like the IKB combine certain disciplines in their approach. As a project that encourages industrial development in developing countries, it makes use of a new paradigm in development cooperation, the South-South cooperation model. At the same time, the IKB proposes to work in a network of knowledge where it plays as manager of the knowledge and actors.

The aim of this work is to understand how the IKB approach achieves UNIDO's development cooperation objectives in order to analyze if this approach can support the achievement of SDG9 targets related to industrialization.

Based on the aim of this study, the research questions are:

RQ1: Does the Industrial Knowledge Bank support the achievement of UNIDO's objectives?

RQ2: How can mechanisms like the Industrial Knowledge Bank support the achievement of the SDG9 targets related to industrialization?

## 2 Theoretical Framework

### 2.1 Industrialization, technology, and economic development

#### 2.1.1 What is industrialization?

Industrialization is defined as the process of change from a “basic agrarian economy to an industrialized one” (Dictionary of World History, 2015), and it was first experienced in Britain during the Industrial Revolution. Before the coming of Industrial Revolution, countries like Britain had industry or commerce as well, but it was all dependent on agriculture. The coming of fundamental change in industry relies in the fact that the number of people employed by industry was ahead of those in agriculture (Hopkins, 2000).

Industrialization was the norm in certain countries during the Industrial Revolution, and from the middle of the nineteenth century the world was divided between agricultural economies and industrial ones. For the industrialized countries, technology advances increase opportunities for trade thus colonial division of labor was established. Agricultural economies provided raw materials and industrialized countries manufactured the goods. The industrialization process was associated with wealth, economic development, power and dominance (Lewis, 1978; Szirmai, 2012). However, the developing world remained mostly primary producers until 1945, after World War II was over and these countries started exporting low-wage manufacturers, rejoined the industrial race (Szirmai, 2012).

During the 1960s, developed countries started investing capital in developing countries so they industrialized and start exporting. Associated to these investments, the economic paradigm of the decade was that industrialization was a country’s engine for growth (Kaldor, 1967). This view permeated development organizations like the UN, that after the General Assembly passed Resolution 1720 (VVI) in January 1962, established the First United Nations Development Decade oriented towards industrial development (UNIDO, 2016b).

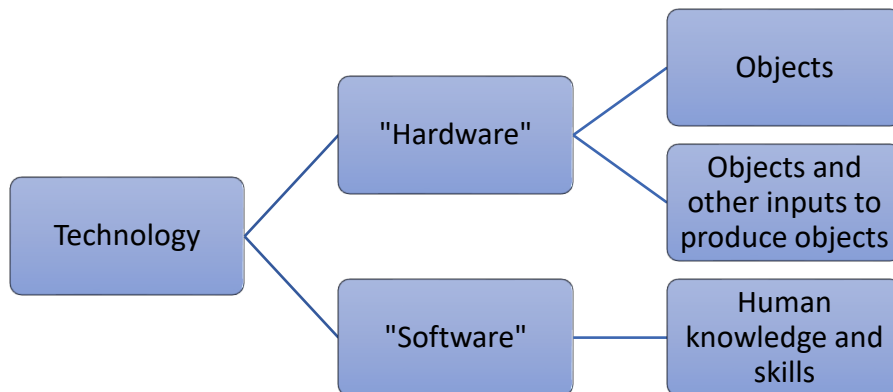
Since then, industrial development started to be an important issue on International Development Agendas. In 1963, the Committee for Industrial Development in its report to the United Nations Economic and Social Council ECOSOC (1963) addressed the definition of industrialization, agreeing to formulate an operational term. The report states that “Industrialization is a process of economic development in which a growing part of the national resources is mobilized to develop a technically up-to-date, diversified, domestic economic structure characterized by a dynamic manufacturing sector having and producing means of production and consumer goods and capable of assuring a high rate of growth for the economy as a whole and of achieving economic and social progress”. Since then, the Committee -later transformed to UNIDO- have taken a development policy pursuing the industrialization of developing countries, institutionalizing the term in UN Documents.

Industrialization, as a structural change, results in a profound metamorphosis of society, transforming the social, economic and spatial organization of production. This change from agriculture towards industry, it’s perceived not only in employment but in productivity and output growth, these two being main drivers of overall economic growth. At the same time, these entail organizational and technological developments, reflecting changes in both production and distribution of goods, and in ways to produce and deploy new technologies (Grübler, 1998).

#### 2.1.2 What is technology?

Technology consists of manufactured objects that increase human capabilities or to facilitate the performance of tasks otherwise not feasible. However, the production of these objects, including their invention, design, and manufacturing, is contained within a larger system that encompasses the machinery to produce such objects-also referred as “hardware”-, factor inputs like raw

materials, labor and energy, and human knowledge and skills-known as “software”-. Hence, the concept of technology includes what things are made and how things are made (Grübler, 1998).



**Figure 1. Classification of technology based on Grübler (1998).**

Jin (2011) proposed the term “soft technology”, and states that technology is divided in hard technology and soft technology. Hard technology is focused on physical things -like machinery and objects- and soft technology is on the other hand, focused on human thought. One characteristic of hard technology is its nature of being systematically codified and understood. Hard technology is also part of an invention process, a process that comes from the soft side. Soft technology is “the knowledge derived from the social sciences, non-natural sciences and non-scientific [traditional] knowledge to solve various practical problems” (Jin, 2011).

There are three phases in technology development:

- Invention. This phase is typically related to a certain empirical or scientific discovery. An invention by itself might not possess economic or social significance, even when applications are apparent (Grübler, 1998).
- Innovation. This concept refers to the act of developing something new, say a new product, service, or process based on a new idea (Gorman, 2007) and to the fact of putting such innovation to its first use and first introduction into the market (Grübler, 1998).
- Diffusion. This stage of technology development corresponds with the widespread replication and socioeconomic assimilation of a certain technology. Technology diffusion plays a major role to global changes, and this stage of technology development is the central part of historical technological changes (Grübler, 1998).

All along the path of technology development, institutions, social norms, and attitudes play a central role in determining how the systems that produce and use artifacts emerge and work.

### 2.1.3 Industrialization, technology and economic development

The term economic development refers “to the process whereby which simple, low-income national economies are transformed into modern industrial economies” (Britannica Academic Encyclopedia, 2018a). This term is often used in general discourse as a synonym for economic growth, however economic development involves qualitative and quantitative improvements throughout the process of development a country undergoes. Economic development is a normative concept that includes the overall well-being of the country and comprises elements such as education, the environment, political freedom, health, and the degree of inequality in their societies (Helpman, 2004).

On the other hand, “economic growth is the continuous increase in per capita incomes or purchasing powers” (Hudson, 2015), indicating an increase in a country’s wealth over an extended period of time. Commonly in economic discourse, the term economic growth is applied to countries already experiencing rising per capita incomes while economic development is applied to economies that are close to the subsistence level (Britannica Academic Encyclopedia, 2018b). Economic development also refers to the large development process of a country while economic growth centers in the continual increase of per capita incomes, and it is measured by the growth rate of constant price gross domestic product (GDP).

To understand economic growth of a country it is necessary to observe the economic processes at the level of individual markets, where both producers and consumers convey, and transactions take place (Hudson, 2015). Industry is an important level to understand economic growth. For economist such as Kaldor and Cornwall industry-especially manufacturing- was the prime sector leading to economic growth.

Nicholas Kaldor saw the expansion of the manufacturing sector as the driving engine of economic growth. He attempted to describe the process by which a country moves from one stage to another with his four-stage model of industrial development, where he points out that a country’s expansion is basically demand-driven due to a shift of labor from agriculture to manufacturing (Argyrous, 1996). Furthermore, Kaldor developed the components related with growth in manufacturing sector. One of his laws explains the relation between the growth of manufacturing output and the growth rate of the economy; the higher the first one, the more significant is the growth rate of the second one (Marconi et al., 2016).

Elaborating on Kaldor’s idea of manufacturing being the leading sector, John Cornwall identified that technological change in certain manufacturing sectors acts as a driving force for the improvement of productivity (Cornwall, 1977). Another economist relating technological change, manufacturing and economic growth is Joseph Alois Schumpeter. In his theory, it is the “entrepreneur” that introduces innovations in the economy that further create a bandwagon of imitations, each consisting of improved versions. Due to this process, innovation allows for new technology to diffuse and economy grows during the diffusion period (Verspagen, 2000).

The views on manufacturing and economic growth Kaldor and Cornwall had highlighted the economic line of thinking during the second half of the 20<sup>th</sup> century, where manufacturing was understood to be the prime sector leading to economic growth. Relying on this idea, technology and industrialization became important topics to further develop in international policies. While there is still some debate whether government intervention is needed for economic growth, international organizations have adopted a policy to promote industrialization of developing countries aiming to accelerate their economic growth.

## 2.2 Development Cooperation

Development cooperation is a term widely used in the international discourse and policy arena, despite the meaning of the term remains vague and several definitions express the different views of what development cooperation is and should be. The notion of cooperation to achieve development is rooted in the idea of development being something society should look for and actively work towards it; so important that in fact, cooperation is needed.

Development is referred to as “a set of beliefs and assumptions about the nature of social progress” (Rist, 2007) and in general terms, development is defined by Myrdal (1974) “as a movement upward of the entire social system”. This term implies the constant evolution of a system towards a desired state that believable implies better conditions of those current ones in which the systems finds itself.



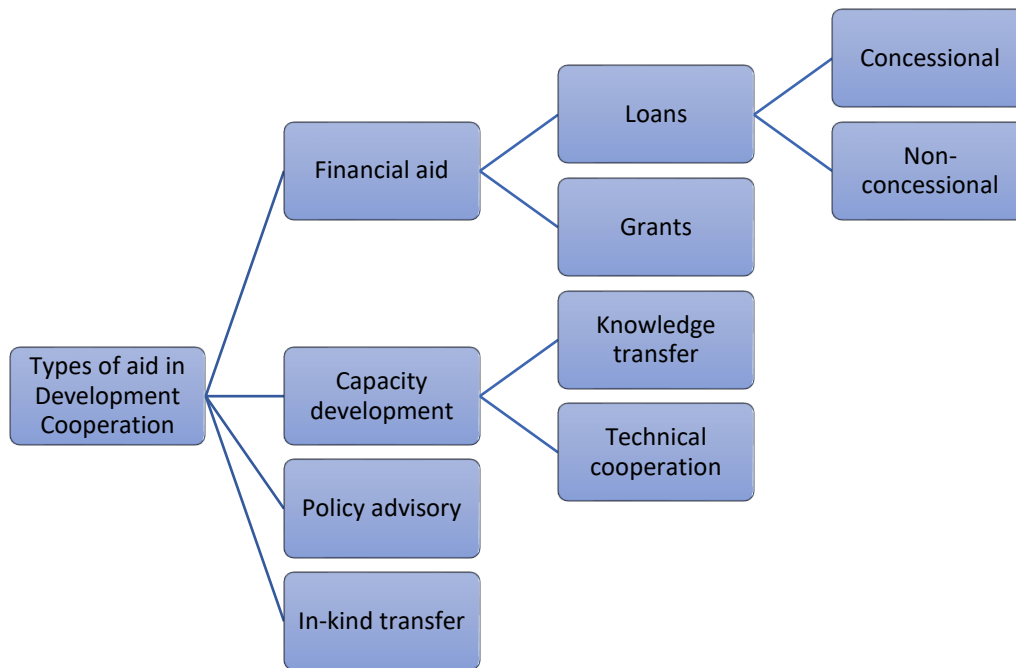
Implying that those in a lower state should be assisted towards an upper state, development cooperation can include several ideologies, beliefs and assumptions on how and why to do so. However, when it comes to defining what development cooperation is, it's important to identify the aim and goals present in the definition. The term itself implies help and assistance of an entity to direct the change towards a desired new state (i.e. a goal or target). This desired new goal has concerned economists and policy makers over decades and it is still at the core of international agendas, such as the Agenda 2030 for Sustainable Development. Therefore, development cooperation is nowadays directed to help developing countries achieve economic growth for the reduction of poverty, which is recognized to be *the greatest global challenge and an indispensable requirement for sustainable development* (UNGA, 2015).

Development cooperation is concerned with the goal of poverty eradication, which implies improving living conditions in poorer countries (Janus et al., 2015). To do so, several activities are put in place all over the world by different actors. However, not all activities are considered development cooperation. For an activity to be considered Development Cooperation (Alonso and Glennie, 2015) it needs to meet the following criteria:

1. *Aims explicitly to support national or international development priorities.* Not all international cooperation is classified as development cooperation. To define if an activity is development cooperation or not, the classification should rely on globally agreed goals, such as the Sustainable Development Goals (Alonso and Glennie, 2015).
2. *It is not driven by profit.* Another important characteristic is the fact that no activity emanating from a development agreement is motivated by profit (Alonso and Glennie, 2015).
3. *Discriminate in favor of developing countries.* For an action to be considered development cooperation it needs to discriminate in favor of developing countries aiming to create new opportunities for them, and considering the structural impediments that limit the countries' development (Alonso and Glennie, 2015).
4. *It is based on cooperative relationships that seek to enhance developing country ownership.* Cooperative and non-hierarchical relationships between international partners are the base for Development Cooperation. These relationships should aim to complement resources and capacities in favor of development purposes, always respecting a country's sovereignty in defining and steering national development strategies (Alonso and Glennie, 2015).

### 2.2.1 Types of aid in Development Cooperation

In general terms, Development Cooperation can be classified in four major areas: financial aid, capacity development, policy advice, and in-kind transfer. The following image illustrates the types of aid in Development Cooperation:



**Figure 2. Types of Aid in Development Cooperation based on Alonso and Glennie (2015).**

1. **Financial.** This type of development cooperation has been the most commonly used and remains seen as the main pillar in development cooperation (Alonso and Glennie, 2015). The activity of financing for development can be public or private. However, in the context of financing for development, when countries or institutions engage in a financing process, it is referred as international public finance. For years, development cooperation was mainly done in the public sphere but after the Agenda 2030 came into the picture, more private participation is seen in the financing activities.
  - a. *Loans.* A loan is when money is lent and must be returned to the borrower, usually with interest (Dictionary of Economics, 2017).
    - i. *Concessional.* The term concessional refers to the loans that are given on terms more generous than market loans. This means that these types of loans have interest rates below the ones available on the market or have grace periods, or a combination of these (International Monetary Fund IMF, 2003).
    - ii. *Non-concessional.* This type of loans is subject to the market-related interest rate and it is the mostly common type of loan used by the ODA Countries.
  - b. *Grants.* Grants are non-reimbursable funds (World Bank, 2017a). This mean that the actor receiving the grant is not obligated to return the money received. Many institutions that work for development work with Grants, especially when they assist highly indebt actors which can't pay a loan and its interests. Many private institutions work with grants as well, including NGO's, governmental and intergovernmental ones (e.i. UN System).
2. **Capacity Development<sup>2</sup>.** The term capacity development refers to “the process through which individuals, organizations and societies obtain, strengthen and maintain the

<sup>2</sup> The term “capacity building” was used before “capacity development”. This change in terminology is because capacity building alludes to a ‘start from zero point with the use of external expertise to fabricate something previously non-existing’, while capacity development ‘underlines the inherent existence of

capabilities to set and achieve their own development objectives over time” (UNDP, 2009a), though-out these processes the vested parties develop the ability to effectively take part in different forms of collective action (Banyan, 2016). Moreover, achieving the desire objectives must consider the ability of actors to perform the objectives effectively, efficiently and sustainably (Fukuda-Parr et al., 2002). Capacity development is both an objective and an approach. Capacity development is addressed in three levels (UNDP, 2009a):

- a. *Individual*. This level refers to each person’s knowledge, skills and experience, and how these enable individuals to perform. They can be acquired formally and/or informally and are shaped by organizational and environmental factors.
- b. *Institutional*. This level refers to the policies, procedures and internal structures that enables an organization’s effectiveness. At this level, the individuals and the benefits of the enabling environment are put into actions.
- c. *Societal*. This level refers to the social system within which humans and institutions operate, which sets the overall scope for capacity development. This includes rules, power relations, policies, laws, and social norms that govern civic engagement.

Capacity development comprises technical cooperation, knowledge transfer and policy advisory.

- a. *Technical cooperation*. “comprises the provision on concessionary terms of resources aimed at the transfer of skills and know-how and at capacity-building within national institutions to undertake development activities. It includes resources in the form of personnel (international, national, and long and short-term)” (Fukuda-Parr et al., 2002). According to IMF (2014), there are two basic types of technical cooperation:
  - i. *Free-standing technical cooperation (FTC)*. The provided technical and managerial skills or technology have the purpose of building up general national capacity without reference to the implementation of any specific investment project.
  - ii. *Investment-related technical cooperation (IRTC)*. The provided technical services are required for the implementation of specific investment projects.
- b. *Knowledge exchange*. In the context of development cooperation, it refers to the “systematic approach taken to the sharing of knowledge to support programs, operations and advocacy” (United Nations International Children’s Emergency Fund UNICEF, 2015) by development cooperation institutions, governments, or individuals. It is aimed to share, replicate, and scale up experiences that have worked in development cooperation context (World Bank, 2015).
- c. *Policy Advice*. This refers to the analysis, suggestions and support that certain bodies or organizations provide to governments throughout the policy cycle. Policy advisory systems are bodies placed to provide governments with evidence-based analysis to have when designing policies (Organization for Economic Co-operation and Development OECD, 2017a). Apart from policy

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endogenous development processes and focus on the need to support and facilitate these processes’. Both terms are still in common use since there is not yet a universal agreement about which one is the most appropriate (Learning Network on Capacity Development, 2017).

advisory bodies, certain organizations assess governments as well when throughout the policy analysis cycle, and offer policy advisory services (e.g. UNIDO, 2018a).

3. In-kind transfer. This type of cooperation refers to the flows of goods and services with no payment in money or debt instruments in exchange (IMF, 2007). Recently, this approach has been criticized so it appears to be reducing in relevance compared to the other types of aid in development cooperation.

### 2.2.2 Types of actors in Development Cooperation

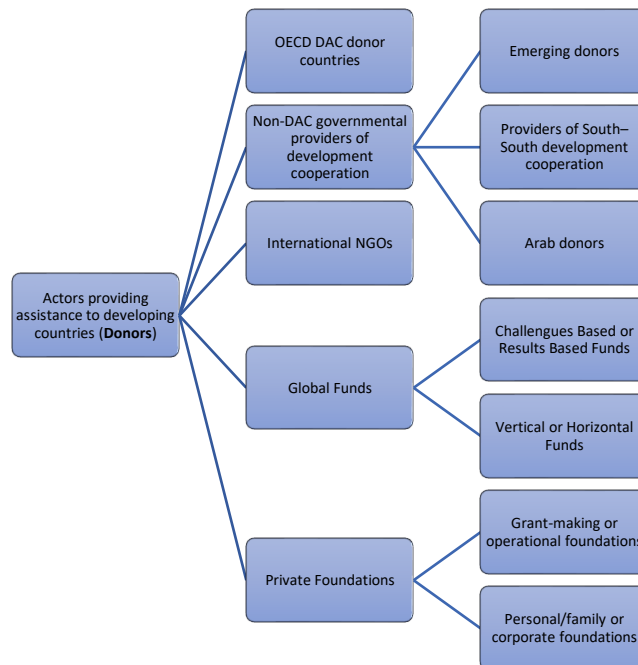
In general terms, the development cooperation landscape is integrated by actors receiving development assistance -recipients- and actors providing development assistance -donors- (Gore, 2013).

According to the World Bank (2017a), a donor is “any entity including sovereign governments, intergovernmental institutions, private nonprofit entities, and private for-profit organizations that contributes funds to any international development association”. Donors are thus actors providing aid for development cooperation.

The assistance provided to developing countries can go directly to the country itself or to organizations that work with development cooperation. A recipient is “any entity that receives aid, including governmental, quasi-governmental, nongovernmental, or private institutions” (World Bank, 2017a).

#### 2.2.2.1 Donors

The following figure illustrates the types of actors providing aid:



**Figure 3. Donors of Development Cooperation Assistance. Author’s classification based on Zimmermann and Smith (2011).**

1. *The OECD DAC donor countries.*

The Development Assistance Committee is the specialized committee of the OECD that serves as a forum for discussions on aid and development among donors on assistance to

developing countries (OECD, 2017b). This committee is integrated by 30 countries (as of September 2017) and the European Union. The following countries are DAC donors: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, The Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, and United States.

All the DAC members contribute to the promotion of economic development and welfare of developing countries through the ODA (Official development assistance), that consist of flows of concessional official financing (OECD, 2010). These flows are grants or loans to developing countries or multilateral agencies to promote in economic development and welfare through aid.

2. *Non-DAC governmental providers of development cooperation.*

a. *Emerging donors.* These countries are not part of the DAC countries but are establishing new aid programmes which align with OECD DAC countries. Emerging donors are countries with relatively new aid programmes. The emerging countries are putting in place laws, strategies and institutions for development cooperation similar to the ones most DAC members have put in place but smaller in scale. The group is integrated mainly of the 12 newest states of the EU: Bulgaria, the Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovenia and the Slovak Republic. Most of these emerging donors provide their aid through multilateral channels but mainly through EU institutions (Zimmermann and Smith, 2011). This group of emerging donors also includes Israel, Russia and Turkey, countries with a more long-standing co-operation programmes.

b. *South-South development cooperation (SSDC).* The United Nations Conference on Trade and Development (UNCTAD), (2010) defines South-South cooperation as *the processes, institutions and arrangements designed to promote political, economic and technical cooperation among developing countries in pursuit of common development goals.* To make a distinction between the broader definition of South-South Cooperation, some scholars (Zimmermann and Smith, 2011) have made use of a more specific term ‘South-South Development Cooperation’ and defines SSDC providers as *developing countries that deliver expertise and financial support to foster the economic and social welfare of other developing countries.* In this case, middle income countries and emerging economies act sometimes as both donors and aid recipients.

In contrast with the DAC donors, in the South-South Cooperation scheme the countries providing aid regard themselves as peers in a mutually beneficial relationship with their partner countries. It is important for them to emphasize the exchange of technical skills rather than the unilateral provision of concessional development finance. In this development cooperation scheme, the barrier between “donors” and “recipients” is not of relevance for the actors involved. The four major South-South Development Cooperation providers are Brazil, China, India and South Africa (Zimmermann and Smith, 2011).

c. *Arab donors.* The Arab donors are countries that unlike the South-South Development Cooperation countries, have no issue with being categorized as donors but at the same time, they don’t follow the same development assistance approach that DAC donors do. They differ in the administrative structure, which is light both at headquarters and at the field level, and have a strong focus on

project delivery. Another important characteristic of this group is that most of the aid is allocated bilaterally and countries don't engage significantly in multilateral systems (either contributing or receiving aid). Furthermore, Arab donors also supports religiously motivated activities among Arab countries such as the building of mosques (Zimmermann and Smith, 2011).

3. *Global Funds.*

Global Funds are *multilateral, pooled financing mechanisms that tend to either focus on a specific set of investment needs or a broad range of investment needs. The central principle is that they receive funding in the form of grants or loans from a large number of providers and invite recipient countries or organizations to submit funding proposals* (Sustainable Development Solutions Network Secretariat, 2015). The way Global Funds work reduces the number of interfaces a recipient government has to deal with, making them successful in promoting rapid improvements in development outcomes (Sustainable Development Solutions Network Secretariat, 2015).

The Global Funds are governed and financed by multi-stakeholder partnerships of national governments, the private sector, multilateral agencies, and civil society (Heimans, 2002). Even though Global Funds are more likely to resemble the mechanisms of a financial institution not implementing agencies, as financial entities they are active participants of the developing cooperation panorama.

The types of Global funds can be categorizes depending on the way the allocate resources (Challenge funds or result-based funds) or the approach to development (Vertical or Horizontal).

- a. *Challenge funds.* It is one where there is a competition for a fixed amount of funding. The highest-ranked proposal submitted is allocated a fixed amount with the remainder proposals receiving nothing. These types of funds are used for example in medical and academic research (Isenman et al., 2010).
- b. *Results-based.* This type of funds is based on results, so the amount of the fund allocated ranges according to achievements with regard to agreed indicators (ranging from inputs to outcomes) (Isenman et al., 2010).
- c. *Vertical Funds.* This type of funds are development financing mechanisms restrained to single development domains with mixed funding sources. Examples of vertical funds are the Global Environmental Facility (GEF) and the Global Alliance for Vaccines and Immunization (GAVI) (Browne and Cordon, 2015).
- d. *Horizontal Funds.* This approach comprises development financing mechanisms for a broad range of investment needs and does not concentrate in a single domain. Examples of horizontal funds are International Development Associations and certain concessional windows of the Regional Development Banks (Sustainable Development Solutions Network Secretariat, 2015).

4. *Private foundations.*

Private foundations are nongovernmental, non-profit organization established to provide aid and serving the common welfare. They have a private fund that its managed by its own trustees or directors (Andrews, 1956).

The characteristic of this actor is that each foundation has a principal fund of its own. The foundation generates resources thought interest or other investment incomes coming from an initial endowment mane by the founding individual or family. This endowment is a secure source of income for the Foundation (Andrews, 1956). In terms of accountability, the endowment makes private foundations accountable to their own boards of trustees or directors (Lundsgaarde et al., 2012).

Furthermore, foundations can be distinguished by type without going into details knowledge about their financing models and internal governance structures. They can be distinguished as *grant-making* – when they exclusively give grants to other organizations-, or *operational foundations* - when they assume responsibility for programme or project implementation-. Another way of distinguishing private foundations is related to the origin it has (i.e. the character of its founder). *Personal/family foundations* are set up by an individual or a family while *corporate foundations* are established by companies themselves (Andrews, 1956).

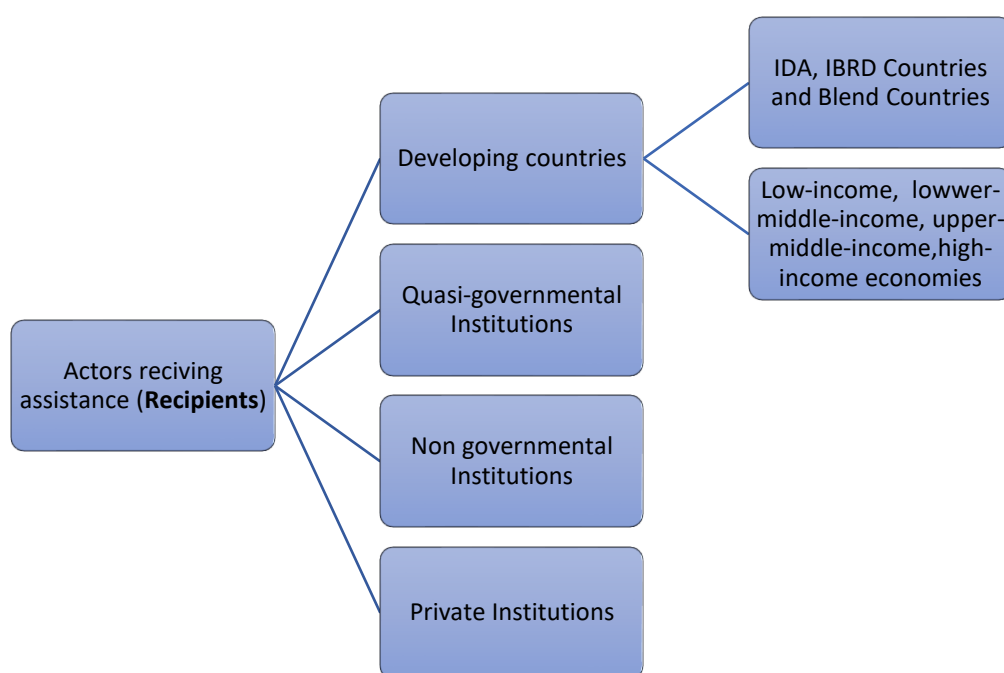
5. *International NGOs.*

A Non-Governmental Organizations (NGOs) are *private, not-for-profit organizations that aim to serve particular societal interests by focusing advocacy and/ or operational efforts on social, political and economic goals, including equity, education, health, environmental protection and human rights* (Teegen et al., 2004).

Private funds and NGOs differ in the fact that a private fund is supposed to have a secure source of income while NGOs do not have an endowment and are therefore dependent on fundraising (Lundsgaarde et al., 2012).

2.2.2.2 *Recipients*

The organizations or governments receiving assistance can be classified as following:



**Figure 4. Recipients of Development Cooperation Assistance. Author’s classification based on World Bank (2017b).**

1. *Developing countries.*

The economic situation of developing countries is much more diverse nowadays than it used to be when the development cooperation programs started. Therefore, there is a diversity for establishing categories for classifying countries to better analyze and organize the complexity of the international system (Alonso et al., 2014). In fact, the way countries are classified mostly depend on the objectives needed to be fulfil (e.i. their eligibility for a grant or loan).

- a. *By Operational lending categories.* One important category of grouping developing countries is the classification of the World Bank of countries eligible for its soft-loan IDA window, those eligible for near-market IBRD conditions, and ‘blend’ countries that receive funds from both programs.
  - i. *IBRD Countries.* These countries belong to the middle-income countries and credit worthy low-income countries. The International Bank for Reconstruction and Development (IBRD) is a global development cooperative of 189 members (as of 2016) and it provides loans, guarantees, risks management products, and advisory services to the middle-income countries and credit worthy low-income countries. The funding for projects comes from its own equity and from money borrowed in the capital markets through the issuance of World Bank bonds (World Bank,2017b).
  - ii. *IDA Countries.* These countries are the ones eligible for an IDA credit. The International Development Association (Nilsson et al., 2013) is part of the World Bank and lends money on concessional terms. Concessional terms refer to the fact that credits have a zero or very low interest charge, and repayments are stretched over 25 to 38 years (including a 5- to 10-year grace period). IDA countries also include those at risk of debt distress. Seventy-five countries<sup>3</sup> are eligible to receive IDA resources. (International Development Association,2017).
  - iii. *Blend Countries.* These countries are eligible for IDA loans but are also eligible for IBRD loans because they are financially creditworthy (World Bank,2017b).
- b. *By Income Categorization.* The income categorization is another way the World Bank categorizes the countries. This categorization is based on the Gross National Income (GNI) per capita of a country. It is reported in U.S. dollars, converted from local currency using the Atlas method. The Atlas method implies using the “Atlas” factor when calculation the GNI instead of simple exchange rates. The objective of doing so is to reduce the impact of exchange rate fluctuations in the cross-country comparison of national incomes (World Bank, 2017c).
  - i. Low-income countries. Countries with a GNI per capita of \$1,005 or less in 2016.
  - ii. Lower middle-income countries. Countries with a GNI per capita between \$1,006 and \$3,955 in 2016.
  - iii. Upper middle-income countries. Countries with a GNI per capita between \$3,956 and \$12,235 in 2016.
  - iv. High income countries. Countries with a GNI per capita of \$12,236 or more in 2016.
- c. *UN Geographical Grouping.* The United Nations has categorized the countries as well depending on their geographical situation and how this affects the country’s economy and development.
  - i. *Landlocked Developing Countries (LLDCs).* These group of countries face trade and development challenges due to their lack of access to the sea and the remoteness from international markets. Thus, they are

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<sup>3</sup> Full list in Appendix



required to transit exports and imports through neighboring States, which increase the cost of trade. The increase in trade cost is considered to be a key factor in preventing the countries' integration into the global trading system. The list of LLDCs includes 32 countries (International Development Association, 2017).

- ii. *Small Islands Developing States (SIDS)*. This group of countries face the challenge of greater risk of marginalization due to (1) their small size, (2) remoteness from large markets, and (3) high economic vulnerability to economic and natural shocks beyond domestic control. Even though the UN recognized the challenges these countries faces, there has never been established criteria to determine an official list of SIDS countries. However, the United Nations Conference on Trade and Development uses an informal list of 29 SIDS for analytical purposes (International Development Association, 2017).
  - d. *UN Least Developed Countries*. The countries belonging to this category are deemed highly disadvantaged in their development process due to structural, historical, and geographical reasons. They face a high risk of deeper poverty and the risk to remain in a situation of underdevelopment. The list of LLCDs countries is reviewed every three years by The Committee for Development Policy (CDP), that make recommendations on the inclusion and graduation of eligible countries using three criteria for each country: Gross National Income (GNI) per capita, Human Assets Index (HAI), and Economic Vulnerability Index (EVI) (UN, 2017a)
2. Quasi-Governmental Institutions (QGOs). This type of organizations has both public and private characteristics, for example an institution integrated with a private legal status-like an NGO-, with public governance, at least one director being appointed by the government (Mead, 2016).
  3. Non-Governmental Institutions. Refer to Section 2.2.2.1.
  4. Private Institutions. These refer to institutions which obtain funding from only a few private sources.

### 2.2.3 Evaluation of Development Cooperation

From all the available interventions in development cooperation arena, capacity development has been the key priority of development cooperation. Most of the monitoring and evaluation frameworks and methodologies have been designed for this specific type of aid and capacity development is now an integral part to achieve the SDGs (Pearson, 2011).

Evaluating capacity development interventions is a complex task because it is not easy to comprehend the intangible effects (i.e. social and individual transformations) of these interventions (Vallejo and Wehn, 2016). With time, both the focus of development cooperation implementations and the monitoring and evaluation techniques used for assessment have evolved.

As a result of the debate on how to strengthen aid effectiveness, in 2005 the Paris Declaration on Aid Effectiveness (OECD, 2005) was agreed and signed by world governments. This document outlines the importance of basing development cooperation on results, in order to improve efficiency and effectiveness of development cooperation.

As the development cooperation interventions increased, so does the relevance of outcomes and their evaluation. According to Watson (2010), for evaluation and monitoring of capacity development there are two main schools of thought:

- Technocratic thinking. This line of thinking is used mostly by international donors and it evaluates the effectiveness of interventions considering the accountability needs of donors. Logical Frameworks (“logframe”)<sup>4</sup> are the most common used tool for program planning and monitoring and one example of this type of approach is the one known as “result-based management (RBM)”. This approach favors international institutions to have three main points of entrance: National Development Strategies (NDS), priority sectors -defined by donors and local governments-, and relevant topics in the international agenda (e.g. climate change, gender empowerment, etc.).
- Complex adaptive system (CAS) approach. Contrary to the technocratic thinking approach - centered in specified outcomes and technical performance indicators-, the CAS approach is centered on capturing changes in behavior of and relationships between the direct actors of development cooperation interventions. The CAS approach is grounded in participatory approaches and is mostly adopted by NGOs and development agencies due to its emphasis on learning from experience. One example of this approach is the evaluation methodology of the European Centre for Development Policy Management’s (ECDPM) five capabilities framework.

In a new development cooperation panorama, with multiple actors and complex problems to be addressed (e.g. migration crisis, climate change, etc.), these two approaches contrast. While the RBM paradigm has become the rule in development cooperation, communities of practitioners question the extent to which RBM is the suitable approach to deal with complex problems, turning to CAS approach. For these practitioners, the weakness of assumptions underpinning some key RBM tools “is the idea that development is mechanistic and can be managed and controlled” (Shutt, 2016). Hence, the adoption of CAS approaches promotes “conceptual thinking related to planning, monitoring, evaluation and learning for ‘best fit’ rather than best practice solutions” (Shutt, 2016). Table 1 summarizes the assumptions associated with RBM paradigm and CAS approach.

**Table 1. Assumptions underpinning approaches to development management (Shutt, 2016).**

Assumption areas	More like the established paradigm (RBM)	More like an alternative paradigm (CAS)
Problems	Problems can be identified, are bounded and mutually understood; best practice solutions can be mutually agreed.	Different actors have different understandings of problems and solutions.
Change	Linear, proportional, predictable and controllable.	Unpredictable and the result of multiple human interactions and feedback, shaped by politics and power.
Knowledge, learning and evidence	-It is possible to generate objective evidence and use it to inform optimal policy options and program plans. -Evaluation is driven by learning questions to prove attribution and validate policy options. -Rational, behavioral approach to learning that is a response to top-down rules and incentives.	-No knowledge is value free, thus policy decisions are based on partial information and political pressure. -Planning is based on consideration of different scenarios in light of understanding of political context that includes participatory analysis and consideration of how history happens. -Local learning from participatory monitoring of results, or lack of them is key to real-time learning and adaptation.

<sup>4</sup> “The logical (or project) framework specifies indicators that are related to assessing the progress of the project toward achieving its objectives” (Vallejo and Wehn, 2016).

		<ul style="list-style-type: none"> <li>-Evaluation is able to explore fundamental assumptions about social change and unexpected outcomes.</li> <li>-Learners use deductive and inductive reasoning. They learn and adapt through behavioral, cognitive and social means.</li> </ul>
Power, relationships and capacities	<ul style="list-style-type: none"> <li>- Formal between atomized individuals, managed by contracts and rules.</li> <li>- Informal relationships and individuals' political savvy and relational skills are unimportant.</li> <li>- Capacities are easy to organize to achieve common goals.</li> </ul>	<ul style="list-style-type: none"> <li>- Informal relationships, trust and flexibility are important; political and relational skills count.</li> <li>- Capacities are distributed so collective action is a challenge.</li> <li>- Power is everywhere and relationships are messy.</li> <li>- Structured relationships maintain informal institutions such as cultural norms that create inequity as well as challenge them.</li> </ul>
Roles and behaviors	<ul style="list-style-type: none"> <li>- Managing and controlling to satisfy upward accountability and achieve results.</li> <li>- Driven by concerns about efficiency.</li> </ul>	<ul style="list-style-type: none"> <li>- Facilitative and trusting, allow discretion and encourage learning and quality assurance.</li> <li>- More concerned about effectiveness than efficiency.</li> </ul>

### 2.3 The Millennium Development Goals

The millennium Development Goals (MDGs) are a detailed framework to promote development in a comprehensive way (Jayasuriya and Wodon, 2003). On September 18<sup>th</sup>, 2000 (UNGA, 2000), the fifty-fifth UN General Assembly session held a summit within the assembly. After the UN General Assembly adopted the resolution 'United Nations Millennium Declaration', the declaration was translated into eight goals to be reached by 2015. The eight MDGs were the following:

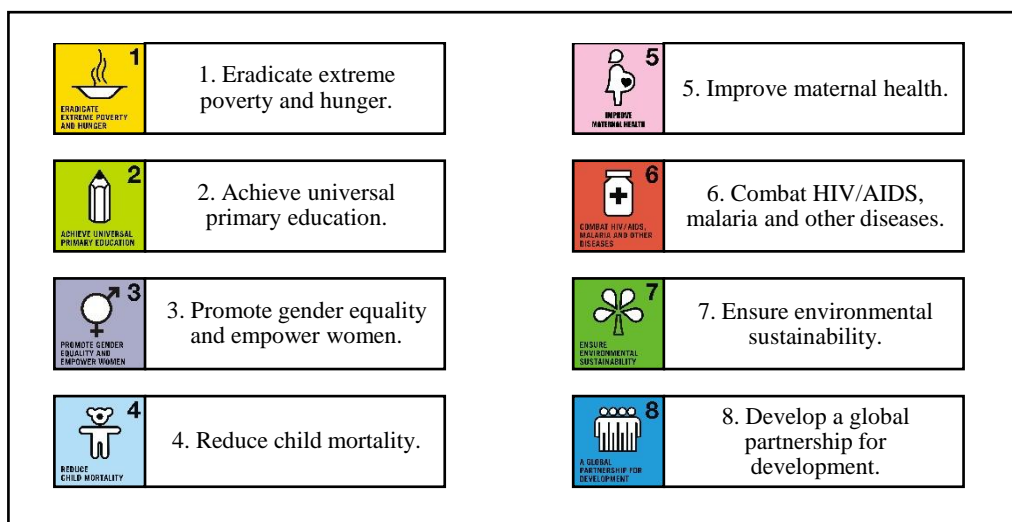


Figure 5. Millennium Development Goals adapted from (UN, 2017b).

The MDGs brought a new and broader perspective for development and poverty eradication (e.g. peace and security, protection of the environment, human rights, democracy, good governance). Although the declaration's themes and commitments were already approached in previous international strategies, the way in which it was launched uplifted the commitments to a higher level (Stokke, 2009).

The first seven MDGs can be grouped in three areas<sup>5</sup> but the eighth goal is related to the activities and commitments developed countries perform to assist developing countries in their efforts to reach the goals. Although the eighth MDG refers to the collective responsibility of all States in achieving all the MDGs goals, it reflects the commitments of the developed countries in the achievement of the MDGs through a deployment of resources (Caliari, 2014). In fact, the reasoning behind Goal 8 “is that the developing countries, and especially the poorest countries, cannot reach the MDGs without the help of more economically developed countries” (Staur and Harris, 2013). With the advent of MDG eight, the foundations for a global partnership for development were set and a new era in development cooperation started.

### 2.3.1 Evaluation of the Millennium Development Goals

Along with the goals, some specific targets and indicators were set for each MDG. These include eight goals, twenty-one targets and sixty indicators for measuring progress between 1990 and 2015. The following table shows the specific targets associated with each MDG and its indicators:

**Table 2. Official list of MDG indicators (United Nations Statistics Division [UNSD], 2008).**

<b>MDGs</b>	
<b>GOAL 1: Eradicate extreme poverty.</b>	
Targets	Indicators
1.A. Halve, between 1990 and 2015, the proportion of people whose income is less than \$1.25 a day.	1.1 Proportion of population below \$1.25 (PPP) per day <sup>a</sup> 1.2 Poverty gap ratio 1.3 Share of poorest quintile in national consumption
1.B. Achieve full and productive employment and decent work for all, including women and young people.	1.4 Growth rate of GDP per person employed 1.5 Employment-to-population ratio 1.6 Proportion of employed people living below \$1.25 (PPP) per day 1.7 Proportion of own-account and contributing family workers in total employment
1.C. Halve, between 1990 and 2015, the proportion of people who suffer from hunger.	1.8 Prevalence of underweight children under-five years of age 1.9 Proportion of population below minimum level of dietary energy consumption
<b>GOAL 2: Achieve universal primary education.</b>	
Targets	Indicators
2.A. Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.	2.1 Net enrolment ratio in primary education 2.2 Proportion of pupils starting grade 1 who reach last grade of primary 2.3 Literacy rate of 15-24 year-olds, women and men
<b>GOAL 3: Promote gender equality and empower women.</b>	
Targets	Indicators
3.A. Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015.	3.1 Ratios of girls to boys in primary, secondary and tertiary education 3.2 Share of women in wage employment in the non-agricultural sector 3.3 Proportion of seats held by women in national parliament
<b>GOAL 4: Reduce child mortality.</b>	
Targets	Indicators
4.A. Reduce by two thirds, between 1990 and 2015, the under-five mortality rate	4.1 Under-five mortality rate 4.2 Infant mortality rate 4.3 Proportion of 1 year-old children immunised against measles
<b>GOAL 5: Improve maternal health.</b>	
Targets	Indicators
5.A. Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.	5.1 Maternal mortality ratio

<sup>5</sup> a) Eradicating extreme poverty and hunger (goal 1); b) Achieving universal primary education and promoting gender equality (goal 2 and 3); and c) Improving health outcomes and ensuring environmental sustainability (goal 4-7) (Jayasuriya, 2003).

	5.2 Proportion of births attended by skilled health personnel
5.B. Achieve, by 2015, universal access to reproductive health.	5.3 Contraceptive prevalence rate 5.4 Adolescent birth rate 5.5 Antenatal care coverage (at least one visit and at least four visits) 5.6 Unmet need for family planning
<b>GOAL 6: Combat HIV/AIDS, malaria and other diseases.</b>	
Targets	Indicators
6.A. Have halted by 2015 and begun to reverse the spread of HIV/AIDS.	6.1 HIV prevalence among population aged 15-24 years 6.2 Condom use at last high-risk sex 6.3 Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS 6.4 Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years
6.B. Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it.	6.5 Proportion of population with advanced HIV infection with access to antiretroviral drugs
6.C. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.	6.6 Incidence and death rates associated with malaria 6.7 Proportion of children under 5 sleeping under insecticide-treated bednets 6.8 Proportion of children under 5 with fever who are treated with appropriate anti-malarial drugs 6.9 Incidence, prevalence and death rates associated with tuberculosis 6.10 Proportion of tuberculosis cases detected and cured under directly observed treatment short course
<b>GOAL 7: Ensure environmental sustainability.</b>	
Targets	Indicators
7.A. Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources	7.1 Proportion of land area covered by forest 7.2 CO2 emissions, total, per capita and per \$1 GDP (PPP) 7.3 Consumption of ozone-depleting substances 7.4 Proportion of fish stocks within safe biological limits 7.5 Proportion of total water resources used
7.B. Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss.	7.6 Proportion of terrestrial and marine areas protected 7.7 Proportion of species threatened with extinction
7.C. Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation.	7.8 Proportion of population using an improved drinking water source 7.9 Proportion of population using an improved sanitation facility
7.D. Achieve, by 2020, a significant improvement in the lives of at least 100 million slum dwellers.	7.10 Proportion of urban population living in slums <sup>b</sup>
<b>GOAL 8: Develop a global partnership for development.</b>	
Targets	Indicators
8.A. Develop further an open, rule-based, predictable, non-discriminatory trading and financial system.	<i>Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries and small island developing States.</i> <u>Official development assistance (ODA)</u> 8.1 Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income 8.2 Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation)
8.B. Address the special needs of least developed countries.	8.3 Proportion of bilateral official development assistance of OECD/DAC donors that is untied 8.4 ODA received in landlocked developing countries as a proportion of their gross national incomes 8.5 ODA received in small island developing States as a proportion of their gross national incomes

8.C. Address the special needs of landlocked developing countries and small island developing States.	<u>Market access</u> 8.6 Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty 8.7 Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries 8.8 Agricultural support estimate for OECD countries as a percentage of their gross domestic product 8.9 Proportion of ODA provided to help build trade capacity
8.D. Deal comprehensively with the debt problems of developing countries.	<u>Debt sustainability</u> 8.10 Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative) 8.11 Debt relief committed under HIPC and MDRI Initiatives 8.12 Debt service as a percentage of exports of goods and services
8.E. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.	8.13 Proportion of population with access to affordable essential drugs on a sustainable basis
8.F. In cooperation with the private sector, make available benefits of new technologies, especially information and communications.	8.14 Fixed-telephone subscriptions per 100 inhabitants 8.15 Mobile-cellular subscriptions per 100 inhabitants 8.16 Internet users per 100 inhabitants

<sup>a</sup> For monitoring country poverty trends, indicators based on national poverty lines should be used, where available.

<sup>b</sup> The actual proportion of people living in slums is measured by a proxy, represented by the urban population living in households with at least one of the four characteristics: (a) lack of access to improved water supply; (b) lack of access to improved sanitation; (c) overcrowding (3 or more persons per room); and (d) dwellings made of non-durable material.

These indicators were reported annually since 2005 through a report published by the UN. The data was compiled by the members of the United Nations Inter-Agency and Expert Group on the MDG Indicators (IAEG) and some individual agencies were designated to provide certain data for specific targets (UN, 2015). The last report published in 2015 contains a comprehensive assessment of the progress of the MDGs and breaks ground for the Sustainable Development Goals (SDGs).

Although the MDGs have their own indicators to measure their specific targets, there had been other initiatives from institutions (i.e. international organizations and academia) to assess the overall progress of the MDGs. One joint example is the work entitled ‘Equity and Growth in a Globalizing World’ (Kanbur and Spence, 2010) that the Commission on Growth and Development of the World Bank published in 2010. The document is based on the results of a series of workshops where academics and policy makers participated, and it is based on thematic papers and case studies.

The report pointed out some important issues for consideration regarding the MDGs, and some outcomes of this reflection raised important questions: “Are the MDGs an appropriate summary of the general objective of development? How can anyone compare two countries, one of which emphasizes quality, while the other emphasizes quantity? What role can the MDGs play in national goal setting processes? Can the MDGs be used to assess performance and if so, should it be assessed using levels rather than rates of change?” These questions open the door for experts to debate and were important when considering the development agenda once the MDGs came to term in 2015.

## 2.4 Sustainable Development Goals

The MDGs were followed by the Sustainable Development Goals (SDGs), which are a set of seventeen internationally-agreed upon goals aimed to eradicate poverty. The goals are embedded in the ‘Agenda 2030 for Sustainable Development’, a document agreed by all the UN member states on 25 September 2015 (UNGA, 2015). The document recognizes that poverty eradication is the most important step to achieve sustainable development. The seventeen SDGs are the following:

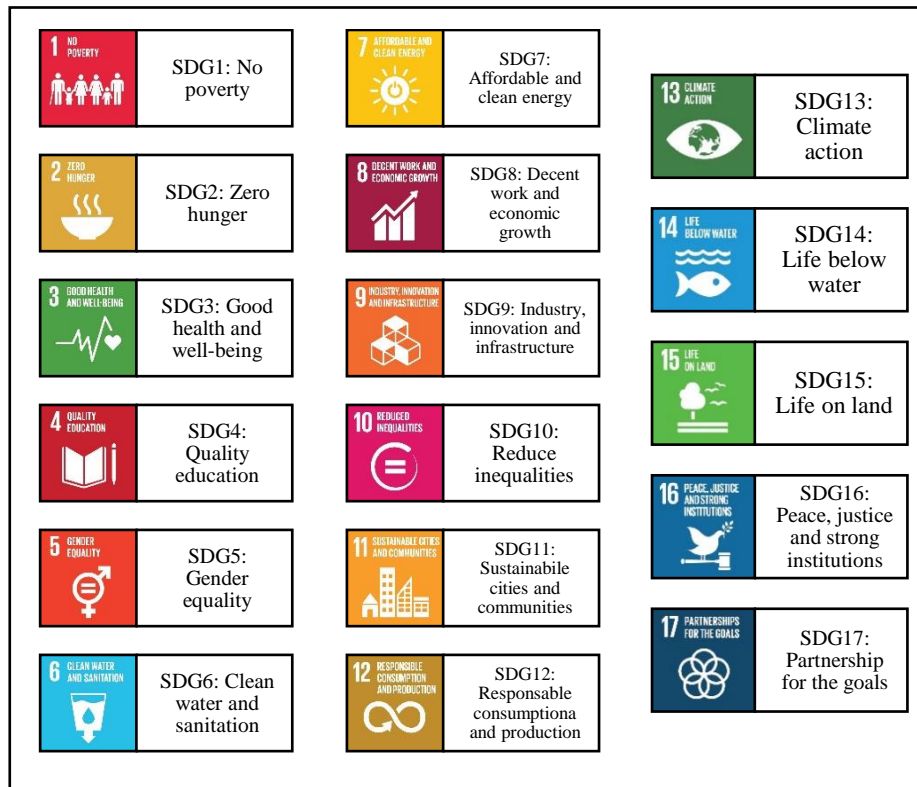


Figure 6. Sustainable Development Goals adapted from (UN, 2016).

In contrast with the MDGs, the SDGs focus on implementing aspects of development which represents a shift in development cooperation focusing now on capacity development (Vallejo and Wehn, 2016). Moreover, the SDGs were designed so they represent a balance of economic, social, and environmental dimensions of sustainable development in an integrated way (Bhattacharya et al., 2014).

### 2.4.1 Evaluation of the Sustainable Development Goals

The seventeen SDGs contain a set of 169 targets and their indicators -with a total of 244. The indicators proposed for each SDG targets, according to UN Resolution A/RES/71/313 (2017), are meant to be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics (UNSD, 2015). A comprehensive list of the indicators and targets is found in Annex A.

In addition to the indicators developed for each target of the SDGs, the Leadership Council of the Sustainable Development Solutions Network (2015) wrote a report to the Secretary-General of the UN entitled ‘Indicators and a Monitoring Framework for the Sustainable Development Goals’ concerning the evaluation of SDGs. The report was a result of an 18-month consultation process with different institutions, including several UN agencies and NGOs. This report “outlines how a comprehensive indicator framework might be established to support the goals and targets

proposed by the Open Working Group on the SDGs” (Leadership Council of the Sustainable Development Solutions Network, 2015).

Primarily, the focus of the SDG monitoring must go to evaluation at a national level, allowing countries to assess on their own the progress towards sustainable development. Yet, the report presents an integrated monitoring framework with multi-level indicators. The levels are:

- *National*. This level is proposed to rely on nationally defined sets of indicators and countries are encouraged to monitor according to their national priorities and needs.
- *Global*. This level is designed to cover universal indicators. Certain global indicators may not apply to every country (e.g. malaria) or might track global commons (e.g. oceans) Data for these indicators will come from national statistics offices and some specialized agencies.
- *Regional*. This level encourages countries to monitor regional priorities and promotes accountability, peer reviewing and foster knowledge-sharing. The aim to identify regional indicators should be undertaken by the Regional Economic Commissions and other competent bodies.
- *Thematic*. This level refers to the monitoring of progress in a broad range of sectors and topics (e.g. agriculture, education, sustainable consumption and production patterns).

#### 2.4.2 Means of Implementation: Sustainable Development Goals 17

Contrary to the MDGs, the SDGs include one goal that specifies the means of implementation of the Agenda 2030. While the first sixteen goals defined the expected substantial outcomes, the goal seventeen is dedicated to the means of implementation (United Nations Institute for Training and Research UNITAR, 2015). The core thematic areas that this goal covers are:

- Financial Resources
- Technology and Capacity Building
- International Trade
- External Debt
- Systemic Issues
- Domestic Policies

### 2.5 The United Nations Industrial Development Organization

#### 2.5.1 History

UNIDO’s origins can be tracked to the 1950s, when at the request of the United Nations Economic and Social Council (ECOSOC), the United Nations Secretariat elaborated a series of studies<sup>6</sup> for a program<sup>7</sup> of rapid industrialization of developing countries (UNIDO, 2016b). This program was introduced in 1956 by the UN Secretary General and in 1957 ECOSOC and UN General Assembly endorsed the program. In 1959, the Industry Section of the Secretariat became a branch and in 1962 it became the Industrial Development Centre.

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<sup>6</sup> In 1952, at its sixth session, the General Assembly adopted the ‘Resolution 521 (VI) Integrated economic development’ and ‘Resolution 522 (VI). Methods to increase world productivity’. These resolutions requested ECOSOC to promote studies of rapid industrialization of the under-developed countries and to submit to the General Assembly concrete proposals for measures which may be of aid to achieve industrialization, as well as methods to increase world productivity. These studies were: ‘Proposal for a program of work on industrialization and productivity’ and ‘Processes and Problems of Industrialization in Under-Developed Countries’ written with the assistance of specialized agencies of the UN System and international experts in the field.

<sup>7</sup> In 1956, ECOSOC adopted the Program of Work on Industrialization and productivity by the UN Secretary General. This report was adopted based on the recommendations made in the study ‘Proposal for a program of work on industrialization and productivity’ carried out by ECOSOC.



An important event for the establishment of UNIDO was the Resolution 1710 (XVI) passed by the General Assembly in January 1961, establishing the First United Nations Development Decade. In 1963 an Advisory Committee of Experts in the Industrial Development Activities of the United Nations System was established to evaluate the options of strengthening the existing Industrial Centre, creating a subsidiary organization within the UN or instituting a new specialized agency. In 1965 the General Assembly decided to establish a subsidiary body within the UN for the promotion of industrial development and in 1966 the General Assembly adopted the Resolution 2152 (XXI) creating the United Nations Industrial Development Organization (UNIDO) as a special organ of the UN (UNGA, 1966). Then it was formally established in Vienna in the year 1967.

In 1975, the Second General Conference of UNIDO was held in Lima Peru and the organization signed a declaration where for the first time the industrial development objectives were quantified internationally (UNIDO, 2016b) and promoted that industrial cooperation should be the key mechanisms for the achievement of industrial development. Furthermore, the Lima Declaration was followed by a Plan of Action where it was recommended to the General Assembly that UNIDO should be transformed into a specialized agency and in December 1985, UNIDO finally became the sixteenth specialized agency of the United Nations (UNGA, 1985).

During the 1990 and after the end of the cold war, UNIDO experienced a crisis that threatened its existence. Between 1993 and 1997 its largest donors at that time, Canada, Australia and the USA, left the organization leading to a budgetary shortage and affecting the ongoing projects. Following the crisis, in 1996, Denmark performed a study to the organization where they determined it was still relevant for development, particularly in the least developed countries. The result of the study's recommendations to UNIDO led to a Business Plan on the future role and functions of the Organization. This Business Plan was adopted in 1977 at the seventeenth session of UNIDO's Industrial Development Board. After this business plan, the activities at UNIDO were based on the perceived comparative advantages of the organization, while avoiding overlapping task with other UN agencies.

To align with the commitments proposed within the MDGs, UNIDO adjusted its strategic focus and three thematic priorities were adopted through a long-term vision statement in 2005 (UNIDO, 2005), principles that guided the organization's subsequent technical programs: "Poverty reduction through productive activities", "Trade capacity-building", and "Energy and Environment".

With the adoption of the "2030 Agenda for Sustainable Development", UNIDO took over the commitment to foster SDG 9: "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation" as it aligns with its mandate to promote industrialization. In order to achieve this, UNIDO adopted a medium-term program framework to start in 2018 until 2021 (UNIDO, 2017), where the principles that guide the organization's technical programs transition from three principles to four: "creating shared prosperity", "advancing economic competitiveness", "safeguarding the environment", and "strengthening knowledge and institutions". These will play a central role in UNIDO's future activities.

The following figure illustrates the history of UNIDO:

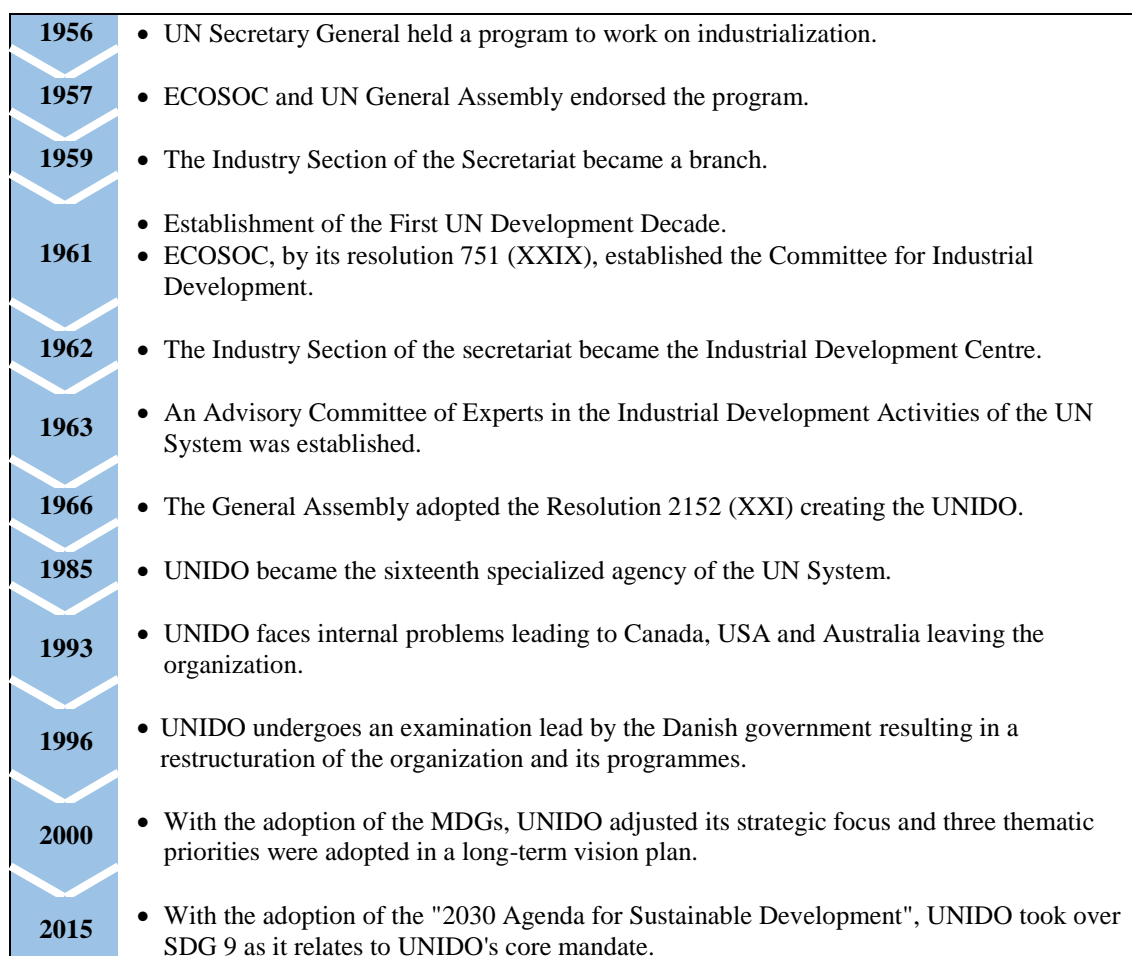


Figure 7. Establishment of UNIDO time line based on UNIDO (2016).

### 2.5.2 Members

All states that identify themselves with the objectives and principles of the organization are welcomed to be members of UNIDO. The membership to UNIDO is open to all states (UNIDO, 1979). As of January 2018, 167<sup>8,9</sup> States were members of UNIDO (UNIDO, 2018b).

### 2.5.3 Objectives

On 17 November 1966, the General Assembly passed resolution 2152(XXI) where it was stated that UNIDO was established as an autonomous organ within the UN System, transitioning to be a central coordination body for industrialization.

The document indicated that the purpose of UNIDO is (1) to promote industrial development at all levels– sub-national, national, regional and global, and (2) to promote and accelerate the industrialization of the developing countries by encouraging the mobilization of national and international resources, with emphasis on the manufacturing sector (UNGA, 1966).

In 2013, the Lima Declaration on Industrial Development and Cooperation was adopted where it was recognized that poverty eradication was a central imperative and it could only be achieved by Inclusive and Sustainable Industrial Development (ISID), a term coined by UNIDO (UNIDO,

<sup>8</sup> Full list of Member States in Annex.

<sup>9</sup> As of January 2018, the UN has 193 Member States (UN, 2018).

2013a). This Declaration builds on the work of the “Strategic Guidance Document<sup>10</sup>” where UNIDO got the mandate of: “promoting sustainable industrial development and international industrial cooperation within its thematic priorities and in accordance with global, regional and national development goals” (UNIDO, 2013b).

Since the adoption of Agenda 2030, UNIDO has undertaken the role of implementing agency of SDG9: “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”. The Organization’s work is therefore oriented to supporting its Member States in achieving SDG9 and industry-related goals and targets.

#### 2.5.4 Strategic priorities

The strategic priorities are the organization’s focus areas of work to achieve the ISID development results. During the history of UNIDO, the strategic priorities have changed. Since the adoption of the MDGs, UNIDO aligned its strategic vision to help achieve the MDGs. As a result, the organization adopted three focus areas:

1. *Poverty alleviation through productive activities in the non-farm sector.* This strategic priority is focused on assisting the domestic private sector of developing countries in organizing and managing businesses in the non-farm sector (i.e. manufacturing sector) that provide people with income to overcome poverty. This area also focusses on developing entrepreneurship among the SMEs sector, and foreign direct investment.
2. *Trade capacity-building.* This strategic priority is focused on providing technical assistance so developing countries can overcome difficulties to have enhanced market access. This include assisting SMEs of developing countries to develop quality products, meet conformity requirements, and strengthening supply-side capacities.
3. *Environment and energy.* This strategic priority focus on contributing to the attainment of environmental sustainability. This include promoting and supporting the agreements<sup>11</sup> UNIDO takes part of, promoting technologies for environmental abatement, promoting circular flows of materials, promoting energy efficiency measures, and promoting the adoption of environmentally sustainable cleaner production methodologies.

With the ending of the MDGs and the adoption of the “agenda 2030”, UNIDO’s strategic priorities have evolved to integrate its new role as leading agency to achieve the SDG 9. Since 2017, the strategic priorities of UNIDO (2017) are:

- a) *Creating shared prosperity.* This strategic priority is focused on inclusiveness, which can contribute to poverty reduction. This strategic priority aims to empower marginalized parts of the population such as women and youth. Another factor of this strategic priority is related to assisting countries to develop what the organization calls a “more inclusive development”<sup>12</sup>. This approach to social inclusion comprises the element of prevention of crises and the creation of resilient societies through engagement of crisis-affected communities in the development and implementation of solutions.
- b) *Advance economic competitiveness.* This strategic priority relates to the development of the private sector’s potential to generate and sustain economic growth, which can

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<sup>10</sup> This document was performed by the informal working group of interested Member States to provide guidance on the future, including programmes and resources, of UNIDO.

<sup>11</sup> Some are: Montreal Protocol, Stockholm Convention, Kyoto Protocol, UN Framework Convention on Climate Change, Convention on Biological Diversity.

<sup>12</sup>According to UNIDO, a more inclusive development “builds productive, diversified and resilient local rural economies with strong rural-urban economic linkages, access to infrastructure and modern energy, and sustainable production methods” (UNIDO, 2017).

contribute to poverty reduction and the achievement of ISID. With this strategic priority, UNIDO focuses on supporting small and medium-sized enterprises (SMEs) through projects of innovation, technological learning, vocational training and development, investment, and enhanced trade. It also encompasses advisory services on industrial policy for Member States.

- c) *Safe-guarding the environment.* This strategic priority is centered in the adoption of more resource-efficient and cleaner patterns of production, so industry can make use of more environmentally sustainable technologies and practices. UNIDO's focus for this strategic priority includes activities such as creating new green industries, establishing national road maps for greening the supply chain, determining benchmarks and indicators, implementing clean technology programmes, among others.
- d) *Strengthening knowledge and institutions.* This strategic priority centers around providing assistance to Member States from the perspective of knowledge and institutional capacities. For UNIDO, this strategic priority will be provided in partnership with other institutions (i.e. governmental, regional, or local public-sector institutions, business associations, other private and public institutions, NGOs or other stakeholders) and includes services such as industrial policy analysis, capacity-building services on industrial statistics, activities of follow-up and review related to matters in the context of SDGs and industrialization, and policy advisory services.

#### 2.5.5 Activities and Functions

As a specialized agency within the UN System, UNIDO is responsible for the industrialization topic. Its activities are divided into projects and programmes that relate to the topic. These projects and programmes are enclosed into the following four functions (UNIDO, 2017):

- a) *Technical cooperation.* As a specialized agency, UNIDO provide its Member States with projects and programmes that align with the ISID objective, where technical expertise is at the core. This service is UNIDO's primary operative function. The technical cooperation can be divided into two types:
  - a. *Projects.* For UNIDO, there are two categories of projects: technical cooperation activities that are part of the logical structure of an integrated programme and stand-alone projects. These last ones encompass technical cooperation projects at the country, regional, interregional or global level, and are not part of an integrated programme.
  - b. *Programmes.* For UNIDO, programmes are packages of projects that aim to achieve a clear development objective in a country.
- b) *Analytical and research functions and policy advisory services.* UNIDO assists its Member States in formulation, implementing and monitoring industrial policies. Within the field of evidence-based policymaking, UNIDO is also responsible for the production and dissemination of industrial statistics.
- c) *Normative functions, and standard-related activities.* In the context of technical cooperation projects and programmes, growing demand for UNIDO's standards settings is leading the institution to position itself as the reference organization for industrial development matters, thus one of the organization's functions is to provide its Member States with standard-related projects and programmes.
- d) *Convening function and partnerships for large-scale investment, knowledge and technology transfer, networking, and industrial cooperation.* This function relates to the multi-stakeholder partnership approach that the organization supports to implement its objective of ISID. This means leveraging resources from the private and public sector, developing finance institutions, investment funds, and other relevant external partners.

### 2.5.6 Organizational Structure

UNIDO has three principal organs, two that belong to the (1) policy-making organs and the (2) secretariat (UNIDO, 2016a). Figure 8 illustrates UNIDO's organizational structure:

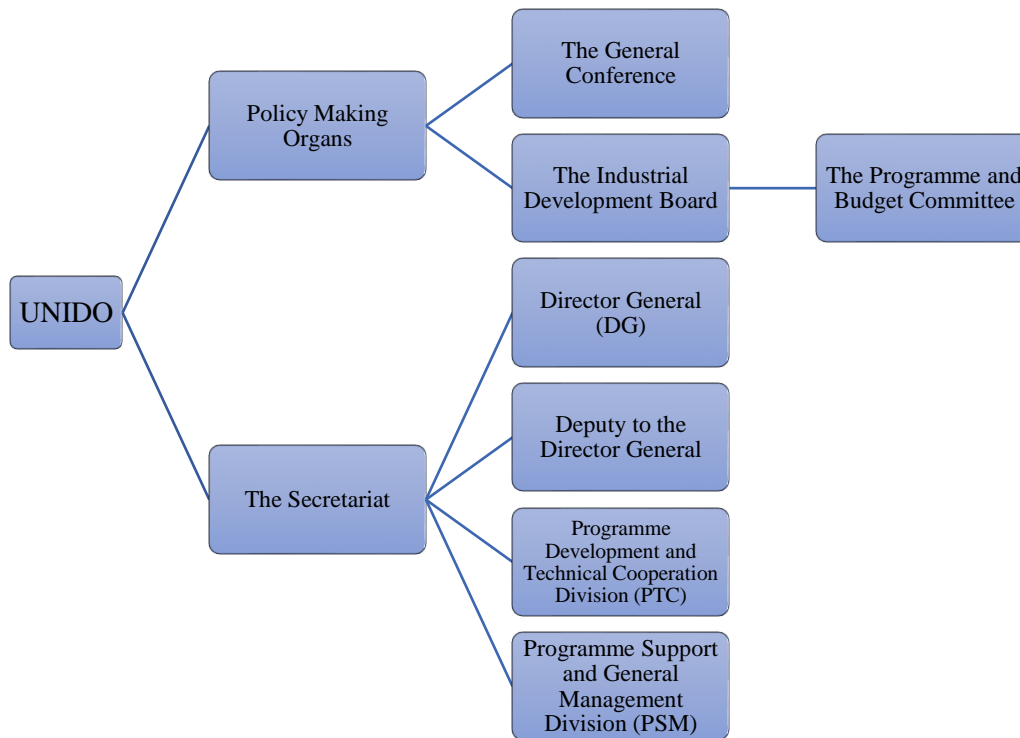


Figure 8. UNIDO General Structure based on UNIDO (2016a).

- Policy making organs.
  - The General Conference. The General Conference has the function of (1) determining guiding principles and policies for the organization, (2) approving the budget and work program, (3) appointing the Director General every four years, (4) electing the members of the Industrial Development Board and of the Program and Budget Committee, and (5) adopting conventions or agreements with respect to any matter within the competence of the organization. The General Conference meets every two years.
  - The Industrial Development Board. The Board has the function of (1) reviewing the implementation of the program of work, (2) reviewing the regular and operational budgets, and (3) making recommendations to the Conference on policy matters. The Board has 53 members, elected for a four-year term. It meets once a year.
    - The Program and Budget Committee. The Committee's functions relate to financial matters of the board. The Committee (1) assists in the preparation and examination of the work, budget and other financial matters. The Committee has 27 members, elected for a two-year term and it meets once a year.
- The Secretariat. The secretariat includes all the staff members of the organization. The following are part of the Secretariat (UNIDO, 2015a):
  - Director General. Appointed by the Conference on recommendation of the Board. Its appointment lasts for four years. The Director General may be reappointed for a second term. It is the chief administrative officer of the

organization, has the responsibility for the direction of it, and is accountable to the policymaking organs.

- Managing Director & Deputy to the Director General External Relations and Field Representation (EFR). Its role is to manage and coordinate the external relations of UNIDO with its Member States and other stakeholders (e.g. civil society, academia, partners in the United Nations system, etc.).
- Managing Director Programme Development and Technical Cooperation. Its role is to provide capacity-development support and technical cooperation services. It also develops, implements and monitors programs and projects, and provides technical advisory services.
- Managing Director Policy and Programme Support. Its role is to provide support for the organization’s activities in the areas of human resources, finance and budgets, information and communication management, business and systems support management, operational support, and management of the common services entrusted to UNIDO. It also assists the Managing Director on formulating policies and procedures.

Figure 9 illustrates the organizational structure of the Secretariat of UNIDO:

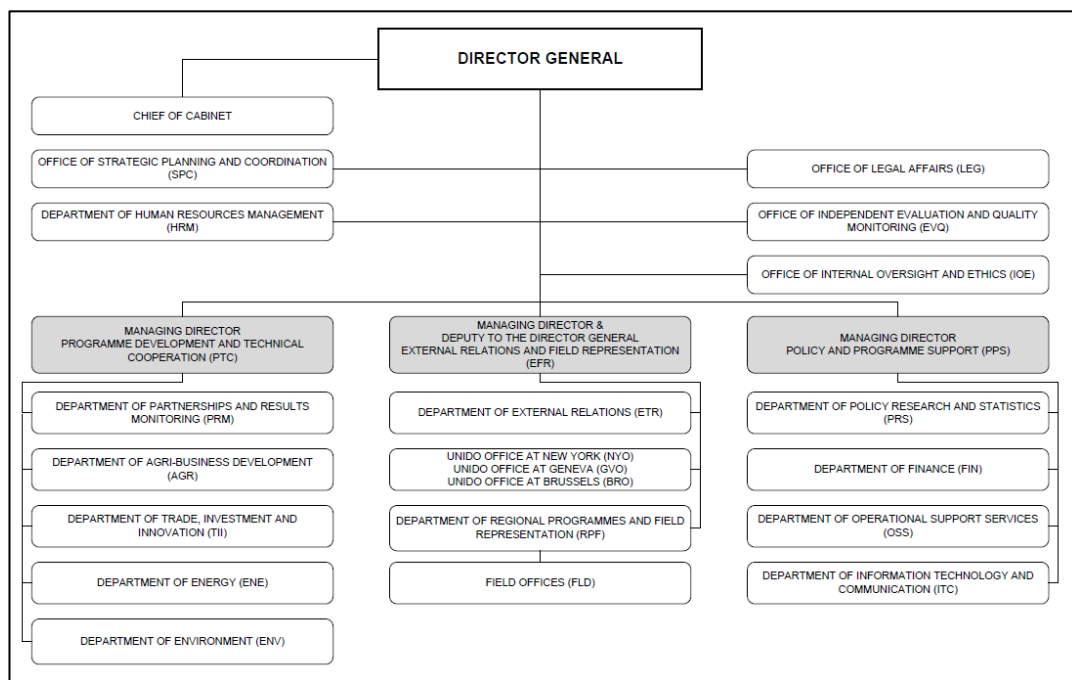


Figure 9. UNIDO's organizational chart (UNIDO, 2017).

## 2.5.7 Project and Program Evaluation

### 2.5.7.1 Resource Based Management Approach

The Result-Based Management (RBM) approach is “a management strategy by which all actors on the ground, contributing directly or indirectly to achieving a set of development results, ensure that their processes, products and services contribute to the achievement of desired results (outputs, outcomes and goals)” (United Nations Development Group, 2010). In contrast with other approaches, this approach focuses on ensuring that results are achieved.

The RBM approach acts as a guideline for what should be considered during planning, management and evaluation of projects and programs. This approach covers *what* the project

developer(s) should do, and different tools or methods can cover the *how*. One example is the Logical Framework Approach (LFA) (Örtengren, 2016).

RBM seen as a life-cycle approach contains three main pillars:

- *Planning*. It is defined as “the process of setting the goals, developing strategies, outlining the implementation arrangements and allocating resources to achieve the goals” (UNDP, 2009b).
- *Monitoring*. It is defined as “the ongoing process by which stakeholders obtain regular feedback on the progress being made towards achieving their goals and objectives” (UNDP, 2009b).
- *Evaluation*. It is defined as “a rigorous and independent assessment of either completed or ongoing activities to determine the extent to which they are achieving stated objectives and contributing to decision making” (UNDP, 2009b).

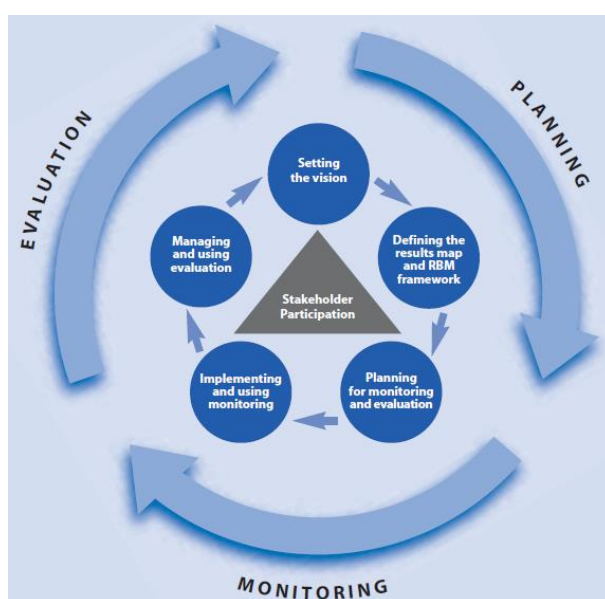
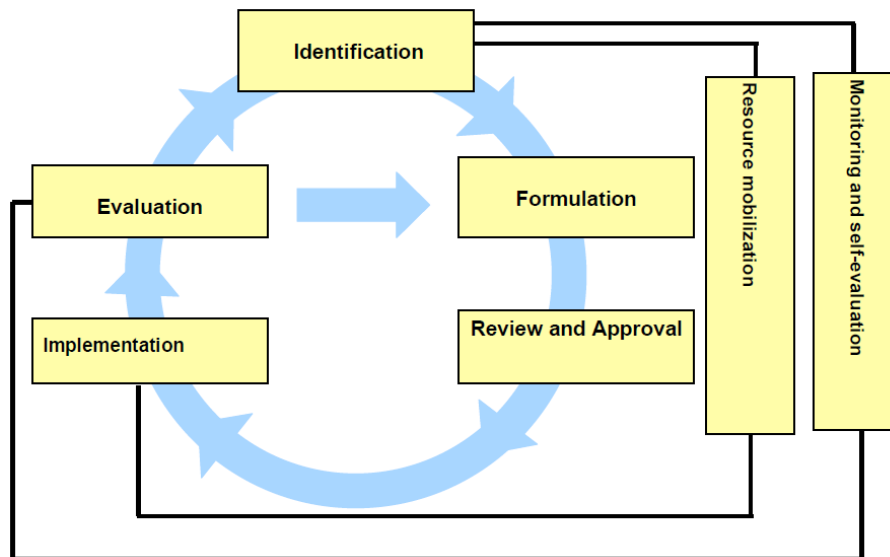


Figure 10. The RBM life-cycle approach (UNDP, 2009b).

#### 2.5.7.2 UNIDO Technical Cooperation Program and Project Cycle

Since the Paris Declaration on Aid Effectiveness, the RBM approach has evolved within the UN System into a management strategy adopted by several UN entities, each one introducing its own approach based on the RBM (Bester, 2016). UNIDO, for instance, has developed its own approach entitled the Technical Cooperation Program and Project Cycle.

The ‘Technical Cooperation Program and Project Cycle’ is the management tool UNIDO has for programs and projects. The stages of the cycle are: (1) identification, (2) formulation, (3) review and approval, (4) implementation, and (5) independent evaluation (UNIDO, 2006). Two activities- Resource mobilization and Monitoring- extend over several stages in the Technical Cooperation Program and Project Cycle Management (see Figure 10).



**Figure 11. UNIDO's Technical Cooperation Program and Project Cycle Management (UNIDO, 2006).**

Within this cycle, there are three forms of evaluation: (1) self-evaluations, (2) independent evaluations, and (3) independent client-based evaluation (UNIDO, 2015a):

- Self-evaluations are carried out by those responsible for implementation. They are periodic progress reviews of projects or programs. Self-evaluations rely on monitoring and reporting. They are the starting point for independent evaluations.
- Independent evaluations are carried out by the UNIDO Office for Independent Evaluation (EVA). They give an independent view on a certain entity under evaluation (i.e. a project, a program or an entire strand of activities under a thematic or institutional heading). Independent evaluations can be performed internally-by the Office for Independent Evaluation- or externally-by independent consultants-. Independent evaluations can be mid-term, terminal or ex-post evaluations.
- Independent client-based evaluation. This is a tool for assessment of project or program performance based on questionnaires given to UNIDO's clients.

The following Table illustrates the different types of evaluation UNIDO performs:



**Table 3. Types of UNIDO's evaluations (UNIDO, 2003).**

Type	Outputs	Coverage/ Eligibility	Primary Responsibility	Primary Users	Timing
<b>Self-evaluation:</b> <i>Key process of continuous improvement for programme managers and counterparts aimed at reviewing progress and agree on reorientation requirements.</i>	<ul style="list-style-type: none"> <li>- Understanding among stakeholders on progress, constraints, results.</li> <li>- Corrective measures agreed upon project/programme reorientation requirements identified. Document amended.</li> <li>- Report for policy management and donors.</li> <li>- Issues for independent evaluation and lessons learned identified.</li> </ul>	<ul style="list-style-type: none"> <li>- All Integrated Programmes with at least two components under implementation.</li> <li>- Projects with a budget of US\$ 400,000 or more.</li> <li>- All projects for Terminal Reports.</li> </ul>	IP Project/Programme Management and Programme Counterparts.	<ul style="list-style-type: none"> <li>- Programme Management.</li> <li>- Senior Management.</li> <li>- Programme Counterparts.</li> <li>- Donors.</li> </ul>	<ul style="list-style-type: none"> <li>- SE reports once a year.</li> <li>- Field level review meetings every second year for IPs, annually for projects.</li> <li>- Depending on management requirements.</li> </ul>
<b>Client feed-back questionnaires:</b> <i>Independent, client-based tool for assessment of project/ programme performance and basic element of continuous improvement through involvement of counterparts.</i>	<ul style="list-style-type: none"> <li>- Feed-back on clients' views regarding performance of UNIDO services.</li> <li>- Statistical information for Organization-wide analysis of performance.</li> <li>- Build up and maintenance of client database.</li> </ul>	<ul style="list-style-type: none"> <li>- Clients and partners in project/programme implementation.</li> <li>- Central coordinating authorities of IPs.</li> </ul>	Regional Bureaus.	<ul style="list-style-type: none"> <li>- Regional Bureaus.</li> <li>- Policy management.</li> <li>- Programme management.</li> </ul>	<ul style="list-style-type: none"> <li>- Annual for projects/programmes of a duration of more than 24 months.</li> <li>- Once for projects of shorter duration.</li> </ul>
<b>Independent in-depth evaluation (mid-term and terminal):</b> <i>Main tool for independent assessment of project/ programme performance, outcomes and impact. Serves for accountability towards senior management and donors and is one of the main sources for lessons learned to be utilized for global forum publications.</i>	<ul style="list-style-type: none"> <li>- Identification of action to improve implementation and amend document.</li> <li>- Assessment of effectiveness and efficiency of implementation.</li> <li>- Assessment of achievement of outputs, outcomes and impact.</li> <li>- Identification of lessons learned for linkage for broader application and research.</li> <li>- Report for accountability to donors/member states and policy management.</li> </ul>	<ul style="list-style-type: none"> <li>- All projects/programmes exceeding US\$ 1 million and/or considered for extension at least once during project/programme implementation (mid-term) and once upon completion of the programme (terminal).</li> </ul>	Independent evaluators (consultants or UNIDO staff not associated with the implementation of the programme) under the coordination of Evaluation staff.	<ul style="list-style-type: none"> <li>- Policy and Programme managers.</li> <li>- Donor.</li> <li>- Recipient Government.</li> </ul>	<ul style="list-style-type: none"> <li>- Mid-term: based on programme management requirement or and as agreed with donor.</li> <li>- Terminal: as indicated in the project/programme document.</li> <li>- As agreed with donor.</li> </ul>
<b>Ex-Post evaluation:</b> <i>Important tool for independent assessment of and sustainability of outcomes and impact after a period of time sufficient for measuring developmental effects. Source of lessons learned.</i>	<ul style="list-style-type: none"> <li>- Detailed study analyzing programme outcomes, impact, sustainability and effects on development.</li> <li>- Collection of data for research and lessons learned.</li> </ul>	<ul style="list-style-type: none"> <li>- Selected Integrated programmes/projects covering issues of particular policy relevance and with potential of leading to lessons for broader application and strategic research.</li> </ul>	Senior management through independent evaluators, managed by Evaluation staff.	<ul style="list-style-type: none"> <li>- Senior management.</li> <li>- Donors.</li> <li>- Member states.</li> </ul>	Sufficient time period after completion of operations to observe developmental effects.

### 2.5.7.3 The Logical Framework

“The logical framework is a management tool used to formulate, monitor and evaluate programs and projects” (UNIDO, 2006). It is one of the methods used as a part of RBM and within this approach, the method facilitates the planning, monitoring and management of change processes. This comprehensive tool serves as a comprehensive planning method that covers all stages of the Program and Project Management Cycle (Örtengren, 2016).

This tool is the basic structure for all UNIDO projects and programs. The Logical Framework facilitates the implementation and evaluation of programs and projects and it includes the actions of (1) identifying strategic elements (inputs, outputs and outcomes (immediate objectives)) and their causal relationships, and (2) identifying indicators (including the assumptions or risks that may influence success and failure) (UNIDO, 2003).

Figure 12 illustrates the basic structure of UNIDO Logical Framework.

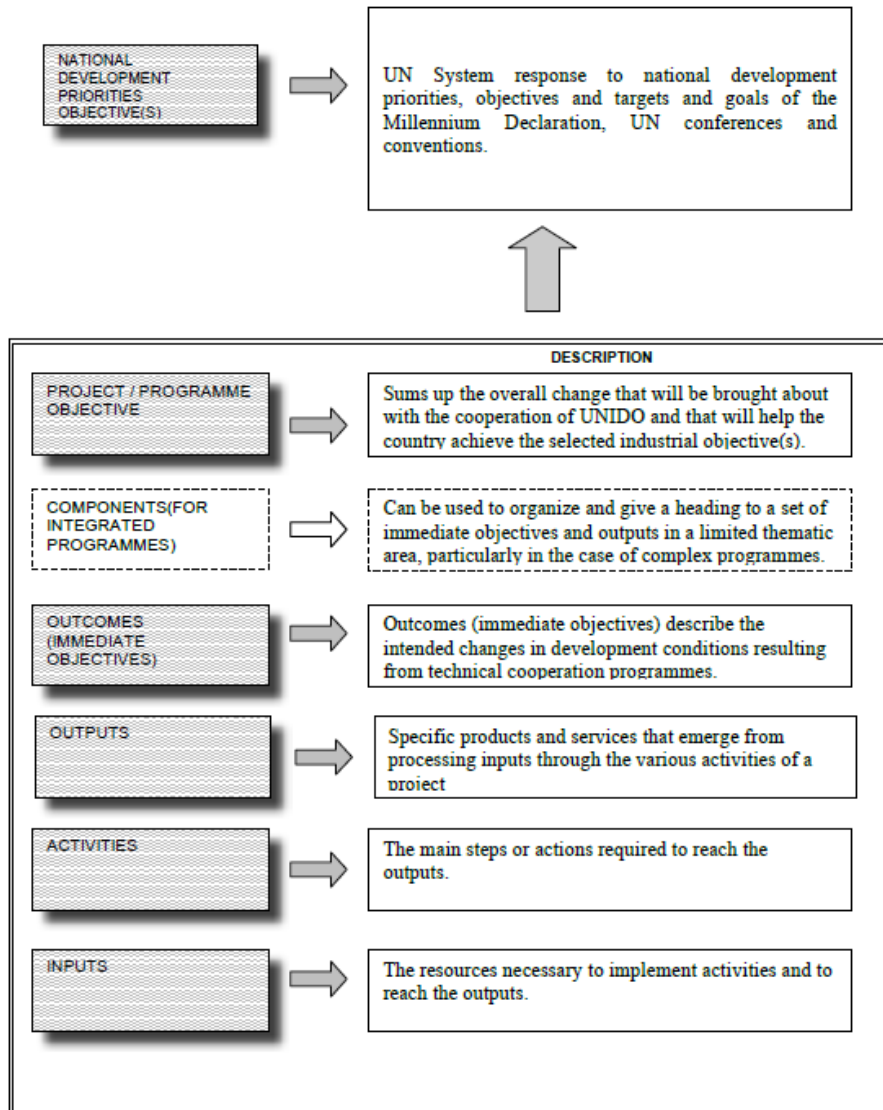


Figure 12. Basic structure of a UNIDO integrated Programme/Project (UNIDO, 2006).

### 3 Methodology and Research Design

In this section, the material and methodology needed for understanding the contribution of the project ‘Industrial Knowledge Bank’ to achieve UNIDO’s objective, and to achieve the SDG9 targets related to industrialization is presented.

#### 3.1 Research Design

This research was designed as a case study based on qualitative research design in order to produce data on how development projects that deal with knowledge management contribute to development cooperation objectives.

The qualitative research approach was selected as it aims “to develop a complex picture of the issue under study” (Creswell, 2009). At the same time, this approach is interpretive, meaning that “qualitative research is a form of interpretive inquiry in which researchers make an interpretation of what they see, hear, and understand” (Creswell, 2009), and it implies an inductive data analysis process, allowing the researcher to “build the patterns, categories, and themes from the bottom up, by organizing the data into increasingly more abstract units of information”(Creswell, 2009). These characteristics of qualitative research made this approach suitable to understand and study the project of the Industrial Knowledge Bank.

The methodology selected was a case study, as cases studies are “a strategy of inquiry in which the researcher explores in depth a program, event, activity, process or one or more individuals” (Creswell, 2009). This research uses case study as a strategy of inquiry because “they are preferred when ‘how’ questions are being posed, and when the focus is on understanding a contemporary phenomenon with some real-life context” (Yin, 2003). Hence the case study selected was the Industrial Knowledge Bank.

The research was designed as an embedded single case study. An embedded single case study allows to incorporate sub-units of analysis to have a more complex (i.e. embedded) design. These sub-units represent an opportunity for extensive analysis, enhancing the insights into the case study (Yin, 2003). The embedded units of analysis in the research are the interventions, referred as ‘co-operations’ in the context of the project (see section 3.4.2.1). Figure 13 shows the design of the case study:

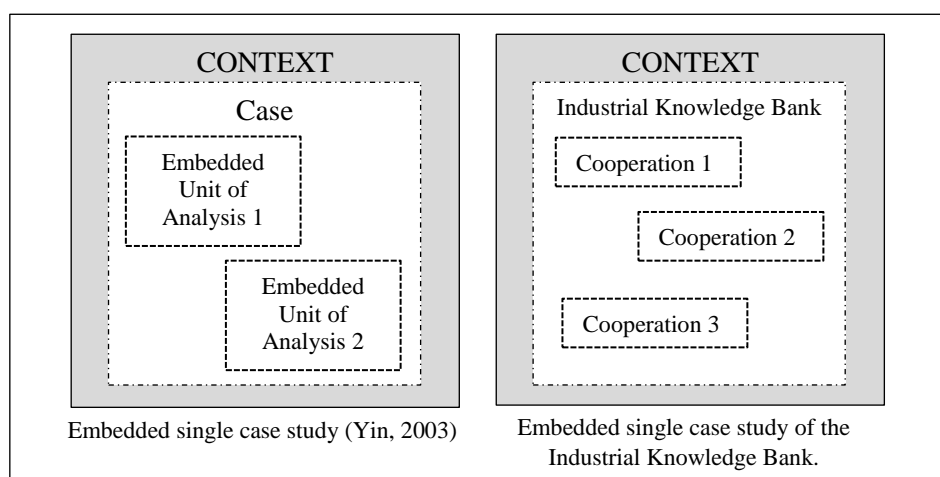


Figure 13. Embedded single case study of the Industrial Knowledge Bank.

## 3.2 Context of the case study

The research was conducted at the UNIDO headquarters in Vienna, where the researcher spent 5 months working as an intern for the division. As a member of UNIDO Staff, the researcher had a personally-constructed understanding of the LAC Region due to her geographical background, being a Mexican-born citizen. In addition, her native language (Spanish) allowed her to have access to a wider range of materials.

The boundaries of the system were determined by a time frame of 8 years, from 2009 to the year 2017. The year 2009 was selected because it was the year the project started and the year 2017 was selected because it was the year the researcher performed her internship.

## 3.3 Data

### 3.3.1 Data collection

The data used in this study was mainly collected by the researcher, and some data was delivered by the UNIDO LAC Division staff. For the data provided by the LAC Division staff, the researcher had no awareness if this data was obtained following a specific method, as it was given to the researcher with the aim to get acquaintance with the organization's and project's context. The documents provided by the UNIDO LAC Division staff were treated as reliable, accurate, credible and reasonable sources of information due to the organization's prestige. The rest of the data was collected with literature review and personal semi-structured interviews.

The following three were the methods to collect data:

- *Data collected with literature review.* The data was identified and selected carefully to obtain relevant information related to the research questions, and to have an overview of the topics analyzed.
- *Data collected with semi-structured interviews.* These interviews were conducted with the aim to clarify questions risen from the documents dealing with the project and theory of it.
- *Data provided by UNIDO LAC Division.* This data was dealing mainly with information regarding to the project and its functioning. The type of documents collected are presented in Table 4.

**Table 4. IKB documents list.**

		Type of document	Description
Project Document		Project Document	The feedback form is a client-feedback questionnaire filled by the donors. The aim is to provide feedback to UNIDO regarding the development of the cooperation.
	Cooperation Documents Recipient Documents	Application form to request assistance	This application is filled by the recipient with information regarding requested service and general information of the recipient. It must be submitted jointly with the terms of reference for the cooperation and the program of activities.
Financial commitment		This commitment is signed by the recipient and states the compromise of the recipient institution to cover all the local costs (accommodation, transport and food) of the donor.	
Statement of intention		The statement of intention is a letter signed by the recipient where the willingness to become a recipient for the IKB is stated.	
Feedback form		The feedback form is a client-feedback questionnaire filled by the recipient. The aim is to provide feedback to UNIDO regarding the development of the cooperation.	

Donor Documents	Application form to provide assistance	This application is filled by the donor with information regarding its field of expertise and the service requested to provide knowledge. It must be submitted with a joint CV.
	Statement of intention	The statement of intention is a letter signed by the donor in which the willingness to become a donor for the IKB is stated.
	Final Reports	The Final Report is a document written by the donor after the cooperation happens, comprising detailed information of the cooperation and annexed documents needed.
	Feedback form	The feedback form is a client-feedback questionnaire filled by the donors. The aim is to provide feedback to UNIDO regarding the development of the cooperation.
Other Documents	Lists	UNIDO LAC has lists regarding the stakeholders involved in all their projects and programs, including the IKB.
	Specific UNIDO publications	UNIDO has publications specific to certain topics like Inclusive and Sustainable Industrial Development, Statistics and Indicators for achieving Goal 9 of the SDG's. These publications express the opinion of UNIDO regarding certain matters.
	Statistics	UNIDO Statistic Division has collected the statistics regarding industry for the member countries. Each year they publish the <i>International Yearbook Industrial Statistics</i> where this information is contained. The data the organization has is gathered with help of the countries' national statistics agencies.

### 3.3.2 Data validity and reliability

According to (Creswell, 2009) “qualitative validity means that the researcher checks for the accuracy of the findings by employing certain procedures”. In the present case study, the researcher used some procedures such as *spend prolonged time in the field* -by working as a full time intern, the researcher was able to develop an in-depth understanding of the project under study-, *triangulate documents and interviews* -by comparing issues in both interviews and documents the researcher make sure that the issues approached appear in both-, *and use rich, thick description to convey the findings* -by describing in depth the case study, the results become more realistic and richer.

To account for reliability in this case study, the procedures and the steps of the case study were carefully documented, as suggested by (Yin, 2003). In addition, this study attains reliability from the fact that some documents used for analysis are publicly available at the organization's open data platform.

### 3.3.3 Data analysis

In qualitative research, data analysis implies making sense of the gathered data (Creswell, 2009). After collecting the data, a general analytical strategy was performed, in order to produce high-quality analyses and obtain adequate interpretation from data. The general analytical strategy used was ‘Developing a case description’ (Yin, 2003). This descriptive approach aimed to appropriately identify the links to be analyzed.

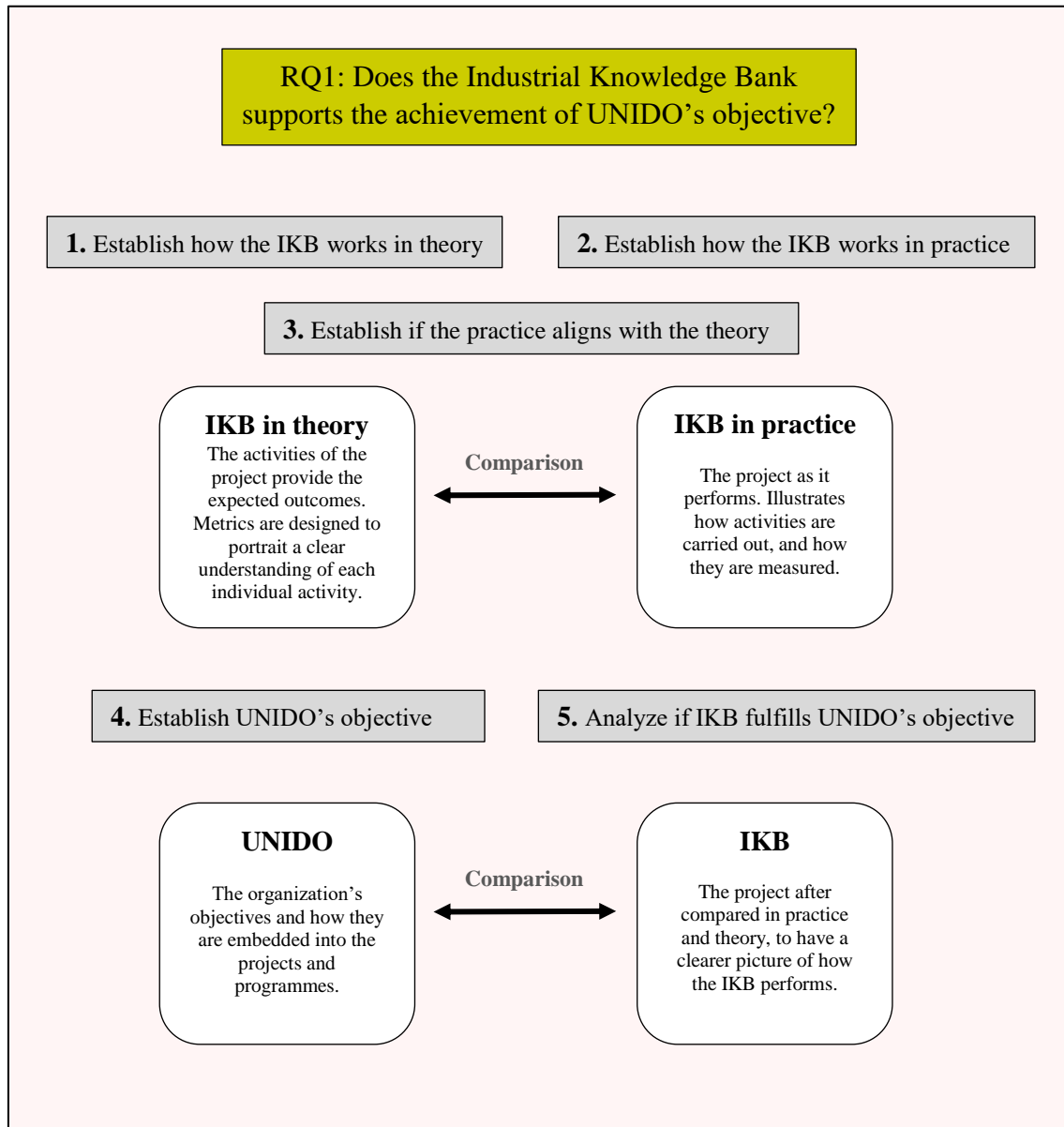
Furthermore, to relate the analysis of the data and the research questions, a two-stage analysis strategy was designed. The analysis strategies are explained in section 3.4.

### 3.4 Analysis strategy for research question one

An analytical framework was proposed aiming to answer the first research question:

*RQ1: Does the Industrial Knowledge Bank supports the achievement of UNIDO's objective?*

Figure 13 illustrates the proposed framework:



**Figure 14. Analytical Framework for Research Question No. 1.**

To answer research question No. 1, it was important first to establish the theoretical way the IKB works and compare it with the project in practice. To do so, 12 completed interventions (i.e. cooperations) of the IKB were selected to be studied.

#### 3.4.1 Description of the IKB in theory.

To describe the model of the IKB in theory, the following topics were approached:

- Background and justification
- Budget and financing mechanisms

- Objective of the IKB
- Working mechanisms of the IKB

### 3.4.2 Description of the IKB in practice

To describe the model of the IKB in practice, 12 co-operations were selected and described.

#### 3.4.2.1 Selection of Co-operations

Following the ‘single case embedded design’ selected for the case study of the IKB, the embedded units of study were determined to be the interventions, referred to as ‘co-operations’ in the context of the project.

The co-operations were selected randomly from a sample of 58 cases. A consideration when selecting the cases was the availability of digitalized documents (i.e. ‘Final Report’). In some cases, there was no digitalized information. For the ones selected in this research there was a ‘Final Report’ in digital form. The sample contained countries from Central America, South America and the Caribbean.

Another criterion used to select 12 cases was the three programmatic fields of activity that UNIDO has. Two cases were selected per former programmatic field of activity and it was intended to have also a representative sample of the countries, the years and the industrial field of the co-operations. The former programmatic fields of activity were used because the majority of the cases were filed using these ones. Since the change<sup>13</sup> of the programmatic fields of activity, no re-labeling of any case has happened or no new information has been introduced to the database.

However, the cases were ultimately selected based on the availability of digital documents for each. The following table illustrates the criteria used to select the cases:

<b>Poverty reduction through productive activities</b> (UNIDO’s former Programmatic field of activity 1)	<b>Trade capacity-building</b> (UNIDO’s former Programmatic field of activity 2)	<b>Energy and Environment</b> (UNIDO’s former Programmatic field of activity 3)
Case 1	Case 5	Case 9
Case 2	Case 6	Case 10
Case 3	Case 7	Case 11
Case 4	Case 8	Case 12

#### 3.4.2.2 Description of the co-operations

During this step, the following aspects of each cooperation were described:

- Background and context of the cooperation, and the donor and recipient.
- Objectives of the cooperation performed
- Working mechanisms
- Outcomes of the cooperation
- Follow-up actions
- Information missing of the Final Report.

### 3.4.3 Stakeholder Analysis

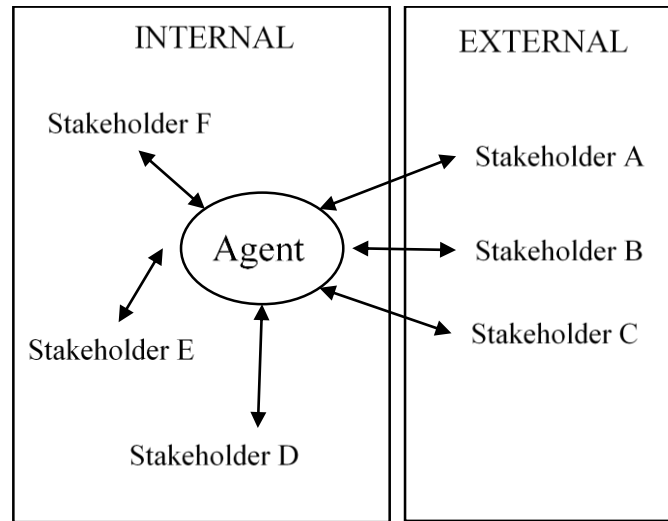
Afterwards, a stakeholder analysis was performed. During this step, the stakeholder analysis was performed in two separate steps:

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<sup>13</sup> For a more detail explanation, refer to the section 5. Results, subsection 5.2.3 How does the Industrial Knowledge Bank Works?

3.4.3.1 *Categorization of IKB's stakeholders*

During the first step, the categorization of internal and external stakeholders of UNIDO in relation to the IKB were identified and described. The resulting classification was presented as follow:



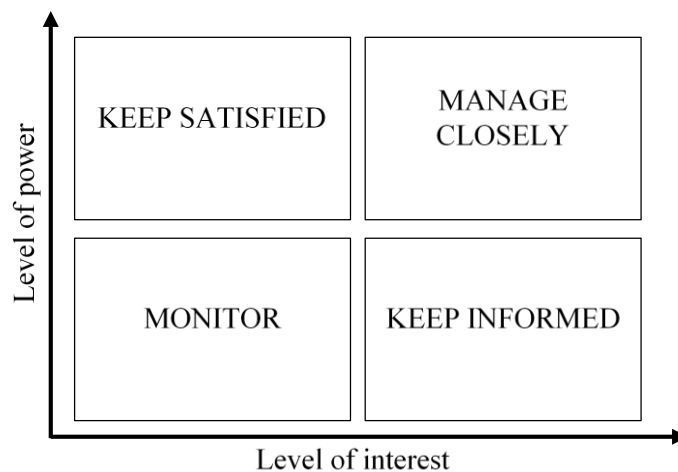
**Figure 15. Stakeholders categorization.**

3.4.3.2 *Power/interest analysis of the IKB stakeholders*

As a second step, a power/interest matrix (Mendelow, 1991) was elaborated to illustrate better the categories in which the stakeholders might fit. With this specific exercise, it is possible to observe the influence different stakeholders might have in the project and its outcomes as well as the management approaches to relate with these stakeholder groups:

- a. Keep satisfied
- b. Manage closely
- c. Monitor
- d. Keep informed

The matrix is presented as the following image:



**Figure 16. Power-Interest Matrix for Stakeholders Analysis based on Mendelow (1991).**

After contrasting both the theoretical and practical models and performing the stakeholders' analysis, the objective of UNIDO and what it implies for projects and programs within the



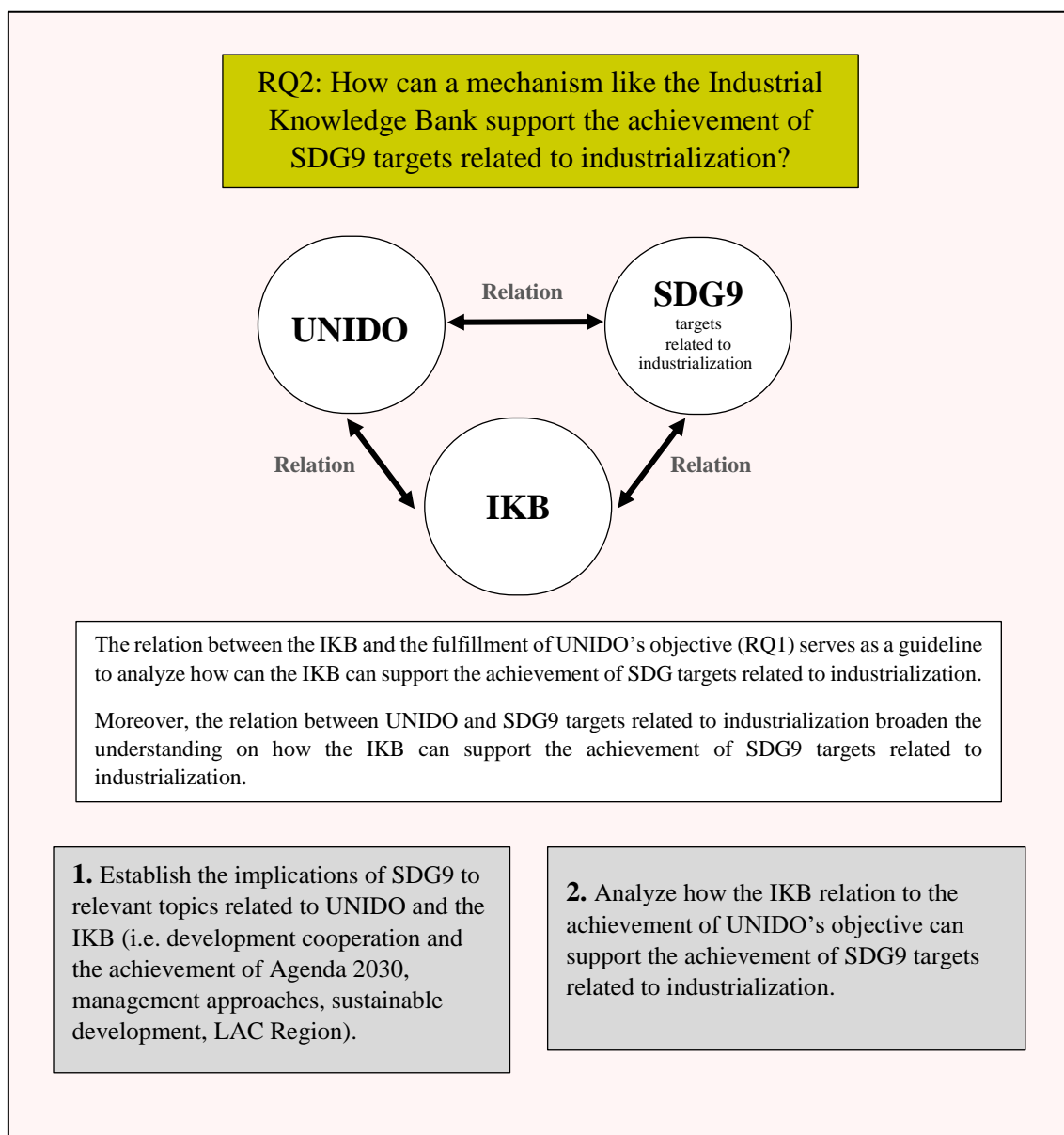
organization was established. With these two pieces of information, an analysis was performed to see if the IKB fulfilled UNIDO’s objective.

### 3.5 Analysis strategy for research question two

With lessons drawn from the first research question, an analysis on how the IKB can support the achievement of the SDG9 targets related to industrialization was performed. To do so, an analytical framework was also proposed to answer the second research question:

*RQ2: How can a mechanism like the Industrial Knowledge Bank support the achievement of SDG9 targets related to industrialization?*

Figure 15 illustrates the proposed framework:



**Figure 17. Analytical Framework for Research Question No. 2.**

For research question No. 2, the implications of SDG9 targets related to industrialization and relevant topics to the present research were established. To achieve this analysis, the links of these topics and the SDG9 were established through comparing, contrasting and analyzing the data.

With the data from this step and from the RQ1, there was enough information to analyze how the IKB relates to the achievement of SDG9 targets related to industrialization.

### 3.5.1 SDG 9 Analysis

Following the general analytical strategy of ‘Developing a Case Description’, this step was used to identify the causal links between the four SDG 9 targets related to industrialization and relevant topics for this research. The SDG targets related to industrialization are presented in Table 7.

**Table 5. Sustainable Development Goal 9 targets (UNGA, 2015).**

Sustainable Development Goal 9 targets	
9.1	Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
9.2	Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry’s share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.
9.3	Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.
9.4	By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.
9.5	Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.
9.a	Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States.
9.b	Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.
9.c	Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.

The analysis is performed using a matrix, aiming to structure, organize and make meaning of the data. Table 6 shows the matrix, including some of the questions used:

**Table 6. SDG 9 targets' Analysis Matrix.**

	Target 9.2	Target 9.3	Target 9.4	Target 9.b
Indicator (s) to measure progress towards this target.				
What does the target mean?				
What are the implications for this target and the achievement of Agenda 2030? (Agenda 2030 is about poverty eradication first, in order to achieve Sustainable Development)				
How can this target be managed using a Complex Adaptive systems approach? What are the implications of implementing this target into the organization’s activities?				
What does this target mean for Sustainable Development in general? Which are the main implications? How does this target relate to the environmental, economic and social sustainability?				
What are the main effects of the implementation of this target in the LAC Region? What is necessary to achieve this target in the LAC Region context?				
Other questions arising during the development of the research.				

## 4 Results

### 4.1 The Industrial Knowledge Bank

#### 4.1.1 Project Description: The Industrial Knowledge Bank (theoretical)

##### 4.1.1.1 Background and justification

The Industrial Knowledge Bank is a project that “aims at setting up an innovative way of programming cooperation and knowledge diffusion” (UNIDO, 2008). This project started in March 2008 following the demands of LAC countries of having a platform to foster technological assistance (TA) in the region. After the 2nd UNIDO Expert Group Meeting for the LAC Region held in Vienna in 2007, the LAC Division created the IKB project. Even though the documentation states that the project started in 2008, the first record of a cooperation is in 2009.

Although the IKB initiated due to LAC countries requests, the IKB project has its institutional foundations in the ‘Long-term Vision Statement’ UNIDO adopted to align its activities and mandate with the MDGs. This document was presented in the 11<sup>th</sup> session of the General Conference of UNIDO, and it addresses the issue of UNIDO’s strategic contribution to the Millennium Development Goals (MDGs). The document presents the new alignment of activities adopted to contribute to the MDGs for the organization. UNIDO is an agency with a dual role of providing technical assistance and promoting industrialization to achieve MDGs. UNIDO projects and programs are then classified depending on their objectives in three focus areas (see Figure 18). The cross-cutting services relate to the promotion of industrialization and the focus areas relate to the technical assistance.

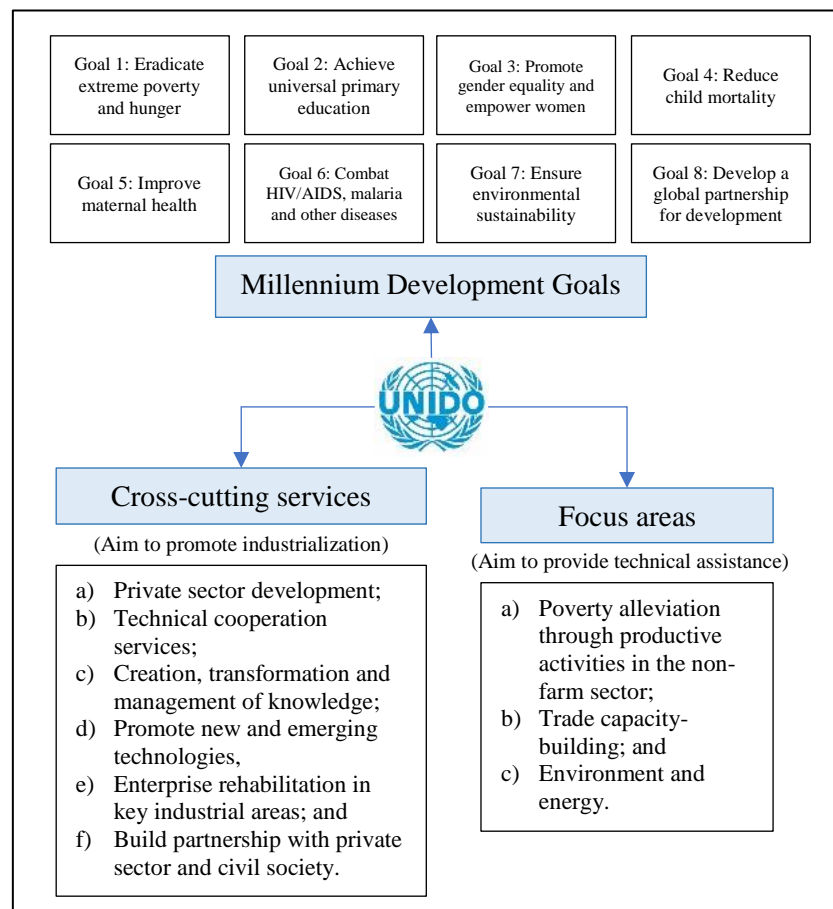
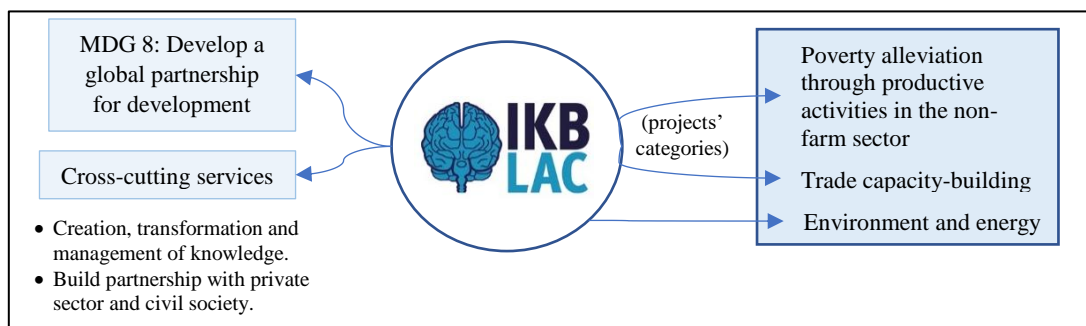


Figure 18- UNIDO activities structure based on UNIDO (2005).

The IKB project finds then its justification in the cross-cutting services that UNIDO offers aimed to contribute to the MDGs-these being *Creation, transformation and management of knowledge*, and *Build partnership with private sector and civil society*- and in the MDG8-*Develop a global partnership for development*-. Figure 19 illustrates the IKB justification based on UNIDO’s 2000 Long-term Vision Statement:



**Figure 19. IKB justification based on UNIDO (2005).**

#### 4.1.1.2 Budget and financing mechanisms

The IKB project has been an ongoing project since 2008 and has had different endorsement mechanisms. During the first five years (2009-2013), the IKB was endorsed by the Spanish Agency for International Development Cooperation (AECID) and the UNIDO Regular Budget. The contribution of these two donors to the IKB’s budget was of 167 000 euros. For the next four years (2014-2017), it was the Trust Fund for Latin America and the Caribbean who acted as a donor for the IKB’s budget.

The Special Trust Fund for Latin America and the Caribbean is formed with UNIDO LAC Member State’s unutilized balances contributions. The unutilized balances contributions are the difference between regular budget appropriations and actual expenditures (UNIDO, 2011). In the case of the Trust Fund for Latin America and the Caribbean, this difference refers to money resulting of repayments by LAC countries of arrears. Due to a request from the LAC countries to UNIDO, these repayments went directly to a trust fund to finance only projects in the LAC Region. This way, the projects in the LAC Region will be financed by the countries themselves. The Special Fund for Latin America and the Caribbean was established in 2012.

**Table 7. Industrial Knowledge Bank Budget Overview and Financing Institutions.**

Industrial Knowledge Bank Budget Overview and Financing Institutions <sup>1</sup>										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Start of the project				167 000 EUR <sup>2</sup>			1 960 USD <sup>3</sup>	29 300 USD <sup>3</sup>	11 972 USD <sup>3</sup>	18 348 USD <sup>3</sup>
		AECID <sup>4</sup>					Trust Fund for Latin America and the Caribbean			
		UNIDO Regular Budget								

<sup>1</sup> This amount expresses only the total contribution to the budget and differs from the contributions to expenditures.

<sup>2</sup> Source:(UNIDO, 2008).

<sup>3</sup> Source:(UNIDO, 2017).

<sup>4</sup> The Spanish Agency for International Development Cooperation (AECID).

#### 4.1.1.3 *Objective of the Industrial Knowledge Bank*

In 2008, when the Project Document for the IKB was formulated, the objective of the project was expressed as “foster intra-regional cooperation through the identification, formulation and joint implementation of technical assistance initiatives” (UNIDO, 2008) in the LAC Region. The analogy to a bank given to the project is the fact that knowledge (e.g. technical expertise) is seen as a currency that is exchanged among actors (donors and recipients). Therefore, the IKB acts as a platform that improves the match of demand for knowledge and supply of it. What UNIDO seeks in this project is to provide the institutions that need specific technical assistance with a more suitable expertise by managing them and matching among them.

The last update of the IKB’s Project Document (UNIDO, 2014) identify three objectives in contrast to the first Project Document of 2008, where only one objective was stated. These three objectives are:

1. *Enable the continuation of the mechanism of experts’ exchange as an innovative programming instrument, cooperation and dissemination of industrial knowledge, taking advantage of the existing expertise of the countries in the region of LAC in the areas of UNIDO competence.*
2. *Improve the capacity of UNIDO to respond to requests to be implemented in the short term and to formulate projects.*
3. *Encourage solidarity and partnership between the concerned parties, in line with the commitment of UNIDO with its Member States and the interest in bilateral and south-south cooperation.*

The change in the objectives respond to the change in financing mechanisms for the project, from UNIDO Regular Budget and AECID (2009-2013) to Latin America Trust Fund (2014-2017).

#### 4.1.1.4 *How does the Industrial Knowledge Bank Works?*

The Industrial Knowledge Bank is constituted by four actors, the Industrial Knowledge Bank, national focal points, donor, and recipients.

*The Industrial Knowledge Bank (IKB).* The Division of Latin America and the Caribbean oversees the project of the Industrial Knowledge Bank and manage the exchange of knowledge in form of cooperation services. These include (1) Capacity building, (2) Strategy evaluation/recommendation, and (3) Transfer of best practices. The IKB covers the expert cost of transportation from the donor’s location to the recipient’s one.

*National Focal Points.* Each country participating in the project appoints a national focal point for the IKB, usually a government institution or the Regional Office, Country Office or Focal Point of UNIDO LAC, in case there is one<sup>14</sup>. This focal point acts as a liaison office for UNIDO LAC at the specific country and has the function of co-coordinating the process of the Industrial Knowledge Bank along with UNIDO LAC Division team. Along with the co-coordination of the cooperation process, the focal point is expected (1) to identify the national competences (i.e. the areas of expertise a country’s institutions have) to be donated to the Bank, (2) to investigate the mechanisms of financing the local cost of international experts and (3) to monitor the results of

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<sup>14</sup> There are two Regional Offices, five Country Offices and one Focal Point:

- Regional Offices: (1) Mexico - it covers Mexico, Belize, Bolivia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua and Panama- and (2) Uruguay - it covers Uruguay, Argentina, Chile and Paraguay-.
- Country Offices: (1) Brazil-it covers Brazil and Venezuela-, (2) Colombia-it covers Colombia, Guyana, Peru and Suriname-, (3) Bolivia, (4) Ecuador and (5) Nicaragua.
- Focal Points: (1) Cuba.

the intervention (i.e. ensuring the information regarding the technical assistance is received in UNIDO through the IKB platform) and the results continuity (monitor the resulting activities of the cooperation).

*Donors.* The donors are those institutions that provide knowledge to the recipients. They contribute by offering their experts for no cost. The quality, integrity and professionalism of the technical assistance the experts provide is backed-up by the institution’s reputation.

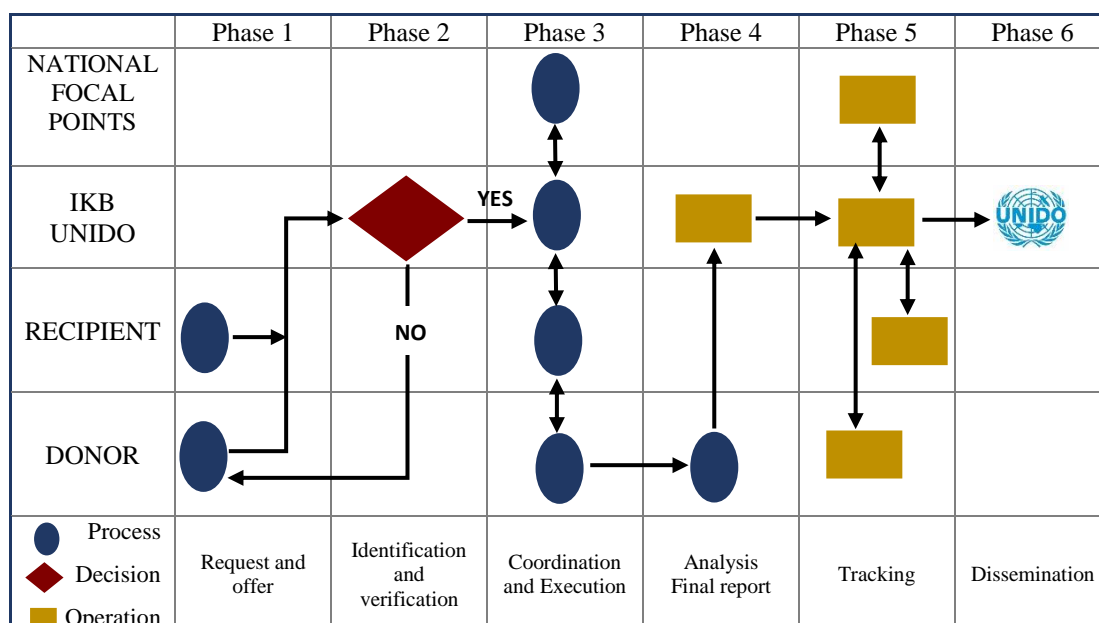
The donor’s contribution is measured by the IKB in terms of the weeks of work an expert will provide of his/her expertise. For example, if in one cooperation the expert provided a workshop for a group for 10 working days, then the cooperation is measured as 2 working weeks/ expert of knowledge. It is helpful when it comes to the cost, because the measure can also be reported as the cost an expert will charge for a week of his/her expertise. Following the same example, if a professional’s expertise has a cost of 100 euros/hour, then the two weeks the workshop lasted can be reported as 7000 euros/expert (assuming the workshop lasted 10 days and was carried out for 7 hours a day). For UNIDO, these measures are valuable in the sense that they provide information on how much money is “saved” by a recipient during a cooperation.

In doing so, UNIDO aims to reduce the cost of knowledge cooperation between countries and to quicken the time it takes to complete a punctual assistance regarding a specific knowledge transference.

*Recipients.* The recipients are those institutions that request knowledge from the IKB and receive knowledge from the donors. These institutions are in charge of all the cost associated to the cooperation (e.g. local transportation, meals, accommodation).

Donors can become recipients and equally, recipients can become donors.

To match a request for cooperation with the appropriate donor, the IKB follows a mechanism divided in 6 phases. The mechanism to match donors and recipients is illustrated in the following figure:



**Figure 20. Operational Scheme of the Industrial Knowledge Bank. Adapted from UNIDO (2014).**

1. *Phase 1. Request and offer.*

The process can be started either by a recipient or a donor. In the case of a recipient, the institution requesting assistance fill in an application template<sup>15</sup> to initiate the process. The recipient provides information regarding the institution's details and the requested service. The information related to the requested service must be detailed and include a description of the sector in which the service is needed.

In the case of a donor, the institution that wants to provide its expertise fills in an application template<sup>16</sup> to provide knowledge. The application contains the institution's details and the description of the expertise. In addition to the application form, the institution must attach the CV of the expert(s).

Both requests are either initiated through the online platform<sup>17</sup> that the IKB has or directly by one of the diplomatic representations in Vienna (embassies).

The online platform contains a section where the request to provide or receive assistance can be done. Any potential donor or recipient must fill in a pre-request template soliciting to be a donor or a recipient of knowledge in a specific area, and then the IKB proceeds to give follow-up to the request, sending them the proper documents to fill in. The following image illustrates the pre-request any potential donor or recipient can fill in via the online platform:

Banco de Datos

Banco de Datos

Instituciones: Donantes

Prioridades: Creación de capacidad comercial

Areas:

- Agro-Industria
- Biocombustibles
- Electrificación
- Energía eólica
- Energía renovable
- Energías no convencionales
- Farmacéutica
- Floricultura
- Gestión ambiental
- Institucional
- Institucional/ Agro-Industria
- Institucional/ PYMES
- Micro-biología
- MIPYMES
- Políticas de desarrollo industrial
- Políticas industriales
- Políticas para el desarrollo de PYMES
- Producción más limpia
- PYMES
- PYMES agro-industriales
- Química industrial
- Tecnología

Send

**Figure 21. Pre-request for a cooperation at IKB online platform.**

The pre-request contains only three fields: (1) the modality to be chosen -donor or recipient-, (2) the thematic priorities<sup>18</sup> -a set of three, the same ones that those of

<sup>15</sup> Application template in the Annex section.

<sup>16</sup> Application template in the Annex section.

<sup>17</sup> [www.unido.org/industrialknowledgebank.html](http://www.unido.org/industrialknowledgebank.html)

<sup>18</sup> The thematic priorities found in the online request are those of UNIDO's programmatic focus when the online platform was created (2008). Since then, the programmatic areas of UNIDO were renamed and the website has not been yet updated with these.

Previous thematic areas: (1) Poverty reduction through productive activities, (2) Trade capacity-building, and (3) Energy and environment.

UNIDO's programmatic focus-, and (3) the areas of interest for the solicitant- twenty-two areas-.

Since the UNIDO LAC Division is as well in charge of the diplomatic relations of UNIDO with the LAC countries, the request can be done via the embassies of the Latin American Countries in Vienna. In such case, the diplomatic representation addresses the members of the UNIDO LAC Division and states the willingness to make use of the IKB services. The diplomats put in contact a potential donor or recipient with the IKB and then, the IKB sends the proper documents to fill in and start the process for the cooperation.

2. *Phase 2. Identification and verification.*

During phase 2, the Industrial Knowledge Bank receives the requests for receiving cooperation or providing cooperation.

In case a donor submits an application to provide knowledge, the Industrial Knowledge Bank processes the request and verifies the donor's expertise (i.e. the quality of the institution and its reputation) and the topics its expertise covers. If aligned with the needs of UNIDO's mandate and IKB objectives, then it is added to the knowledge donor's database. In doing so, the donor is registered in the system and once a request for assistance that matches the donor's profile is submitted, then the IKB gets in contact with the donor.

For the recipients' application, the Industrial Knowledge Bank identifies the specific needs this actor has in relation to the technical expertise.

The IKB proceed to decide if the request for a cooperation is approved or not. In case it is approved, then the following stage is the Coordination and Execution phase. In case it is rejected, then the cooperation is no longer pursued.

In relation to the sectors of technical expertise, the IKB categorizes them in the following way:

1. Agriculture
2. Electronics and communications
3. Construction products
4. Petroleum and petroleum products
5. Mining
6. Biotechnology
7. Food and beverages
8. Metals
9. Others (specify)
10. Chemistry
11. Engineering
12. Environment
13. Craft
14. Plastic
15. Energy
16. Machinery and equipment
17. Textile

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Thematic areas found in the website as of 2017: (1) Creating shared prosperity, (2) Advancing economic competitiveness, and (3) Safeguarding the environment.



3. *Phase 3. Coordination and Execution.*

Once the request for a cooperation was approved by the IKB, then the planning starts. During the coordination process, the IKB acts as the main coordination and if needed, co-coordinates the activities with the national focal points.

The coordination phase implies all the preparation for the trip of the expert(s) to the recipient's country. The IKB covers the cost of the ticket(s)-flight tickets, most of the times- from the expert's country of departure to the recipient's country. If there is a visa requirement for the expert(s) entry to a country, UNIDO LAC Division can assist the expert(s) process to obtain it, though it can't assure the obtainment of this.

The recipient(s) is in charge of covering the local expenses of the expert(s). This might include the local transportation, meals, accommodation, and any other expenses incurred from the cooperation.

The coordination of the cooperation also includes the preparation of the cooperation in terms of dates, topics, and modality. Regarding the modality, the donor can propose the most ideal way of delivering the cooperation, namely workshop or oral presentation. In some cases, the donor provides a workshop and later acts as an observer for the project that needed his/her expertise as a donor.

The recipient can as well propose the ideal way to receive the cooperation. To achieve an agreement on the modality of the cooperation, the IKB coordinates and leads the communication between the actors and is there to propose ideas. The National Focal Points can also co-coordinate this communication.

Once all the parties involved -donor, recipient, IKB, and National Focal Point- have agreed on the dates, topics and modality of the cooperation, the cooperation takes place.

4. *Phase 4. Analysis and Final Report.*

Once the cooperation is finalized, both the donor and the recipient fill in a feedback template<sup>19</sup> and send it back to the IKB. In the case of the donor, a Final Report<sup>20</sup> is also required to be submitted to the IKB. These documents are used by the IKB to analyze the cooperation.

The recipient is asked to rate, among others, the skills of the donor, the impact of the assistance, the overall experience working with the IKB, and its willingness to work again with the same expert. The way to rate these questions is in a scale from 1 to 5, being 5 the maximum score to be attained (except for the willingness to work again with the same expert). The following Image illustrate these analysis questions:

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<sup>19</sup> Feedback template in the Appendix section.

<sup>20</sup> Final Report template in the Appendix section.

**2.3. How would you rate the skills of the hosted expert?**

<input type="checkbox"/> 1 = fair	<input type="checkbox"/> 3 = good	<input type="checkbox"/> 5 = excellent
<input type="checkbox"/> 2 = satisfactory	<input type="checkbox"/> 4 = very good	

**2.4. How would you rate the impact of the assistance?**

<input type="checkbox"/> 1 = unproductive	<input type="checkbox"/> 3 = productive	<input type="checkbox"/> 5 = excellent
<input type="checkbox"/> 2 = fairly productive	<input type="checkbox"/> 4 = very productive	

**Please, explain briefly your answer**

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**2.5. How would you assess in overall terms your experience with the Industrial Knowledge Bank?**

<input type="checkbox"/> 1 = unproductive	<input type="checkbox"/> 3 = productive	<input type="checkbox"/> 5 = excellent
<input type="checkbox"/> 2 = fairly productive	<input type="checkbox"/> 4 = very productive	

**2.6. Do you expect to request again the expert's services after this initial cooperation?**

Yes  No

**If yes, please specify**

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**Figure 22. Analysis questions in the recipient's feedback template.**

The same way the recipient rates the cooperation through the feedback form, the donor is asked to fill in a similar feedback form in order to rate the cooperation. In this one, the donor gives feedback regarding the cooperation's logistics, the experience working with the IKB, and the lessons that the cooperation has provided them with. The following image illustrates some of the questions asked to the donor:

**2.2. How would you rate the recipient institution's logistics?**

Disorganized       Well organized

**2.3. How well prepared was the recipient institution to receive the assistance?**

Unprepared      Well prepared

**2.4. How would you assess in overall terms your experience with the Industrial Knowledge Bank?**

<input type="checkbox"/> 1 = unproductive	<input type="checkbox"/> 3 = productive	<input type="checkbox"/> 5 = excellent
<input type="checkbox"/> 2 = fairly productive	<input type="checkbox"/> 4 = very productive	

**2.5. Please, state the lessons learnt through this cooperation and the benefits to your institution:**

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**Figure 23. Analysis questions in the donor's feedback template**

The donor's Final Report information is structured into three main parts: (1) Basic details of the cooperation, (2) Detailed final report, and (3) Annexes. Table 6 illustrates the contents required for each section in the Final Report:

**Table 8. Final Report content.**

<b>Final Report</b>	1. Basic details of the cooperation	<ul style="list-style-type: none"> <li>1.1 Title of the Technical Service.</li> <li>1.2 Country donating assistance.</li> <li>1.3 Donor institution.</li> <li>1.4 Recipient institution.</li> <li>1.5 Dates of the service.</li> <li>1.6 Name of the expert.</li> </ul>
	2. Final detailed report	<ul style="list-style-type: none"> <li>2.1. Executive summary of the cooperation (400 words maximum).</li> <li>2.2. Main background (explain briefly the starting situation at the beginning of the cooperation).</li> <li>2.3. Description of the service (describe the request for service presented by the recipient and the service delivered by the expert).</li> <li>2.4. Conclusions (specify the results achieved through the assistance and the lessons learned according to the expert's vision).</li> </ul>
	3. Annexes	<ul style="list-style-type: none"> <li>3.1. List of people met (name, position, telephone, email).</li> <li>3.2. Working agenda.</li> <li>3.3. Brief description of the donor institution.</li> <li>3.4. Brief description of the recipient institution.</li> </ul>

#### 5. Phase 5. Tracking

During this step, a follow-up to the cooperation is put in process. In theory, the tracking phases are designed to involve all the actors in the proper actions to follow-up possible projects or cooperations that might arise from the original cooperation. However, there is no literature regarding how or what specific mechanisms are used by the actors to perform the tracking mechanisms.

In addition, the IKB publish the final report of the cooperation online and communicates the outcomes via this publication. Moreover, both the donor and the recipient information are kept in the data base of the IKB so they can be easily tracked in the future if the possibility of a cooperation requires their area of expertise.

#### 6. Phase 6. Dissemination

The dissemination phase is designed to propagate the outcomes of the cooperation. The propagation of the outcomes is the role of UNIDO as an organization. No literature or material regarding the mechanisms or processes UNIDO uses to disseminate the cooperation outcomes was found.

### 4.1.2 Case Study Description: The Industrial Knowledge Bank (in practice)

#### 4.1.2.1 Description of Cooperations

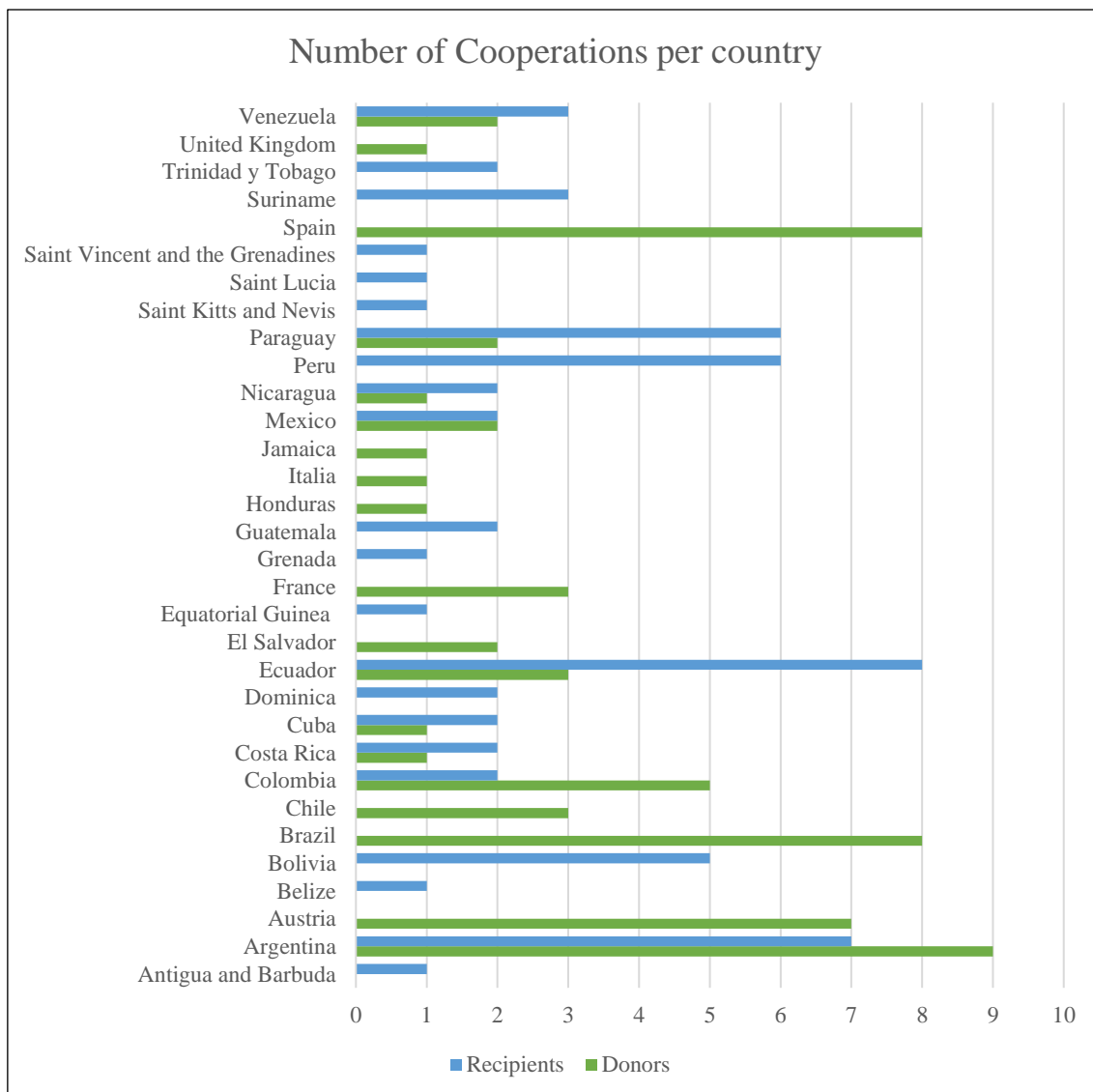
The cooperations started in 2009, and since then there has been a total of 58 cases. The period with the most number of cooperations was 2010-2013. After that, the cases decreased and for the year 2014 and 2017, there were no reported cases. Table 9 shows the number of cooperations per year and the number of cooperations per year for each area of UNIDOS' programmatic focus.

**Table 9. Industrial Knowledge Bank cooperations per year and area of UNIDO's programmatic focus.**

Year	Total Number of Co-operations	Poverty reduction through productive activities	Trade capacity-building	Energy and environment
2009	8	2	5	1
2010	10	8	-	2
2011	12	5	5	2
2012	13	7	3	3
2013	11	3	6	2
2014	-	-	-	-
2015	2	-	2	-
2016	2	1	1	-
2017	-	-	-	-
<b>TOTAL=</b>	<b>58</b>	<b>26</b>	<b>22</b>	<b>10</b>

As reported in Table 9, the main area where the co-operations have developed is '*Poverty reduction through productive activities*' (45%), followed by '*Trade capacity-building*' (38%) and with a small contribution from '*Energy and Environment*' (17%).

In the case of countries, 33 of the LAC countries have participated in the project. Apart from the LAC countries, some European and African countries have participated as well: Spain, United Kingdom, Austria, France, Italy and Equatorial Guinea. The following graph illustrates the number of co-operations per country. The blue lines refer to the number of cases a country has contributed as a '*Recipient*' and the green lines to the number of cases as '*Donors*'.



**Figure 24. Industrial Knowledge Bank number of co-operations per country.**

As for the donors, the country with the most number of co-operations is Argentina (9 cases), followed by Brazil and Spain (8 cases each) and Austria (7 cases) The rest of the countries that appear as donors are equal or below 5 cases. A total of 19 countries have participated as donors.

For the recipients, the country that has contributed with the most co-operations is Ecuador (8 cases), followed by Argentina (7 cases), and Peru and Paraguay (6 cases each) come third. The rest of the donor countries have 5 cases or less.

For the areas of UNIDO's programmatic focus, the main area where cases are found is '*Poverty Reduction through productive activities*', followed by '*Trade capacity-building*', and finally '*Energy and Environment*'. Table 24 contains the co-operations per countries and areas of UNIDO's programmatic focus, for both donors and recipients.

**Table 10. Co-operations per countries and areas of UNIDO's programmatic focus.**

Country	Donors				Recipients			
	Total	Poverty reduction through productive activities	Trade capacity-building	Energy and environment	Total	Poverty reduction through productive activities	Trade capacity-building	Energy and environment
Antigua and Barbuda	-	-	-	-	<b>1</b>	-	-	1
Argentina	<b>9</b>	5	2	2	<b>7</b>	4	3	-
Austria	<b>7</b>	1	4	2	-	-	-	-
Bahamas	-	-	-	-	-	-	-	-
Barbados	-	-	-	-	-	-	-	-
Belize	-	-	-	-	<b>1</b>	-	1	-
Bolivia	-	-	-	-	<b>5</b>	4	1	-
Brazil	<b>8</b>	3	5	0	-	-	-	-
Chile	<b>3</b>	1	2	0	-	-	-	-
Colombia	<b>5</b>	1	2	2	<b>2</b>	1	-	1
Costa Rica	<b>1</b>	-	1	-	<b>2</b>	-	-	2
Cuba	<b>1</b>	1	-	-	<b>2</b>	2	-	-
Dominica	-	-	-	-	<b>2</b>	-	1	1
Dominican Republic	-	-	-	-	-	-	-	-
Ecuador	<b>3</b>	3	-	-	<b>8</b>	3	3	2
El Salvador	<b>2</b>	2	-	-	-	-	-	-
Equatorial Guinea	-	-	-	-	<b>1</b>	1	-	-
France	<b>3</b>	1	2	-	-	-	-	-
Grenada	-	-	-	-	<b>1</b>	-	-	1
Guatemala	-	-	-	-	<b>2</b>	-	2	-
Guyana	-	-	-	-	-	-	-	-
Haiti	-	-	-	-	-	-	-	-
Honduras	<b>1</b>	-	-	1	-	-	-	-
Italia	<b>1</b>	1	-	-	-	-	-	-
Jamaica	<b>1</b>	-	1	-	-	-	-	-
Mexico	<b>2</b>	-	1	1	<b>2</b>	-	1	1
Nicaragua	<b>1</b>	1	-	-	<b>2</b>	1	-	1
Peru	-	-	-	-	<b>6</b>	3	2	1
Panama	-	-	-	-	-	-	-	-
Paraguay	<b>2</b>	2	-	-	<b>6</b>	4	2	-
Saint Kitts and Nevis	-	-	-	-	<b>1</b>	-	-	1
Saint Lucia	-	-	-	-	<b>1</b>	-	-	1
Saint Vincent and the Grenadines	-	-	-	-	<b>1</b>	-	-	1
Spain	<b>8</b>	3	3	2	-	-	-	-

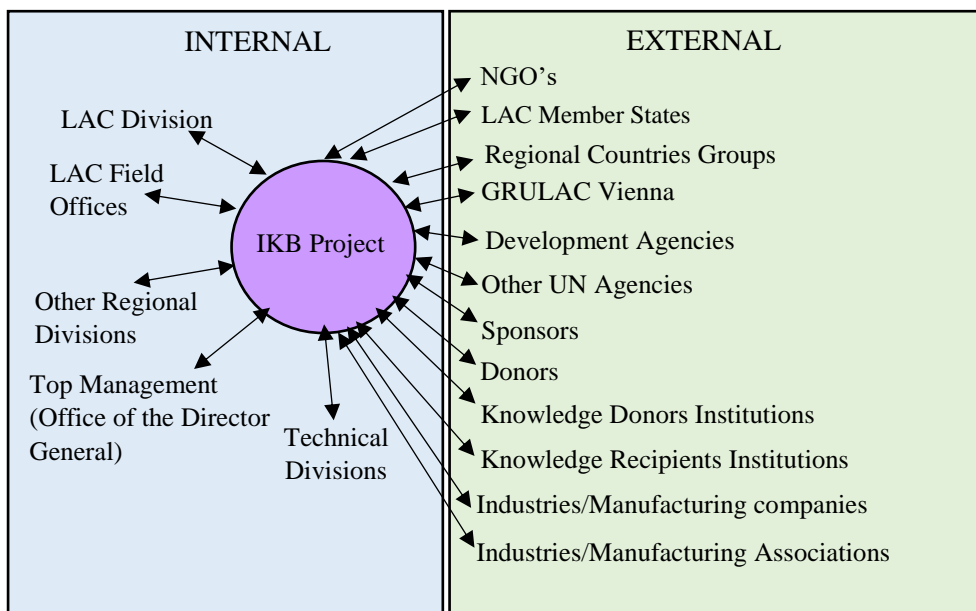
Suriname	-	-	-	-	3	-	3	-
Trinidad y Tobago	-	-	-	-	2	-	2	-
United Kingdom	1	1	-	-	-	-	-	-
Uruguay	-	-	-	-	-	-	-	-
Venezuela	2	1	1	-	3	1	1	1

A comprehensive list of the Industrial Knowledge Bank co-operations is found in the Annex G.

#### 4.1.2.2 Stakeholders Analysis

##### 4.1.2.2.1 Categorization of IKB's stakeholders

In order to categorize the stakeholders, a classification performed by the author was done according to their relation to the project. The stakeholders related to the IKB are divided in external and internal. Internal including all other stakeholders' groups within the organization (i.e. UNIDO) and external all those outside the organization. Figure 24 presents the stakeholders identified according to external and internal categories.



**Figure 25. Stakeholders categorization for the Industrial Knowledge Bank.**

#### Internal stakeholders:

*LAC Division.* The LAC Division is a division within the External Relation and Field Representation Office at UNIDO, in charge of promoting industrial development in the region, the Division maintains a close contact with the Diplomatic bodies of the LAC Countries and manage its interest and those of the organization to develop projects beneficial for both.

*LAC Field Offices.* The External Relations and Field Representation Office at UNIDO has three field offices for the Latin America and the Caribbean Division, the Regional Office of México, the Regional Office of Colombia and the Regional Office of Uruguay.

*Other Regional Divisions.* Within the External Relation and Field Representation Office, there are as well other regions represented: Africa Division, Arab States Division, Asia and the Pacific Division and Europe and Central Asia Division. There all have some similar programs to the LAC Divisions but not an Industrial Knowledge Bank.

*Top Management (Office of the Director General).* This office oversees the management of the organization as well as the mandate to follow. This office is also in charge of publishing the Medium-term program framework (valid for a period of three years), that reflects the objectives and priorities of UNIDO.

*Technical Divisions.* The Program Development and Technical Cooperation Office of UNIDO is in charge of the technical expertise of the organization. It accounts for the Departments of Partnership and Results Monitoring, Department of Agri-business Development, Department of Trade, Investment and Innovation, Department of Energy and Department of Environment.

External stakeholders:

*NGO's.* Some Non-Governmental Organizations are related to the project, when they don't act as sponsors, donors or knowledge recipients/donors.

*LAC Member States.* The Latin America and Caribbean (LAC) Region encompasses 33 countries, all of which are UNIDO Members. As a UNIDO Member State, the countries can be part of the Industrial Development Board, elected for a four-year term on a rotational basis. They can also be part of The Program and Budget Committee (27 members) that meets once a year to assist the Board in the preparation and examination of the work program, the budget and other financial matters. Finally, all Member States participate at The General Conference (GC) where they meet once every two years, this is UNIDO's supreme policymaking organ and it determines the guiding principles and policies of the Organization, approves the budget and work program of UNIDO.

Countries covered by UNIDO LAC Division: (1) Antigua and Barbuda, (2) Argentina, (3) Bahamas, (4) Belize, (5) Bolivia, (6) Brazil, (7) Barbados, (8) Chile, (9) Colombia, (10) Costa Rica, (11) Cuba, (12) Dominica, (13) Dominican Republic, (14) Ecuador, (15) El Salvador, (16) Grenada, (17) Guatemala, (18) Guyana, (19) Haiti, (20) Honduras, (21) Jamaica, (22) Mexico, (23) Nicaragua, (24) Panama, (25) Paraguay, (26) Peru, (27) St. Kitts and Nevis, (28) St. Vincent and the Grenadines, (29) St. Lucia, (30) Suriname, (31) Trinidad and Tobago, (32) Uruguay, and (33) Venezuela.

*Regional Countries Groups.* There are several country groups formed by different LAC countries. The UNIDO LAC Division also encompasses four major regional economic country groups:

- MERCOSUR (The Southern Common Market): Argentina, Brazil, Paraguay, Uruguay and Venezuela.
- CARICOM (The Caribbean Community): Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.
- CAN (The Andean Community): Bolivia, Colombia, Ecuador, and Peru.
- SIC (Central American Integration System): Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama.

*GRULAC Vienna.* The Latin American and Caribbean Group is a Regional Group of the United Nations Organization that includes 33 Member States. The Austrian delegation of GRULAC is especially important for the UNIDO LAC Division because they have financially and politically supported the creation of the Industrial Knowledge Bank and have fostered the project's co-operations in the LAC countries.

The 33 countries are: (1) Antigua and Barbuda, (2) Argentina, (3) Bahamas, (4) Barbados, (5) Belize, (6) Bolivia, (7) Brazil, (8) Chile, (9) Colombia, (10) Costa Rica, (11) Cuba, (12) Dominica, (13) Dominican Republic, (14) Ecuador, (15) El Salvador, (16) Grenada, (17) Guatemala, (18) Guyana, (19) Haiti, (20) Honduras, (21) Jamaica, (22) Mexico, (23) Nicaragua,



(24) Panama, (25) Paraguay, (26) Peru, (27) St. Kitts and Nevis, (28) St. Vincent and the Grenadines, (29) St. Lucia, (30) Suriname, (31) Trinidad and Tobago, (32) Uruguay, and (33) Venezuela.

*Development agencies.* Development Agencies are stakeholders of the Industrial Knowledge Bank. Some of these development agencies are national development agencies that can collaborate with the project (e.g. Mexican Development Agency (AMEXID), German Development Agency (GIZ), French Development Agency (AFD), among others). Other agencies are regional and international institutions (e.g. World Bank, Development Bank of Latin America).

*Other UN Agencies.* Apart from UNIDO, the United Nations Organization counts with other specialized agencies and bodies that work to topics related to sustainable development. Some of these agencies might act as stakeholders to the project when there is a common interest in a specific action the IKB manages.

*Sponsors.* The sponsors are institutions that sponsor specific events.

*Donors.* The organization has several countries or organizations that donate money to UNIDO. They can contribute directly to the project or contribute to a fund directly on which projects depend on.

*Knowledge Donors Institutions.* They are organizations that provide knowledge to the IKB and have the expertise related to a specific topic.

*Knowledge Recipients Institutions.* They are organizations that act as recipients of the knowledge provided from the Knowledge Donors Institutions.

*Industries/Manufacturing companies.* Since UNIDO is a specialized industrialization agency, one of its main stakeholder's group are the industries and manufacturing companies who received technical assistance and analysis. The industries under UNIDO's mandate are the corresponding Section B: Mining and quarrying; Section C: Manufacturing; Section D: Electricity, gas, steam and air conditioning supply; Section E: Water supply; sewerage, waste management and remediation activities Industries/Manufacturing Associations, from the International Standard Industrial Classification of All Economic Activities (ISIC).

*Industries/Manufacturing Associations.* Manufacturing companies and industries come together in associations or chambers to provide themselves with support and share their experiences and problems. These associations are stakeholders of UNIDO.

#### 4.1.2.2.2 Power/interest analysis of the IKB stakeholders

When it comes to the level of power and interest for the LAC stakeholders, they are categorized according to the level of interest and power as follow:

- a. Keep satisfied. The stakeholders in this area have a low level of interest but a high level of power. For the IKB project, no stakeholder enters in the category of Keep Satisfied.
- b. Manage closely. These stakeholders are the ones that have a high level of interest and a high level of power. In the case of the IKB, most of its stakeholders belong to this category: LAC/Member states, GRULAC Vienna, Top Management, LAC Division, LAC Field Offices, Other regional Divisions, Technical Divisions and other UN Agencies.
- c. Monitor. The stakeholders belonging to this group are those with a low interest and a low level of power. For the IKB the category for this group of stakeholders is the Sponsors/Donors.

- d. Keep informed. This group refers to the stakeholders that have a high level of interest but a low level of power. For the IKB these are: Development/Cooperation Agencies, Knowledge Donors/Recipients Institutions, Industries/Manufacturing companies or associations.

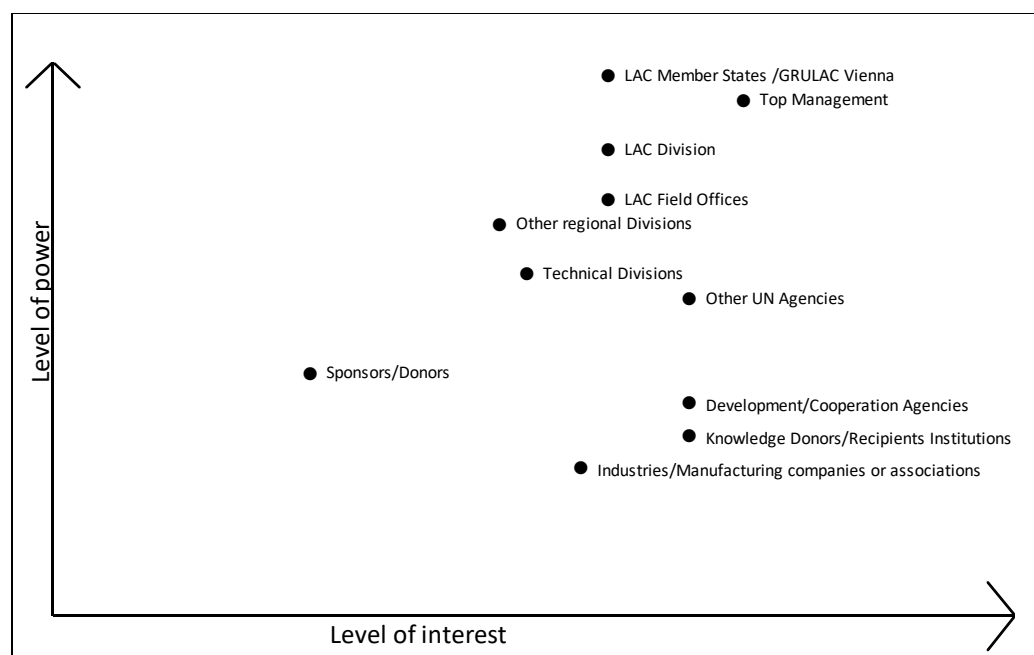


Figure 26. Power-Interest Matrix for Stakeholders Analysis.

#### 4.1.2.3 Case Description

This section contains a description of the selected cases. The documents used to describe each case are listed in Table 11 below. Not all the cases had all the documents required and some of them had extra material like pictures of the co-operations.

Table 11. Documents used for the case description.

	Cases	Final Report	Donor request	Recipient Request	Other relevant documents
Poverty reduction through productive	Brazil-Colombia 2010 (case no.9)	Yes	yes	Yes	-Expert's CV: Jose Corral and Pedro Eduardo Pino de Assis -Form: UNIDO/Form/PHS.1/Rev.3(10.99) <sup>21</sup> for the Donor.
	Argentina-Bolivia 2012 (case no. 32)	Yes	no	No	-
	Venezuela-Peru 2009 (case no.1)	Yes	no	Yes	-
	Paraguay-Cuba 2010 (case no.18)	Yes	yes	No	-Pictures of the workshop.
Tra	Chile-Ecuador 2013 (case no.49)	Yes	no	No	-feedback for from the Recipient institution.

<sup>21</sup> UNIDO/Form/PHS.1/Rev.3(10.99) is a form for Job Application that UNIDO uses. The data provided in forms PHS/1, PHS/2 and PHS/3, except for certain information appearing in PHS/1, will be included in a database establishing a UNIDO roster of experts to be used by UNIDO and institutions co-operating with it.

	Jamaica-Suriname 2009 (case no.3)	Yes	yes	Yes	-
	Colombia-Ecuador 2013 (case no.52)	Yes	no	Yes	-Thank you letter for the cooperation -Pictures files -Photographic report (detail description)
	Mexico-Argentina 2013 (case no.53)	Yes	no	No	-
<b>Energy and Environment</b>	Honduras-Venezuela 2012 (case no.35)	Yes	no	No	-
	Austria-OECS Member States 2010 (case no. 14)	Yes	yes	Yes	-Power Point Presentation elaborated for the expert and used during the cooperation.
	Spain-Colombia, 2013 (case no. 45)	Yes	no	No	Pictures of the seminars.
	Austria-Costa Rica 2011 (case no. 14)	Yes	no	No	-

Table 12 provides a synthesis of the cases described, the donors, recipients and general description of the character of the cooperation.

**Table 12. Overview of the selected cases.**

	Cases	Donor	Recipient	Description
<b>Poverty reduction through productive activities</b>	Brazil-Colombia 2010 (case no.9)	NGO Local Productive Arrangement of Alcohol (APLA)	Government Department of Meta, Colombia	The cooperation consisted in <u>talks, and debates</u> over the topic of sugar cane production and ethanol production.
	Argentina-Bolivia 2012 (case no. 32)	Governmental Institution Division of Experimental Agricultural Station (EEA Salta), from National Institute of Agriculture Technology of Argentina (INTA)	Joint Program (UN)  Integration of indigenous Andean producers to new national and world value chains Program	The cooperation consisted of a three-day <u>workshop</u> entitled "International Conference on Productive Development with Women". This workshop was held within the framework of the program "Seeds", a joint United Nations Program.
	Venezuela-Peru 2009 (case no.1)	Industrial Association (Chamber) Chamber of medium and small industries and artisans of the state of Lara" (CAPMIL)	NGO  The Association for the Development of the Environment (ENTORNO)	CAMPIL provided ENTORNO with a technical assistance by <u>reviewing</u> the ongoing projects of ENTORNO and the feasibility of new ones. The donor made an analysis of the intervention strategy that ENTORNO has.
	Paraguay-Cuba 2010 (case no.18)	Government (Ministry) Ministry of Industry and Commerce of Paraguay	Civil Society  Paraguayan artisan group	The cooperation consisted of a <u>workshop</u> where the artisans of the region were taught how to improve their techniques for the fabrication of hats from palm fibers.
<b>Trade capacity-building</b>	Chile-Ecuador 2013 (case no.49)	Industrial Association (Chamber) Chamber of Leader manufactures, footwear manufactures and alike products manufacturers, Union Federation (FEDECAL) of Chile	Industrial Association (Chamber)  National Chamber of footwear of Ecuador (CALTU ).	The cooperation consisted of an <u>analysis</u> of the company's facilities during a technical visit, and a <u>conference</u> during the International Fair of Footwear and Components Ecuador (FICC).

	Jamaica-Suriname 2009 (case no.3)	Development Agency Caribbean Export Development Agency, regional trade and export promotion agency of The Caribbean Forum (CARIFORUM).	Intergovernmental and Governmental Institutions  Caribbean Community (CARICOM) and the Ministry of Industry and Trade of Suriname	The cooperation consisted of a <u>conference</u> covering the topics of best practices, main strategies, instruments and modalities to ensure access to markets and promote internationalization and exports of products and services of SMEs.
	Colombia-Ecuador 2013 (case no.52)	Governmental Institution  The National Learning Service (SENA) of Colombia	Government (Ministry) and a National Program Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP) and the National Program of Inclusive Rural Business (PRONERI).	The cooperation consisted in the <u>design</u> of a profitable and sustainable panela production system for the small-scale producers in the region of Parroquias de Pacto and Gualea.
	Mexico-Argentina 2013 (case no.53)	Private Company Silliker México S.A. de C.V., the Mexican Brand of Mérieux NutriSciences	Governmental Institution National Institute of Industrial Technology (INTI) of Argentina	The cooperation consisted of a <u>workshop</u> related to the topic of food decomposition and their influence on the stability and shelf life of food products.
Energy and Environment	Honduras-Venezuela 2012 (case no.35)	Specialized Organization  Cleaner Production Center of Honduras	Industrial Association (Chamber) Chamber of Industrialists of the state Carabobo (C.I.E.C. ),	The cooperation consisted in a <u>conference</u> addressing the work of UNIDO, and the topics of cleaner production methods implementation, the economic and environmental benefits obtained from its implementation.
	Austria-OECS Member States 2010 (case no. 14)	Private Company  ENPROCON Environmental Project Consulting GmbH	Intergovernmental Institution  Organization for Eastern Caribbean States (OECS ),	The cooperation consisted in a <u>meeting</u> between the expert and representatives from the OECS Countries, international organizations, private entities, development agencies and other Caribbean states not members to the OECS where the topic of waste, waste treatment and thermal treatment facilities for waste were approached.
	Spain-Colombia, 2013 (case no. 45)	Private Company  ZICLA, Spanish company	Specialized Organization and University National Center of Cleaner Production and Environmental Technologies CNPMLTA and the University of Antioquia	The cooperation consisted in <u>seminars</u> that provided training on the opportunities of waste recovery and its application in different markets, such as sustainable construction.
	Austria-Costa Rica 2011 (case no. 14)	Private Company  PE International, now Thinkstep	Industrial Association (Chamber)  Chamber of Exporters of Costa Rica (CADEXCO)	The cooperation consisted of a <u>conference</u> that addressed the topics of (1) Life cycle analysis, (2) Carbon footprint of products, (3) Environmental product declaration, (4) Sustainable building certification system, and (5) Corporate carbon footprint.

The following section further describe each of the cases selected for the present research.

#### 4.1.2.3.1 Poverty reduction through productive activities

##### 4.1.2.3.1.1 [Brazil-Colombia 2010 \(case no.9\)](#)

Title of the cooperation: *Trip to conduct talks on associativity (entity of classes)*<sup>22</sup>.

This cooperation was held from January 20<sup>th</sup>, 2010 to January 24<sup>th</sup>, 2010 in the city of Villavicencio, Department of El Meta, Colombia. The submission date of the report is April 30<sup>th</sup>, 2010. The author of the report is Mr. Pedro Eduardo Pino de Assis, also the expert that provided the assistance.

The knowledge donor was the Brazilian NGO *Local Productive Arrangement of Alcohol* (APLA<sup>23</sup>), that brings together private sector and public institutions that work in the field of sugar and alcohol. The president of the association was the person facilitating the cooperation. He is also the founder and director of the company *P.A.Sys Engenharia e Sistemas*. This company specialized in conception engineering. They are a consulting company for project implementation and development of agribusiness, and of industrial facilities that deal with manufacturing of raw material for bioenergy production.

The knowledge recipient was the *government of the Department of Meta, Colombia*. At the moment of the cooperation, the Department of Meta was developing support strategies for rural production in the field of agribusiness, with emphasis in Biofuels and Food production.

As background to the project, it is mentioned in the Final Report that the government of Colombia had just approved a piece of legislation where commercial fuels will be allowed to be mixed with biofuels. Since the region of El Mata has great potential for the production for sugar cane, the government is interested into ethanol production that uses sugar-cane as raw material.

The cooperation consists in talks, and debates over the topic of sugar cane production and ethanol production. Over 200 participants met during the event, including farmers and potential investors. Mr. Pedro Eduardo Pino de Assis mentions in the Final Report that he had the opportunity to engage in discussion with possible investors for the sugar cane sector in Colombia.

##### 4.1.2.3.1.2 [Argentina-Bolivia 2012 \(case no. 32\)](#)

Title of the cooperation: no title in the Final Report.

This cooperation was held from May 1<sup>st</sup>, 2012 to May 4<sup>th</sup> 2012 in the city of Cochabamba, Bolivia as a three-day workshop entitled “International Conference on Productive Development with Women”. This workshop was held within the framework of the program “Seeds”<sup>24</sup>, a joint United Nations program. The objective of the cooperation was to enrich the Bolivian experience by communicating the experiences that Argentina gained from the technical activities carried out in research on artisanal goat and bovine milk production systems in the Northwest. The Argentinian expert (knowledge donor) participated as a speaker at one workshop held the second day of the

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<sup>22</sup> “*Viaje para realización de charlas sobre asociatividad (entidad de clases)*” (in Spanish).

<sup>23</sup> Arreglo Productivo Local del Alcohol (in Portuguese).

<sup>24</sup> The “Seeds” programme started in November 2009 and ended in June 2013. I had a budget of \$8,000,000. The UN Agencies involved were: FAO, ILO, UNDP, UNICEF, UNIDO, WFP. The national partners (Bolivia) were: Unidad de Coordinación del CNAPE (UC-CNAPE), Instituto de Investigación Agrícola, Ganadera y Forestal (INIAF), Unidad Ejecutora de Emprendimientos Rurales (EMPODERAR), la Agencia Boliviana para el Desarrollo Productivo e Integral (PRO-BOLIVIA); PASA (Programa de Apoyo a la Seguridad Alimentaria) MDG ACHIEVEMENT FUND AND COOPERACIÓN ESPAÑOLA. *Bolivia: The Integration of indigenous Andean producers into new national and international value chains* [Online]. Available:

<http://www.mdgfund.org/program/integrationindigenousandeanproducersnewnationalandinternationalvaluechains> [Accessed 14 September, 2017].

conference. The expert also participated as an attendant to the other activities during the rest of the days.

The knowledge donor was the *Division of Experimental Agricultural Station (EEA Salta*<sup>25</sup>), from *National Institute of Agriculture Technology of Argentina (INTA*<sup>26</sup>). The expert that carried out the cooperation was Ms. Monica Silvina Chavez Clemente, an expert in dairy products.

The knowledge recipient was the program “*integration of indigenous Andean producers to new national and world value chains*” also known as “Seeds Program” in Bolivia. This program was financed by The MDG Achievement Fund, and the goal was *to promote organic production through the strengthening of institutional capacities, technological innovation and the improvement of financing mechanisms* (Bejarano and Tapia, 2013). It was one of the five Joint Projects financed by the Fund for Bolivia to achieve MDG 1- Eradicate extreme poverty and hunger -, but also included the MDGs 3- Promote gender equality and empower women- and MDG7- Ensure environmental sustainability. One of the organic productions to be encouraged by the program was the dairy production, and main topic for the cooperation. Even though The MDG Achievement Fund financed the project, the participation of the Argentinian expert was financed by the IKB.

The outcomes of the cooperation were (1) to get acquainted with the Bolivian experiences and share the Argentinian ones, (2) to share R&D methodologies applied to the artisanal milk production systems, and (3) to communicate the INTA activities among the Bolivian participants.

Although the Final Report clearly defines objectives of the cooperation and includes the detailed schedule, there is a lack of some information in the Final Report. The report contains however, an insightful description of the “Seeds” Program but the cooperation itself has some missing explanations.

#### [4.1.2.3.1.3 Venezuela-Peru 2009 \(case no.1\)](#)

Title of the cooperation: *Agroindustry policies and measures for the development of the SME*<sup>27</sup>

The cooperation was held from August 10<sup>th</sup>, 2010 to August 17<sup>th</sup>, 2009 in the city of Lima, Peru. The submission date of the report is August 17<sup>th</sup>, 2009.

The knowledge donor is the “*Chamber of medium and small industries and artisans of the state of Lara*” (CAPMIL<sup>28</sup>). Their objective is to promote the organization, growth, strengthen and development of small and medium industries and artisanal industries. They offer personalized assistance to these industries. The expert’s name is Antonio Leone Duarte.

The knowledge recipient is the “*The Association for the Development of the Environment*” (ENTORNO<sup>29</sup>), an NGO that aims to develop the competitiveness of micro, small and medium-sized business to promote employment and income improve, and with this to improve the standard of living and well-being of the population.

CAMPIL provided ENTORNO with a technical assistance by reviewing the ongoing projects of ENTORNO and the feasibility of new ones. The donor made an analysis of the intervention strategy that ENTORNO- This analysis consisted in an evaluation of (1) the replicability of the NGO’s projects in other regions of the country, an evaluation of (2) the methodology and if this ensures the involvement of the projects’ relevant stakeholders, an evaluation of (3) how effective

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<sup>25</sup> Estación Experimental Agropecuaria Salta (in Spanish)

<sup>26</sup> Instituto Nacional de Tecnología Agropecuaria (in Spanish)

<sup>27</sup> Políticas Agroindustriales y medidas para el desarrollo del sector PYMES (in Spanish).

<sup>28</sup> Cámara de pequeños medianos industriales y artesanos del Estado de Lara (in Spanish).

<sup>29</sup> La Asociación para el Desarrollo del Entorno (ENTORNO) (in Spanish).

the participation of ENTORNO in institutional alliances is. The strategic analysis had a SWOT Analysis as an outcome for the NGO and it is included in the Final Report.

The Results achieved are listed in the Final Report as follows:

- Strategic analysis of the ENTORNO projects in terms of their implementation and sustainability.
- Recommendations regarding the intervention strategies of the projects.
- Recommendations regarding the institutional strengthening strategy.
- Diagnosis of the NGO's capabilities to implement the franchise business model, and a work plan to disseminate the concepts, benefits and operations for a franchise business model.
- Proposal for intervention in the caprine sector, due to a need for improvement and the availability of new business opportunities arising from the manufacturing processes linked to goat sector (cattle raising, dairy production, meat production, leather tanning and their related by-products).

What is interesting in this report is the fact that the donor institution mentions the level of knowledge the recipient has and how this influenced the outcome of the cooperation. It emphasized that the NGO had the level of knowledge and institutional maturity to receive the knowledge and expertise of the donor, a factor that enabled the cooperation to be successful, according to the expert.

#### [4.1.2.3.1.4 Paraguay-Cuba 2010 \(case no.18\)](#)

Title of the cooperation: *Consulting and updating activities in technique, design and completion in the manufacture of fiber (Yatai)*<sup>30</sup>.

The cooperation took place from November 9<sup>th</sup>, 2010 to November 13<sup>th</sup>, 2010 in the region of Teniente Sánchez, locality of Villalbín, department of Ñeembucu. Paraguay. Even though the cooperation is categorized in UNIDO LAC files as a cooperation between Paraguay and Cuba, the Final Report doesn't mention that the recipient was a Cuban institution and in fact, it is a Paraguayan artisan group that benefits from the cooperation. The only time where the name of the country Cuba was mention in the report was when it makes reference to the palm fibers (Yarey) coming from Cuba. There is no clarification in the Report on why the knowledge donor and knowledge provider are both from the same country. However, in the conception and design of the IKB there was never an opposition for a cooperation where donor and recipient are in the same country.

The cooperation was a workshop that had the objective of teaching the artisans of the region how to improve their techniques for the fabrication of hats from palm fibers. The workshop was organized by the Ministry of Industry and Commerce of Paraguay. The expert's name is Joaquin de Jesús Teodosio Macias.

#### [4.1.2.3.2 Trade capacity-building](#)

##### [4.1.2.3.2.1 Chile-Ecuador 2013 \(case no.49\)](#)

Title of the cooperation: *Seminar Economic Agenda FICCE Quito, and Training to the Group Plasticaucho in Ambato and Quito*<sup>31</sup>.

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<sup>30</sup> “Asesoría y actualización en técnica, diseño y terminación en la fabricación de artículos de fibra (Yatai)” (in Spanish).

<sup>31</sup> *Seminario Agenda Económica FICCE Quito, y Capacitación al Grupo Plasticaucho en Ambato y Quito* (in Spanish).

The cooperation took place from July 2<sup>nd</sup>, 2013 to July 6<sup>th</sup>, 2013. The first day it took place at the facilities of Plasticaucho Industrial (company) at the city of San Juan Bautista de Ambato. The rest of the days the seminar was held at the Exposition Center of Quito.

The donor knowledge institution is the Chamber of Leader manufactures, footwear manufacturers and similar products manufacturers, Union Federation (FEDECAL<sup>32</sup>) of Chile. The expert's name is Pedro Angel Beriostain Bosco.

The recipient knowledge was the National Chamber of footwear of Ecuador (CALTU<sup>33</sup>). The cooperation was received through the intervention of FEDECAL's expert in two activities:

- a. In-situ analysis and conference. At the factory of Plasticaucho Industrial, the expert gave a talk about shoe sales strategies and make an analysis of the company's facilities during a technical visit.
- b. Conference. During the International Fair of Footwear and Components Ecuador (FICC<sup>34</sup>), the expert gave a conference presentation where he addressed the topic "Shoe sales strategies".

The report mentions that the Ecuadorian leather industry and footwear industry is developed within the framework of a protectionist policy. It mentions the importance of reaching international competitiveness and emphasizes the importance of learning how to compete.

#### 4.1.2.3.2.2 Jamaica-Suriname 2009 (case no.3)

Title of the cooperation: Training/Workshop "Internationalization Strategies for Small and Medium Enterprises (SME)".

The cooperation was held in the city of Paramaribo, Suriname on November 19th, 2009 as a conference given in a one-day Training/Workshop event. This event was jointly organized by the Caribbean Community (CARICOM) and the Ministry of Industry and Trade of Suriname.

The knowledge donor was the *Caribbean Export Development Agency*, a regional trade and export promotion agency of The Caribbean Forum (CARIFORUM). This agency is located in Jamaica. The expert and presenter of the conference was Ms. Lisa Callender.

Although the organizers of the workshop are listed as the knowledge recipients in UNIDO's database, the workshop they organized targeted small and medium enterprises (SMEs) businessmen, business organizations, academics, government officials responsible for public policies to support SMEs, consultants and professionals from Suriname and ten<sup>35</sup> other countries of the Caribbean region.

The objective of the conference was to talk about the best practices, main strategies, instruments and modalities to ensure access to markets and promote internationalization and exports of products and services of SMEs.

In the report, the expert mentions that the Workshop/Training Event could have been enhanced by greater levels of interactions between presenters and participants but that this was not possible due to the time constraints.

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<sup>32</sup>Cámara de Industriales del Cuero, Calzado y Afines Federación Gremial (FEDECAL) (in Spanish).

<sup>33</sup>Cámara Nacional del Calzado del Ecuador (CALTU) (in Spanish).

<sup>34</sup>Feria Internacional de Calzado y Componentes Ecuador (FICCE) (in Spanish).

<sup>35</sup> The report doesn't mention the name of the ten other countries.



#### 4.1.2.3.2.3 [Colombia-Ecuador 2013 \(case no.52\)](#)

Title of the cooperation: *Training on efficient furnace design for the preparation of panela*<sup>36,37</sup>.

The cooperation was held in the city of Parroquias de Pacto y Gualea, in the province of Pichincha, Ecuador from August 16<sup>th</sup>, 2013 to August 27<sup>th</sup>, 2013.

The knowledge donor was The National Learning Service (SENA<sup>38</sup>) of Colombia, a public institution in charge of providing continual education to workers from a large spectrum of economic activities (e.g. industry, commerce, agriculture, mining and livestock). The SENA offers vocational training that contributes to social, economic and technological development of the country. The expert was Milton Ortiz Aguirre.

The knowledge recipients were the Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP<sup>39</sup>) and the National Program of Inclusive Rural Business (PRONERI<sup>40</sup>). The Ministry regulates, facilitates, controls, and evaluates the management of agricultural, livestock, aquaculture and fisheries production in the Ecuador. PRONERI aims to encourage commercial and productive initiatives between small producers and large agribusiness that contribute to the "Good Rural Living Program<sup>41</sup>". The initiatives encouraged by the program aims to benefit both small producers and large agribusiness while guaranteeing equal market access for all participants.

The cooperation consisted in the design of a profitable and sustainable panela production system for the small-scale producers in the region of Parroquias de Pacto and Gualea. This specific cooperation is part of a larger project entitled "*Supply chain improvement for the sugar cane production in Pacto-Pichincha for the production of granulated panela and its aggregated values*<sup>42</sup>", financed by the Japanese government. The project contained four components: productive improvement, improvement of the agroindustry production processes, the strengthening of associative commercialization, and micro-business management. In the component improvement of the agroindustry production processes, the budget of the project didn't contemplate any financial support for the improvement of furnaces nor mills to produce panela. It was this reason that lead the Ministry of Foreign Commerce of Ecuador to approach the IKB and ask for an expert to assist the project in the field of panela production process and give guidance regarding the furnaces and mills for the production process.

The cooperation delivered several outcomes, listed in the report:

- Current situation diagnosis (Baseline). The expert performed an analysis of four of the critical factor in the production process of the granulated panela: furnaces, mills, infrastructure, and cultivation.
- Presentation of successful cases in Colombia. The expert presented some successful cases of panela production in the city of Cundinamarca, Colombia.
- Implementation of pilot project with local producers. The expert provided technical knowledge to the local producers regarding the design and implementation of a profitable and sustainable panela production system.

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<sup>36</sup>Panela is unrefined raw cane sugar in solid form.

<sup>37</sup>Capacitación sobre el diseño de hornos eficientes para la elaboración de panela granulada.

<sup>38</sup> Servicio Nacional de Aprendizaje (SENA) (in Spanish).

<sup>39</sup>Ministerio de Agricultura, Ganadería, Acuicultura y Pesca (MAGAP) (in Spanish)

<sup>40</sup>Programa Nacional de Negocios Rurales Inclusivos (PRONERI)

<sup>41</sup> The Good Rural Living Program seeks to promote initiatives of agricultural production in the communities of Ecuador.

<sup>42</sup>Mejoramiento de la cadena productiva de la caña de azúcar en pacto-pichincha para la producción de panela granulada y sus valores agregados (in Spanish).

- Technical assessment for the construction of new furnaces. This assessment included technical specifications, 3D models, and a budget.
- Technical visit to the mills to identify the best area to build the pilot project. In this point, in the Final Report, it is mentioned that the pilot project will be built once all the materials are gathered. It is unknown, however, if the pilot project was built and if the expert returned to assess and supervise the construction.
- An assessment of the expert was made together with the MAGAP delegation, the functionaries of the Ministry of Foreign Commerce and the expert himself. Not only was his cooperation assessed but the group also identified the need for a second cooperation where the expert can assess the progress and construction of the pilot project. In addition, the group also identified the strategies to strengthen the panela production sector in Ecuador.

It is important to note that this Final Report was very well detailed and contained relevant information for the understanding of the case.

#### 4.1.2.3.2.4 [Mexico-Argentina 2013 \(case no.53\)](#)

Title of the cooperation: “*Design of Studies of Stability and Useful Life*<sup>43</sup>”.

The cooperation was held in Buenos Aires, Argentina on August 9<sup>th</sup>, 2013 and August 10<sup>th</sup>, 2013. The cooperation was a technical training that included both theoretical and practical activities.

The knowledge donor was the private company *Silliker México S.A. de C.V.*, which is the Mexican name given to the company *Mérieux NutriSciences*, an international network of laboratories that provides analysis, consulting, audit, research and training services in the field of nutrition and food safety. The experts providing the knowledge were Pedro Valle Vega and Celia Ortigoza Hernandez.

The knowledge recipient was the *National Institute of Industrial Technology* (INTI<sup>44</sup>) of Argentina, in charge of the promoting generation and transfer of technological innovation in industry. It is also a certification body of standards and technical specifications.

The aim of the cooperation was to provide the recipient with a better (1) understanding of the factors related to food decomposition and their (2) influence on the stability and shelf life of food products. The experts also taught the participants about the (3) main techniques to lengthen the shelf life of a product, to interpret the test results and to design stability studies to determine the shelf life of products.

The Final Report contains a description of the topics covered by the training. The results of the cooperation was not clear at the time of the writing of the Final Report.

#### 4.1.2.3.3 [Energy and Environment](#)

##### 4.1.2.3.3.1 [Honduras-Venezuela 2012 \(case no.35\)](#)

Title of the cooperation: *Representation of the UNIDO Network*<sup>45</sup>.

The cooperation was held in the city of Valencia, Venezuela from June 27<sup>th</sup>, 2012 to June 29<sup>th</sup>, 2012. The cooperation was a conference given at the “*XX Industrial Ecological Summit*

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<sup>43</sup>Diseño de Estudios de Estabilidad y Vida útil (in Spanish).

<sup>44</sup>Instituto Nacional de Tecnología Industrial (INTI) (in Spanish).

<sup>45</sup>Representación de la Red ONUDI (in Spanish).

*Watersheds of River Valencia and River Pao. VI Journey of Experiences in Atmospheric Emissions and Waste and Waste Management*<sup>46</sup>

The knowledge donor was the Cleaner Production Center of Honduras, and this institution was requested to attend the event representing the Latin American Network of Cleaner Production Centers and UNIDO. The expert's name is Diana Vargas, Project Coordinator of the Cleaner Production Center of Honduras.

The knowledge recipient was the *Chamber of Industrialists of the State of Carabobo (C.I.E.C.*<sup>47</sup>), who were involved in the organization of the XX Industrial Ecological Summit.

The cooperation consisted of a 40 minute presentation of the expert, presenting the working areas of UNIDO, and the topics of cleaner production methods implementation, the economic and environmental benefits obtained from its implementation. The expert also presented the progress of the Latin American countries when adopting cleaner production techniques promoted by the Latin American Centers for Cleaner Production.

The Final Report only mentions, as a result, a Skype meeting made between the representatives of CIEC and the directors of the Latin American Network of Cleaner Production. The report didn't mention any other concrete result and only referred to the participants expectations. It did mention that an invitation was made to the CIEC to participate in a Cleaner Production Congress held in Honduras from September 17<sup>th</sup>, 2012 to 20<sup>th</sup> September 2012. The IKB has no information regarding the participation or absence of the CIEC in such Congress.

#### 4.1.2.3.3.2 Austria-OECS Member States 2010 (case no. 14)

Title of the cooperation: *Strategic Assessment of the waste to energy situation and planning capacities in regard to renewable energy production in the Eastern Caribbean States.*

The cooperation was held in the city of Montego Bay, Saint James, Jamaica in June 2010. The cooperation consisted in a meeting that took place during the Fifth Caribbean Environment Forum and Exhibition (CEF 5), Second Caribbean Sustainable Energy Forum (CSEF 2), and 15th Annual Wider Caribbean Waste Management Conference (ReCaribe). These three events (i.e. CEF 5, CSEF 2 and ReCaribe) were held at the same time in Jamaica and were endorsed by other organizations such as the International Institute for Sustainable Development (IISD). However, the meeting was sponsored by UNIDO.

The knowledge provider was *ENPROCON Environmental Project Consulting GmbH*, an Austrian company specialized on the establishment and implementation of integrated waste management, waste to energy concepts and renewable energy production projects. The expert's name is Werner Wendt.

The knowledge recipient was the *Organization for Eastern Caribbean States (OECS*<sup>48</sup>), an inter-governmental organization for Eastern Caribbean countries with the goal (1) to promote economic harmonization and integration in the region, (2) protection of human and legal rights, and the (3) encouragement of good governance in the countries.

The cooperation consisted in a meeting between the expert and representatives from the OECS Countries, international organizations (i.e. UNEP<sup>49</sup>, Organization of American States), private

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<sup>46</sup>XX Cumbre Ecológica Industrial Cuencas del Lago de Valencia y Río Pao.VI Jornada Sobre Experiencias en Emisiones Atmosféricas y Manejo de Residuos y Desechos (in Spanish).

<sup>47</sup>Cámara de Industriales del estado Carabobo (C.I.E.C.) (in Spanish).

<sup>48</sup>The OECS Member States are: Anguilla and the British Virgin Islands, Antigua and Barbuda, Dominica, Grenada, Martinique, Montserrat, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines.

<sup>49</sup>United Nations Environmental Programme (UNEP).

entities, development agencies (i.e. GTZ<sup>50</sup>) and other Caribbean states not members to the OECS (i.e. Bahamas).

During this meeting, the expert elaborated in the topic of waste, waste treatment and thermal treatment facilities for waste. He specifies in the report that the Caribbean countries face a problem when it comes to waste management. The expert provided an overview of the topic and introduced the technologies available. In addition, he delivered some printed material (e.g. technology overview documents, pamphlets, brochures) with information related to the topics approached at the meeting. He also provided the countries' representatives with a questionnaire which inputs will be later used to elaborate a baseline for the waste management sector in each country.

In the Final Report, the expert mentions that some of the OECS representatives that participated in the meeting had misleading concepts and ideas regarding the topic of integrated waste management, which has led to confusion regarding the applicability of these technologies in the Caribbean. Yet, through this meeting the representatives were able to clarify those concepts and ideas.

The Final Report also mentions that there will be delegation of OECS's representatives and other Caribbean states visiting Vienna on September 13<sup>th</sup> and 14<sup>th</sup>, 2010. In this regard, he mentions that during that visit the representatives will receive a further and more detailed overview on waste management technologies and will be visiting some of the waste treatment facilities. However, the IKB has no record of this visit and if indeed, it took place.

#### [4.1.2.3.3.3 Spain-Colombia, 2013 \(case no. 45\)](#)

Title of the cooperation: Seminars on "Design for Recycling" and "Design of sustainable construction materials<sup>51</sup>".

The cooperation took place in the city of Medellín, Colombia from June 11<sup>th</sup>, 2013 to June 14<sup>th</sup>, 2013, and consisted of two seminars.

The knowledge provider was the Spanish company ZICLA, that develops new materials and products from waste. They relate their products and projects to Circular Economy principles. The expert that facilitated both seminars was Verónica Kuchinow.

The knowledge recipient was the National Center of Cleaner Production and Environmental Technologies CNPMLTA<sup>52</sup> and the University of Antioquia. The Final Report doesn't mention if the participants were only members of these two institutions or if there were participants from other institutions. However, it does mention as a recommendation for further cooperations that the IKB should take a more active role when promoting the events, to have a high participation rate.

The seminars provided training on the opportunities of waste recovery and its application in different markets, such as sustainable construction.

#### [4.1.2.3.3.4 Austria-Costa Rica 2011 \(case no. 14\)](#)

Title of the cooperation: "*I Congress on Environmental and Business Sustainability*<sup>53</sup>".

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<sup>50</sup>Deutsche Gesellschaft für Internationale Zusammenarbeit (GTZ) (in German), The German Technical Cooperation Agency.

<sup>51</sup>Seminarios "Diseño para el Reciclaje" y "Diseño de materiales de construcción sostenibles" (in Spanish).

<sup>52</sup>Centro Nacional de Producción Más Limpia y Tecnologías Ambientales (CNPMLTA) (in Spanish).

<sup>53</sup>I congreso de sostenibilidad ambiental y empresarial (in Spanish).

The cooperation was held in San José De Costa Rica, Costa Rica on April 26<sup>th</sup>, 2011. The cooperation was a conference that took place at the *I Congress on Environmental and Business Sustainability*, which was organized by the Chamber of Exporters of Costa Rica (CADEXCO<sup>54</sup>).

The knowledge donor was the company *PE International*, that changed its name to *Thinkstep* in 2015 as a rebranding strategy. They are a company that provides data, decision-support and management solutions as a consulting service to drive business performance sustainably. They have offices all over the World and their headquarters are settled in Stuttgart. However, it was the Austrian branch of PE International that provided the cooperation. The expert was Paola Gamarra.

The knowledge recipient was the *Chamber of Exporters of Costa Rica (CADEXCO)* that organized the Congress. Their motivation of CADEXCO comes from the support presented to the governments' commitment to be Carbon Neutral country by 2021. CADEXCO seeks to promote environmental sustainability within their sector.

The cooperation consisted of a 60-minute conference, entitled “Global Trends of Carbon Neutral Products- European Case” where the expert addressed the topics of (1) Life cycle analysis, (2) Carbon footprint of products, (3) Environmental product declaration, (4) Sustainable building certification system, and (5) Corporate carbon footprint.

#### 4.1.3 UNIDO's objective

To identify how well the IKB model supports the achievement of UNIDO's objective in section 4.1.4, this section will come back to the aim of UNIDO and elaborate on it.

UNIDO's objective as an institution as an institution has been updating over the time and adapting to the World's changes since it was established in 1966. Table 13 is a comparative table where these changes are presented. Despite the terminology used in different documents, it was possible to extract the main characteristics of what UNIDO's objective is.

**Table 13. Towards the definition of UNIDO's objective.**

Documents	Statements	Term referred
UN General Assembly Resolution 2152(XXI) (1966)	The purpose of the Organization shall be to promote industrial development, in accordance with Article 1, paragraph 3, and Article 55 and 56 of the Charter of the United Nations, and by encouraging the mobilization of national and international resources to assist in, promote and accelerate the industrialization of the developing countries, with particular emphasis on the manufacturing sector.	Purpose
UNIDO Constitution (1979)	The primary objective of the Organization shall be the promotion and acceleration of industrial development on the developing countries with a view to assisting in the establishment of a new international economic order. The Organization shall also promote industrial development and co-operation on global, regional, as well as on sectoral levels.	Objective
Lima declaration (2013)	The mandate of UNIDO is to promote sustainable industrial development and international industrial cooperation within its thematic priorities and in accordance with global, regional and national development goals.	Mandate
UNIDO's Webpage: Who we are section (2018)	The mission of the United Nations Industrial Development Organization (UNIDO), as described in the Lima Declaration adopted at the fifteenth session of the UNIDO General Conference in 2013, is to promote and accelerate <u>inclusive and sustainable industrial development (ISID)</u> in Member States.	Mission

<sup>54</sup>Cámara de Exportadores de Costa Rica (CADEXCO) (in Sapanish).

Using the statements of several documents, the following statement presents UNIDO's objective as of 2018:

***“The objective of UNIDO is to promote, accelerate and assist inclusive and sustainable industrial development (ISID) in developing countries”.***

However, to promote, accelerate and assist ISID, it is important to know what ISID means. The literature of UNIDO mentions the term but instead of having a straight-forward definition for the term, the documents define ISID by what the term ensures. Figure 26 illustrates UNIDO's definition of ISID:



**Figure 27. ISID definition (UNIDO, 2015b).**

For the present study, the term ISID, based on UNIDO's definition, was re-written as:

***“ISID is development where each country achieves higher level of industrialization, where goods and services are traded in global markets. ISID is development where no one is left behind in benefiting from industrial growth, and prosperity is shared among women and men in all countries. ISID is development where an environmentally sustainable framework supports economic and social growth. ISID is development where its impact is maximized by the resources and knowledge of relevant actors”.***

With this definition, it can be said that the concept of ISID implies five necessary conditions for development to be referred as ISID:

1. Implies a high level of industrialization for all countries.
2. Implies that goods and services are traded in global markets.
3. Implies that all humans benefit from industrial growth and share the prosperity.
4. Implies that an environmentally sustainable framework supports the economic and social growth.
5. Implies that its impact is maximized by the resources and knowledge of relevant actors.

#### **4.1.4 Comparison between IKB theory and IBK practice**

After establishing how the IKB works in theory and in practice, and establishing UNIDO's objective and definition, a comparison of relevant issues was made to establish the alignment or misalignment of theory and practice. These issues are parameters chosen to identify how well the IKB model supports the achievement of UNIDO's objective.

Table 14 presents a list of relevant parameters for the IKB and how they are approached theoretically and in the 12 co-operations studied.

**Table 14. Comparison of parameters between IKB in theory and in practice.**

<b>Parameter</b>	<b>IKB in theory</b>	<b>IKB in practice</b>
<b>Objectives</b>	The IKB has changed its objective twice in the period of study. At the beginning it was more oriented towards fostering cooperation through technical assistance initiatives. Afterwards, the objectives shifted towards dissemination of industrial knowledge and encouraging partnership.	Only half of the co-operations stated the objective in the final report, and none of them stated how the objective aligns with the overall objectives of the IKB.
<b>Strategic priorities</b>	The IKB divides its projects into strategic priorities (Poverty alleviation through productive activities in the non-farm sector, Trade capacity-building, and Environment and Energy) so the knowledge exchange provided in each cooperation fits in each category.	In some of the cases analyzed, it's difficult to link how the activities in each cooperation related to each strategic priority, and how will the activities contribute to achieve each strategic priority.
<b>Cooperation services</b>	The IKB manages the knowledge exchange in form of cooperation services: (1) Capacity building, (2) Strategy evaluation / recommendation, and (3) Transfer of best practices. In theory the co-operations are divided into these three ways to provide knowledge exchange.	In practice, the co-operations studied didn't state at any point under which cooperation service they were classified.
<b>Focal points</b>	In theory the focal points expected (1) to identify the national competences (i.e. the areas of expertise a country's institutions have) to be donated to the Bank, (2) the mechanisms of financing the local cost of international experts and (3) the monitoring of the results of the intervention (i.e. ensuring the information regarding the technical assistance is received in UNIDO through the IKB platform) and the results continuity (monitor the resulting activities of the cooperation).	In practice, the documents analyzed for each of the 12 co-operations didn't mention anything about the focal point's role during the process or if and how the focal points enrolled during the cooperation. The responsibilities for each actor are not well perceived in any document nor stated. However, due to the theoretical explanation of the project it was possible to assume the role of each actor.
<b>Dissemination</b>	In theory the IKB states that UNIDO disseminates the knowledge created out of each cooperation, but there is no document regarding the methods or guidelines to do so.	There is nothing in the 12 co-operations that mentions how to disseminate the knowledge created in each case.
<b>Monitoring and Evaluating</b>	The Monitoring and Evaluation of the IKB is only performed through the Final Report and Feedback forms. In addition, the project has no qualitative or quantitative indicator to monitor or evaluate the knowledge exchange of each particular cooperation.	In practice, the co-operations assessed did have a Final Report as a Monitoring and Evaluation measure. However, some of the Final Reports were missing certain points or had poor descriptions of how the cooperation passed, making it difficult to have a clear picture of what happened during each cooperation, and to have similar quality in the reports to compare among the cooperations.

#### 4.1.5 Comparison between UNIDO's objective and IKB

After establishing UNIDO's objective and definition and having made a comparison of relevant issues to establish the alignment or misalignment of theory and practice of the IKB, a relation matrix was made. The relations made are between some of the relevant parameters previously mentioned and how they relate to UNIDO's objective. Table 15 presents a clear view to see if the IKB supports the achievement of UNIDO's objective.

**Table 15. Relations between the IKB model and UNIDO's objective.**

<b>Parameter</b>	<b>The IKB model</b>	<b>Relation with UNIDO objective</b>
<b>Objective (s)</b>	The IKB has changed its objective twice in the period of study. At the beginning it was more oriented towards fostering cooperation through technical assistance initiatives. Afterwards, the objectives shifted towards dissemination of industrial knowledge and encouraging partnership.	In fact, the objectives of the IKB seem to support UNIDO's objective of achieving ISID. To do so, the IKB aligned its objectives with the mechanisms to support the achievement of UNIDO's mission: the cross-cutting services. We can find two cross-cutting services covered with IKB objective: <i>Creation, transformation and management of knowledge</i> , and <i>Build partnership with private sector and civil society</i> . Moreover, the IKB supports the achievement of MDG 8-Develop a global partnership for development.
<b>Strategic priorities</b>	The IKB divides its projects into strategic priorities so the knowledge exchange provided in each cooperation fits in each category.	In theory each strategic priority accounts for the pillars of ISID, UNIDO's objective. By categorizing the IKB cooperations into one of these three pillars it seems that the IKB supports the achievement of UNIDO's objective. The IKB policy of focusing in these three categories out of the technical cooperation they could provide, enhances the achievement of UNIDO's objective.
<b>Focal points</b>	In theory the focal points expected (1) to identify the national competences (i.e. the areas of expertise a country's institutions have) to be donated to the Bank, (2) the mechanisms of financing the local cost of international experts and (3) the monitoring of the results of the intervention (i.e. ensuring the information regarding the technical assistance is received in UNIDO through the IKB platform) and the results continuity (monitor the resulting activities of the cooperation).	The role of the focal points to achieve ISID is clear because focal points identify the areas of expertise a country has which contributes to help relevant actors maximize their resources and knowledge. However, the focal points are also in charge of monitoring the resulting activities of the cooperation, and as seen in the 12 cases, the following actions after each cooperation occurred were not monitored nor registered.
<b>Monitoring and Evaluating</b>	The Monitoring and Evaluation of the IKB is only performed through the Final Report and Feedback forms. In addition, the project has no qualitative or quantitative indicator to monitor or evaluate the knowledge exchange of each particular cooperation.	Although UNIDO's objective doesn't mention anything about how to monitor or evaluate ISID, the organization's evaluation systems is a Result-Based Management approach, where Monitoring and Evaluating are important parts of the Project and Programme Management Cycle. In order to deliver the outcomes expected (i.e. ISID), these two components must be rightfully approached.

## 4.2 SDG9 targets related to industrialization

### 4.2.1 Links between the four SDG 9 targets related to industrialization and relevant topics

To establish the links between the four SDG 9 targets related to industrialization and relevant topics for this research a matrix was performed. This matrix served as reference for the Analysis to answer research question no. 2. Table 16 shows the links found between relevant topics and the four SDG9 targets related to industrialization.



**Table 16. Analysis Matrix of the four SDG 9 targets related to industrialization.**

	<b>Target 9.2</b>	<b>Target 9.3</b>	<b>Target 9.4</b>	<b>Target 9.b</b>
	<u>Promote</u> inclusive and sustainable industrialization and, by 2030, significantly <u>raise</u> industry's share of employment and gross domestic product, in line with national circumstances, and <u>double</u> its share in least developed countries.	<u>Increase the access</u> of small-scale industrial and other enterprises, in particular in developing countries, to <u>financial services</u> , including affordable credit, and their <u>integration into value chains and markets</u> .	By 2030, upgrade infrastructure and retrofit industries <u>to make</u> them sustainable, with increased resource use efficiency and greater <u>adoption</u> of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.	<u>Support</u> domestic technology development, research and innovation in developing countries, including by <u>ensuring</u> a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.
Indicator (s) to measure progress towards this target.	9.2.1 Manufacturing value added as a proportion of GDP and per capita. 9.2.2 Manufacturing employment as a proportion of total employment.	9.3.1 Proportion of small-scale industries in total industry value added. 9.3.2 Proportion of small-scale industries with a loan or line of credit.	9.4.1 CO2 emission per unit of value added.	9.b.1 Proportion of medium and high-tech industry value added in total value added.
What does the target mean? (Target re-written)	(1) This means promote UNIDO's objective. (2) Raise (significantly) the share industry in gross domestic product and the share of industry in employment. (3) Third, for least developed countries this means to double the share of industry in gross domestic product and the share of industry in employment.	(1) This means that small-scale industries in the field of manufacturing need to access financial mechanisms, and (2) need to integrate to value chain and markets.	(1) This means that industries will be sustainable by upgrading infrastructure and retrofit industries. (2) This means that industries need to adopt technologies and industrial processes that are resource-efficient, and less damaging towards the environment.	(1) This means that technology development, research and innovation in developing countries should be supported. (2) This also means to have a helpful policy environment where industrial diversification and value addition to commodities can thrive.
What are the implications for this target and the achievement of Agenda 2030? (Agenda 2030 is about poverty eradication first, in order to achieve Sustainable Development)	It implies that poverty eradication is achieved through job creation in the field of manufacturing. In terms of raising the share of industry in gross domestic product it means to push a policy where industry is the main economic activity. It connects with SDG 8.	It means that this target could benefit from SDG17 that approaches financial mechanisms for development. SDG17 also approaches the topic of trade, so does target 8.3 and 10.A	It means that there should be an emphasis on environmental sustainability in manufacturing industries, and this relates to target 12.4 and 12.6, that relate to the management of chemicals and waste, and the adoption of sustainable practices in companies.	To support technology development, research and innovation in developing countries, quality education in all levels must be assured first. This implication is linked with SDG 4. Goal 16 also links to this target, due to the relations between having a helpful policy environment and having effective, accountable and transparent institutions
How can this target be managed using a Complex Adaptive Systems approach? What are the implications of implementing this target into the organization's activities?	In general, the four targets have common issues that relate to a Complex Adaptive System management approach. Since they are expected to be integrated into UNIDO's projects and programs, these targets will be done under a Result-Based Management approach. However, these targets and the Agenda 2030 in general deal with complex problems such as migration, poverty eradication, climate change, urbanization, etc., problems where there are trade-offs and several possible outcomes, problems with several stakeholders involved. To effectively manage programs and projects that integrate these targets and that achieve the desired outcomes, a management approach that enables learning as a priority is needed. Moreover, organizations as UNIDO need to be seen as contingent systems and not only bureaucratic machines, and power relation between donors and recipients of cooperation need to be analyzed. Integrating a Complex Adaptive System approach to management can be an opportunity to increase the possibility of achieving the targets.			

<p>What does this target mean for Sustainable Development in general? Which are the main implications? How does this target relate to the environmental, economic and social sustainability?</p>	<p>This means that achieving industrialization is the main target here however, industrial growth has negative impacts in the environment and is not the sole motor to solve employment issues. Moreover, industrialization as a target doesn't assure that wealth is well distributed. This target can have enormous implications for environmental and social sustainability. If we prioritize industrial growth some risks are to overlook environmental impacts and destroy local economies.</p>	<p>This target means that more companies, especially small-scale can integrate in value chains and global markets. The fact that they are as well economically supported to do so makes the global economic landscape a more diverse one, where environmentally and socially sustainable practices can thrive.</p>	<p>This target can help harness environmental sustainability by promoting the development of technologies, the upgrading of infrastructure and the retrofit of industries. This can be also an opportunity for new markets to develop and an opportunity for economic growth.</p>	<p>The fact of promoting technology, innovation and research is an opportunity to perform these activities with strong sustainability principles. This can also be an opportunity to create job opportunities and economic growth.</p>
<p>What are the main effects of the implementation of this target in the LAC Region? What is necessary to achieve this target in the LAC Region context?</p>	<p>There are certain issues the region faces: youth employment, eradication of poverty, fight against violence, preserving biodiversity, among others.</p> <p>The LAC countries would have to pursue an economic model that prioritizes industrial development. However, the countries in the LAC Region encompass countries in different stages of economic development. This can be a challenge to achieve the targets. Pursuing ISID will require a strong environmental sustainability framework that integrates important issues for the region such as biodiversity. Employment in industry is an opportunity to decrease the levels of violence in the region. In terms of the inclusiveness of ISID, it is necessary to design a socially sustainable framework that integrates priorities of indigenous and local communities of the LAC region.</p>	<p>An important issue that is necessary is to develop regional standards and the same level of quality in manufacturing to integrate the products and services of the region in value chains and markets. To access financial mechanisms to develop the industries, certain countries would have to approach some social and economic issues first. This target links to SDG 16, and SDG17.</p>	<p>The industries in the region need to upgrade infrastructure and make some priority technologies that are resource-efficient.</p>	<p>This target means that the LAC Region will start to pursue a policy that enables regional research and expertise to be used for innovation and development of new technologies. It is important to promote national industries and prioritize the development of local enterprises over large foreign corporations.</p>

## 5 Analysis and Discussion

### 5.1 Does the Industrial Knowledge Bank support the achievement of UNIDO's objectives?

With the signature of Agenda 2030, a new era of development cooperation starts. New actors and new ways to cooperate arise and the traditional power structures between donors and recipients are being redefined. With this, international agencies like UNIDO need to review their approaches and motivations towards development. In the case of UNIDO, the organization has long restructured its focus to industrialization due to a crisis in the 1990s that led the organization to coin the term inclusive and industrial sustainable development in 2013, 26 years after the term sustainable development was defined in the Brundtland Report. However, the term coined by UNIDO implies that industrialization is essential for economic growth and overcome poverty, especially for the developing countries.

Following this line of thought, the Industrial Knowledge Bank is a project that promotes UNIDO's objective, aiming to facilitate only industry related activities or activities that enhance the industrialization process in the region of Latin America and the Caribbean. Moreover, this project has two more strengths: it is a knowledge management institution and promotes South-South cooperation.

In the new paradigm of development cooperation, where traditional roles for actors such as donor and recipient are changing, the IKB offers an opportunity to peer-learn in the region of LAC. What this model implies is the following:

- **Enhance a new paradigm of development.** Traditionally, development cooperation was mainly endorsed by the DAC countries, but lately new donors are entering the landscape with models of cooperation such as South-South. The IKB has selected this model for the way development is approached. With this model, the LAC region supports the local knowledge and peer-learning among countries with similar characteristics.
- **Shift in the recipient/donor role.** The way the IKB works allow the actors to be both donors and recipients. While during one cooperation the role of an actor could be as a recipient of knowledge, in a different one this same recipient can shift to be a donor of knowledge. This model allows the actors to share what they know best (as donors) and allows them to learn what they don't master (as recipients).
- **Ownership of development.** Because South-South cooperation in the LAC region means that the LAC countries act as donors of expertise, the paradigm these donors have of development is encouraged. As experts, these countries have the opportunity to share the knowledge they have gained to achieve a certain degree of industrial development, and by doing so they become the owners of this development. Recipients also gain ownership, by determining the areas to receive aid the recipients make sure they prioritize what is important in their development agendas.
- **Aid delivery is efficient.** In large international and intergovernmental organizations such as UNIDO, the time frame to deliver aid can take long periods of time, due to the organization's complex mechanisms and bureaucracy. However, the IKB is a project that allows efficiency when delivering aid. Due to the distribution of responsibilities, it is easy for the IKB to comply with its function when a cooperation is performed. Since the donor and the recipient are the ones responsible for the planning and implementation of the cooperation and the IKB just acts as support, the IKB can efficiently manage their tasks.

Although the model of the IKB seems to be a mechanism to enhance and promote industrial development in the LAC region, there are always certain risks that can arise from its management and they might not be easy to identify, such as:

- **The IKB can become a “sales” instrument.** The line between facilitating the exchange of knowledge between private companies and potential clients (such as governments), and becoming a sales meeting is extremely delicate, and difficult to spot. The cooperation can transform into a sales meeting or a marketing exercise, where the IKB serves as a match-maker and is used as platform for companies to be lobbying for a specific technology or company. If the IKB transforms into this, it risks becoming a mechanism that encourages unethical strategic alliances between business. For example, the cooperation between Austria-OECS Member States in 2010. The donor was *ENPROCON Environmental Project Consulting GmbH*, an Austrian company specialized on the establishment and implementation of integrated waste management who during the meeting with government representatives of the *Organization for Eastern Caribbean States* (OECS) provided an overview of the topic and delivered some printed material. It is not easy to identify from the Final Report the tone of the meeting neither if any of the countries hired the company to pursue with the building of waste management facilities. For the IKB, it is important to be aware that their role is not to act as a business sales representative, but as an intergovernmental and international agency that promotes industrial development. The IKB must have a clear view regarding this and be accountable for the co-operations they made. Stricter rules will help avoid this issue. It is important that the technical knowledge certain companies provide are not linked to their competitive advantage in the market. One way to avoid this is to include more academia in the co-operations. It is also interesting to note that from the 12 co-operations selected to study, none of them involved an academic institution providing technical knowledge.
- **The IKB might finance co-operations that can be otherwise accomplished.** Since there are no clear guidelines in the IKB on how to choose a cooperation over another, it is easy to finance all the applications the IKB receives. In fact, this lack of guidelines and parameters in the documentation studied regarding necessary conditions to support and decide to pursuit a cooperation is a weakness the IKB has. With no elements to make decisions, the risk is to pursue co-operations that can be accomplished with other financial resources, probably from other development agencies or even private sector. For example, there are two co-operations from the 12 studied that happened in the framework of another project: (1) a cooperation between Argentina and Bolivia in 2012, where a workshop was held under the project “Seeds” that is a joint UN program, and (2) a cooperation between Colombia and Ecuador in 2013, where another workshop was held under the Ecuadorian governmental program of “Inclusive Rural Business”. These two cases raise the question on who is financially responsible for the co-operations. In theory, the IKB only finances the plane ticket of the expert(s) and the cost arising from the co-operations are covered by the recipient, so financing is technically clear. However, the fact that projects and programs from other organizations (like the two examples here) should have their own budget when interventions from third parties have already been included in the budget brings doubt if there is a bad management of budget or if there is no clear division of financial responsibilities. With these two examples, the IKB should question if its financial policy should include knowledge transfer in the framework of other projects, and if this mechanism should finance the knowledge transfer of private companies or governmental institutions, especially when they have a budget to do so. It

is the author's opinion that private companies shouldn't be allowed to participate because they have the financial capacity to identify their specific needs and to pay for the knowledge required to do so. On the other hand, certain NGOs or small producer associations lack the strategic capacity to above all identify their specific needs, not say to finance the knowledge transference to target those needs. It is the author's opinion that the IKB should prioritize the groups that require the most knowledge exchange and that can't afford to have one intervention on their own.

More than strengths and risks, it is also important to analyze the extent of the IKB impact. In theory, this mechanism acts as a knowledge network that connects actors, but these actors are not single individuals but organizations such as institutions, companies and associations. Through the cases studied it was clear that not only the recipient organizations benefited from the knowledge exchange, but single individuals belonging to these organizations. With this, the question of who the real recipient of knowledge is rises and with it the impact of the project in question. For instance, the case of knowledge exchange between Austria-Costa Rica in 2011, where an Austrian private company provided a conference to the Chamber of Exporters of Costa Rica and an Industrial Association related to the topics of life-cycle analysis, carbon footprint of products, among other environmental related topics. First, we can think that the recipients are the members of both the Chamber of Exporters and the Industrial Association. However, if the knowledge gained by the members of these communities is again disseminated into their working places and this knowledge continues to be disseminated in other areas where these individuals coexist, then the impact of a cooperation is exponential. This is the reason why a project such as the IKB needs to be well managed and executed. Being a tool with power to reach several actors beyond the recipients and being a project that can direct the route of knowledge dissemination, the importance to have a well-structured and well-managed project is essential.

However, even when the impact the IKB can achieve is large and the project itself can be influential, it is important to note that UNIDO is just one of the actors in the industrial development panorama. Even though UNIDO was created to promote industrialization in the developing countries and it is supposed to be the expert agency when it comes to the topic, it is important not to forget that it is not the only actor in the field of industrial development. Even though private companies don't deal directly with industrial development itself, they are the key instruments to achieve industrialization of a country, so their expertise is also important. Based on the documents studied, UNIDO is perceived as the authority on industrial development related issues. However, the discourse of the organization needs to integrate new opinions and arguments into their own, especially now that development cooperation panorama is changing, and development paradigms are being questioned. It is the author's opinion that projects like the IKB open the door to re-think and analyze the theoretical ground on which industrialization is sustained. In a complex world like ours, with complex problems that require systemic approaches to solve and that imply trade-offs, it is necessary to question the reasons why support to industrialization is needed.

Based on the documents studied, it seems that the IKB can support the achievement of UNIDO's objective, but in practice it is evident that there are urgent issues to be solved in order to effectively do so. Some issues are:

- **The role of the focal points in the project.** Although in theory the focal points have clear responsibilities in each cooperation, in the cases analyzed no evidence of their involvement was found. In the documents studied, there were no mentions on how the focal points acted. In fact, it appears to be that it was the team of UNIDO LAC in the Headquarters in Vienna that managed the co-operations with no assistance of the focal points. This reflects a very centralized management team.

- **The lack of ‘Tracking’ and ‘Dissemination’ phases in practice.** In theory, the IKB has two phases called ‘Tracking’ and ‘Dissemination’, where the cooperation performed is tracked to see if there are follow-up actions and the outcomes of the cooperation are also disseminated. In practice, there was no single data found for any of the cases that illustrated how these two phases were approached. No documents or records on tracking the 12 cases studied was found nor any information regarding how the outcomes of the 12 co-operations were disseminated. These two phases are key to enhance the knowledge shared in each cooperation and are of especial relevance for the impacts a project might have. Without the proper management of these two phases, the impact of a cooperation risks being undermined and the knowledge created during an intervention risks to be just theory and not practical at all.
- **The Final Report and Feedback forms are the only Monitoring and Evaluation mechanisms.** The IKB is a project created with a Result-Based Management approach. In this approach, the Monitoring and Evaluation are key elements to the success of a project. In the IKB project, the co-operations fostered are also short-term projects that are monitored and evaluated only with a Final Report and two feedback forms once the intervention is finished. There is no monitoring during the implementation of the project and the evaluation performed at the end has no base line to compare with. Moreover, the fact that the quality of the Final Reports is very different from one to another, makes it difficult to really understand what happened during the intervention, what was learned, and what were the long-term impacts of such intervention. It is the author’s opinion that this is the most critical issue to be approached by the IKB management team. In order to increase the success of the interventions performed by the IKB, it is necessary to develop more mechanisms to monitor and evaluate each of the co-operations performed, including detailed guidelines to assure the quality of reporting and indicators that help them assess their progress towards the achievement of each intervention’s objective and towards UNIDO’s objective.
- **Lack of financial accountability.** Given that the IKB is a low-investment high-impact project, the fact that the reports and documents analyzed didn’t mention any financial indicator it’s a big gap to achieve an effective mechanism. To sustain the argument that this project can provide a rapid response to a problem and do it with a low investment, it is important to report flows of money and to have a financial indicator to compare the [project with others](#).

## 5.2 How can mechanisms like the Industrial Knowledge Bank support the achievement of the SDG9 targets related to industrialization?

To answer research question two, it was important to first analyze the definition of ISID and what the implications of this definition are. Secondly, each of the targets related to industrialization were analyzed to see also what does these implied. Finally, it was possible to make an analysis on how a mechanism like the IKB can support the achievement of SDG9 targets related to industrialization.

The definition of ISID states as following:

*“ISID is development where each country achieves higher level of industrialization, where goods and services are traded in global markets. ISID is development where no one is left behind in benefiting from industrial growth, and prosperity is shared among women and men in all countries. ISID is development where an environmentally sustainable framework*

*supports economic and social growth. ISID is development where its impact is maximized by the resources and knowledge of relevant actors”.*

This definition implies that:

- **A high level of industrialization for all countries is achieved.** The fact that ISID promotes a high level of industrialization means that manufacturing should have most of a country’s labor force. To achieve so, a structural change is needed, because industrialization technically means a transition from agrarian economies to industrialized ones (Dictionary of World History, 2015). Thus, it means that countries will not be dependent on agriculture or services, but in industry and that the larger share of their GDP will come from manufacturing activities. Although “in fact, in the past successful economic development has been closely associated with industrialization” (Szirmai, 2015), it is also important to notice that other sectors have become important engines of growth. In addition, it seems that ISID promotes industrialization as a “one-size-fits-all” solution, when industrialization might be appropriate for one country while for another could be less likely.
- **That goods and services are traded in global markets.** With this implication, ISID seems to promote trade of good and services in global markets above promoting the trade of goods and services in local economies. Although the export of manufactured goods provides multiple economic benefits such as employment and productivity growth (UNIDO, 2016b), the risk of certain countries specializing in the production of certain products and not developing other areas of expertise can rise. Moreover, it can lead to the promotion of certain inefficient technologies due their economic advantages.
- **All humans benefit from industrial growth and share the prosperity.** The ISID implies industrialization that goes together with social inclusiveness, where the wealth created from industrial growth is shared among everyone. With this, ISID seems that one way to approach inclusiveness is through job creation. However, the growth of the manufacturing sector is not the only factor to solve employment problems, because the amount of jobs created is limited by the capital-intensive nature of production (Szirmai, 2015).
- **An environmentally sustainable framework supports the economic and social growth.** Since the definition of ISID mentions that it is a development where an environmentally sustainable framework supports both economic and social growth, it is important to deepen the understanding regarding this framework. In the field of industrial growth, potential environmental and social trade-offs are many. To have an environmentally sustainable framework it is important to clarify if the “support” provided by the framework implies that there will be mainly trade-offs in the social and economic file because there is an environmentally sustainable framework that needs to be respected. The documents studied have no reference to or mentioning of the environmentally sustainable framework, how it works or what it implies. This point seems to be an opportunity to design a framework that can guide the decisions to be taken when “supporting” the economic and social growth. This could be especially helpful when there are many trades-offs and complex decisions to be made, it could help as a guideline or reference principles for industrial growth.
- **Its impact is maximized by the resources and knowledge of relevant actors.** Inclusiveness in ISID also means that every actor brings their knowledge and resources to help achieve ISID. This point implies that the impact of ISID is enlarged with the participation of all actors and making use of their expertise. In a time where knowledge is an important asset to achieve development goals, it is important that ISID includes knowledge and resources as key elements for development.

These issues need to be addressed so there is a clear understanding of what ISID means and what this concept implies in the achievement of Agenda 2030. With SDG9, projects and programs at UNIDO will require to integrate four targets that the organization has taken to be the implementing agency within the UN System. For projects like the IKB, it is important to analyze what these four targets will imply for the management and planning of interventions and how will the projects' strategic goals will align with these four targets.

After analyzing the links of the four SDG9 targets related to industrialization and some relevant topics, a list of important considerations for the IKB to take into account to support the achievement of these was produced. The following present the most important issues to account:

- **Develop an environmentally sustainable framework that supports economic and social growth.** The definition of ISID clearly states that economic and social growth is supported by an environmentally sustainable framework. However, the mentioned framework is not yet a document that states the environmental principles to consider when planning for economic or social growth. This is an opportunity to develop such framework that serves as 'guiding principles' or 'necessary conditions' to have that ensure environmental sustainability. In line with the definition of ISID, this environmentally sustainable framework will support economic and social growth. Since economic growth has been linked to environmental and social impacts, the author considers the development of this framework as an opportunity to promote environmental principles that come from strong sustainability view.
- **Selection of projects and prioritizing lines of actions.** For the IKB to support the achievement of SDG9 targets related to industrialization, it is important to select co-operations that align with the proposed activities if the SDG9 targets related to industrialization. Designing 'lines of action' to support those co-operations that align with the four targets previously mentioned can be a helpful guideline for the IKB to support the achievement of SDG9 targets related to industrialization. The following table presents a proposal of some of the guiding principles based in the four targets:

In order to support the achievement of SDG9 targets related to industrialization, the projects that will be supported are those that:

- Promote eradication of poverty.
- Promote resource and energy efficient projects.
- Promote sustainable production practices.
- Promote employment in the manufacturing sector.
- Promote innovation
- Support small-scale industries
- Promote upgrading and retrofit of industries of industrial diversification and value addition to commodities.

- **Transition from a networking project to a knowledge network.** Data from the IKB shows that in practice, the project works as a networking platform for donors and recipients, however, in theory the principles of its design are more aligned with those of a knowledge network. The IKB needs a transition from being just a project that manages knowledge exchange among actors to become a knowledge network by itself. For authors such as Creech and Willard (2001) knowledge networks have the potential to foster changes in policy and practice and support sustainable development. Some of the principles of knowledge networks mentioned by Creech and Willard (2001) are:
  - "Knowledge networks have communications and engagement strategies, where actors build relationships with those they seek to inform, influence, and work together with for change".



- “Knowledge networks constantly look at how knowledge will be moved, not just outward to broad audiences, but directly into practice”.
- “Knowledge networks need to be able to determine what changes it has effected through its research and communications work”.
- “Knowledge networks need to monitor whether they are fully realizing their potential, with evaluation methods that not only assess individual activities, but provide some means for identifying changes as a result of its combination of efforts”.

The IKB can e-design its approach so they can transition to become a knowledge network that supports the achievement of ISID and SDG9 targets related to industrialization.

- **Promote learning in the management cycle.** To foster knowledge for ISID, the IKB project needs to promote learning throughout its management cycle. Although currently all the projects in the organization are approached through a Result-Based Management approach, integrate some principles of the Complex Adaptive System approach to management can enhance the possibility to achieve the targets of SDG9 related to industrialization. Since these are targets that deal with complex problems with several links, exploring other management approaches and integrate some of these principles to ensure learning is an opportunity for the IKB.

### 5.3 Discussion on limitations

Although the analysis of the data was performed following the methodology described, some constrains that might have affected the results are listed:

- **There was no consistency in the quality of the Final Reports.** Even though some of the co-operations analyzed had insightful documents were most of the processes were well documented, not all the co-operations studied had documents the same quality in the report.
- **The reports only described what happen during the co-operation and not the lasting outcomes of it.** The fact that the Final Report along with the feedback forms were the only evaluation and monitoring activities for the IKB project make difficult to fully understand the lasting outcomes of each cooperation, thus evaluate if the IKB can fully support the achievement of UNIDO’s objective.
- **Lack of digitalized data.** The lack of digitalized documents made this case studies difficult. At the beginning, some cases were selected but no documents (i.e. Final Report, feedback forms) were found so other cases were selected instead, those with documents.
- **No similar research to compare with.** Although an embedded single case study was selected as strategy of inquiry, the analysis strategies were designed by the author, with no other case study with same analysis strategies to compare with and that supports the quality of the methodology. However, the analysis strategies were designed this way in order to answer the research questions.
- **Key staff elements no longer worked at the division.** The consultant at UNIDO who initially helped develop the project no longer worked for the LAC Division when this investigation was performed. Without the insightful knowledge of the mentioned consultant, the interviews reduced to two other UNIDO LAC Division members. The lack of interviews with this individual might influence the results of the research.

## 6 Conclusion

With new international agreements in the field of development co-operation such as Agenda 2030, new challenges emerge, and actors involved search for innovative mechanisms to approach them. The case of the Industrial Knowledge Bank represents the efforts of the Latin America and the Caribbean Division at the United Nations Industrial Development Organization to deliver efficient aid with a knowledge management project. The present case study analyzed the Industrial Knowledge Bank and 12 co-operations performed to identify if this project supported the achievement of UNIDO's objective, moreover, the analysis also focusses on identifying how can the project can help support the achievement of SDG9 targets related to industrialization, which UNIDO took as their responsibility to promote as implementing agency within the UN System.

Although there is a gap between how the project works in theory and in practice, it seems that the IKB does support the achievement of UNIDO's objective. The IKB is a project that promotes inclusive and sustainable industrial development, working on the three pillars UNIDO propose are the base to achieve ISID. It facilitates only industry related activities or activities that enhance the industrialization process in the region of Latin America and the Caribbean, which aligns with UNIDO's scope. Moreover, this project is an opportunity to peer-learn in the region of LAC, it enhances a new paradigm of development, and it helps to deliver aid efficiently.

In practice, to fully support UNIDO's objective, the IKB needs to make more emphasis on strengthening the management, monitoring and evaluation of the project, the dissemination phase, and strategies that allow the project to really provide change.

To support the achievement of SDG9 targets related to industrialization, the IKB will need to strength its management and will have to consider four main issues. The analysis shows that the IKB will need to (1) develop an environmentally sustainable framework that supports economic and social growth, to (2) select projects based on priorities and lines of actions, to (3) transition from a networking project to a knowledge network, and (4) to promote learning in the management cycle.

Finally, a point to conclude is what this study brings to the ongoing discourse on development goals and industrialization. This study helps by producing data on how development projects that deal with knowledge management can contribute to achieve development cooperation objectives, such as sustainable and inclusive industrial development. The results and analysis on the data lead to important conclusions and observations that enrich this ongoing discussion.

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## 8 Appendix

### IDA Countries (Association,)

<b>Africa</b>		<b>East Asia</b>	<b>Europe and Central Asia</b>
Benin	Mali	Cambodia	Kosovo <sup>5</sup>
Burkina Faso	Mauritania	Kiribati <sup>4</sup>	Kyrgyz Republic
Burundi	Mozambique	Laos, PDR <sup>5</sup>	Moldova <sup>3</sup>
Cameroon <sup>3</sup>	Niger	Marshall Islands	Tajikistan
Cape Verde <sup>3&amp;4</sup>	Nigeria <sup>3</sup>	<sup>4</sup> Micronesia, FS <sup>4</sup>	Uzbekistan <sup>3</sup>
C.A.R.	Rwanda	Mongolia <sup>3</sup>	
Chad	Sao Tome and Pr. <sup>4</sup>	Myanmar <sup>5</sup>	
Comoros	Senegal	Papua New Guinea <sup>3</sup>	<b>Latin America and Caribbean</b>
Congo, Democratic Republic of (formerly Zaire)	Sierra Leone	Samoa <sup>4</sup>	Dominica <sup>3&amp;4</sup>
Congo, Republic of <sup>3</sup>	Somalia <sup>2</sup>	Solomon Islands	St Vincent <sup>3&amp;4</sup>
Cote d'Ivoire <sup>5</sup>	South Sudan	Timor-Leste <sup>3</sup>	Grenada <sup>3&amp;4</sup>
Eritrea <sup>2</sup>	Sudan <sup>2</sup>	Tonga <sup>4</sup>	Guyana <sup>5</sup>
Ethiopia	Tanzania	Tuvalu <sup>4</sup>	Haiti
Gambia, The	Togo	Vanuatu <sup>4</sup>	Honduras <sup>5</sup>
Ghana <sup>5</sup>	Uganda		Nicaragua <sup>5</sup>
Guinea	Zambia <sup>5</sup>		St Lucia <sup>3&amp;4</sup>
Guinea-Bissau	Zimbabwe <sup>2&amp;3</sup>	<b>South Asia</b>	
Kenya <sup>3</sup>		Afghanistan	<b>Middle East and North Africa</b>
Lesotho <sup>5</sup>		Bangladesh	Djibouti <sup>5</sup>
Liberia		Bhutan <sup>5</sup>	Syrian Arab Republic <sup>2</sup>
Madagascar		Maldives <sup>4</sup>	Yemen, Republic of
Malawi		Nepal	
		Pakistan <sup>3</sup>	

<sup>1</sup> Bolivia, Sri Lanka, and Vietnam graduated from IDA at the end of FY17, but will receive transitional support on an exceptional basis through the IDA18 period (FY18-20).

<sup>2</sup> Inactive countries: no active IDA financing due to protracted non-accrual status.

<sup>3</sup> Blend countries: IDA-eligible but also creditworthy for some IBRD borrowing.

<sup>4</sup> Small island economy exception: small islands (with less than 1.5 million people, significant vulnerability due to size and geography, and very limited credit-worthiness and financing options) have been granted exceptions in maintaining their eligibility.

<sup>5</sup> Borrowing on blend terms: countries that access IDA financing only on blend credit terms.

75 IDA-eligible countries; 59 IDA-only; and 16 blend countries.

## 8.1 Annex A. Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development\*.

SDG	
GOAL 1: End poverty in all its forms everywhere	
Targets	Indicators
1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day	1.1.1 Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)
1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	1.2.1 Proportion of population living below the national poverty line, by sex and age 1.2.2 Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable	1.3.1 Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable
1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	1.4.1 Proportion of population living in households with access to basic services 1.4.2 Proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure
1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	1.5.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population 1.5.2 Direct economic loss attributed to disasters in relation to global gross domestic product (GDP) 1.5.3 Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030 1.5.4 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies
1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programs and policies to end poverty in all its dimensions	1.a.1 Proportion of domestically generated resources allocated by the government directly to poverty reduction programs 1.a.2 Proportion of total government spending on essential services (education, health and social protection) 1.a.3 Sum of total grants and non-debt-creating inflows directly allocated to poverty reduction programs as a proportion of GDP
1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions	1.b.1 Proportion of government recurrent and capital spending to sectors that disproportionately benefit women, the poor and vulnerable groups
GOAL 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture	
Targets	Indicators
2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	2.1.1 Prevalence of undernourishment 2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)
2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	2.2.1 Prevalence of stunting (height for age <-2 standard deviation from the median of the World Health Organization (WHO) Child Growth Standards) among children under 5 years of age 2.2.2 Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)

2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment	<p>2.3.1 Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size</p> <p>2.3.2 Average income of small-scale food producers, by sex and indigenous status</p>
2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality	2.4.1 Proportion of agricultural area under productive and sustainable agriculture
2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed	<p>2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium- or long-term conservation facilities</p> <p>2.5.2 Proportion of local breeds classified as being at risk, not at risk or at unknown level of risk of extinction</p>
2.a Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries	<p>2.a.1 The agriculture orientation index for government expenditures</p> <p>2.a.2 Total official flows (official development assistance plus other official flows) to the agriculture sector</p>
2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round	2.b.1 Agricultural export subsidies
2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility	2.c.1 Indicator of food price anomalies

**GOAL 3: Ensure healthy lives and promote well-being for all at all ages**

Targets

Indicators

3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births

3.1.1 Maternal mortality ratio  
3.1.2 Proportion of births attended by skilled health personnel

3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births

3.2.1 Under-5 mortality rate

3.2.2 Neonatal mortality rate

3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases

3.3.1 Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations  
3.3.2 Tuberculosis incidence per 100,000 population  
3.3.3 Malaria incidence per 1,000 population  
3.3.4 Hepatitis B incidence per 100,000 population  
3.3.5 Number of people requiring interventions against neglected tropical diseases  
3.4.1 Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease

3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being

3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol

3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents

3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs

3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate

3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all

3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States

3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks

#### **GOAL 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**

##### Targets

4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

3.4.2 Suicide mortality rate

3.5.1 Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders

3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol

3.6.1 Death rate due to road traffic injuries

3.7.1 Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods

3.7.2 Adolescent birth rate (aged 10–14 years; aged 15–19 years) per 1,000 women in that age group

3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)

3.8.2 Proportion of population with large household expenditures on health as a share of total household expenditure or income

3.9.1 Mortality rate attributed to household and ambient air pollution

3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)

3.9.3 Mortality rate attributed to unintentional poisoning

3.a.1 Age-standardized prevalence of current tobacco use among persons aged 15 years and older

3.b.1 Proportion of the target population covered by all vaccines included in their national program

3.b.2 Total net official development assistance to medical research and basic health sectors

3.b.3 Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis

3.c.1 Health worker density and distribution

3.d.1 International Health Regulations (IHR) capacity and health emergency preparedness

##### Indicators

4.1.1 Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex

- 4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education
- 4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university
- 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship
- 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations
- 4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy
- 4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development
- 4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all
- 4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programs, in developed countries and other developing countries
- 4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States
- 4.2.1 Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex
- 4.2.2 Participation rate in organized learning (one year before the official primary entry age), by sex
- 4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
- 4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill
- 4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated
- 4.6.1 Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex
- 4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment
- 4.a.1 Proportion of schools with access to (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)
- 4.b.1 Volume of official development assistance flows for scholarships by sector and type of study
- 4.c.1 Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country

**GOAL 5: Achieve gender equality and empower all women and girls**

Targets

- 5.1 End all forms of discrimination against all women and girls everywhere
- 5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation

Indicators

- 5.1.1 Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex
- 5.2.1 Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age
- 5.2.2 Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence

5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	5.3.1 Proportion of women aged 20–24 years who were married or in a union before age 15 and before age 18
5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	5.3.2 Proportion of girls and women aged 15–49 years who have undergone female genital mutilation/cutting, by age
5.5 Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.4.1 Proportion of time spent on unpaid domestic and care work, by sex, age and location
5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Program of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences	5.5.1 Proportion of seats held by women in (a) national parliaments and (b) local governments
5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws	5.5.2 Proportion of women in managerial positions
5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women	5.6.1 Proportion of women aged 15–49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care
5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels	5.6.2 Number of countries with laws and regulations that guarantee full and equal access to women and men aged 15 years and older to sexual and reproductive health care, information and education
<b>GOAL 6: Ensure availability and sustainable management of water and sanitation for all</b>	5.a.1 (a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure
Targets	5.a.2 Proportion of countries where the legal framework (including customary law) guarantees women’s equal rights to land ownership and/or control
6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	5.b.1 Proportion of individuals who own a mobile telephone, by sex
6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	5.c.1 Proportion of countries with systems to track and make public allocations for gender equality and women’s empowerment
6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	Indicators
6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	6.1.1 Proportion of population using safely managed drinking water services
6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water
6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	6.3.1 Proportion of wastewater safely treated
	6.3.2 Proportion of bodies of water with good ambient water quality
	6.4.1 Change in water-use efficiency over time
	6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
	6.5.1 Degree of integrated water resources management implementation (0–100)
	6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
	6.6.1 Change in the extent of water-related ecosystems over time

6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

6.b Support and strengthen the participation of local communities in improving water and sanitation management

6.a.1 Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan

6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management

**GOAL 7: Ensure access to affordable, reliable, sustainable and modern energy for all**

Targets

7.1 By 2030, ensure universal access to affordable, reliable and modern energy services

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix

7.3 By 2030, double the global rate of improvement in energy efficiency

7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology

7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programs of support

Indicators

7.1.1 Proportion of population with access to electricity

7.1.2 Proportion of population with primary reliance on clean fuels and technology

7.2.1 Renewable energy share in the total final energy consumption

7.3.1 Energy intensity measured in terms of primary energy and GDP

7.a.1 International financial flows to developing countries in support of clean energy research and development and renewable energy production, including in hybrid systems

7.b.1 Investments in energy efficiency as a proportion of GDP and the amount of foreign direct investment in financial transfer for infrastructure and technology to sustainable development services

**GOAL 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**

Targets

8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programs on Sustainable Consumption and Production, with developed countries taking the lead

8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training

Indicators

8.1.1 Annual growth rate of real GDP per capita

8.2.1 Annual growth rate of real GDP per employed person

8.3.1 Proportion of informal employment in non-agriculture employment, by sex

8.4.1 Material footprint, material footprint per capita, and material footprint per GDP

8.4.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP

8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities

8.5.2 Unemployment rate, by sex, age and persons with disabilities

8.6.1 Proportion of youth (aged 15–24 years) not in education, employment or training

8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms

8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products

8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all

8.a Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-related Technical Assistance to Least Developed Countries

8.b By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization

**GOAL 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation**

Targets

Indicators

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

8.7.1 Proportion and number of children aged 5–17 years engaged in child labour, by sex and age

8.8.1 Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status

8.8.2 Level of national compliance with labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status

8.9.1 Tourism direct GDP as a proportion of total GDP and in growth rate

8.9.2 Proportion of jobs in sustainable tourism industries out of total tourism jobs

8.10.1 (a) Number of commercial bank branches per 100,000 adults and (b) number of automated teller machines (ATMs) per 100,000 adults

8.10.2 Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider

8.a.1 Aid for Trade commitments and disbursements

8.b.1 Existence of a developed and operationalized national strategy for youth employment, as a distinct strategy or as part of a national employment strategy

9.1.1 Proportion of the rural population who live within 2 km of an all-season road

9.1.2 Passenger and freight volumes, by mode of transport

9.2.1 Manufacturing value added as a proportion of GDP and per capita

9.2.2 Manufacturing employment as a proportion of total employment

9.3.1 Proportion of small-scale industries in total industry value added

9.3.2 Proportion of small-scale industries with a loan or line of credit

9.4.1 CO<sub>2</sub> emission per unit of value added

9.5.1 Research and development expenditure as a proportion of GDP

9.5.2 Researchers (in full-time equivalent) per million inhabitants



9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States

9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities

9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

9.a.1 Total official international support (official development assistance plus other official flows) to infrastructure

9.b.1 Proportion of medium and high-tech industry value added in total value added

9.c.1 Proportion of population covered by a mobile network, by technology

**GOAL 10: Reduce inequality within and among countries**

Targets

Indicators

10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average

10.1.1 Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population

10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

10.2.1 Proportion of people living below 50 per cent of median income, by sex, age and persons with disabilities

10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard

10.3.1 Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law

10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality

10.4.1 Labour share of GDP, comprising wages and social protection transfers

10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations

10.5.1 Financial Soundness Indicators

10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions

10.6.1 Proportion of members and voting rights of developing countries in international organizations

10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies

10.7.1 Recruitment cost borne by employee as a proportion of yearly income earned in country of destination

10.7.2 Number of countries that have implemented well-managed migration policies

10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements

10.a.1 Proportion of tariff lines applied to imports from least developed countries and developing countries with zero-tariff

10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programs

10.b.1 Total resource flows for development, by recipient and donor countries and type of flow (e.g. official development assistance, foreign direct investment and other flows)

10.c By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent

10.c.1 Remittance costs as a proportion of the amount remitted

**GOAL 11: Make cities and human settlements inclusive, safe, resilient and sustainable**

Targets

Indicators

11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in

11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities

vulnerable situations, women, children, persons with disabilities and older persons

11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage

11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels

11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials

## **GOAL 12: Ensure sustainable consumption and production patterns**

### Targets

12.1 Implement the 10-Year Framework of Programs on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries

12.2 By 2030, achieve the sustainable management and efficient use of natural resources

11.3.1 Ratio of land consumption rate to population growth rate

11.3.2 Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically

11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)

11.5.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population

11.5.2 Direct economic loss in relation to global GDP, damage to critical infrastructure and number of disruptions to basic services, attributed to disasters

11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities

11.6.2 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)

11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities

11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months

11.a.1 Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city

11.b.1 Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030

11.b.2 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies

11.c.1 Proportion of financial support to the least developed countries that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials

### Indicators

12.1.1 Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies

12.2.1 Material footprint, material footprint per capita, and material footprint per GDP

12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP

12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

12.3.1 Global food loss index

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment

12.4.1 Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement

12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

12.5.1 National recycling rate, tons of material recycled

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

12.6.1 Number of companies publishing sustainability reports

12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities

12.7.1 Number of countries implementing sustainable public procurement policies and action plans

12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment

12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production

12.a.1 Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies

12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products

12.b.1 Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools

12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities

12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels

**GOAL 13: Take urgent action to combat climate change and its impacts<sup>2</sup>**

Targets

Indicators

13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.1.1 Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population

13.1.2 Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030

13.1.3 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with national disaster risk reduction strategies

13.2 Integrate climate change measures into national policies, strategies and planning

13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other)

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible

13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities

13.3.1 Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula

13.3.2 Number of countries that have communicated the strengthening of institutional, systemic and individual capacity-building to implement adaptation, mitigation and technology transfer, and development actions

13.a.1 Mobilized amount of United States dollars per year between 2020 and 2025 accountable towards the \$100 billion commitment

13.b.1 Number of least developed countries and small island developing States that are receiving specialized support, and amount of support, including finance, technology and capacity-building, for mechanisms for raising capacities for effective climate change-related planning and management, including focusing on women, youth and local and marginalized communities

**GOAL 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development**

Targets

Indicators

14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

14.1.1 Index of coastal eutrophication and floating plastic debris density

14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans

14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based approaches

14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels

14.3.1 Average marine acidity (pH) measured at agreed suite of representative sampling stations

14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics

14.4.1 Proportion of fish stocks within biologically sustainable levels

14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information

14.5.1 Coverage of protected areas in relation to marine areas

14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation<sup>3</sup>

14.6.1 Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing

14.7 By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

14.7.1 Sustainable fisheries as a proportion of GDP in small island developing States, least developed countries and all countries

14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries

14.b Provide access for small-scale artisanal fishers to marine resources and markets

14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of “The future we want”

14.a.1 Proportion of total research budget allocated to research in the field of marine technology

14.b.1 Progress by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries

14.c.1 Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nations Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources

**GOAL 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**

Targets	Indicators
15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	15.1.1 Forest area as a proportion of total land area  15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	15.2.1 Progress towards sustainable forest management
15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world	15.3.1 Proportion of land that is degraded over total land area
15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development	15.4.1 Coverage by protected areas of important sites for mountain biodiversity
15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species	15.4.2 Mountain Green Cover Index
15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed	15.5.1 Red List Index
15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products	15.6.1 Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits
15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species	15.7.1 Proportion of traded wildlife that was poached or illicitly trafficked
15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts	15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species
15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems	15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011–2020 15.a.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems

15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation

15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities

15.b.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems

15.c.1 Proportion of traded wildlife that was poached or illicitly trafficked

**GOAL 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels**

Targets	Indicators
16.1 Significantly reduce all forms of violence and related death rates everywhere	<p>16.1.1 Number of victims of intentional homicide per 100,000 population, by sex and age</p> <p>16.1.2 Conflict-related deaths per 100,000 population, by sex, age and cause</p> <p>16.1.3 Proportion of population subjected to physical, psychological or sexual violence in the previous 12 months</p> <p>16.1.4 Proportion of population that feel safe walking alone around the area they live</p>
16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children	<p>16.2.1 Proportion of children aged 1–17 years who experienced any physical punishment and/or psychological aggression by caregivers in the past month</p> <p>16.2.2 Number of victims of human trafficking per 100,000 population, by sex, age and form of exploitation</p> <p>16.2.3 Proportion of young women and men aged 18–29 years who experienced sexual violence by age 18</p>
16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all	<p>16.3.1 Proportion of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanisms</p> <p>16.3.2 Unsentenced detainees as a proportion of overall prison population</p>
16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime	<p>16.4.1 Total value of inward and outward illicit financial flows (in current United States dollars)</p> <p>16.4.2 Proportion of seized, found or surrendered arms whose illicit origin or context has been traced or established by a competent authority in line with international instruments</p>
16.5 Substantially reduce corruption and bribery in all their forms	<p>16.5.1 Proportion of persons who had at least one contact with a public official and who paid a bribe to a public official, or were asked for a bribe by those public officials, during the previous 12 months</p> <p>16.5.2 Proportion of businesses that had at least one contact with a public official and that paid a bribe to a public official, or were asked for a bribe by those public officials during the previous 12 months</p>
16.6 Develop effective, accountable and transparent institutions at all levels	<p>16.6.1 Primary government expenditures as a proportion of original approved budget, by sector (or by budget codes or similar)</p> <p>16.6.2 Proportion of population satisfied with their last experience of public services</p>
16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels	<p>16.7.1 Proportions of positions (by sex, age, persons with disabilities and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions</p> <p>16.7.2 Proportion of population who believe decision-making is inclusive and responsive, by sex, age, disability and population group</p>

16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance

16.9 By 2030, provide legal identity for all, including birth registration

16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements

16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime

16.b Promote and enforce non-discriminatory laws and policies for sustainable development

16.8.1 Proportion of members and voting rights of developing countries in international organizations

16.9.1 Proportion of children under 5 years of age whose births have been registered with a civil authority, by age

16.10.1 Number of verified cases of killing, kidnapping, enforced disappearance, arbitrary detention and torture of journalists, associated media personnel, trade unionists and human rights advocates in the previous 12 months

16.10.2 Number of countries that adopt and implement constitutional, statutory and/or policy guarantees for public access to information

16.a.1 Existence of independent national human rights institutions in compliance with the Paris Principles

16.b.1 Proportion of population reporting having personally felt discriminated against or harassed in the previous 12 months on the basis of a ground of discrimination prohibited under international human rights law

## **GOAL 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development**

### **Finance**

#### Targets

17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection

17.2 Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of gross national income for official development assistance (ODA/GNI) to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries

17.3 Mobilize additional financial resources for developing countries from multiple sources

17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress

17.5 Adopt and implement investment promotion regimes for least developed countries

#### Indicators

17.1.1 Total government revenue as a proportion of GDP, by source

17.1.2 Proportion of domestic budget funded by domestic taxes

17.2.1 Net official development assistance, total and to least developed countries, as a proportion of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee donors' gross national income (GNI)

17.3.1 Foreign direct investment (FDI), official development assistance and South-South cooperation as a proportion of total domestic budget

17.3.2 Volume of remittances (in United States dollars) as a proportion of total GDP

17.4.1 Debt service as a proportion of exports of goods and services

17.5.1 Number of countries that adopt and implement investment promotion regimes for least developed countries

### **Technology**

#### Targets

17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge-sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism

#### Indicators

17.6.1 Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation

17.6.2 Fixed Internet broadband subscriptions per 100 inhabitants, by speed

17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed

17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology

#### Capacity-building

##### Targets

17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation

#### Trade

##### Targets

17.10 Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda

17.11 Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020

17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access

#### Systemic issues

##### *Policy and institutional coherence*

##### Targets

17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence

17.14 Enhance policy coherence for sustainable development

17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development

##### *Multi-stakeholder partnerships*

17.16 Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries

17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

##### *Data, monitoring and accountability*

##### Targets

17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

17.7.1 Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies

17.8.1 Proportion of individuals using the Internet

##### Indicators

17.9.1 Dollar value of financial and technical assistance (including through North-South, South-South and triangular cooperation) committed to developing countries

##### Indicators

17.10.1 Worldwide weighted tariff-average

17.11.1 Developing countries' and least developed countries' share of global exports

17.12.1 Average tariffs faced by developing countries, least developed countries and small island developing States

##### Indicators

17.13.1 Macroeconomic Dashboard

17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development

17.15.1 Extent of use of country-owned results frameworks and planning tools by providers of development cooperation

17.16.1 Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals

17.17.1 Amount of United States dollars committed to public-private and civil society partnerships

##### Indicators

17.18.1 Proportion of sustainable development indicators produced at the national level with full disaggregation when relevant to the target, in accordance with the Fundamental Principles of Official Statistics

17.18.2 Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics



17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries	<p>17.18.3 Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding</p> <p>17.19.1 Dollar value of all resources made available to strengthen statistical capacity in developing countries</p> <p>17.19.2 Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years; and (b) have achieved 100 per cent birth registration and 80 per cent death registration</p>
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\* As contained in the **Annex** of the resolution adopted by the General Assembly on 6 July 2017, **Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development (A/RES/71/313)**

<sup>1</sup> Resolution 68/261.

<sup>†</sup> Indicator codes were developed by UNSD for data transfer, tracking and other statistical purposes.

<sup>2</sup> Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.

<sup>3</sup> Taking into account ongoing World Trade Organization negotiations, the Doha Development Agenda and the Hong Kong ministerial mandate.

8.2 Annex B. Application form to request assistance (recipients) from the Industrial Knowledge Bank.

## Appendix B.1. Application form to request assistance

**Please, fill in this form and send it back jointly with the terms of reference for the cooperation and the programme of activities.**

Recipient's country: \_\_\_\_\_

Date of submission: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

### 1. RECIPIENT DETAILS

1.1. Institution name:

1.2. Name of contact person and position:

1.3. Contact e-mail:

1.4. Contact telephone:

1.5. Institution's website:

1.6. Main industrial sector that the institution covers:

- |   |  |
|---|--|
| <input type="checkbox"/> Agriculture                      | <input type="checkbox"/> Chemistry               |
| <input type="checkbox"/> Electronics and communications   | <input type="checkbox"/> Engineering             |
| <input type="checkbox"/> Construction products            | <input type="checkbox"/> Environment             |
| <input type="checkbox"/> Petroleum and petroleum products | <input type="checkbox"/> Craft                   |
| <input type="checkbox"/> Mining                           | <input type="checkbox"/> Plastic                 |
| <input type="checkbox"/> Biotechnology                    | <input type="checkbox"/> Energy                  |
| <input type="checkbox"/> Food and beverages               | <input type="checkbox"/> Machinery and equipment |
| <input type="checkbox"/> Metals                           | <input type="checkbox"/> Textile                 |
| <input type="checkbox"/> Others (specify)                 |  |

### 2. REQUESTED SERVICE

2.1. Area/category of the requested service:

- Capacity building
- Strategy evaluation/recommendation
- Transfer of best practices

2.2. Date for which the assistance is requested (approx.):

2.3. Plan of commitment of covering the local logistic expenditures and accommodation of the international expert (food, transport, etc.)

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2.4. Area/section where the service mentioned in section 2.1 falls within:

- Agro-industrial sector (value chains, product certification)
- Trade capacity building (management systems, accreditation of laboratories, best practice programmes)
- Policies and measures for the development of the SME sector

2.5. Detailed description of the area/sector pointed in section 2.4 (please, describe on a separate page; minimum 300 words)

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8.3 Annex C. Application form to provide (donors) assistance from the Industrial Knowledge Bank.

## Appendix B.2. Application form to provide assistance

**Please, fill in this form and send it back to jointly with the expert's CV.**

Donor's country: \_\_\_\_\_

Date of submission: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

### 1. DONOR DETAILS

1.1. Institution name:

1.2. Name of contact person and position:

1.3. Contact e-mail:

1.4. Contact telephone:

1.5. Institution's website:

1.6. Main industrial sector that the institution covers:

- |   |  |
|---|--|
| <input type="checkbox"/> Agriculture                      | <input type="checkbox"/> Chemistry               |
| <input type="checkbox"/> Electronics and communications   | <input type="checkbox"/> Engineering             |
| <input type="checkbox"/> Construction products            | <input type="checkbox"/> Environment             |
| <input type="checkbox"/> Petroleum and petroleum products | <input type="checkbox"/> Craft                   |
| <input type="checkbox"/> Mining                           | <input type="checkbox"/> Plastic                 |
| <input type="checkbox"/> Biotechnology                    | <input type="checkbox"/> Energy                  |
| <input type="checkbox"/> Food and beverages               | <input type="checkbox"/> Machinery and equipment |
| <input type="checkbox"/> Metals                           | <input type="checkbox"/> Textile                 |
| <input type="checkbox"/> Others (specify)                 |  |

### 2. REQUESTED SERVICE

2.1. Area/category of the requested service:

- Capacity building
- Strategy evaluation/recommendation
- Transfer of best practices

2.2. Period (number of days) when the expert would provide the service: \_\_\_\_\_ days

2.3. Area/section where the service mentioned in section 2.1 falls within:

- Agro-industrial sector (value chains, product certification)
- Trade capacity building (management systems, accreditation of laboratories, best practice programmes)
- Policies and measures for the development of the SME sector

2.4. Detailed description of the area/sector pointed in section 2.4 (please, describe on a separate page; minimum 300 words)

## Appendix B.3. Feedback form (recipient institution)

***Please, fill in this form once the cooperation is completed and send it back.***

**1. DONOR AND RECIPIENT DETAILS**

**1.1. Recipient institution**

**Institution name:**

**Name of contact person and position:**

**1.2. Donor institution**

**Institution name:**

**Expert name:**

**2. INFORMATION ON THE ASSISTANCE RECEIVED**

**2.1. Length (number of days) of the assistance provided by the expert:**      days

**2.2. Has your demand been fulfilled within the expected time?**     Yes                       No

**2.3. How would you rate the skills of the hosted expert?**

<input type="checkbox"/> 1 = fair	<input type="checkbox"/> 3 = good	<input type="checkbox"/> 5 = excellent
<input type="checkbox"/> 2 = satisfactory	<input type="checkbox"/> 4 = very good	

**2.4. How would you rate the impact of the assistance?**

<input type="checkbox"/> 1 = unproductive	<input type="checkbox"/> 3 = productive	<input type="checkbox"/> 5 = excellent
<input type="checkbox"/> 2 = fairly productive	<input type="checkbox"/> 4 = very productive	

**Please, explain briefly your answer**

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**2.5. How would you assess in overall terms your experience with the Industrial Knowledge Bank?**

<input type="checkbox"/> 1 = unproductive	<input type="checkbox"/> 3 = productive	<input type="checkbox"/> 5 = excellent
<input type="checkbox"/> 2 = fairly productive	<input type="checkbox"/> 4 = very productive	

**2.6. Do you expect to request again the expert's services after this initial cooperation?**

Yes     No

**If yes, please specify**

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## Appendix B.4. Feedback form (expert)

*Please, fill in this form once the cooperation is completed and send it back jointly with the expert's final report.*

### 1. DONOR AND RECIPIENT DETAILS

**1.1. Recipient institution**

Institution name:

Name of contact person and position:

**1.2. Donor institution**

Institution name:

Expert name:

### 2. INFORMATION ON THE ASSISTANCE PROVIDED

**2.1. Length (number of days) of the assistance provided by the expert:** \_\_\_\_\_ days

**2.2. How would you rate the recipient institution's logistics?**

Disorganized 

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 Well organized

**2.3. How well prepared was the recipient institution to receive the assistance?**

Unprepared 

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 Well prepared

**2.4. How would you assess in overall terms your experience with the Industrial Knowledge Bank?**

<input type="checkbox"/>	1 = unproductive	<input type="checkbox"/>	3 = productive	<input type="checkbox"/>	5 = excellent
<input type="checkbox"/>	2 = fairly productive	<input type="checkbox"/>	4 = very productive		

**2.5. Please, state the lessons learnt through this cooperation and the benefits to your institution:**

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**2.6. Do you expect to request again the expert's services after this initial cooperation?**

Yes     No

**If yes, please specify.**

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8.6 Annex F. Donor's Final Report.

## Final report of cooperation under UNIDO's Industrial Knowledge Bank

***Please, send us the full report of the cooperation jointly with the feedback form B.4.***

The final report has the following parts:

- 1.- Basic details of the cooperation
- 2.- Detailed final report
- 3.- Annexes

**It is compulsory to fill in all the fields.**

Place and date of the submission of the final report:

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### 1. Basic details of the cooperation

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- Title of the technical service:
- Country donating assistance:
- Donor institution:
- Recipient institution:
- Dates of the service:
- Name of the expert:

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### 2. Final detailed report

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2.1. Executive summary of the cooperation (400 words maximum)

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2.2. Main background (explain briefly the starting situation at the beginning of the cooperation)

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2.3. Description of the service (describe the request for service presented by the recipient and the service delivered by the expert)

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## 8.7 Annex G. Industrial Knowledge Bank list of cooperations.

No	Year	Donor Institution	Country	Recipient Institution	Country	UNIDO's programmatic focus
1	2009	Cámara de pequeños medianos industriales y artesanos del Estado de Lara CAPMIL, Venezuela	Venezuela	Asociación para el Desarrollo del entorno ONG, Perú	Peru	Poverty reduction through productive activities
2	2009	EMPRESA Paja Toquilla, Ecuador	Ecuador	Organización tres palmas-Ruirrenabaque, Bolivia	Bolivia	Poverty reduction through productive activities
3	2009	Innovative Project Solutions Ltda- SELA, Jamaica	Jamaica	Ministerio de Industria y Comercio, Suriname	Suriname	Trade capacity-building
4	2009	SELA- IBERPME, Venezuela	Venezuela	Ministerio de Industria y Comercio, Suriname	Suriname	Trade capacity-building
5	2009	Instituto Argentino de Normalización IRAM, Argentina	Argentina	Centro de Eco- eficiencia y responsabilidad Social Grupo GEA, Perú	Peru	Trade capacity-building
6	2009	Agencia Control Ambiental, Colombia	Colombia	Agencia Control Ambiental, Perú	Peru	Energy and Environment
7	2009	Empresa CONA- Austria Entwicklungs Handelsgesellschaft	Austria	UNDP Sta Lucia, Barbados, Dominica	Dominica	Trade capacity-building
8	2009	CGEE Centro de Estrategias estudios y -Administración. Brasilia, Brasil	Brazil	Ministerio de Desarrollo Industria y Comercio, Trinidad y Tobago	Trinidad and Tobago	Trade capacity-building
9	2010	Apla Paracicaba - APLA (Agglomerado productivo local de Alcohol).Estado de Sao Paulo, Brasil	Brazil	Gobernación del Departamento Estado el Meta- Villavicencio, Colombia	Colombia	Poverty reduction through productive activities
10	2010	Asociación Argentina de Energía Eólica AAEE	Argentina	Asociación Latinoamericana de Energía Eólica, México	Mexico	Energy and Environment
11	2010	Oficina Nacional de Normalización de Cuba	Cuba	Ministerio de Minas y Energía, Guinea Ecuatorial -Africa	Equatorial Guinea	Poverty reduction through productive activities
12	2010	Empresa CONA- Nicaragua Entwicklungs Handelsgesellschaft, Nicaragua	Nicaragua	Ministerio de la Industria Alimenticia de Cuba	Cuba	Poverty reduction through productive activities
13	2010	Instituto Nacional de Tecnología Industrial INTI, Argentina	Argentina	Departamento de Caaguazú, Distrito de Tembiaporá , Paraguay	Paraguay	Poverty reduction through productive activities
14	2010	ENPROCON, Austria	Austria	OECS Member States members of UNIDO	OECS Member States <sup>1</sup>	Energy and Environment
15	2010	Ministerio de Industria y Comercio, Paraguay	Paraguay	Secretaría de Producción, Industria y Comercio (SPIC), RAAS, Nicaragua	Nicaragua	Poverty reduction through productive activities

16	2010	Instituto Nacional de Tecnología Industrial INTI, Argentina	Argentina	Centro de Productividad y Calidad CEPROCAL, Paraguay	Paraguay	Poverty reduction through productive activities
17	2010	Department of Pharmaceutics University of Londo, Reino Unido	United Kingdom	Instituto Nacional de Tecnología Agropecuaria INTA, Argentina	Argentina	Poverty reduction through productive activities
18	2010	Ministerio de Industria y Comercio , Paraguay	Paraguay	Oficina de Normalización , Cuba	Cuba	Poverty reduction through productive activities
19	2011	PE International, Austria	Austria	Cámara de Exportadores CADEXCO, Costa Rica	Costa Rica	Energy and Environment
20	2011	ASOCOLFLORES, Medellin -Colombia	Colombia	Oficina Regional de la Cordillera - Ministerio de Industria y Comercio, Paraguay	Paraguay	Poverty reduction through productive activities
21	2011	Universidad Tecnológica de Rosario , Argentina	Argentina	Gobierno de la Provincia de Pichincha , Ecuador	Ecuador	Poverty reduction through productive activities
22	2011	Agencia Regional de Desarrollo Productivo Región de los Lagos, Chile	Chile	Gobierno de la Provincia de Pichincha , Ecuador	Ecuador	Poverty reduction through productive activities
23	2011	Universidad de Barcelona, España	España	Instituto Nacional de Tecnología Industrial, Argentina	Argentina	Poverty reduction through productive activities
24	2011	Instituto Nacional de Tecnología Industrial INTI, Argentina	Argentina	Centro de Producción más Limpia, Nicaragua	Nicaragua	Energy and Environment
25	2011	Ministerio de Agricultura, Colombia	Colombia	SELA, Paraguay	Paraguay	Trade capacity-building
26	2011	ITCP/COPPE, Brasil	Brazil	SELA, Paraguay	Paraguay	Trade capacity-building
27	2011	Ministerio de Desarrollo, Industria y Comercio Exterior , Brasil	Brazil	Centro para las Inversiones y Comercio Sinaloa , México	Mexico	Trade capacity-building
28	2011	Commercial Connections LLC, Chile, EEUU	Chile	SELA , Guatemala	Guatemala	Trade capacity-building
29	2011	Ministerio de Desarrollo, Industria y Comercio Exterior, Brasil	Brazil	SELA , Guatemala	Guatemala	Trade capacity-building
30	2011	ECTI, Francia	France	Cámara de Comercio de Cusco, Perú	Peru	Poverty reduction through productive activities
31	2012	Tetrao Ind. E Com. De, Brasil	Brazil	Ministerio de Industrias y Productividad Subsecretaria MYPIMES y Artesanías, Ecuador	Ecuador	Poverty reduction through productive activities
32	2012	Instituto Nacional de Tecnología Agropecuaria INTA, Argentina	Argentina	UEP "Programa Semilla" de las Naciones Unidas para la lucha contra la pobreza mediante la participación productiva de mujeres rurales , Bolivia	Bolivia	Poverty reduction through productive activities



33	2012	Ministerio de Industrias y Productividad, Ecuador	Ecuador	UEP "Programa Semilla", Bolivia	Bolivia	Poverty reduction through productive activities
34	2012	Design Innovation, Italia	Italy	Instituto Nacional de Tecnología Industrial INTI, Argentina	Argentina	Poverty reduction through productive activities
35	2012	Centro de Producción más Limpia, Honduras	Honduras	Cámara de Industriales de Carabobo, Venezuela	Venezuela	Energy and Environment
36	2012	Redegarantías, España	Spain	Internacional Financial Centre and Sistema Económico Latinoamericano y del Caribe SELA, Trinidad & Tobago	Trinidad and Tobago	Trade capacity-building
37	2012	Instituto de Diversificación y Ahorro de Energía (IDAE), España	Spain	Ministerio de Industria y Productividad MIPRO, Ecuador	Ecuador	Energy and Environment
38	2012	Universidad Federal de Rio de Janeiro, Brasil &	Brazil	Universidad Centro Occidental Lisandro Alvarado Barquisimeto, Venezuela	Venezuela	Trade capacity-building
		Potenciadora de Negocios Tecnológicos PARQUETEC, Costa Rica	Costa Rica			
39	2012	Centro Tecnológico para el Diseño y la Producción Industrial PRODINTEC, Asturias, España	Spain	Instituto Nacional de Tecnología Industrial INTI, Argentina	Argentina	Poverty reduction through productive activities
40	2012	Universidad de Santiago de Compostela, España &	Spain	Asociación venezolana para el Avance de la Ciencia AsoVAC, Venezuela	Venezuela	Poverty reduction through productive activities
		Universidad Estatal de Campinas Sao Paulo, Brasil	Brazil			
41	2012	ECTI, Francia	France	Gobierno Autónomo Departamental de Santa Cruz, Bolivia	Bolivia	Trade capacity-building
42	2012	Instituto Nacional de Estadística y Geografía de México	Mexico	Instituto Nacional de Estadística y Censos de & Centro Nacional de Información Geoambiental CENIGA de Costa Rica	Costa Rica	Energy and Environment
43	2012	Cámara Industrial de Cuenca, Ecuador	Ecuador	Gobierno Autónomo del Departamento de Tarija, Bolivia	Bolivia	Poverty reduction through productive activities
44	2013	CONA, Austria	Austria	Ministerio de Industria y Productividad, Paraguay	Paraguay	Poverty reduction through productive activities

45	2013	ZICLA, Bolsa de Subproductos de Cataluña, España	Spain	Centro de Producción más Limpia, Medellín, Colombia	Colombia	Energy and Environment
46	2013	Futuribles, Francia	France	Instituto Nacional de tecnología Industrial INTI, Argentina	Argentina	Trade capacity-building
47	2013	Association Internationale de Prospectivae, España	Spain	Instituto Nacional de tecnología Industrial INTI, Argentina	Argentina	Trade capacity-building
48	2013	Agencia de Control Ambiental, Colombia	Colombia	Instituto Ecuatoriano de Normalización, INEN, Ecuador	Ecuador	Energy and Environment
49	2013	FEDECCAL, Chile	Chile	Cámara Nacional del Calzado del CALTU, Ecuador	Ecuador	Trade capacity-building
50	2013	Instituto Nacional de Tecnología Agropecuaria, Argentina	Argentina	Centro de Innovación Tecnológica Vitivinícola, CITEvid, Perú	Peru	Poverty reduction through productive activities
51	2013	CONA, El Salvador	El Salvador	PRO ECUADOR, Ecuador	Ecuador	Poverty reduction through productive activities
52	2013	Servicio Nacional de Aprendizaje SENA, Colombia	Colombia	MAGAP y PRONERI, Ecuador	Ecuador	Trade capacity-building
53	2013	Silliker México Sa de CV, México	Mexico	Instituto Nacional de Tecnología Industria INTI, Argentina	Argentina	Trade capacity-building
54	2013	CITE agroindustrial, España	Spain	Instituto Tecnológico de la Producción – ITP, Perú	Peru	Trade capacity-building
55	2015	Technology & Research Centre Wiener Neustadt	Austria	LAC Ministries delegation	26 LAC countries <sup>2</sup>	Trade capacity-building
56	2015	Technopol Krems	Austria	LAC delegation	LAC countries <sup>3</sup>	Trade capacity-building
57	2016	Ministry of Trade of El Salvador	El Salvador	Ministry of Trade of Suriname	Suriname	Poverty reduction through productive activities
58	2016	WKS Salzburg	Austria	Ministry of Health of Belize	Belize	Trade capacity-building

  These co-operations involved several donors.

  These co-operations involved several recipients.

<sup>1</sup> The OECS Member States are: Anguilla and the British Virgin Islands, Antigua and Barbuda, Dominica, Grenada, Martinique, Montserrat, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines.

<sup>2</sup> No information regarding the 26 countries was found.

<sup>3</sup> No information regarding the LAC countries was found.