GOVERNMENT OF UGANDA

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DEVELOPING GREEN/ECO INDUSTRIAL PARKS AND FREEZONES POLICY GUIDELINES FOR UGANDA

GUIDELINES FOR POLICY, IMPLEMENTATION AND INVESTMENT DECISION MAKERS

Government of Uganda
GGGI Global Green Growth Institute

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Partners

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1 Nadia Zuodar was also co-author of UNIDO EIP Handbook 2018 https://www.unido.org/our-focus-safeguarding-environment-resource-efficient-and-low-carbon-industrial-production/eco-industrial-parks

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Abbreviations

Term	Definition	Term	Definition
ADB	Asian Development Bank	**GoU**	Government of Uganda
BAU	Business as Usual	**GRI**	Global Reporting Initiative
BMP	Best Management Practice	**IE**	Industrial Ecology
BOO	Build-Own-Operate	**IMO**	Infrastructure Maintenance Operation
BOT	Build-Operate-Transfer	**IS**	Industrial Symbiosis
CAPEX	Capital Expenditure	**IT**	Information Technology
CBA	Cost and Benefit Analysis	**MDB**	Multilateral Development Bank
CICES	Common International Classification of Ecosystem Services	**MoTIC**	Ministry of Trade, Industry and Cooperatives
DRM/DRR	Disaster Risk Management/Disaster Risk Reduction	**NCPC**	National Cleaner Production Center
eCBA	Extended Cost Benefit Analysis	**OPEX**	Operating Expenditure
EBT	Earning Before Tax	**PPP**	Public-Private Partnerships
EIP	Eco-Industrial Park	**QBL**	Quadruple Bottom Line
EIRR	Economic Internal Rate of Return	**RECP**	Resource Efficiency & Cleaner Production
ELIDZ	East London Industrial Development Zone	**RPJMD**	Regional Medium-term Development Plan
FDI	Foreign Direct Investment	**SEA**	Strategic Environmental Assessment
GGAP	Green Growth Assessment Process	**SEEA-EEA**	System of Environmental-Economic Accounting—Experimental Ecosystem Accounting
GGF	Green Growth Framework	**SEZ**	Special Economic Zone
GGGI	Global Green Growth Institute	TBL	Triple Bottom Line
GHG	Green House Gas	**US**	United States
GoI	Government of Indonesia	**VAT**	Value Added Tax
GRI	Global Reporting Initiative	**VOC**	Volatile Organic Compounds
KPIs	Key Performance Indicators		

Glossary[2]

Term	Definition
Eco-industrial park (EIP)	An eco-industrial park can be defined as an earmarked area for industrial use at a suitable site that ensures sustainability through the integration of social, economic and environmental quality aspects into its siting, planning, operations, management and decommissioning. The term greenfield eco-industrial park is used for completely new EIPs, and the term brownfield for existing parks affected by the former uses of the site and surrounding land, that can be derelict or underused and require intervention to bring them into a Green Growth path or improve it.
Industrial Park /Zone	Refer to a zone established for industrial activities and other activities related to the production and transformation of goods for domestic use as well as for export. However, they do not necessarily benefit from a central management nor properly integrate sustainability or Green Growth concerns contrarily to EIPs.
Industrial policy (modern definition)	Any type of intervention or government policy that attempts to improve the business environment, or to alter the structure of economic activity toward sectors, technologies or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such intervention.
Industrial synergies and symbiosis	The term "industrial synergies" covers the concept of industrial symbiosis, but it has a broader focus on the different types of industrial collaborations (Van Beers et al., 2007): 1. Supply synergies and co-location of suppliers and clients: Co-location and clustering of companies in the supply and value chains. 2. Utility synergies: Shared use of utility infrastructure, mainly revolving around water and energy. 3. Service synergies: Sharing of services and activities between companies (e. g. joint training of staff and sharing of maintenance contractors). 4. By-product synergies and waste exchanges (industrial symbiosis): The use of a previously disposed waste (as solid, liquid, gas) from one facility by another facility to provide valuable by-product.
Resource Efficient and Cleaner Production (RECP)	Resource Efficient and Cleaner Production (RECP) is the continuous application of an integrated preventive environmental strategy to processes, products and service to increase efficiency and reduce risks to humans and environment. RECP addresses the three sustainability dimensions individually and synergistically: • Production efficiency: optimization of the productive use of natural resources (materials, energy and water). • Environmental management: minimization of impacts on environment and nature through reduction of wastes and emissions. Human development: minimization of risks to people and communities and support for their development.
Sustainable city	A sustainable community is one that is economically, environmentally, and socially healthy and resilient. It meets challenges through integrated solutions rather than through fragmented approaches that meet one of the goals at the expense of the others (Institute for Sustainable Cities definition). The global development agenda of the United Nations advocates in Sustainable Development Goal 11, the need to "make cities and human settlements inclusive, safe, resilient and sustainable."

2 Sources: Zeng (2010), ADB (2016), ASSOCHAM (2016); Locus Economica (2019); and UNIDO

Term	Definition
Free trade zones (FTZs; also known as commercial free zones)	Those are fenced-in, duty-free areas, offering warehousing, storage, and distribution facilities for trade, trans-shipment, and re-export operations.
Special Economic Zones (SEZs)	**SEZs** are larger estates usually covering all industrial and service sectors and can target both foreign and domestic markets. They provide an array of incentives ranging from tax incentives to regulatory incentives. They may permit on-site residence.
Export Processing Zones (EPZs)	EPZs are Duty-free zones focused on manufacturing for export, generally providing export subsidies in the form of tax holidays and having no or minimum export quotas Hybrid EPZs are typically sub-divided into a general zone open to all industries and a separate EPZ area reserved for export-oriented, EPZ-registered enterprises.
Free Trade Area	The area for service provision, storage, demonstration, packaging, cleaning, and finishing of production outputs, products, materials, or other equipment's, whose import-export in /out of the zone are provided with duty exemption, except for export to other places outside the customs territory whereby such import-export is subject to the duty and excise in accordance to the applicable law.
Border Economic Zones	These zones are located along an international border to facilitate cross-border trade and investment.
Private zones/Single factory processing Zones	These zones provide incentives to individual enterprises regardless of location.
Specialized Zones (SZs)	**Specialized zones (SZs):** targeted at specific sectors or economic activities. Examples of SZs include science/technology parks, petrochemical zones, logistics parks, airport-based zones, and so on. They may restrict the access of companies in non-priority sectors, and their infrastructure is mostly tailored according to their sectoral targets.
Sustainable, low-carbon, green, or circular zones often falling under the EIP model.	Those are industrial parks designed to improve the social, economic and environmental performance of their resident firms, including through the promotion of industrial symbiosis and green technologies delivering resource efficiency and resulting in competitive advantage, promoting climate-resilient industries and green value chains, as well as inclusive and sustainable business practices and socially responsible relations with surrounding communities.
Bonded Areas / Bonded Zones	Those are areas where dutiable goods may be stored, manipulated, or undergo light processing (such as assembly) without payment of duty, subject to customs bonds.
High-Tech Parks (HTPs)	Those are special areas designated to facilitate and promote the creation and growth of innovation-based companies through incubation and other policy interventions.
Agro-Industrial Parks (AIPs)	AIPs are specially-designated areas designed to attract and promote industries in downstream agricultural processing.
Freeports	Freeports typically encompass larger areas. They accommodate all types of activities, including tourism and retail sales, permit on-site residence, and provide a broader set of incentives and benefits.
Master Plan	A plan depicting the borders and layout of a SEZ, the basic civil engineering specifications and accompanied by environmental and social impacts assessments and mitigation plans.

Term	Definition
One Stop Center[3]	Refers to the National administration management unit which is the "One Stop Service" mechanism at the site of the EIP and particularly Green SEZ and has the duties to approve and issue permits, licenses and registration to the Zone Investors, including the approval of incentives, pursuant to the full authority delegated by the line ministries and institutions, and to address all requests related to the management competence of the State, concerning investments in the zone. Indeed, dedicated staff from each relevant line ministry or agency should be assigned to a Onen Stop Center to offer a seamlessly-integrated administrative services package to investors and tenants' companies. In Uganda, the **One Stop Centre (OSC)** services for business registration, licensing, facilitation and aftercare are offered by the Uganda Investment Authority (UIA). The investment-related departments and agencies within the OSC, currently include: • The Uganda Registration Services Bureau (URSB) for company registration. • The Uganda Revenue Authority (URA) for tax advice and registration. • The Directorate of Citizenship and Immigration Control for issuance of work permits and other immigration documents. • The Lands Registry that assists in the verification of land ownership. • The National Environmental Management Authority (NEMA) to facilitate the investor meet environmental compliance. • The Uganda National Bureau of Standards (UNBS) for standards advice.
Service Area	The area of supporting activities for industrial and commercial operations such as managing and operating offices of the industrial zone, bank, post office, commercial stores and transportation services.
Eco-industrial park Regulators (Public entity/ Government body)	Government bodies that create industrial parks' regulatory framework, oversee and assure the quality of their planning, implementation and operation, as well as the resident activity therein, so that they may more effectively prioritize policy decisions, support and incentivize these initiatives and monitor and evaluate the results their performance. Examples of responsibilities: • Strategy: Plan the countrywide strategy of EIPs: Objectives they serve (export promotion, job creation, supplier linkage, etc.); their locations; number of EIPs or Green SEZ in the country. • Scrutinize: Examine proposals to build EIPs and verify their validity with respect to the EIPs strategy created. This may involve asking independent institutions to conduct feasibility studies on proposed EIPs. • Select or confirm site(s) and package land/ establish land use guidelines and public or private EIPs developers and/or operators. • Facilitate government services: Facilitate licensing, registration and permits (environmental, building, work permits, etc), regulate services within the EIPs such as utilities, provide for dispute resolution; the regulator may set fees commensurate with the cost-of-service delivery. • Monitor and enforce compliance: Ensure that all parties comply with SEZ policies, standards and requirements; and recommend changes policies/regulations when necessary. Enforce compliance through appropriate penalties independently from other public agencies.

3 See also services in Uganda on https://www.ebiz.go.ug/, https://www.ugandainvest.go.ug/wp-content/uploads/2019/05/UIA_OSC_Client_Service_Charter-Jan-2019.pdf and https://www.ugandainvest.go.ug/wp-content/uploads/2016/02/UIA-one-stop-guide.pdf

Term	Definition
	• Select and enter development agreement with developer • Develop offsite infrastructures (could be as PPP) • Training / workforce development and social services (could be as PPP) • Regulation and administration of the EIPs program • EIP regulator and other parts of government (such as an investment promotion agency) typically also carry out some marketing activities for EIPs. • Ensure collaboration between national, local or regional governments in policy transition processes. • One Stop Center (OSS): Streamline licensing process for businesses through the provision of OSS. Draw out standard operating procedures for different license processes and coordinate between investors and government authorities
Eco-industrial park Leadership/Owner (Private, public or public-private partnership (PPP) entity)	The leadership role in an EIP is usually represented by a board, committee or shareholders' group united by common interests that provide the vision and hold the EIP accountable to its overall goals. The goals should be aligned with EIP standards but also with the country's development goals. Typically, and EIP Owner/leader will: • Equity: Finance land acquisition Perform strategic planning. • Resettlement: Abide by regulator-approved norms to acquire land for EIP development. This may include resettlement for displaced people, offering livelihood opportunities to those displaced, etc. • Select Developer and Operator: Hold a legal tender and use an objective scoring system to select a developer and operator. There should be a **competitive tender** especially if the EIP is publicly-owned. • Initiate Park development • Pays all or part of the cost of park development • Drive the EIP vision and performance management and evaluation.
EIP Developer (Private, public or public-private partnership (PPP) entity)	Refers to a national or/and foreign natural or legal person, who implements the EIP Business Case (planning, setting-up, construction), ensures appropriate financing is available, is permitted to invest in the development of physical infrastructures in the zone, organize the business, services and ensuring the safety and security of the Zone. The developer can identify the EIP Operators/Management to run the day-to-day operations or can perform it itself. Examples of responsibilities: • Land use planning: Create a final land-use master plan, and prepare the land (grading, levelling, other pre-construction activity) • Provision of infrastructure: internal road networks, drainage and sewerage, and infrastructure for provision of utilities. • Marketing: Experienced private developers often have a network of multinational clients/ potential investors across a range of industries to which they can market new EIPs opportunities.

Term	Definition
Eco-industrial park Operator/Management May be same as developer or under a contractual agreement with the owner/ developer (Private, public or public-private partnership (PPP) entity)	Ensures the EIP operation by providing services (including infrastructures) and support to tenants on a day-to-day basis, so that they may provide said services in an improved and more coordinated manner and manages the most effective ways to reach its goals measured through the EIP KPIs. The EIP Operators/Management can be the same as the developer or appointed by it or by the Leadership/Owner. It can subcontract private operators to provide said services. It is accountable to the EIP leadership. Examples of responsibilities: - **Plot and shell facilities allocation:** Plot and facilities leasing or sales. Ex: plots allocation and real estate management. - **Infrastructure, superstructure and facilities management**: Guaranteeing regular operation and supply of utilities and other infrastructure management services. Ex: Landscaping, infrastructure and utility provision, operation and maintenance, along with collection of utility usage fees, including for telecommunication land lines, internal transport networks, drainage, waste management and water distribution. - **Administrative services:** Ensuring quick and easy entry of firms into the park, providing adequate protection for people, property and the environment, and ensuring safe production and movement within the park. Ex: Registration and licensing by screening investor/companies' applications and approving them based on a pre-defined objective criterion. If these functions are delegated to it by the respective government agencies, overseeing regulatory compliance, ensuring park safety and security, and providing overall park financial management, provide administrative services to investors including collecting rentals and utility payments on behalf of a developer. - **Coordinate OSS:** Channel the feedback of the investors on the performance of the OSS to the regulator. Some operators may also be responsible for providing physical space for the setup of the OSS. - **Business development and innovation management:** Attracting business into the park, and providing a platform to encourage R&D and knowledge sharing. Ex: Providing information on park services, attracting new residents and, sometimes (generally through publicly funded programmes), attracting skilled workers, business incubation supporting innovation. - **Social service management**: Creating a favourable working and living environment, cooperating with the community and encouraging dialogue with interest groups. Ex: Directly or indirectly ensuring the provision of healthcare, training, retail, community and civil society relations, recreational accommodation for workers and firefighting services within the park, where the costs of such listed services being either rolled into the fees paid by residents (e.g., firefighting services, community relations), based on user fees (e.g., healthcare, accommodation for workers, transport, childcare) or may be provided by commercial businesses (e.g., retail, catering, banking, etc.) or through PPP. **Provision of other value-added services:** May include a wide range of other services including business and training centres, recruiting, etc. - **Performance management and monitoring:** Economic, social and environmental performance monitoring. Ex: Compiling reports, surveying residents, performance assessment of EIP collectively and can also facilitate the monitoring of individual tenants Green Growth performance. **Marketing** **Capacity building facilitation:** Ex: RECP trainings, safety trainings, green jobs. **Partnerships:** Ex: Represent industries in policy making and modification processes. Participate in EIP (policy) demonstration projects.
Tenant companies	Companies that are property owners or leasers in an eco-industrial park.

Term	Definition
Tenants' association	A tenant association is a union of all or most of the companies that are property owners or leasers in an EIP. When the association is legally formalized, it can act as EIP management. Informal tenant associations can represent tenants' interests through joint lobbying activities.
Other stakeholders and Partners	These may include multilateral development agencies, financial institutions, educational institutions, private sector associations and other development partners that provide effective financial and non-financial support to existing and new industrial parks alike or to EIP policy development. For example, Financial sector and funding agencies can: • provide financial sector perspective into policy processes through stakeholder forums and comments on draft policies. • Participate in EIP (policy) demonstration projects • Develop and promote financial incentives for EIP policy development and implementation. International support organizations and service providers can: • Provide customized support to policy processes, building on international experiences and learnings. • Promote international good practices on EIP policy development. • Implementation through demonstration projects. • Develop practical policy tools. • Support capacity building processes. Educational institutions can: • Support capacity building processes. • Develop (inter)national good practice case studies on EIP-related policies. Private sector organizations can: • Provide input and private sector perspective for policy processes through stakeholder forums and comments on draft policies.

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Introduction

Objectives and structure of the guidelines.

The overall objective of the Guidelines is to contribute to the operationalization of the Industrial Policy, 2020, the third National Development Plan (2020/21-2024/25) and Vision 2040, as far as establishment of Industrial Parks and Free Zones is concerned. The guidelines are looking at the processes to follow in the establishment, development, management, operation, financing, promotion and marketing of IPs and FZs and all other Park Models. They incorporate the social and environmental sustainability principles in these processes and give modalities of designing new green parks (greenfields) and transitioning non-green parks to green parks (brownfields) as showed in Figure 1. The specific objectives of the guidelines are therefore:

a) To support decision-making in the establishment, management, operation, financing, marketing and promotion of industrial parks.
b) To define roles of the different actors in the establishment, management, operation, financing, marketing and promotion of industrial parks.
c) To promote social and environmental sustainability in the driving of the industrialization agenda through Industrial Parks and Free Zones.

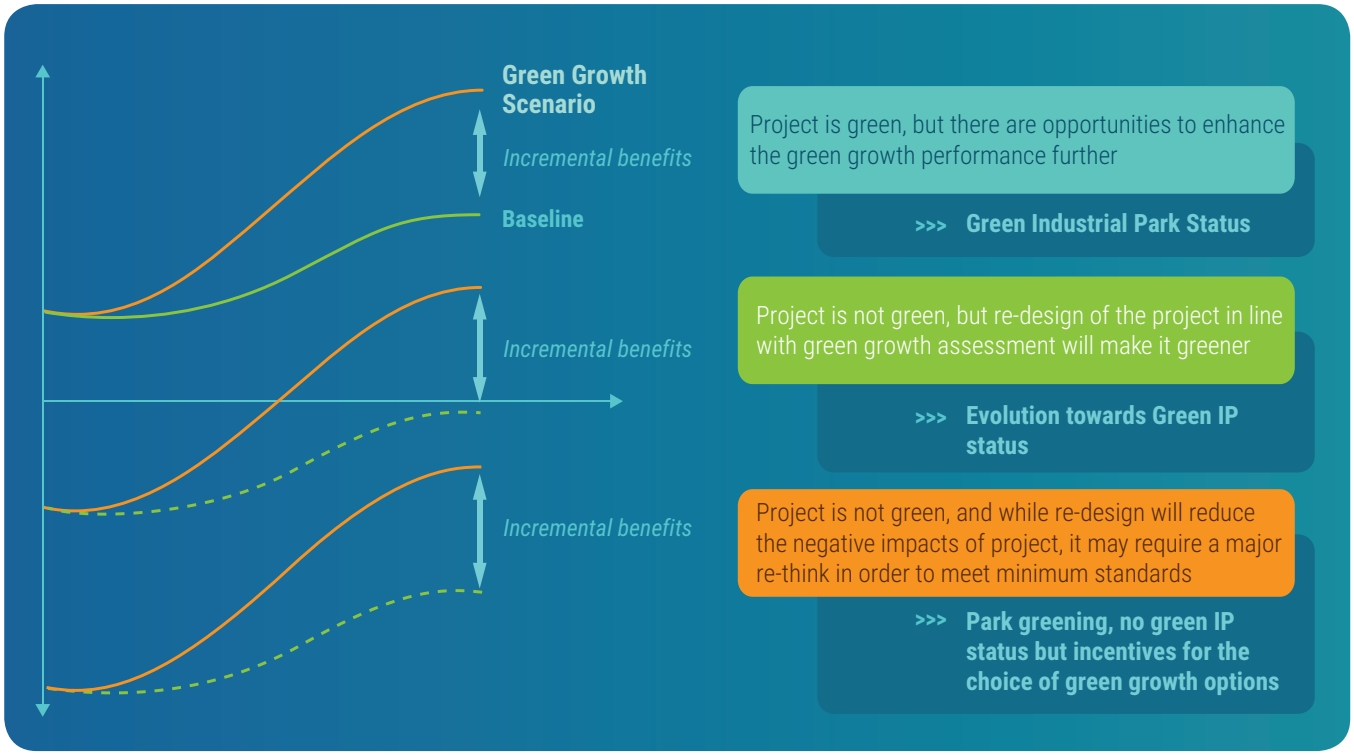


Figure 1: Three possible green development pathways for all types of parks.

They build on Green Growth principles following Uganda's greening aspirations spelt out in the Uganda Green Growth Development Strategy, the guidance provided by United Nations Industrial Development Organization (UNIDO) Global Program on Eco-Industrial Parks (EIP) and the Global Green Growth Institute (GGGI) and Green SEZ Manual and tools. In particular, those guidelines implement, further extend and specify for the context of Uganda, the methodology and tools developed in the UNIDO EIP Handbook and GGGI Green SEZ guidelines for Indonesia both of which were co-authored by the writer.

It is believed that the guidance presented here is also relevant globally for any country wishing to build or develop EIPs or looking for approaches to implement green projects within existing Industrial Parks/SEZ. Furthermore, the approach chosen aims at encouraging an overarching policy widely applicable, adaptable to situations and changes

of context, coherent with existing national policies and rather than as a stand-alone Industrial Parks policy. Such an approach is susceptible to avoid gaps, loss of synergies and contradictory measures and while it is general by definition, it therefore needs to build on a set of addendums that provide further practical and contextual guidance.

By fulfilling those objectives, the guidelines contribute to:

- **Support EIPs decision-making,** by enabling policymakers to ask the appropriate questions about their economy, their institutions and their policy context, in order to identify priorities, develop an effective set of policies, and evaluate the performance of industrial parks, as well as to support stakeholders in making appropriate decisions about establishing new industrial parks and/or retrofitting existing ones; It would entail a screening process to identify, quantify and prioritize interventions to improve green growth performances of projects and plans, develop financial models and business cases and formulate policy enabling conditions to develop green projects.
- **Improving the business environment and enhancing industrial park competitiveness. E**IPs can improve companies' productivity by reducing production costs, reducing waste and pollution, and generally increasing economic opportunities. Improved economic gains from IPs can be enabled, through end-to-end planning, demand-based serviced industrial land development, sustainable infrastructure, and innovative investment mobilization strategies;
- **Economic experimentation and demonstration.** Moreover, EIPs can serve as a test of economic reforms, new policies and approaches in a geographically-concentrated pilot area. Their demonstration effects can then, if successful, be replicated nationwide, along with the best practices drawn from these pilots and their demonstration effects then being applied to other industrial locations and businesses.
- **Ensure industrial park inclusiveness and community development.,** by supporting the development of inclusive economic activity that empowers the people and communities where EIPs are located, especially those who are economically disadvantaged, to actively participate in the conceptualization, development, operations and, above all, the ongoing resident activity of EIPs. Indeed, as local economic hubs and growth centers with certain positive externalities and when properly designed, they can serve as platforms for delivering on broader local community goals, such as local employment creation, as well as transportation services, education and training, health care, mail and communication services, and others.
- **Embed Industrial Ecology and notably Resources and Energy Cleaner Production (RECP), Symbiosis, Circular Economy and Resilience (DRR/Climate Change) into EIP design and operation,** by enabling park developers and operators to design green, resilient cost-effective, innovative and efficient management and operation systems, and providing alternative models specifying required infrastructure, services and regulatory offerings**.** Through RECP, **E**IPs can offer the opportunity to decrease production costs through common infrastructure and systems, while also leading to increased materials, water and energy efficiency, including through waste recycling, water management and resource recovery.
- **Promoting environmental safeguards including Biodiversity Conservation**. EIPs can further reduce pollution and waste by applying pollution prevention, renewable energy, industrial symbiosis, and other environmental management methods and technologies. They can also adopt a natural and social capitals approach enabling them to identify the dependencies towards ecosystems and better identify compliance and voluntary (as part of a Corporate Responsibility Strategy) measures susceptible to preserve or enhance the services flow.
- **Promote industrial park sustainability and strengthen business continuity. This can be achieved by internalizing externalities,** including through clean and green production systems, DRR, social inclusion, occupational hazards risks reduction and integrating environmental and social performance requirement priorities from the early industrial park conceptualization and planning stages to operations.
- **Fostering innovation**. EIPs create environments that foster collaboration and innovation by providing a location where the government, the private sector and universities and research institutes can collaborate, as well as conduct and commercialize research and reinforce entrepreneurship. Industrial parks can also support entrepreneurs by incubating

new businesses. The shared services offered by industrial parks can moreover reduce small business market entry barriers and facilitate access to seed capital.

- Attracting investment and technology. EIPs are an important tool for attracting investment and technology, given that some of the key factors that influence investment decisions are the availability of land, infrastructure, quality services and proximity to strategic markets. The technology transfer opportunities that foreign investment in particular can bring to an economy are crucial to improving production capacity through the associated transition from labor-intensive to technology-intensive production that often accompanies it.
- Promote Good Social Corporate Responsibility. EIPs can facilitate the industry shift to positions aligned with changing consumer expectations and higher scrutiny of production processes and standards. They can facilitate the design, implementation and financing of Eco-labelling and Green Certification and similar traceability instruments.

- Developing the manufacturing sector. A competitive manufacturing sector plays a key role in both economic growth and socio-economic transformation. EIPs can provide a favorable business environment to develop the manufacturing sector and to add economic value in economies that are heavily dependent on the production of unprocessed/semi-processed agricultural products or extractive resources. When applying an Industrial Ecology approach, EIPs can also be used to create backward and forward linkages where an economy's raw materials and supplies flow to the park for processing. Agro-processing parks, for instance, have backward linkages to farmers and their raw materials, as well as forward linkages to food wholesalers, retailers and exporters.
- Regional and national development. Contributing to regional and national development is often a primary driver of the decision to establish EIPs that foster new investment, industries, jobs, market integration/linkages and growth.

As per the Section C of the EIP Handbook, these guidelines follow the different steps a complete policy cycle process entails, as presented in Figure 2. It also builds and unpacks various policy elements identified in UNIDO International Guidelines for Industrial Parks presenting 9 sections as per Figure 3 as well as based on GGGI Green SEZ Policy Guidelines for Indonesia.

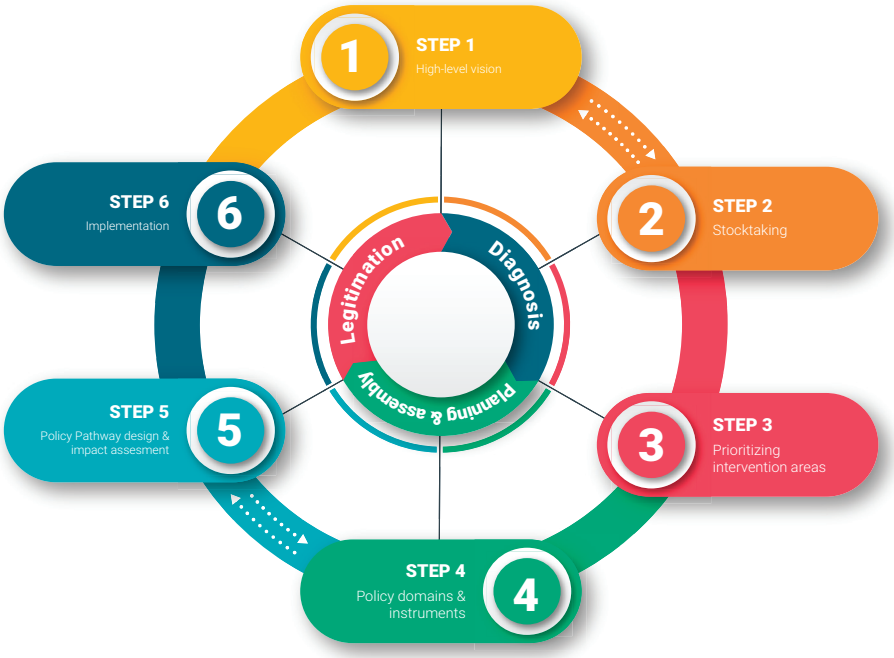


Figure 2 : Steps of a policy cycle for sustainable industrial development based on PAGE (2016a) and UNIDO EIP handbook p.36.

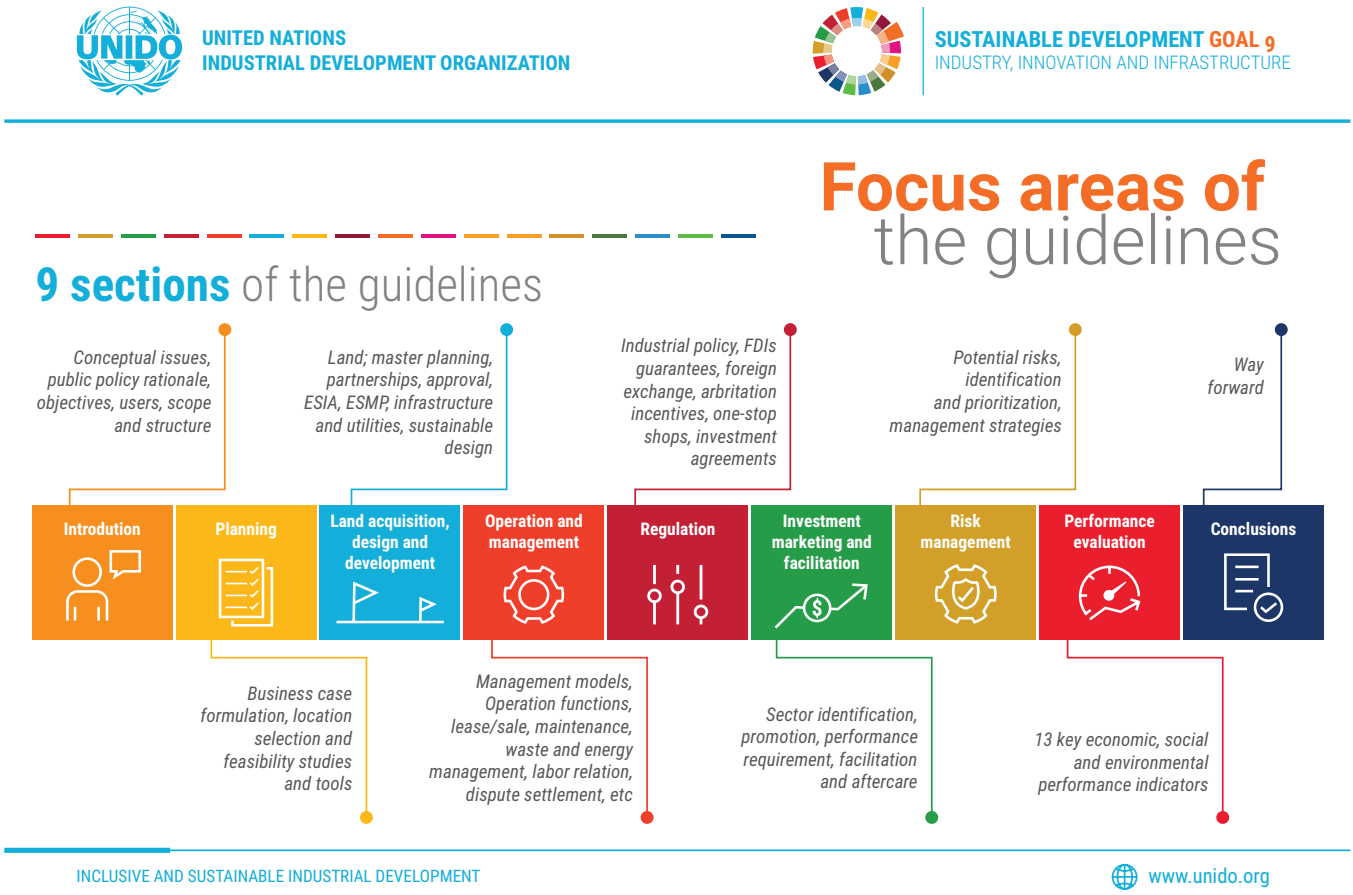


Figure 3 : UNIDO International Guidelines for Industrial Parks, International Conference "Industrial Parks for Inclusive and Sustainable Industrial Development" June 11, Lima, Zhao Jie.

As a result, the guidelines are articulated around 12 elements that are considered mandatory in any EIP Policy as presented in Figure 4.

The various chapters provide insights on each of these elements. As a policy development is a long-term consultative process, it is foreseen that some of the chapters will require the set-up of inclusive working groups in both a top-down and bottom-up process and a longer duration for design and negotiation than provided for the drafting of these general guidelines. The advantage of the approach is that the guidelines can still provide the overarching framework without being hampered by delays in one of the chapters and similarly, some chapters can be prioritized based on the country's needs. Those chapters can be complemented by addendums, which can also offer a more easily amendable pathway due to context, unforeseen situations or to integrate a feedback loop, without having to amend to main body of the policy.

Those **12** policy elements are presented in the guidelines by chapter ordered as they appear on Figure 4. **In the process of making these guidelines, a shorter version has been edited on behalf of GoU, which makes reference to this longer version for more information.**

- **Chapter 1 High Level Vision Setting** states the country's current target of using industrialization as a vehicle to drive development and the specific push to develop and promote industrial parks as definite drivers to achieve this agenda.
- **Chapter 2 Situation Analysis** gives a summarized situation of the industrial sector in Uganda, together with the status of industrial parks and free zones development. It provides an analysis of the regulatory environment for industrial parks development and the current financing mechanisms.
- **Chapter 3 Regulations** establishes the process for a review of the enabling or hampering policies that constitute the environment of an IP policy in Uganda. The aim to avoid the mistake of establishing a disconnected stand-alone policy. The process can be applied to any other country context.

Figure 4 : EIP Policy Elements

- **Chapter 4 Planning** presents the various parks definitions/models, and builds a case for the use of a single overarching IP definition modulated by adaptable prioritization instruments and translated into eligibility criteria.
- **Chapter 5 Land Management** looks into questions related to land management, design and development of IPs by offering guidance regarding land acquisition, master planning, nature inclusive design, symbiosis (common infrastructures building) and Public Private Partnerships (PPP) and green urban development linkages. It also highlights mechanisms to set up governance structures/arrangements for natural resource management.
- **Chapter 6 Operations & Management** further details the roles of the key IPs stakeholders, looks into possible IP governance and management arrangements and the different phases for IP development and administrative procedures attached.
- **Chapter 7 Skills** looks into social and human capital in the form of employment and human resources management, representation, occupational health, green jobs opportunities offered by EIPs, training and continuous learning as well as possible linkages with social protection schemes through PPP.
- **Chapter 8 Innovation & Partnerships** shows how innovation is an essential part of EIPs and one of the added-value of green approaches, which can be implemented in various ways, from R&D to incubators, Greentech and industrial ecology solutions, but also through the valorization of indigenous knowledge, natural and social capital governance models, alternative business models and more. This chapter also highlights the importance of partnerships for successful IPs as a precondition for peer-to-peer learning, collaborations, technology transfer, performance evaluation and more.
- **Chapter 9 Financing** illustrates various financial instruments and investment opportunities for both greenfield and brownfield IEPs such as public and private investments, self-generating revenues schemes to support park management, financial and non-financial incentives schemes, and how to ensure they can contribute to a Green Growth Pathway. The feasibility of these options will have to be tackled in a dedicated module revising current GoU schemes.

- **Chapter 10 Promotion and Marketing** defines the type of communication susceptible to encourage green investment and green products demand, as well as reporting on EIP performance including through certifications both for collective IP efforts and individual companies.
- **Chapter 11 Resilience** shows how an EIP approach can contribute to business resilience and tackle local and global challenges such as epidemics as illustrated by the recent covid-19 crisis.
- **Chapter 12 Performance Monitoring & Evaluation** presents four concepts of performance and its measurement. The first concerns the public sector in the sense of delivering a functioning EIP. Its bottom line is that of being 'investment ready' for in-coming investors. The second concerns business performance. This means profitability and underlying fiscal resilience as tested by various financial ratios. The third concerns EIP performance indicators and the last companies' level indicators.

These guidelines are meant to be primarily used by stakeholders usually involved IPs which include:

- **PARK REGULATORS:** who create industrial parks' regulatory framework, oversee and assure the quality of their planning, implementation and operation, as well as the resident activity therein, so that they may more effectively prioritize policy decisions based on applying ISID and Green Growth principles in industrial parks, supporting and incentivizing these initiatives and, most importantly, monitoring and evaluating the results they achieve;
- **PARK DEVELOPERS**: so that they may take advantage of opportunities to enhance the planning and setting up of IPs, as well as reduce the associated risks and, in this manner, establish EIPs that better respond to the demands of enterprises, ensure appropriate financing is available for their project, and deliver best practice infrastructure and services in a Green Growth manner;
- **PARK OPERATORS**: who provide services and support to residents on a day-to-day basis, so that they may provide said services in an improved and more coordinated manner;
- **TENANTS**: so that they can make informed investment and funds allocation decisions, and reduce their production costs, while ensuring environmentally-sustainable and socially-responsible operations; and
- **OTHER STAKEHOLDERS AND PARTNERS,** such as multilateral development agencies, financial institutions, and other development partners - so that they can provide effective financial and non-financial support to existing and new industrial parks alike.
- **OTHER EIPS POLICY MAKERS,** so that Uganda can play a role in participating to the global effort and demonstrating results of engaging in a Green Growth, EIP facilitated, industrialization.

Chapter 1
High Level Vision Setting

Chapter 1 describes Green Growth and Eco Industrial Parks frameworks and how to think about the multiple challenges of integrating economic, social and environmental objectives into planning of various types of Industrial Parks. The approach entails Green/Eco Industrial Parks development and greening referring to scenarios of evolution from compliance up to beyond compliance. It presents the steps to develop a High-Level Policy vision together with globally tested criteria a qualitative EIP policy should meet. Then the Ugandan context and high-level vision for a policy on Industrial Parks that embodies green growth principles is explained. It also summarizes some key governance structures and stakeholders mapping and consultations processes in Uganda.

1.1. GGGI and key concepts on Green Growth

The Global Green Growth Institute (GGGI) is a treaty-based international, inter-governmental organization dedicated to supporting and promoting strong, inclusive and sustainable economic growth in developing countries and emerging economies.

Headquartered in Seoul, Republic of Korea, GGGI also has representation in several partner countries. As of 2020, GGGI has 37 Members and delivers programs for more than 30 Members and partners – in Africa, Asia, the Caribbean, Europe, Latin America, the Middle East and the Pacific – with technical support, capacity building, policy planning and implementation, and by helping to build a pipeline of bankable green investment projects.

GGGI's vision is a resilient world of strong, inclusive, and sustainable growth. Therefore, it has the objective to support a global transition toward a model of green growth. While this will be differentiated at the country level, at its core will be strategies that simultaneously achieve poverty reduction, social inclusion, environmental sustainability, and economic growth.

At the UN Conference on Sustainable Development (Rio+20), governments explicitly recognised that a green economy is a powerful means of fostering economic development while preserving the natural assets on which our well-being relies. Put in simple words, Green Growth and its underlying principle of Industrial Ecology, aims at decoupling the environmental impact due to resource use that came with traditional industrial activities models and economic growth (see Figure 1). A now widely used index measuring a country's performance in achieving sustainability targets including Sustainable Development Goals (SDGs), Paris Climate Agreement, and Aichi Targets and developed by GGGI is the Green Growth Index. It is a composite for four green growth dimensions[4] as show in Figure 5:

- efficient and sustainable resource use
- natural capital protection
- green economic
- opportunities
- social inclusion

4 (Acosta et al., 2019a).

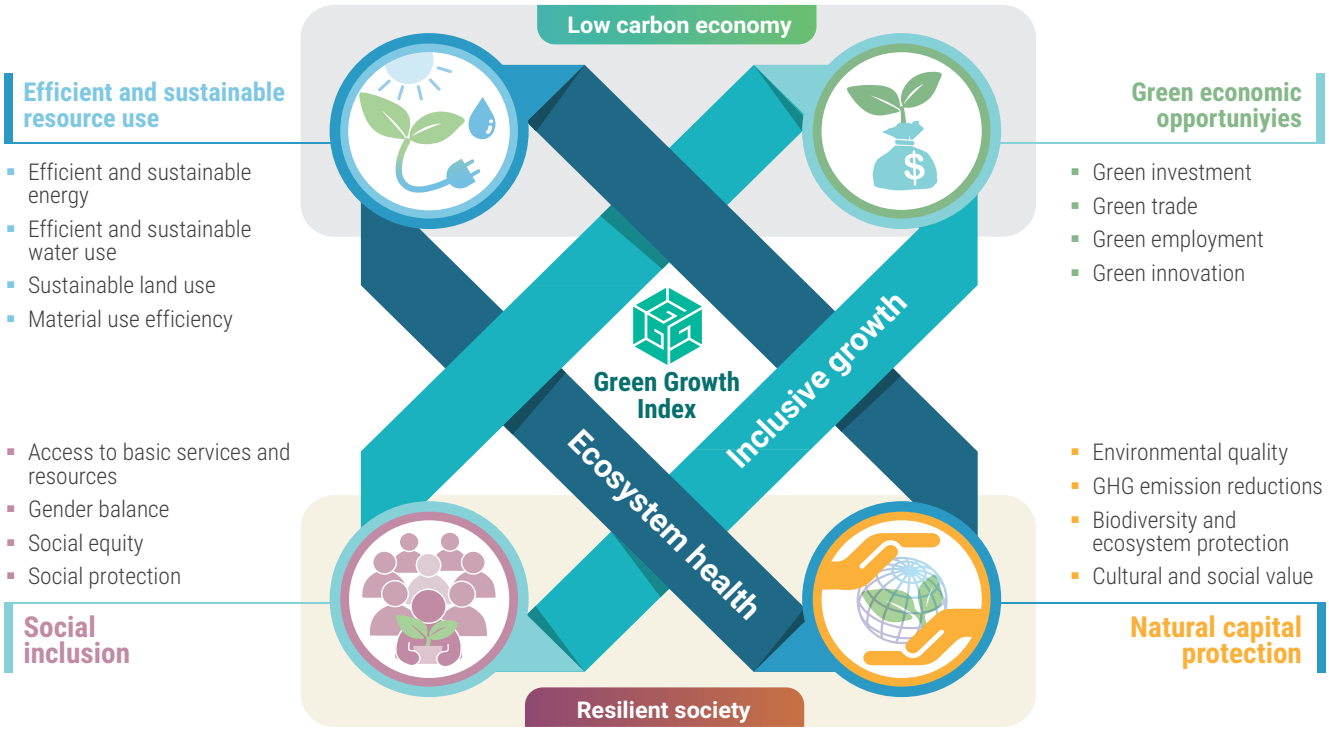


Figure 5 : Green Growth Index

To scale up efforts, GGGI has identified in its 2030 Green Growth Strategy 6 Strategic Outcomes (SOs) supportive to the overarching mission to achieve "A Low-Carbon, Resilient World of Strong, Inclusive, and Sustainable Growth":

a) Significant GHG emissions reduction in line with the Paris Agreement.
b) Creation of green jobs.
c) Increased access to sustainable services, such as clean affordable energy, sustainable public transport, improved sanitation, and sustainable waste management.
d) Improved air quality.
e) Sustained natural capital for adequate supply of ecosystem services.
f) Enhanced adaptation to climate change.

These SOs are the priority impact areas of GGGI's assistance in supporting the transformation of Member countries toward a green growth economic development model.

GGGI is aiming to achieving this support through activities that:

- Strengthen national, sub-national, local green growth planning, financing, and institutional frameworks
- Increase green investment flows
- Improve multi-directional knowledge sharing and learning between South-South and South-North-South countries

Externalities occur when an economic activity or a product affects people in a way that are not reflected in the market price and do not constitute part of cost-benefit analyses that form the basis of many investment decisions. Thus, they can be seen

as the failure of the market. From a government perspective, addressing externalities clearly provides a rationale for public policy intervention. In many cases, external costs have not been accounted for by firms during the production process, but show up later as clean-up costs accrued to society. If these costs are known and quantifiable, then governments have an evidence-based platform on which to design policies and regulations to impose costs on polluters. In other words, these hidden costs need to be *internalized*, that is identified and monetized. With that in mind, sustainability and the capability for cost internalization of impacts (like increasing GHC emissions, over exploitation of natural resources), previously dismissed as externalities, have become economic factors that increasingly determine the competitiveness of IP/SEZs in developing countries.

The acknowledgment of these challenges and their prioritization has therefore given birth to a range of green concepts. These include industrial and productive activities such as industrial ecology, circular economy, green value chains, systemically transposed into green SEZ, Eco-Industrial Parks (EIPs), sustainable estate or city, eco cities.

Greening the industrial sector and low carbon Industrial development

Low-carbon Industrial development refers to the development of industrial sector (and society) that emits a much lower amount of greenhouse gases. A low carbon industrial strategy ensures the reduction of energy intensity and greenhouse gas emissions through the reduction of material usage in products, increasing process efficiency, minimizing process emissions and switching to low carbon inputs. Low carbon industrialization can be summarized as a strategy that produces low carbon emissions intensity, uses energy and resources efficiently and effectively during the process as well.

A low carbon industrial development pathway consists of two parts.

- Specifying the strategic objectives both in relation to carbon emissions and the wider public interest e.g. maximizing economic growth or improving societal welfare, whilst also indicating types of economic activities that are expected to enhance these goals.
- Second, it should set out a framework that defines how the problem is perceived, what solutions should be sought, and how this needs to be governed.

While low carbon industrial development can serve as a very relevant flagship for a green growth pathway, recent years green business approaches have developed complementary instruments to address more holistically the wide range of ecosystem services provision, in particular looking into disaster risk reduction and capitals approaches recognizing the dependencies between business and social and natural capitals inclusive of biodiversity. With the adoption of the Sendai Framework 2015-2030, industrial risks have become an integral part of risk reduction strategies and a key element for business continuity. The recent years evolution with global epidemics paralyzing entire key sectors such as tourisms and transports, are also new business continuity and sustainability trends to be addressed in a green growth pathway.

1.2. Key concepts on Industrial Parks Models

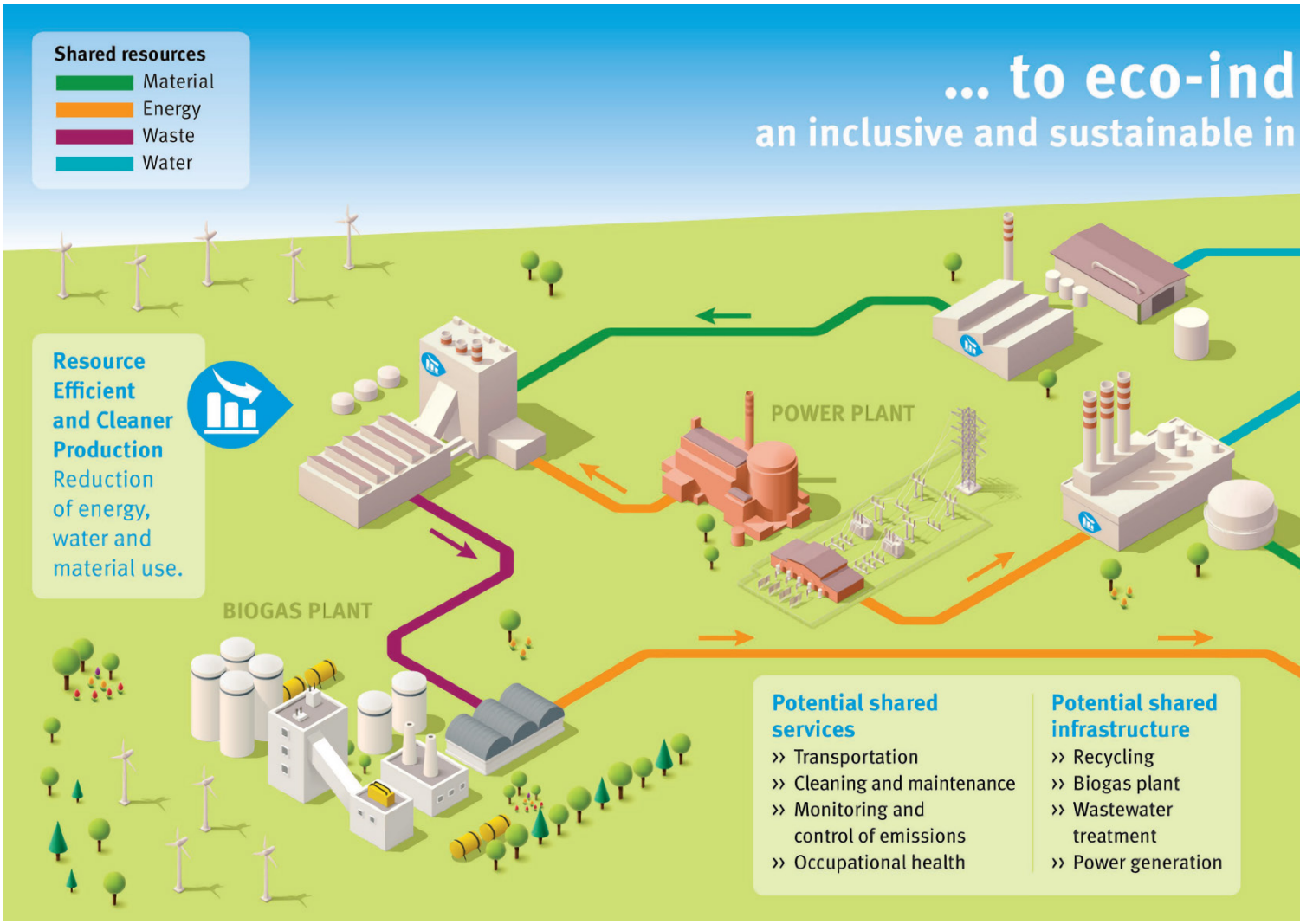
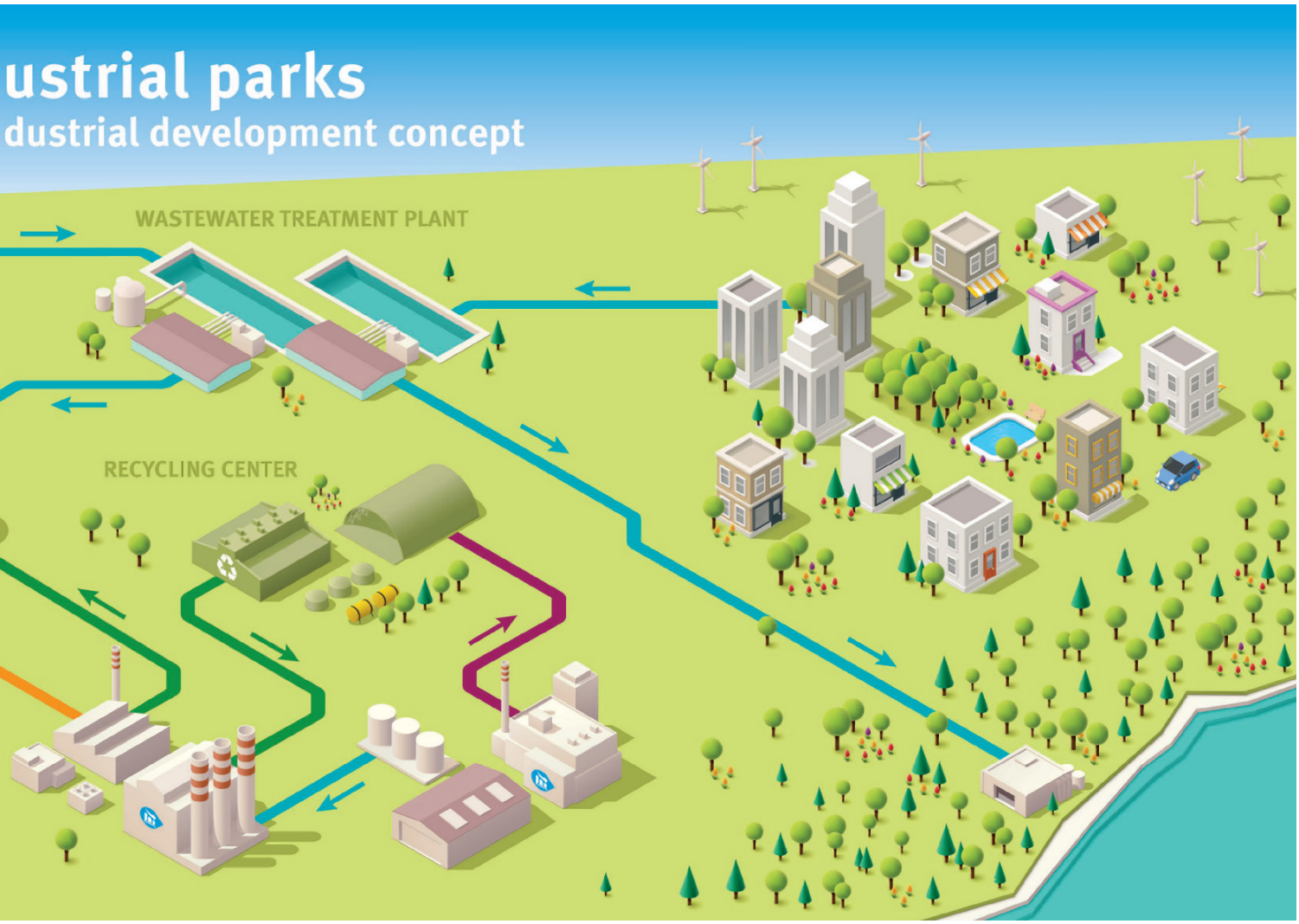


Figure 6: UNIDO EIP definition

An **industrial park (IP)**[5] can be defined as an area zoned and planned for the use of a collection of manufacturing and service activity. **Special Economic Zones (SEZs) or Free Trade Zones (FTZ)** can be defined as demarcated geographical areas – or specific spatially defined locations - contained within a country's national boundaries, where differentiated business rules are applied and tested from those that prevail in the national territory. It particularly addresses different fiscal/taxation modalities.

Some most common terms used in literature to refer to various parks models such as Free trade zones (FTZs; also known as commercial free zones), Special Economic Zones (SEZs), Export Processing Zones (EPZs), Border Economic Zones, Private zones/Single factory processing zones, Specialized Zones (SZs), Sustainable, low-carbon, green, or circular zones, Bonded Areas / Bonded Zones, Freeports, High-Tech Parks (HTPs), Agro-Industrial Parks (AIPs)… are defined in the Glossary section.

5 The Industrial Park definition here is not exclusive of business parks provided industrial ecology approaches can be applied.



In many countries, the development of Industrial Parks and Special Economic Zones is an important strategy to enhance the competitiveness of an economy and increase economic growth. Establishing them can achieve this economic growth objective in many (non-exhaustive) ways:

a) They can serve as tools to enhance industry competitiveness, foster innovation and attract foreign direct investment (FDI).
b) They can support large-scale job creation, thus alleviating poverty and reducing unemployment rates.
c) They can support broader economic reform policies, for instance by promoting the diversification of a country's export base while preserving national protective barriers.
d) Particularly for SEZ, they can provide room for experimenting with new policy approaches and regulations in areas like customs, labour, legal and public-private partnership initiatives[6].
e) Particularly for small-scale SMEs based parks, they can facilitate small entrepreneurship resilience, the integration of the informal sector, more regulations compliance, women empowerment and boost up their capacity to create jobs benefiting to the most vulnerable segments of the population.

6 Bank F., 2008

f) Integrated in a sustainable urbanization planning, they can offer opportunities for Public-Private Partnerships that can widen the range of infrastructures choices.

An **Eco-Industrial Park "EIP"**, as per the UNIDO definition adopted since 2016 (see Figure 6) describes as "a community of manufacturing and service businesses located on common property, whereby members seek enhanced environmental, economic and social performance through collaboration in managing environmental and resource issues." (Lowe 1997). A particular emphasis is placed on park management as a key success factor determinant resulting from extensive practice review of various parks worldwide. It operates an industrial ecology approach involving the promotion of symbiosis (circular economy loops) and Resource Efficient and Cleaner Production and Energy Efficiency (RECP). Industrial-urban symbiosis fosters inclusive and sustainable industrial development through outward integration of the communities as well as industries situated outside the park boundaries, fostering sustainable value chains and a key feature of sustainable cities (see Figure 6 and 7). An EIP concept englobes both green IP and green SEZ.

Figure 7: EIP application of industrial ecology concepts.

For simplification, the term Industrial Parks in the guidelines will be used to refer to all the various models. The term of Green and Eco Industrial Parks will be used to refer to all Industrial parks models to which we aim to apply a green growth evolution either through the acquisition of a green status or through a greening process. Ideally the aim for Uganda would be for those two denominations to become interchangeable when all industrial/business processes in Uganda will follow a Green Growth pathway.

UNIDO EIP Project

In these guidelines, the information on Eco-Industrial Parks project with UNIDO is extracted from a range of public and internal resource as UNIDO listed in the Bibliography. UNIDO EIP pilot project is funded by Switzerland State Secretariat for Economic Affairs (SECO). The EIP/UNIDO information here is therefore subject to changes as the project progresses. When referring to EIPs in this handbook, it is important to keep in mind that it is the recent more comprehensive definition of EIPs that we consider and not previous models such as industrial clusters or industrial zones with no central management, nor eco-industrial parks or green parks where only the environmental component has been developed. Through this global project UNIDO and partners put at disposal a range of tools and a collaborative network that promotes peer to peer learning and emulation with a growing number of parks worldwide adopting the approach.

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RECP and Industrial Symbiosis (circular economy)

RECP was introduced in 2009 by the United Nations Industrial Development Organization (UNIDO) and the United Nations Environment Programme (UNEP) as an umbrella term that refers to the integrated and continued application of preventive environmental practices and total productivity techniques to processes, products and services to increase efficiency and reduce risks to humans and environment (UNIDO, https://www.unido.org/cp/, 2017). It looks as:

- Viewing waste as a resource to be recycled or valorized as an input for other processes.
- Dematerializing industrial output - using less virgin materials and energy by becoming more resource efficient; reusing materials or substituting more environmentally friendly materials.
- Improving the efficiency of industrial processes - redesign products, processes, equipment. A particular attention should be given to the water footprint of industrial processes.
- Energy use - incorporate energy supply within the industrial ecology; use alternative sources of energy that have less or no impact upon the environment. It is thus supportive of a low carbon strategy.

The business case to implement RECP programs is that enterprises benefit from improving productivity whilst also ensuring continued market access, specifically through (Indonesia r. , 2017):

- Reduction of production costs: enterprises can save by using less energy, less water and/or less materials
- Increased productivity: enterprises can earn more by being able to produce more products
- Increased quality: as rejects and wastes are reduced, overall product quality increases that can attract a higher price
- Organizational efficiency: operators, management and staff work together to reduce waste, and their teamwork generally improves employee well-being and motivation and enterprises can thereby quicker introduce change in all areas
- License-to-operate: RECP provides a cost-effective way to achieve compliance with applicable environmental rules and regulations and therefore responsible business conduct.

Industrial symbiosis (also called circular economy) engages diverse organisations in a network to foster the exchange of outputs in closed loops and the mutualisation of infrastructures and services to increase efficiency or draw eco-innovation by pooling financial resources.

1.3. Steps to set up a High-Level Vision and criteria in a qualitative EIP Policy

Policies to support cost internalization are at the core of efforts to address sustainability and green growth issues and can be seen as part of the government's function to protect public goods and maximize social returns on public investment. In this sense, governments need to provide the best policy environment for EIPs/SEZ that enables private sector stakeholders to implement management strategies which take account of social returns in order to mitigate risks, increase efficiency and drive innovation (PWC, 2009). This includes as well the mainstreaming of Industrial Ecology (IE), circular economy principles and Resource Efficient & Cleaner Production (RECP) and resilience (encompassing Climate Adaptation, Disaster Risk Management (DRM) and Business Continuity).

From a private sector perspective, applying policies for cost internalization should be seen as an opportunity for an economy to increase its competitiveness. There is growing evidence that by adopting practices that improves positive externalities and decrease negative ones, corporations can increase revenues, cut costs and reduce risk. Furthermore, the benefits of strong environmental regulations frequently outweigh their costs and foster innovation. Negative environmental and social externalities are becoming real costs to corporations and companies and thus pose barriers to investors. The effects of negative externalities such as pollution, carbon emissions and ecosystem damage are becoming significant public health and security concerns. With increasing population, wealth and consumption growth, natural resources and ecosystem services are becoming scarce. With scarcity, prices of natural resource inputs will increase in the long-term and thus affect profitability levels of firms. Moreover, increased public awareness on externalities caused by corporations is growing, as more information becomes available due to increased global digital connectivity. Thus, addressing environmental concerns is an important risk mitigation measure as part of corporate social responsibility (CSR).

In summary, an EIP policy aim to reward companies for their efforts to create societal values and/or make them fully account/pay for costs imposed on society as a result of their operations. However, when adopting reforms, decision-makers need to be aware of potential transition costs and trade-offs across sectors and time.

Thus, the objectives of designing an EIP policy are manifolds and encompass:

- The design of effective policy and regulatory processes to support the planning, development and implementation of Green/Eco Industrial Parks as well as the greening of Industrial Parks with spill-over on the surrounding industrial/business environment.
- To facilitation of enabling conditions susceptible to capture green growth opportunities through EIP by optimizing economic, environmental and social aspects into industrial development policies.
- The creation of a supportive policy and regulatory environment for sustainable investment into EIP.
- The provision of an environment supportive of innovation and collaborations.

EIP Policy Vision/Value Proposition

Figure 8: Setting up an EIP Policy Vision/Value Proposition

The Policy design starts with the set-up of a high-level vision which will articulate a (simplified) theory of change illustrated here in the form of a business value proposition in 6 steps as shown in Figure 8 :

1) Articulating the problem statement: What are the challenges faced by industrial parks and sustainable industrial development in the country? To address this question, it is important to analyse historical and future trends, draw a panorama of practices to date to identify good and negative ones so that to enable learning and to take into account the granularity of a specific context therefore looking also at different experiences and needs at decentralized levels.
2) Who are key stakeholder groups in relation to industrial park and industrial development? A stakeholder mapping followed by a stakeholder analysis is an integral part of the process. The stakeholders' consultations need to be as inclusive as possible and a double movement top-down and bottom-up is required in order to be able to design a policy that is strongly grounded in reality, while enabling harmonization and fairness. An analysis of each stakeholder by virtue of capacity to influence, legitimacy, relevance, motivation, can be performed and ranked in order to help prioritize which stakeholder to engage and identify possible conflicting interactions.
3) What type of actions are needed to enable positive change through EIPs?
4) What are the targeted impacts and benefits expected through the development and implementation of EIPs?
5) What key resources are needed to reach the impact envisioned? Where and When are those resources needed?
6) What is the long-term policy vision/goal for EIPs in the country? What elements need to be reflected? What scope the application of the policy vision should be taken. The policy can be all EIP encompassing or due to limiting factors (ex. resources), address only certain sectors or type of EIP or type of businesses. A justification needs to be provided. **However, the selection of a limited scope application runs the risk over the long-term of an incoherent IP landscape, with conflicting mechanisms (ex. Incentives), diminished spill-over and learning (diversity is more resilient) and often results in a later need to perform a brownfield EIP transition program.**

For the EIP Policy to be legitimate, qualitative and well-integrated, it needs to be formulated following a set of quality criteria. They revolve around 6 key sections:

a) Analyzing the High-Level Vision and the alignment with national context. In this section questions around the legitimacy, commitment, inclusive stakeholders' participation, adequation to the context, practicality and adaptation capacity are assessed.
b) Stocktaking on existing policies. An EIP policy should never be formulated as a disconnected stand-alone policy. On the contrary, it requires to take stock on existing policies in various sectors that may enable or hinder its application. A full review on relevant policies needs to have taken place.
c) Prioritizing policy intervention areas. This section looks at the soundness of the priorities set in regards to the context, market trends and generally relevance to economic, environmental and social aspects of EIPs (including biodiversity, industrial ecology, resilience, food security, social incusion, etc).
d) Analyzing policy domains and instruments. This section complements the prioritization by looking at whether the scoping and integration of various IP models are relevant (including the participation of SMEs) and more generally the instruments that can direct the monitoring and implementation.
e) Policy pathways and integration. In complement to the section looking at the coherency and complementarity with other existing policies, here the integration with urban planning as well as the timeframes and scenarios for the industries' adjustment are explored.
f) Policy implementation. Finally in this section the goal is to identify the change agents, policy implementation and enforcement means including performance monitoring and the set of compliance and voluntary instruments supporting it.

For Uganda, additional concrete and non-exhaustive targets/questions to be addressed by the EIP guidelines have been expressed by GoU. The EIPs guidelines should provide guidance for:

a) Promotion of clear development strategy.
    - Specify in detail the problems that the EIP program should address.
    - Set measurable and time-bound objectives.
    - Consider EIPs and especially SEZs as a framework for testing and catalyzing economic reforms in the economy as a whole.
    - Ensure coherence between EIPs and particularly SEZs and the overall economic policy framework of the country and the region.
    - Plan concrete measures to promote linkages between EIPs (including SEZs) tenants and the domestic economy.
    - Ensure coherence and cost-efficiency of incentives.
    - Engage anchor investors and other stakeholders early in the design phase particularly in SEZs.
b) The formulation of development plans, clarification and separation of roles and responsibilities of institutions.
    - Ensure that the legislation covers all relevant aspects including the establishment of necessary institutions and regulations.
    - Identify institutions responsible for EIPs regulation and operation.
    - Ensure compliance of infrastructure investors in EIPs and particularly SEZs.
    - Ensure measurable and sustainable monitoring and evaluation of the EIPs program.
c) The delegation of authority and ensuring coordination between EIPs particularly SEZs and other institutions.
    - Provide clear delegation of authority.
    - Provide efficient and professional administrative services.
    - Set up properly designed One Stop Centers in SEZs.

d) The provision of necessary resources and building strong institutional capacities.
   - Ensure professional human resource management and accessibility for EIPs and particularly SEZs.
   - Promote Good Governance.

e) An increased cooperation between SEZs.
   - Ensure that EIPs/SEZs planification do not generate negative competition for example limiting the possibility for circular economy, RECP and symbiosis or diminished social and environmental capital due to encroachment of their geographical area of operation.
   - Promote good practice learning, symbiosis, emulation and other forms of positive cooperation susceptible to enhance their visibility, competitiveness and access to technology or other symbiotic resources and services.

1.4. GGGI-EU support to the Government of Uganda for Green Growth

Uganda became an official member of GGGI in 2019, though the office has been operational since 2016. GGGI has recently secured support from the EU's Inclusive Green Economy Program that is promoting a paradigm shift which better acknowledges the economic opportunities that 'green' policies, markets and business practices can deliver. The project will support Uganda in transitioning towards a green growth path that will facilitate sustainable green investments (public and private) at national and subnational level as well as increased employment.

The projects impact objective is therefore: "Uganda achieves strong, inclusive and sustainable economic growth". The Uganda Vision 2040 specifically highlights Industrialization and urbanization as key focal are as it envisions that 60% of Ugandans will live in urban areas by 2040. Therefore, the project is aligned with these key sectors, and the impact will be delivered through linked outcomes defined as following:

- Outcome 1: Green City Development is pursued and demonstrated in four Secondary Cities
- Outcome 2: Green Industrialization is pursued and demonstrated at four locations
- Outcome 3: Efficient and effective waste management is pursued and demonstrated
- Outcome 4: Green Growth integrated into the National Development Plan's planning and budgeting

The (Green) EIP Policy Guidelines fall under Output 2.1 to be finalized over the first year. Several other outputs will contribute to the guidelines in various ways: as supportive policies, standards and masterplans, as interrelated implementation factors or as a source of learning to identify the required green criteria. The project will, among others, include the following other activities; profiling all industries in Uganda and developing an industrial database, developing the industrialisation strategy for Uganda from 2020 to 2040, developing plans for 4 industrial parks and/or free zones and Sourcing/attracting investors for the 4 industrial parks.

An inter-ministerial Technical Working Group for Developing Uganda's Industrialisation Master Plan and Industrial Database has been set-up. This technical working group has also been used for the steering of the development of the EIPs guidelines, though consultations expanded much beyond this initial group.

1.5. Ugandan Problem Statement and High-Level Vision

The 2030 Agenda for Sustainable Development recognizes the importance of inclusive and sustainable industrialisation and the infrastructure that supports in eradicating poverty. However, premature de-industrialisation has also become increasingly noticeable in developing countries with manufacturing having a decreasing share of the gross domestic product (GDP). This concerns Uganda's aspiration to attain middle income status by 2040 is premised on a sustained annual economic growth rate of 6.5% per annum. In effect, growth has stagnated at 4.5% over the last five years and is much less than the 7% rate experienced in the 1990s. This decline has been partly exemplified by the decrease in industrial-sector contributions to GDP. This stands at 20.4% for Uganda compared to the 35% needed for countries intending to reach middle income status.

The industrials sector is dominated by Micro, Small and Medium Enterprises (MSMEs). These contribute about 75% of the country's industrial output. These MSMEs employ small numbers of people and without effective support are unable to generate the 900,000 jobs needed annually to employ Uganda's rapidly growing young population.

Uganda's growth has been driven by a highly informal services sector at the expense of formal industry and manufacturing sectors. In turn, most of the population is still being employed in subsistence agriculture and other areas of low productivity (UNECA, 2017). The industrial sector is also largely exploitive of natural resources and insufficiently promoting social inclusion. It exerts environmental pressures on soil, water, air, forest, and biodiversity, emitting increasing levels of greenhouse gas emissions, depleting scarce natural resources, generating unmanaged pollution and waste and insufficiently risk resilient.

The National Planning authority (NPA), together with the Ministry of Trade, Industry and Cooperatives developed a concept paper to inform the development of an Industrialisation Master Plan for Uganda from 2020-2040. The Master Plan spells out the step wise approach to developing Uganda's Industrial sector for next 20 years. NDPIII and Uganda Vision 2040 identifies industrial sector development a key priority focus area to transform Uganda's economy from low to middle income economy. NDPIII also envisions export-oriented growth through value addition and regional integration as a key priority for the country's economic development. However, policy development alone will not produce the desired results if implementation is weak and not supported by the necessary financial resources. Regulations have so far not been widely enforced, and the enforcement capacity of institutions charged with environmental management requires strengthening.

The Uganda Green Growth Development Strategy (UGGDS) also identifies improved technology for enhanced efficiency for industrial use and interlinkage between the rural raw materials production base and industrial production in cities. These are areas with the highest green growth potential in terms of investments and contribution to the achievement of national development goals and targets. The strategy strongly urges the adoption of a green industrial development pathway in line with the Green Growth concepts.

In countries like Uganda where the infrastructure to support the industrialization agenda is inadequate, industrial parks have been looked at as suitable vehicles through which the industrialization agenda can be advanced. They are looked at as closed spaces in which targeted infrastructural investment can be made so as to lower the cost of industrial set-up for investors. They also promote and encourage industrial symbiosis, thus increasing mutual benefits from industries and mitigating social and environmental impacts.

By delivering public goods and the accompanying policy interventions in support of investment, Industrial Parks (including Special Economic/Free Zones) have acted as a catalyst to facilitate industrial development. These zones also contribute

to Sustainable Development Goals through promoting socially and environmentally responsible industrialisation within themselves, as well as by demonstrating what is possible to the rest of the country. IPs have become an increasingly popular instrument to promote economic development. Over the last two de-cades, in particular, SEZs have proliferated in emerging and transition economies.

In summary, the key advantages constitutive of the rational to build IPs/SEZ are that:

a) They can serve as tools to enhance industry competitiveness, foster innovation and attract foreign direct investment (FDI).
b) They can support large-scale job creation, thus alleviating poverty and reducing unemployment rates.
c) They can support broader economic reform policies, for instance by promoting the diversification of a country's export base while preserving national protective barriers.
d) Particularly for SEZ, they can provide room for experimenting with new policy approaches and regulations in areas like customs, labour, legal and public-private partnership initiatives[7].
e) Particularly for small-scale SMEs based parks, they can facilitate small entrepreneurship resilience, the integration of the informal sector, more regulations compliance, women empowerment and boost up their capacity to create jobs benefiting to the most vulnerable segments of the population.
f) Integrated in a sustainable urbanization planning, they can offer opportunities for Public-Private Partnerships that can widen the range of infrastructures choices.

Thus, the development of IPs is one of vehicles Government has chosen to achieve the objectives of NDPIII AND Uganda Vision 2040. IPs are part of key projects under infrastructure development approved by Government and forwarded to development partners such as European Union and China namely; Forum for China -Africa Cooperation for funding.

Uganda targets to have constructed 25 Industrial Parks and/or Free Zones by 2025. However, a 2020 study by the Friedrich Ebert Stiftung[8] on implementing Uganda's industrialization agenda found that IP in Uganda were so far not constructed after conducting empirical feasibility studies. It recommended that consequent industrial park and free zone developments should undertake proper feasibility studies and develop designs which include strategic environmental assessments, environmental impact statements, life cycle cost analysis, land use planning, and risk management tools. The UN Economic Commission for Africa, also in their study of green industrial parks, strongly urged African States to adopt the Green/Eco Industrial Parks model. EIPs offer a transformative industrial base which can help diversify the economy, enhance international competitiveness, increase the value added of exports and provide extra job opportunities to help raise incomes and foster social inclusion (ECA, 2016[9]). In addition to protecting health, green industries can safeguard natural assets, which are critical to human development, avoid stranded assets and render infrastructure more resilient to natural shocks. Currently operating and planned IPS are yet to be conceived or transitioned to EIPs. Their incentives are focused to attract investment and promote export but, none is oriented towards green investment and there is no rewards and performance measure associated to safeguarding the environmental and social capitals.

As part of its problem statement analysis, the government identified the following as the major problems that result into limited industrial and economic growth:

7 Bank F., 2008
8 Ramathan Goobi 2019 From paper to Practice: Implementing Uganda's Industrialization Agenda. http://library.fes.de/pdf-files/bueros/uganda/15865-20191212.pdf
9 Greening Africa's Industrialization https://www.uneca.org/sites/default/files/PublicationFiles/eca_policy_brief_green_africa_17-002-en.pdf

- So far, there is no approved guideline and standard specifically for the development and promotion of Industrial and Parks and Free Economic Zones. Only 3 Industrial parks have become operational out of the 22 Industrial Parks that the Ugandan Investment Authority was tasked to establish in 2007 and there is generally a poor performance of the industrial parks in terms of operation, productivity and job creation (Auditor General's Report (2015).
- In an effort to promote investments across the country, the government decided to provide a package of incentives in the form of land. Despite efforts by the government to avail land to investors, there have been hindrances to the utilization of industrial parks and thus affecting the full potential of land incentives being realized as envisaged.
- As part of the process of development of industrial parks accessible, the Government (UIA) is to carry out infrastructure activities like construction of power lines, extension of water to the parks, installation of boarder markers around the parks, develop engineering designs of the roads, allocate plots, develop a master plan for the parks and conduct Environmental Impact Assessment in collaboration with other key stakeholders such as Ministry responsible for Industry and Trade, Ministry of Finance, Planning and Economic Development, URA, UMEME and NWSC et. The coordination to achieve this activity is inadequate and requires special guidelines, standards and legal framework to become effective and efficient.
- Out of the approximately 343 investors allocated land in the different industrial parks only 45 investors, representing 13%, are in operation. Hence the targeted performance of value addition and job creation is very low.
- The tax policies and incentives applied in the industrial parks and Free zones currently set up in Kampala, Kapeeka in Nakaseke and other up-country regions are not harmonized, affecting the management and operational efficiency of these free zones.
- The manufacturing sector has played limited role in accelerating structural transformation of the Ugandan economy, due to its declining share in total employment and low value-added products for export. This is as a result of limited inflow of Foreign Direct Investment in high technology manufacturing industries. The manufacturing value-added as a share of GDP has stagnated at around 8%-10% of GDP and there is also a trade deficit gap caused by value of imports over exports.
- Uganda ranked 127th out of 190 in the World Bank's 2019 Doing Business report, losing five places compared to the previous year. The most important advances have been made in electricity connection and cross-border trade, and moderate manufacturing.

It is against this background that the Ministry of Trade, Industry and Cooperatives embarked on the development of guidelines to inform the establishment of parks that meet the desired development aspirations and at the same time promote social and environmental aspects, so as to contribute to the achievement of development sustainably. Industrialisation as Uganda's targeted vehicle for achieving its aspirations is further specified in the third National Development Plan 2020/21-2024/25 (NDPIII) whose theme is 'sustainable industrialisation for inclusive growth, employment and sustainable wealth creation' with the goal of increasing average household incomes and improving the quality of life. Furthermore, Uganda needs to safeguard that the growth is not solely economically but is also happening in a sustainable, socially inclusive and green manner.

Thus, the European Union Delegation (EU) project titled "Greening Uganda's Industrialisation" that is being implemented by Global Green Growth Institute (GGGI) in support to GoU features developing plans for 4 industrial parks and/or free zones and Sourcing/attracting investors for the 4 industrial parks. It is a good opportunity to apply Green Growth concepts and design them as greenfield EIPs. **It is important to note though that some key steps and criteria such as for parks site selection that this policy guidelines will recommend could not be applied to those parks as the selection took place prior to the guidelines development.**

Chapter 2:
Situation Analysis

Chapter 2 is about diagnostic and risk management and provides a non-exhaustive snapshot of the status of Industrial Parks in Uganda while specifying further how Eco Industrial Parks can meet the vision set-up in chapter 1. It provides guidance on Green Growth Potential Assessment and prioritization particularly on the productive capital. This chapter is to read jointly with Chapter 4 that presents the various parks definitions/models, the Green Growth Impact Assessment tools and the Extended Cost Benefit Analysis and Capitals Approach.

2.1. Status of Industrial Parks in Uganda and institutional set-up at national level

The industry sector is composed of manufacturing, construction, mining, and utilities. While manufacturing output is the largest share of industrial output averaging about 16.5 percent of GDP in the last decade, it is still low compared with the middle-income countries. In the last decade, the average contribution of manufacturing to industry sector output has been 64.4 percent, followed by construction at 20.4 percent and the least being mining and quarrying at 3.8 percent despite the existence of abundant minerals in Uganda. Utilities such as electricity and water also constitute a small share of industrial output to GDP owing to partly lower industrial processes in the country, as well as the underdevelopment of the oil and gas sector.

The modest contribution of manufacturing to GDP is attributed to the nature and structure of the sector itself. The manufacturing sector is dominated by mainly small and medium enterprises (SMEs) which make up about 93.5 percent of the firms operating in the sector. Firm size is highly correlated with export capacity which implies that smaller firms experience multiple challenges in global trade (UNECA, 2017) and besides they can hardly reap economies of scale in production. Many of the manufacturing firms deal in end-product assembly, raw-materials processing, producing low value-added goods such as food and beverages, wood and wood products, textiles, leather, and metallic and non-metallic fabrication. Agro-processing is one of the most important activities in Uganda's manufacturing sector and mainly consists of coffee and tea processing, wheat and dairy products, cotton, and tobacco processing. Lastly, medium and high technology activities do not play a major role in manufacturing exports in Uganda. Industry, and manufacturing, must be scaled up to drive the country's aspirations of becoming an upper middle economy by 2040.

Further, Uganda's manufactured exports are dominated by low value commodities which contributed 24–26% of the total exports over the period 2008-2018. One of the noted challenges in manufacturing is the low-capacity utilization estimated at 52% and limited capacity to conform to the international market requirements, and low uptake of technologies. Despite the challenges, manufacturing production has been growing rapidly in recent years, led by food processing and textiles/ garments sub-sectors.

To strengthen the government's efforts towards driving the industrialization agenda, the Ministry of Trade Industry and Cooperatives developed 2020 Industry Policy, to mobilise the efforts of all stakeholders towards the achievement of targeted interventions as far as industrialization is concerned. This Policy builds on that of 2008-2019 and its goal is 'increasing the manufacturing value added as a percentage of GDP from 8.3% in 2018/19 to 16% in 2029/30' with a focus on four result areas:

- Increased value addition to local raw materials and products of comparative advantage for social-economic transformation.

- Increased exports of manufactured products by facilitating industries to increase production and match market demands in terms of both quality and quantity.
- Increased employment in the industrial sector through establishment and promotion of industries that create massive employment opportunities, ensuring inclusive growth, and sustainable development.
- Increased adoption of environmentally sustainable technologies by the manufacturing sub sector.

Its specific objectives are to:
- Increase public investment and nurturing of industrial development Projects in strategic areas.
- Increase and sustain the supply of quality raw materials for value addition.
- Develop and strengthen skilled human resource in order to increase productivity and efficiency in the sector.
- Accelerate development, use of research innovations and adoption of appropriate technologies in industry.
- Promote resource efficient and environmentally sustainable industrialization.

The anticipated outcomes of the Policy to be realised over the ten-year period of implementation include:
i. Increased industry sector contribution to GDP from 27.1% in 2018/19 to 31.7% in 2029/30;
ii. Increased contribution of manufacturing to GDP from 15.4% in 2018/19 to 26% in 2029/30;
iii. Increased ratio of manufactured products exported to total exports from 22.5% in 2018/19 to 46.8% by 2029/30;
iv. Reduced ratio of manufactured products imported to total imports from 63.2% in 2018/19 to 45% in 2029/30
v. Increased share of jobs from manufacturing subsector to total formal jobs from 9.8% in 2018/19 to 15% in 2029/30;

The implementation of the Policy is guided by the following principles.
- Transformative industrialization
- Alignment and complementarities
- Gender Equality
- Environment sustainability: The scope in the policy is quite limited so far, manufacturing industries to adopt cleaner and more efficient technologies. Targeted programmes include; promotion of cleaner production practices, recycling of waste, waste disposal management; and resource (energy and water) efficient management programmes.
- Balanced and inclusive development

The effective use of these guidelines to inform the development of IPs and FZs will aid in contributing to the achievement of these targeted policy outcomes.

In line with the strategic directions of the Vision 2040 and NDP III, the Uganda Investment Authority has compiled a status update on the country industrial parks and aim at developing 23 Industrial & Business Parks plus 4 Science and Technology Parks around the country (see Figure 9) with the aim to create jobs and ease accessibility of land for investments, introduce new research, technologies and skills development as well as boost Uganda's exports and therefore increase Uganda's revenue base. The report dated January 2021 and named "STATUS OF INDUSTRIAL & BUSINESS PARKS AND AGRICULTURAL LANDS IN UGANDA"[10], aims at raising funds to undertake the feasibility studies that would be utilized to source for infrastructure development in industrial parks (See Table 1).

The summary of the funds required is given in the modified Table 2 "SUMMARY OF FUNDS NEEDED FOR DEVELOPMENT OF INDUSTRIAL AND BUSINESS PARKS IN UGANDA". It is to note that those estimates do not take into account yet these guidelines and at least for the feasibility part, may be underestimated given the needs for comprehensive productive,

10 see https://www.ugandainvest.go.ug/parks/

environmental and social capital assessment and recommendation to engage into an eCBA process (see EIP Business Case Project Proposal development) and to involve Uganda Cleaner Production Centre (UCPC) in analysing RECP and symbiosis opportunities.

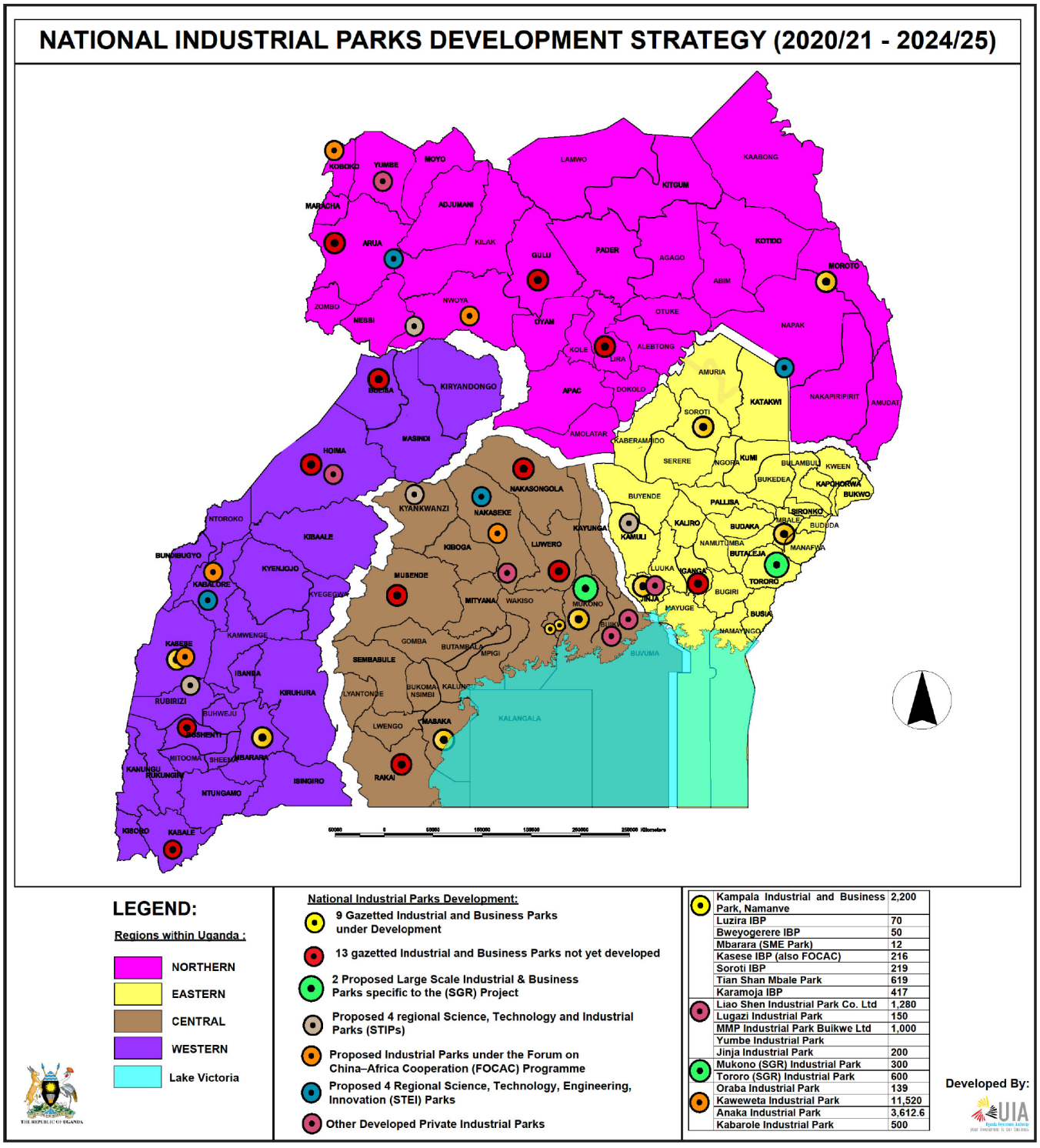


Figure 9: Map of IP locations as per Uganda National IP Strategy 2020–2025

No	Area	Status	Acreage (acres)	Potential Sectors targeted	Direct Jobs	Budget for completion of the Park (UGX-Billion)
CENTRAL REGION						
1(a)	**Kampala Industrial and Business Park, Namanve**	Operational 62 industries in operation, 141 projects started construction. 84 companies in pre-start stages. KIBP infrastructure and utilities development in the KIBP from UK Export Finance and contractor Lagan-Dott Namanve Ltd. Consortium contractors of four companies led by ROUGHTON International Ltd from UK. The loan Euros 246 Million. Inception works started in June 2020. Infrastructure Designs have commenced and it is anticipated that the physical works will commence in January 2021. Proposal: GGGI designs revision to integrate Industrial Ecology.	2200 acres	Agro-processing, Mineral processing, Pharmaceutical, tourism, wood processing, logistics hub, Light and Heavy Manufacturing. Currently operational: Beverages, agro, coffee,tea processing, leather, seeds, spices and snacks, soap and vegetable oil, storage (free zone), housing estate, assembly, wood, motor vehicles repair, warehouses, water pumping station, cold storage, veterinary pharmaceuticals, plastics, packaging, ICT, blankets, rice, steel and scrap metling, furniture, metal tins, logistics, minerals, incubation center for SMEs, feed meal, tobacco, cosmetics, building materials, mobile phone, textile, vehicles assembly. Under newly allocated land in 2020: steel, plastics, packaging, hotels, oils, electronics, dairy, agro chemicals.	216,000	Euro 246 Million financed by UKEF and under construction
1(b)	**Luzira IBP**	Operational Adjacent to the Luzira Women's Prison. The Park is fully allocated with a total number of 12 investors	70 acres	Pharmaceuticals (antimalarials), agro processing, wood processing (paper, furniture), Light Manufacturing, LPG (liquefied Petroleum Gas Plant), mineral bottle, disinfectants, plastics and foam, irrigation conducts, grain trading, warehousing, textile and printing, electric cable.	12,000	1.32 Bn

Table 1: Status of Industrial & Business Parks and Agricultural Lands In Uganda

No	Area	Status	Acreage (acres)	Potential Sectors targeted	Direct Jobs	Budget for completion of the Park (UGX-Billion)
1(c)	**Bweyogerere IBP**	Operational Park fully allocated, 10 investors, 6 of whom are operational including Uganda National Bureau of Standards (UNBS), 2 are under Construction stage and 2 are doing pre-start phase studies.	50 acres	Pharmaceuticals, agro processing (paper bags, grain), warehousing and logistics, Light Manufacturing, private hospital, building materials, paint, hospital furniture and repackaging lab. Chemicals,	11,000	7.57 Bn
2	**Masaka**	Land earmarked but title for the land not yet secured	800 acres	Fruit processing, fish processing, pork processing, tea processing and beef industry	116,000	82.67 Bn
3	**Rakai**	Land not yet secured	500 acres	Sugar, fish processing, fruit processing, honey, dairy products processing	45,000	54.7 Bn
4	**Mubende**	Land not yet secured	500 acres	Tea processing, fruit processing, honey, dairy products processing	45,000	54.7 Bn
5	**Luwero**	Land not yet secured	500 acres	Tomato processing, fruit processing, dairy coolers, fish farming and processing, poultry farming, dairy farming and processing	45,000	45.0 Bn
7	**Nakasongola**	Land not yet secured	500 acres	Textiles, military industries, fish farming and dairy industries	45,000	54.7 Bn
8	**Mukono – Kyetume (Ind park along the SGR line)**	Land not yet secured	3,000 acres	Agro-processing, Light and Heavy Industries	183,0000	387.7 Bn
WESTERN REGION						
9(a)	Mbarara (SME Park)	Operational	12 acres	Agro-processing, SMEs development and light manufacturing	1200	14.07 Bn
9 (b)	**Mbarara Main Industrial Park**	Land not yet secured There are 42 lockups within the park and out of these, 27 workspaces are so far occupied, 6 are awaiting renovation and 9 locked up Mbarara Gatsby club members.	500 acres	Dairy industry, beef industry, leather industry, banana processing, wood processing industries, fruit processing, and honey processing, paint, beverages, waste recycling, hardware, mattress, tissue, milling.	45,000	45.3 Bn

No	Area	Status	Acreage (acres)	Potential Sectors targeted	Direct Jobs	Budget for completion of the Park (UGX-Billion)
10	**Kasese**	Land secured UIA with OWC through the Agri-Led project in the NAADS secretariat are working with the Kasese District administration to upgrade the infrastructure in this park.	216 acres	Fruit processing, cement production, cobalt, copper, dairy industry, tourism and fish processing. Cocoa, coffee, wood treatment, automobile.	35,000	29.52 Bn
11	**Hoima**	Land not yet secured	500 acres	Petroleum byproducts, tobacco factories, sugar processing, fish processing and rice hurling	45,000	57.2 Bn
12	**Kabarole**	Land being secured with OWC, NAADS, UIA, UIRI and Kabarole District	502 acres	Dairy processing, tea processing, fruit processing, wood processing industries, cocoa processing (Bundibugyo sector), vanilla processing and Grain-milling (Kamwenge)	45,000	54.7 Bn
13	**Kabale**	Land not yet secured	500 acres	Fish processing, dairy processing, flower processing, temperate fruit processing and pyrethrum	45,000	56.2 Bn
14	**Bushenyi**	Land not yet secured	500 acres	Dairy processing industries, tea processing (Kyamuhunga, Buhweju), wood processing industries, banana processing (Nyaruzinga), fish processing and beef processing industries	45,000	57.7 Bn
15	**Buliisa**	Land not yet secured	500 acres	Petroleum byproducts, tobacco factories, sugar processing, fish processing, SME development workspaces	45,000	57.2 Bn
EASTERN REGION						
16	**Jinja**	Land secured This Industrial Park was established with the purpose of serving the Eastern Region. The Master Plan and EIA studies were completed. Boundary Opening and Installation of Boarder Markers completed. Existing railway line (Jinja-Namasagali) not currently operational.	182 acres	Textiles, pharmaceuticals, steel processing, grain milling, vegetable oil industries and leather processing, vehicle manufacturing (Kiira Motors Limited), electricity poles, marine assembly plant, Free Trade Zone (pre start studies), warehouse, plywoods.	22,000	33.31Bn DFID through Trade Mark East Africa are finalizing the feasibility study on the 20 acres of land allocated to UFZA and costing of infrastructure

No	Area	Status	Acreage (acres)	Potential Sectors targeted	Direct Jobs	Budget for completion of the Park (UGX-Billion)
		UIA signed an MoU with Kiira Motors Corporation to develop the infrastructure in the entire Park. Kiira Motors Corporation has extended water and power to the park and they have begun on the construction of their factory facilities. Kiira Motors Corporation (KMC) is the key investor in Jinja Industrial and Business Park. As per GGGI field trip: Site 1: Jinja IBP/Kiira motors site Site 2: Jinja city IBP greenfield Site 3: Budondo Agro processing				development on the remaining 82 acres since Kiira Motors Corporation have already done their feasibility on the 100 acres.
17	**Soroti**	Operational 2 active investors (Teso Fruit Factory & Uganda Free Zones Authority). Out of the 20 investors, Soroti Fruit Factory is the only factory operational so far, 3 others are under construction which includes Sanqua Engineering, Asalalamaal Ltd and Soroti District Local Government. M/S PELA Commodities Ltd. has also taken possession of their site. Master Plan and EIA completed. Solid waste management plant is not available. As per GGGI field trip: Operational but UFZA site not yet planned. 20 Acres of UFZA physical master planning, undertaking feasibility and operationalization modalities.	219 acres	Fruit processing, dairy processing, leather processing, SME workspace development, export-oriented industries, concrete products, Free Zone Area, Hotel, medical cotton, warehouse, grain, vegetable and animal oils & fats, youth skill center. Teso fruit factory importing oranges for juice as local production variety doesn't match the company equipment specifications.	22,500	23.33 Bn

No	Area	Status	Acreage (acres)	Potential Sectors targeted	Direct Jobs	Budget for completion of the Park (UGX-Billion)
18	**Mbale (Now Tangshan Mbale Industrial Park, ex sino-ugandan)**	Operational Handed over to M/S Tangshan in 2018, to provide serviced plots.. Tangshan is to undertake landscaping and develop key infrastructure in the entire industrial park. 37 people not yet compensated for land but no squatter on site. GoZ technical agencies to design, build & finance contract for piped industrial water, waste treatment plants, roads and drainage channels. 7 investors and more than 15 strategic cooperation agreements signed between Chinese enterprises and Tangshan Mbale Industrial park.	619 acres	Grain milling especially wheat, fruit processing, dairy industry and coffee processing, optoelectronic, photoelectric energy products, cosmetics (Vaseline, baby products), paper, concrete additive materials, cable and electrical wires, communication towers, steel and machinery.	216,000	Budget being development by Inter Government Committee (UNRA,UET-CL,NWSC)
19	**Moroto (KARAMOJA INDUSTRIAL AND BUSINESS PARK)**	Land secured M/S Savimaxx Limited contracted by UIA for Master Plan and Environmental Impact Assessment Study. The Master Planning and EIA Process not yet presented to the National Physical Planning Board for approval due to the land conflict in the Park due to the industrial park lying in two districts. The community of Kautakou in Napak District did not agree to the industrial park proposal and have now petitioned the Commission of Inquiry into land matters and the inquiries on how the land was sold to UIA are still on-going.	417 acres	Cement manufacturing, green marble polishing, aloe-vera and herbal medicine processing, gum-Arabica processing, dairy products, fruit processing and leather industry.	85,000	53.32 Bn The developer has so far invested approximately 15M dollars

No	Area	Status	Acreage (acres)	Potential Sectors targeted	Direct Jobs	Budget for completion of the Park (UGX-Billion)
20	**Tororo (SGR industrial park for heavy processing industries)**	Land not yet secured	6000 acres	Cement manufacturing, fertilizer manufacturing, steel manufacturing from the iron ore deposits in the area, gold processing, fish processing and fruit processing	320,000	488 Bn
21	**Iganga**	Land not yet secured	500 acres	Fruit processing, dairy processing, fish processing and fish processing industries.	45,000	54.7 Bn
NORTHERN REGION						
22	**Lira**	Land not yet secured	500 acres	Textiles, cassava processing, oil seeds processing including Soya oil, fruit processing, fish processing	45,000	54.2 Bn
23	**Gulu**	Land not yet secured As per GGGI field trip: Site 1: URC Logistics Hub Site 2: Official UIA industrial business park Site. Undertake further greening of design or physical plan 3: Proposed industrial business park greenfield	500 acres	Fruit processing, rice hurling, oil seeds processing and sugar processing	45,000	54.2 Bn
24	**Arua**	Land not yet secured. As per GGGI field visit: Launched as SEZ/FZ in 2016 but currently inactive	500 acres	Honey, fruits, coffee processing, textiles and SME work space development	55,000	55.2 Bn
25	**Yumbe**	Land not yet secured	200 acres	Honey, fruits, coffee processing, textiles and SME development workspaces	31,500	29.52 Bn
26	**Koboko**	Land Secured	193 acres	Honey processing, Fruits processing, Logistics centre	31,000	29.52 Bn
Sub Total 1				1,942,200Jobs	1,991.93 Billion	
REGIONAL SCIENCE AND TECHNOLOGY PARKS						
27	**Kamuli – Eastern Region**	Land not yet secured	500 acres	Research and Developments of various innovations.	45,000	20.32 Bn
28	**Pakwach – Northern Region**	Land not yet secured As per GGGI Field trip: Prepare the masterplan and operationalization modalities	500 acres	Research and Developments of various innovations.	45,000	18.19 Bn

No	Area	Status	Acreage (acres)	Potential Sectors targeted	Direct Jobs	Budget for completion of the Park (UGX-Billion)
29	**Kyankwanzi – Central Region**	Land not yet secured	500 acres	Research and Developments of various innovations.	45,000	18.82 Bn
30	**Rubirizi – Western Region**	Land not yet secured	500 acres	Research and Developments of various innovations.	45,000	20.49 Bn
Sub total 2 – 180,000 jobs						**77.82 Billion**

No	Area	Acreage	Sectors	Status
31	**Liao Shen Industrial Park Company Ltd. – Kapeeka**	2 sq miles	Ceramics, Food, Textiles, Electronic.	Liao Shen Industrial Park Co. Ltd. was issued an investment license on 24th May 2017 with China as a Country of origin and planned to invest about USD 100 Million into development of an Industrial Park. First phase planned to occupy about 1 square mile and establish 20 factories by the end of 2019. Currently five factories are operational. Another eight companies are nearing completion.
32	**Lugazi Industrial Park**	150 acres		Lugazi Industrial Park (LIP) is strategically located along Uganda's main import and export route, the Kampala-Jinja Highway. The proprietors of this park have now developed a Master Plan which shows the demarcation of plots that will be allocated to Investors.
33	**MMP Industrial Park Buikwe Ltd - Buikwe**	956 acres	Tyres, Cables, Footwear, metal drums and wheel barrows, heavy engineering (pre-fabricated houses, pipes, heavy machining work, H-Beams, Z-Purlin), Agrichem (Insecticides, Persticies, Herbicides, Fertilizers).	Four factories are under construction.

STATUS OF AGRICULTURAL LANDS

Land	Developer
Kiryandongo (6 sq. Miles)	Leased to M/S A.K. Oils and Fats Ltd. for growing of Sun Flower, maize, Soya, beans on a rotational basis, plus other crops like Palm trees on a trial basis.
Masindi –Kimengo Sub County (20 Sq. Miles),	There is still a problem of squatters on the land who have still made it difficult for the investors to fully utilize the land. Plot allocated to companies sectors:grain processing, ranching, crop production and animal fattening, poultry, health products.

Land	Developer
Lukali-Goli, Buikwe District (84 acres)	Leased to M/S Arrow Acquare Culture Africa Ltd , fish farming and fish processing.
Kaweri-Mubende (10 Sq. Miles),	Leased to M/S Kaweri Coffee Ltd, grow and process coffee for export.
Kasangati (20 acres)	Leased to M/S Tomil Poultry Ltd for poultry farming
Kashari Land (59.6 Ha)	Completed the installation of border markers around the land. 47 acres have already been allocated to M/S BTS

Not listed by GoU but according to GGGI Field Mission:

Entebbe (FZ)	Green field – earth works planned for November 2020	NA

Table 2: Status of Industrial & Business Parks and Agricultural Lands In Uganda

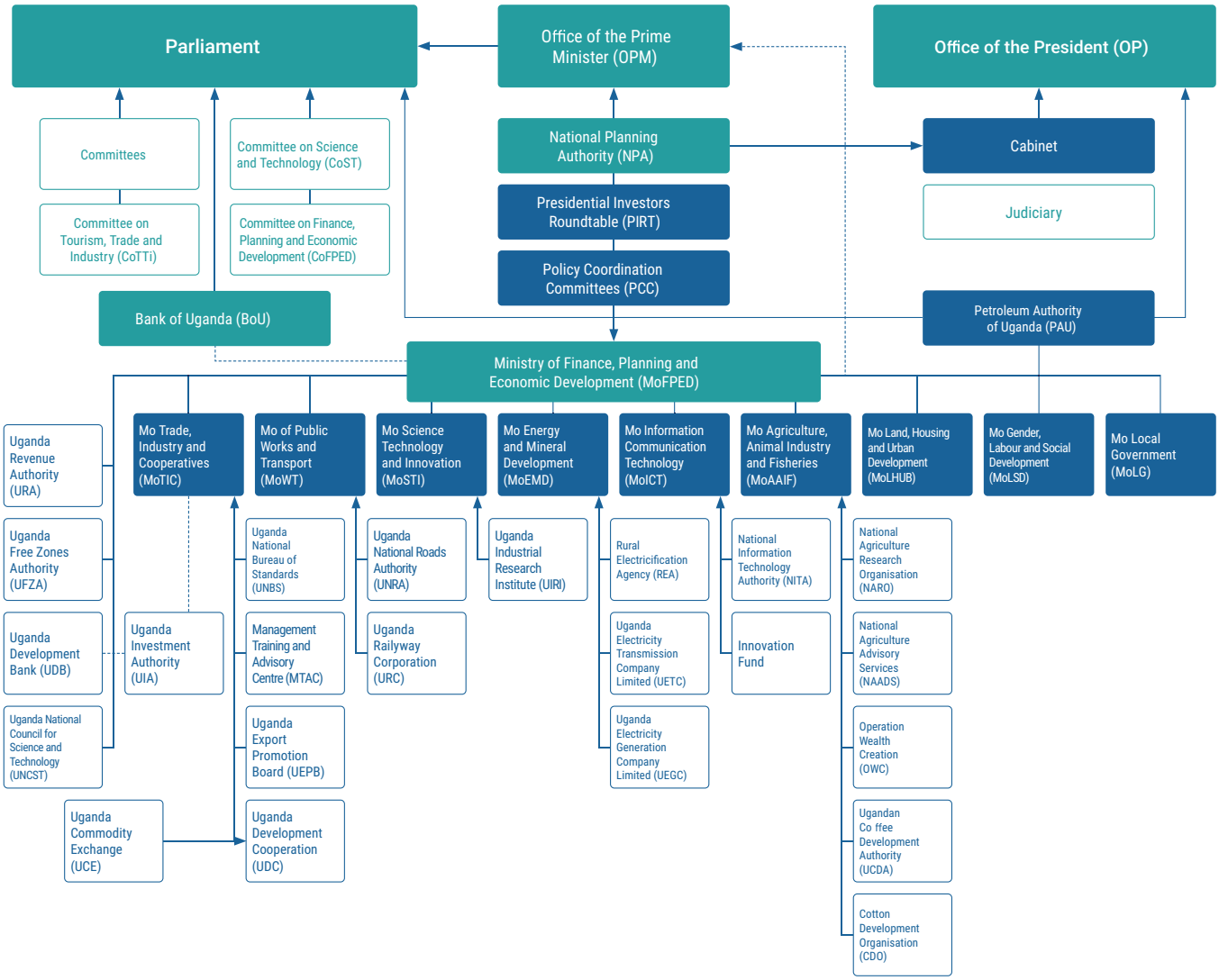
No	Activity	Amount In Ugx
1.	Infrastructure devt for 26 industrial parks	1,991,930,000,000/-
2.	Regional Science and Technology Parks	77,820,000,000/-
3.	Feasibility Studies for Industrial Parks	30,000,000,000/-
	TOTAL FUNDS NEEDED	2,099,750,000,000/-
	Total jobs to be created	2,122,200 jobs

In terms of institutional arrangements, industrial parks have been managed by the Uganda Investment Authority (UIA) reporting on both the MoTIC and MoFPED. But other authorities are also involved in parks development such as the UFZA for Free Zones. A range of services are already offered such as e-portal for investors business registration[11].

For the EIP policy to be effective and implemented, it is key for MoTIC to be able to mobilize the various authorities for a coordinated approach. While a capacity analysis of the different bodies and possible reorganizations could be proposed, it was decided to leave the revision of institutional arrangements out of the scope of those guidelines. Would there be any request to review those, the stakeholders analysis proposed in Chapter 3 could guide the process.

11 https://www.ebiz.go.ug/, support to MSMEs https://www.ugandainvest.go.ug/sme/advisory-advocacy-mentorship/ and https://www.ugandainvest.go.ug/wp-content/uploads/2016/02/New-SME-Brochure.pdf

Figure 10: Institutional Arrangements in Uganda



For its current national industrial parks strategy, GoU took into account a series of considerations, though they did not integrate Green Growth adequately but were mostly economically focused. Even in terms of economic development alone, the range of sectors is so vast that they do not allow for prioritization or a phased approach, while the balance between international and domestic markets may not be optimal for Uganda business sector capacity building particularly in manufacturing. Guidance on prioritization will be provided later in this chapter. In the meantime, some of GoU considerations have been so far:

- To foster investment projects with high economic and social impact
  Able to alleviate unemployment problems.
- To foster projects which contribute to the modernization of infrastructures efforts and promote the adoption of new technologies and knowledge.
- **Export processing zones vs. Multi-sectoral zones:** zone programmes should not be limited to a narrow set of sectors. Special Economic Zones (SEZs) with a multi-sectoral development approach is a global trend. Zone programmes should

target a wide assortment of economic sectors, including commercial and manufacturing activities and professional services (such as warehousing, transshipment, informatics). This is actually a positive aspects as too narrow sectors may also hamper RECP and symbiosis potential. However, going for multi-sectoral doesn't mean that investments shouldn't be prioritized at all for greenfield EIPs. For brownfield EIPs revitalization, the eligibility criteria and site selection may give more weight to addressing the 3 capitals (productive, environmental and social) rather than to reorient into a preset sectoral focus, though aligning with new technology and emerging market trends can be a full component of the revitalization, depending also on the current park performance analysis. Nevertheless, for brownfield a bottom-up approach and prioritization is more adapted than a top-down orientation, even more so if the park is small, constituted of mainly SMEs or requiring little funds.

- **Foreign partnership zones:** Those zones are constructed with the cooperation of a foreign partner, foreign developers or through joint ventures with local companies as private FDI as well as ones developed through public-private partnerships with foreign developers and Zones developed as government-government partnership projects. They are prioritized by GoU due to the need of investors finance.
- **Border and cross-border zones:** The geographic advantage of border SEZs is their proximity to targeted foreign investment and foreign markets, especially for specialized export-processing zones. This should be implemented under Regional development initiatives and cooperation programmes to promote the establishment of Industrial Parks along regional economic corridors. **This is certainly a valid consideration especially as infrastructures are also more prone to be prioritized in those areas. However, it should be complemented by a proper urban planning that integrates the SEZ. A complementary consideration could also be to disenclave less developed regions of the country by focusing resources (urbanization, infrastructure and SEZ to those).**
- **Natural resource-based zones, promoting investment in downstream integration:** These zones host a subset of the manufacturing sector, processing raw materials and intermediate products derived from agriculture, fisheries, forestry or extractive industries. The objective is to pursue vertical integration, higher value-added exports and broader economic transformation. Agro-zones can promote both food security and a shift from subsistence farming to agro-industrial development. To this end, they are developing agricultural corridors, agro-based clusters, agro-industrial parks and agro-incubators. These zones range from a few hectares in urban areas to tens of thousands across regional, national or supranational areas, offering benefits from infrastructure to customs facilitation as well as advantageous regulatory frameworks. **While the arguments in favor for these types of zones are convincing, they should rely on a solid natural and social capital assessment base and refining of sectors to prevent environmental resource depletion. Consideration on the advantages of eco/conservation agriculture versus intensive farming for example or on the social impact component of mine extraction need to follow an in-depth analysis process. The revalorization of indigenous resource as well as resilience/DRR/Climate Change concerns need as much attention to ensure the productivity gains are sustainable.**
- **Tourism Zones (TZ) :** they are used to promote tourism for a number of reasons: a) TZ have administration companies that can look after investor needs, even in the absence of a One Stop Center and can also be a conduit to bring in specific foreign investors, b) environmental protection and sustainable, green development (including ecotourism) can be better administered in the confined area of the SEZs than in the national territory at large, c) given their confined and homogenous nature, can offer a better framework for integrated resort and leisure community development.

  The last argument is rather outdated as it creates too much dependency which may result in poor resilience faced by disasters or epidemics as shown by the Covid-19 crisis. In addition, a TZ should contribute to develop value chains as for example in the agro-food sector to multiply the benefits. Ecosystem service payments scheme may also benefit from a diverse area of payments source beyond tourism, besides conservation needs may require to shift out of mass tourism towards more sustainable models. **It is of importance to develop fully integrated TZ concepts encompassing green and blue economy but this is out of the scope of these guidelines.**

At the moment, though tourism services are incorporated in some of GoU current industrial parks, none responds to such an integrated vision, has put in place solid natural resource governance systems or effective linkages with other economic sectors.

The prioritization of industries in the Uganda National Industrial Policy 2020 is based on the following criteria; employment creation, utilization of locally available materials, export potential, import replacement and social inclusion. Further, consideration was based on alignment with other Government policies and strategies of; increasing agricultural productivity; supporting the road, railway, housing, energy, information and communication infrastructure development projects; accessing and exploitation of opportunities in regional markets, and greening the environment. These are summarised in Table 3:

Table 3: Prioritized industries for development

Category	Criterion		
	Highest impact for employment	Highest impact on import replacement	Highest impact for export
Agro-based Industries	Fruits; Coffee; Tea; Cassava; Cotton, Bananas, Textile & Apparel, Grains, Sugar cane, Cassava, Dairy, Leather and Leather products	Cotton, Textile and Apparel; Grains, Oil seeds Cassava; Sugar cane, Cassava, leather and leather products	Coffee; Tea; Cotton Textiles and Apparels; Oil seeds, Sugar, Grains; Dairy; Leather and Leather products
Extractive based Industries	Iron and steel, Oil and gas (LPG, synthetics, plastics and petrochemicals), Cement, Salt and Fertilizers	Iron and steel, Oil and gas (LPG, synthetics, plastics and petrochemicals), Salt, Cement and Fertilizers	Iron and Steel, Oil and gas (LPG, synthetics, plastics and petrochemicals); Cement and Fertilizers
Knowledge intensive industries	Assembling of Automobiles, electrical and electronics products; manufacture of pharmaceuticals	Assembly of Automobiles, electrical and electronics products, and manufacture of pharmaceuticals	Assembling of electrical and electronics products, and manufacture of pharmaceuticals

Despite the ambitious agenda, the policy incorporates insufficiently Green Growth consideration and hardly takes into account the natural and social capitals. Indeed, the prioritization should rely on a solid natural and social capital assessment base and refining of sectors to prevent environmental resource depletion and incorporate resilience/DRR/Climate Change concerns effectively. Moreover, those sectors should be less broad and the methodology used to obtain them needs to be better explicated and locally relevant.

As an example, the current GoU Industrial Parks status do not show much resilient diversification nor an integration of the above concerns. priority placed on export without sufficient incentives for the domestic market on qualitative/healthy products together with the regional integration over taxes leave room to an unlevelled competition from import products and poor business continuity in times of global shocks. An assumed shift towards eco-agri production may enable Uganda a different positioning compared to its agro-competitors and to contribute more to national food security. That could be effective only if enabling policies, capacity building and financial support are evaluated in an integrated manner in an EIP proposal and its value chain.

Similarly, the internalization of externalities linked to the mine and electronics sector particularly in the social capital impact (ex: occupational health) has not been considered.

The assumption that large scale jobs creation requires larger and preferably exporting companies is not confirmed in various other countries context whereby the SMEs ecosystem provides most of the jobs, while a larger export firm may act as a pool factor. Indeed, the pool factor is determinant though considerations on dependency can also count in favor of an SMEs ecosystem. A healthy diversified mix may be a more resilient approach.

The policy has given rise of a range of external analysis, from which maybe the most relevant and recent were made by the Friedrich Erbert Stiftung[12]. Some key recommendations can be extracted as shown by the Tables 4 and 5. In particular , propositions from "210216 CDA Economic Policy Paper Paper #2"

12 https://library.fes.de/pdf-files/bueros/uganda/15865-20191212.pdf

This March 2021 publication[13] from Max Walter identifies the following top priorities for Delivery Unit:

— Sector #1: iron & steel
— Sector #2: tourism
— Sector #3: coffee
— Sector #4: wood value addition
— Crosscutting #1: industrial parks & free zones
— Crosscutting #2: transport & logistics for trade and tourism
— Crosscutting #3: export standards
— Crosscutting #4: electricity transmission & distribution for industrial parks & priority sectors

13 https://cda.co.ug/wp-content/uploads/2019/08/EPPS-2-Delivering-Industrialisation.pdf

Table 4: Prioritized industries for development

S/N	RECOMMENDATIONS	EVIDENCE
1	Although the NPA has identified ten products and three services fo r import substitution, there is need to start with industries that will not overstretch existing capabilities. These have been identified by researchers as food processing and agrochemicals. Then move to relatively more complex ISI industries such as the emerging oil industry, paper and wood industry, aluminium and other related building materials.	NPA {2020b); Hausmann et al. (2014)
2	To successfully implement the ISI strategy, the GoU should use industrial policies such as production subsidies to manufacturers. preferential access to credit and equity capital, and a realistic and favourable exchange rate for investors. Uganda should desist from using trade policies such as higher tariffs, quantitative restrictions or import prohibitions of imports. Such policies tend to discourage exports since they discriminate against all other sectors apart from the import-substituting sectors.	Krueger (1983)
3	To implement ISI policies without short-changing the gains from trade. Uganda should substitute products with the largest multiplier leakages and produced by manufacturing firms (light or heavy) that source locally produced raw materials. These include: machinery equipment and other accessories used in repairs of motor vehicles and motorcycle service; repair and installation of machinery and equipment; as well as repair of computers and personal and household goods service.	Mo GLSD and ILO (2020)
4	Given limited resources (capital, skilled human, resources and technology) for industrialisation in Uganda, import substitution should not be promoted at the expense of exports. Authorities should avoid high levels of protection to industries and the temptation to overvalue exchange rates which typically disincentivise exports. Instead, they should continue to permit exporting industries purchase their needed intermediate goods and raw materials at world prices if they are to be competitive.	Krueger (1983); Mo GLSD & ILO (2020)
5	To avoid undermining the existing regional trade agreements, particularly the EAC and COMESA, and instead leverage them to access the large regional markets, strong state-business relationships should be built to enable the manufacturing firms engaged in import substitution to favourably compete with regional firms in both the domestic market and those regional markets.	Behuria (2017)
6	To steer the private sector away from speculation and rent seeking behaviour, the GoU should develop and sustain reciprocal control mechanisms (carrot and stick) with the beneficiaries of import substitution incentives. The incentive programmes should be characterised by conditionality, sunset clauses, built- in program reviews, monitoring, benchmarking, and periodic evaluation. Non-abiding firms should be penalised by withdrawal of subsidies and obliging them to refund the support offered at commercial interest rates.	Amsden, 2001; Khan 2000; Rodrick, 2008; Studwell, 2013; Chang 2002
7	Since Uganda is likely to continue relying more on foreign investors who possess two of Uganda's most scarce resources - capital and technology- to lead the ISI strategy, efforts should be made to ensure transfer of technologies. To achieve this, the Uganda's Investment Code (2019) should be amended to require FDIs to partner with local entrepreneurs as a pre-condition to invest in particular industries. The local firms should be adequately supported to achieve these partnerships such that the benefits accrued from ISI investments are absorbed within the local economy in case foreign firms leave in future.	Studwell (2013); NPA (2020b)

S/N	RECOMMENDATIONS	EVIDENCE
8	To ensure effective implementation of ISI strategy, the GoU should execute the recommendations proposed by FES (2019). Key among them was the need to create a separate Ministry for Industry and Investment (MoII) to lead the industrialisation agenda. Others included stopping the Office of the Prime Minister (OPM) from engaging in implementation and concentrate on its Constitutional duty of monitoring and coordinating the implementing actors; rationalisation of government MDAs and pay reform for civil servants; enhancing, consolidating, ring-fencing and mainstreaming the budgets for industrial development among others.	FES (2019)
9	While pursuing import substitution, social and political institutions should maintain overall macroeconomic stability, while avoiding/reducing "wild" liberalisation. Policy should avoid ad hocism and resist industrial lobbies; for example, in the choice of prio rity industries for import substitution. Also during implementation, the State should act in decisive and subtleways.	Haber (2006); Bruton (1998)

Table 5: Proposed Principles for Industrial Policy Targeting

Principle	Rationale
Select a set of priority industrial sectors and activities that is coherent and consistent across all policy domains and strategies	A coherent and consistent list ot priority industrial sectors and activities is crucial not only for the coordination of industrial policy delivery and the concentration of scarce resources, but also to ensure that clear signals are sent to the private sector. Investors in risky new ventures are likely to lose confidence if the signals from the government about its support are conflicted and inconsistent
Develop a long-term vision and a phased approach	Economic transformation is a long-term process that never actually stops. The most strategic pathways to sustained transformation can be identitied through a long-term vision. On these pathways, early success will unlock further possibilities for upgrading and diversitication. For example, pursuing relatively low-value-added activities such as the production of spare parts for used automobiles as well as the final assembly of automobiles may later open up opportunities for backward integration in automobile production with locally supplied components, thus preparing both the market and the production capabilities.
Apply an iterative approach that maintains flexibility	Economic change, especially long-term change, is highly unpredictable. As such, a long term transformation vision must be tempered with flexibility. The Ugandan state must itself take an entrepreneurial approach to industrial development, cognisant that industrial policy is inherently risky. Contextual changes will present new opportunities but also mean that an entire industrial sector may unexpectedly fail. The industrial development strategy must "cross the river by feeling the stones".
Take into account contextual factors and longer-term risks and opportunities	Longer-term trends are likely to shape the industrial development trajectory, and aside from adapting to these changes, target activities should be selected based on an appreciation of how they are likely to be affected by these shifts. It is important to consider longer-term trends at the domestic (e.g. population growth, ageing, urbanisation), regional (e.g. demand shifts, regional integration, resource pressures), and global (e.g. technological change, climate change) levels.
Apply a combination of methodologies for the selection ot priority sectors	As seen above, no single proposed tool for industrial policy targeting is comprehensive and without shortcomings. Each has the ability to highlight certain factors prevalent to the selection of target activities, and a combination of tools should be used.
Utilise both quantitative and qualitative measures to score selection criteria	Some of the most important factors shaping a sector or activity's strategic value or feasibility cannot easily be quantifiably measured, such as political conditions.
Assess activities according to both strategic value and feasibility	The prominent targeting approaches discussed above can all be grouped according to a matrix similar to that of UNIDO (2011) discussed above. Strategic value (similar to UNIDO's "attractiveness") refers to the amount, or depth, of progress towards economic transformation entering a new activity is likely to unleash. Feasibility refers to the ease, or likelihood, with which the capabilities for, and competitiveness of, a new activity can be achieved.
Assess activities according to both strategic value and feasibility	The prominent targeting approaches discussed above can all be grouped according to a matrix similar to that of UNIDO (2011) discussed above. Strategic value (similar to UNIDO's "attractiveness") refers to the amount, or depth, of progress towards economic transformation entering a new activity is likely to unleash. Feasibility refers to the ease, or likelihood, with which the capabilities for, and competitiveness of, a new activity can be achieved.

Principle	Rationale
Assess feasibility using indicators such as accordance with factor endowments, proximity to existing capabilities, emerging private sector growth, and, crucially, presence of conducive political conditions	First in the short-run, the portfolio of priority industrial sectors and activities should include activities that exploit Uganda's factor endowments (such as cheap labour and abundant natural resources). Second, these target activities should also build on the economy's existing capabilities (such as those applied in basic agro-processing and steel manufacturing). Third, it may pay off to prioritise activities within which Uganda's private sector already demonstrates some emerging strength (such as industrial timber and chocolate). Fourth, Ugandan firms are more likely to achieve international competitiveness in activities that are relatively unique to them, rather than those also being pursued by numerous competitor countries such as its regional neighbours. Fifth, the political conditions for industrial policy success (using a similar framework as the one applied in the previous chapter) must be assessed at the sector level, and heavily weighted in the final scoring. At a more granular level the potential success of each specific enterprise can be assessed based on a range of factors relating to the relative cost and availability of its inputs and the market potential of its products or services.
Assess strategic value using indicators such as market opportunities, spillover opportunities, and uniqueness	Achieving sustained economic transformation requires the constant pursuit of new capabilities that shift, rather than conform with, the economy's existing competitive advantage. First, new activities with a high strategic value are ones that present opportunities for firm growth, job creation, generation of foreign exchange, and/or revenue (including tax). This can be assessed by examining the global, regional, and domestic demand for a product or activity, its recent growth, and its projected future growth, estimations of its direct and indirect employment generation, and its expected value-added, as a proxy for foreign exchange and revenue potential. Second, high strategic value means that an activity entails the development of significant new capabilities, whose mastery in turn will open doors to further upgrading and diversification in the future. This aspect can be assessed by examining the "proximity" of an activity to additional higher-value-added activities (for example, activities that require similar capabilities). The product space "opportunity gain" measure is one way of gauging this, but other, more qualitative approaches may paint a more accurate picture. Finally, a new activity that possesses high strategic value is one that could generate large spillovers. meaning that it is likely to stimulate firm growth, job- and income-creation, and skills acquisition in other activities, either downstream or upstream in the same value chain, or across value chains.
Do not discriminate a priori between manufacturing, agriculture, extractive, and services industries	The search for high-potential economic activities to promote should be informed by the above criteria. While the literature and international experience shows that manufacturing is likely to play a key role in economic transformation, the net in the search for high potential activities should be cast wider.
Select a risk-adjusted portfolio of priority industrial sectors and activities	Because industrial policy is inherently risky and state resources are scarce, the portfolio of priority sectors and activities should be risk-adjusted. In other words, it should contain a mix of some activities selected on the basis of their feasibility and others selected on the basis of their strategic value. The inclusion of low-risk activities is important to generate early successes and validate the use of industrial policy, but at the same time economic transformation can only be sped up and sustained by the inclusion of some higher-risk strategic bets.

Table 6 highlights a non-exhaustive list of potential target activities or sectors to illustrate the types of findings that the application of the proposed targeting principles might yield.

Table 6: Illustrative Potential Target Activities

Potential target sector or activity	Rationale with reference to proposed targeting principles
Animal industries	Multiple experts interviewed see the animal industries - including meat such as poultry, pork, fish, and beef, as well as eggs and dairy products - as a group of interrelated sectors in which Uganda is well-placed to be a regional leader. With rapid growth in domestic and regional demand due to urbanisation, population growth, and an emerging middle class, there is enormous potential for this sector to grow. It is relatively close to existing capabilities, with Uganda already developing a competitive edge, for instance in poultry and dairy, and with strong prospects for animal feed inputs such as maize, oilseed cake, and soybeans. It thus presents a relatively low-risk prospect. On the other hand, some new regulation and capability development is necessary to bring the sector to competitive export standards at scale, including the introduction of high-yielding and resilient breeds, highly efficient feeds, modern veterinary services, scientific farm management practices, cold storage, high quality packaging and labeling, and so on. These capabilities have spillover effects into other food industries. Animal feed, in particular, has been referred to as a "bottleneck good" whose larger-scale, higher-quality, and higher-efficiency production would unlock growth. This has strong backward linkages to smallholder farming growing the above mentioned feed inputs.
Ironmaking	Ironmaking is a missing link in the iron and steel value chain, with direct reduction and sponge iron production the most promising route (interviews). It is a relatively high-risk industrial project requiring large-scale investment in the hundreds of millions of USD, extensive regional cooperation, and significant new capabilities. These risks would be rewarded by high strategic value, derived first from precisely the industrial and engineering capabilities it requires, which are relevant for other heavy industries, second because of its (albeit moderate) job creation potential, and third because of the large amounts of foreign exchange savings and earnings from replacing both domestic and regional semi-finished steel imports with Ugandan-produced product. This last point is particularly relevant given the fact that domestic and regional demand for steel from the construction and infrastructure sectors are set to grow exponentially. Finally, the iron and steel value chain presents further opportunities for upgrading into various finished steel products, including machine and automobile parts as well as household goods such as kitchenware.

Potential target sector or activity	Rationale with reference to proposed targeting principles
Industrial timber and related products	Industrial timber production is an example of a window of opportunity, both from a supply and a demand perspective. On the supply side, Uganda's average annual timber harvests predicted to grow up to 15-fold by 2030 (SPGS, 2013). On the demand side, the need for high-value wood products such as industrial grade timber, fibreboards, and furniture components is growing in neighbouring countries, especially Kenya, and will continue to grow exponentially due to rapid population growth and urbanisation throughout the region. New technology and capabilities will be required: the leading companies in the sector currently have outdated and inappropriate machinery and processing practices as well as a lack of international marketing capabilities (interviews), and in order to incorporate the fast rising timber supply from smaller- scale plantations, new aggregation systems and/or smaller-scale processing capabilities will be required.
Final assembly	Final assembly is an example of an industrial activity that often has more similarities across value chains than with downstream or upstream activities in the same value chain, thus demonstrating the importance of looking not just at sectors but also at activities as a unit of analysis. Whether garments, smartphones, electric appliances, or automobiles, final assembly is a low-value-added manufacturing activity that several firms in Uganda are already using to enter global value chains. The key will be to explore how these activities can lead to upgrading within those value chains and further diversification into similar activities in other value chains.
Tourism	While the tourism industry does not present the same capability spillover and job and income multiplier effects as many manufacturing sectors do, it is already Uganda's largest foreign exchange earner, and a high-potential channel for developing modern management and customer service capabilities. This could cause spillovers into all customer service activities, marketing, hospitality, and other high-growth service sectors. Again, a medium-term demand window of opportunity is likely, with global travel expected to continue growing rapidly after the COVID-19 pandemic as a result of growing disposable incomes in the huge populations of Asia and Africa.
Digitally delivered services	A focus on digitally delivered services is an example of taking into account longer-term trends including the exponential growth of manufacturing automation, connectivity, the internet of things, and e-commerce. These services are very broad in scope, including business process outsourcing (such as call centres and virtual assistants), software development (including cybersecurity, gaming, shopping, logistics management, data processing, social networking, and so on), digital design, content creation (whether music, video, or text), engineering, education, healthcare, marketing, data science, and more. Given the increasing automation of manufacturing, and thus its increasingly capital- and skill-intensive nature, Uganda's competitive edge from low labour costs will continue to be eroded, while many manufacturing activities will not absorb the amount of labour they used to. Digitally delivered services may provide a partial alternative, but even the lowest-skill jobs available are much higher-skill than traditional basic manufacturing. Developing the necessary capabilities and skills will take time, so a long-term strategy would be needed.

Potential target sector or activity	Rationale with reference to proposed targeting principles
Labour export	Finally, the labour export sector is included here as an outlier, not because of its proven ability to catalyse economic transformation, but in order to illustrate how widely "the net can be cast" in the search for activities to promote through industrial policy. Ugandan firms are already active in facilitating the export of labour, notable examples including the movement of Ugandan domestic ancillary workers to the United Arab Emirates and security personnel to Iraq during the Iraq War. While well-known for exposing workers to hazards and abuse, and so far leading to very limited positive spillovers, this is not inevitable with the right policy support. GoU could explore the potential of industrial policy tools to ensure that the negative effects of labour export are minimised and the positive effects - including skills development, market exposure and linkages, remittances, the acquisition of entrepreneurial ideas, and productive investment upon return to Uganda - maximised.

2.2. Assessment of Green Growth Potential and suggested prioritization

GGGI has developed a Green Growth Framework (GGF)[14] that helps in developing guidelines for setting up EIPs/GreenSEZs which consists of the Green Growth Assessment Process (GGAP) and extended Cost Benefit Analysis (eCBA). GGAP is a policy tool to evaluate the green growth performance of projects and plans against a set of indicators. This framework allows for a systematic step-by-step screening process to identify, quantify and prioritize policy interventions to improve green growth performances of projects and plans. Notably, extended Cost Benefit Analysis (eCBAs) is employed to develop financial models and business cases and formulate policy enabling conditions to develop green projects. It moves out of mere mitigation/compliance approaches towards a scenario comparison for evidence-based decision making. The eCBA approach is described is complemented by the capitals approach referring to the 3 capitals (productive, environmental and social) and appropriateness based on local contexts to take into account for eligibility and prioritization. Besides, a Green Growth approach would aim to optimize the elements described in the EIP Business Case Building. At national level, the Green Growth Index (see Figures 11 and 12) provides a set of indicators that can serve as a guidance, though they would require national targets.

14 Green SEZ Policy Guidelines Draft, GGGI Indonesia , 2017

Figure 11: Updated Indicator Framework for the 2020 Green Growth Index

	Dimensions [Goals]	Indicator categories [Pillars]		Indicators [metrics]
Green Growth Index	Efficient and sustainable resource use	Efficient and sustainable energy	EE1	Ratio of total primary energy supply to GDP (MJ per $2011 PPP GDP)
			EE2	Share of renewable to total final energy consumption (Percent)
		Efficient and sustainable water use	EW1	Water use efficiency (USD per m^3)
			EW2	Share of freshwater withdrawal to available freshwater resources (Percent)
		Sustainable land use	SL1	Soil nutrient budget (Nitrogen kilogram per hectare)
			SL2	Share of organic agriculture to total agricultural land area (Percent)
		Material use efficiency	ME1	Total domestic material consumption (DMC) per unit of GDP (Kilogram per GDP)
			ME2	Total material footprint (MF) per capita (Tons per capita)
	Natural capital protection	Environmental quality	EQ1	PM2.5 air pollution, mean annual population-weighted exposure (Micrograms per m^3)
			EQ2	DALY rate due to unsafe water sources (DALY lost per 100,000 persons)
			EQ3	Municipal solid waste (MSW) generation per capita (Tons per year per capita)
		Greenhouse gas emissions reductions	GE1	Ratio of CO_2 emissions to population, including AFOLU (Tons per capita)
			GE2	Ratio of non-CO_2 emissions to population, excluding AFOLU (CO_2e per capita)
			GE3	Ratio of non-CO_2 emissions in agriculture to population (CO_2eq tons per capita)
		Biodiversity and ecosystem protection	BE1	Average proportion of key biodiversity areas covered by protected areas (Percent)
			BE2	Share of forest area to total land area (Percent)
			BE3	Above-ground biomass stock in forest (Tons per hectare)
		Cultural and social value	CV1	Red list index (Index)
			CV2	Tourism and recreation in coastal and marine areas (Score)
			CV3	Share of terrestrial and marine protected areas to total territorial areas (Percent)
	Green economic opportunities	Green investment	GV1	Adjusted net savings, including particulate emission damage (Percent GNI)
		Green trade	GT1	Share of export of environmental goods (OECD and APEC class.) to total export (Percent)
		Green employment	GJ1	Share of green employment in total manufacturing employment (Percent)
		Green innovation	GN1	Share of patent publications in environmental technology to total patents (7 yrs moving ave.)
	Social inclusion	Access to basic services and resources	AB1	Population with access to safely managed water and sanitation (Percent)
			AB2	Population with access to electricity and clean fuels/technology (Percent)
			AB3	Fixed Internet broadband and mobile cellular subscriptions (Number per 100 people)
		Gender balance	GB1	Proportion of seats held by women in national parliaments (Percent)
			GB2	Gender ratio of account at a financial institution or mobile-money-service provider (Ratio)
			GB3	Getting paid, covering laws and regulations for equal gender pay (Score)
		Social equity	SE1	Inequality in income based on Palma ratio (Ratio)
			SE2	Ratio of urban-rural access to basic services, i.e. electricity (Ratio)
			SE3	Share of youth (aged 15–24 years) not in education, employment, or training (Percent)
		Social protection	SP1	Proportion of population above statutory pensionable age receiving pension (Percent)
			SP2	Universal health coverage (UHC) service coverage index (Index)
			SP3	Proportion of urban population living in slums (Percent)

Figure 12: Links of Green Growth Index to Sustainable Development Goals

A Sustainable Development Goals (SDG) indicators used in the Green Growth Index

Dimensions	Indicators		Sustainable Development Goals (SDGs)*			
			Goal		Target	Indicator
Efficient and sustainable resource use	EE1	Ratio of total primary energy supply to GDP	7	Affordable and clean energy	7.3	7.3.1
	EE2	Share of renewable to total final energy consumption	7	Affordable and clean energy	7.2	7.2.1
	EW1	Water use efficiency	6	Clean water and sanitation	6.4	6.4.1
	EW2	Share of freshwater withdrawal to available freshwater resources	6	Clean water and sanitation	6.4	6.4.2
	ME1	Total domestic material consumption per unit of GDP	8 12	Decent work and economic growth Responsible consumption and production	8.4 12.2	8.4.2 12.2.2
	ME2	Total material footprint per capita	8 12	Decent work and economic growth Responsible consumption and production	8.4 12.2	8.4.1 12.2.1
Natural capital protection	EQ1	PM2.5 air pollution, mean annual population-weighted exposure	11	Sustainable cities and communities	11.6	11.6.2
	EQ2	DALY rate due to unsafe water sources	3	Good health and well-being	3.9	3.9.2
	BE1	Proportion of KBAs covered by protected areas	14 15	Life below water Life on land	14.5 15.1 15.4	14.5.1 15.1.2 15.4.1
	BE2	Share of forest area to total land area	15	Life on land	15.1	15.1.1
	BE3	Above-ground biomass stock in forest	15	Life on land	15.2	15.2.1
	CV1	Red list index	15	Life on land	15.5	15.5.1
	CV3	Share of terrestrial and marine PAs to total territorial areas	14	Life below water	14.5	14.5.1
Social inclusion	AB1	Access to safely managed water and sanitation	6	Clean water and sanitation	6.1 6.2	6.1.1 6.2.1
	AB2	Access to electricity and clean fuels/technology	7	Affordable and clean energy	7.1	7.1.1 7.1.2
	AB3	Internet broadband and mobile cellular subscriptions	17	Partnerships to achieve the goal	17.6	17.6.2
	GB1	Seats held by women in national parliaments	5	Gender equality	5.5	5.5.1
	GB2	Gender ratio of account at a financial institution or mobile-money-service	8	Decent work and economic growth	8.10	8.10.2
	SE2	Ratio of urban-rural access to basic services, i.e. electricity	7	Affordable and clean energy	7.1	7.1.1
	SE3	Youth not in education, employment or training	8	Decent work and economic growth	8.6	8.6.1
	SP1	Proportion of population receiving pension	1	No poverty	1.3	1.3.1
	SP2	Universal health coverage service coverage index	3	Good health and well-being	3.8	3.8.1
	SP3	Proportion of urban population living in slums	11	Sustainable cities and communities	11.1	11.1.1

* Details on SDG targets and indicators are available on these links: https://unstats.un.org/sdgs/indicators/database/; https://unstats.un.org/sdgs/metadata/

This chapter aims to provide methodological options for the prioritization related to the productive capital in a national perspective, while the Business Case focuses on the analysis of the local market and trends context.

Table 7 gives an overview of classical policy targeting approaches.

Table 7: Industrial Policy Targeting Approaches

Method	Reference	Theory/Rationale	Pros	Cons
Import Substitution	Early economists (e.g. Lewis, 1950; Prebisch, 1950)	Identify key imported products that can be replaced with domestically produced goods	• Provides a clear focus as to which sectors can be targeted and provides guarantee that there is local demand for a given product	• May in fact lead to increased imports of parts and components not locally available • Domestic demand may not suffice to allow for increased productivity through economies of scale • Puts relatively less emphasis on export promotion
Parsimonious growth (based on product space "proximity" measure)	Hausmann & Klinger, 2007	Identify new sectors close to the economy's existing capabilities but with higher sophistication, thus making diversification faster and less risky	• Provides a blueprint for diversifying into sectors that countries with a similar export matrix have diversified into and identifies lower-risk sectors due to proximity to existing capabilities	• Ignores demand dynamics and benefits of producing unique products • Only looks at similarities between products rather than production processes, and may thus miss important spillover opportunities (Andreoni & Chang, 2019) • May downplay importance of defying comparative advantage and leapfrogging in historical success cases (Lin & Chang, 2009)
Strategic bets (based on product space "opportunity gain" measure)	Hausmann & Klinger, 2007; Chang, 2013; Cimoli et al., 2009	Identify more sophisticated new sectors that would open up new opportunities for further diversification, even if they lie at significantly greater distance from current capabilities	• Enables economic transformation towards potentially high value added and technologically complex goods even in developing countries with little pre-existing related capabilities	• Underestimates issues of feasibility, and involves a higher risk of failure than parsimonious growth • Ignores demand dynamics and benefits of product uniqueness

Method	Reference	Theory/Rationale	Pros	Cons
Growth Identifica- tion and Facilitation Framework (GIFF)	Lin & Monga, 2010	Use the country's latent comparative advantage and factor endowments to identify areas for development, mimicking the production sets and industrialisation pathways of countries at a moderately higher GDP/capita (around 100% higher) and with similar endowment structures or other comparable parameters	• The policy implications and approach are clear for the imitating country, as well as the required coordination capabilities that must be considered	• It is unclear what aspects of endowment structure of other comparable parameters should be analysed • The focus on comparator countries with a 100% greater GDP/capita is arbitrary and may not reflect success story experience (Andreoni & Chang, 2019) • Ignores differences in country contexts, capabilities, and industrial structures • Ignores demand dynamics and product uniqueness
Develop upstream and downstream linkages in existing commodity sectors	Hirschman, 1981; Mackintosh, 1923; Maloney, 2002; Morris et al., 2012; Ovadia, 2016	Based on the idea that the production linkages from natural resources to industry are more likely to lead to economic diversification through upgrading in a commodity chain	• Enables pursuit of value addition in sectors with supposedly lower entry barriers or where a given country has more leverage to attract investments • More suitable to the context of resource-rich developing countries because: (i) the policy space for import substituting industrialisation has reduced, and (ii) there is rising competition in manufacturing sectors (Morris et al., 2012)	• There can be considerable market barriers to commodity value addition (Tordo et al., 2013), which is why looking downstream from existing production can be a poor guide to identifying high-potential export sectors (Hausmann et al., 2010) • Increases industrial dependence on commodity sectors and the consequent vulnerability to commodity price swings • The desirability of building linkages around a commodity depends on the exhaustibility of reserves

Method	Reference	Theory/Rationale	Pros	Cons
Following the market / Self-discovery	Wade, 1990; Hausmann & Rodrik, 2003; Altenburg & Melia, 2014	Rather than "picking winners", follow the private sector's lead in identifying high-potential industries and build industrial policy on existing emerging progress	• Building on emerging success is low-risk and willingness of the private sector to invest is already established, so fewer incentives likely needed • Leaves complex challenge of identifying high-potential industries to the private sector	• Assumes private sector's willingness to invest in the most strategic industries for economic transformation • Assumes private sector's ability and willingness to make risky investments • Ignores fact that market failures are likely to prevent private sector from investing in key industrial sectors (the justification for industrial policy in the first place)
Value chain analysis	Gereffi & Fernandez-Stark (2016)	Identify potential entry points and upgrading possibilities in global value chains (GVCs), with emphasis on value chain tasks that are close to existing capabilities (analogous to distance) or that present opportunities for further upgrading/ diversification (analogous to opportunity gain). Based on analysis of GVC governance patterns.	• Recognises importance of trade relations and globalised nature of production • Highlights opportunities to upgrade economic activities/ tasks rather than just products • Focus on activities/ tasks recognises cross-sector spillover opportunities	• No practical and clear operationalisation of GVC analysis- based targeting • Requires high state capacity to anticipate current and future global opportunities • Less useful for identifying opportunities not integrated into GVCs (e.g. domestic/regional construction and food sectors)

Method	Reference	Theory/Rationale	Pros	Cons
Windows of opportunity / Technolog- ical cycles / Technologi- cal foresight	Perez, 1983; Freeman & Perez, 1988; Lee & Malerba, 2017; Lee, 2019; Sainsbury, 2020	Identify windows of opportunity based on ongoing or predicted shifts in demand, technology, production capabilities, and/ or institutions.	• Recognises importance of changes in contextual factors including demand • Emphasises importance of emerging technologies and exponential growth opportunities these present • Takes longer-term view of future industrialisation opportunities	• Not operationalised and highly qualitative, not based on measurable criteria • Only useful if used in conjunction with other approaches
Integrated approach	Altenburg et al., 2016	Sequentially apply several layers of analysis, starting with latent comparative advantage against comparator countries (GIFF), and broader capabilities and potential for spillovers (product space), creating an evidence-based menu of options for further narrowing down through GVC power relations analysis, long-term sustained growth potential and anticipation of future technology trends.	• Acknowledges different levels of analysis and the need for a balanced approach	• Not operationalised • Requires high state capabilities

UNIDO has proposed a methodology for the sustainable assessment of industrial subsectors for policy advice (2015) that can be used in conjunction reflection on natural and social capitals to narrow down the productive elements, as those sections in this methodology are a bit outdated. The full economic analysis methodology can be consulted in "RESEARCH, STATISTICS AND INDUSTRIAL POLICY BRANCH WORKING PAPER 10/2014."

The key dimensions for the Economic analysis are:

- Competitiveness analysis
- Structural change performance
- Industrial interdependencies

The competitiveness analysis entails the identification of products and industries that are in line with the country current or planned endowment structures (supply side analysis, i.e. what the country's core competencies, its comparative advantage) and that are growing dynamically across the globe due to current and future consumption trends (demand side, i.e. whether there is a growing market for the products of specific industries).

EIPs are one tool to support government's role in actively coordinating investments for industrial upgrading and diversification and in compensating for externalities generated by first movers in the dynamic growth process.

The Demand side is driven by international and domestic markets and should look at both final goods as well as intermediate ones. Indeed, the production of final products is increasingly becoming intrinsically linked to the degree of their reliance on intermediate goods along the supply chain. Thus, some aspects to look at is if the industries can cater to both exports and domestic demand, and if they can create positive spillovers to other industries through supply linkages.

Industrial spillover, industrial ecology and biodiversity conservation

The industrial ecology approach enables an additional level of strategy as it will indicate which complementary industries car optimize RECP and Symbiosis. Another aspect to take into account is how those industries can enable to bring the technology that can benefit sectors requiring long-term development (particularly true if an environmental conservation component exist) or for which the technology would be unaffordable if taken individually.

As an example, the Moroto Industrial Parks aims at processing gum arabica amongst other products. Gum Arabica is a natural gum consisting of the hardened sap of Acacia senegal or Vachellia (Acacia) seyal and is a highly prized source of dietary fiber (to improve the quality of human microbiota) as well as common food stabilizer, emulsifier and thickening agent. However, its collection remains on wild trees growing mostly in arid landscape and requiring conservation efforts (land conservation, rotational sap extraction, protection from woodcutting, careful manual collection), which are often overlooked. Besides it requires careful manual labor that can be vital for enclaved population. A possible spill-over of the sustainable exploitation of this resource is the further protection of other indigenous and high value trees such as frankincense (Boswellia genus) and myrrh (Commiphora genus), which exploitation is unsustainable and presenting various endangered species. Most communities do not retain any added value by lack of infrastructures such as CO2 extraction plants, which by itself may require to pool several indigenous plants value chains to create the necessary volume. Besides, conservation efforts on such environments may range over several decades. **Thus, while those sectors may not come up at the forefront of a competitiveness analysis in the short to medium-term, the opportunity can be created through the spillover chain from one competitive industry, or by the analysis of the bundled value chains rather than by each individual one.**

The competitiveness analysis will rely on a subset such as: macro and industrial analysis, analysis of levels and trends of relevant indicators (ex: value added data from INDSTAT, Export data from UN COMTRADE, Input-output tables, ISIC classification for the share of exports data), analysis of domestic demand (share of VA in INDSTAT value added data, identification of "Local Champion" through positive change in the ratio of industry value added to total manufacturing value added).

The **Analysis of structural changes** compares the evolution and performance of different manufacturing sectors with that of other countries that are in similar stages of economic development or with countries that experienced successful transformation through manufacturing growth and can therefore be considered role models . It implies that a country's endowment structures can change as it accumulates capital and educates its labor force to acquire higher skills, which enable to country to move to more technologically sophisticated industries with higher capital intensity.

The **Analysis of interdependence of manufacturing industries**, examines the impact a specific industry has on other manufacturing industries in the country. Defining these linkages and their changes over time is only possible with the use of input-output tables which contain a detailed account of the economic structure in terms of demand and supply at the sub-sector level. Flows from one industry to another within the country can be examined as well as inter-industry flows between the country and another one. This process is also used in industrial ecology to identify symbiotic opportunities (energy and material flow analysis), though in this case the gap analysis would also result in an active effort to include the missing industrial skills/processes. By comparing the individual linkages with the average, we can determine which industries have higher than average linkages among all other manufacturing industries and would therefore generate higher than average spillovers to the rest of the economy. Industries with above average inter-linkages are classified as 'high impact' sectors in the UNIDO methodology.

In addition to exports performance, local demand, the contribution to structural change and local inter-linkages of industries, it is important to evaluate the overall contribution of the manufacturing sector to the economy at the macro level.

The UNIDO approach proposes using three indicators to establish this overall contribution:

- The share of sector exports in total manufacturing exports: Exports are critical for earning the much needed foreign exchange to balance the economy's current account. The contribution of the specific industry towards total manufacturing export earnings offers a good indication of the industry's significance in terms of total manufacturing exports.
- The share of industry value added in total manufacturing value added: This indicator measures the contribution of a specific industry to the economy's industrialization intensity. Industries with the highest contributions towards value addition will have a significant role to play in the manufacturing sector's development of the country.
- The share of industry employment in total manufacturing employment: Meaningful employment creation is one of the biggest merits of manufacturing-oriented development. Employment creation and associated skill development are crucial in the development of economies and in poverty reduction. Hence, the contribution of each industry towards total manufacturing employment is a crucial indicator that measures the social and development impact of an industrial sub-sector.

As per our summary of status in Uganda, it seems that GoU has also applied those 3 indicators as well as the competitiveness. However, the analysis of structural changes may have taken inadequate models particularly when compounding industrial growth objectives with the environmental and social impacts, or when comparing national policies objectives with the reality of the industrial parks implementation on the ground. It may have overlooked also some alternative models who

have opted for a greener development. Similarly, the interdependence analysis may have lacked a complete industrial ecology analysis, thus failing to take the externalities into consideration. In addition, the UNIDO approach recognizes limitations on the methodologies that can actually adversely affect a Green Growth perspective. Those are for examples:

- **"Analysis of exports:** The methodology is useful to assess industries that are already exporting. It does not take into account potential goods the country could be producing but is not presently exporting. It does not take into account the diversity of the industries. In cases where the products of an industry are very diverse, variations in performance of these products are expected relative to the average world growth of the manufacturing sector. It assumes that industries that have remained dynamic over the last ten years will continue to be so in the future. This may not be completely innocuous considering the dynamics and competition that exist in the international manufacturing sector, resulting in a constant emergence of substitutes and new product lines". **In a Green Growth perspective, many of the industries that have been considered dynamic so far did so by creating a negative debt on the natural and social capitals. They should therefore be weighted in an eCBA approach to see what alternatives industries or changes should be brought to avoid a replication of the same negative impacts.**

- "**Analysis of domestic demand**: This analysis does not indicate for which products there is growing domestic demand, and does not establish whether the country is importing more intermediates or finished goods. The analysis also does not divulge the share of manufactured output of a specific industry, which ends up on the domestic market". **In a Green Growth perspective, this approach fails to account for positive consumption changes that could be fostered by government and green enterprise to raise consumers awareness on sustainable products or on healthy products. For example, to address Uganda food security, consumers choices may be limited by the price tag as a first criteria. Addressing the market bias in regards to sustainable products access for example through incentives may open a range of future domestic demand that can grow parallelly to the population poverty alleviation level. Similarly, the virtuous circle that can be generated by linking complementary sectors is omitted. For example, in regards to food consumption patterns, organic/healthier food choices may be promoted through niches in the tourism or the luxury sector prior to be popularized to the rest of the consumers.** The production of fruit juice could be taken as an example. Though it is a product with growing demand, its health benefits are much lower (if not negative) compared to fruit pulps and fresh fruits that could be provided in the domestic market. Those may require the development of solar cold chains and to lift infrastructure barriers that in a purely industrial investment perspective may not be viable, but linked to an urbanization strategy addressing domestic transport development and sustainable energy supply, its feasibility positively changes.

- "**Analysis of structural change**: The analysis is based on benchmarking a country's performance to an average of countries with the same endowment structure. This methodology generates two criticisms: firstly, that endowment structures are determined solely based on income per capita, and secondly, that it implicitly sets the bar against which performance is judged based on what average peers have achieved rather than the country which has excelled in that industry. This also raises the question whether it is in fact not recommended for countries to have a lower share of a specific industry and a higher share of another one than their peers' average. Hence, this analysis is only used as a reference tool, not one from which any actions are recommended". **In a Green Growth perspective, the focus on the best practice examples would lead to take models from the most successful countries in integrating the 3 capitals (productive, natural and social) and in defining markets that can support it**. For example, in Uganda, the development of regional markets may provide more potential than global ones, selective tourism like in Costa Rica a better model than mass tourism, organic industries a more sustainable model than the rapid expansion of the textile sector in Ethiopia.

Chapter 3:
Regulations

Chapter 3 on regulations establishes the process for a review of the enabling or hampering policies that constitute the environment of an EIP policy in Uganda. The aim is to avoid the mistake of establishing a disconnected stand-alone policy. The process can be applied to any other country context.

3.1. Regulatory environment for EIPs

An effective EIP Policy should never be considered as a stand-alone policy which would lead to incoherencies and ultimate failure or inapplicability. On the contrary, it should rest on an institutional framework whereby EIPs related policies (such as Green Industrialization, Environment or other policies) work as enablers and a strong legal and regulatory framework ensure enforcement capacity. Enabling policies should in particular mainstream Green Growth/ environmental and social issues into economic and industrial policies, create effective policy and regulatory processes to support the planning, development and implementation of EIPs and associated practices (e. g. RECP, park management, spatial planning and zoning, park level infrastructures and utility services, environmental performance measurement instruments and targets), help address changing technical, economic, environmental and social conditions[15].

Therefore, the review of existing policies to identify enablers and barriers is a necessary step to the design of a well-integrated EIPs policy.

Barriers can be classified in 5 categories (Ellis Brand, 1999) as per Figure 13 :

- Technical barriers: those can address sectoral or RECP/symbiosis limitations, productive sectors incompatibility, competition or other.
- Information barriers: Refers to the lack of qualitative data that may affect decision making, operations and impact or performance measuring. Methodologies & tools to collect and analyze information as well as IT technology (Database and software) or data privacy constraints may be included here.
- Economic barriers: Aim to address possible market failures such as inclusion of externalities for example.
- Regulatory barriers: those can virtually happen in any sector
- Motivational barriers: refers to the willingness of all stakeholders to cooperate and to commit themselves to the green growth process. It involves Good governance and trust considerations.

Figure 13: Classification of EIP barriers

15 EIP UNIDO Handbook.

A non-exhaustive list of barriers lifts/ recommendations for the purpose to illustrate possible entry points has been developed in GGGI Indonesia SEZ guidelines. Below is a short summary of extracted examples applicable to Uganda. Examples of possible technical barriers lifts are provided in Table 8.

Table 8: EIP barriers lifts

Area	Policy Recommendations
Industrial Ecology/ RECP/Symbiosis	• Shift government focus from end-of-pipe technologies towards holistic or preventive solutions. • Set up of a national symbiosis program. • Establish or strengthening of national and decentralize NCPC structures or establish collaborations with regional NCPC structures if needed.
Disaster Risk Reduction	• Industrial risk integrated in national, regional and local/community disaster risk management plans, sectoral plans and early warning systems.
Waste Management	• Policy should enable a distinction between solid and hazardous wastes and secondary materials so that not to hamper the reuse, recycle, or reclaim the waste to recover constituents due to liability considerations or complex permitting. Once a substance is classified as hazardous waste, it should not be easier to dispose and use new materials rather than reuse similar constituents recovered from waste. • Innovation should be promoted in order to use alternative material generating less waste or develop recycled products particularly for plastics.
Smart/sustainable cities	• Integrate industrial park as core element of smart/sustainable cities.
Environment general	• Safeguard regional environmental carrying capacity by systematically measuring it and adopting efficient and environmentally balanced management of natural resources.
Energy, Low Carbon and extractives	• Promote the use of clean, green energy generation and energy efficient technologies and practices to reduce energy consumption rather than reliance on coal.
Assessments, Monitoring & Evaluation	• Environmental impact assessment, eCBA, asn performed by an external and objective authority with adequate knowledge and capacity. • Reliable and streamlined statistical data collection system. • Functional certification agencies and audits. • Monitoring and evaluation systems should have feedback loops for corrections, and be integrated between environmental, social, economic and management.
Learning	• Sufficient technical capacity by government staff to properly assess, monitor and evaluate or implement Green Growth programs. • Revitalizing vocational training center through improving quality of training programs, means, and instructors; integrating green growth concepts.
Business/ SMEs	• SME Entrepreneurship Hub and programs include symbiosis facilitation, RECP trainings and audits.

Examples of possible information barriers lifts	
Area	**Policy Recommendations**
Industrial Ecology/ RECP/Symbiosis	• Put in place "Name and shame" device. The government selects the "top" product in a given product category and establishes its energy efficiency characteristics as the baseline requirements for all products in the same category (ex. Japan Top Runner Program). • Set up of a national information disclosure system on environmental performance to enable consumers but also financial institution to deny polluters and welcome green players. • Include green products awareness in programs aiming at strengthening consumer protection.
Tourism	• Raise public awareness on good individual environmental practices to protect the environment and eco-systems in touristic zones and natural reserves. Implementation of good practices charters designed per activity such as diving, trekking…Explicit the economic interest in the form of tourism revenue generation for the communities to preserve their natural capital.
Food security	• Develop awareness raising campaigns on food security, food nutritional value and good dietary/health habits to curve the morbidity trend correlated with economies achieving a developed status.
Energy, Low Carbon and extractives	• Introduce energy labelling to provide consumers with information on the consumption of energy and of other essential resources of products. Similar information can be introduced for food products nutritional value (ex Mexico food warning labels).
Learning	• Sufficient communication on new policies and associated trainings.

Examples of possible economic barriers lifts	
Area	**Policy Recommendations**
Industrial Ecology/ RECP/Symbiosis	• Develop comprehensive circular economy legislation. Circular Economy Promotion Law should stipulate the development of incentive measures for EIPs. • Develop incentives to reduce absolute levels of consumption and adopt sustainable lifestyles rather than only focus on the production side. • Set differential pricing policies on basic resources (electricity, water) that recompense RECP measures. • Green public procurement (GPP) obligating governmental entities to buy certain "green" products or GPP linked to Ecolabels and energy labelling by promoting voluntary take-up of the cleanest products and services. Tools include environmental criteria, indicative targets and model tender specifications to assist public authorities in greening their procurement practices. Green Purchasing Law can help to create the threshold demand necessary for manufacturers to begin producing "green" products at a profitable level. • Review and negotiate regional commitments for market integration by keeping tax barriers to products with negative green impact, prioritize green products services and skills and advocating for collective regional measures. This applies to the five core elements of flow of goods, services, investment, capital and skilled labor.

Examples of possible economic barriers lifts	
Area	**Policy Recommendations**
Waste Management	• Front-end fee structure for recycling rather than post disposal taxes may reduce illegal dumping. • Set up landfill taxes. • Imposition of a duty on industry to take back packaging materials without charge and to reuse or recycle them with exemption for manufacturers and distributors participating in a common regular collection system. Could be considered for heavy contributors to domestic waste for example food packaging.
Smart/sustainable cities	• Need for subsidy in initial phase of transport and other infrastructures (rail), integrate industrial park as core element of smart/sustainable cities.
Food security	• Provide incentives (tax, reputational, loans) for the manufacturing of products that contribute to food security and positive nutritional value. Consider setting up a tax on sugar and fats in food products manufactured or imported in Uganda.
Tourism	• Develop eco-tourism revenues stream to put in place protection measures such as through the purchase of permits.
Ecosystem services	• Develop ecosystem services levies: transform ecosystem benefits into economic incentives by establishing a voluntarily or mandatory transaction between the provider of a service (ones who manage the resource or are traditionally customary, or whom livelihood depend on it) and companies particularly in EIPs. • Build up CSR co-funding hubs with government funds and private/philanthropy funds in collaboration with the communities to channel voluntary contributions (can also apply to support the public services sector). • Consider to request a contribution from companies to maintain functional community early warning systems as related to the risk factors influenced by industrial activities particularly in EIPs. • Promote the use of micro-finance, disaster risk insurance, catastrophe bonds and other risk transfer mechanisms along the value chains connected with industrial activities particularly in EIPs.
Agricultural, livestock/fish and wild harvesting chains	• Lowering tax levels to eco-products, organic food and green products.
Energy, Low Carbon and extractives	• Reform of energy pricing system and support adequate feed in tariff for renewable energy. • Tax exemptions for renewable energy capital equipment. • Tax relief for investment in waste to energy equipment. • Lift regulations forbidding the resale of energy due to lack of privatization or of public-private agreements with the public service sector. • Lowering tax levels and interest rates of companies using green technology/approaches (including low carbon technologies) and imposition of taxes on energy or pollution-intensive industries. • Lowering tax levels for low carbon goods and/or low carbon services trade liberalisation. • Price guarantees and targets for renewables.

Examples of possible economic barriers lifts	
Area	**Policy Recommendations**
Infrastructures general	• Besides submitting infrastructures projects to eCBA, an earmarked percentage can be associated to allocate for greener options or targeted green infrastructures building in order to support local economic growth, poverty alleviation, reducing inequality, and increasing employment.
Financial	• Set up credit lines for environmental conversion to support energy-saving and emission reduction projects and enterprises by giving preferential conditions in loan lending while limiting access to credits by highly polluting and high energy-consuming projects and enterprises. • Cofinanciation options with foreign investment, that enable the 'bundling' of financing for SMEs from larger financial institutions for green growth projects. • National competitive action grant offered to states, regions, or localities in order provide greater incentive for companies and research centres to risk the development and implementation IE/Green growth technology & development. The national program could be backed up by smaller scale local programs for example seedling for start-ups. • Green earmarking in government line budget at all levels, for example as a percentage of all expenses. • Request banking institutions to give priority to green projects for loans and other credit services. Could be part of bank impact finance or sustainability strategy.
Learning	• Provide scholarships to fresh graduates of senior high schools to pursue their higher education; allocating vocational training and to develop school and university curriculum that supports entrepreneurship include green growth modules and green tech cursus.

Examples of possible regulatory barriers lifts	
Area	**Policy Recommendations**
Waste Management	• No single-medium permitting only: A multimedia approach to regulation is necessary to encourage EIP members to take a systemic view at reducing their wastes, rather than to shifting waste from one form (and medium) to another, without significantly reducing the totals. As an example, as a result of media-specific focus of environmental regulations, industries may eliminate some air pollution by converting it to another form of waste, such as sludge, which is then landfilled (Martin, 1996). • Put in place manufacturer "take-back" regulations Ex: Take-back regulations give manufacturers responsibility for recovering and recycling the products they produce. By shifting the burden of solid and hazardous waste management from local governments to industry, the costs of waste management are internalized by manufacturers. Thus, manufacturers have a direct incentive to design and produce products that are more amenable to recycling. • Set limits or bans to liquid waste and end-of-waste criteria (careful not to generate illegal dumping).
Market based approaches	• Permit trading programs: on carbon emissions, symbiosis, between SEZ. • Integration of the informal sector.
Social protection	• CSR contributions may support Uganda safety nets/social protection schemes. • Accreditation for Health and Safety Standard (OHSAS 18001)

Examples of possible regulatory barriers lifts	
Area	**Policy Recommendations**
Permitting	• Permits establishing emissions limitations by source applying to each point of release may hamper efforts to trade waste between EIPs companies: the sum of discharges from each company may be greater than the net discharges of the EIP. The EIP should be entitled to report collectively instead. • Establish a priority for the approval of green projects and formalities facilitation (for example skip the queue for permit applications to compensate for time spent in preparation). • General permitting procedure should be unified and speed up with support for start-ups and SMEs having more limited resources.
Assessments, Monitoring & Evaluation	• Moving from technology-based to performance-based regulations. Generally, regulatory agencies set industry standards based on the performance of a particular available and well-demonstrated technology. Performance-based standards allow firms to choose the pollution control technologies that are most economically efficient while achieving the required environmental performance.
Certification	• Performance based standards in sectors such as construction, water management, e.g., alternative designs must be compared based on their green (or RECP) potential.
Governance & coordination	• A clear regulatory structure aligned with the best international standards and regulations for driving the transition to green growth economies for regions at different levels of development. That implies a better inclusion and cooperation between different levels (national to local) and amongst regions. • To include feedback loops or systems through which learning and improvements are incorporated in future versions of the rules and legislations. • Set up legal obligation to implement sustainable management. • Policies should be complemented with legal and regulation framework for compliance.

Examples of possible motivational barriers lifts	
Area	**Policy Recommendations**
Disaster Risk Reduction	• Disaster risk management coordination mechanisms (local DRR platforms) have effective liaison with businesses (ex EIPs authorities).
Certification	• Promote voluntary certifications such as ISO 14001 and ISO 50001 Energy Management and Environmental Management.
Water	• Set up community users group including industries and EIPs for a participative management of the water resource.
Learning	• Synergies between universities and industries reinforced through policy and institutional agreements.

Examples of possible motivational barriers lifts	
Area	**Policy Recommendations**
Governance & coordination	• Give a sense of urgency in the green growth agenda. • Institute and develop CSR • Voluntary agreements with industry to promote green growth particularly beyond compliance may result more attractive to companies because they have more control over the goals and timetables • Mobilization of industrial sectors association to promote green development good practices • Ensure sustained policies and programs independent to changes in politics. • Sufficient ownership: players expected to implement green growth actions should feel involved in the process and responsible for the strategy/policy through sufficient consultation with the private sector.

Private (as well as public) zone developers/park management should be allowed to supply utilities services (tele-communications, water/ sewerage, power) to tenants of SEZ estates as well as companies/communities in the vicinity to enable symbiosis and PPP.

To facilitate the stocktaking of EIPs related policies in Uganda, a set of tools have been made available as shown in Addendums to chapter 3. Initial listing and priorities settings has been done through the Technical Working Group to the EU-GGGI Project.

First a table was made listing an overview of relevant policies and instruments[16] in the following broad categories:

- Economic & Industrial strategies, programmes and action plans including on EIP.
- Green/environmental/DRR/Climate Change strategies, programs and action plans.
- Industrial regulatory instruments and standards including on EIPs.
- Environmental/Biodiversity/Climate Change DRR regulatory instruments and standards.
- Social regulatory instruments and standards
- Economic & industrial instruments
- Other regulatory instruments and standards
- Voluntary agreements

Then it was requested to quickly pre-screen whether they were hampering or enabling (or neutral) an EIP Policy by looking at whether each related policy featured:

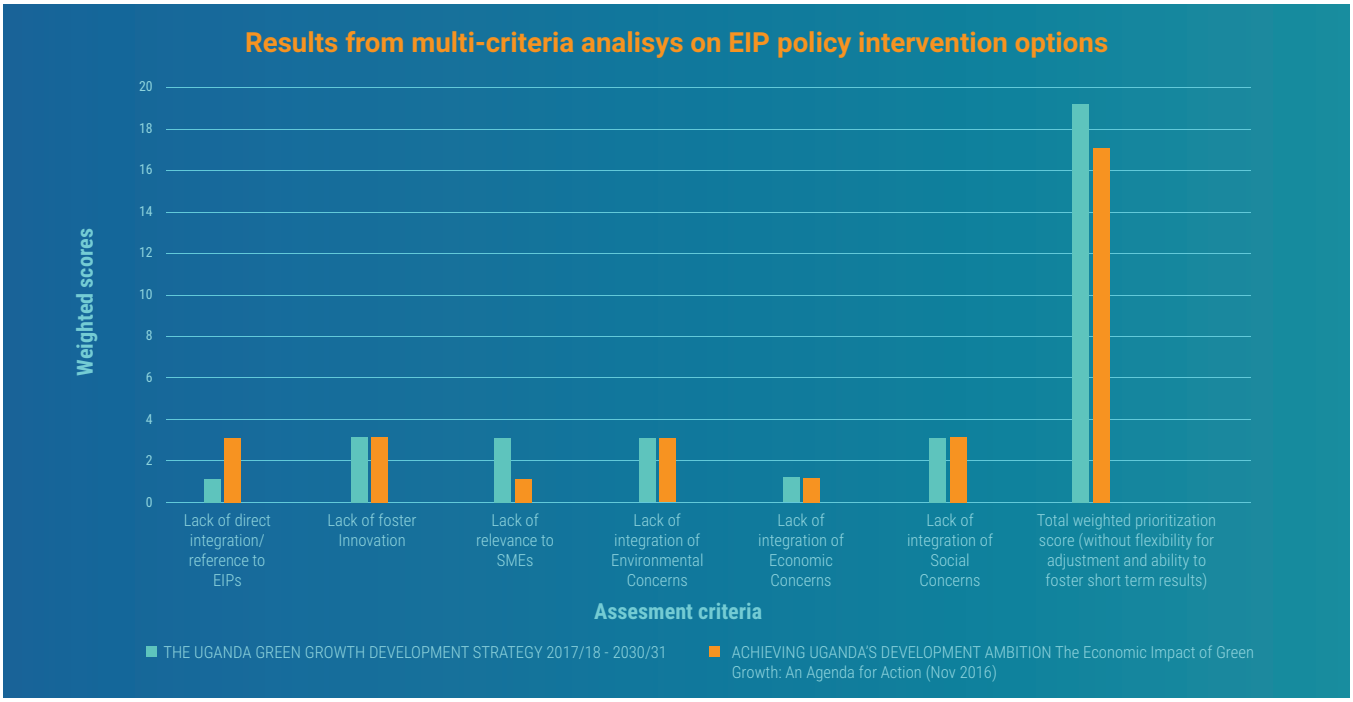
- Flexibility to make rapidly adjustments, if/where needed
- Ability to achieve short-term results
- Direct integration/reference to EIPs
- Fosters Innovation
- Relevance to SMEs
- Integration of Environmental concerns: Environment in general and Industrial Ecology (including circular economy), Biodiversity, Climate Change/DRR
- Integration of (Environmental) Health concerns
- Integration of Economic Concerns

16 Instruments are the practical means for implementing policy; the tools that create change and achieve policy's targets/objectives. They include a number of different types including regulatory instruments, economic instruments, information-based and voluntary agreements. Instruments are usually linked to a policy.

- Integration of Social Concerns (social inclusion and stability, gender & vulnerability, food security, poverty reduction, land management,etc)

A second screening with a more accurate (though subjective) rating was made with a selection of some of the related policies. The resulting selected policies are presented in Figure 14.

Figure 14: EIP related policies identification and weighting.



Following this identification, a limited set of related policies were selected for policy action planning whereby policy amendments were proposed together with the designation of the responsible authority, timing required and status. The list of enabling policies also included earlier identification by GoU in its 2017/18 – 2030/31 Uganda Green Growth Development Strategy presenting a list of Sustainability Financing Opportunities legislations. However due to Covid-19 and other participation constraints, this exercise was not pursued further.

2.4. Incentive Regime for the development of industrial parks

Industrial Parks and Free Zones (FZ) in Uganda currently benefit from an incentive regime to further enhance their attractiveness though at the moment they do not particularly reward green performance except for the promotion of local procurement. Table 9 summarizes IP incentives application targets as of 2022.

Table 9: Current GoU incentives application targets.

INCENTIVE	APPLICATION TARGETS[5]
Income Tax Act	• The income derived by an investor from letting or leasing facilities in an IP/FZabove a certain investment level. • The income of an operator in an IP/FZ. above a certain investment level. • Allowable deduction of certain expenses incurred in the course of generating business income. Investors are also allowed to carry forward their business losses indefinitely.

17 For more details consult INVESTMENT INCENTIVES AVAILABLE IN UGANDA AS OF MARCH 2022, www.ugandainvest.go.ug and www.ura.go.ug

INCENTIVE	APPLICATION TARGETS[5]
Value Added Tax	• With regard to Value Added Tax (VAT), Park developers/ operators in the park can claim a refund on the excess of the VAT paid on inputs used in the development process, less that charged on final products. • VAT deferments. • VAT exemptions of various nature.
Import Duty	• Exports do not attract any duties. • Zero duty of various nature.
Stamp Duty	• IP/FZ Developers of Operators above a certain investment level.
Excise Duty:	• Construction materials for development of industrial parks or free zones by a developer or an Operation whose investment is above a certain level.
Market Expansion	• Domestic Market - Buy Uganda Build Uganda (BUBU) Policy • International Markets such as EAC, COMESA, AfCFTA, Middle East, EU, China: special conditions apply.
Industrial Parks	• Investors could be allocated land for use within public Industrial Parks that the Government has set aside to promote industrialization

Some incentives regime present dispositions that may actually hamper Green Growth development. Examples are:

a) The possibility to acquire 100% of shares by a foreign entity may reduce government ownership of critical services and accountability over environmental and social compliance.
b) The negative list of restricted sectors does not support green products by prohibiting highly polluting ones.
c) The exemption from taxes and duties on all export processing zone imported inputs should consider if products are green and not create vicious circles in exporting countries.
d) The tax holiday on exportation of finished consumer and capital goods, the exemption from tax on income from agro-processing and corporate tax holiday for all companies in the zone should not be too long and too undiscriminated, they should rather be based on green performance at a decreasing rate.
e) The provision of free land for development may also translate in the destruction of natural landscape and lack of accountability from the private entities. Renting from a government perspective provides more accountability and flexibility to act on bad performers.
f) Personal income tax holiday for non-national employees should not be too long and rather needs to take into account non-double taxation status.

Foreign Direct Investment (FDI) Guarantees should be as follows:

- A foreign investor shall not be treated in any discriminatory way by reason only of the investor being a foreign investor, except in respect of ownership of land.
- The Royal Government shall not undertake a nationalization policy that would adversely affect private properties of investors in Uganda.
- Government shall not fix the price or fee of the products or services within a Zone.
- Government shall permit investors to purchase foreign currencies through the banking system and to remit abroad these currencies for the following purposes:
  a) Payment for imports and repayment of principle and interest on international loans.
  b) Payment of royalties and management fees.
  c) Remittance of profits.
  d) Repatriation of invested capital
  e) There is no price control on products or services including control of capital.

Chapter 4:
Planning

This chapter presents the various parks definitions/models, and builds a case for the use of a single overarching IP definition modulated by adaptable prioritization instruments and translated into eligibility criteria. It provides guidance on how to build an EIP business case.

4.1. Parks Models and EIP

The principal rationale for establishing an industrial park is to enable "industry to settle and develop at a specific location that is planned and improved to that effect". Industrial parks are, for this reason, an important tool within a country's broader industrial and infrastructure policies.
Traditionally, the common applied definitions of an industrial park include:

- "a tract of land developed and sub-divided into plots according to a comprehensive plan with the provision of roads, transportation and public utilities, sometimes also with common facilities, for use by a group of manufacturers".
- The general terminology of "Special" function for Industrial Parks and Free Zones involves the introduction of external resources, mainly Capital and Technology and; making foreign economic cooperation to develop the host country. The overriding consideration for a country seeking to attract investment is putting in place a healthy enabling environment (infrastructure, human capital, an investment-friendly regulatory environment, the rule of law, good public governance). Incentives and free economic zones can, at best, be a supplement to a good enabling environment, or be used to compensate for certain concrete shortcomings that cannot be otherwise addressed.

There is a wide diversity of industrial parks models (see some examples in the Glossary), but despite this diversity, the use of the Eco-Industrial Park approach has been recommended as an overarching definition that enables to engage all types of parks in the 3 Green Growth scenarios presented in Chapter 1 so that the policy guidance can apply to all.

The characteristics relating to the structure and layout of the EIP are key drivers of the Park's performance. Characteristics include maturity, size, type of operator, specific location, industry focus in line with national industrial development strategy, infra-structure endowment, and specific services offered.

Moreover, the regional and country contexts in which a Park operates are crucial for its economic dynamism. The skills, infrastructure, institutions, and external and agglomeration economies at the zone's disposal can help shape its performance. Those are particularly important factors for Green SEZ.

Therefore, the key components for all EIPs are (see also Figure 15):

a) A geographically-delineated tract of land that includes services such as utilities, telecommunications, industrial waste and wastewater treatment, landscaping, emergency services for firefighting and first aid, security and access to transportation and other public and private services. The Park should have an outward integration with the community around in particular with urban planning and the value chains sustaining it.
b) The EIP should not encroach on a protected area or similar areas of conservation importance (to take into account that few conservation areas are granted a protected area status). However, for some EIPs models featuring a touristic conservation or wild harvest components that enable to generate revenues for the protected area conservation, the

enforcement of no-take zones and a net positive impact on the environment and biodiversity, it is possible to consider upward linkages. This specific case would require the development of a dedicated guideline and cover for example Blue Islands concepts (linking green and blue economy in an holistic urbanization and EIP model) and other marine conservation parks.

c) Detailed master planning that prescribes standards and specifications for all aspects of the built environment, including buildings and integrates concepts of industrial ecology, RECP and symbiosis.

d) Single management or administration entity to approve and accommodate the entry of new companies into the park, enforce compliance with its rules, and to provide forward planning to promote the long-term development of the park.

e) EIPs and especially Green SEZ/Free Zones rely relatively strongly on regulatory incentives, inter alia by cutting the red tape and simplifying administrative procedures for companies located inside the zones. In many cases the zone authorities are authorized to act as a One Stop Center with the authority to grant all necessary licenses and authorizations and oversee regulatory compliance, thereby shielding investors from a time-consuming and sometime ominous regulatory compliance.

f) The Green Special Economic Zone may be established by the State (at any level, from city/municipal to national), private enterprise or joint venture between State and private enterprise, and operates under full recognition of the State.

g) They should meet the economic, social and environmental compliance or beyond compliance status as defined in their Key Performance Indicators (for greenfield SEZ at planning stage it should propose a plan on how it intends to meet this criterium).

Figure 15: Key Components of EIPs

The condition to feature a single park management comes from a UNIDO review of best practices[18] that identified the factors of success for industrial parks and SEZ from which the management was ranked first.

Other key factors of success were:

- Supportive government and policies (inclusive with Social Corporate Responsibility) and enforced monitoring.
- Good collaboration between economic players and local stakeholders.
- Cooperation with Academia and research centers.
- Value added through RECP and industrial symbiosis.
- Diversity of industrial sectors and economic activities to help generate new sets of feedback flows. Strong linkages between EIP and agriculture.
- Enacted environmental and biodiversity protection.
- The use of enforcing, monitoring and certification instruments.

Amongst the factors for failure were:

- Trade-off logic between industrial development and environment instead of harmony and "how to contribute" approach.
- Insufficient inclusion of social and economic dimensions.
- Insufficient priority placed on natural resource management (particularly water).

Therefore, it is to note that industrial clusters that by definition do not have a single management entity would not fall under the EIP definition. While several aspects of these guidelines may still apply, it is hoped that they will also create a motivational factor for clusters to coordinate themselves under a single management structure (see also various EIP management models in Chapter 6).

Similarly, brownfield parks that may not have reached an EIP status but would be on the third Green Growth pathway towards greening their industrial processes and meeting compliance are also covered by the guidelines that should provide them with added motivation.

These guidelines consider that parks that are not meeting compliance should not benefit from the incentives and facilitation presented in these guidelines and should face at minimum penalties. Therefore, it would rather be encouraged to bring those parks into a green revitalization pathway.

Indeed, the EIP lifecycle (see Figure 16) should not be seen as a linear evolution but rather a dynamic process whereby reaching an EIP status and keeping it requires constant adaptation and upgrade, sometimes through collaborations, mergers, refocus or redesign while providing a sufficient long-term vision to ensure returns on investment. Similarly, brownfield may find a revitalization and increased competitiveness by adopting EIP concepts. It is true that brownfield may have more difficulty to attain an EIP status as their initial design and infrastructures may limit them. But as the EIP approach also favours upward integration with urban development and public-private partnerships, there are ways to mitigate this limitation

18 Global Assessment of EIP in developing and emerging countries (2016 UNIDO, Prof. Suren Erkman)

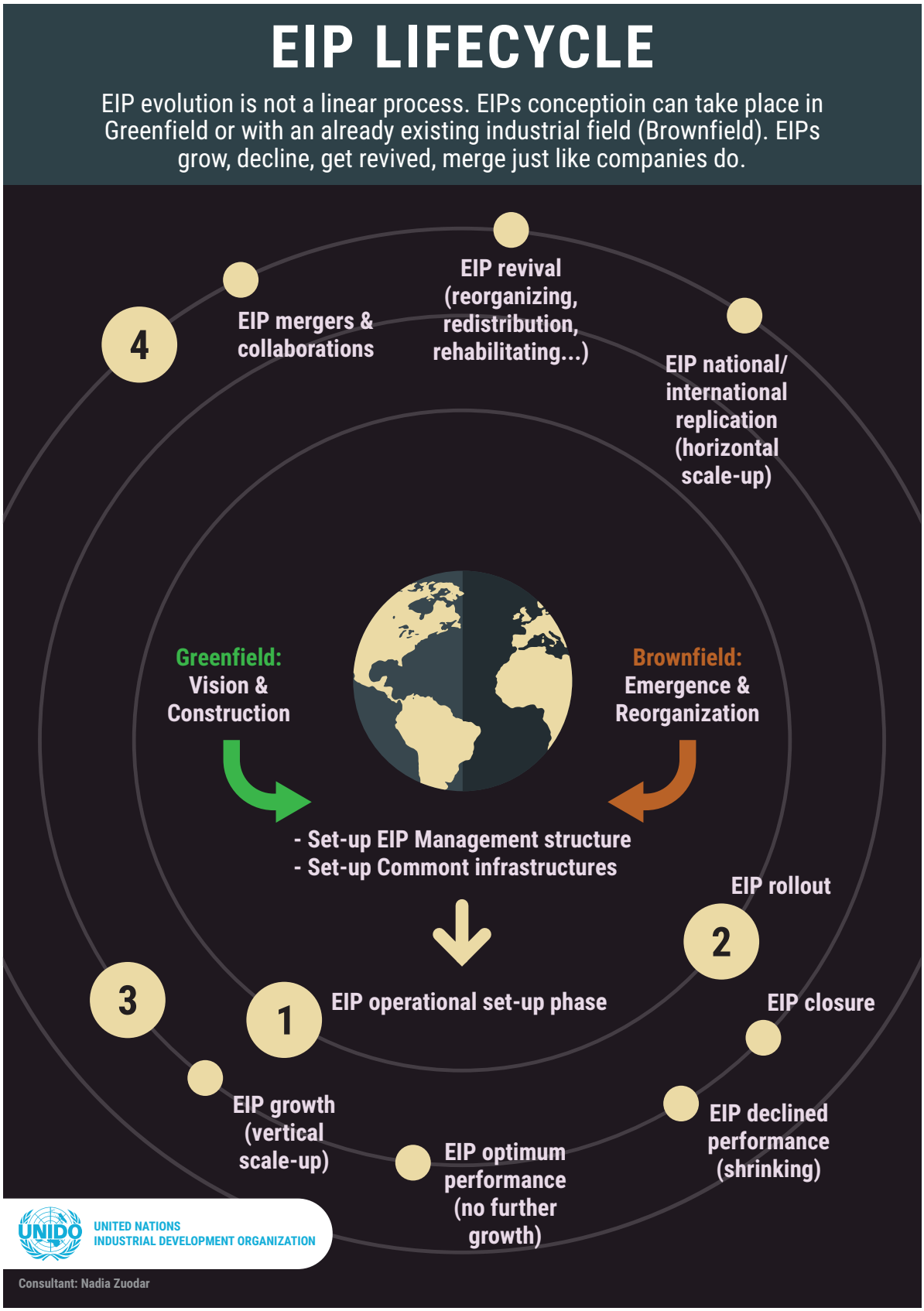


Figure 16: EIP Lifecycle (source UNIDO)

4.2. EIPs Eligibility Criteria

Section 4.1 described the key elements that define the eligibility criteria under the EIP overarching definition adopted by this policy guidance. Section 1.2 presented some of the advantages of having an overarching approach that can cater for diversified parks model and can help ensure coherency and harmonization. Therefore, these guidelines do not consider setting a parks size or investment level threshold to be eligible as an EIP. That would negatively discriminate a range of dynamic options that contribute to economic resilience such as small-scale SMEs parks, mixed parks (with secondary and tertiary sectors), innovation centres and it would rather act as a deterrent for clusters or established company to join them or collaborate with EIPs through spill-over. Another reason why the policy framework should be streamlined across different Industrial Parks models is because it should be designed to encourage parks to compete on the basis of performance, facilities and services rather than on competing on the basis of fiscal incentives.

This being said, due to its level of investment and size, a Green SEZ program and its characteristics generally includes a combination of specific fiscal and non-fiscal incentive packages, a number of investment and ownership requirements, and a series of factors linked to the organizational setup of the zone. **It is therefore proposed to add a complementary set of conditions for an EIP to be a Green SEZ that should also provide guidance for the establishment of Greenfield Green SEZ and to the EU-GGGI program. Moreover, it is considered that the distinction between Export Processing Zones vs. Multi-sectoral zones is obsolete:** zone programs should not be limited to a narrow set of sectors. The increasing convergence of the traditional export processing zone concept with free trade zones into so-called Special Economic Zones (SEZs) with a multi-sectoral development approach is a global trend. Zone program should target a wide assortment of economic sectors, including commercial and manufacturing activities and professional services (such as warehousing, transshipment, informatics).

Moreover, it is recommended to adopt a more modern Hybrid SEZ approach, whereby the SEZ is typically subdivided into a general zone, open to all industries, with a separate export processing area reserved for export-oriented, registered enterprises. The objective is to cluster the export-oriented and domestic market-oriented firms to facilitate linkages between the two and to enhance spillovers.[19]

Therefore, it is recommended to adopt a Green SEZ approach for the greenfield parks meeting the criteria, and to apply the Green SEZ guidance elements of these guidelines to brownfield Export Processing and similar zones as well. Needless to say, the current GoU Free Zone act 2016 and eligibility criteria are obsolete https://freezones.go.ug/licensing/eligibility/ and a reason to develop these new EIP guidelines.

19 https://www.carecprogram.org/uploads/2018-strategic-framework-ecozones-kaz.pdf

The key eligibility criteria for industrial parks are summarized in the Figure 17 with some added conditions for Special Economic Zones and explicated below. The criteria are given enough adaptability to suit different contexts in Uganda, in particular for SEZ no minimum export requirements is set including for freezones. However, the Business Case Proposal needs to detail the business concept and the Charter to which tenants' companies will abide, and that can specify further certain conditions.

Figure 17: Eligibility criteria for Uganda's Industrial Parks and Special Economic Zones.

Conditions for the Establishment/Recognition of a Green Special Economic Zone, in addition to meeting the EIP criteria set above:

a) The Green SEZ shall be permitted to be established at appropriate and strategic areas according to the decision of Inter- ministerial Committee, National Industrial Development Committee and the "One Stop Service" mechanism of the Uganda Investment Authority. See also Chapter 2.

b) The Green SEZ may be established by the State (at any level, from city/municipal to national), private enterprise or joint venture between State and private enterprise, and operates under full recognition of the State. However, it requires approbation by the 3 levels of government (national, provincial and municipal). That is to ensure that appropriate earmarked budget provision either for contribution or for possible remediation of externalities are fully planned for and responsibilities allocated (ex. Waste). It is also to ensure good cooperation in the search for investors and ensure that considerations of Green SEZ competition over different locations are being thoroughly analyzed.

c) It can be of multi-use nature but needs to feature at minimum a manufacturing or processing (including agro-processing) or tourism/hospitality component in order to avoid to have SEZ being only free trade zones and a separate export processing/customs area reserved for export-oriented, registered enterprises. There should be no minimum export requirements in order to maximize the flexibility of the regime and to abide by WTO obligations.

d) It should benefit from a special incentive regime for exporters consistent with WTO obligations. This mainly concerns the use of subsidies and tax incentives which are conditional on minimum export requirements or the use of local content requirements. **Free zones should respect the principle of non-discrimination between foreign and domestic investment projects**.

Indirect exporter benefits (i.e. duty free access to the zones) should be given to firms in the local economy, which supply firms located in the zone thereby increasing linkages. Creating backward linkages with the national economy is a major opportunity to foster economic growth and employment in the overall economy.

e) It must have a surrounding fence (for Export Processing Zone, the Free Trade Area and for the premises of each investor in each zone except for tourism SEZ).

f) It should have management office buildings, zone administration offices, large road network, clean water, electricity, and telecommunications networks, fire protection and security system. Based on each situation, a zone may have land reserved for the Residential Area for workers, employees and employers, public parks, infirmary, vocational training school, petroleum station, restaurant, car parking, shopping center or market, etc.

g) (this is valid for all EIPs) It must have water sewage network, waste water treatment network, proper location for storage and management of solid wastes, environment protection measures and other related infrastructures as deemed necessary.

h) (this is valid for all EIP) It must comply with technical requirements, regulations and basic standards on construction, environment and other obligations in the development of Special Economic Zone as defined in the instructions issued by relevant ministries or institutions taking into account the geography and specific size of each zone and pursuant to the existing laws, national and international standards.

i) (This is valid for all EIPs and implied by the meeting compliance criteria in 4.1) Labor regimes should be consistent with international norms including ILO standards and obligations including core rights of assembly, organization, and collective bargaining. In addition, foreign worker employment regimes should be transparent yet discourage excessive dependence on foreign labor at the expense of the domestic labor market.

j) Physical development standards and clear criteria for approval of privately and publicly developed zones should be put in place and streamlined. This includes zone design, environmental standards, financial and technical track record of the zone development group and minimum equity requirement by the zone developer.

k) (This is valid for all EIPs) Collaborative relationships should be encouraged between investment projects in the zones and firms and research institutions in the local economy. Encouraging business networks and clusters between zone investments and outside zone investments increases transfers of know-how and skills to the local economy.

l) (This is valid for all EIPs and implied by the meeting industrial ecology criteria in 4.1 and also contingent to Chapter 3 enabling policies on energy) Private (as well as public) zone developers/park management should be allowed to supply utilities services (telecommunications, water/ sewerage, power) to tenants of SEZ estates as well as companies/ communities in the vicinity to enable symbiosis and PPP.

m) As with all EIPs, it must have a land with precise location and geographic boundaries but no minimum surface. As shown by the UNCTAD 2019 World Investment Report Annex "Web (see Table 10). The Universe of Special Economic Zones (SEZs), 2018", there is a wide variety of SEZ sizes with for example India registering 176 SEZ out of 373 between of 0-20ha and 98 of 20-100ha. Cambodia showing 9 SEZ of 20-100ha and 19 SEZ of 100-500ha and Philippines with 396 out of 528 SEZ below 20ha. On the reverse countries like South Africa or Indonesia present SEZ larger than 500ha. However, none of them has set a minimum surface/size requirement.

Economy		Terms used for SEZs (number counted)	Number of SEZs (established by law)	Of which, under development	Size					
					0-20 ha	20.1-100 ha	100.1-500 ha	500.1-1 000 ha	More than 1 000 ha	Not available
Saudi		SEZ	10	-	1	2	1	0	6	0
Pakistan		SEZ	7	-	0	3	2	1	1	0
Nepal		SEZ	2	1	0	1	0	1	0	0
Iran, Islamic Republic		SEZ	23	-	0	1	0	1	6	15
India		Sector specific SEZ (326) multi-sector/services SEZ (35)	373	142	176	98	62	8	11	18
Cambodia		SEZ	31	11	0	9	19	1	2	0
Philippines		ECOZONE	528	143	396	98	30	1	3	0

Table 10: SEZ sizes as per UNCTAD 2019 World Investment Report Annex.

The question is more what would be the intention behind setting a SEZ size criterion? The principal reason is to target EIPs with a larger impact (production, investment, job creation, etc) and possibility to feature the required infrastructures. The size acts as a proxy indicator. In reality, the requirements set above are by themselves already conducive towards an optimal size, besides upward integration with the urban centre and PPP may extend the area of influence. The problem resides more in the type of export-based incentives provided and whether a small SEZ may simply act as a channel to obtain such incentives for industries outside the park with representation in the park. This counter-productive feature should rather be solved through smarter incentives that would also reward good social and environmental practice rather than being only economically based. Otherwise, the partiality of providing incentives to SEZ while rejecting them for exporting industries situated outside the SEZ would also undermine EIP spill-over efforts. A last possible and minor motivation could be administrative, to reduce the number of inadequate requests to review. However, it is better to tackle it through a well-designed information strategy rather than putting fictive threshold that would anyway be insufficient to inform on the other necessary features of a Green SEZ.

Conditions for the Establishment of a Tourist SEZ or Freeport Zone

It is possible to set up criteria on natural location, infrastructures, size (ex WB >1000 hectares). Tourists SEZ would require specific complements to this policy.

4.3. Building a Greenfield EIP business case

The business case provides justification for undertaking an IP project. The UNIDO International Guidelines for Industrial Parks offer key guidance on the constitutive elements of a strong business case[20] for a greenfield EIP project:

"Eco-Industrial Parks offer governments a potentially valuable tool to overcome some of the existing constraints that their economies face in attracting investment. To serve these purposes, the parks must however be built on a business case that demonstrates why serviced industrial lands are needed and what the benefits of the EIP project will be when it is finalized. The business case should be prepared early in the project cycle before any decision is made to initiate the project. A carefully developed business case must examine both the project's opportunities as well as its risks, and convincingly detail the project's rationale. In many developing countries, insufficient attention is given to proper business case development and industrial park positioning, creating a "gap" between what firms need and what parks actually offer." In terms of Green Growth pathway for EIP, it is also of key importance to understand what are the key elements a green or impact finance investor would be looking at. Key recommendations are offered by the Private Financing Advisory Network (PFAN)[21], a global network of climate and clean energy financing experts or the Green Climate Fund (GCF)[22] for example.

The following steps (Fig. 18) should be undertaken to develop a sound business case and orient decisions (PFAN):

Figure 18: IP Business Case steps.

When designing an EIP program, governments should set realistic expectations and conduct a thorough analysis based on a set of pre-feasibility and feasibility studies. The analysis should include various scenarios including those looking at various Green Growth potential and environmental impacts based on an extended Cost Benefit Analysis process (eCBA) or management models such as those where the public sector is responsible for management and operation of zone infrastructure and services and scenarios where the private sector is responsible. A possibility to save time consists to do a pre-screening on projects to assess their impact potential particularly economic, social an environmental, size, etc and decide whether they can proceed with an accelerated process.

A pre-feasibility study establishes a broad perspective upon which to base an assessment of the overall potential of any EIP project, and to guide decision-makers as to whether the project is technically, financially, economically, socially and environmentally sound. It also allows the proposed project to be positioned within the contexts of the national, regional

20 Extract copied by GoU p38
21 https://pfan.net/preparing-your-project-proposal/
22 https://www.greenclimate.fund/projects/sap/resources

and international competition, and relevant market trends. Pre-feasibility studies are usually compiled out of secondary data sources with limited primary sources and provide a broad picture rather than a deeper analysis. Its recommendations will trigger the rationale for performing full fledge feasibility studies or will dismiss the specific project (ex: dismissed project site or dismissed market potential, asn. with the consequence to look for alternative sites for example). The key elements of pre-feasibility studies include, but are not limited to the following: location/site selection, market/industry identification and forecasts, demand projections, financial analysis, policy analysis and stakeholders mapping, safeguards assessment, economic impact projections.

A feasibility study is the basis on which any final decision to establish and finance an EIP should be made, meaning after conducting a reliable and site-specific full set of feasibility analysis with clearly supportive conclusions. A Business Plan with EIP model and site selection, comprehensive and detailed market potential identification and demand projections, properly scaled and phased master plans, technical assessments, plans and designs, extended project costs and benefits analysis and Green Growth potential (eCBA), social and environmental (including biodiversity) assessments, institutional mapping and governance system analyses, definition of the service delivery model, off-site and on-site infrastructure requirement assessments and development plans, financial modelling and structuring plans, as well as economic impact modelling, are crucial to any final positive determination to proceed with an EIP project.

Below are the same features and key differences between feasibility and pre-feasibilities studies as per GCF (Table 11):

	Feasibility study	Pre-feasibility study
Same feature (concept/purpose)	Presenting technical, environmental, social, policy assessment of feasible options/solutions for the proposed project/programme, and proposing outcomes and recommendations with the most feasible and sound options for the project/programme	
Key differences	• Uses primary and secondary data sources • Incorporates in-depth technical design studies for the proposed technological solutions • May involve detailed engineering study / analysis with testing work and on-site appraisals • Includes deeper analysis and testing of each feasible option	• Can rely on secondary data so urces complemented by primary sources (as needed) • Makes use of existing evaluation reports for previously implemented/ongoing projects Uses proven technologies and solutions with track record to demonstrate the feasibility of proposed technological solutions • Assesses feasible options using existing/ available data, studies, resources

Table 11: Same feature and key differences between feasibility and pre-feasibility studies

These general principles apply when developing an EIP business case and making decisions:

a) **Present an assessment of sources of comparative advantage in the country** as a whole and in the region where the park is located, such as appropriate and abundant labor, preferential access to key markets, land resources, asn.

b) **Incorporate direct input from existing and potential investors**, through surveys, focus group discussions and interviews, in order to understand their investment location decision-making process, the criteria that will drive it and their needs in terms of serviced industrial land.

c) **Incorporate direct inputs from an inclusive range of stakeholders from communities and civil society organizations, businesses and authorities.** through surveys, focus group discussions and interviews, in order to understand their needs and the project potential positive and negative impacts. Ideally, set-up as early as possible a stakeholders Response Mechanisms whereby suggestions and complaints can be channeled (including from the community).

d) **Benchmark**, by comparing the proposed industrial park against alternative location options, both within and outside the marketplace, in order to properly compare investor as well as other stakeholders options in this context, their costs, services and other characteristics, integrate lessons-learnt from other sites.
e) **Identify Government decision-making processes**, aimed at providing the required political and social consensus, as well as the necessary political, programmatic and resources commitment and to support to the establishment of EIPs, through a formal EIPs policy.

4.3.1. Business Case Project Description, Ownership and Management

This section introduces the EIP project by presenting its **Business plan**, including its scope, context, rationale and timelines, the EIP location and site selection criteria/advantages, its logistical positioning (as backed up by appropriate transport economics and logistical study annexes), its overall value proposition for users and investors, its competitive market positioning and factors for differentiation (as backed up by a benchmark analysis), its proposed services and amenities, any investment incentives to be provided by law (as backed up by a regulatory study annex, discussing market failures and policy responses), as well as its basic land and services pricing strategy for industrial park users. It also involves preparing a conceptual masterplan and zoning plan, subdivision plan, utilities plan, amenities, specialized infrastructure plan, risk management plans, asn as detailed in the next steps.

A key aspect of the value proposition or **Competitive Advantage Analysis** is the highlights of creating the industrial park in the form of an EIP as compared to existing or future market competition/development. This could also include competitive strategies the authorities or companies might adopt to create or protect barriers to entry.

The **Policy Analysis and Stakeholders Mapping** consider the existing policy, legal and regulatory environment in which the project would be grounded, and provide a high-level overview of the institutions and stakeholders, identifying any opportunities for differentiation that these conditions (financial and non-financial incentives)may offer to project and its potential investors, potential threats and opportunities they pose, and informing any possible reforms that might be considered in the same context**.** Amongst the stakeholders, the partnerships should also be described such as the roles of key partners, other companies and institutions involved in the development and implementation of the project. Partners could include joint venture firms, project consortium members, equipment and / or raw material suppliers, off-takers of finished goods, development partners, technology suppliers, contractors or others aiding in outsourced functions of the business.

It should also present a **Marketing Strategy** both at EIP level and for the identified key value chains. This might include efforts to convince potential buyers, partners, authorities, investors or the general public of the EIP business case offering.

A suggested Monitoring and Evaluation plan with a proposal on key economic, environmental and social performance indicators both collective and individual and enforcement measures (both internal and external) should be presented building on national compliance, international commitments and good practices, certifications schemes. Beyond compliance targets should be proposed to reach EIP status and can be informed through the Business Case steps on environmental and social assessments as well as the Green Growth tools provides a picture of M&E frameworks that can be used.

The EIP business case needs to inform on all relevant phases of project development & implementation:
a) Establishment Phase: this covers the time up until financial closing.
b) Construction Phase: this describes the construction planning which can sometimes take place in different phases

depending on funding scenarios with a portion of the EIP already operating.

c) **Operations Planning:** the operational plan should include details with regards to day-to-day EIP business operations, scheduling, manpower distributions and supply chain planning.

d) **Upscale / Growth Strategy:** The Scenario analysis and the financial analysis should reflect these details. A description on how the EIP can be a show-case for upward inclusion with enterprise outside the park, the city or as a wider EIP Roadmap in Uganda can also take place here.

Finally, a **Definition of the service delivery model is needed**, with corporate and legal structure for the proposed EIP, including details of the nature of the corporate vehicle that will be used to develop and operate the industrial park, the extent of participation from the public and private sectors in it, and their respective roles and responsibilities in terms of the design, the financing, the ownership, the development and the operation of the project. The basic constituent elements involved (i.e., Design, Build, Finance, Own and Operate) can be shared in many different ways between project sponsors, as demonstrated in Table 12:

Regulator	Developer	Operator	Owner/Sponsor
Public entity / Government body ✓ Designates land as parks; ✓ Facilitates government services and coordinates public agency inputs to/ within industrial parks such as utilities; ✓ Monitors and enforces compliance.	Private, public or public-private partnership (PPP) entity ✓ Owns, finances, designs, plans, and manages development of industrial park basic infrastructure; ✓ Develops land (grading, leveling, construction) and provision of basic infrastructure such as internal road networks, drainage and sewerage, etc.	Private, public or public-private partnership (PPP) entity ✓ Manages day-to-day services to users; ✓ May or may not be same as developer; ✓ Facilitates marketing; ✓ Facilities management, leasing and maintenance ✓ Utilities maintenance; ✓ Provides value-added services; ✓ Provides or contracts for solid waste removal and treatment, maintenance, security, etc	Private, public or public-private partnership (PPP) entity ✓ Owns site land; ✓ Performs strategic planning; ✓ Initiates Park development; ✓ Pays all or part of the cost of park development

Table 12.1: delivery model roles attributions.

Thus, the **Management & Manpower Structure presentation** should introduce the proposed management structure for the EIP (as well as other capacity building counterpart), profiles and what they bring to the project. The structure of the management team should also reflect the scale and complexity of the business proposed. Important issues to consider are:

a) **EIP Management Structure:** the EIP management and organization structure (differentiate leadership from organizational management) should be clearly presented, including, where possible, the names of personnel selected and the allocation of roles and positions.

b) **Management Expertise and Credentials:** the provision profiles, brief CVs of key EIP management. The purpose of including the expertise and credentials of the company management is to convince investors of the management's execution capability and potential.

c) **Management Roles:** highlight what each of the HIP senior management members will contribute to the project development, implementation and operations by describing their roles and responsibilities. If functions are sub-contracted, the subcontractors' terms of reference and credentials should be provided.

d) **Manpower Distribution:** a demonstration that appropriate skills are available in the local market and that management has a plausible strategy for identifying and securing key personnel. If not, it should explain what key skills will be sourced abroad and how they will be funded.

4.3.2. Market and Trends Analysis

It provides a full picture of the market and the key market drivers as well as of the general economic and political environment in which the project is situated. It should include analysis of the economic potential of the business as well as the competitive and regulatory threats and opportunities, backed up with accurate and apposite market information, hard data, quantitative forecasts and plausible / reliable projections. It should explain how the identification of key industrial sectors has been done. More specifically, it should provide:

a) **Assessment of investment and trade patterns at global, regional and national levels**: This analysis provides a clear sense of the sectors that will constitute the bulk of investment, and of emerging trends.

b) **Analysis of the latent and phased investor market potential**: including identification of the sectors likely to drive investment and occupancy within the park, the competitors and the degree of competition, critical investment and production trends in the target sectors, projected volumes based on historical investment patterns and current trends internationally, nationally and in the prospective location, ramp-up timeframes for investment, the sales projections (including for exports) and the prospective markets, comparator country benchmarks in terms of space utilization and the resulting land take-up/absorption projections impacting the project's revenue modelling and a sense of the infrastructure and service requirements. It also involves identifying promotional vectors for the marketing campaign, potential market threats and the various ways to overcome them. A suggested framework to use is Porter's Five Forces or the SWOT Analysis.

c) **Economic impacts study:** including "overall value chain" competitiveness; projected investment levels and their breakdown (by sector, origin), induced employment and fiscal impacts; impacts on country policies on poverty reduction, food security and rural transformation; public expenditure requirements (including through subsidies and other forms of financial support); trade impacts; and overall Economic Rate of Return (ERR) and Economic Value Addition (EVA) modelling.

d) **An analysis on Green Products alternative (see also Technology section) and potential for innovative value chains including the ones fostering an industrial ecology/circular economy approach:** The project may disrupt traditional value chains through a green niche product specification and product redesign. It may look at the potential for symbiosis and RECP by combining value chains that are necessary in a circular economy approach. It is also possible to associate value chains with different returns on investment timeframes at optimized costs through infrastructure symbiosis, therefore supporting the development of niches which start-up costs or low volume would have resulted in dismissal otherwise despite their potential positive environmental and biodiversity conservation benefits. An example in the agro-processing sector would be the association of cultivated plants value chain processing (for example CO2 extracts in Cocoa production) with a diversified indigenous plants/medicinal/ wild harvested extracts value chain backed by conservation and restoration plans necessitating long implementation timeframes.

   Waste valorization should also be an inclusive part of the revenue modelling. Public-Partnerships Models and mix value chains can also be assessed for example for waste valorization combining outputs from both the urban centers and the EIP (on the basis of symbiotic infrastructures for example).

e) In conjunction with the environmental assessments, **a modelling of payments for ecosystem services** and delivery channels can be done for all EIP and with even more details for EIPs featuring a tourism sector component. **Carbon credits mechanisms** would be included in this modelling (see also financial chapter).

4.3.3. Technology, business model and growth strategy

The technology solutions used in the business model for the key industrial sectors and how it integrates an industrial ecology approach covering amongst other RECP, Symbiosis and Circular Economy should be highlighted. It should cover:

a) **Technology/Value Chains choice:** available choices of technologies and their suppliers to achieve the business / project objectives should be discussed and compared; give the reason for the technology choice; an EIP should ideally favor green/eco/organic technologies choices or provide strong arguments with scenarios if it is not the case backed up by solid mitigations measures.

b) **Technology and Engineering**: describes the process technology, machinery & equipment, etc. which will be required to implement the identified projects. It should also provide the reason for the choice of **technology supplier** and selection procedures (ex. tender process).

c) **Commercial Impact of Technology Choice:** explains whether the technology will be purchased, leased, licensed or rented. Outlines the commercial implications of the technology for the business model and the value chain; detail the impact of the technology on the cost structure and the revenue streams of the business.

d) **Raw Material & Input Supply Program**: Determine materials & inputs required for the projects. **Energy supply**: Ensuring an adequate and continuous supply of energy is vital for the efficient operation of an industrial park; energy is therefore one of the key pre-conditions to attracting resident enterprises. However, many industrial parks, particularly in developing countries, suffer from operation disruptions due to energy supply cuts. Therefore, a thorough assessment of the enterprises' total energy needs as well as the supply capacity of the nearby energy grid and sources, in order to meet demand are needed. Planning and providing alternative/renewable energy sources, as well as emergency energy supply systems, will help to further ensure the continuous supply of energy.

e) **RECP assessment:** A complete materials and energy flow analysis for the EIP and its value chains (including the upward interactions with the community/urban center) needs to be carried out to determine improvement potentials in: energy efficiency; renewable energy use; water saving; materials intensity reduction including through products redesign; substitution of toxic materials with safer materials; emissions reduction; municipal solid waste minimization & recycling; use, treatment or disposal of hazardous waste including chemical leasing options, medical waste; biomimicry solutions, etc.

f) **Symbiosis:** A review of possible common infrastructures and services to operate synergies between companies, in the value chain and including with the city. It can take the form of PPP infrastructures as well. Symbiosis is not limited to technical infrastructures (ex: waste treatment, logistics center, renewable energy production) but can cover a range of services (including in PPP form) such as security, medical center, transport, child care, leisure and biodiversity spots, asn.

g) **Circular economy:** aims at creating closed loops of products or services within the EIP, its value chains or the communities around but also inter-EIP or regionally.

h) **Environmental & Biodiversity Impact of Technology Choice:** Outlines the environmental & biodiversity (ecological) implications of the technology at local, national and global levels (ex. CO2 emissions). Health impact for the communities is also included here. Other concerns are the protection of genetic resource, animal health & wellbeing, agricultural models (ex: intensive versus conservation agriculture), tourism model (ex: mass versus niche).

i) **Certifications:** if sectoral or individual companies' certifications are foreseen in addition to collective EIP certifications, it can be presented in this section.

j) A **legal and regulatory environment analysis** that identifies the opportunities and barriers presented for industrial ecology, such as concession laws, privatization, mandated energy mix requirements or targets, structure of energy tariffs/ independent power production, planning and building permission, commercial and business licenses, employment licenses, emissions/water rights, import and export permits, asn).

k) **Social, Employment & Skills, Cultural Heritage and Occupational Health Impact of Technology Choice**: Outlines the implications of the technology for the business model and the value chain; take into considerations Social Protection,

gender & diversity and global ethical standards (ex: Child Labor).

The **Growth strategy** should give an overview of the envisioned evolution of the EIP through various phases:

- **Development Phase:** this covers the time up until financial closure and should outline what needs to be done and detail the plans for achieving financial closure.
- **Construction/Implementation Phase:** this covers pre-operations and activities/conditions that need to be in place before the project is operational.
- **Start of Business/Operations Planning:** the operational plan should include details on day-to-day business operations, scheduling, manpower distributions and supply chain planning.
- **Expansion/Growth Strategy:** to the extent that rapid business growth and expansion are anticipated, information on growth strategy and expansion plans should be provided, and the financial analysis should reflect these details.
- **Exit Strategy:** if and where applicable (the financial analysis should reflect it as well).

4.3.4. Financial overview and investment proposal

The Investment proposal should analyze and highlight the economic viability and attractiveness of the EIP project, thus ideally be for a commercial investment which provides a return on capital to the investor and / or which pays a rate of interest to a lender on a debt which is repayable on agreed terms. EIPs can be financed through direct or indirect public sector investment, including through direct allocation of national budget or indirect investment through public enterprises, commercial debt financing (backed by Sovereign Guarantees or not) or equity. Thus, the proposal may include grant or subsidized components, but the core ask should be structured as a commercial proposition. Although the primary project offtake or revenue stream is derived from plot and facilities rental (or land sale) income collected from the users, various other industrial park "value added services" can also prove interesting as supplementary revenue streams. If it is not possible to make a commercial proposition in the early stages, then a phase scheduling should be described with a no return investment period (from grants) as preliminary phase (set-up) and a profitable phase to attract private investments. Voluntary investments by tenants' companies should also be factored here. It should present a summary of key assumptions used to create the financial model and explanation why these assumptions were made.

Various types of donors/financing institutions and investors can be targeted, as for example philanthropic investors, impact investors, development funds, institutional investors, private equity, venture capital, strategic investors, industrial investors, carbon investors, development finance institutions and banks,etc).

The expected potential **financial and non-financial Incentives** pertaining to the EIP and related policy environment should also be highlighted as they contribute to the financial attractiveness of the EIP proposal and to its performance measurement.

The **Financial modelling and projection of funding needed should** cover project capital and operational expenditures, revenue streams and Return on Investment (ROI), as primarily captured through Net Present Value (NPR), Internal Rate of Return (IRR) and discount rate and anticipated period of investment and payback periods. In addition, the financial model should contain an analysis of available sources of capital (including amounts, if any, already invested or committed for example by EIP companies) and of the project's proposed financial structuring model and financial stakeholder risk-sharing mechanism. While numerous factors have the potential to influence the project's overall cost, this will ultimately depend on the size of the industrial park and the type of facilities provided, as informed by the prior demand forecasts and the master-planning and design work. This needs to be captures in the estimated project execution timelines and estimated costs during implementation period, a description of the planned use of funds.

Finally, the investment proposal needs to describe:

a) The investment / **Borrowing Vehicle** meaning specifying the legal entity used (private limited company / public company, etc).
b) The **Investment Conditions & Expectations**: The Project Developer's expectations / requirements of potential investors' obligations, rights and benefits, in terms of board and management representation, burden of time, other commitments, dividend rights, payout options, preferential treatment etc. should be outlined.
c) The **Exit Strategy**: as far as possible the exit strategy for the investor should be clearly constructed around the timeline of investment. To increase the flexibility of the business plan, possible multiple exit points can be suggested.

4.3.5. Identification of Risks, Resilience and Risks Mitigation

A thorough risk mapping should be performed describing the nature of the risks, the likelihood of their occurrence, the potential impact and possible mitigation measures with a clear attribution or roles & responsibilities, budget allocation and description of early warning systems (including at community level) and contingency plans foreseen. However, it is key to provide **Resilience (sustainability) measures beyond mitigation** by looking into resilience measures that might optimize positive project impacts or counterbalance its negative impacts even when the best technology is being used. This analysis is a fundamental component of the eCBA exercise. The risks analysis needs to be differentiated for each phase of the project (ex: construction versus implementation phases).

Typically risks include but are not limited to:

a) Country Specific – Political & Regulatory Risk: The identification of key policy incentives (regulatory, economic, voluntary) that would be needed to strengthen and sustain the business case for EIP development. It also includes governance at all levels risks and political instability.

b) DRR & Climate Change risks: Analyzes the hazards, exposure and resultant risks and impact due to natural or man-made disasters (including industrial disasters) including the loss of ecosystem services and biodiversity and Climate Change. Analyses the EIP and its value chains as well as surrounding community contributions to the risk and both resilience and mitigation measures. Proposals can be made for restoration/conservation activities both as a compliance or beyond compliance performance and as a CSR contribution (ex: supporting watershed restoration with the communities through reforestation in order to contribute to a better water catchment). It is necessary to integrate DRR within EIP policy and practice as well as to address industrial risks within existing DRR policies and plans.

c) Business Specific Risks: execution & completion risk, counterparty risks, performance risks, EIP management risks, coordination, skills availability, etc.

d) Financial & Economic Risks: cost & revenue risks; interest rate risks; currency rate fluctuation these will affect the economics of the project but may be mitigated against.

e) Industrial Sector Risks and Industrial Sector Choice Impact Analysis: analyzes risks pertaining to the sector, for example stock-market value or standardization needs. It should look into industrial sector impacts independent to the choice of technology or for which improved technology may not be sufficient to mitigate the negative impacts.

f) Technology Risks: identifies potential for the technology to be outdated or need replacement in shorter time duration than the investment period or for volume threshold needed to afford the technology. This section also covers intellectual property issues.

g) Environmental Risks: Complements the DRR & Climate Change analysis by looking deeper into environmental impact. Determines the expected environmental impacts (informed through the safeguards assessment) by analysis a very diversified range of topics from water/soil/air pollution, biodiversity protection, to ecosystem services provision, plants and animals health, movements corridors, encroachment and illegal trade, invasive species, etc. Various methods and techniques to calculate, model and predict environmental impact are available. For example, geographical information

systems (GISs) combined with matrix methods, are graphic mediators of spatial knowledge. Based on data collected with a GIS, among others, they can help identify factors in environmental degradation, including climate, geology, hydrology data and some degradation factors in the region such as its location, different types of pollutants, land use and ecological conditions. Data collection for the creation of baselines information is essential for further monitoring and evaluation.

h) **Social Risks:** Determine the resultant socio-economic effects: jobs, income, tax, revenues to local government, any expected displacements or social conflicts, negative gender impact or impaired diversity inclusion (ex: indigenous people, disability…), etc (informed through the safeguards assessment). This covers as well cultural heritage.

i) **Occupational and non-occupational health:** Looks into occupational health risks for the workers and non-occupational risks for the community in the vicinity for which the EIP and its value chains activity can be contributor (ex: water, air, noise pollution).

j) Sectors/topics that may need further analysis: wetlands, agriculture, tourism, fishery, horticulture, cattle, reforestation, soil regeneration, etc.

4.3.6. Environmental and Social (including Gender considerations) Impacts

The **Environmental (including biodiversity) and social impact assessments (ESIA, also called Environmental and Social Safeguards Assessment ESSA) and environmental and social mitigation plans (ESMP) regarding the proposed site,** include a full description and analysis of the site, value chains and surrounding community socio-environmental context, with all the associated risks and anticipated impacts, so as to plan and program ideally for a positive contribution of the EIP to these dimensions and at minimum for mitigation measures aimed at averting environmental degradation and protecting the interests of the population affected by the park's development. This dimension of the feasibility studies assesses the project's effects on the ecosystems, the people, the properties, the heritage sites and social services in the host and adjacent communities, and proposes associated conservation measures, management and, where appropriate, rehabilitation and/or compensation plans. The **environmental assessment** covers baseline data regarding site soil and hydrology characteristics, and projects' anticipated impacts on air quality and CO2 emissions, energy demand, noise levels, water quality, biodiversity, etc. It should furthermore provide, as appropriate, for sufficient connectivity and/or buffer zones to maximize the off-site and on-site synergies for adjacent communities. On the **social safeguards** front, the assessment and plan must also ensure that the project considers the project's social impacts in terms of employment, skills transfer, land ownership, customer behavior, safety, heritage and identity, through a proper Socio-Environmental Management Strategy. It should cover the industrial sector and technology impacts.

The Links with **Development Impacts** need to be evaluated to identify the project impact in terms of the sustainable development goals (SDGs). It describes the impacts on technology & skills transfer, employment, health, community welfare and inclusion, education, poverty reduction, rural electrification, energy access, water and sanitation, food security, resilience to DRR and Climate Change, asn. Ideally the **Gender Transformative** contribution should be done through a Gender Impact Assessment (GIA).

A Stress Test Scenarios should also be performed and analyze the likeliness of implementation of mitigation and resilience measures, model the costing of a non-adherence on both short and long term as well present the financial gains both from the perspective of the EIP but also of the community in which it operates (developmental gains).

The **Environmental and Social Safeguards Assessment** should also evaluate the social and environmental considerations for the proposed EIP with respect to relevant national requirements and international commitments and good practice.

It is proposed to use the key tools of the extended Cost Benefit Analysis (eCBA Chapter 4.5.3) as well as the Capitals (Environmental and Social & Human Capitals) Approach (Chapter 4.5.4) to generate the scenarios on which an informed decision should be made on the feasibility and the environmental and social management plans as well as to provide forecast on the expected evolution of both environmental & social service flows and stocks.

The environmental and social mitigation plans (ESMP) need to list the proposed mitigation measures and assumptions, the phase of the project to which they apply and to advert which potential impact, the responsibility, budget and resources needed.

Examples of non-exhaustive mitigation measures provided by UNIDO guidance for during planning, construction and operation stages are listed in Table 13:

Potential Negative Impact	Project Stage	Proposed Mitigation and Consideration Measure	Responsibility
Involuntary Resettlement and Land Acquisition	Planning	- Setting the post to smoothly conduct the land acquisition and resettlement action plan (LARAP) for SEZ development	Developer
		- Supporting the procedure of LARAP conducted by the developer	Local government
Hazards and Risk	Planning	Preventive structure/ facilities for disaster shall be planned based on the data of the frequency/ scale of disaster (e.g., heavy rainfall, earthquake, and tsunami) - Disaster prevention manual or hazard response manual including escape route and emergency procedure shall be prepared	Developer
	Operation	- Safety management implementation system adapted to manuals prepared during planning stage shall be established	Administrator/ Tenants
Deforestation / Greenhouse gas (GHG) emissions	Planning	- Consideration on how to minimize deforestation - Tree planting (preferably indigenous) shall be conducted as much as possible for landscape, comfortable environment as well as absorptive function of CO2	Developer
	Construction	- Trees shall be transplanted from the development area into the non-development area/ green area as much as possible, before being cut down by development	Developer
Waste generation	Construction	- Cut down trees shall be reused and recycled as much as possible	Developer
	Operation	- Periodical / irregular inspections on solid waste management and wastewater treatment in the SEZ area as well as monitoring of the wastewater quality from factories	Administrator/ Tenants

Table 13: Examples of mitigation measures (UNIDO).

4.3.7. Conclusion

The conclusion should highlight the main strengths and benefits of the EIP and summarize why an investor should consider investing. It is recommended to translate this conclusion in the form of a commercial leaflet presentation ideally with a range of illustrations that can be shared with a wider audience, published online and generate more visibility to the project. Ideally, an information number/contact as well as a Stakeholders Response Mechanisms whereby suggestions and complaints can be channeled (including from the community) could already be put in place building on the consultation process established for the feasibility studies.

4.4. Building a Brownfield EIP Green Revitalization Business Case

The fundamentals to build a brownfield business case are the same as for the greenfield with the obvious difference that flexibility on site location, market sectors and value chains, infrastructures and more is highly impaired. This should not deter attempts for Green Growth Revitalization, Revitalization is an integral part of the EIP cycle.

The revitalization proposals will:

1. detail the problem statement by looking at the historical performance, market trends and value-added, barriers faced (legal, financial, logistical,)
2. social and environmental impacts as well as risks profile, the limitations of the current masterplan, upward linkages with the urban centres and the value chains and all the measures taken so far to address them.
3. It should describe how the revitalization proposal would help lift some of these barriers.
4. As a mandatory requirement, the proposal should present how it implements industrial ecology principles through RECP and symbiosis. The lack of infrastructures or spaces could be compensated through PPP options which should be identified and analyzed with the same eCBA lenses as used in the greenfield. RECP measures should not be limited to mitigation but should also present products redesign options and technology reconversions.
5. The lack of products diversification can also hamper circular economy approaches, therefore inter-EIP collaborations and urban integration are key to identify possible complementary value chains. A symbiosis program can be set up regionally or nationally to facilitate such opportunities. Sometimes the EIP faced management issues or could not attract sufficient companies or investors to reach the threshold level needed for the industrial ecology solutions to be put in place. EIP Management will be addressed in particular its possible transition from public to private management, source of funding or skills development. The attractiveness for companies depends on many factors but for some EIPs, a sectoral refocusing could be applied by keeping some of the productive companies and attracting ones in new sectors or bearing new technology.
6. It is also important that the performance framework be properly designed and that the EIP doesn't shy off from releasing companies not meeting the collective and individual compliance or charter.
7. Finally, it is all too common that some failed industrial parks having caused noticeable damage to the environment and lost competitiveness are abandoned and that greenfield parks are preferred rather than paying for a more costly decontamination process. A brownfield revitalization program can help mitigate this unfortunate evolution and an eCBA applied to a set of locations may also points out to the multiple mid to long term benefits of revalorizing a degraded area rather than reducing the short-term upfront capital costs.

4.5. Key Green Growth and Impact Assessment Tools

A range of tools can be instituted to support the development of the EIP Business Case proposal both for Greenfield projects and Brownfield revitalization. They ensure that the key components of Green Growth on the economic, environmental and social domains are well integrated and that a range of scenarios are explored to optimize the benefits potential.

4.5.1. EIP site selection for Greenfield and Brownfield

The geographical site selection for a greenfield EIP is articulated in 4 areas that should be part of both a feasibility and an extended cost-benefit analysis looking at the EIPs potential impact (see GGGI SEZ guidelines and UNIDO tool) see Fig below:

- Local context appropriateness
- Local context environmental bearing capacity/ Natural Capital
- Local context social relevance/ Social & Human Capital
- Local context sectoral relevance/ Productive Capital

The lists presented in those 4 areas are non-exhaustive and self-explanatory, thus they won't be explained one by one here. The **local context appropriateness** looks at a range of meso-criteria that justifies the interest to develop an EIP in a specific location (strategic location). Each criterion can play a confirming or infirming role. As a precondition, the location should enable to meet the eligibility criteria.

One of the site selection criteria is the strategic situation and presence of mobility infrastructures such as harbour, airports, roads, energy supply, etc and proximity to the raw materials required for the industrial activities such as crops and livestock for Agro-processing or minerals. For Green SEZ (and particularly Free Zones), a strategic location can be closed a country export markets (ex. Border, airport or port. In the case of Uganda, it can be closed to the border with Democratic Republic of Congo (DRC) or South Sudan for example). With the Green SEZ model proposed that addresses both the domestic and export markets, communities can also enjoy improved manufactured goods rendered available in their local market.

Concerning the infrastructures, the EIP Business Case may contribute to the location development and include the building or upgrade of general infrastructures in the EIP vicinity as part of its development goal or as part of a city masterplan. In such case, symbiosis in the form of public-private partnerships in infrastructures will be fostered to optimize the investment. It can also enable a better technology choice, in case the volumes required for a specific infrastructure cannot be met by the EIP or the city separately but only combined (ex: waste treatment) or to mitigate the loss of volume in case the EIP does not reach the estimated level of activity. This needs to be planned in advance to avoid incompatibilities in equipment or requirements. Similarly, energy production and circular loops (solar, heating) can be planned in a symbiotic PPP. However, this requires the development of an integrated city masterplan that includes the EIP, in which case the EIP size is not a relevant criterion because infrastructures can be placed outside as well. In brownfield though, small EIPs may lack the required space to upgrade the infrastructure and need to negotiate additional land or PPP solutions as well. Finally, on a case-by-case basis, an EIP could also be designed or an Industrial Park revitalized into an EIP in a way to contribute to mitigate existing environmental threats. In an area where informal or sub-standard industries are already operating or value chains partners lack the investment to equip themselves on an individual basis, the EIP could help bring about improved infrastructure, thus the importance to consider the spill-over and upward effect potential.

It is noteworthy to highlight that social infrastructures are also considered, the additional load generated by an EIP on public services can also be addressed through EIPs infrastructures or PPP as well as through spill-over with the surrounding companies (ex: medical centre, transport for employees, nurseries open to EIP employees and external workers, housing, etc).

EIP Greenfield Site Selection and Brownfield Prioritization Criteria

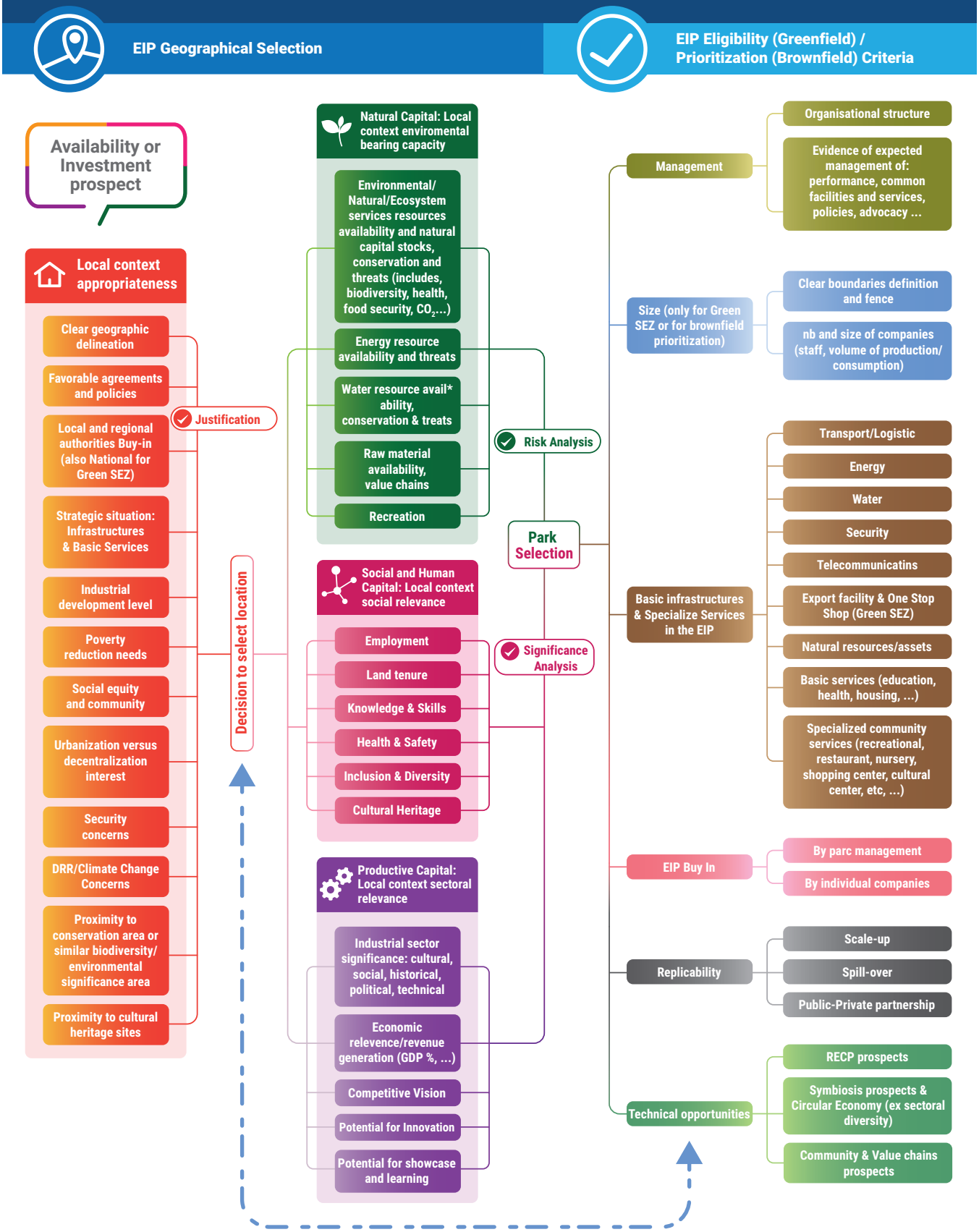


Figure 19: EIP Greenfield site selection and Brownfield prioritization criteria.

The **environmental/ecosystem bearing/Natural Capital** capacity should be evaluated in a general and sector specific manner when developing an EIP. Growth scenarios need to be captured to compare productive volumes, profitability and the sustainability of the resource. These constraints lead to a vision where a finite production volume should be calculated associated to the threshold of ecosystem bearing capacity (sustainability of both ecosystem services flux and stocks).

Rather than seeing it as a loss of competitiveness or profitability, efficiency improvements, the reuse of by products and waste, sectoral diversification and innovation should be encouraged to prevent a depletion scenario and to build resilience towards market volatility. Another contribution from the EIP could be the payment by the green SEZ for ecosystem services that can strengthen the preservation of a natural area. Thus, the choice of certain industry sectors is highly relevant as to how an EIP can have positive or negative impacts on ecosystems.

The **Social and Human Capital:**. Employment creation is usually a primary factor for an EIPs Business Case Development, though it is important to consider the whole value chain and indirect job creation rather than rely only on the direct employment figures. Indeed, a conflict of interest may arise between technology upgrade and the manual labor needed in the EIP itself. However, this conflict is often mitigated when bringing the whole value chain picture as other outsourced or green jobs functions may thrive (ex: traceability controls, conservation or restoration activities, conservation agricultural techniques, asn). The EIP may benefit from existing skills (ex. Presence of universities with freshly graduated, or traditional knowledge and crafts) or on the reverse offer an opportunity to bring needed skills training to the area. The same dual argument can go for every item on the list presented in Fig.19.

The **sectoral relevance/ Productive Capital** should be evaluated through the market and trends analysis and integrate the strategic vision and Green Growth potential. However, an EIP may not be aligned with the national vision and still make sense in regards to the local economy, expertise and skills. Therefore, while harmonization is fostered, a bottom-up approach should still be privileged to make sure the EIP adequately addresses the site opportunities and constraints (scenarios building are also required).

Besides, all 4 areas shall look into the potential to implement industrial ecology principles (RECP, symbiosis, circular loops) both within the EIP and with the community/urban centre/value chains.

Therefore, Fig above presents a feedback loop between the site selection appraisal elements and the foreseen EIP design to potentialize the Green Growth opportunities. In the case of a brownfield EIP prioritization, the analysis of the 4 areas justifying a site selection may show a critical gap requiring mitigation measures or opportunities. Jointly assessed with the park performance and impact on the 3 capitals, a revitalization business case can be made or any solution froom the EIP cycle. However, in cases or environmental or social non-compliance, punitive measures may be enforced which shouldn't exclude closure.

Looking at park level, there are six minimum categories of criteria that are proposed as the most basic to assess the potential for EIP. They should be present in the Business Case Proposal either as existing or with credible potential development for a brownfield EIP revalorization (for prioritization of the projects), or planned/potential for a greenfield EIP. The 6 categories are:

- Management: The existence/ set-up of a management structure is cornerstone to the definition of EIP. Nevertheless, there are many forms of management and structures (for example private, associative, governmental, etc). The fact that a specific management form may have less capacities/financial means in a certain context does not imply systematically a reduced performance. Aspects of good governance, legitimacy or lean management also enter into consideration.
- Size: Size indicators are proxy to estimate the potential impact of companies within a park without entering in a

material flow analysis. However, size shouldn't be set an eligibility criterion because the other requirements (such as infrastructures or manufacturing for a Green SEZ) already impose an optimal size and because upward integration with the urban centre and PPP may extend the area of influence. However, as a prioritization element and provided the spill-over pattern is assessed, it could be a quick and dirty criteria.

- Basic Infrastructures: This criterion looks at the potential for common infrastructures. The sub-criteria are not exhaustive (there are also potential common services to be listed). Nevertheless, the opportunity for shared infrastructures is a strong motivator for companies to be in an EIP. As explained above PPP infrastructures can also be placed outside the EIP.
- Technical Opportunities: This criterion estimates the potential for resource & energy efficiency as well as symbiosis opportunities first within the park and then with the neighbouring communities, city, value chain (upstream and downstream). Some EIP with little sectoral diversity may rate poorly in symbiosis within the park delimitation but may compensate by establishing symbiosis linkages in its surrounding.
- Replicability: EIP are aimed to create a virtuous green growth cycle, it is thus important to consider EIP that have a potential for scale-up or replicability "provide good example" through spill over towards industries outside the park or in the form of public-private partnerships with the city/municipality (also included under symbiosis).
- EIP Buy-in: This criterion is fundamental besides national and local government buy-in, each stakeholder needs to show a commitment for green growth from the beginning of the project.

4.5.2. Extended Cost Benefit Analysis (eCBA) Process

The extended Cost Benefit Analysis is promoted by GGGI for appraising projects Green Growth performance. A full description of the methodology can be found in the GGGI publication "Green Growth Assessment & Extended Cost Benefit Analysis. A Handbook for Policy and Investment Decision Makers". Therefore, this chapter will only summarize the approach but for complete implementation instructions, it is recommended to refer to the publication.

An eCBA is an economic appraisal tool that makes hidden costs and benefits visible, particularly including social, economic or environmental aspects enabling to internalize externalities, thus facilitating decision making both by public and private sectors. The figure below illustrates the difference of impact pathways between an economy valuing natural capital or not.

Many projects failing to account for externalities particularly the impacts on the natural and social capitals (see Fig. 20 and 21), eventually fail because unaccounted external costs in the production of goods show up later as clean-up costs accrued to society. If these costs are known and quantifiable, then governments have an evidence-based platform to be used as the basis of designing policies and regulations to impose costs on polluters.

In the context of EIP greenfield Business Case Development as well as brownfield green revitalization, the eCBA enables to show various scenarios and choose the project with the highest green growth performance rather than a Business As Usual (BAU) project with an often unrealistic list of mitigation measures. Therefore, the eCBA can promote an alternative project design rather than limiting itself on variations over a set of adaptation or mitigation measures in a very similar way as presented for the EIP status model. It is also possible to add a scenario consisting in the situation where no project is done.

The basic principles and methodology of conventional cost benefit analysis are still used in the eCBA. Figure 22 summerizes the steps for carrying out an eCBA.

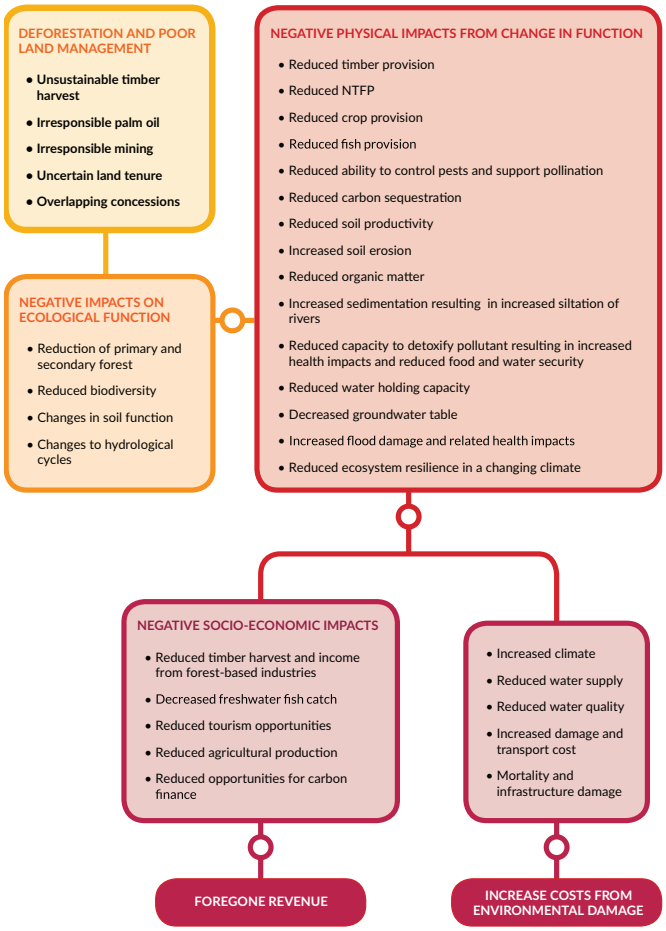


Figure 20. Impact Pathway of an Economy That Does Not Value Natural Capital

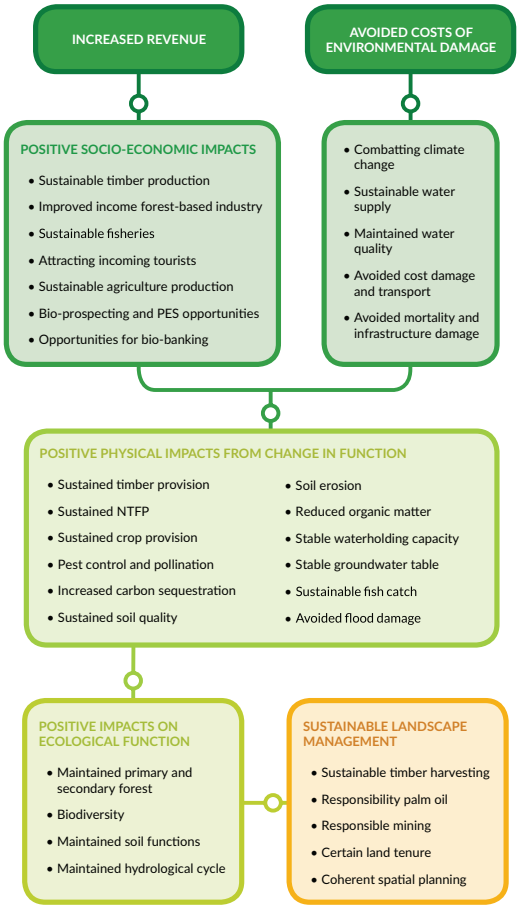


Figure 21. Impact Pathway of an Economy That Does Value Natural Capital (continued)

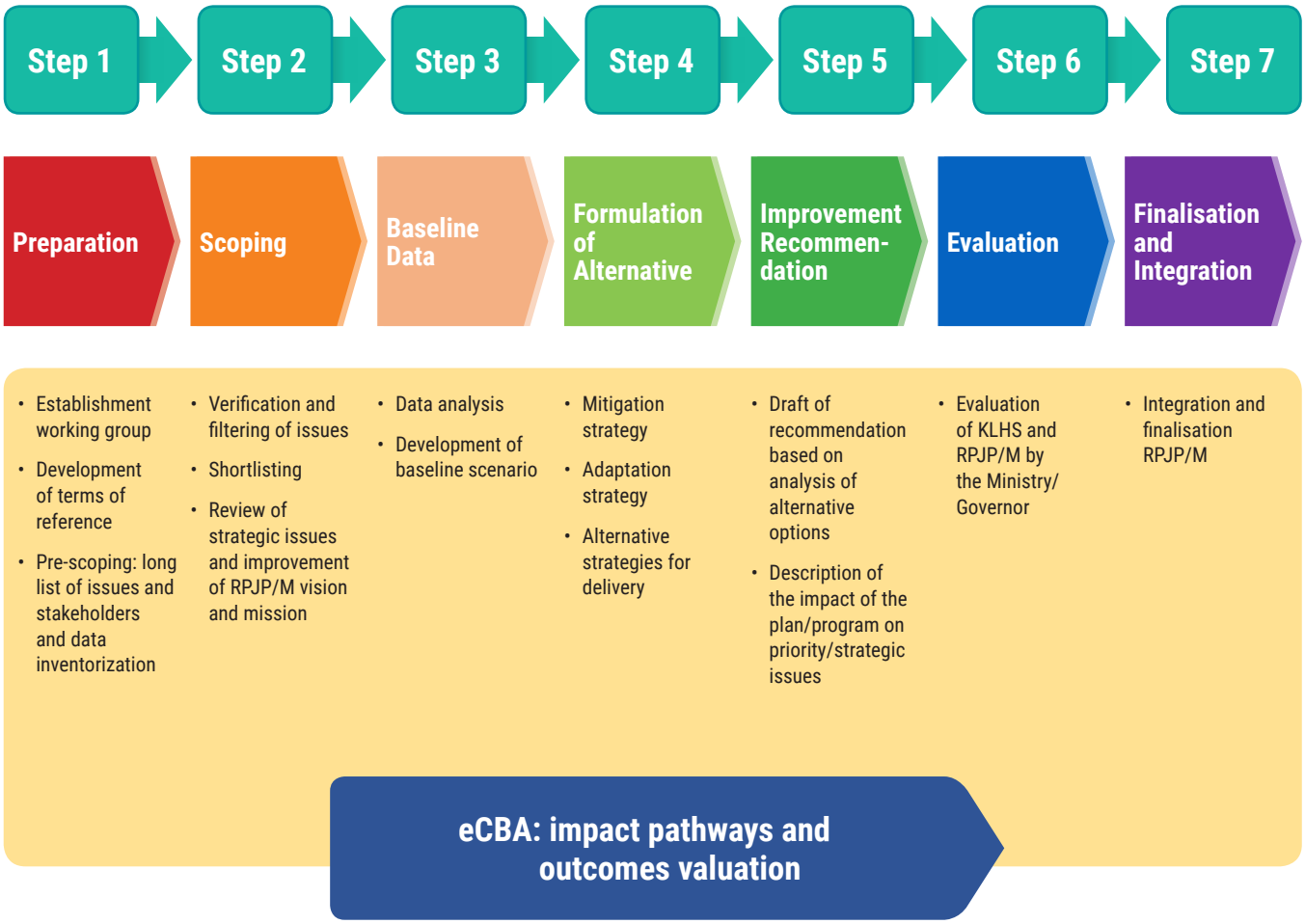


Figure 22: Summary of the steps to conduct an eCBA analysis.

- Step 1: Within the Business Case Development process presented in Chapter 4.3, this step is already implied as the working group would be the project development team and stakeholders. The TORs would refer to the business case.
- Step 2: The scoping corresponds to the EIP business case definition and comprises both the park site and the value chains, urban center and other upward linkages identified.
- Step 3: The baseline data collection should be performed through the various (pre) feasibility assessments.
- Step 4: This step is where the alternatives scenarios are developed to inform the business case.
- Step 5: It represent the best scenario selection in terms of optimizing Green Growth performance, justifies the recommendations and explicit the possible additional costs incurred. If a BAU scenario is still chosen when a better option was possible based on Green Growth performance (for example for a reason of costs, technical feasibility or land allocation), then it is possible to integrate a compensation mechanism, as for example the condition to engage in restoration/conservation activities in one area to compensate for building an infrastructure in another. However, this solution should be considered as a last resort after all possibilities such as alternative site location or simply abandon of the project have been explored.
- Step 6 and 7: Those are integral part of the Business Case Development Proposal submission and are not done separately from the business case.

A full eCBA analysis requires considerable data, time and skills, baseline data may be missing and the allocation of an economic value to natural and social capitals, some of which are intangible, can reveal complex or limited. In such case, it

is also possible to apply the basic concepts of eCBA while relying on expert opinion for estimates. Thus, the objective of the analysis is not to give fully accurate quantitative evidence, but rather to encourage explicit agreement about costs and benefits, to facilitate discussions amongst experts and enable a stakeholder engagement process that can lead to better informed decision-making.

Indeed, monetization can be misleading when markets are distorted, meaning that market prices do not reflect the real economic value (costs) of input and economic value (benefits) of output. Therefore, the market price should be adjusted to conduct an eCBA and is called shadow price. But even so, in many cases, market prices are simply not available/possible because goods and services that are provided by ecosystems and the impact of human behavior on the provision of such are too complex to quantify. To complete the environmental valuation process, the Total Economic Value (TEV) framework can be completed with possible valuation methods such as the System of Environmental Economic Accounting (SEEA)[23], see Figure 23.

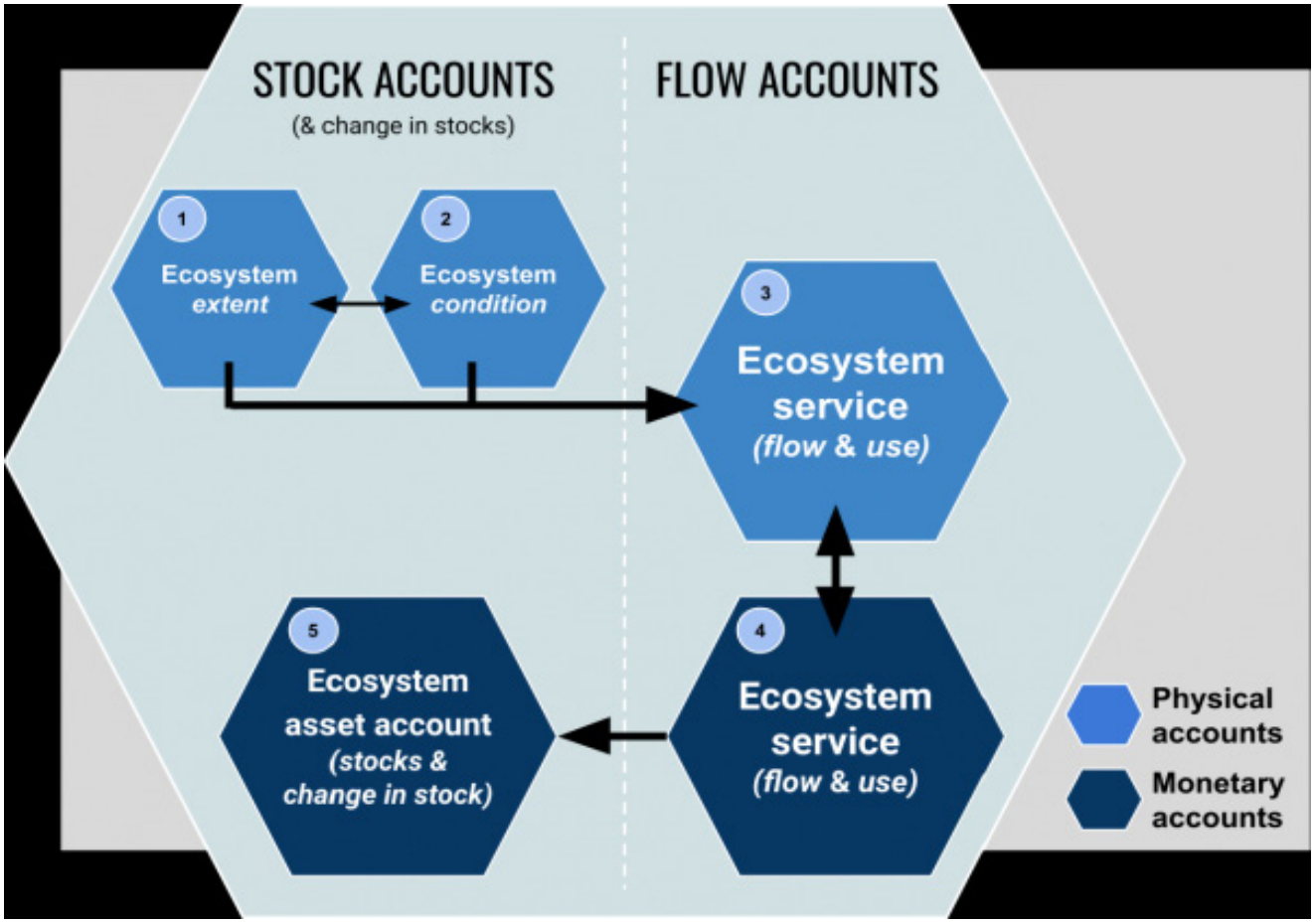


Figure 23: Ecosystem accounts and how they relate to each other

23 https://seea.un.org/ecosystem-accounting

Total Economic Value (TEV), use and non-use values (Fig. 24)

The Total Economic Value (TEV), composed of the use and non-use values, represents the value derived by people of any environmental goods and services. Those are not reflected by market price.

Use values is the direct value of the use of environmental goods and services. It has 3 components:

a) Direct use value: the value of ecosystem services that are directly accessed and used by humans (ex: water supply from a river, fish or timber harvesting, touristic attraction of a coral reef).
b) Indirect use value: the value of ecosystem services that have indirect functions to humans (ex mangroves for flood mitigation, soil erosion control by forests, sand production by parrot fishes).
c) Option value: the value of the future ability to use the resource (ex: ecotourism services whether accessed or not, genetical resource).

Non-use values try to capture the willingness to pay for environmental goods and services that will never be used. It has three components:

a) Existence value: It measures the willingness to pay to ensure that the environmental goods and services continue to exist (ex: biodiversity). It is to note that the existence value is often attributed to biodiversity by a lack of knowledge of its indirect use and interdependence between life forms in an ecosystem.
b) Altruistic Value: the willingness to pay to ensure the environmental goods and services can be used by others (contemporaries).
c) Bequest value: the willingness to pay to ensure the environmental goods and services are still available for future generations.

The eCBA process tries to capture the total economic value that a project generates but, in many cases, cannot obtain the non-use value. It may use contingent valuation consisting in asking people about their willingness to pay the non-use value of ecosystem services. This approach can however be particularly poor to address biodiversity conservation concerns.

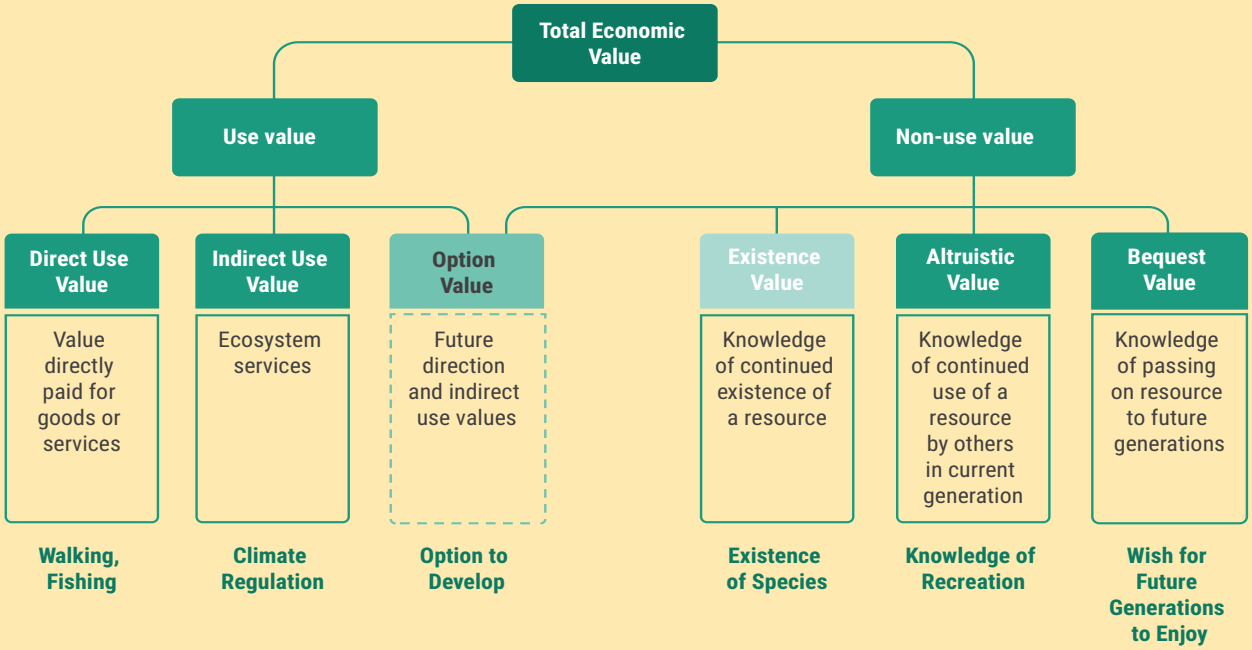


Figure 23: Total Economic Value

Other examples of Environmental Valuation Methods are provided in Table 14.

Group	Methods	Application	Type of Data	Weaknesses
1	Value changes in productivity	Provisioning, regulating	Secondary	Only inputs to marketed goods
2	Travel cost method	Recreation	Primary –surveys	Data; recreation only
	Hedonic approach	Disamenities	Secondary	Data; analysis
	Averting cost/defensive expenditure	Provisioning, regulating	Primary	Cost as proxy of benefit
3	Contingent valuation	Use and non-use values	Primary – surveys	Hypothetical
	Choice modelling	Use and non-use values	Primary – surveys	Hypothetical; Data; Analysis
4	Benefit transfer	Use and non-use values	Secondary	Limited by available past; studies

Table 14: Environmental Valuation Methods.

The Capitals Approach takes a non-monetized approach to represent the project dependency towards natural and social capitals and can be a very pragmatic alternative tool particularly when data is limited.

4.5.3. The Capitals Approach (Natural & Social)

A capitals approach moves beyond understanding impacts on the capitals to also highlighting how businesses can dependent on them. It proposes a valuation framework that can provide a clear business case for the protection of and investment in capitals health and resilience. It also helps investors to limit their exposure to environmental and social risks across global portfolios, while identifying opportunities for impact finance. A capitals approach placing nature and people at the heart of businesses' decision making, rather than to rely on CSR initiatives that are unconnected to their core businesses.

The Capitals Coalition (https://capitalscoalition.org/) is a global collaboration of over 380 organizations and businesses, that has developed a set of easy-to-use tools requiring no monetized valuation and organized around the Natural Protocol and the Social & Human Protocol. A series of sectoral guides are also available from Apparel, Food & Beverage, Forest Products Sectors Guide to Finance Sector supplement and Biodiversity guidance.

The two Protocols are decision-making frameworks that enable businesses to identify, measure and value their impacts and dependencies on natural capital, social and human capitals and produced/economic capital as represented in Fig 24.

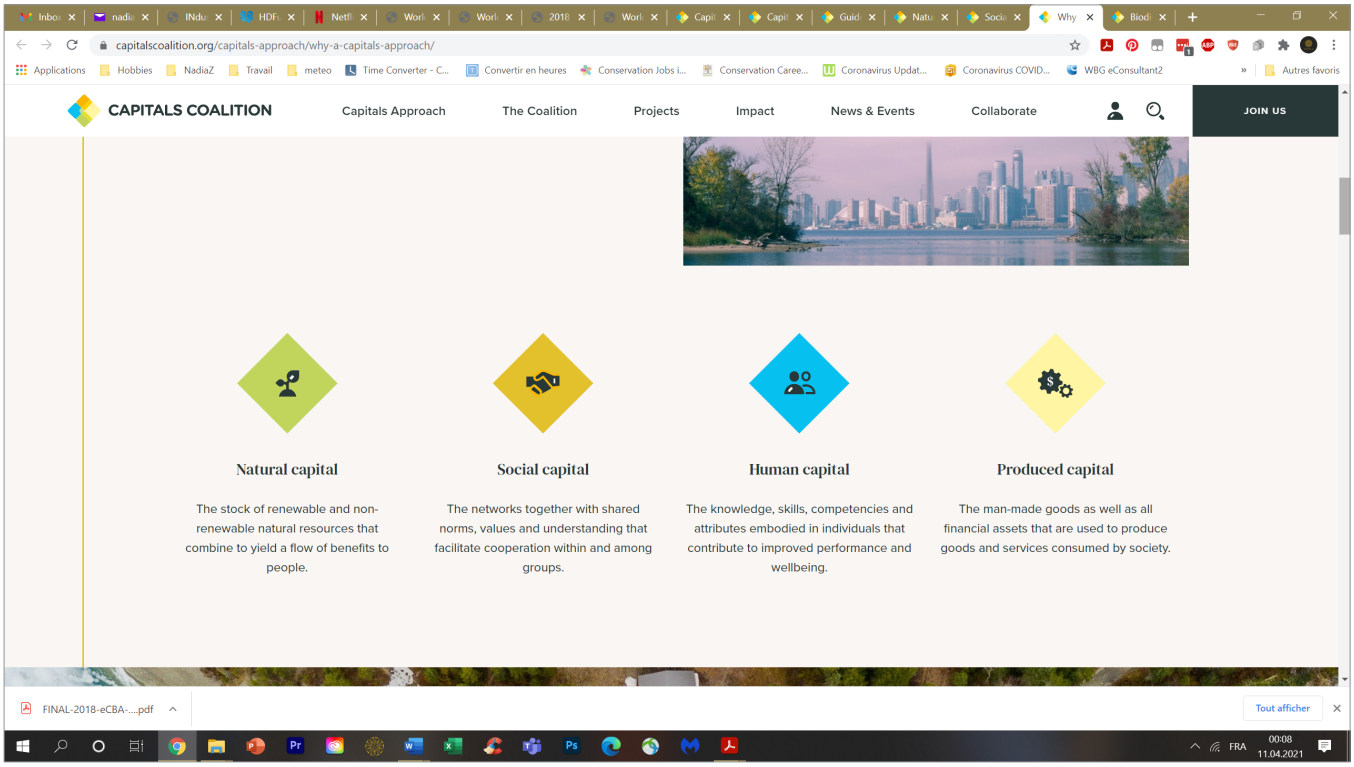


Figure 24: Total Economic Value

A Capitals approach features some key differences with most other approaches as illustrated by Fig. 25. **Maybe the most important are the fact that it highlights business dependencies on the capitals and looks also at the stock of natural capitals and not only on their services.** Put in simple terms, a classical ecosystem services valuation in a marine area would express the number of fishes caught per year. A natural capital approach would quote the same flow of services but will also enquire about fish stocks and whether those are still enough to ensure the flow of service can be maintained over the years. Therefore, under a mere RECP approach, efficiency gains, a fishery Green Growth activity could be the valorization of fish by-products. While in a natural capital approach this same activity would come also with an analysis of fish stocks and whether additional measures (quota, non-take areas, seasonal ban or mangroves rehabilitation to help with repopulation) would be needed.

	Features of natural capital approach	Other approaches
	Focuses on **stocks** of natural capital assets (quality and quantity) as well as **flows** of benefits	Ecosystem services approach, and indeed most economic analysis, focus on flows of benefits – as such they are inputs to a natural capital approach
	Incorporates both **biotic and abiotic** natural resources	Ecosystem services approach considers biotic resources only
	Assesses how both stocks and flows are likely to change in the **future**	Environment Social and Governance analysis and financial accounting mainly consider past performance
	Considers both **dependencies** of an economic activity on natural capital and its **impacts** on natural capital	Most environmental regulation is about controlling the impacts of activities (such as reducing emissions); the implications of the impacts are considered separately
	Uses **valuation*** of impacts and dependencies	Different approaches use different measures, mostly of impacts
	Makes the links between all of the above, to support **systems-based thinking**	Research & decision making tend to be developed separately for different sectors or issues (like agriculture, water, biodiversity) even when they depend on the same natural capital assets

*Valuation is the process of estimating the relative importance, worth, or usefulness of natural capital to people (or to a business), in a particular context. Valuation may involve qualitative, quantitative, or monetary approaches, or a combination of these.

Figure 25: Natural Capital Approach versus others.

The figures 26 and 27 below from the Natural Capital Protocol illustrates natural capital impact and dependencies and how those translate into business risks and opportunities.

a. Natural capital Impacts that are potentially relevant to your business

A natural capital impact is the negative or positive effect of business activity on natural capital. Natural capital impacts can arise directly from business operations or indirectly from the use of products and services. Impacts may occur at any point in the value chain, through exploration and extraction of raw materials, intermediate processing, the production of finished goods, distribution, consumption, disposal, or recycling.

Natural capital impacts will also vary depending on the industrial sector concerned, the stage of the supply chain, and the geographic location of operations. Impacts on natural capital may be negative—for example due to land degradation or pollution—or positive. Examples of positive/impacts include ecological recovery due to business investment in site rehabilitation, or improved ground and surface water quality due to filtration and treatment of process water, which can sometimes result in higher quality water released back to the environment than was extracted in the first place. Figure 26 gives some examples of how business can impact natural capital. Step 04 provides more information on how natural capital impacts arise.

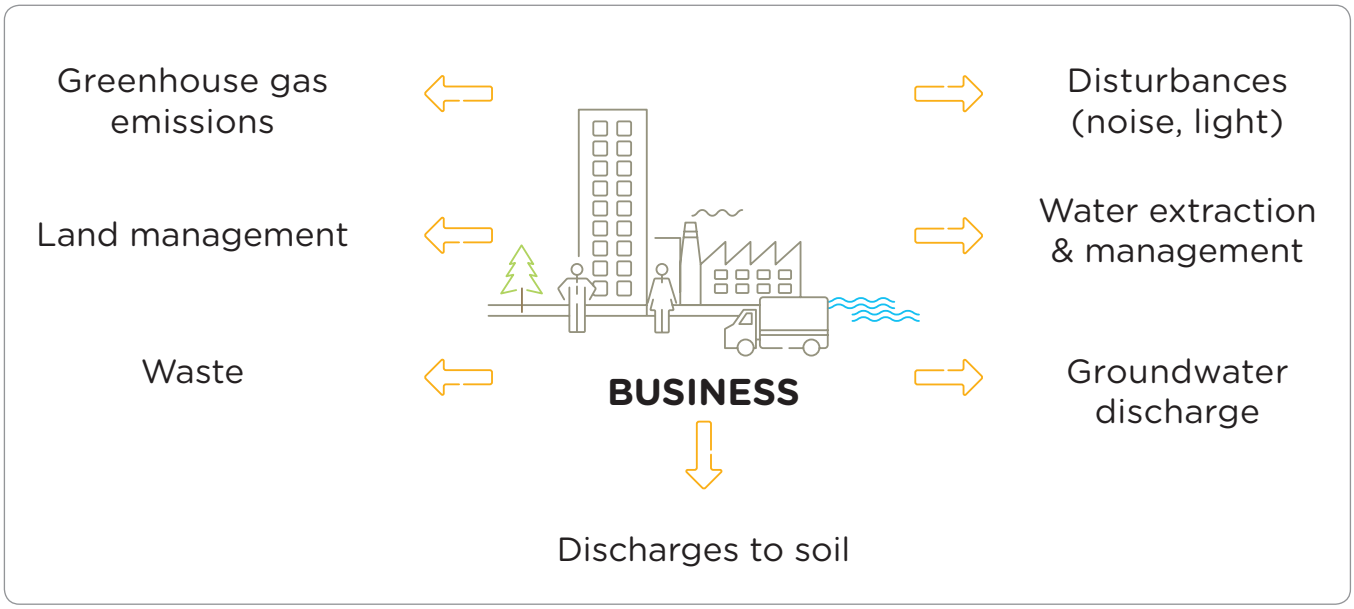


Figure 26: Examples of how business can impact natural capital Adapted from MA (2005b)

b. Natural capital dependencies that are potentially relevant to your business

All businesses depend on natural capital and associated ecosystem and/or abiotic services, directly and indirectly. For example, businesses depend on natural capital for critical production inputs such as land, raw materials, water, and energy. Businesses also depend on many regulating ecosystem services, such as natural filtration of water, waste assimilation, and protection from floods and storm damage. Many businesses depend on cultural ecosystem services, for tourism and recreation operations, or even employee morale. Figure 27 gives some examples of business dependencies on natural capital.

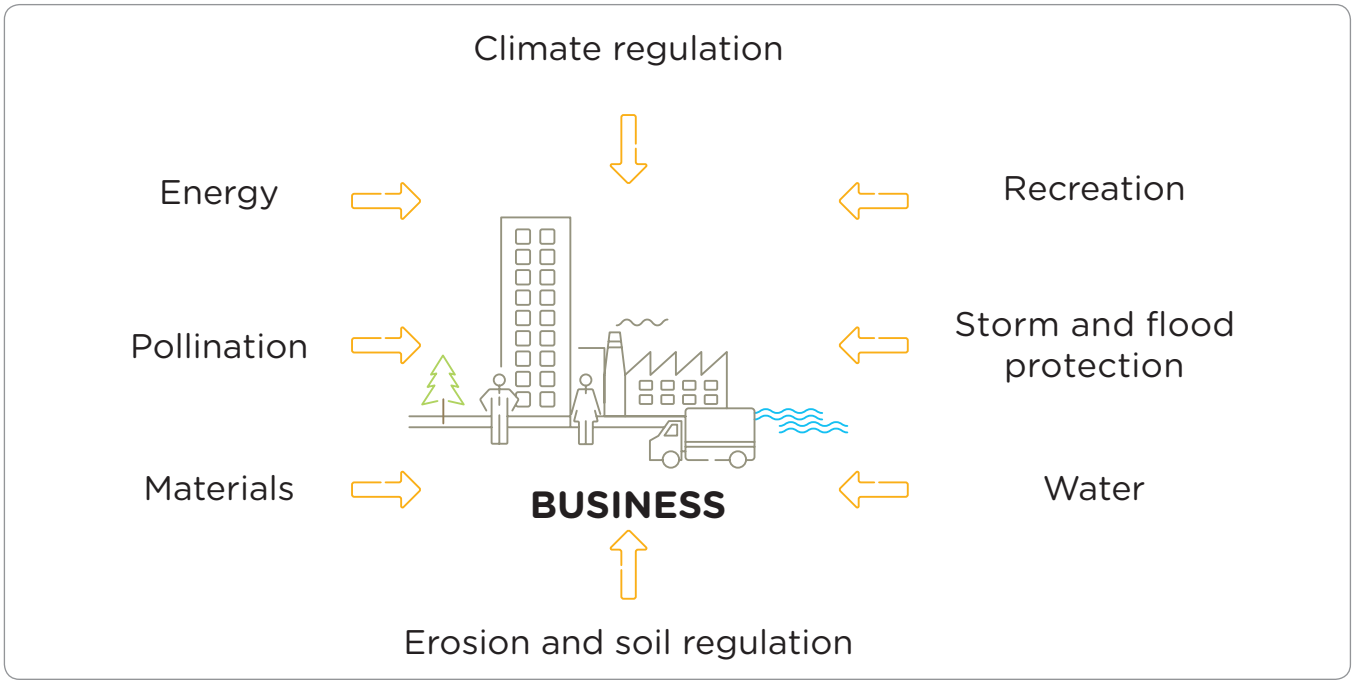


Figure 27. Examples of business dependencies on natural capital

Figures 28 and 29 from the Social & Human Protocol show similarly this capital impact, dependencies and frequent issues associated to it.

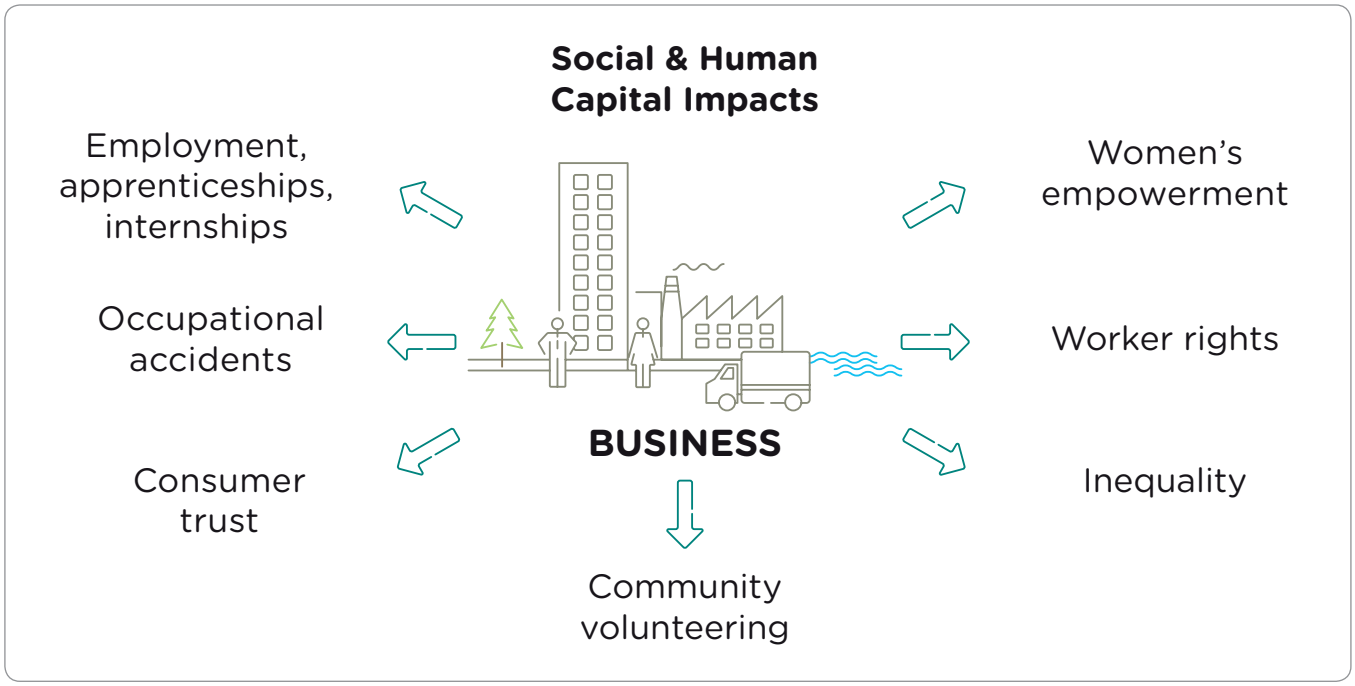


Figure 28: Examples of social and human capital impacts

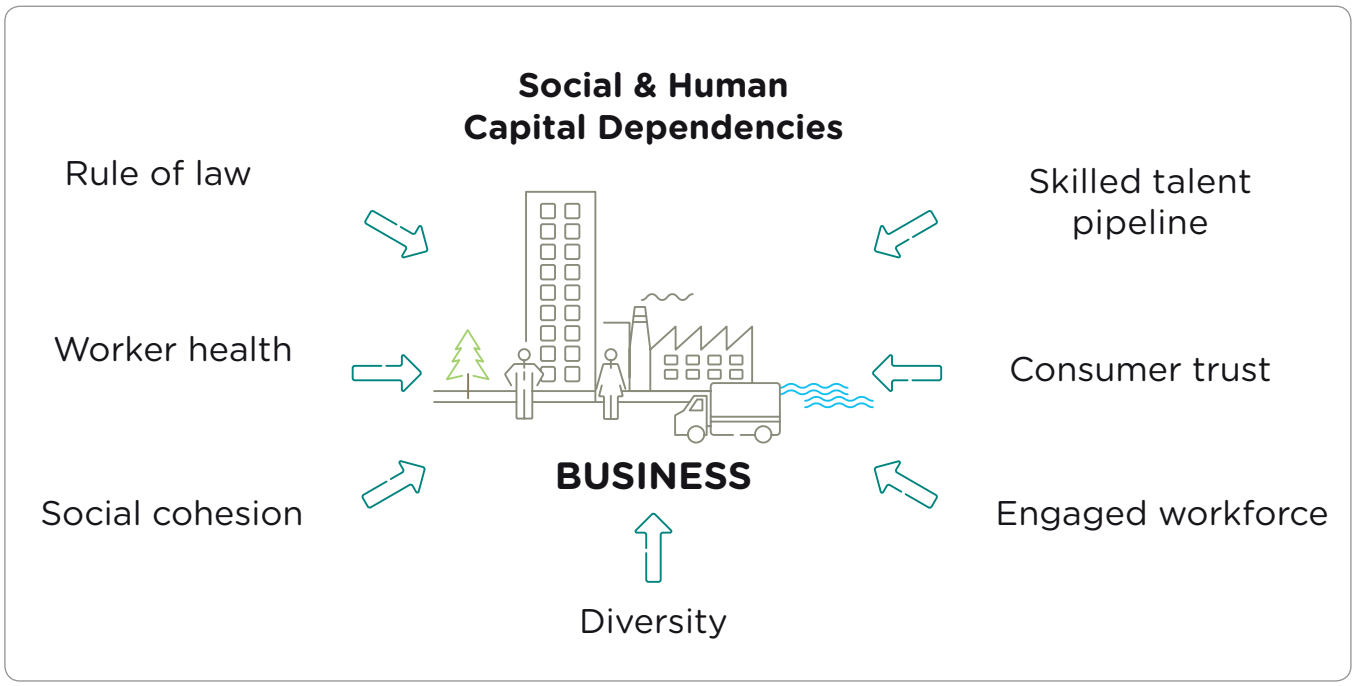


Figure 29: Examples of social and human capital dependencies

c. Risks and/or opportunities that are potentially relevant to your business

The business case for undertaking a natural capital assessment is based on identifying the risks and opportunities that arise from impacts and/or dependencies on natural capital that might be invisible, overlooked, misunderstood, or under-valued. Once you have identified these and can start to measure and ultimately value them, you can consider how best to integrate them into your business decisions.

Natural capital risks and opportunities can arise in all areas of a business: operational, legal, regulatory, financing, reputational, marketing, and societal. Table 15 presents examples of these risks and opportunities, and will help you to consider which might be most relevant to your business, and therefore to develop a business case for undertaking a natural capital assessment.

Category	Examples of natural capital risks	Examples of natural capital opportunities
Operational Regular business activities, expenditures, and processes	• Increased natural hazard costs (e.g., more frequent or severe storm damage due to degradation of cxoastal ecosystems and loss of their natural protection) • Increased security costs (e.g., due to social conflict over resources or pollution) • Increased raw material or resource costs (e.g., higher water charges) • Deteriorating supply chains due to increasing scarcity or more variable production of key natural inputs	• Reduce costs by investing in "green" infrastructure (e.g., protecting against natural hazards or improving water filtration by restoring wetlands) • Minimize or add value to waste and recapture valuable materials otherwise discarded • Reduce the costs of resource inputs (e.g., through efficiency gains or switching suppliers) • Ensure timely and reliable supply of raw materials
Legal and regulatory Laws, public policies, and regulations that affect business performance	• Increased compliance costs (e.g., to reduce emissions) • Increased capital costs or production losses due to permit denials or delays • Increased fines, penalties, compensation, or legal costs (e.g., due to liability for natural capital impacts) • New regulations or license fees (e.g., higher charges for extracting ground water or for waste disposal)	• Reduce compliance costs by using resources more efficiently and reducing waste • Expedite processes for permits and approval of operations • Reduce fines, penalties, compensation, or legal costs (e.g., by anticipating and avoiding negative impacts) • Reduce environmental fees and charges—Influence government policy
Financing Costs of and access to capital including debt and equity	• Increased financing costs (higher interest rates or harsher conditions) • Asset stranding (public and private equity) and non-performing loans	• Gain or maintain investor interest and confidence • Improve access to finance • Reduce financing costs • New "green funds" may be available in some cases

Category	Examples of natural capital risks	Examples of natural capital opportunities
Reputational and marketing Company trust and relationships with direct business stakeholders, such as customers, suppliers, employees	• Changing customer values or preferences may lead to reduced market share • Increased staff turnover, higher recruitment and retention costs • Reduced loyalty of key suppliers or business service providers	• Emerging environmental markets and products may offer new revenue streams (e.g., carbon offsets, sale of surplus water rights, habitat credits) • Growing demand for credibly certified products (e.g., eco-labeled wood, seafood, apparel) • Differentiate your products to increase pricing power • Improve ability to attract and retain employees
Societal Relationships with the wider society (e.g., local communities, NGOs, government agencies, and	• Local communities may experience reduced access to, or availability of, natural capital or related ecosystem services as a result of business activities. • People may experience health risks as an indirect result of business impacts on natural capital, for example through the effect	• Local communities may benefit from how business manages natural capital, for example through improved recreational access of a managed wetland, or improved water quality from a managed water catchment.

Table 15: Natural Capital Approach versus others.

Table 16 shows Social Capital Assesment.The tables are dapted from WRI (2005); WRI et al. (2012); World Economic Forum and PwC (2010); TEEB (2010); IPIECA (2011); AICPA and CIMA (2014); ACCA, Flora and Fauna International, and KPMG (2012).

Social and human capital issues relating to business	Social or human capital issue	Description	Examples of business impacts (non-exhaustive)	Examples of business dependencies (non-exhaustive)
Employment and remuneration	Human	Issues associated with the provision of jobs and wages	Providing employment and career opportunities (including through internships and apprenticeships) in an area with high unemployment rates, paying a fair wage with appropriate benefits	Presence of a supply chain and downstream value chain that are free from modern slavery
Inclusion and diversity	Social	Issues associated with engagement and involvement of people regardless of perceived differences	Providing equality in remuneration, preventing discrimination, ensuring dignified treatment of all people	Availability of an engaged workforce, increased innovation potential from a diverse workforce

Social and human capital issues relating to business	Social or human capital issue	Description	Examples of business impacts (non-exhaustive)	Examples of business dependencies (non-exhaustive)
Skills and knowledge	Human	Issues associated with experience, training, education, or the creation and dissemination of intellectual capital (with particular regard to the rapidly changing employment environment)	Providing training or education (including re-skilling, up-skilling and lifelong learning), appropriate use and sharing of intellectual property	Availability of a skilled workforce, access to and use of intellectual property
Health and safety	Human	Issues associated with people's physical or mental health	Providing reasonable hours of work in a safe, supportive environment, actively creating products and services that promote healthy lifestyles, allowing employees to adopt a healthy work– life balance	Availability of a healthy, happy and productive workforce, safe consumption of a business's products and services
Labor relations	Social and Human	Issues related to labor rights and dispute settlement	Providing adequate grievance mechanisms, allowing access to collective bargaining and associations (of both employer and business organisations, and trade unions).	A workforce that is engaged and willing to work for you, the absence of grievances, lawsuits, etc.
Value chain relationships	Social	Issues related to mutual trust and understanding with organizations in the value chain	Relationship building, reasonable pricing, collaboration around key challenges	Trust that enables free flows of products and financial capital through the value chain
Access to essential services	Social and Human	Issues related to the provision of services deemed essential for or required by society (and business)–e.g., rule of law and functioning government institutions that maintain a minimum standard of human capital (healthcare, affordable housing, clean water, sanitation	Allowing time for employees to partake in public elections, access healthcare, etc., paying fair share of taxes that enable states to fund essential services	Provision of essential services by the state in which you operate

Social and human capital issues relating to business	Social or human capital issue	Description	Examples of business impacts (non-exhaustive)	Examples of business dependencies (non-exhaustive)
		and hygiene, healthy and affordable food, electricityand transport)		
Personal security in the workplace and community	Human	Issues related to the treatment of employees in the workplace	Ensuring the absence of physical punishment, sexual abuse or harassment, forced labor, child labor and trafficking in the workplace	Absence of violations in the business or supply chain
Privacy	Social and Human	Issues related to personal privacy, including the use of personal data	Ensuring that adequate data protection measures are in place to prevent violation of customer and employee privacy	Presence of commercial confidentiality, current or potential customers are confident that you will protect personal data
Access to land and culture	Social	Issues relating to whether stakeholders can access land and enjoy activities that are of spiritual or cultural significance	Respecting rights of indigenous people, managing impact on cultural heritage, allowing access and shared use of land	Presence of social license to operate
Physical and economic freedom of movement	Social and Human	Issues related to the movement of people	Ensuring ethical informed consent procedures, fair negotiation and adequate compensation and that they precede the physical or economic displacement of people	Availability of a flexible and mobile workforce
Law and order	Social	Issues related to legal and regulatory compliance	Ensuring that, where local law and social protection systems do not already uphold human rights, the business' ethical code protects worker rights (including while in job transition), implementing fair and transparent governance standards, reporting financial and non-financial information	Absence of violations in the business or supply chain, capital from investors who require transparent and effective governance, and compliance with local laws

The stages and steps of the Capitals Protocol are quite standard and very similar to the ones presented for eCBA. The Capitals Coalition website provides a series of templates and questionnaires that can readily be used and won't be repeated here.

Therefore, for the EIP Business Case Formulation, it is proposed to follow the formulations steps of the Business Case, integrating the eCBA scenarios but to freely choose between the full fledge eCBA scenarios with monetized valuation or the Capitals Approach with a non-monetized one. In both cases, it is recommended to apply the Capitals Approach principles meaning to look both at impacts and dependencies and both at service flux and capitals stock. Scenarios made this way can therefore better show the opportunities for a positive relation between the planned business activities and the future evolution of the Capitals.

Chapter 5:
Land Management, Design and Development

This chapter looks into questions related to land management, design and development of EIPs by offering guidance regarding land acquisition, master planning, nature inclusive design, symbiosis (common infrastructures building) and Public Private Partnerships (PPP) and green urban development linkages. Finally, it highlights mechanisms to set up governance structures/arrangements for natural resource management.

5.1. EIP Land Acquisition

UNIDO International Guidelines for Industrial Parks provides detailed recommendations on land acquisition, master planning and construction. The development of an EIP requires the acquisition of a plot of land of the appropriate size, based primarily on phased occupancy demand projections, infrastructures and transport needs, greenspaces, asn. It may also require the construction of infrastructure and transport means outside the park. The size of the plot depends on the planned number of enterprises, the requirements for ready-made factory shells and the extent of the common infrastructure and services needed on the site, as well as surface buildout ratios and setbacks**.**

Identifying and procuring land for an EIP project is therefore often a challenge, due to legalities, expropriation considerations, social issues and high land prices. If inadequately addressed, these factors can result in delaying or even terminating the project. Park developers should thus thoroughly assess land ownership and use risks prior to starting construction.

The relevant considerations in land acquisition include the following (see Fig. 30 and 31):

- Preference for parcels held by one or a few owners or that do not require assembling parcels, in order to avoid delays during the acquisition process
- Consideration of possible future expansion, in terms of site size and zoning
- Environmental and social impact considerations
- No encroachment on a protected area or similar areas of conservation importance (except for EIP built on a tourism conservation model which requires dedicated guidance).
- Avoid relocation and resettlement whenever possible and ensure appropriate compensation if it is the case (see relocation/resettlement guidance below).
- Avoid impediment on access to natural resources (see natural resource good governance below)
- National legislation and by international guidelines and practices regarding acquisition and/or expropriation and resettlement
- Integration with local and regional planning
- Consideration of ancillary industries.

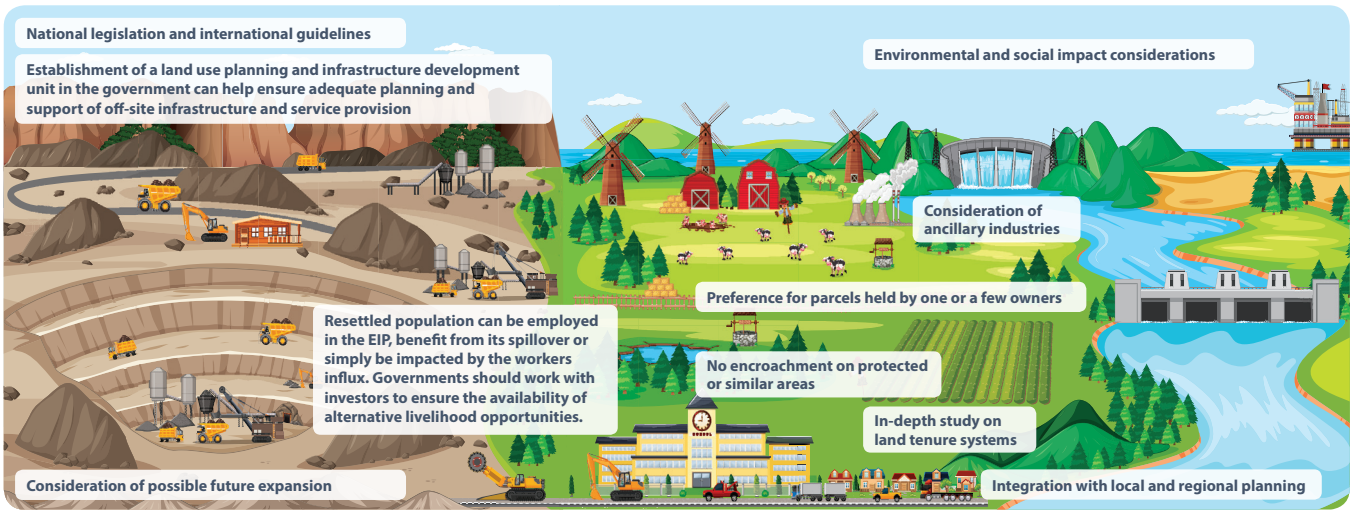


Fig.30: Land acquisition principles

Fig. 31: Land acquisition encroachment.

The land acquisition process depends on the region's land ownership policy as the land ownership can be purely private, joint or state owned. In some countries, the government provides land to industrial park developers free of charge or at a minimum cost as part of an incentive package, whereas in other countries the land is sold, made available on a concession basis or leased, under varying terms and conditions.

The incentive package with free of charge land may seem a good idea to curtail infrastructure costs in greenfield parks. However, it is not recommended for Uganda (and potentially for other countries as well) for several reasons (link with national legislations):

- A greenfield EIP development should be designed as part of an urban masterplan that would meet different stakeholders needs and optimize positive development outcomes. GoU can retain more ownership on the urbanization process and harmonization by allocating EIP land on a cost base and negotiating PPP arrangements for common infrastructures.

- The land cost valorization acts also as a motivator for a better environmental compliance and good management of public goods.
- If private land is acquired by GoU for the provision of an EIP land, a cost-recovery mechanism with the tenants will help ensure a proper compensation to the former owner.
- A cost-recovery system may refrain the incentive to clear public landscapes such as forests, meadows, ponds, swamps or fragile drylands (that may not be listed as conservation areas) to minimize public costs. However, that supposes good governance systems. Corruption risks may also create an incentive for profit generation out of the destruction of such free of charge landscapes.

Independently of the land charge system chosen, there are also international good practices for infrastructure projects that can be applied in EIP development and complement the UNIDO guidelines particularly if relocation/resettlement are unavoidable. Such guidance is provided by the World Bank, The International Finance Corporation IFC (ex. Guidance Note 5 Land Acquisition and Involuntary Resettlement, Resettlement Handbook), the World Wildlife Fund WWF (WWF Network Guidelines on Prevention of Restriction of Rights and Involuntary Relocation and Resettlement of Indigenous Peoples and Local Communities, 2018). Such relocation/resettlement can also be part of a wider urbanization project in which the EIP is a core component. While an investor might consider such considerations to be intra-community issues, if not properly addressed they can fuel discontent and ultimately create conflict with the investor and the EIP management. It is recommended to establish a national guidance on land acquisition, relocation and resettlement in line with international best practice[24]. Some key principles that can be highlighted from the numerous guidance documents are:

- Perform an in-depth study on land tenure systems and issues to address possible conflicts and inequitable representation due to power asymmetries in the access and ownership of land.
- Develop a baseline survey and cadastre map, the location of common resources and infrastructure in relation to the land parcel; any sacred grounds and physical property such as residential structures; and other assets. The baseline census and asset inventory should enumerate and register all affected people and determine the size of the affected population.
- Avoid resettlement and relocation whenever possible (see Fig. 32). If not evitable, a resettlement management plan should feature the resettlement sites selection and preparation, influx management, relocation schedule and assistance, replacement of services and enterprises, restoration of livelihood, cultural property, greenspaces and entertainment/ wellbeing, special assistance to vulnerable groups. An eCBA can be performed to assess different land acquisition scenarios as well.
- negotiation with land holders and/or users, based on free, prior and informed consent, to identify the types of rights to be transferred and modalities.
- Establish a grievance redress mechanism.
- An assessment of the best valuation methodology for the determination of compensation needs to be performed that can reflect as well social, political, and cultural value. Include compensations for the shift in tenure status for example when contract farming is involved (compensation for both the customary owners and the tenants). Valuations made on market prices can be misleading for example is they do not account for the subsequent increase in land prices in neighboring areas due to inward migration and additional demand for land from those to be compensated. Thus, the compensation should enable to restitute similar or better housing, services and livelihood conditions (supported by a livelihood assessment and plan), contributing to poverty reduction. Indeed, even when no resettlement due to land acquisition is involved, housing can become a problem when an EIP may cause population movements into the city with potential inflation on the real estate sector, or when the wages do not match the reality of the real estate market. The problem can be tackled through different approaches, from a city masterplan that comprises residential and EIP

24 At the moment, Uganda land allocation forms for Free Zone do not integrate the good practices recommended here https://www.ugandainvest.go.ug/wp-content/uploads/2016/02/Land-Allocation-Forms-UIA-Form-2.pdf

areas, an EIP masterplan with residential areas, PPP agreements negotiating access to public and private housing for workers or a freeze on real estate inflation over a number of years (if the EIP management puts in place a service to facilitate residential renting) and more. On the reverse, to limit inflation it is also key for the EIP management, workers association and landlords' representatives to negotiate rents that won't distort the market and to avoid a reduced availability of housing for moderate or low income local population. Depending on the situation, resettled population can be employed in the EIP or benefit from its spillover or simply be impacted by the workers influx. Thus, in both cases the compensation and/or housing should take into account the influence on the real estate market over a sufficient period of time.

- Transparent delivery of compensations properly witnessed and documented to reduce corruption risks.
- Compensation for lost earnings should be paid to proprietors and employees for the duration of work stoppages resulting from the relocation of enterprises.
- Inclusive consultation mechanism with all stakeholders and fair representations of all the groups in a community.
- Communication campaigns and service so that Persons to be relocated are informed of their rights, consulted on options, and provided with technically and economically feasible resettlement alternatives and assistance,
- Governments should monitor resettlement procedures to ensure that investors act in accordance with national guidance. The establishment of a land use planning and infrastructure development unit in the government can help ensure adequate planning and support of off-site infrastructure and service provision
- Governments should work with investors to ensure the availability of alternative livelihood opportunities for resettled people and to ensure training is offered on how to use compensation effectively in order to build future opportunities.
- As part of the EIP Business Case Environmental Assessment, conduct a detailed assessment with other actors to determine whether critical conservation objectives for a particular area/species can coexist with the respect of the rights of resource dependent communities who may be relocated/resettled (see also natural resource governance below).

Relocation, resettlement, involuntary and voluntary definitions (WWF)

Relocation: To move to or establish in a new place. Can be defined as a process whereby a person or community's housing, assets, and infrastructure (both individual and communal) are rebuilt in another location.

Resettlement: Resettlement or rehabilitation is a process by which those adversely affected are assisted in their efforts to improve, or at least to restore, their incomes and living standards.

Involuntary: An action undertaken against someone's will or not by his/her choice. It means all or any actions taken without community consent and agreement which leads to physical displacement and curtailment or access to their traditional place of habitation and use.

Voluntary: An action that takes place on mutually agreed terms and with the free, prior and informed consent of the affected individual and or communities concerned and after agreements on just and fair compensation and where possible with the option to return (according to international human rights standards).

Greenfield EIP designed as part of urban masterplan.EIP land allocated on a cost base and negotiating PPP arrangements for common infrastructure.

Land cost valorization as a motivator for environmental compliance and good management of public goods (not market price based). May refrain to clear public landscapes such as forests, meadows, ponds, swamps or fragile drylands. Corruption risks may also create an incentive for profit generation out of the destruction of such free of charge landscapes.

Avoid relocation and resettlement and if not evitable ensure resettlement management plan and appropriate compensation using the best valuation methodology. Compensation for lost earnings.The plan should feature the resettlement sites selection and preparation, influx management, relocation schedule and assistance, replacement of services and enterprises, restoration of livelihood, cultural property, greenspaces and entertainment/wellbeing, special assistance to vulnerable groups. eCBA to assess different land acquisition scenarios.

Negotiation with land holders and/or users, based on free, prior and informed consent.

Inclusive consultation mechanism with all stakeholders and fair representations of all the groups in a community. Communication campaigns and service, grievance redress mechanism.

Fig. 32: Resettlement

5.2. Master planning

A **Master Plan** is a dynamic long-term planning document at strategic level, providing a conceptual layout to guide future national growth and development. It makes the connection between buildings, social settings and surrounding environment which includes analysis, recommendations and proposals for a site's population, economy, housing, transportation, community facilities and land use. It is an essential part of the Business Case Development. It is based on feasibility studies sourcing information in public inputs, surveys, planning initiatives, existing development, physical characteristics and social and economic conditions in alignment with national policies, meaning the National Development plans strategies and Uganda Vision 2040. A detailed master plan should guide the development of EIPs especially, infrastructure development, site section and its long-term management. As per the UNIDO guidelines, the master plan should present the following features to ensure an overall successful design:

- Lay down long-term vision and a broad planning framework, with international site competitiveness in mind.
- Address the target industries' specific needs.
- Focus on integrated infrastructure – with an emphasis on environmental management, utilities and inclusive social infrastructure. This comprises symbiotic infrastructures and PPP.
- Optimal utilization of available land.
- Flexibility in designing the built environment for multiple uses.
- Synergies of co-location, circularity and industrial symbiosis (the exchange of industrial by-products, heat and process waste and by-products among closely-situated firms).
- Synergies of collocation of ancillary and symbiotic industries.
- Mixed land use.

- Conservation of important natural features.
- Enhancing physical connectivity to adjacent communities and regions (urban master plan).
- RECP, use of renewable energy sources and energy conservation, that includes a) incorporating built forms, technologies, materials, orientation and layout that contribute to energy efficiency (e.g. through natural ventilation, heating, cooling Conservation of important natural features.
- Enhancing physical connectivity to adjacent communities and regions (urban master plan).
- RECP, use of renewable energy sources and energy conservation, that includes a) incorporating built forms, technologies, materials, orientation and layout that contribute to energy efficiency (e.g. through natural ventilation, heating, cooling and lighting) and associated emissions; b) Taking into account the potential for the re-use of existing buildings and materials.
- Integrated with regional and local planning.
- Compliance with planning norms and guidelines. In Uganda it should be linked to the development of Green Buildings Standards.
- DRR and climate change resilient, for example avoiding adverse micro-climatic effects (e.g. wind turbulence, noise reflection, etc.) through sustainable construction design.
- Sustainability and Nature inclusive design.

The master plan coverage in the feasibility study should comprise the non-exhaustive elements presented Table 16:

Focus Area	Details
General background information on the project	• Global, regional and national, supranational context. • Project history. • Objectives of the project. • Methodology for implementation. • Preparatory studies and related research. • Stakeholder analysis
Local economy assessment	• Regional context. • Brief history, demographics, geography and climate. • Overall macroeconomic overview. • Infrastructure. • Local skills and availability of the workforce
Demand analysis and development strategy:	• Market orientation at local, national and regional level. • Projection of production volumes by product and by site, unit prices, sales, objectives and so on • Consumer analysis and distribution channels • Competition analysis • Development of the park strategy • Development of the marketing policy • Marketing costs and revenues. • All other critical factors that can affect market potential.

Focus Area	Details
Location analysis and selection:	• Existing land uses. • Existing zoning and related subdivision requirements. • Existing industrial activity. • Assessment of the environmental and social impacts • Socioeconomic policies. • Access to transportation and utilities • Nature/biodiversity inclusive design options • Final choice of location
Site selection and its features:	• Size of site required, plots and zoning • Required transportation (air, rail and ground) and relative network for each • Access to potable water and domestic sewer • Access to utilities such as electric and gas • Soil types and topography/drainage. • Cost estimates • Site selection
Raw materials and supplies:	• Classification of raw materials and supplies • Requirement specification and certification of materials • Availability of supply • Procurement policy and program • Costs of raw materials and supplies
Engineering and technology:	• Program and production capacity. • Choice of technology • Acquisition and transfer of technology. • Detailed plan of installations and basic engineering. • Choice of machinery and equipment. • Civil engineering works • Maintenance and replacement. • Estimates of general investment costs
Economic and financial analysis:	• Site development costs. • Construction costs. • Amortized/annual costs. • Project management and maintenance costs. • Payback scenarios — long-term lease, purchase, rent or lease. • Detailed site-specific construction costs (difficult terrain or soil)
Organization and overhead:	• Organization and management of facilities. • Organization's conception. • Overhead
Visuals and initial design for Master Plan	• Developing a general layout with consideration to adjacent property, zoning and terrain • Developing road layouts for access and future flexibility during actual development • Laying out lots with appropriate access and future flexibility

Table 16: Non-exhaustive list of materplan coverage.

5.3. Infrastructure Planning

Infrastructure planning should be established based on existing plans, as well as on new site-specific survey and assessments as explained in Chapter 4. Such planning should take into consideration the following fundamental principles:

- Infrastructures should be modular, functional, cost-effective, flexible to take gradual occupancy into account and ideally be symbiotic (infrastructures mutualization) for EIP companies but also whenever possible external companies and the city
- Waste minimization /sustainable & green concepts
- Life cycle operation and phased development, and management costs, and value for money analysis from developer and unit occupant perspectives
- Green and Blue solutions should be fostered
- Include also social infrastructures and services provision
- Based on supportive legislations enabling the sale of services and symbiotic resource as for example the possibility for EIP centralized contracting of pubic operators (water, telecom, energy) or the resale of renewable energy to the grid.

Table 17 provides some examples of typical industrial, environmental and social infrastructures present in EIPs:

S/N	Infrastructure	Details
1	INDUSTRIAL INFRASTRUCTURE	• Development of integrated transportation infrastructure (on-site and off-site) • Development of power/energy infrastructure • Development of a logistics hub • Development of communications infrastructure • Development of integrated utilities infrastructure
2	ENVIRONMENTAL INFRASTRUCTURE	• Development of solid waste collection, transport and treatment facilities • Development of an industrial waste collection, sorting, transport and management system • Water source development and harvesting, including rainwater, treatment and recycling infrastructure • Development of wastewater treatment and recycling • Renewable energy infrastructure development • Development of co-generation plant • Centralized effluent treatment through centralized effluent treatment plants (CEPTs) • Provision of pollutant and toxicity testing facilities and laboratories
3	SOCIAL INFRASTRUCTURE	• Establishing an industrial zone with compatible social infrastructure • Integrated industrial, commercial, institutional and social development • Development of knowledge, training and research support infrastructure • Provision of emergency services

Table 17: Typical common infrastructures in EIP.

5.4. Zoning and Plots

Plots size should be determined based on demand analysis, as well as on the common infrastructure and services needed on site.
The master plan should be flexible and ensure to:

- Create suitably-sized plots that are functional, accessible, accommodate future expansion and diverse enough to cater for various uses.
- Protect and enhance cultural, environmental and landscape features, and address the site's constraints
- Maximize RECP and symbiosis between plots (including renewable energy design as for example passive solar design through plot orientation)

As per UNIDO guidance, EIPs should be configured and organized in accordance with the expected uses of the land within them; this form of spatial organization and planning is known as **"zoning".** It is always an advantage for an industrial park to have different zones for different types of industrial and non-industrial activities. The relationship between industrial, residential (e.g., multi-format worker housing, hotel and guesthouse, etc.), commercial, administrative, social and recreational zones, and the expanse and intensity of each use, significantly impacts the project. Zoning helps by encouraging on-site economies of scale in utilities infrastructure concentration and utilization, for instance as regards waste collection and treatment, wastewater recycling, internal transport networks and other amenities. It also smooths vehicular and pedestrian circulation by enabling clear movement patterns.

Segregated internal zones such as the following are typical in an EIP context:

- **Industrial and business zones for targeted sectors**: industrial plots, industrial factory shells and multi-story industrial and business units for non-polluting or medium-polluting industries.
- **Amenities zones:** information centers, training centers, R&D facilities and Innovation centers, clinics, administrative buildings, shopping centers, fire stations, weigh stations, restaurants, nursery, etc.
- **Special infrastructure zones**: certification laboratories, quarantine services, market intelligence unit, export processing facilities and One Stop Center.
- **Logistics zones**: loading and unloading yards, parking lots, packaging facilities, transportation hubs, cargo-handling centers, raw material collection and storage depots, goods storage warehouses, etc.
- **Utilities zones :** common infrastructures for example solid waste collection centers, electrical sub-stations, Common effluent treatment plants (CETPs), etc.
- **Residential zones:** worker housing, guesthouses and hotels, entertainment and leisure like sport facilities.
- **Green zones:** green belts and buffer zones along the park's boundaries (also for temperature and humidity control), lawns, parks and water features, internal walkways between zones, nature inclusive design, etc.

The **acquisition and transfer of developed industrial plots,** factory shells or warehouses can be done either through sales or leases. The decision to sell or to lease depends on prevailing land law or regulation in the host jurisdiction, market preferences and the types of assets offered. Leasing provides the greatest market entry and exit flexibility, and the lowest financial barriers for park residents as it does not require a large down payment. The sales and leasing price of serviced land and facilities depends on the location of the industrial park, and the extent of the available infrastructural facilities within it (, prevailing local market prices and should enable developer/operator cost recovery plus margin, in order to enable the financing of future industrial park expansion and/or upgrade needs.

5.5. Nature Inclusive Design

EIPs can address a range of RECP, DRR and Climate Change concerns through Nature Inclusive Design while benefiting biodiversity conservation and providing wellbeing to their workers. Many of those measures provide efficiency gains resulting in financial benefits and most of them are accessible independently of the level of development and financial resource of the EIP country. **Nature and Biodiversity inclusive planning is not a luxury!**. Some examples of measures and their benefits that should be comprised in the masterplan coverage in the feasibility study are presented in Table 19.

Natural feature	Example of service
Respecting soil and water balance	Incorporate places which absorb the rainwater, allowing some of it to seep away locally and to evaporate with cooling effects, and the rest to run off above ground in rivers and streams with habitat and landscape functions.
Cold air reservoirs	Water surfaces, woods, groups of trees and old solitary trees, hedges, meadows, green corridors, rivers and wetlands on the fringe of the built-up area as well as open and green spaces within an EIP can serve as reservoirs of cold air for the EIP, cities and residential areas.
Temperature management	Facade greening on an uninsulated building can provide cooling effect reducing the need for air conditioners in summer and reduce heat losses in winter. The outer skin of the buildings and roods covered with plants can also have longer life as they are protected from heavy rain, wind and pronounced fluctuations in temperature.
Trees	Through their leaves coverage, trees on asphalt surfaces exposed to the sun provide us with shade and evaporative cooling; cool the environment, filter out particulate matter and produce oxygen.
Ponds	Ponds serve multiple functions in micro-climate regulation but can also serve as conservation niche for fishes, amphibian or insects. Vectors control particularly in tropical areas should as well be enforced.
Nesting sites	Rooftops can be a habitat for rare and sensitive plants, birds (nesting sites), insects and other small creatures and thus provide compensation for built-on land, pollination, seeds provision, urban food security services or for conservation. There is a large unexploited potential for green roofs in combination with photovoltaic arrays.

Table 18: Examples of nature inclusive design measures

5.6. Governance of Natural Resources Arrangements

As a result of the environmental and social capitals assessment and material and energy flux analysis for the EIP, its surrounding areas and value chains, an identification of key natural resource for the EIP function as well as the existing governance structures if they exist should have taken place. While this assessment may result in various redesign, conservation or mitigation measures, as well as developing systems for ecosystems services valuation and payments (see chapter 10), it is key to address the governance structure that will channel this support very early in the EIP design. Various situation can present themselves depending on the EIP location, prevailing legislation and institutional set-up and the type of resource addressed. The assessment will also need to determine whether the existing governance mechanisms are functional and transparent or suggest alternative avenues if it is not the case. While ideally natural resource governance should be addressed in a systematic manner, in situations were no institutional or community entry points can be identified or set-up, the EIP can resort to CSR practice ideally based on needs identification provided by experts (ex through NGOs, consultancies, asn). Some of the governance structures can take the form of:

- **A long-term community of stakeholders:** These groups are set up to develop a long-term community for a specific

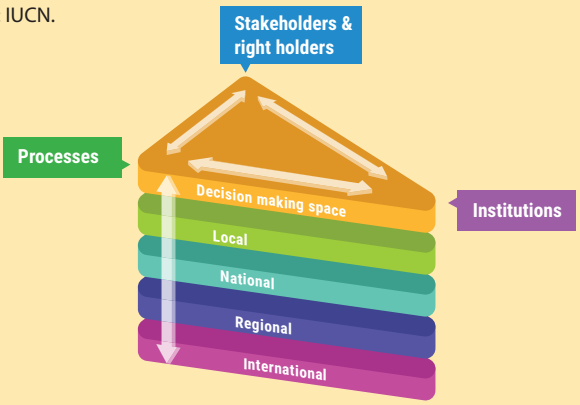
purpose and can be led by a government institution, a consortium of civil society organizations or can also be set up by a private sector actor or association (ex: water management groups, farmers associations, asn). A landscape approach can be one of the methodologies chosen to engage a range of stakeholders and define the EIP spillover area (see box below).

- **Working Groups:** These are set up for a specific, discrete, purpose, problem to solve or a plan to implement and often belong to a parent organization. There is an expectation that once the purpose has been achieved that the working group might dissolve. Those can be set-up for example to address land tenure issues during land acquisition or to address concerns during construction phase (ex: noise and air quality management).
- **Rapid Response Groups:** Those are set-up temporarily, with a very specific purpose in order to address an urgent issue, often a humanitarian crisis, a disaster or any other critical event. In locations with an organized humanitarian coordination system, the private sector may be addressed to voluntarily contribute to the response efforts. Small scale stresses often linked to climate change such as water shortages due to drought may not trigger a humanitarian response but may justify the set up of a rapid response groups with the municipality or the communities to contribute to alleviate the issue (ex: water provision from EIP storage).
- **Overarching Strategic or Advisory Group** - This is a high-level organization or government advisory service linking to a number of other partnerships, sometimes transboundary issues (ex: water basin, forests corridors, etc).

IUCN Landscape Approach[1]

"Landscape approaches are one proposed way to address conservation issues and rights beyond individual projects. Landscape approaches can be understood as an attempt to overcome the lack of a multilevel approach and paucity of linkages across sectors and jurisdictions (Robinson and Kagombe, 2018) by working across geographical areas where various stakeholders and their interests are connected through socio-economic and ecological relationships. Adopting such an approach requires looking at not only the physical landscape and the people in it but also the institutional conditions that is the laws, policies and local customs that shape how local people use the landscape's natural resources (IUCN, 2012). Often seen as sets of overlapping ecological, social and economic networks withina specific area, landscapes can be an ideal unit for planning and decision-making, allowing the integration ofvarious sector plans and programmes across one social, environmental and spatial context." Landscape governance concerns the institutional arrangements, decision-making processes, policy instruments and underlying values in the system by which multiple stakeholders pursue their interests in a resource. The decision-making spaces, processes, and institutions become the vehicle through which rights holders and stakeholders come together. to discuss, recognise and act on rights.

1 Blomley, T and Walters, G. (eds.) 2019. A landscape for everyone: Integrating rights-based and landscape governance approaches. Gland, Switzerland: IUCN.



The structure of landscape governance
Source: Adapted from Mansourian et al., 2014

Horizontal and vertical linkages of landscape governance. Note: Some symbols used in this diagram were created by the University of Maryland Integration and Application Network.

5.7. Industrial-Urban Symbiosis

In an upward urban integration concept, infrastructures can also be built as a **Public-Private Partnership (PPP)** on premises outside the EIP, particularly if land availability in the EIP is an issue as for example for brownfield revitalization. Figure 33 shows various positioning of common infrastructures and the ownership, financial revenue and adaptability to the needs that result from it. In addition, an illustrative list of different PPP frameworks includes:

- Public provision of off-site infrastructure and facilities (utilities, connections and roads) while private funding is targeted towards on-site infrastructure and facilities;
- Build Transfer and Operate (BOT) and Build Operate Own (BOO) approaches to on-site and off-site infrastructure and facilities with government guarantees and financial support;
- Contracting private management for government owned zones or of government zone assets by the private operator (beneficial ownership);
- Equity shifting arrangements whereby a private contract manager of a government zone can exercise a purchase option once pre-defined performance levels have been reached.

Symbiotic infrastructures can be direct contributors to cost-savings from the tenants of an EIP and the city public services and need to be well documented in order to generate more willingness to pay for the maintenance of the common services offered in an EIP. Their specifications need to be well studied ideally before plots sales/rental and as part of the eCBA/Business Case Project development in order to avoid technical incompatibilities or dimensioning errors. The PPP arrangement should be based on a clear definition of rights, responsibilities, obligations and commitments of the private and public sector parties.

Essential public services situated outside the EIP can also be considered as infrastructures when the park activity results in substantial demand increase on those services, for example due to important workers influx from outside the city (impact on education, transport and health services). It is part of the social capital impact assessment. In such case it is recommended to evaluate various strategies:

- The provision of such services within the EIP ideally open to people outside the park to enable a better occupation/financial viability.
- The financial contribution to service centers outside the park. Such contributions are not limited to the payment of individual services to workers or health insurance/transport fees/school fees coverages, as service centers may benefit from government subsidies or be charging less than their running cost would require if they upgraded their capacity (HR/equipment/space) to meet the increased demand. A negotiation on a case-by-case basis need to take place with identified service centers, the authorities to estimate the best support modality and can take the form of a mandatory contribution or as a Corporate Social Responsibility good practice.
- Preagreements with private service centers to channel workers to those as a way to spread out the service demand and relieve the pressure on public services.

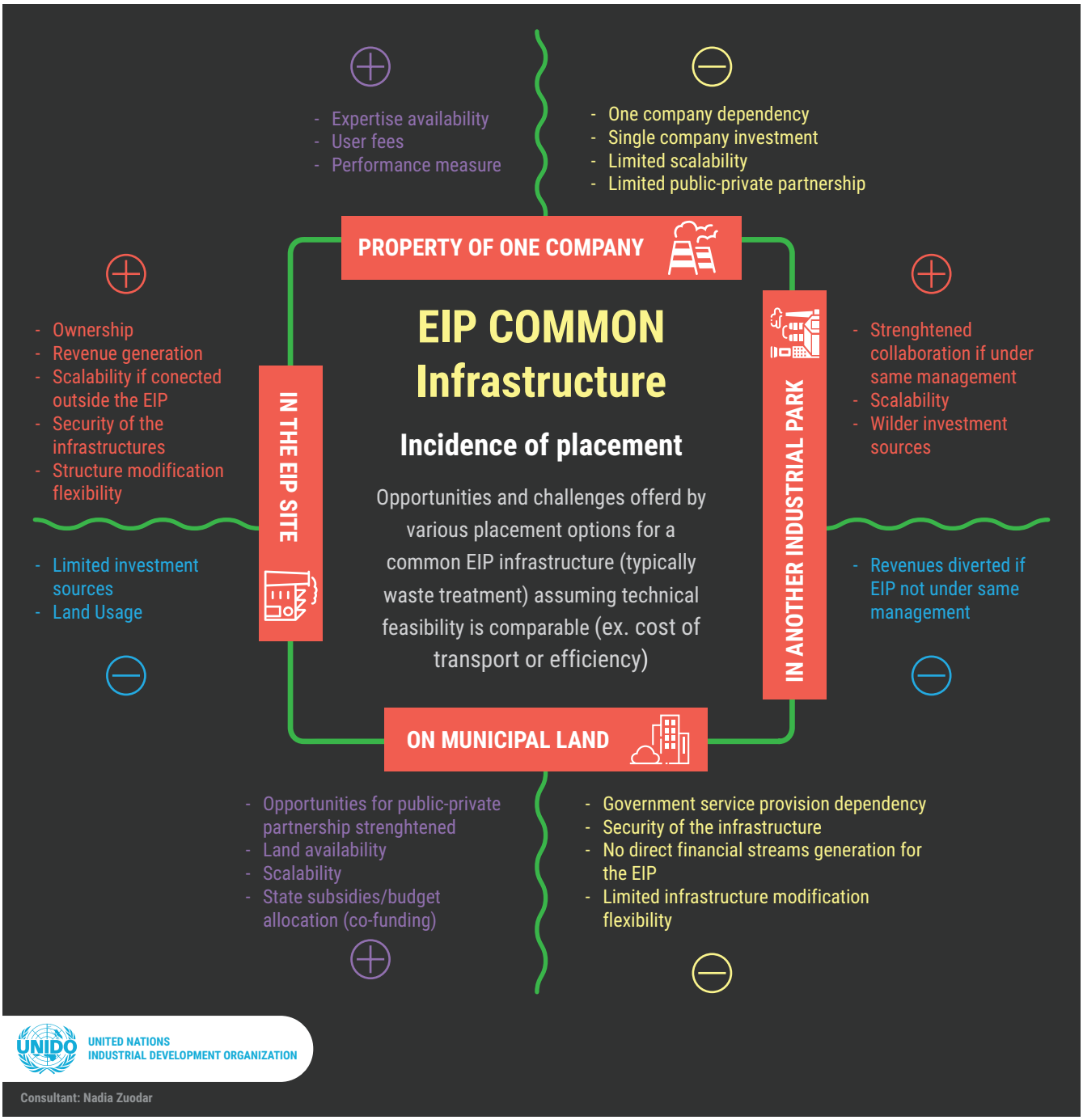


Fig. 33: EIP common infrastructures incidence of placement

Chapter 6:
Operations & Management

This chapter focuses on IP Operations and Management. It further details the roles of the key IPs stakeholders, looks into possible IP governance and management arrangements and the different phases for IP development and administrative procedures attached. In summary, those phases are represented in Figure 34 for a Greenfield IP implementation. Variations occur in the case of a Brownfield IP revitalization.

GREENFIELD EIP IMPLEMENTATION STAGES

1 Stage 1: Site Selection

- Apply eligibility criteria
- Identify relevant legislations

2 Stage 2: Business Case Development

- Business Case
- Leadership committee/board
- Select Developer and Operator
- Land acquisition and site masterplan
- Infrastructures needs
- Mobilize businesses and co-investors.
- Design incentives packages
- Companies selection
- Marketing, KPIs skills strategy, partnerships

3 Stage 3: Set-up

- Park management structure
- Land acquisition process and site masterplan
- Lease and rental agreements
- Natural resource governance

4 Stage 4: Construction

- Update the EIP Business Case
- Monitor green growth KPIs related to construction phase.
- Operational arrangements for the management of common infrastructures including PPP.
- Plot allocation to favor RECP and symbiosis
- Ecosystem services payment set-up
- Community infrastructure upgrade
- Vocational training

5 Stage 5: Operational

- EIP Operational Plan
- Compliance.
- - and financial incentives
- Manage infrastructures and services/ one-stop-center facilities.
- Community, ecosystem or training initiatives.
- Marketing and communication

6 Stage 6: M&E

- Self- monitoring and reporting of collective performance
- Assist in individual companies Green Growth performance.
- Capacity building initiatives (ex. RECP training) and peer-to-peer learning (together with partners)
- External audits & certifications

7 Stage 7: Evolution

- Scale-up, equilibrium, merger, revitalization or spill-over of the EIP

Figure 34: Greenfield EIP implementation stages summary

6.1. Approach

The establishment of a **greenfield** IP or the green revitalization of a **brownfield** IP requires to set up a smooth process flow with the governance structures, with clear roles, obligations and associated responsibilities. An IP may be established by Public, Private enterprise, or Public Private Partnership as a joint venture. The operation of an IPs includes the roles of IP Leadership/Owner, Developer, Manager/ Operator, and Regulator. The general approach is the same for Green SEZ though some activities may differ in depth and complexity. The way in which EIPs are managed is crucial to their success. Management is enhanced when zones are operated on a cost recovery basis, and are customer focused. Nevertheless, if the EIPs is publicly owned and managed, it should still operate on a cost recovery basis, limiting subsidies and charging fees for their services that are based on market prices. Greater involvement of the private sector in the development and management of zones should be encouraged. This reduces the burden placed on public resources and increases the efficiency of zones by allowing them to operate under market mechanisms. International experience reveals that a significant number of governments developed and managed zones have been less effective than their private counterparts. In order to facilitate private development of zones, an appropriate legal, regulatory and institutional framework should be in place based on the EIP guidelines. The key stakeholders and roles are listed in the Glossary and refer to the regulator, the owner, the developer, tenants and other stakeholders[25] and refer to the glossary. They should be accompanied with well-defined licenses comprising the Developer's, the Operator's and the Manager's license.

There are **7 implementation stages** for both greenfield and brownfield IP project, though the set-up and construction stages are optional for brownfield IP, as presented in table 8 and Table 9. They define the service delivery model, and corporate and legal structure for the proposed EIP, including details of the nature of the corporate vehicle that will be used to develop and operate the industrial park, the extent of participation from the public and private sectors in it, and their respective roles and responsibilities in terms of the design, financing, ownership, development and operation of the project. The basic constituent elements involved (i.e., Design, Build, Finance, Own and Operate) can be shared in many different ways between project sponsors.

7 Stages	Primary Responsible	Greenfield IP Implementation Stages Key activities (see roles and responsibilities in the Glossary)
1. Site selection	Regulator	• Apply eligibility criteria for site selection to identify possible sites or to verify the acceptability of a site proposal. Identify relevant legislations applying for the site and if there are hampering or enabling ones.

25 see UNIDO and https://www.theigc.org/wp-content/uploads/2019/12/Mangal-2019-policy-paper.pdf

7 Stages	Primary Responsible	Greenfield IP Implementation Stages Key activities (see roles and responsibilities in the Glossary)
2. Business Case Development (proposal)	Regulator/ Developer	• Develop Business Case on a range of analysis: goals, stakeholders, feasibility analysis comprising Productive, Natural and Social capitals and impacts assessment and extended cost-benefit analysis eCBA including to justify site selection. • Establish a leadership committee/board to evaluate the IP Business Case, policies and targets. Business Case proposals examination. • Select Developer and Operator: Hold a legal tender and use an objective scoring system to select a developer and operator. There should be a competitive tender especially if the IP is publicly-owned. • Initiate the design of the land acquisition process and the site masterplan following green growth (sustainability) principles. Identify infrastructures needs both within and in the vicinity of the IP as well as PPP opportunities. • Mobilize businesses and co-investors. Design incentives packages. Start companies' selection willing to meet industrial ecology/green growth principles based on pre-defined criteria (and Charter), manage purchase, lease and rental agreements. • Identify or set up natural resource governance mechanisms. • Initiate marketing • Initiate KPIs definition • Identify skills strategy needs • Identify/Initiate possible partnerships
3. Set-up	Developer/ Regulator	• Design a park management structure for both construction and operational phase. • Finalize the land acquisition process and site masterplan • Continue companies' selection and manage purchase, lease and rental agreements. • Continue natural resource governance mechanisms set-up
4. Construction	Developer/ Regulator	• Park Management to update the IP Business Case such as verification of compliance of good construction practices, review on site/ common infrastructures set-up, marketing, charter… • Monitor green growth performance indicators related to construction phase. • Set up the operational arrangements for the management of common infrastructures including PPP. • Plot allocation to favor RECP and symbiosis • Ecosystem services payment set-up • Community infrastructure upgrade if applicable (housing, schools, hospitals) • Vocational training initiation if applicable
5. Operational	Operator/ Regulator	• Development of an IP Operational Plan based on the Business Case • Monitor and enforce compliance. Attribute the performance based/ green fiscal and financial incentives • Continue to manage purchase, lease and rental agreements. • Manage infrastructures and services and coordinate One Stop Center facilities. • Pursue or start community, ecosystem or training initiatives. • Pursue marketing and communication efforts

7 Stages	Primary Responsible	Greenfield IP Implementation Stages Key activities (see roles and responsibilities in the Glossary)
6. Monitoring and Evaluation	Operator/ Regulator	• Park management to do self- monitoring and reporting of collective performance and preferably assist in individual companies Green Growth performance. Facilitate capacity building initiatives (ex. RECP training) and peer-to-peer learning (together with partners) • External audits & certifications
7. Evolution	Developer/ Regulator	• Scale-up, equilibrium, merger, revitalization or spill-over of the IP.

Table 19: Greenfield EIP implementation stages.

7 Stages	Primary Responsible	Brownfield IP Revitalization Stages Key activities (see roles and responsibilities in the Glossary)
1. Site selection	Regulator	• Apply eligibility criteria for site selection to identify possible revitalization sites, to verify the acceptability of a site proposal or relocation.
2. Business Case Development (proposal)	Regulator/ Developer	• Develop an IP Revitalization Business Case. • Establish a leadership committee/board to evaluate the IP Revitalization Business Case, policies and targets. Business Case proposals examination. The IP should already present a leadership and management structures but those can be assessed and revised for better performance. • Select Developer and Operator in case the activities are not directly implemented by the EIP management. • Initiate the design of the land acquisition process and the site masterplan following green growth (sustainability) principles in case of IP extension, infrastructures upgrades or off-site PPP are required. This includes possible remediation. • Mobilize businesses and co-investors. Review incentives packages. Enforce compliance through appropriate penalties and if applicable start companies' selection willing to meet industrial ecology/green growth principles based on pre-defined criteria (and Charter), manage purchase, lease and rental agreements. • Identify or set up natural resource governance mechanisms if not already existing. • Review marketing strategy • Review KPIs definition to integrate Green Growth • Identify skills strategy needs • Initiate possible partnerships
3. Set-up (optional)	Developer/ Regulator	• If applicable, land acquisition process and site masterplan for park extension or PPP infrastructures. • Companies' selection in case of extension or companies' replacement and manage purchase, lease and rental agreements. • Natural resource governance mechanisms set-up if not already existing.

7 Stages	Primary Responsible	Brownfield IP Revitalization Stages Key activities (see roles and responsibilities in the Glossary)
4. Construction (optional)	Developer/ Regulator	• Park Management to update the IP Revitalization Business Case such as verification of compliance of good construction practices, review on site/ common infrastructures set-up and construction, nature-based redesign, marketing, charter… If applicable land remediation or relocation. • Monitor green growth performance indicators related to construction phase. • Set up the operational arrangements for the management of common infrastructures including PPP. • Plot reallocation to favor RECP and symbiosis if applicable • Ecosystem services payment set-up if not already existing • Community infrastructure upgrade if applicable (housing, schools, hospitals) • Vocational training initiation if applicable
5. Operational	Operator/ Regulator	• Development of an IP Operational Plan based on the Business Case • Monitor and enforce compliance. Attribute the performance based/ green fiscal and financial incentives • Continue to manage purchase, lease and rental agreements. • Manage infrastructures and services and coordinate One Stop Center facilities. • Pursue or start community, ecosystem or training initiatives. • Pursue marketing and communication efforts
6. Monitoring and Evaluation	Operator/ Regulator	• Park management to do self- monitoring and reporting of collective performance and preferably assist in individual companies Green Growth performance. Facilitate capacity building initiatives (ex. RECP training) and peer-to-peer learning (together with partners) • External audits & certifications
7. Evolution	Developer/ Regulator	• Scale-up, equilibrium, merger or spill-over of the IP.

Table 20: Brownfield EIP revitalization stages

6.1.1. Stage 1: Site Selection

The site selection for a greenfield EIP should be determined by the eligibility criteria presented in Chapter 4.5.1, following the prioritization set in Chapter 2. The regulator would approve site selection for EIPs but may require national level approval for high impact project and for Green SEZ. For a brownfield revitalization, the site selection and the EIP eligibility criteria verification go together, whether the government wants to prioritize site or that the request is presented by the EIP management itself.

6.1.2. Stage 2: Business Case Development Proposal and licensing

In this stage, the Business Case project proposal is developed by the EIP Developer. It is recommended to develop a Business Case Project proposal template with checklists that can assist developers in drafting comprehensive and competitive proposals. A simple pre-screening application form prior to the Business Case Proposal needs also to be designed. However, it is recommended to rather use an online Portal that could be linked to an industrial database. A working group/committee to guide the process and evaluate the proposals should be set-up as well.

Additionally, is recommended right from the start to set up a local consultative committee that would have a wide participation that would have a wide participation not only from government and businesses but also from communities' representatives and civil societies such as NGOs, associations, sectoral experts. The committee could be subdivided in working groups or sub-committees to address sectoral topics. The aim is to engage participation from the design, facilitate data collection and assessment processes and refer to the committee all along the EIP evolution, particularly for participative impact indicators monitoring. It will also serve to address potential disputes. The terms of reference of this committee can be designed locally (based on an template) to adapt to the capacities in the context. It is recommended for the key project proposal documents to be presented and discussed with the local committee prior to the submission to the Regulator especially for Green SEZ that require approval from the national level too.

The proposed general licensing procedure for an IP in Uganda is presented in Table 23.

Item	Description
1. Application for the development of the IP	The Developer submits a prescreening application form to the Regulator together with the processing fee. The processing fee should not be a barrier for small scale IP (SMEs, associations) and should thus be set proportionally to the IP financial proposal (greenfield) or IP turnover (brownfield). If the prescreening is favorable, the Developer submits then a full IP Business Case proposal for approval by the Regulator for the development of an IP, within 180 working days, whereby it would have conducted all the detailed feasibility studies and eCBA, land acquisition scheme proposal, site masterplan and other certified documents. To be entitled to present a proposal, the IP developer has to have the following ability and duties as stipulated: • Have sufficient capital and means to develop the infrastructures in the zone, including the human resources to manage the activities of the zone. • Have the legal rights to acquire or possess the land for establishing the IPs. • Have the capacity to perform the functions associated with a Developer (see Glossary).
2. Examination of an application	The Regulator shall evaluate and notify whether to approve or reject the request to the IP Developer within 28 working days for the prescreening, and 30 working days for the Business Case Proposal. The evaluation process shall involve: • A prescreening evaluation of IP Applications shall be conducted to review whether the application meets the site and IP eligibility criteria. Applications which do not meet the prescribed criteria shall be rejected by recording reasons in writing. The applications which meet the prescribed criteria shall be invited to submit the full Business Case Proposal and considered for further detailed evaluation. • A detailed evaluation of an IP Business Case Proposal shall include all the elements presented under Chapter 4. Applications which do not pass the evaluation shall be rejected by recording reasons in writing. Rejection can be definitive or the Developer can be given an extension in order to submit an alternative or revised proposal. The applications which meet the prescribed criteria will be issued a Final Registration Certificate.
4. Final Registration Certificate (FRC)	The regulator issues the FRC within 30 days of notifying the develop of its approval.
5. Declaration of the establishment of the IP	Upon issuance of the FRC by the Regulator, the Sub-Decree is issued to define the establishment of the IP and its boundaries.
6. Withdrawal of the approval	The Regulator has the right to withdraw the approval on the establishment of the IP and incentives which were granted (particularly for Green SEZ) through the FRC on the basis that the IP Developer has not implemented at least 30% of the total investment capital of the project within 365 working days after receiving the FRC.

Table 21: EIP licensing process.

The land acquisition and site masterplan following green growth (sustainability) principles can be initiated in stage 2 but will be finalized in stage 3 when the park management structure is established. How companies will be selected for the viability of the economic project but also to meet industrial ecology and green growth principles. The opportunity to do RECP and symbiosis between companies is therefore one of the criteria. The buy-in towards a green SEZ concept another. **Ideally companies should be willing to adhere to a Charter that will stipulate how their activities will be aligned with development and green growth goals. Most of the criteria defined for the IP Business Case Proposal apply to individual companies application too as each of them should be contributive to the overarching goals of the IP.** This activity will be pursued in all the project phases taking into account that the park will have to incorporate new companies till completion but also to replace companies that may leave, fail or get rejected for non-adherence to the Green SEZ principles. That applies also for brownfield that may require a change of part of the companies, bringing new companies to improve symbiosis opportunities of technology transfer or simply as an expansion of the site.

Natural Resource Governance mechanisms that may lead for example to ecosystem services payment interventions and other environmental measures requiring the building of assets or infrastructures, set-up of systems or data collection also needs to be engaged in this stage though they may be put in place in the set-up and construction stage and fully functional in the operational stage.

6.1.3. Stage 3: Set-up

This phase should formalize the park management structure so that to task it with the daily delivery and monitoring of the park construction and operation. The park management structure can subcontract other operators. In some countries, a split between park management during the construction phase and during the operational phase is done. One of the reasons to do this split is when using a private sector firm with the required expertise to manage the construction but that may lack the expertise to do the operations especially as we are looking at a green growth performance. Many construction firms are trying to expand to operations without the required skills to perform RECP support, green growth performance monitoring or deal with ecosystem services payments. However, this solution may present accountability issues at times if any problems with the construction appear during the operational phase, because then the EIP management will face difficulties to get the previous firm to fix them. Having one management only throughout both construction and operation offer more continuity to the project and is often preferable as the construction skills can be subcontracted.

The composition of the management body is important to guarantee its capacity to ensure a smooth, business-minded and flexible zone governance and an effective and fair supervision of executives. An effective zone management body should also provide networking and interaction platforms for all stakeholders.
The land acquisition should be finalized in this stage as per the recommendations in Chapter 5.

An example of park management basic set-up has been developed for the UNIDO handbook (UNIDO, Implementation Handbook for Eco-Industrial Parks, 2017) and is illustrated in Figure 35.

Because the eligibility requirement for a brownfield the eligibility requirement is that a management structure should already be in place, ideally the management should remain in charge for both construction if applicable and operations phase with the use of sub-contractors.

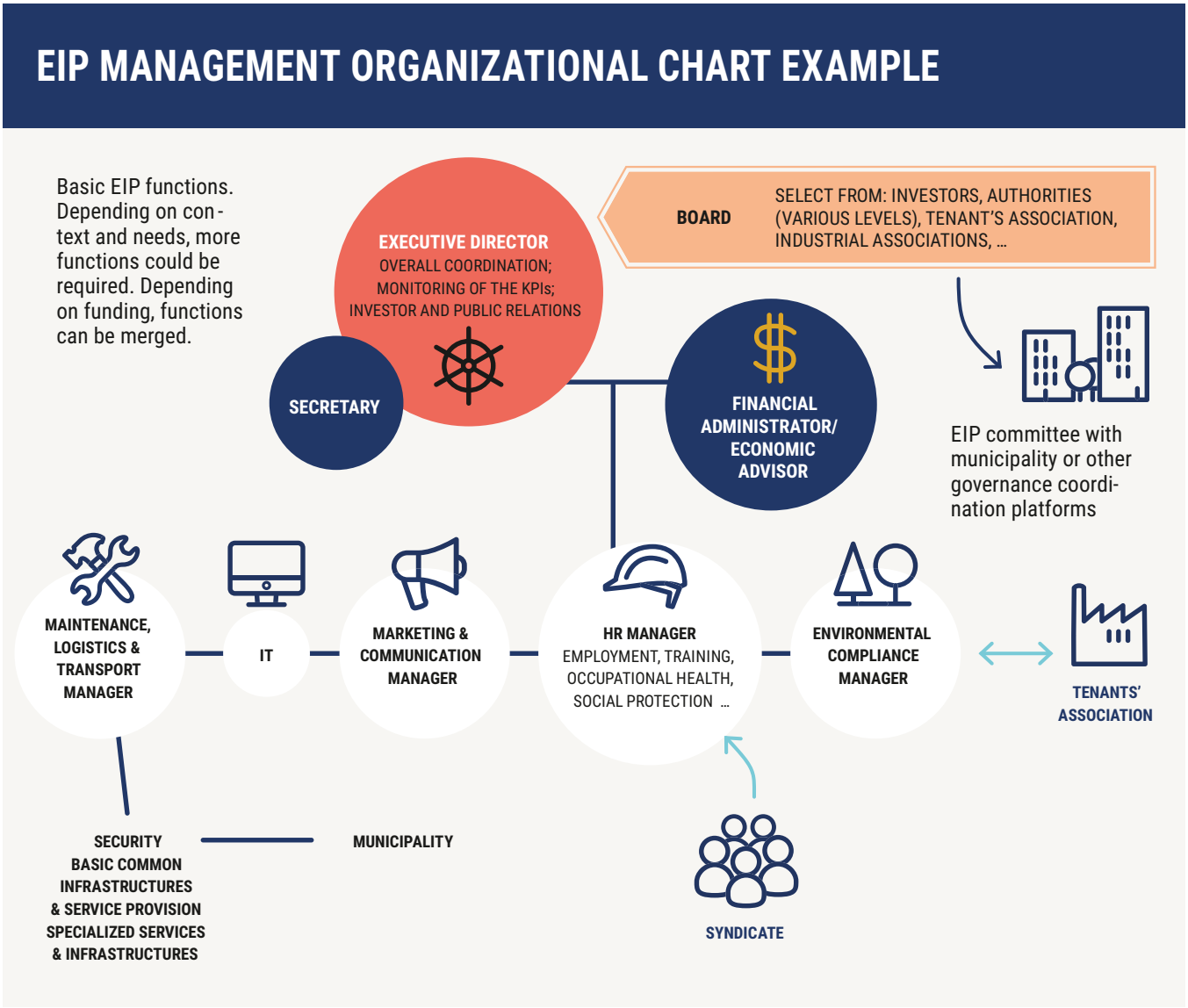


*Figure 35: Main functions in an EIP management structure. *Source UNIDO EIP handbook*

There is no single set of functions that would fit every IP as it would depend on the size and activities, smaller parks may fuse functions while others may have enough workload to split them further. Key functions of park management are:

- **Board**: The board constitution of the IP can vary but would typically include investors, government representatives at various levels (for government owned IPs), representatives of the tenants' association, etc. The more the board is inclusive while still remaining effective, the best it can generate shared benefits. When further consultations are needed with the communities for example, the board can link with existing government coordination platforms.
- **Executive Director**: in charge of the day-to-day operations of the IP and responsible to the Board of Directors. Ensures that all systems function properly and all staff perform to expectation. In charge of representation of interest and objective of the park at local or regional disputes and high-level stakeholder meetings. He/she is supported in its daily functions by a secretary.
- **HR Manager**: Performs all HR functions, provides legal advice, facilitates staff training. Due to the complexity of legal matters, it is also possible to add a **legal advisor** or to outsource legal services.
- **Financial Administrator:** Ensures the park financial sustainability, monitors companies' competitiveness, supports internal audits.
- **Engineering/Maintenance/Logistics/Transport Manager (s)**: maintenance of facilities and infrastructure in the industrial park, responsible for allocating land for factory, reviewing and liaising with the local government authorities for approval of plans and permits pertaining to new construction or machinery approval, monitors clients' construction

projects to ensure adequate compliance, OSH (Occupational Safety and Health can be supported by a safety and risk officer), Security including Fire & Rescue, Facilitation of knowledge sharing and collaboration between companies (e. g. waste management, cleaner production, etc.) as well as technical trainings.

- **IT Manager**: In charge of telecommunications, computer equipment and information management including database management support.
- **Marketing & Communication Manager**: Responsible for developing marketing messages and image of the park, supporting the promotion of products, medias representation, receiving and progressing applications from new companies as well as marketing to new potential tenants. Can act as liaison officer in smaller parks.
- **Environmental Compliance Manager:** Environmental monitoring and recording, enforcement of the park's code of conduct (including confidentiality and intellectual property issues) and relevant regulatory compliance and beyond compliance issues, facilitating CSR measures, supports internal audits and facilitates certifications obtentions.
- **Liaison Officer** (can be performed by other nominated officer): Stakeholder consultations including local citizens and government officials.

If an EIP applies for Carbon Credits, it is expected from the management to facilitate the process by bringing the required calculation expertise. This can be done either by requesting government support, hiring an external service or by providing the capacity itself. In which case this function could be considered to be performed jointly by the Financial Administrator and the environmental compliance manager, or through the contracting of a dedicated person. Those skills however may be difficult to find and render recruitment of competences in other areas less likely due to the high level of specialization. Thus, it would depend on the importance of carbon revenue for the sustainability of the park and the workload throughout the year.

6.1.4. Stage 4: Construction

The construction phase corresponds to a specific set of process monitoring and impact monitoring to ensure the compliance of the project with the masterplan. A crucial is the quality of its engineering plans. The infrastructures planning and construction require the preparation of scale drawings and layouts, the selection of appropriate technology and equipment, site preparation and construction planning, project delivery scheduling, and approvals by the relevant authorities and EIP leadership.

Accompanying activities are rather performed in the final stage and concern the mobilization of companies, the set-up of the various social, ecosystem and common infrastructures designed in the proposal. The park management may work with a reduced team at this stage or integrate specific skills necessary to monitor the construction.

This stage is optional for brownfield but in reality, most projects will require at least infrastructures upgrades. Some site may require an extension if land is available or to externalize infrastructures preferably as PPP measures. Otherwise on-site modifications may consists in redistribution of companies plots to increase RECP and symbiosis opportunities in line with the infrastructures upgrade envisioned. It can also simply be an entire park redesign to integrate nature-based design. A good example is the upgrade of shells to allow for solar energy capture and green cover for isolation.

In some cases, land remediation can be envisioned. Though it is a costly process often leading investors to opt for greenfield sites, the process of impacts and costs internalization together with eCBA scenarios should show the multiple benefits of remediation over new land clearance particularly on the social and environmental impact aspects. Other wider green urban projects may rather opt for a complete EIP relocation for a better integration with the urban masterplan, in which case the process would be more similar to greenfield.

6.1.5. Stage 5: Operation

This phase corresponds to the full operationalisation of the IP. The management team needs to be complete and one key task is the development of an IP Operational Plan according to the Business Case with the participation of the companies. The management needs to ensure that the infrastructures are functioning and the various services provided (under its direct supervision of the park management or through contractors). It should also oversee and advocate that government counterparts effectively allocate the resources committed, for example a One Stop Center or the attribution of green fiscal and non-fiscal incentives. Many of the key tasks are described under management responsibilities. Some additional comments on key industrial services management such as Energy and Waste are:

- **Energy Management:** The use of renewable energy and low-carbon technologies, as well of industrial symbiosis where relevant, can be ensured through conducting ongoing energy audits to determine energy use. Industrial Park operators, in addition to regularly conducting such audits, should support industries in implementing energy management systems and in identifying energy efficiency and renewable opportunities. The following aspects of energy management should be ensured:
  a) **Matching energy supply and demand:** To ensure that users in industrial parks have access to sufficient energy, it is essential to properly project and manage each user's demand, based on sound consumption-based systems. Industrial Park operators should establish firm-level metering systems in line with electricity regulations. Furthermore, prospective residents must provide energy demand and consumption plans as part of their application.
  b) **Promoting energy efficiency:** Industrial Park operators should identify opportunities to reduce energy consumption and energy clustering and cooperation among residents. Such cooperation can be achieved through clustering buildings and processes, energy exchange, collective production and joint energy services. Surplus energy (for example heat, electricity, steam, biogas, etc.) from a plant can thus be transferred to other companies in the park (or even to nearby communities.
  c) **Promoting nature-based solutions and designs.**

- **Waste Management Plan:** It is important for the park's management to adopt and continuously monitor the implementation of a waste management plan in park operations. Park Management should encourage waste prevention, reuse, recovery and recycling, through programs promoting cleaner production, resource efficiency, recycling and materials exchanges, in order to facilitate transactions between waste generators and industries that can use waste as raw materials (RECP and Symbiosis). For waste treatment and disposal, once the IP has put in place the appropriate infrastructure and technologies for the treatment of the wastes generated by the park's resident firms, depending on the characteristics of the waste they generate, the management needs to implement standards on what resident firms can discharge into common wastewater management systems.
  The Waste Management plans should ensure the following:
  a) *Reducing hazardous substances*, pollutants and contaminants at the source by upgrading production systems and technology, as well as modifying inputs and products;
  b) *Reuse or in-process recycling* of the product in its original or in a modified form. For example, wastewater or chemicals used in tanning can be reused through an onsite chromium recovery unit;
  c) *Recycling through the separation and sorting* of materials otherwise destined for treatment or disposal, for reincorporation into the same or different products, either at the factories, on-site in common facilities or off-site;
  d) *Recovery through the extraction* of raw materials for their subsequent use as manufacturing inputs, by establishing materials exchange or marketplace programmes facilitating transactions between waste generators and industries that can use waste as raw materials;
  e) *Treatment through applying technologies* to reduce the volume, mass and toxicity of waste prior to disposal. Waste can, for instance, be treated through thermal, chemical and biological processes, depending on the form, quantity, characteristics and degree of segregation of the waste;

f) *Industrial symbiosis through the synergistic and cooperative* exchange of industrial by-products, energy, water, byproducts, and processing wastes among closely situated firms;

g) *Disposal* through the release of unused waste materials into the environment, after at-source reduction, reuse, recycling, recovery, and treatment, using the most appropriate method based on the waste characteristics. Park operators should ensure that their disposal sites are suitably located, fairly close to the source of the waste, separate from residential and commercial areas, off floodplains and on a geologically-stable base.

6.1.6. Stage 6: Monitoring and Evaluation

This stage refers to the assignment of a working unit/expert team to lead the monitoring of set targets for the IP development including the green growth indicators and targets in the EIP. This topic is covered in examples of measures facilitating RECP audits. It is constituted from both EIP collective level performance monitoring and individual companies auditing through both internal and external audits, associated or not to certifications. Those indicators should cover both compliance and voluntarily beyond compliance targets. They should also be featured in the EIP Annual Report. Community level impact indicators are necessary to have contextually relevant indicators and should be defined through the natural resource/ environmental governance groups together with the prevailing national legislation.

Environmental impact assessments are a process and procedures of collecting information on the potential environmental impact of a park project conducted by the developer or other party, and including all concerned stakeholders, that should inform the decision-maker on whether the development of a park should go ahead. They are not limited to the IP Business Case Project Proposal development. As contexts evolve, IPs or their value chains may expand over time. Applying continuous environmental impact assessments can help the park sustain its environmental performance and sustainability while enabling to adjust assumptions and refine projects. The environmental and social mitigation plans (ESMP) need to be continuously revised as well and the level of implementation closely monitored. If implementation is insufficient or delayed, there should be clear measures triggered such as penalties both from the regulator and the developer/management or a revision of the scenarios and stress tests to identify new adapted measures.

A similar approach needs to be taken for **social requirements** monitoring, as for example:

- Set up and regularly update management and monitoring systems at the park and company level to address relevant social aspects.
- Use industrial safety systems to protect workers, assets and the environment, particularly in hazardous process industries, like oil and gas and nuclear plants, and chemical industry — using available international industry safety conventions, standards, norms and best practices for management systems and benchmarking tools.
- Set up a security control mechanism, since natural hazards, political instability (sabotage), cybercrime and other developments can cause massive damage to industry, society and the environment.
- Set up an occupational and health and safety management system.
- Establish grievance management systems, which encompass monitoring and reporting of any internal grievances (over workplace issues) or community grievances (stemming from the ongoing operations of the park (pollution, leaked chemicals). The mechanisms should be designed with the community and should be understandable, accessible, transparent and culturally appropriate.

The regulator will also perform monitoring both of the park performance and of the level of development of the IP Business Case implementation (for example the amount of finance invested compared to committed or of the infrastructures constructed).

6.1.7. Stage 7: Evolution

An EIP is not a static structure but rather an evolving entity following a lifecycle. Its sustainability over time is a sign of performance but not necessarily its growth, as we have seen that an EIP production needs to be commensurate with the environmental bearing capacity. Ideally, an EIP should initially scale up from the first businesses installed to attain its optimal size from which further growth would take the form of a spill-over of its services/good practices/ economic stimulation. Such spill-over can happen in various manners such as the outgrowing towards a new EIP or an extension, the strengthening of companies values chains (by including EIP performance to the performance of the suppliers), the participation of companies outside the EIP (to share services or apply the same standards) and the evolution within an eco-city whereby the whole city becomes the industrial ecosystem. EIPs can also decline due to various factors, sometimes of a macro nature independent from the EIP performance, definitively or temporarily as exemplified by the Covid-19 crisis. It is important to consider all the scenarios overtime so that to take actions to maintain competitiveness, one of which consists in following a brownfield EIP revitalization program, but also in mergers and partnerships, including with other EIPs.

6.2. Governance

The developer entity presenting the EIP Business Case Proposal may be set-up for the purpose of developing and managing the EIP. A good practice would be to ensure that an inclusive participation of various stakeholder be part of the EIP leadership, while the management of the EIP can be done either by the developer, or sub-contracted.
Best practices suggest that a sound leadership body should include all relevant national and local stakeholders such as:

- Public authorities, both national and local.
- Representatives of civil society.
- Private business representatives, such as business associations and chambers of commerce, especially at the local level.
- Tenant firm representatives.
- Banks and financial institutions (in large and important zones).
- Universities and research institutions (especially for technology parks).

The EIP management models can be classified in 4 categories as per the UNIDO hanbood summarized in Table 23.

EIP management models	
Associative management model	In this model, EIP tenant companies organ ize themselves in an association with the mandate to manage usually one and sometimes several industrial parks. In this model, there is no distinction between park leadership and management and little or no intervention from government.
Government management model	The government ensures the management of the EIP through a dedicated team issued from a designated national, regional or municipal authority (for example trade ministry). It is often the case for special economic zones requiring high government investment. It is possible to have a government managed EIP model whereby the park operation may be subcontracted to one or several private operators (refer to EIP private management model in this case).

EIP management models	
Mixed public-private management model	This model refers to a government managed EIP where assistance from a private contractor is required in addition to government employees. This partnership can be permanent (e.g. a government liaison officer is a permanent staff member while the private company provides the other park management positions) or temporary (e.g. as part of a capacity building process until the government can perform all park management functions itself). An NGO or foundation can be set up by a mix of tenant companies and local authorities to manage the EIP by facilitating a cooperative approach to service provision, shared between a city and private sector.
Private company or individual management model	In this model, the park management is run by a private operator or real estate agent.

Table 23: EIP management models.

A major factor contributing to the success of an EIP is the autonomy and effectiveness of its management in areas such as staffing, control over budgets, funding, partnership with zone developers, infrastructures management and business facilitation services, which all require specific skills that may not be featured by the developers, particularly if from government. A substantial national capacity building program with a skill transfer scheme (using for example sub-contractors or consulting firms support) should be set up and capacity analysis should be done before opting for government staff to manage an EIP. Besides, management is a performance-based assignment. Regular evaluations should be featured to assess the capacity, continue or revoke the management contract.

Arguments in favour of privatization would require that public authorities remain engaged in purely regulatory functions and preferably move away from owning, developing or operating zones. This is expected to eliminate any conflict of interest arising from the regulating body having the authority to approve zones and projects and at the same time owning specific zones. This should be backed up by an effective institutional framework featuring:

- Sufficient autonomy of the zone authority particularly over staffing, budgets, spending and policy making should be ensured and be clearly stated in the law;
- Efficiency of the zone authority should be maximized by constituting an independent board that is composed of representatives of all key involved government ministries and private sector representatives, be it the private developers or the investors in the zone.

As the roll-out of IP is a learning process, it is also of interest to keep a diversity of management models within a country for testing and fine-tuning. A strong government implication can boost the path towards IP (particularly greenfield) by attracting investment and putting in place the needed infrastructures. Nevertheless, an IP management is not a static structure, it can evolve from one model to another over time for example from of government managed IP towards privately owned. This aspect is often linked to the period needed for the park to reach financial sustainability. Whatever the model chosen is, the bottom-line should be that the IP works on a cost-recovery model, respond to the performance requirements, be adapted to the local context and maximizes environmental, social and economic accountability.

These 4 management model can be further detailed in 6 (non-exhaustive) options as presented in Fig. 36:

- NGO/foundation based public-private management
- Association
- Government
- Real estate agent

- Mix public-private
- Private company or individuals

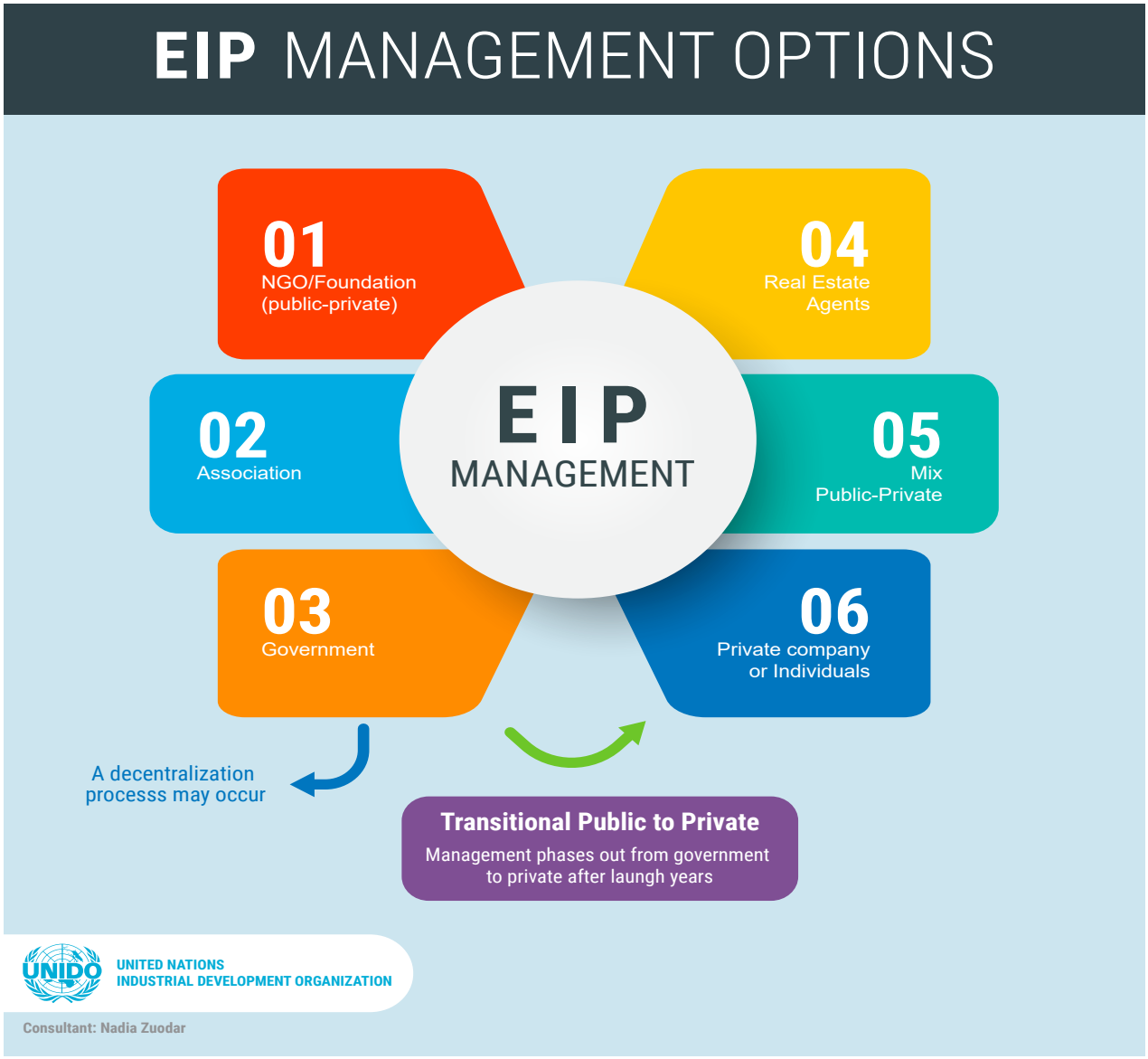


Figure 36: EIP management options

Table 24 shows some of the advantages/disadvantages of each option referring to a set of criteria, as analyzed through the UNIDO EIP Pilot. The rating can vary widely by context. Moreover, some lessons learnt from the UNIDO EIP Pilot in regards to EIP management contractors: are

- The selection of managing contractor should respond to a clear mandate minimizing conflict of interest. This can be the case for example when an EIP management is the same contractor used for the site construction.
- The selection of the operator should be based on an appropriate capacity analysis. Difficulties in language, in governance models, demotivation and turnover of management staff, non-lean management and inexperience of the staff are some of the gaps that are often observed with contractors.
- The EIP park management should facilitate communications between tenants and the authorities, signs of bypassing

should raise questions on its capacity to perform this role effectively.

- The EIP management should show good accountability practice towards the authorities. It is expected from EIPs and tenants to show more compliance if possible than companies not organized as an EIP.
- Willingness to pay for EIP management services should be discussed forefront with tenants before their shed acquisition. Failure to do so may lead to no willingness to pay by the tenants for EIP management services resulting in EIP lack of financial sustainability. The financial savings tenants company aim to benefit from being in an EIP cannot substitute for the willingness to pay for EIP management services particularly in associative models where subscriptions are required. It is often neglected in government owned model, leading to resource gaps once the management gets privatized or when government budget reduces. Needless to say, a park operator needs to demonstrate the added value of the EIP management services.
- A service attitude and financial sustainability (self-recovery) approach should be requested from the EIP management contractor. The contractor should be actively engaged in analyzing financial revenue gaps and look for revenue streams opportunities. Payment by government for EIP management contractors' services may create disincentive.
- An evaluation on EIP management job performance should take place regularly and prior to grant more contracts to a particular EIP contractor. Some countries entering in a rapid industrialization process may be tempted by awarding contracts to the same contractor in various sites at the same time without sufficient performance analysis.
- An EIP contractor should have a clear understanding of EIP principles. EIP model understanding from the contractor, technical and adequate instruments to operate EIPs are needed as well as the willingness to learn. Capacity building in EIP management should be a core feature of national industrial programs in order to support EIP development.
- The EIP contractor should be able to transfer knowledge effectively. EIP contractors may be required to transfer their functions to governments employees in some EIP management models. The capacity, willingness, technical and cultural understanding of the contractor to provide training and build up government staff capacity should be therefore assessed thoroughly.

Image 1 and 2 present the construction phase of Entebbe Freezone in Uganda. At that stage, the Freezone is being managed centrally by the Uganda Freezones Authorities (UFZA).

Image 1: Construction of Entebbe Freezone 2022

Image 2: Construction of Entebbe Freezone 2022

Criteria	Association	NGO/Foundation	Government
Government ownership	Low	High to Medium depending on the composition and influence of the leadership.	High
Need for investment	Low	Low to Medium	High
Business investment trust	Context specific, depending on the perception of the association functionality	Context specific but can be high if it demonstrates a good governance structure and depending on the board members profiles.	Usually lower than with private management contractors, highly dependent on governance practice and capacity of the government of the country.
Independence (from a business or private investor perspective)	Medium, depending on the leverage and representativity within the association.	Medium to High	Low
SMEs	Good	Good	Usually better model for larger companies
Diversity of industrial sectors	Can be high	Can be high	Usually low
Decentralization	Not Applicable	high	Low
Leverage with authorities	Low	High	High
Alignment with the country sustainable development goals	Low	High	High
Financial sustainability	Low but can also work on low budget	Medium to High depending on the municipality budget and companies' profiles.	Low if dependency to public funds is created.
Common infrastructures building capacity	Low	Medium to High	High
EIP buy-in	Highly dependent on the composition of the association, low to medium given the difficulty for alignment and non-participation of government.	Medium to High	High if government commitment to EIP
Capacity to generate additional revenue streams	Low as there are barriers for the provision of basic services or public-private partnerships with the association status. Highly depend on the land tenure conditions.	Medium to high depending on municipality and companies' budget	High usually but there may be barriers such as unfit legislation on energy or a less business-oriented management approach.
Lean management	Low, usually suffer from lack of staff particularly if on voluntary basis	Variable depending on whether budget is generated for permanent staff.	Often lower or perceived as lower but may vary from countries to countries

Table 24:

	Real Estate Agent	Mix Public-Private	Private Company or Individuals
	Low	High.	Low
	Medium to High	High	Medium to High
	Unknown, most likely dependent on the recognition of the real estate agent itself.	Unknown but possibly higher than under a government only model particularly in developing and emerging countries	Usually high
	Low	Medium to Low	High
	Adapted for SMEs but offering less leverage than the associative or foundation models.	Usually better model for larger companies	Usually better model for larger companies
	Can be high	Usually low	Usually low
	Not applicable	Low to Medium	Not applicable
	Low	High	Low to High depending on the profile of the company
	Low	High	Low
	High	Low if dependency to public funds is created.	High
	Medium to High but depend on willingness to provide EIP services	High	High
	Low	High if government commitment to EIP	Very dependent on the company objectives, may be low
	Low if it adopts a strict real estate agent perspective. Medium if it engages in a service diversification.	High usually but there may be barriers such as unfit legislation on energy or contractor dependency on government funding resulting in lack of incentives.	High but may be hampered by unfit legislation on energy.
	Variable and depend on the level of services rendered.	Medium to high depending on the contractor. Could be low if the contractor has no incentives or insufficiently competent.	Usually high due to the business model

EIP management options

Chapter 7:
Skills

Skills Strategy look into social and human capital in the form of employment and human resources management, representation, occupational health, green jobs opportunities offered by EIPs, training and continuous learning as well as possible linkages with social protection schemes through public-private partnerships.

7.1. Skills profile and key HR principles

IPs aim to attract skilled profiles while at the same time providing employment to the local communities. Profiles needed for the Park Management are described in Chapter 5. Depending on the IP size and specificities, those profiles can be of international calibre. Therefore, recruitment will need to offer an attractive package for both local and international staff. In the long run however, the goal is to be able to nationalize the majority of those profiles, once the skills gap has been bridged. This is easier said than done and any government program aiming at such needs to ensure competitive recruitment to make sure skills and experience prevail in the selection for those roles. Smaller and particularly SMEs parks may not be as demanding as they could also be managed by an association for example. However, their success would depend also on general business management skills which may lack both at park and companies' levels. This is why government business support programs to SMEs are key to capacitate local entrepreneurs to rise to the IP management challenge.
At companiies' level, management profiles may also be of short supply and require international recruitment, particularly if locally the technical knowledge is missing. Similarly though, the long-term goal will be to capacitate and train local staff to perform those functions, potentially linking with university programs to ensure that cursus translate into competencies useful for local employment.

Besides management, companies would need both skilled and non-skilled profiles depending on their particular sector and company identity and know-how. It is not possible to describe them all here but it should be part of the social capital feasibility assessment to first identify the skills needed. This chapter aims at providing the key principles of good Human Resource management and how to keep IP attractive for all staff whatever their levels. Attracting the right profiles is not a mere question of wages but concern the overall work environment, package, community relationships and brands (both EIP and companies') values sharing. These are articulated around the following elements.

Employment and remuneration: The EIP should be compliant with labor laws and offer competitive salaries while attempting not to create negative inflation repercussions on the local communities. For non-management staff and particularly unskilled staff, it is recommended to perform a Household Economy approach to ensure that the wage meets the basic needs of a Household independently to its reaching the compliance rate. Similarly, as a good social practice, the IP could foster the reintegration of unemployed people for example through collaboration with the social safety nets or unemployment services. It can also facilitate access for the youth through having junior programs and mentorships.

Labor relations: Labor regimes in EIPs should be consistent both with national and international norms including ILO standards and obligations including core rights of assembly, organization, and collective bargaining. In addition, foreign worker employment regimes should be transparent yet discourage excessive dependence on foreign labour at the expense of the domestic labour market. Responsible labor relations management has a direct influence on the sustainability of industrial parks as it affects the size, morale and productivity of the workforce. The following should be applied to enhance labor management relationships:

a) **Decent work** - Industrial operators should ensure employees' right to proper working conditions and such rights as equal pay for equal work. A widely-adopted practice in this respect is for operators to undertake due diligence on the

enterprises during the resident identification and approval processes, in order to identify firms with poor social and safety records;

b) **Labor unions** - Labor unions should be permitted in industrial parks in accordance with the applicable rules and regulations in the country;
c) **Legal issues and dispute settlement** - It is vital to establish a mutually-agreed dispute settlement mechanism for conflicts arising within an industrial park;
d) **Provide basic protections of worker rights and safeguards,** and promote superior standards of worker welfare, standards and practices to attract talent, enhance workforce skills, and contribute to quality jobs and a knowledge-based economy.

Inclusion and diversity: This can address disparities in terms of gender, disability, ethnic or other criteria. Progresses in inclusion and diversity should be monitored through associated KPIs amongst which in particular, access for women to management positions.

Access to essential services: A good practice is to offer full medical coverage for employees and their families. The social capital feasibility assessment should also inform whether the local health system has the capacity to cater for the additional caseload. In some cases, PPP arrangements or the establishment of an on-site clinic can be fostered.
e enforced so that there is a coherency between the EIP management values and the companies as refers to the social capital. IPs can also feature leisure infrastructures to enhance this feature.

Personal security in the workplace and community: It is recommended to adopt both local and international standards in this regard and ensure that each company enforces security. It is possible to adopt ethical, fair trade, and similar certifications that put those aspects under high scrutiny.

Privacy: Similar enforcement of privacy protection needs to happen at park and companies' levels.

Access to land and culture: This aspect is particularly crucial at the land acquisition stage but remains important throughout the park's operations as staff may have been brought from outside of the communities, requiring cultural adaptation and respect all along.

Physical and economic freedom of movement: This is also particularly crucial at the land acquisition stage.

Law and order: Enforcement of legal and regulatory compliance needs to happen at park and companies' levels.

Value chain relationships: IPs aim to create a virtuous circle also with the value chains building mutual trust and good collaboration quality. All the enumerated principles should apply to the value chains and social accountability should be operated also at value chains level.

Skills and knowledge: Experience, training (including re-skilling, up-skilling and lifelong learning), education, creation and dissemination of intellectual capital, availability of a skilled workforce are all promoted in an EIP.

An aside is to Link EIP Employment with Resilience, Social Protection and Safety Nets: As per the UN definition, Resilience is the ability of a system to reduce, prevent, anticipate, absorb and adapt, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions. It builds on DRR efforts but goes beyond by aiming not only to "build back better", but to take the "opportunity" of disasters as an opportunity for change to achieve a better situation than before. It is multisectoral and multihazards and takes into consideration both systemic and individual risks.
For a country to ensure equitable growth, it is necessary to build shock responsive Social Protection or Safety Nets

programs that can address the most vulnerable and build up their resilience. As per the World Bank definitions, social protection programs, generally fall into the following three categories:

a) **Social safety net (SSN) / social assistance (SA)** programs are non-contributory interventions designed to help individuals and households cope with chronic poverty, destitution, and vulnerability. SSN/SA programs target the poor and vulnerable. Examples include unconditional and conditional cash transfers, non-contributory social pensions, food and in-kind transfers, school feeding programs, public works, fee waivers and targeted subsidies, and other interventions (social services). In shock responsive safety nets, cash transfers are linked with resilience building activities such as assets conservation, ecosystem restoration, crops insurance (weather index) and the like.

b) **Social insurance** programs are contributory interventions that are designed to help individuals manage sudden changes in income because of old age, sickness, disability, or natural disaster. Individuals pay insurance premiums to be eligible for coverage or contribute a percentage of their earnings to a mandatory insurance scheme. Examples include contributory old-age, survivor, and disability pensions; sick leave and maternity/ paternity benefits; and other types of insurance (e.g. health insurance coverage).

c) **Labor market programs** can be contributory or non-contributory programs and are designed to help protect individuals against loss of income from unemployment (passive labor market policies) or help individuals acquire skills and connect them to labor markets (active labor market policies). Unemployment insurance and early retirement incentives are examples of passive labor market policies, whereas training, employment intermediation services, and wage subsidies are examples of active policies.

As an integral part of the Uganda Vision 2040, the Uganda National Social Protection Policy (NSPP[26]) outlines a clear vision and strategic framework for a well-coordinated national social protection system featuring six priority areas of focus contributing to the three categories mentioned above:

- Developing appropriate products to extend social security coverage to the informal sector.
- Expanding access to direct income support by vulnerable groups in need.
- Strengthening family and community capacity to provide and care for the children, persons with disabilities, older persons, chronically sick and other individuals in need of care.
- Reforming the Public Service Pension scheme notably by expanding social security services in the private sector to include provision of pensions
- Expanding coverage of formal social security including affordable health insurance.
- Enhancing the institutional capacity for provision of comprehensive social protection services.

IPs through their skills strategy and CSR can directly contribute to the 3 categories of social protection, by linking with social safety nets as a pool for employment, or to mobilize it for ecosystem restoration, through the participation or development in social insurance products, etc.

7.2. Skills training

In principle, EIPs companies should be the primary providers for training. However public-private partnerships are often operated to speed-up the employment.

- Set-up training facilities to provide basic skills for future workers (particularly if coming from the rural) such as language, intercultural skills or household budget management.
- Set-up reconversion programs for the unemployed, under skilled, elders or other vulnerable groups needing support to effectively incorporate the new jobs.
- Develop skilled training to uplift the workforce to global standards
- Integrate new green skills in the university and school cursus to prepare students for the new economic sectors.

26 https://socialprotection.go.ug/newwebsite2/wp-content/uploads/2016/07/National-Social-Protection-Policy-uganda.pdf

- Develop the vocational training and on-the-job studies to respond to the critical mismatch shown by the shares of overeducated and undereducated young workers by major occupational category in Uganda[27]
- Valorize indigenous knowledge as part of new green skills.

As an example, in some contexts, governments may wish to provide skills training to reduce the gap between companies' skills needs and the level of education of the population. Those skills may not always be directly work related but also to facilitate the workers integration in a new (international) work environment, especially if coming from villages. Language teaching, the modification of university or professional schools cursus, intercultural training but also prevention measures such as HIV/Aids, gender equality or road traffic awareness can be featured here. Depending on the scenarios developed in the Social and Human Capital assessment, the Business Case Proposal may fundraise for those activities or develop the institutional arrangements that may facilitate the earmarking of existing interventions within municipality, private (CSR) and non-for-profit budget. As an example, the municipality may prioritize the rehabilitation of schools in the IP workers living area.

The set-up of a junior program and mentorship can facilitate access for the Youth to skilled work as well as offering a pathway towards management. A skills transfer program can also be set up for the management of IPs moving from internationally recruited to nationally. However, one should be careful towards attempt to nationalize IPs through allocation of government staff into their management structure (for example after a period whereby management was sub-contracted to a private entity), an open competency-based selection is preferable in order to ensure the attraction of the best profiles and not overestimate the knowledge absorption of government staff, particularly if the public sector is subject to high staff rotation or budget cuts.

7.3. Green Jobs Promotion

As per ILO definition, Green jobs refer to decent jobs that contribute to preserve or restore the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency. The term decent refers defines work as "productive work for women and men in conditions of freedom, equity, security and human dignity". In general, work is considered as decent when it pays a fair income, guarantees a secure form of employment and safe working conditions.

Green jobs of particular importance in Uganda would help:

- Improve energy and raw materials efficiency (for example RECP skills).
- Limit greenhouse gas emissions (including development of carbon emissions calculation skills).
- Minimize waste and pollution (for example recycling and upcycling, life cycle analysis).
- Protect and restore ecosystems, they can for example valorize indigenous knowledge (green does not always mean high technology!).
- Support adaptation to the effects of climate change.
- Foster organic agriculture
- Greening buildings and eco-design.

For the ILO, green jobs are all those jobs that fall in the intersection (dashed area of Fig.37) of decent jobs, employment in green economic sectors from an output perspective and job functions in all sectors from an environmentally friendly process perspective.

EIPs aim to maximize Green jobs creation at collective and company level. It is therefore necessary at feasibility level, to define not only the employment creation expected but also the Green jobs created, identify the skills gap and training needs. Budget allocation and HR planning for green positions are needed from the beginning as they will pertain to EIP design,

27 UBOS, SWTS-Uganda, 2013.

operation, enforcement and M&E. Government may also provide incentives for Green jobs creations at companies' level through facilitating collaboration with University and adapted cursus, co-sponsoring junior programs or through subsidized training (for example in RECP). The development of a healthy green consulting environment also ensures that green skills not directly available at companies' level, can be tapped in the consulting market. This is why government support to green service provision centres such as the Uganda Cleaner Production Centre (UCPC) or by contracting green expertise for its own services contribute to keep those alive. Supporting mobility for skilled labor notably in the region while ensuring there are attractive positions developed in Uganda is another way to contribute to internationally competitive skills supply domestically and abroad.

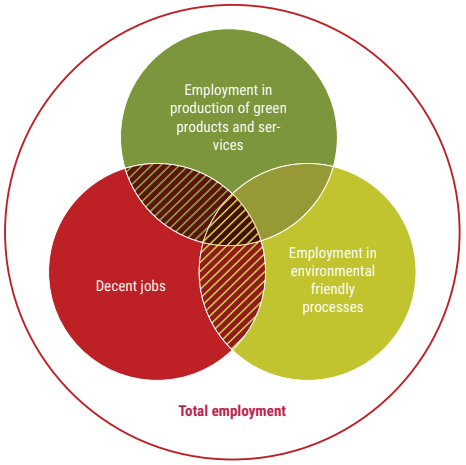


Figure 37:
ILO Green Jobs definition.

7.4. Corporate Social Responsibility

Corporate Social Responsibility (CSR) refers to the broader responsibility of every organization, not just private enterprises, to consider the impact on society and the environment of its decisions and activities, particularly in areas including: organizational governance, human rights, labour practices, the environment, fair operating practices, consumer issues and community involvement and development. Social requirements can be met through the following means:

- Set up and regularly update management and monitoring systems at the IP and company levels to address relevant social aspects.
- Use industrial safety systems to protect workers, assets and the environment, particularly in hazardous process industries, like oil and gas and nuclear plants, and chemical industry — using available international industry safety conventions, standards, norms and best practices for management systems and benchmarking tools.
- Set up a security control mechanism, since natural hazards, political instability (sabotage), cybercrime and other developments can cause massive damage to industry, society and the environment.
- Set up an occupational and health and safety management system.
- Establish grievance management systems, which encompass monitoring and reporting of any internal grievances (over workplace issues) or community grievances (stemming from the ongoing operations of the park (pollution, leaked chemicals). The mechanisms should be designed with the community and should be understandable, accessible, transparent and culturally appropriate.
- Promote good employment practices beyond the fair wages, such as providing insurance coverage or creating incentives for employees to enroll in insurances schemes, offering decent retirement packages, providing health and nutrition coverage for all the members or a household, facilitating housing access or transport (could be done through symbiotic infrastructures and services), contributing to community DRR efforts and early recovery, contributions to cultural heritage promotion.
- Other CSR activities can be the donation of employees' time by companies to perform community volunteering activities such as environmental restoration or charity initiatives.
- Aligning CSR practice to support social protection schemes (for example contributions to shock responsive social safety nets, recruitment facilitation for safety nets registered beneficiaries). However, using a Capitals Approach, it is recommended to integrate those aspects as key performance indicators rather than optional CSR actions.

Innovation is an essential part of EIPs and one of the added-value of green approaches, which can be implemented in various ways, from R&D to incubators, Greentech and industrial ecology solutions, but also through the valorization of indigenous knowledge, natural and social capital governance models, alternative business models and more. This chapter also highlights the importance of partnerships for successful IPs as a precondition for peer-to-peer learning, collaborations, technology transfer, performance evaluation and more.

Employment, Household Economy Approach, Impact Investment and Green Growth

Employment is a key consideration in green growth although not the only marker of social development. Often the creation of employment through the development of EIPs may overestimate the household economy contribution while underestimate the additional costs incurred to public services such as for the creation or extension of schools, hospitals, economic housing or transport. This is particularly true when encouraging rural migration where public services per newly urban head may result less cost efficient than rural community support. Another blind spot is employment resulting in a splitting of families, whereby the head of household has to maintain a rural home while taking basic accommodation nearby his/her employer. Therefore, to investigate whether the resultant of employment versus household costs is positive, it is recommended to perform a Household Economy Approach or similar analysis at the household level.

- Household Economy Approach: The Household Economy Approach (HEA) is a livelihoods-based framework for analysing the way people obtain access to the things they need to survive and prosper. It helps determine people's food and non-food needs and identifies appropriate means of assistance, whether short-term emergency assistance or longer-term development programs or policy changes are necessary. The tool has been widely used by Governments, NGOs and UN agencies such as Save the Children, WFP or Oxfam.
- Extended Cost-Benefit Analysis to measure impact investment related to employment/job generation in EIPs: Government often invest important public funds to build new EIPs as a way to boost development. When new employment is considered as the main development contribution, the analysis often fails to look at other areas of potential investment, which in the long run may results in more impact. At minimum, the total value of investment should be compared with the total monetary value of salaries (on both direct and indirect jobs creation) and benefits estimated over a period specified for return on investment. Given the constant evolution of the industrial sector and need of continuous upgrade of the park facilities, it is recommendable to adjust this period to the same the business sector would when setting up industries. Therefore, it is usually between 5 to 10 years. Infrastructure investments that serve a double purpose to benefit the community and the SEZ may be calculated as a cost contribution rather than in total value. Salaries when augmenting the purchasing power can also serve as financial injection into the community resulting in a demultiplication of the value of each dollar injected. However, this should be calculated rather than assumed as it may be jeopardized by low wages, speculation or inflation rebound effect due to migrations of the workforce, asn. A politically and socially controversial topic worth mentioning given the global trend arguably showing the end of a model based on a full employment, is the comparison of the total salaries value over time compared to the equivalent that would be injected in a social protection/cash for work safety net system (particularly when low wages jobs are generated). Obviously, non-monetary factors are as much important such as social cohesion and equity, a dignified life, skills transfer or gender empowerment.

In this perspective, using low labour costs as a main attractive factor when compounded by tax reductions (loss of public revenue, particularly if no tax is applied to profit) may at times result in a zero-point exercise or loss particularly if the number of industries attracted in the EIPs does not meet the projection. These warnings should motivate governments to also explore other investments such as rehabilitation, upgrade or relocation of existing industrial parks (brownfield) as complementary to greenfield EIPs building.

Linking EIP Employment with Resilience, Social Protection and Safety Nets

As per the UN definition, **Resilience** is the ability of a system to reduce, prevent, anticipate, absorb and adapt, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions. It builds on DRR efforts but goes beyond by aiming not only to "build back better", but to take the "opportunity" of disasters as an opportunity for change to achieve a better situation than before. It is multisectoral and multihazards and takes into consideration both systemic and individual risks.

For a country to ensure equitable growth, it is necessary to build shock responsive **Social Protection or Safety Nets** programs that can address the most vulnerable and build up their resilience. As per the World Bank definitions, social protection programs, generally falling into the following three categories:

a) **Social safety net (SSN) / social assistance (SA) programs** are non-contributory interventions designed to help individuals and households cope with chronic poverty, destitution, and vulnerability. SSN/SA programs target the poor and vulnerable. Examples include unconditional and conditional cash transfers, non-contributory social pensions, food and in-kind transfers, school feeding programs, public works, fee waivers and targeted subsidies, and other interventions (social services). In shock responsive safety nets, cash transfers are linked with resilience building activities such as assets conservation, ecosystem restoration, crops insurance (weather index) and the like.

b) **Social insurance programs** are contributory interventions that are designed to help individuals manage sudden changes in income because of old age, sickness, disability, or natural disaster. Individuals pay insurance premiums to be eligible for coverage or contribute a percentage of their earnings to a mandatory insurance scheme. Examples include contributory old-age, survivor, and disability pensions; sick leave and maternity/paternity benefits; and other types of insurance (e.g. health insurance coverage).

c) **Labor market programs** can be contributory or noncontributory programs and are designed to help protect individuals against loss of income from unemployment (passive labor market policies) or help individuals acquire skills and connect them to labor markets (active labor market policies). Unemployment insurance and early retirement incentives are examples of passive labor market policies, whereas training, employment intermediation services, and wage subsidies are examples of active policies.

As an integral part of the Uganda Vision 2040, the Uganda National Social Protection Policy (NSPP) outlines a clear vision and strategic framework for a well-coordinated national social protection system featuring six priority areas of focus contributing to the three categories mentioned above:

- Developing appropriate products to extend social security coverage to the informal sector.
- Expanding access to direct income support by vulnerable groups in need.
- Strengthening family and community capacity to provide and care for the children, persons with disabilities, older persons, chronically sick and other individuals in need of care.
- Reforming the Public Service Pension scheme notably by expanding social security services in the private sector to include provision of pensions
- Expanding coverage of formal social security including affordable health insurance.
- Enhancing the institutional capacity for provision of comprehensive social protection services.

EIPs through their skills strategy and CSR can directly contribute to the 3 categories of social protection, being by linking with social safety nets as a pool for employment, or to mobilize it for ecosystem restoration, through the participation or development in social insurance products, etc.

Chapter 8:
Innovation & Partnerships

Chapter 8 addresses innovation as an essential part of EIPs and one of the added-value of green approaches, which can be implemented in various ways, from R&D to incubators, Greentech and industrial ecology solutions, but also through the valorization of indigenous knowledge, natural and social capital governance models, alternative business models and more.

8.1. Approach for Innovation

Broadly, Innovation can be understood as something new to a specific context. Thus, an innovation can be the adaptation of an existing solution into the local context. This relativity to the context is particularly relevant for developing countries.

In EIPs, innovation should also be understood in the local context and preferably support eco-innovation. EIP can therefore:

- Promote the experimentation on green technologies and approaches, the development of green services and the promotion of a green economy.
- Develop centers of excellence within the EIPs (in close relationships with universities and schools) on specific sectors/ areas (example marine environment, agro-forestry, cleantech, artisan dairy, eco-niche products, etc.).
- Promote the valorization of indigenous knowledge and resource particularly in locations biodiversity endowed. Indigenous knowledge relates to the know-how, techniques and innovation often non-documented and held by local communities. This knowledge mostly concerns:
  a) a considerable potential in biodiversity
  b) rural knowledge and traditional farming techniques adapted to local agricultural needs. In fact, innovation is often born out of the blending of indigenous knowledge with technological and organizational inputs.
- Promote social innovation to enhance social impact, it can for example be supportive of Youth or Gender inclusion.
- Promote urban integration within innovative green city models.
- Organizationally, it is possible to dedicate specific EIPs to facilitate the integration of vulnerable groups (women, youth, elders, etc.) that would be designed with conditions that can lift pre-identified barriers such as access to finance, purchase or location of smaller land plots or due to the low scale nature of the products. It is particularly fitted for small-scale EIPs or brownfield greening.
- Pilot innovative ecosystem services payments approaches
- Facilitate the use of digital technologies
- Help rebalance between foreign and domestic market especially in terms of importation of (semi) manufactured goods in order to favor green products. The current constraints are that without import, the current capacity of Ugandan firms to produce green qualitative products and parts may not be sufficient to respond to companies' demand. The free import policy may prevent the local use/production of less green products but may also be exporting pollution to cheaper labor markets.
- Promote eco-marketing message susceptible to influence consumers 'behaviors.

8.2. Approach for Partnerships

Collaborative relationships should be encouraged between investment projects in the zones and firms and research institutions in the local economy. Encouraging business networks and clusters between zone investments and outside zone investments increases transfers of know-how and skills to the local economy. It is also a way to rationalize limited resource by creating complementary centres of excellence in different parks and offer services to peer EIPs. The challenge though would be for them to reach similar levels of development so that the mutual dependency would not hamper the growth of any one of the parks.

Collaboration with **Uganda Cleaner Production Centre (UCPC),** which is hosted by the Uganda Industrial Research Institute (UIRI) should be widely promoted. UCPC is one of the national cleaner production centers in Africa established in 2001 by UNIDO under the UNIDO global cleaner production program working together with the respective governments. UCPC plays a key role in supporting adoption and diffusion of RECP to enterprises, especially industries, to improve their resource productivity and environmental performance, while at the same time, fostering improved competitiveness and profitability. UCPC has worked with about 300 enterprises and 45 hotels in the service sector through different programs such as the Lake Victoria Environment Management Program (LVEMP), Switch Africa Green (SAG), Eco-Benefits Program, the EMS/ISO 14001 certification Program and Eco-Design Program etc. It It is recommended to include UCPC in all EIP working groups as well as in EIPs assessments, performance and evaluation and to develop business cases. UCPC could also offer a contribution to green urbanization as the RECP and symbiosis approach apply seamlessly to both EIPs and urban centers.

Besides regional and global partnerships should be fostered for example through:

a) Continued collaboration with global institutions involved in EIP development and particularly GGGI and the UNIDO Global EIP Pilot Program. Indeed, international support organizations and service providers can:
   - Provide customized support to policy processes, building on international experiences and learnings.
   - Promote international good practices on EIP policy development.
   - Implementation through demonstration projects.
   - Develop practical policy tools.
   - Support capacity building processes.

b) Collaboration with other Cleaner Production Centers such as NCPC South Africa for methodology and expertise exchanges with the UNIDO Pilot (as NCPC is developing UNIDO new EIP policy tool).

c) Share knowledge and country-case fact sheet publication on WB and UNIDO platforms.

d) Establish a collaboration with peer countries presenting innovative green growth approaches as for example Costa Rica (ecosystem service payments, Green Gold and eco-tourism development, agro-exports) or Mauritius for (HR export and technological shift solutions, Green Incentives as well as SMEs support models) or Chili (Green Incentives, agro-exports).

Collaborations with universities and vocational training centres is cornerstone and requires the development of joint strategy and MOUs as well as PPPs to fill up the skills and technical gaps over the long term.

Chapter 9:
Financing

Chapter 9 illustrates various financial instruments and investment opportunities for both greenfield and brownfield IPs such as public and private investments, self-generating revenues schemes to support park management, financial and non-financial incentives schemes, and how to ensure they can contribute to a Green Growth Pathway. The feasibility of these options will have to be tackled in a dedicated module revising current GoU schemes.s.

9.1. Financing Options

Depending on the business case model, the initial investment may primarily come from the government and the private sector while external institutional funding can be considered as a marginal complement to support the Business Case Development Proposal. IPs can also be set-up entirely by the private sector but may still require public funds to complement the infrastructure offer and urban integration, or simply to put in place the impact measurement systems necessary (for example: natural resource governance schemes), often to build the required capacity from the various levels of government to deploy or intensify its services in the IP location. Brownfield revitalization proposals may also need complementary external funds. Particularly in the case of SMEs or in association models functioning as poverty alleviation tools, may lack access to private funds and rely more on institutional funding though the business case proposal would need to show a clear exit strategy.

Green Funds can be pivotal to enable pilots and innovations that have then more prospects to generate a more diversified source of funding. The support from programs such as the GGGI and UNIDO (through their donors) is significant in terms of knowledge transfer and credibility more than in financial terms.

Some typical donors for Uganda may include the World Bank and African Development Bank, the African Union, the **Green Climate Fund (GCF), the Global Environment Facility** (GEF), **Bilateral donors** (EU, DFID, GIZ, China, USAID, …), among others. It is beyond these policy scope to do a mapping of potential external and national funds to support green industrialization. However, it is key for GoU to facilitate this identification for potential developers and tenants' companies alike through a range of communication material and marketing strategies. At no point though should external institutional funding be sought to support a failing operational phase or the maintenance of non-viable PPP infrastructures.

Carbon Finance is another possible source of revenue. The Kyoto Protocol introduced three flexibility mechanisms which are Emissions Trading, the Clean Development Mechanism and Joint Implementation, which enable Parties to achieve emission reductions or to remove carbon from the atmosphere cost-effectively through interventions carried out in other countries. Under the Clean Development Mechanism, emission-reduction projects in developing countries could earn certified emission reduction credits. These saleable credits could be used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol.

The Article 6, the successor of the former flexibility instruments in the current Climate Policy Framework, is reaching beyond the notion of flexibility and aims to enhance international cooperation among countries and businesses to achieve environmentally integral emission reductions. Unlike Kyoto Protocol, the Paris Agreement requires all countries, including LDCs, to adopt their nationally determined contributions and reduce GHG emissions. Moreover, all countries have now the same opportunity to sell the excess quantity[28] of GHG emission reductions achieved on the emerging global carbon markets.

The applicability of carbon pricing policies and Article 6 of the Paris Agreement does not exclude any specific economic sectors

28 Note that under the Article 6, only emission reductions that are additional to the agreed crediting baseline are applicable for sale on the global carbon markets.

from cooperation and transaction on the carbon markets. In contrary, carbon pricing can help the IP developers to decrease energy consumption, deploy more renewable energy, reduce and reuse waste and lower water / air pollution[29] and at the same time benefit from fiscal revenues i.e., carbon finance. Revenues from carbon / resource taxes or sales of carbon emission credits can be further deployed to incentivize innovation and new technologies or enhance economic efficiency by reduction of distortionary taxes. Another key advantage of carbon revenue is that it can reward carbon sinks and thus contribute to conserving ecosystems.

Design and application of carbon pricing instruments is however data intensive and requires a close alignment with countries fiscal policies. In order for the countries and businesses to be ready to harness the potential of carbon finance, it is necessary that they invest in collecting the relevant information on ecosystems and specific pollutants, developing databases, and training or recruiting carbon finance experts that can come as a support to EIPs developers.

Carbon finance and Carbon sinks

Carbon-rich ecosystems, which by definition store the most carbon from the atmosphere, are also the most biodiverse ecosystems. Carbon-dense ecosystems, such as primary forests, grasslands, peatlands, wetlands, drylands, and blue carbon systems, are being lost at an alarming rate because they are particularly vulnerable to land-use change including EIP development. All wetlands for example sequester carbon from the atmosphere through plant photosynthesis and by acting as sediment traps for runoff, though they are often seen as mere obstacles in IP construction.

It is essential to consider those ecosystems as primary providers of ecosystem services and productive assets by assessing their carbon sequestration capacity. Considering this capacity and reflecting its value through the carbon markets may offset economic value calculations in IP economic feasibility studies and lead to different choices of development more able to preserve the ecosystem features such as agrotourism parks or conservation areas. An eCBA is necessary in context with significant carbon sinks to assess the economic potential of various scenarios including the zero-emission park development scenario. Carbon sinks need to be considered as a resource and should be translated in payments for ecosystem services rather than traded off for industrial development without reflecting their true social value. Thus, carbon pricing can play a highly motivational role not only in conserving carbon sinks, but more broadly to incentivize countries' development along less emission and resource intensive path.

Several concerns have been raised about the inclusion of carbon sinks as creditable CDM projects, due to the complexity of the metrics and variability of carbon storage in biomass. These include potentially temporary character of emission reductions delivered by forestry sinks or uncertainties (and endogeneities) around the available methods of accounting for carbon storage in biomass. The most important however, the carbon price only reflects the contribution of forests to store carbon and neglects range of other important economic and environmental benefits. As a result, earning carbon credits could come at their expense. For example, limited focus on carbon sinks might lead to industrial scale monocultural plantations failing to reflect on the remaining pressing issues. However ,in a well conducted eCBA,considering carbon credits in addition to the valorisation of other ecosystem services and biodiversity can potentially modify the prioritization of productive sectors.

The CDM in its original shape has not been fit for purpose to meet commitments under the Paris Agreement. The Article 6, the successor of the former flexibility instruments in the current climate policy framework, is reaching beyond the notion of flexibility and aims to enhance international cooperation among countries and businesses to achieve environmentally integral emission reductions. Unlike Kyoto Protocol, the Paris Agreement requires all countries, including LDCs, to adopt their nationally determined contributions and reduce GHG emissions. Moreover, all countries have now the same opportunity to sell the excess quantity of GHG emission reductions achieved on the emerging global carbon markets.

29 Clearly not all aspects of water, air pollution or circular economy concerns can be addressed by pricing carbon. A related approach on environmental taxation is applicable with those environmental themes.

9.2. Financial Sustainability

The EIP Business Case Development Proposal should define the funding strategy. The key basic condition is for the EIP to reach financial self-sustainability in its operational phase. That applies for the tenants' companies but also for the EIP management and viability of the services and infrastructures offered, not only their maintenance but also their regular upgrade when needed.

Therefore, the EIP Business Case needs to describe the model of cost recovery envisioned for the EIP and to ensure that: a) the management cost of the IP is factored in the cost-recovery strategy and b) tenants have a willingness to pay for the services offered by the IPs. In the cases where a PPP arrangement is found more sustainable or technically feasible, the willingness to pay extend to all the potential users and may factor a percentage of public finance (for example for public services addressing basic needs). A transparent public finance allocation to the decentralized level is also necessary to avoid situations whereby municipalities may have to cater for additional service needs related to the EIP, without the corresponding national budget allocation to afford them (particularly the case for waste management).

The land lease/purchase is a key component of a cost-recovery calculation and should not be under evaluated. Ideally, it should include contribution to the management or long-term resilience projects as well as a for the park rehabilitation at the end of the IP lifecycle. Common infrastructures operational costs should be accurately estimated and charged for. The latter requires a perceived (and preferably documented) value for money for the services, and lean management from the park management. RECP measures as well as infrastructures mutualization (PPP) are direct contributors to cost-savings from the tenants of an EIP and need to be well documented in order to generate more willingness to pay for the maintenance of the common services offered in an EIP.

The conditions in which investors and tenants are invited may determine future willingness to pay. Nevertheless, the urge to make an EIP attractive to foreign investment does not mean to systematically undermine efforts for cost-recovery. For example, while taxes exemptions can be done particularly in Green SEZ, they can also be designed as a progressive function of turnover or profit, thus facilitating the capacity from the municipality to co-fund or subsidize selected IPs costs (for example the operation of a waste management unit). The government may decide to fund or place staff for the park management positions. While this may be necessary in the beginning, it is nevertheless recommended to shift to a cost-recovery model as soon as possible.

The design of the park should optimize the contributions from various revenue sources such as common infrastructures or value chains with the city, together with a realistic business deal in the first place. When none of these sources can be tapped on or levies added to support the park management, subscriptions are then necessary despite the risk for non or delayed collection.

Figure 38 shows some possible source of revenue to sustain the park management operations and service deliveries.

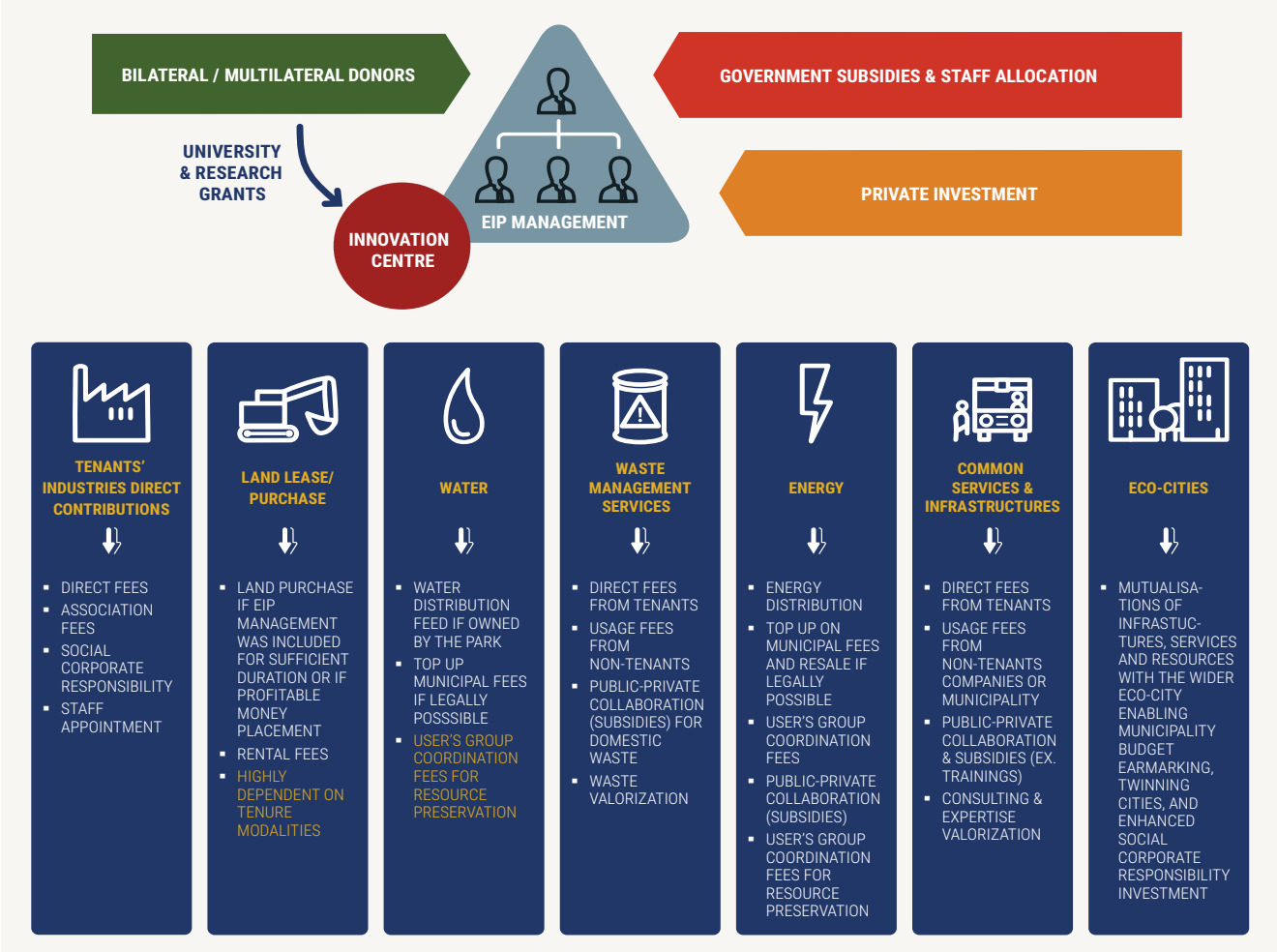


Figure 38: Examples of EIP source of revenue (UNiDO EIP Handbook)

9.3. Incentives

The overriding consideration for a country seeking to attract investment is putting in place a healthy enabling environment (infrastructure, human capital, an investment-friendly regulatory environment, the rule of law, good public governance). Incentives can, at best, be a supplement to a good enabling environment, or be used to compensate for certain concrete shortcomings that cannot be otherwise addressed. **In a Green Growth perspective, incentives should not** only be designed to attract foreign investment and reward export but to reward green practices implementing the measures proposed to ensure the sustainability of the natural and social capitals and the EIP performance on its combined economic, social and environmental results. It should therefore be designed with clear targets from the performance framework. Those incentives can also serve to facilitate the start-up investment for green technologies or RECP measures. Incentives are not and should not be the sole reason why investors and companies would adhere to an EIP concept. Such an approach is inherently attractive from an efficiency, visibility and best practices perspective. Rather they are designed to accelerate investment contributive to Green Growth, compensate for market failures and absorb part of the risks, which is an evolution away from Business as Usual towards green industrial development.

EIPs can but do not necessarily benefit from different fiscal incentives from the rest of the industrial context but their collective dimension makes it easier to channel non-fiscal incentives. On the contrary, Green SEZ by definition benefit from special conditions on which they can serve as accelerator or to testing ground. Thus, some of those incentives may apply outside the SEZ, in which case, it is proposed to prioritize the SEZ or to ensure that a comprehensive package comprising

several programs are provided jointly to the SEZ for a greater impact. Spill-over to the rest of the industrial sector is foreseen as well as upward linkages.

Because of the Green Growth rewarding and spillover vision, as well as the need to ensure sustainable public finance for the management of PPP or public services, financial incentives if kept at a zero level or for too long may actually undermine those objectives particularly when the refer to VAT or profit taxes. This is why a graduality may rather be considered. Coordination between the various authorities below MoFPED and other concerned ministries is needed.

The design and award of IPs/ Green SEZs incentives should be done in consultation with IPs developers, investors and businesses and very importantly, should not rely only on fiscal facilities.

Figure 39 shows the main applicable categories for fiscal and non fiscal incentives for EIPs/SEZs. Table 25 shows in more details an example of possible IPs/Green SEZs package adaptable to a wide range of contexts. In particular they indicate possible adaptations to current GoU incentives.

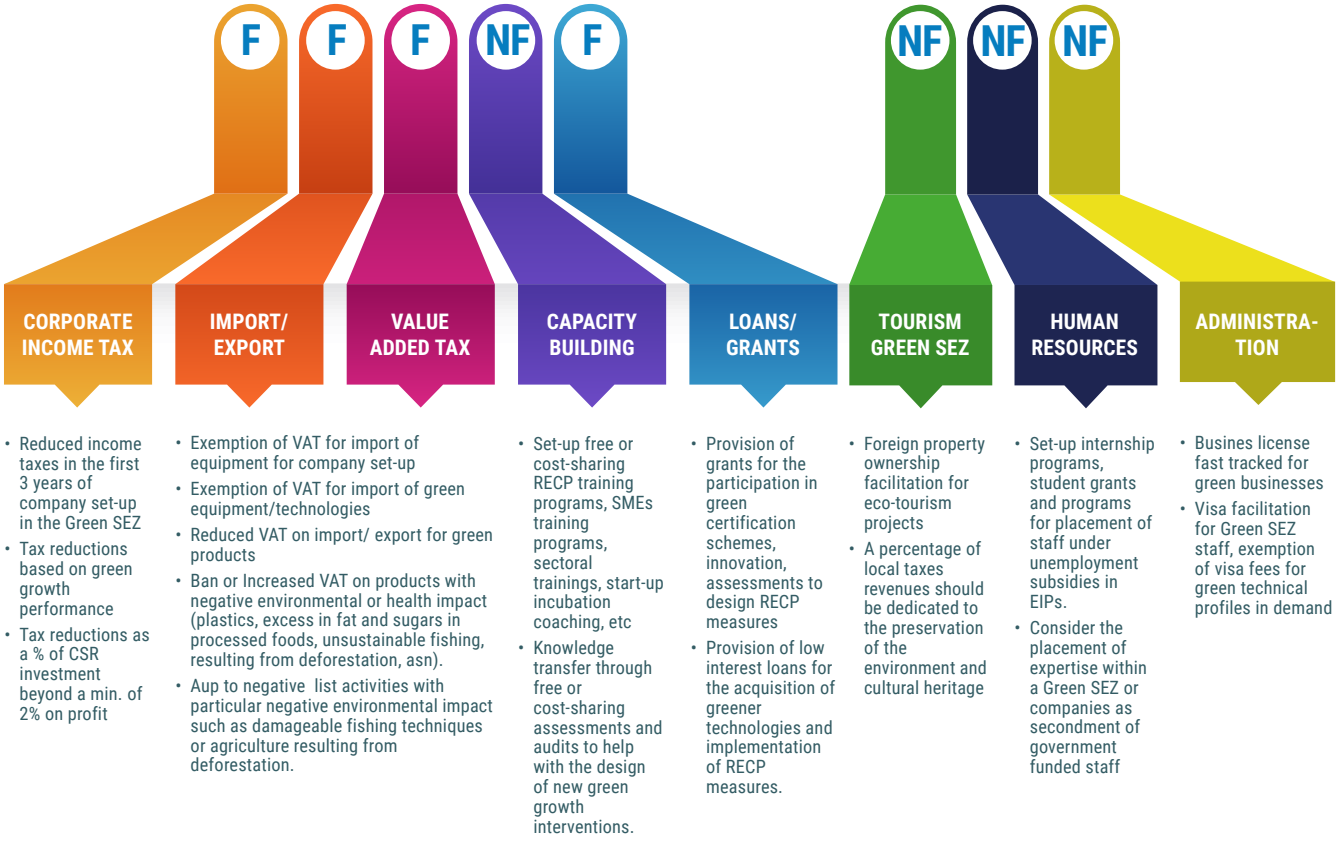


Figure 39: Main fiscal and non-fiscal incentives categories for EIPs/Green SEZs

Main fiscal and non-fiscal incentives for EIPs/Green SEZs	Green incentive example
CORPORATE INCOME TAX	• Reduced income taxes in the first 3 years of company set-up in the Green SEZ • Tax reductions based on green growth performance • Tax reductions as a percentage of CSR investment beyond a minimum of 2% on profit.
VALUE ADDED TAX AND SALES TAX ON LUXURY GOODS	• Exemption of VAT for import of equipment for company set-up • Exemption of VAT for import of green equipment/technologies • Reduced VAT on import and/or export for green products • Increased VAT on products with negative environmental or health impact (plastic bags for food packaging, plastic glass for water, excess in fat and sugars in processed foods, unsustainable fishing, resulting from deforestation, asn)
IMPORT DUTIES AND EXCISE	• See above
NEGATIVE LIST	• Consider to add up activities with particular negative environmental impact such as damageable fishing techniques or agriculture resulting from deforestation.
RESTRICTION AND LIMITATION TO EXPORT AND IMPORT	• Consider the ban of environmentally negative or unhealthy products (plastic bags for food packaging, plastic glass for water, excess in fat and sugars in processed foods, unsustainable fishing, resulting from deforestation, asn)
BUSINESS LICENSES	• Fast tracked for green businesses
FOREIGN PROPERTY OWNERSHIP IN TOURISM GREEN SEZ	• Facilitation for eco-tourism projects
LOCAL TAXES IN TOURISM GREEN SEZ	• A percentage of local taxes revenues should be dedicated to the preservation of the environment and cultural heritage.
LABOUR AND EMPLOYMENT	• Set-up internship programs, student grants and programs for placement of staff under unemployment subsidies in EIPs (whenever such a system exists).
IMMIGRATION	• Visa facilitation for Green SEZ staff, exemption of visa fees for green technical profiles in demand.
LAND TITLING	• Facilitate access to green businesses
LOW INTEREST LOANS	• Provision of low interest loans for the acquisition of greener technologies and implementation of RECP measures.
GRANTS	• Provision of grants for the participation in green certification schemes, innovation, assessments to design RECP measures
CAPACITY BUILDING, TRAINING AND COACHING	• Set-up free or cost-sharing RECP training programs, SMEs training programs, sectoral trainings, start-up incubation coaching, etc.… or mainstream green growth in existing programs.
TRAININGS	• Set-up free or cost-sharing RECP training programs, SMEs training programs, sectoral trainings, etc.. Or mainstream green growth in existing programs.
TECHNICAL ADVICE	• Takes the form of knowledge transfer through free or cost-sharing assessments and audits to help with the design of new green growth interventions.
HUMAN RESOURCES	• Consider the placement of expertise within a Green SEZ or companies as secondment of government funded staff.

Table 25: Main fiscal and non-fiscal incentives for IPs/Green SEZs

Providing financial incentives requires budgetary commitments and can be administratively demanding for the local government. Significant technical capacity and human resource is also requested to configure, implement and monitor

incentives. When incentives are linked to EIP KPIs, solid monitoring systems need to be put in place for performance measurement. Those can be complex to quantify and leave a non-negligible margin of error.

Therefore, there may be disparities of measurement between parks and locations, which may give rise in unequitable incentives allocation. Therefore, mainstreamed systems of measurement would need to be designed and a complaint mechanism and retro feedback channel as well. Such performance-based incentive, called feed-in tariff, are one of the most commonly implemented policies to support renewable energy transition or RECP measures. They can involve a fixed per kWh price for electricity for example. Considerations such as technology, company size, location and/or resource quality need to apply. For best impact, they should be coupled with guaranteed access to the grid. FITs were implemented at the national or state levels in 108 countries (REN21 2015, UNFCCC 2015), with half of all feed-in tariffs enacted in developing countries (Huenteler 2014).

Other measures can be easier to implement such as the ban of particularly polluting products. As an example, the ban of polymer plastic for take-away food can provide an important incentive for companies in and outside the IP to design more eco-friendly alternative.

In addition to tax measures and performance-based incentives, rebates, loans and grants can be considered. Indeed, local governments can work with commercial banks to provide financial incentives, thus sharing or shifting the financial burden from the public to the private sector. A company situated in an IP could therefore be prioritized given the supplementary trust in bankability it provides as well as support from the IP management and possibly the One Stop Center to process the loan request.

Rebates are commonly used for energy efficiency appliances and on-site renewable energy systems. Grants can also be combined with subsidized loans to support RECP technology deployment. Some good examples are Singapore, Spain, Mauritius and Chile.

The applicability of carbon pricing policies and Article 6 of the Paris Agreement do not exclude any specific economic sectors from cooperation and transaction on the carbon markets. In contrary, carbon pricing can help the EIP developers to decrease energy consumption, deploy more renewable energy, reduce and reuse waste and lower water / air pollution[30] and at the same time benefit from fiscal revenues i.e., carbon finance. Revenues from carbon/resource taxes or sales of carbon emission credits can be further deployed to incentivize innovation and new technologies or reduce enhance economic efficiency by reduction of distortionary taxes. Another key advantage of carbon revenue is that it can reward carbon sinks (see box below) and thus contribute to conserving ecosystems.

Design and application of carbon pricing instruments is however data intensive and requires a close alignment with countries fiscal policies. In order for the countries and businesses to be ready to harness the potential of carbon finance, it is necessary that they invest in collecting the relevant information on ecosystems and specific pollutants, developing databases, and training or recruiting carbon finance experts that can come as a support to EIPs developers.

30 Clearly not all aspects of water, air pollution or circular economy concerns can be addressed by pricing carbon. A related approach on environmental taxation is applicable with those environmental themes.

Chapter 10:
Promotion and Marketing

Promotion and Marketing define the type of communication susceptible to encourage green investment and green products demand, as well as report on EIP performance including through certifications both for collective EIP efforts and individual companies.

10.1. EIPs Promotion and Marketing Approach

The Promotion and Marketing strategy for EIPs should be articulated around 3 components:

a) The marketing towards potential investors.
b) The marketing towards potential companies to enter the EIP.
c) The marketing of EIPs green products towards customers.
d) The promotion of EIPs approaches in peer-to-peer, technical fora and through business or sectoral associations in order to generate a spill-over of Green Growth good practices.

As a prerequisite, EIPs need to be able to formulate their Unique Selling Point (USP) through branding and segmented diffusion channels. To attract foreign investors requires promoting and marketing zones at national and international events. EIP management is typically responsible for marketing an IP in coordination with other relevant stakeholders, such as the regulatory body and investment promotion agencies. Faced with competition, industrial parks must differentiate themselves, by promoting specific assets of their location, an image and a brand that can be quickly and easily recognized, to generate pride in being a tenant of the park and a feeling of being part of a community. Indeed, though the marketing towards potential investors may concentrate most of the efforts especially in the design phase, one shouldn't neglect that the failure to generate full or sufficient occupancy may jeopardizes the IPs sustainability.

GoU needs to integrate EIPs marketing in all its current economical promotion instruments such as through the Chamber of Commerce, regional negotiations and other principal markets and should not see this responsibility as solely resting on the EIP management authority.

An information platform detailing the EIPs activities needs to be designed in a user-friendly manner. Investors and customers should be able to find the list of companies within the IPs and their activities easily. This comes in complement to the Industrial Database foreseen by GoU.

The marketing of EIPs products requires creativity in the form of events and sponsorships (for example green awards) but can also be achieved through smart regulations (for example through labelling requirements).

The functions of investment promotion agencies include:

a) Image building: These include; advertising in general financial media, participation in investment and green products exhibitions, advertising in industry-or sector-specific media including social media, conduct general investment missions from the source country to the host country and vice versa and conduct general information seminars on investment opportunities. Embassies and consulates are also mandated to pitch for the various businesses outside Uganda and mostly in the targeted markets. Table 26 provides examples of important trade shows of interest for the promotion of green products and services in some of Uganda's key markets:

Name	Topic
BioFach Germany and Vivaness	Two-in-one trade show for organic products and natural cosmetics.
BioFach China	A spinoff from BioFach focusing on certified organic products.
China Internationa Organic & Green Food Industry Expo	Food, beverage, textiles, equipment and organic farm/production suppliers.
SIAL China	Arguably Asia's largest Food Innovation Exhibition
Hong Kong Natural & Organic Producs Asia	Organic and natural foods, personal care, lifestyle products and natural health.
NATEXPO France	Organic products: organic food, health, natural beauty, daily ecology, ingredients.
Vitafoods Europe	Global nutraceutical event
Eco Expo Asia (Hong Kong)	Environmental Protection
The Greener Manufacturing Show (Germany)	Environmental and Sustainable Manufacturing Solutions
China international import expo	China main import match-making show
Middle East Organic and Natural Product Expo (Dubai)	Organic and Natural Products

Table 26: Key trade shows of interest for the promotion of green products and services in some of Uganda's key markets

b) **Investment generation:** Engage in direct mail or telemarketing campaigns, conduct industry-or sector-specific investment missions from source country to host country or vice versa, conduct industry-or sector-specific information seminars, engage in firm-specific research followed by sales presentations.
c) **Investor services:** Provide investment counselling services, Expedite the processing of applications and permits, Provide post investment services.
d) **Policy advocacy:** Participate in policy task forces, Develop lobbying activities, Draft laws or policy recommendations and Report investors' perceptions.

While the engagement of GoU in EIP promotion needs to be continuous, once a park developer and operator are appointed, they need to take charge of the bulk of the marketing activities and particularly the brand identity development, the promotion of the park's companies and products (though each company remains primary responsible for their own product promotion) and attracting potential companies. While the attraction of companies to the site initially depends on presenting the advantage of the park amenities, incentives and reputation, with the pass of time it should be as much the companies' performance that should be the primary attraction factor.

EIPs, by developing green processes, promoting green products and through their reputation, respond to the shift of global consumer preferences towards more sustainable products and ethical trade practices. Ideally, the EIP should encourage companies to adopt eco-labelling and certifications but access to those labels may be expensive for many companies.

On a collective level though, **Green Certification** of the EIP can offer premium marketing tool to attract high-quality investment from the ever-growing international pool of green finance and/or product promotion for the tenants as more consumers become aware of the green agenda. The set-up of a national, regional or globally aligned certification schemes (mainly through UNIDO Pilot EIP Program) can emulate IPs between themselves and serve as a strong contributor to the EIPs image for consumers. Figure 40 illustrates UNIDO Eco-Industrial Parks Certification Scheme.

EIP certification and particularly beyond compliance performance champions are also more likely to be more resilient to a number of risks giving further bankability to both EIP and tenants. UNIDO approach proposes a certification scheme to reward beyond compliance performance together with suggested indicators. According to the 3 Green Growth scenarios proposed a) greening, b) evolution towards Green IP status (EIP) and c) EIP/Green park status obtention, a Bronze, Silver and Gold certification (for beyond compliance) could be awarded.

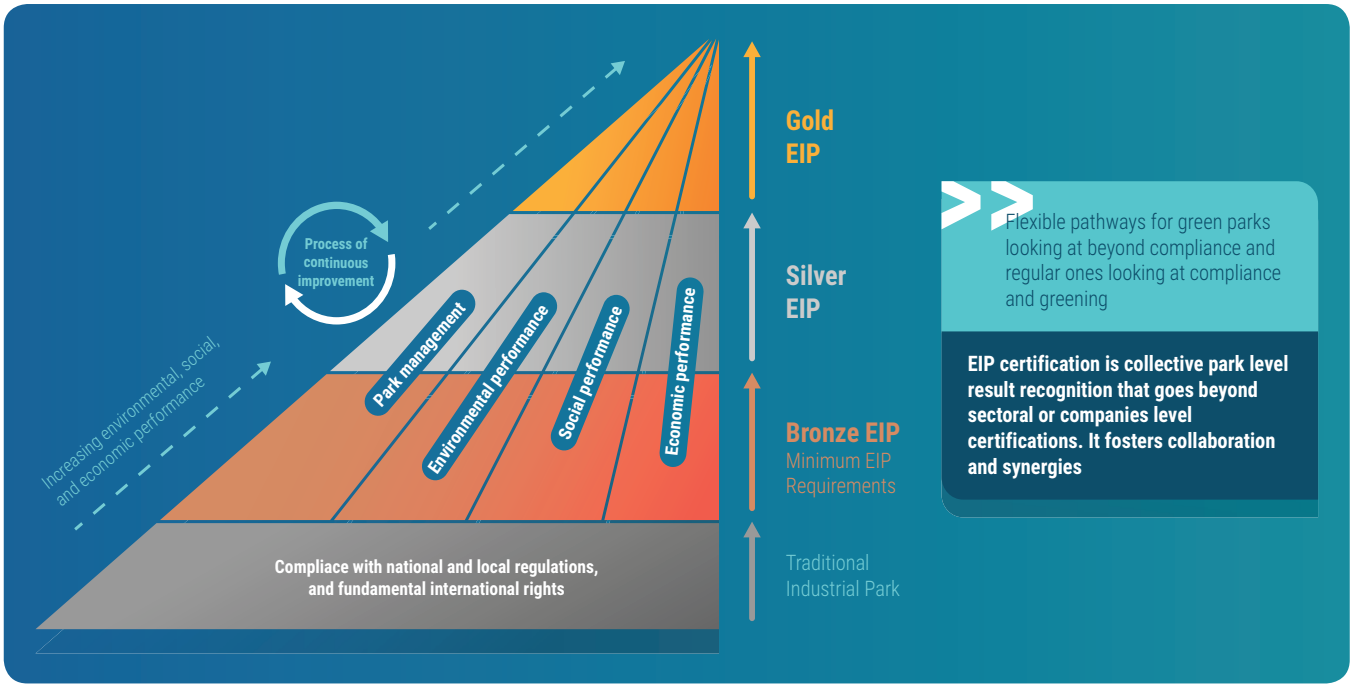


Figure 40: An illustration of the UNIDO EIP Certification Scheme (UNIDO EIP Handbook).

Another way to contribute to brand image are **Corporate Social Responsibility** actions. Those can be performed individually by companies but the EIP offers the opportunity to channel those initiatives in a collective manner reaching greater impact. CSR can be practiced through direct charitable activities but they can also support the KPIs in engaging into environmental protection community activities or assist the communities in times of needs through sharing their supply (water during dry heats for example).

Chapter 11:
Business Continuity (Resilience)

Chapter 11 shows how an IP approach can contribute to business resilience and tackle local and global challenges such as epidemics as illustrated by the recent covid-19 crisis.

11.1. Approach

EIPs are complex systems requiring a risk management approach. UNIDO guidelines proposes a general risk management cycle which is based on 5 steps as illustrated by Figure 41:

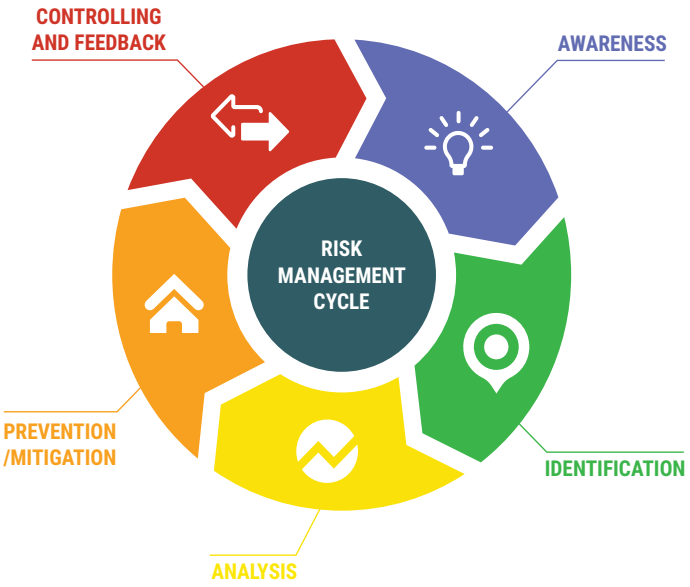


Figure 41: EIP Risk Management Cycle

a) **Risk Identification:** This exercise should take place during the EIP Business Case Development Proposal but should be updated by the IP management in the operational phase.

b) **Risk Analysis and prioritization:** should be done along with the risk identification.

c) **Risk Prevention and Mitigation:** A risk management framework should be designed layering several specific risk management plans such as the Environmental and Social Safeguards Assessment and plan or the financial risk management plan, etc. The eCBA should analyze as comprehensively as possible all the business continuity risks in order to present the various scenarios. The plan should identify amongst 4 types of measures by order of preference: i) prevention/avoidance, meaning eliminating the causes; ii) reduction of the risk, meaning to reduce the probability or impact of the risk; iii) Sharing, aiming to share the burden of risk with another party and iv) retention, aiming to design contingency plans.

d) **Controlling and feedback:** It is a core duty of the EIP management during the operational stage and particularly in the monitoring and evaluation stage where the feedback loop enables to correct the assumptions, estimates, indicators and targets performed in the previous stages. It is very important to integrate both the EIP collective risks and sectoral/individual companies risks including in their value chains. Each company entering an EIP should commit to perform its own risk assessment and to be reviewed by the park management and the regulator. Exception can be made for the financial risk due to business confidentiality. However, sooner or later a company's poor financial performance and its eventual closure would affect the rest of the park, particularly if the company leads in managing infrastructures or circular economy services.

d) **Awareness:** Risks can often be reduced by implementing advanced monitoring and hazard source tracing technologies, as well as setting clear safety standards and operation guidelines. For example, the use of real-time monitoring systems in IPs enables a timely collection of data about production safety and improves the prevention of production hazards.

The potential (non exhaustive) risks can fall in the following categories given in Table 27:

Type of Risks		
1. PLANNING RISKS • Planning compliance • Surrounding population density • Traffic and congestion • Adjacent projects • Utilities capacity • Enterprise layout • Land acquisition (see Chapter 5.1) • Demand risks • Economic justification	**2. STRATEGIC & OPERATIONAL RISKS** • Construction risks • Supplier and partner non-performance risks • Policy instability • Promoter capacity • Operations • Governance • Technology • Regulatory framework	**3. FINANCIAL RISKS** • Stock exchange /capital market fluctuations • Exchange and interest rate fluctuation • Liquidity / cash flow • Fraud • Financial viability
4. MARKET, COMMERCIAL & INTELLECTUAL PROPERTY RISKS • Competitors/ Market share/ • Reputational • Business interruption • Counterfeits • Copyright pirates • Trade secret thieves	**5. HUMAN RESOURCE, OCCUPATIONAL & SOCIAL RISKS** • Accidents/health • Operational safety • Knowledge management • Emergency support • Management • Community conflicts • Discrimination, Gender, asn	**6. ENVIRONMENTAL & HAZARDS** • Natural disasters (ex: storm, flood, fire…) • Industrial disasters (hazardous materials handling, wase and wastewater disposal, …) • Climate Change • Interruption of ecosystems services or depletion of natural stocks. • Pests control • Genetic contamination
7. **FIXED ASSET RISKS** • Security • Energy supply • Property/Infrastructure damage • Machinery breakdown	8. **GLOBAL RISKS: EPIDEMICS, POLITICAL, ECONOMICS** • Covid-19 • Global financial crisis • Conflicts	9. **IT/DATA PROTECTION RISKS** • Hardware and software failure • Malicious attacks and viruses • Loss & theft of personal data

Table 27: Key EIP Risks.

An EIP approach contributes directly to improve business continuity for many reasons:

- The industrial ecology approach provides opportunities for diversification, closed-loops, efficiency gains that all contribute to the resilience of the EIP.
- The strict environmental and social safeguards associated with key green growth tools such as eCBA, capitals valuation and performance evaluation ensure risks are assessed early on and monitored effectively.
- The overall business ethics sustaining the Green Growth agenda ensures that companies joining an EIP (through for example the agreement on a chart) would be more aware and responsive of risks as well as more willing to comply with good social practice (for example by adopting insurance systems).
- Risks sharing mechanisms can be facilitated through the EIP management and particularly the set-up or upgrade of collective infrastructures that can offer more resilience than if companies had to address risks individually.
- By integrating the community and fostering spill-over, the EIP approach contributes to the well-being of the community reducing conflicts.

Chapter 12:
Performance Monitoring & Evaluation

This chapter presents four concepts of performance and its measurement. The first concerns the public sector in the sense of delivering a functioning EIP. Its bottom line is that of being 'investment ready' for in-coming investors. The second concerns business performance. This means profitability and underlying fiscal resilience as tested by various financial ratios. The third concerns IP performance indicators and the last companies'level indicators.

12.1. Approach

What is important is to understand the various levels of performance assessment. There are three:

a. Delivering the industrial park or freezone, economically, efficiently and effectively.
b. Witnessing the profitable performance of the enterprise(s) in the park.
c. Reviewing the wider performance of the park itself.

One more dimension to be considered is the Green Growth indicators in relation to government's National Development Plan (at present, NDPIII) programmes. Thus, what is equally important is not only to assess the provision and operation of the park or freezone itself but also, to understand its contribution to national development and the UGGDs, filtered through NDP.

12.2. Public Sector Performance

This concerns the mandated MDA to deliver the IP, as applicable. In essence, it is the delivery of any park, economically, efficiently and effectively. Their meaning:

1. Economy of inputs (*the lowest unit cost; spending to budget*);
2. Efficiency of outputs (*delivering to time and to specification*);
3. Effectiveness of impact (*the problem to be solved; the opportunity to be exploited. Is the client satisfied*)?

If these three tests are applied, the delivering organization can be measured against these '3Es'. This measurement framework comes from early developments in performance budgeting (PB). This was an attempt to give a counterweight to the conventional business sector judgments on performance.

12.3. Business Performance

Business concerns the ability to make a profit after all operational costs have been covered. Unit costs and delivering to time and specification apply equally. In contrast however, the impact is on both the business' financial viability (the enduring profit) but also, its financial structure. This concerns various key financial ratios. The most obvious is the debt-equity balance. There are others but these are of no concern here – simply the test of the developer's financial proposal and its underlying analysis. Once the enterprise is established in the industrial park or enterprise zone, it is simply a matter of its sustainability and ideally, growth. Job creation and environmental impact are sub-sets.

12.4. EIP Performance Indicators

EIP performance can be seen as the collective results achieved on an agreed range of minimum common indicators covering economic, social and environmental impacts as well as IP management performance. This is the approach taken by UNIDO to build consensus and ensure a fairly reproductible performance evaluation grid. While of course individual companies' results contribute to the collective, with this approach there are no indicators set individually (besides sheer compliance).

UNIDO guidance "An international framework for Eco-Industrial Parks" proposes minimum indicators to measure EIPs performance as per Figure 41, though they are lacking in the area of Business & Biodiversity for example. Therefore, to complement them, it is recommended to follow the process of the Natural and Social Capitals approach to determine materiality first and then identify the indicators and targets.

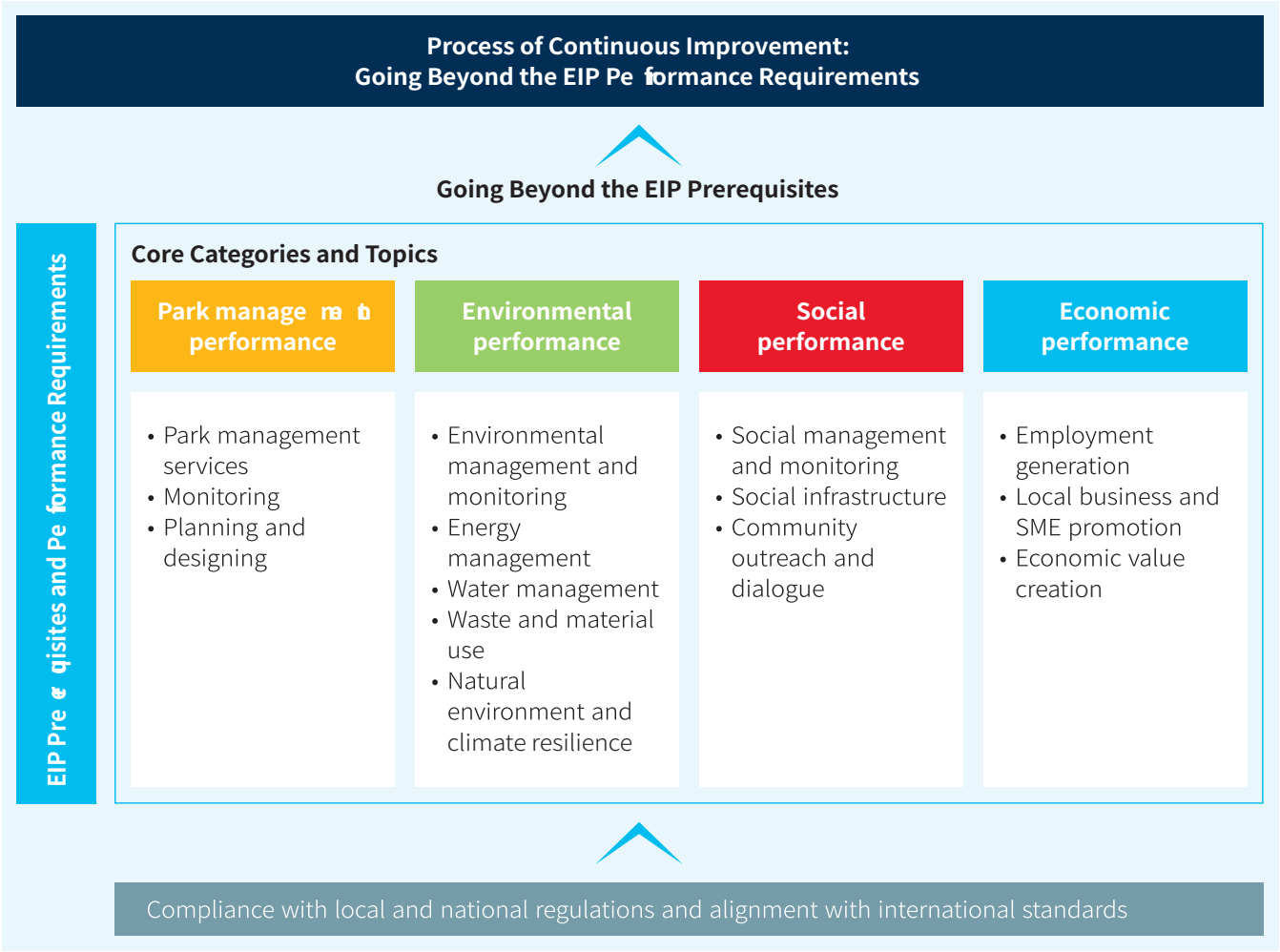


Fig. 42: EIP Performance Requirements UNIDO

These indicators have been interpreted to a practical level to give real meaning when testing the impact of industrial development. They are taken from and expanded into a planning template. It is important to have both process and impact indicators. They are in Table 28. It focuses on indicators, target values, green and health impact. Targets are indicative and should be reevaluated and negotiated yearly.

Category	KPI	Unit	Example of possible Target	Green and/or health impact
Park Management Performance	Firms with signed residency contract, code of conduct, etc (Note: no firms should be granted tenure without this. Additional indicator could be % of occupancy for which the 90% target would be very good)	%	100%	
	The park management entity provides and facilitates efficient common services and infrastructure to resident firms.	By infrastructure	Specifications by infrastructure	
	Firms satisfied with regard to provision of services by management (Note: this is merely a perception and not sufficient indicator, thus the proposed indicator below.)	%	75%	
	Firms willingness to pay for the provision of services by management (when applicable)	% of management budget submited to tenants contributions	90%	
	Frequency of reports on compliance with environmental, economic, social and critical risk indicator targets (report on mitigation plans)	Count	Every 6 months	Maintain green development standards
	Frequency of reports on compliance with environmental, economic, social performance targets	Count	Every 6 months	
	Disaster Risk Management Plan at Park level exists and is regularly updated.	1	Every year	
	% of firms utilizing the innovation facilities (Note: possible also to measure satisfaction levels)	%		
	% of firms utilizing the One Stop Center services : (Note: possible also to measure satisfaction levels. Though this service is not under the management responsibility, it is a vital information for GoU to enhance its service delivery.<)	%		
Environmental (Energy, Water, Waste, Climate change adaptation and mitigation)	Firms with a functional environmental management systems (EMS) by world standards. Summary information from these management systems is provided to park management, who will aggregate and report on data at the park level	%	100%	Green impact data
	Proportion of combined park facilities and firm-level energy consumption for which metering and monitoring systems are in place	%	90%	Green energy standards
	Total renewable energy use equal to or greater than annual national average energy mix	%	>150%	Green energy standards
	Management sets and works towards ambitious maximum carbon intensity targets	kg Co2e/Kwh	Calculate the contribution as per Uganda reduction commitments	Reduction in carbon-based energy use
	Management sets and works towards ambitious maximum energy targets per production unit	Kwh/$ turnover	*Ditto*	Achieving lowest unit costs through green energy deployment
	Total water demand does not have significant negative impacts on local water sources or local communities	% of water demand	100%	Reduction in water-based environmental degradation
	Proportion of industrial wastewater generated and treated to appropriate environmental standards (Note: this is insufficient to reduce water consumption)	% of waste water treated/total waste water	95%	Reduction in water pollution
	Water savings systems in place		80%	
	Proportion of total waste water reused responsibly inside or outside firm/park	% of water reused/total waste water	60%	Increased water recycling.

Category	KPI	Unit	Example of possible Target	Green and/or health impact
Environmental (Energy, Water, Waste, Climate change adaptation and mitigation)	Proportion of solid waste generated by firms, which is reused, recycled or upcycled by other firms, neighbouring communities or municipalities	% of solid waste reused/total waste	>50%	Reduction in the solid waste
	Proportion of solid waste reduced through efficiency measures	% of solid waste reduction	20%	
	Percentage of firms that appropriately handle, store, transport and dispose of toxic and hazardous materials	%	100%	Reduction in toxic pollution
	Percentage of firms with clear targets to reduce and avoid the use of dangerous and hazardous materials by firms in the park.	%	100%	
	Maximum proportion of waste that goes into landfills	%	<40%	Reduction in polluting landfill use
	Contribution to the conservation of native flora and fauna in the communities	As per natural capital assessment		
	Minimum proportion of open space in facility used for native flora and fauna including nature inclusive design	%	15%	Environmental and visual health benefits
	Proportion of firms with pollution prevention and emission reduction strategies beyond national regulations	%	>60%	Reduction in air and environmental pollution
	Proportion of largest polluters with risk management framework in place that identifies aspects with environmental impact and assigns level of significance to each aspect	% of largest emitters	100%	Increased knowledge of polluter knowledge to allow interventions.
Social	Percentage of firms with more than 250 employees with well-functioning OH&S management system in place	%	75%	Increased feeling of well-being.
	% firms with effective grievance mechanisms	%	100%	
	% of grievances received by management entity and handled within 90 days	%	100%	Increased feeling of well-being.
	Percentage of grievances received by management entity which brought to conclusion	%	90%	Increased feeling of well-being.
	Percentage of firms with more than 250 employees with code of conduct system in place to deal with grievances		75%	Increased feeling of well-being.
	Percentage of firms with more than 250 employees with harassment prevention and response system in place	%	100%	Increased feeling of well-being.
	Percentage of surveyed employees satisfied with the social infrastructure	%	80%	Increased feeling of well-being.
	Percentage of reported security and safety issues that are adequately addressed within 30 days		100%	Feeling secure; reduction in worry.
	Number of security and safety issues			
	Percentage of firms with more than 250 employees with program for vocational/skills training and development	%	75%	Increased skills & morale.
	Percentage of female workers who benefit from available supporting infrastructure/programs for skills development	%	>= 20%	Strengthening women's economic worth & morale
	% of women employment by firm			
	% of women in management position by firm			

Category	KPI	Unit	Example of possible Target	Green and/or health impact
Social	Over 80% of surveyed community members are satisfied with the community dialogue	%	80%	Good morale.
	Number of outreach activities implemented by management entity annually that are regarded as positive by over 80% of surveyed community members	Number	Every 4 months	Good morale.
Economic	% of total workers employed who live within daily commuting distance	%	60%	Reduces solo transport / energy use, time & pollution.
	% of workers employed through direct employment (that is, not employed on a fee-for-output basis or provided through a labor supply firm) and permanent contracts	%	>35%	Job security; peace of mind.
	% of firms using local suppliers or service providers for at least 80% of their procurement value	%	25%	Using local materials rather than importing
	% of local procurement value of management entity supplied by local firms or service providers	%	90%	
	Ratio of rented or used space by firms compared to total amount of available space earmarked for resident firms in industrial park	Avg occupancy rate	50%	Efficient use of space green buildings
	Post-harvest loss reduction	%	50%	
	Proportion of green jobs to total jobs	%		
	% salary deviation between the highest and lowest in the firm	%		
	% lowest salaries above household economic analysis needs value and above minimal wage	%	100%	Decent work

12.5. Companies level indicators

The IP collective performance monitoring and evaluation should be complemented by similar measures at the level of IPs tenants' companies.Thus, the IP management should also have the capacity to monitor and evaluate the IP effectively. Setting out clear reporting requirements and M&E plans can ensure that zone authorities can regularly track whether the investor is fulfilling its social, economic and environmental objectives and whether each tenant's company contributes effectively, respects the IP charter and the scope of extension to its value chain. Performance expectations should go beyond national standards and regulations where they fall short of international standards and whenever relevant, sectoral certifications schemes may also be fostered at company level and facilitated by the IP management.

The monitoring tools and approaches to be used are the ones presented in these guidelines as they can be extended to each individual companies. They comprise the non-exhaustive list of:

- Ecological footprint analysis.
- Risk assessments, including climate risk assessments and industrial safety.
- Water footprint analysis.
- Social impact assessment.
- Life cycle assessment.
- Material and energy flow accounting.
- Market segmentation analysis
- Strategic environmental assessment.

The life cycle assessment may be more specific at individual companies' level as it goes beyond the collective estimate made at EIP level on material flows or the scope of the value chains considered to measure the IP spill over. Once the EIP development authorization is done, the applicant company shall start its operation within three years and the implementation works should be monitored and evaluated every six months (in complement to real-time monitoring mechanism), while the EIP collectively can be evaluated on a yearly basis. The regulator may evaluate on a different timeline depending on capacity.

Chapter 13
Conclusion

The expansion of eco industrial parks offers enormous opportunities for industrialisation and economic growth around the world through these parks' enabling role in the attraction of investment, integration into global value chains, creation of competitive employment opportunities, while safeguarding the environment. These opportunities can however only be effectively capitalized on when a robust approach to the planning and implementation of EIPs is taken. These guidelines have therefore sought to present EIPs stakeholders with guidance on international good practices in EIPs development, operation, promotion and regulation, including as regards what needs to be done, by whom and by when. The guideline is to help EIPs park stakeholders manage risk, and to provide a practical tool to measure and enhance EIPs' performance. That said, these guidelines only seek to provide a general reference tool to assist decision-makers in planning and implementing new industrial parks, or in upgrading operational ones. A range of specific derivative documents and tools should still be developed to supplement this document and facilitate its implementation.

Finally, these guidelines also a contribution to the global movement leading to Eco Industrial Parks development and Green SEZ as supported in many countries by UNIDO and GGGI. It is our belief that it can serve as a model for other countries engaged in EIPs Policy formulation.

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