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The iSID logo features a blue gear icon above the lowercase 'i' in 'iSID'. To the right of the logo, the text 'INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT' is written in blue, stacked in four lines.

INCLUSIVE AND
SUSTAINABLE
INDUSTRIAL
DEVELOPMENT

BACKGROUND DOCUMENT



PARTNERSHIPS: MOVING SUSTAINABLE
DEVELOPMENT GOAL 9 INTO ACTION

30 NOVEMBER – 1 DECEMBER 2015
VIENNA INTERNATIONAL CENTRE

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

1. Introduction

The international community has recently adopted the new 2030 Agenda for Sustainable Development. Of the 17 Sustainable Development Goals (SDGs) that comprise this agenda, SDG 9 calls for a renewed approach towards promoting industry, innovation and infrastructure.

It should come as no surprise that the 2030 Agenda contains a reference to inclusive and sustainable industrialization. History bears testimony that no single country has reached a high stage of economic and social development without first having developed an advanced industrial sector. Industry is therefore at the anchor of SDG 9: it requires critical infrastructure and paves the way for innovation in a country's development.

2. Inclusive and sustainable industrial development

Moving away from a high reliance on agriculture and natural resource extraction to industrial activities can unleash dynamic forces that generate employment and income, and facilitate international trade. In fact, the share of manufacturing value-added created in developing countries has almost doubled in the past 20 years, from 18 per cent in 1992 to 35 per cent in 2012.

Inclusive and sustainable industrialization is a novel and important approach to building industry. Making industrialization inclusive widens the share of those who can partake in its benefits – in other words, inclusive industry raises the prosperity of all, including the vulnerable – whereas making industry sustainable means putting environmental concerns at the forefront of the industrialization process.

UNIDO is committed to making inclusive and sustainable industrialization a reality. In December 2013, UNIDO's Member States came together to adopt the Lima Declaration, renewing the Organization's commitment to promoting industry and providing it with a mandate to pursue inclusive and sustainable industrial development (ISID).

This paper outlines industry's link to infrastructure and to innovation, and concludes with UNIDO's proposal for achieving the ambitious and urgent task that SDG 9 sets before the international community.

3. Infrastructure and industry

Infrastructure is a crucial prerequisite for industry. One must be able to generate power or carve out a road before one can successfully build and run a factory. Infrastructure rightfully calls to mind images of highways, water and electricity, but it also entails institutions, e.g. the governance, and economic and social infrastructure which together produce a context for industry to flourish.

In fact, according to a recent report by the World Bank, "infrastructure has been responsible for more than half of Africa's recent improved growth performance".ⁱ A given country's ability to make good use from any new technology or industry will depend heavily on the "availability, quality and efficiency of more basic forms of infrastructure including energy, water and land transportation".ⁱⁱ Furthermore, infrastructure like airports, railways or ports can greatly enhance access to global markets.

Proper infrastructure – such as electricity – is pivotal for industrialization. After all, compared to agriculture or services, manufacturing production is energy-intensive. Erratic supplies of electricity can disrupt production, and voltage fluctuations negatively affect the durability of machines. Infrastructure can also be the basis for making industrialization sustainable. For example, developing renewable and/or green energy sources is but one strategy that demonstrates just how vital the right infrastructure can be for environmentally-sound development. In fact, the use of sustainable capital goods in the Russian Federation, India, and China has reduced energy inefficiency by almost 50 per cent.

For all of its benefits, however, building resilient infrastructure for industrialization also comes with challenges, among them financing.ⁱⁱⁱ Infrastructure projects are often large in scope in order to provide extensive geographic coverage, and this creates difficulties in raising the resources required to initiate and implement these projects. As the process of industrialization gathers pace, or as market demand for energy, water or railways increases, infrastructure networks can come under intense strain. Increasing infrastructure access requires the right institutions and technologies to design and execute projects, as well as the ability to run, fix and sustain services.^{iv} Furthermore, coordination among the many actors who are involved – such as national governments, local agencies and private companies – is crucial. Tackling the difficulties associated with infrastructure projects aimed at achieving inclusive and sustainable industrialization therefore requires working together and a change of mindset.

4. Innovation and industry

Within the development community, innovation typically refers to creating processes that increase productivity and performance. In this sense, industrialization has long held innovation as a central premise of its success. A factory, for example, was heralded as an innovative organizational form because it divided labour in a way that produced greater results than individuals could accomplish in isolation. Therefore, for countries in the early stages of development, innovation in industrialization can mean triggering the growth of their economy to enable them to catch up. Large investment in manufacturing and innovation in the Republic of Korea and Taiwan Province of China, for example, produced remarkable growth rates over four decades and enabled them to transition rapidly to a high-income category.^v

The relative availability and affordability of certain technologies can also enable developing countries to skip certain stages of industrialization and jump-start their economies. A widely cited case is the decreased need for traditional communications infrastructure in some African countries given the advent of mobile phones that allows for technological leapfrogging.^{vi} Mobile phones are improving communication along the value chain and increasing efficiency, while mobile-based payments are increasing liquidity and facilitating transactions. Least developed countries therefore have the opportunity to jump-start their industrial development through innovation without having to reinvent the wheel.

Innovation can also refer to changes in the mindset of development practitioners towards alternative or emerging strategies. For example, producing a business-enabling environment as part of a larger investment promotion programme is also an innovation strategy. With current investment patterns not able to deliver the expected sustainable development^{vii}, the need for innovative thinking on how to finance industrial development projects has grown increasingly urgent.

5. Models for integrating the three “I’s” of SDG 9

5.1 Industrial parks

Industrial parks can unlock the potential synergy among industry, infrastructure and innovation and advance inclusive and sustainable industrialization. This was also one of the main conclusions of UNIDO’s first ISID forum

which discussed strategies and instruments for ISID. Unlike the wide geographic scope of traditional infrastructure, industrial parks are built in zones planned exclusively for their operation. Furthermore, industrial parks can reduce the expenses for each individual business or factory by sharing resources through clusters. This clustering provides the critical mass to make possible services such as efficient, eco-friendly waste recycling and disposal at a more efficient and cost-effective rate than if the enterprises were widely dispersed. Linking industrial parks to academic institutes, skills development centers or incubators can also stimulate innovation along certain value chains as research continues to herald new approaches to inclusive and sustainable industrial development.

The innovative concept behind clusters can be adapted to meet specialized forms of industrial parks, for example agro-food processing parks. The clustering of processing activities in such parks can reduce post-harvest losses as well as transportation and energy costs, and ensure higher returns due to high quality output, off-season availability, better traceability and enhanced productivity. Eco-industrial parks are another form through which the clustering of enterprises facilitates environmental safeguarding through shared facilities to reduce waste and pollution.

5.2 UNIDO and the Programme for Country Partnership

The synergy among infrastructure, industry and innovation which, for example, industrial parks can unlock represents the guiding principle behind UNIDO's new approach towards achieving SDG 9. UNIDO's Programme for Country Partnership (PCP) brings together various actors in a multi-stakeholder platform to coordinate and optimize the contribution of each. Under a PCP, industrial parks, for example, may make up one component of a larger, holistic plan led by a national government to achieve inclusive and sustainable industrial development within the country. UNIDO's role is to provide a diverse range of technical services – such as feasibility studies and investment promotion – and to coordinate international partners around the government's national development plan. Under the leadership of the host country government, these partners may include development finance institutions, bilateral and multilateral development agencies, private companies, academia, civil society, and UNIDO.

6. Conclusions

Given that channeling infrastructure and innovation towards inclusive and sustainable industrialization is a goal that no single entity can manage to fulfill by itself, partnerships are the way forward to meet the ambitious and urgent targets of SDG 9. Partnerships are themselves a form of innovation, and they enable the successful financing and execution of targeted industrial infrastructure projects, such as industrial parks, which can advance ISID.

UNIDO's PCP approach harmonizes the interrelations among industry, infrastructure, and innovation. Partnerships are forged and resources mobilized in a coordinated manner, ensuring synergies as far as possible between all national programmes that contribute to inclusive and sustainable industrialization. In so doing, the PCP helps overcome key challenges facing the international community as it strives to fulfill the vital aims of SDG 9 and the 2030 Sustainable Development Agenda.

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- i The International Bank for Reconstruction and Development/The World Bank, *Africa's Infrastructure: A Time for Transformation*, eds. Vivien Foster and Cecilia Briceño-Garmendia, 2010, as mentioned in Ernst & Young, *Mind the Gap: Africa's Infrastructure Development*, Roderick Wolfenden, 2013.
 - ii Pricewaterhouse Coopers, *Infrastructure in India: A Vast Land of Construction Opportunity*, Elizabeth Montgomery, 2008.
 - iii United Nations General Assembly, *Report of the Intergovernmental Committee of Experts on Sustainable Development Financing*, A/69/315, 15 August 2014.
 - iv Overseas Development Institute, *Infrastructure Services Post-2015*, Andrew Scott and Prachi Seth, October 2012.
 - v The World Bank, *China's Growth through Technological Convergence and Innovation*, Supporting Report 2 of China 2030, 2012.
 - vi Africa Progress Panel, *Africa Progress Report 2014: Grain, Fish, Money – Financing Africa's Green and Blue Revolutions*, 2014.
 - vii United Nations General Assembly, *Report of the Intergovernmental Committee of Experts on Sustainable Development Financing*, A/69/315, 15 August 2014.

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