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ECO-INDUSTRIAL PARKS VIET NAM

SOCIAL AND ECONOMIC INDICATORS FOR ECO-INDUSTRIAL PARKS IN VIET NAM

INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT

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For more information on UNIDO's work on eco-industrial parks in Viet Nam, please visit https://eipvn.org/ or contact EIP@unido.org.

LIST OF ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
CCTV	Closed Circuit television
CENSUD	Centre for Environment and Sustainable Development
CETP	Common Effluent Treatment Plant
EIP	Eco-Industrial Park
EZ	Economic Zone
FDI	Foreign Direct Investment
GIZ	*Deutsche Gesellschaft für Internationale Zusammenarbeit* (German Corporation for International Cooperation)
IFC	International Finance Corporation
ILO	International Labour Organization
IP	Industrial Park
ISO	International Organization for Standardization
IVA	Industry value added
MPI	Ministry of Planning and Investment
MSME	Micro, small and medium-sized enterprises
OHSAS	Occupational Health and Safety Assessment Series
PPP	Public-Private Partnership
SME	Small and medium-sized enterprise
UNIDO	United Nations Industrial Development Organization
WBG	World Bank Group
WHO	World Health Organization

GLOSSARY

Eco-industrial park	An area earmarked 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.
Decree 82/2018/ND-CP	Regulation issued by the Government of Viet Nam to regulate management of industrial parks and economic zones in the country.
Economic zone	An area within a country dedicated to industrial development and employment generation. Business and trade laws are different inside the economic zone as compared with the rest of the country in order to attract investments.
EIP centre	The country level nodal agency responsible for monitoring the performance and development of industrial parks towards eco-industrial parks.
Foreign Direct Investment	Investment in the form of controlling ownership made in a country by a firm or individual based in another country.
Industrial park	An industrial park is an area marked or planned for the purpose of manufacturing and associated businesses or activities. Depending on the scale and size of the park, industrial parks can also have provision for employee welfare, social development and environmental sustainability.
Industrial Park Authority	The governing authority responsible for managing the day-to-day operations of an industrial park.
ISO 45001	Occupational health and safety management standard of the ISO that helps organizations to reduce the incidence of occupational injuries and diseases.
Local community	Community members who reside within a daily commutable distance of the industrial park. This can be within the same district/province as the industrial park or in an adjacent district/province.
OHSAS 18001	A British standard for occupational health and safety management systems. Compliance with it enables organizations to demonstrate that they have a system in place for occupational health and safety.
Public-private partnership	A cooperative arrangement between two or more public and private sector actors, typically long-term in nature.
Tenant company	A company that is a property owner or leaser in an industrial park/eco-industrial park

1. SETTING THE CONTEXT

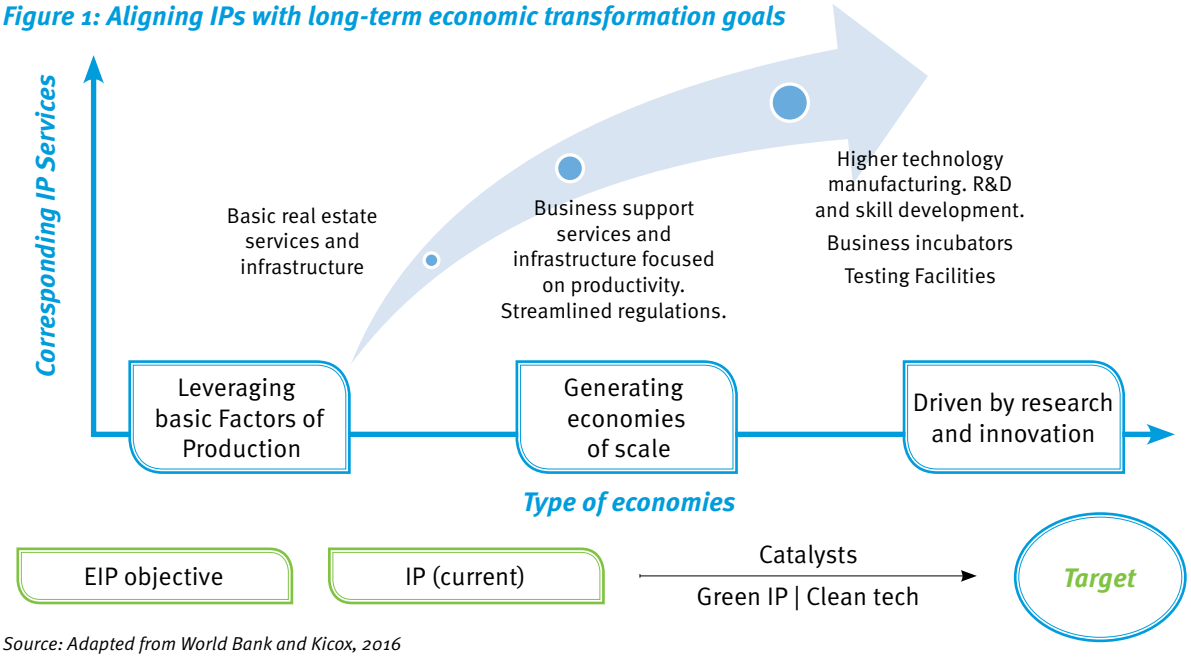
1.1. EVOLUTION OF INDUSTRIAL PARKS

Industrial parks (IPs)[1] are powerful tools to promote economic growth by attracting new businesses, triggering employment generation and creating a larger tax base. The parks provide a platform for interaction between local and international organizations, facilitating mutual knowledge-sharing and growth. They also act as hubs of innovation, research and development, promotion, transfer and commercialization of new technologies, while providing a platform for entrepreneurial development.

IPs can be an effective tool with which to enhance regional and national competitiveness through a strong institutional framework, modern business and utility services and planned physical infrastructure that may not be available to standalone industries in the rest of the region. Furthermore, given that the micro, small and medium-scale industries play a critical role in the industrial growth of developing countries, the aim of setting up an IP is also to provide scope for the growth of this category of industries. Over the years, IPs across countries have promoted innovative modes of business and competitiveness, thereby assisting small and medium-sized enterprises during their start-up and development phase.

As such, the initial development cycle of IPs focused on ensuring basic infrastructure and utilities for their tenant industries. However, as time has passed, there has been growing emphasis on moving these parks to an efficiency-driven state, which requires them to improve the quality of

Figure 1: Aligning IPs with long-term economic transformation goals



Source: Adapted from World Bank and Kicox, 2016

1 According to the "Europe and Central Asia Regional Conference on Industrial Parks" conference report published by UNIDO, an IP is *"a tract of land developed and subdivided into plots according to a comprehensive plan with or without built-up factories, sometimes with common facilities for the use of a group of industries"*.

service they provide within the IP and enhance their attractiveness for Foreign Direct Investment (FDI) (see Figure 1). Smart, resource-efficient technology integration can help to maximize this efficiency potential, while presenting an opportunity to improve the competitiveness of the IP itself.

1.2. EMERGENCE OF INDUSTRIAL PARKS OF THE FUTURE: TRANSFORMATION OF ZONE 1.0 TO ZONE 2.0 TO ZONE 3.0

IPs can be categorized into three different types of zones on the basis of the degree of integration in terms of facilities and services provided within the park (according to the World Bank Group, 2016[2]). IPs that can be categorized as Zone 1.0 focus on export promotion and attracting FDIs. Such parks also enjoy financial incentives and are typically funded by the Government. Authorities managing such parks work in silos, having little collaboration with other government bodies and, thus, limiting the development of policies that might enhance the park's efficiency.

Further integration of global and regional trade and manufacturing patterns due to globalization has led to the conceptualization of IPs referred to as comprising Zone 2.0. These parks offer a more integrated, multisectoral and multi-use industrial cluster, with a higher focus on connectivity linkages. Under this model, IPs are established in accordance with market demands and cater to both domestic and export markets. IP policies and regulations are more structured, with implementation of smart incentives and adherence to universal labour and environmental standards. As well as the Government, the private sector can also play a role in the development of Zone 2.0 through the public-private partnership (PPP) model.

Modern IPs defined under Zone 3.0 adopt a more coordinated and integrated approach. These parks discard the concept of cluster development in seclusion in favour of an integrated economic communities approach. The central idea towards the development of Zone 3.0 is the effort to connect disparate activities and bring about linkages that can create synergy and enhance efficiency. In this zone, IP operations comprise multiple components, such as infrastructure development, logistics, land use and urban planning, environmental and social protection, education, trade and investment. Each of these activities is regulated and implemented by different authorities.

The goal of IPs that come under the definition of Zone 3.0 is to attract investment, reduce costs, generate income and employment, reduce dependence on non-renewable energy sources, improve productivity, promote sustainable socio-economic national development and create linkages with global value chains, among other elements . Zone 3.0, in essence, takes on the role of integrating policies and markets and creates both hard and soft industrial infrastructure for the promotion of economic development.

The concept of Eco-industrial parks (EIPs) has evolved from Zone 3.0 and is further described in the following section.

2 http://documents.worldbank.org/curated/en/965391469043801584/pdf/107006-REVISED-PUBLIC-World-Bank-Mainstreaming-EIP-2016-Final.pdf

1.3. ECO-INDUSTRIAL PARKS

There is no universally inclusive definition for EIPs. The fundamental concept relates to the sustainable design, management and operation of IPs or zones through collaboration between industries to reduce collective resource intensity, improve productivity, minimize environmental impact and improve the well-being of workers, while enhancing the competitiveness of the industrial sector.

The potential benefits to be obtained from developing an EIP include commercial gains, but can also be strategic, leading to reduced exposure to risk, increased competitiveness, business development, production continuity and a better reputation with key stakeholders.

UNIDO's "Implementation Handbook for Eco-Industrial Parks" unequivocally emphasizes the role of EIPs in furthering a trio of objectives built around economic, social and environmental performance pillars, as noted below:

- Economic benefits – resulting in direct and indirect job creation, cost savings due to reductions in waste disposal, resource and energy consumption and increased competitiveness.
- Environmental benefits – these include reduced pollution levels, more efficient use of resources, preservation and protection of biodiversity/nature and reduction, reuse and recycling of waste material.
- Social benefits – these include local job creation, enhanced labour and working conditions, improvement of gender equity, crime reduction and better security. EIPs often involve the creation of social infrastructure such as vocational training centres, skill development training, as well as broader community services. These facilities help local youth to obtain jobs.

Industries observed to be operating in well-designed and well-managed EIPs were in a better position to take advantage of resource efficiency, upstream/downstream value addition and risk mitigation measures available within the park (UNIDO, 2017).

1.4. ECO-INDUSTRIAL PARKS VIET NAM

The manufacturing sector in Viet Nam grew at an average rate of 8.9 percent per year between the 2000 and 2017[3]. To meet the infrastructure needs for the development of industries, the Government of Viet Nam has established a number of IPs across the country.

In Decree 82/2018/ND-CP on "Management of Industrial Parks and Economic Zones", an IP is defined as follows – "Industrial park is an area that is enclosed by definite boundaries, specializes in production of industrial goods and provision of services satisfying the industrial production needs and is established in conformity with conditions, procedures and processes prescribed in this Decree. Industrial park is classified into different types such as export processing zone[4], auxiliary industrial area, eco-industrial park (hereinafter referred to as industrial park), unless each type is otherwise subject to particular regulations."

The first IP in Viet Nam was established in 1991, and there are now 326 IPs and Economic zones (EZs) established throughout the country, covering an area of 93 000 ha. The southeast region is home to 109 IPs (34 percent of the total), followed by the Red River Delta with 83 IPs (26 percent) and the southwest region with 52 IPs (16 percent). A total of 250 IPs and EZs have come into operation and 76 others are at different stages of construction. The nation now has 36 coastal IPs and non-tariff areas over an area of 16 100 ha. These IPs and EZs attracted over USD 8.3 billion in FDI inflows in the year 2018 alone. Of this total, USD 5.3 billion was invested in 560 new projects, while the remaining capital was invested in almost 500 existing projects (Nhân Dân, 2019)[5].

With the creation of EIPs, further investment can be attracted from investors looking for eco-friendly production units. EIP development can be seen as a measure to ensure the sustainable development of IPs in Viet Nam. Previously, however, no formal policies, regulations or guidelines were in place for the development of EIPs in Viet Nam. To bridge this gap, Decree no. 82/2018/ND-CP by the Government of Viet Nam spells out the general requirements, incentives and institutional framework for EIPs in the country. These guidelines for the development of EIPs in Viet Nam are designed to assist the implementation of EIPs in practice and supplement the new legal framework on IPs and EZs, which plans to introduce the new types of EZs, including EIPs.

This decree also describes the EIP as an IP in which enterprises become involved in cleaner production, make effective use of natural resources and enter into manufacturing cooperation and affiliation in order to tighten industrial symbiosis, thereby promoting economic, environmental and social efficiency in these enterprises.

The framework elucidated in the following section comprises the UNIDO implementation approach for the establishment of EIPs.

3 World Bank database – https://data.worldbank.org/indicator/NV.IND.MANF.CD

4 As per Decree 82, Export Processing Zone is defined as an IP specially intended for the manufacture of goods meant for export and rendering of services meeting the needs of production of goods meant for exports.

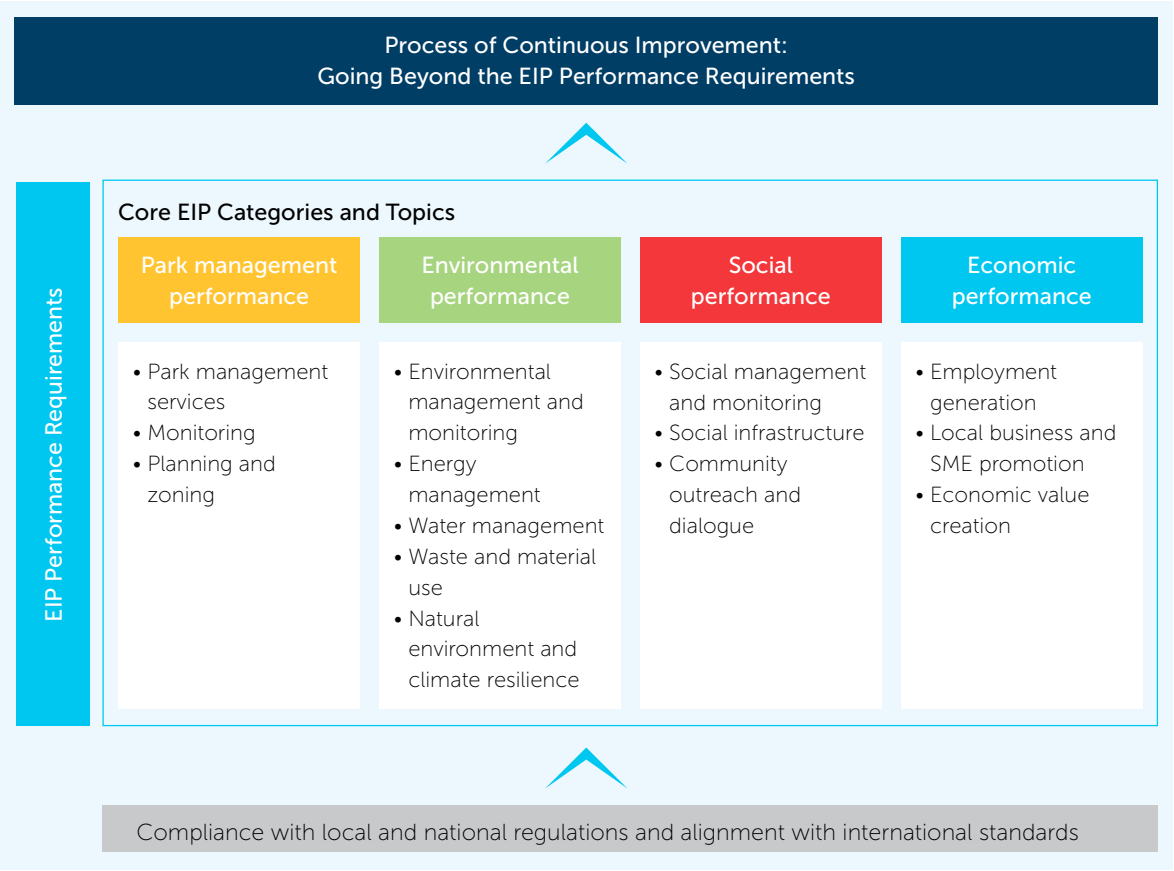
5 http://en.nhandan.org.vn/business/item/7076302-vietnam-attracts-us$8-3-billion-fdi-to-industrial-economic-zones.html

2. EIP RATING IN VIET NAM – SCORING METHODOLOGY AND PREQUALIFICATION

2.1. BACKGROUND

An EIP assessment framework assists stakeholders in taking investment decisions, adopting policies, providing incentives, promoting sustainable development, improving the performance of IPs, raising awareness, allocating funds and retrofitting existing IPs.

Figure 2: Overall framework for describing EIPs



Source: UNIDO, World Bank, GIZ, 2017.

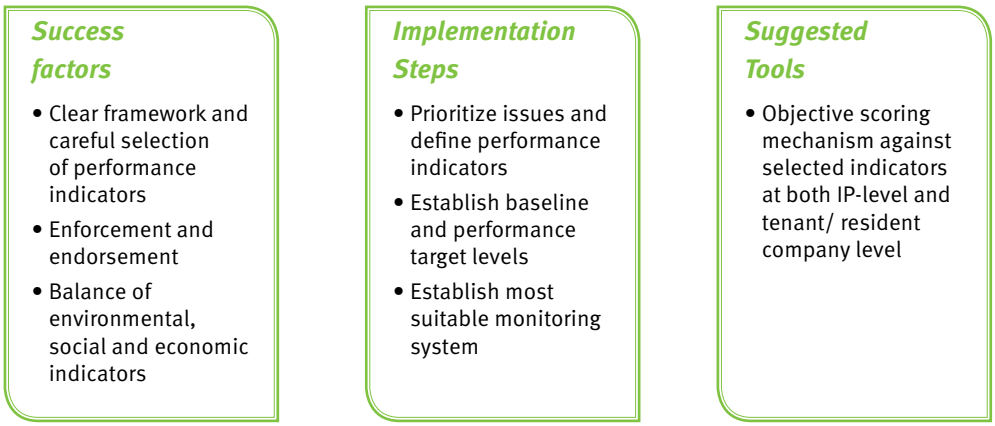
Taking cognizance of the importance of a robust EIP assessment framework, UNIDO, the World Bank Group (WBG) and the German Corporation for International Cooperation (GIZ) have developed an international framework for EIPs to provide a unique set of performance indicators for new and existing EIPs. The framework is the result of a number of years of research and technical assistance carried out by the three organizations and the wider international community in the field of promoting sustainable industrial development. Some of these references and citations, which have contributed to the formulation of standards and benchmarks directly and indirectly related to EIPs, are mentioned in the references section.

These references provided valuable insights, both at national and global levels. Figure 2 below presents the overall framework adopted by the three organizations mentioned above.

In this framework, EIP Performance Requirements track the progress of an IP against set objectives, as well as reporting on environmental, social and economic performance in a transparent and accountable manner. The performance requirements are defined in such a way that environmental, social and economic impacts go beyond the regulatory requirements.

Additionally, the 'Implementation Handbook for Eco-Industrial Park' developed by UNIDO (UNIDO, 2017) covers key requirements for implementing performance monitoring and benchmarking of EIPs. These requirements are highlighted in Figure 3 below, which indicates that careful selection of performance indicators is one of the key considerations for successful monitoring of EIP performance. Post selection of the indicators, defining each indicator and outlining an objective scoring mechanism for them is required to implement an EIP performance monitoring mechanism. This report lays out the social and economic performance indicators of EIPs in Viet Nam.

Figure 3: Mechanism to implement EIP performance monitoring and benchmarking



Source: UNIDO, 2017

2.2. METHODOLOGY TO DEVELOP EIP PERFORMANCE INDICATORS

For the purpose of developing the indicator framework for the social and economic performance of EIPs in Viet Nam, the methodology outlined below was adopted.

Step 1

The guiding philosophy for developing the socio-economic performance indicators of EIPs in Viet Nam is borrowed from the principles established in the joint UNIDO, World Bank Group and GIZ publication "An International Framework for Eco-Industrial Parks". The International Framework posits two categories of performance requirements for EIPs – (a) prerequisites and (b) performance indicators. It adds that, in order to be deemed an EIP, an IP must first be compliant with all relevant prerequisites. This principle was adopted during the design of the framework for measuring the social and economic performance of EIPs in Viet Nam.

In designing the prerequisites, the proposed socio-economic performance indicator framework for Viet Nam extends the "minimum requirement criteria" developed under the World Bank Group-funded study "National Technical Guidelines for Eco-Industrial Parks in Vietnam"[6]. A comprehensive minimum performance criteria set – comprising 11 economic, social and environmental prerequisites – has thus been arrived at.

In designing the performance indicators, the proposed socio-economic performance indicator framework for Viet Nam builds on the same tenets as those proposed in the International Framework, which systematically elaborates upon the social and economic performance requirements from EIPs that go beyond mere compliance with the relevant national and international regulations and guidelines. The International Framework recommends social performance measurement themes, such as Occupational Health & Safety (OHS), grievance management and community outreach, as well as economic performance measurement themes such as employment generation, economic value creation and SME promotion. The proposed social and economic performance indicators for EIPs in Viet Nam help to measure each of the themes identified above. In all, ten social and ten economic performance indicators have been identified.

In devising the methodology for measurement of the indicators, similar principles have been adopted to those under the World Bank Group-funded study "National Technical Guidelines for Eco-Industrial Parks in Vietnam". This will ensure that social, economic and environmental indicators are evaluated in a consistent fashion.

Step 2

During the development of the list of indicators, a detailed review was conducted on the relevant, existing and upcoming regulations, decrees and policies to understand the broader regulatory framework that would guide the different levels of compliance to which the park needs to adhere. The performance indicators were aligned keeping in mind the boundary conditions established by these decrees. Some of the decrees reviewed during the course of this exercise are as follows:

- Decree 56/2009/ND-CP prescribing definitions, policies and regulations pertaining to state assistance for the development of small and medium enterprises.

6 IFC, 2018. National Technical Guidelines for Eco-Industrial Parks in Vietnam (Mimeo)

- Decree 82/2018/ND-CP related to the management and development of IPs and Economic Zones.
- Decrees 149/2018/ND-CP, 157/2018/ND-CP dealing with content and forms of application of workplace, democracy at companies, individual hiring and minimum wages.
- Decrees 39/2016/ND-CP, 37/2016/ND-CP, 115/2015/ND-CP detailing implementation of regulations pertaining to the Law on occupational health, safety and hygiene, along with provisions for compulsory insurance for occupational accidents, diseases and other social security initiatives, such as maternity and retirement benefits.

In addition, international best practices and literature listed in the previous section related to frameworks for the development of EIPs across the world were studied and analysed. Inputs from these studies were evaluated from the perspective of their applicability in the local Viet Nam context. The international literature reviewed included, but was not limited to, the following:

- International case examples on EIP initiatives, with particular focus on examples in the Asia-Pacific region, including South Korea, Japan and China (8.08.0).
- A Practitioner's Handbook for Eco-Industrial Parks – Implementing the International EIP Framework and the Toolbox (jointly published by UNIDO, WBG, GIZ and the Ministry of Trade, Industry and Energy of South Korea, 2018 and 2019).
- Economic Zones in the ASEAN (UNIDO, 2015).
- The Implementation of Industrial Parks: Some Lessons learned in India (World Bank, 2014).

The concept of EIP is already being implemented in developing countries. International organizations such as UNIDO, World Bank Group and GIZ have been supporting governments and IP practitioners with tools and best practices for the development of EIPs. GIZ is providing technical cooperation on "Sustainable Industrial Areas" to a number of developing countries. Similarly, UNIDO has been promoting EIPs, green industry, resource efficiency and cleaner production through its projects and technical assistance programmes. The World Bank Group is lending for infrastructure development and providing technical assistance to promote a competitive private sector for driving EIPs and Low-Carbon Zones. These experiences were critically analysed to glean the social and economic performance perspectives of EIPs and thereby feed into the design of a relevant list of indicators.

The formation of indicators benefited from the field surveys conducted under this assignment. The suggestions and supporting information for the formation of suggested indicators are reported in the field work report on the three piloted IPs (UNIDO, 2019c, unpublished).

Step 3

The initial shortlist of indicators thus prepared was discussed in consultation with the subject matter experts, from the fields of industry and academia, during two workshops held on 1 and 5 March 2019. These workshops were attended by representatives from the Centre for Sustainable Urban Development (CENSUD), Institute of Sociology, Viet Nam Institute of Economics, Central Institute of Economic Management and the Institute of Regional Sustainable Development. The list of indicators also benefited substantially from comments and contributions made by the Ministry of Planning and Investment and by UNIDO experts. Inputs, suggestions and feedback obtained during these workshops on the practicality of implementing the shortlisted indicators were also incorporated, in order to further refine and finalize the performance indicators.

2.3. EIP SCORING METHODOLOGY USING ENVIRONMENTAL PERFORMANCE INDICATORS

Previous work carried out in Viet Nam by the International Finance Corporation (IFC) in 2018 provides a methodology for rating EIPs against a set of environmental indicators. According to this approach, a pre-qualification check is carried out on an IP and a set of criteria applied to arrive at the rating. The framework comprises a mix of company-level and IP indicators[7], which, through the application of a scoring methodology, serves to produce an EIP rating under three levels of performance: bronze, silver and gold.

A similar rating methodology has been adopted in this document to prepare an EIP performance rating mechanism against the social and economic aspects.

2.4. ASSESSMENT PERIOD

The rating given to an EIP is based on the score of indicators obtained in the final year of a three-year assessment period and would be valid for the subsequent three-year period. In order to monitor the social and economic performance of tenant/resident companies of an EIP, it is proposed that indicators be evaluated every year as compared to the progress made three years earlier. This means that the first year of the assessment period would serve as the baseline year against which performance in the fourth year would be compared, Similarly, the second year of the assessment period would serve as a baseline year for performance in the fifth year, and so on. The baseline year would thus change for every assessment year for evaluation of EIPs. This would be carried out to ensure that a practice of annual data collection and database maintenance is in place. However, the rating would be based on the scores obtained after three-year intervals. The baseline data for an IP would be based on the aggregation of data from participating industries in the IP, while the first three years of the evaluation period would be earmarked to prepare baseline data for comparison from the fourth year onwards.

2.5. PARTICIPATING COMPANIES

Participating companies are defined as the number of industries in the IP that provide complete data on all environmental indicators in the baseline year, as well as during the assessment period. The same concept will be extended and utilized, where appropriate, even when considering social and economic indicators.

7 For the company level indicators, data is collected from the participating companies and aggregated at the IP level by the EIP centers. For the IP level indicators, the data is collected from the IP developers.

2.6. INCORPORATING SOCIO-ECONOMIC CRITERIA IN PRE-QUALIFICATION BASED ON MINIMUM REQUIREMENTS

Before initiating assessment for an IP, it is recommended that a set of social and economic prerequisite indicators and performance requirements of IPs be developed. These indicators can be verified and measured in qualitative and/or quantitative terms. The prerequisites highlight the basic requirements for EIPs, while performance requirements provide indicators about the performance level that an EIP is expected to meet. The extensive insights provided in this report are leveraged towards the identification of prerequisites with respect to social and economic performance requirements for EIPs.

Table 1 below curates the pre-qualification criteria identified in the International EIP Framework into a comprehensive list.

Table 1: Updated pre-qualification criteria framework

No.	Minimum requirements/Pre-qualification criteria	Answer
1.	A market demand and feasibility study, supported by a business plan for specific IP infrastructure and service offerings, was undertaken to justify planning and implementation of the IP.	Yes/No
2.	The IP authority has put in place a definitive coordination framework for day-to-day management and consolidation of data around environmental, social and economic performance indicators (relating to investment, resource efficiency, value addition, employment, procurement, wages, etc.) of the IP.	Yes/No
3.	The IP has target-driven local/domestic employment generation plans in place to provide opportunities for long-term employment.	Yes/No
4.	Investors have developed the infrastructure of IPs and the enterprises within them strictly in compliance with the relevant laws on production and business, environmental protection, occupational health and safety (as promulgated by the Ministry of Health, the Ministry of Labour, Invalids and Social Affairs and other relevant agencies), social security norms and labour. Investors in IPs have applied production and environmental management systems according to the appropriate ISO standards (including Occupational Health and Safety Assessment Series (OHSAS) 18001)[9].	Yes/No
5.	Infrastructure development investors shall provide comprehensive basic services in the IP, including essential infrastructure (electricity, water, information, fire prevention and firefighting, etc.) and related services.	Yes/No

8 OHSAS 18001 is a British standard for occupational health and safety management systems. Compliance with it enables organizations to demonstrate that they have a system in place for occupational health and safety.

No.	Minimum requirements/Pre-qualification criteria	Answer
6.	At least 90 percent of enterprises in the IP are aware of the efficient use of natural resources and cleaner production, while at least 20 percent of enterprises in the IP apply the effective resource use and cleaner production method, innovation, improvement of management methods and production technology to reduce waste, pollutants, reuse waste and scrap.	Yes/No
7.	The IP sets aside a minimum of 25 percent of the land area for works of greenery, traffic and common infrastructure, according to the construction standards of the Ministry of Construction.	Yes/No
8.	The industrial zone has at least one operating industrial symbiosis network. An industrial symbiosis network may include any of the following: • Generation of steam or power in a common utility boiler/power plant and distribution of steam/power to multiple enterprises in the IP. • Reuse of waste/by-products/wastewater effluent generated in one or more enterprises by other enterprises in the IP. • Utilization of waste heat generated in one or more enterprises by other enterprises in the IP.	Yes/No
9.	Measures to ensure that housing and social, cultural and sports facilities for are available to labourers working in IPs.	Yes/No
10.	Investors developing the infrastructure of IPs and enterprises in industrial zones have the coordination mechanism to monitor the input and output of IPs on the use of energy, water, production material and management of toxic chemicals. Annual reports produced on the results achieved in the operation of resource efficiency and the monitoring of industrial emissions and reporting to the management board of IPs and EZs of the local province.	Yes/No
11.	On an annual basis, the developers of eco-industrial zone infrastructure publicize the report on environmental protection, social responsibility and contributions to communities around the IP to the management board of industrial zones and EZs of the local province and post it on the Web site of the business.	Yes/No

The IPs shall be required to meet all of the above minimum requirements (i.e. the answer to all the criteria should be “Yes”) in order to be qualified as an EIP. Once the minimum requirements are met, the IP may then be considered for further rating through the EIP assessment methodology, based on its socio-economic performance over a three-year assessment based on selected indicators.

The following chapters elaborate on the social and economic performance indicators for EIPs, along with their assessment methodology.

3. SOCIAL PERFORMANCE INDICATORS FOR EIPs IN VIET NAM

3.1. IP-LEVEL SOCIAL INDICATORS

At IP level, the following indicators are proposed.

Table 2: IP-level social indicators

#	Indicator	Unit
S1	Provision for social infrastructure	Number of provisions of each of the 10 types that the IP has (0 to 10)
S2	Annual maintenance of social infrastructure	Yes/No
S3	Provision for IP security	Yes/No

The details on scoring for each of the indicators listed above are explained below.

Indicator S1: Provision for social infrastructure

Relevance

The purpose of this indicator is to ascertain the suitability of social infrastructure provisions within an IP and to encourage IPs to set up more such assets to enhance the access to basic social services by workers. An effective EIP provides for social infrastructure covering a wide spectrum of categories, including recreation, sanitation, transportation, healthcare, access to financial services, childcare facilities etc. Every IP will be assessed on the basis of the presence of or third party contracts with local community partners to provide the following exhaustive types of social infrastructure, either within the IP or in close proximity:

i. Healthcare facilities/public health stations (including ambulances)
ii. Public toilets (gender-separated and for the specially-abled)
iii. Public drinking water fountains
iv. Banking services
v. Recreational facilities (gym, club-house, games facilities, cultural centres, etc.)
vi. Canteen
vii. Convenience stores
viii. Guesthouse
ix. Internal transportation infrastructure
x. Childcare facilities

Scoring methodology

An IP will be accorded one point for each type of social infrastructure noted above if (i) at least one asset of that type is already present within the IP and (ii) the available asset(s) is/are in operation and use. In order to obtain one point for the category "public toilets", the IP will therefore need to demonstrate the presence of at least one of each type of toilet by gender and disability that are currently fully functional and accessible. This would mean a maximum allocation of 10 points.

Based on the point allocated, the IP will then be awarded a score between 0 and 5 on this indicator as follows:

Score=0	Score=1	Score=3	Score=5
Points ≤ 2	3≤ Points <5	5≤ Points <8	Points ≥8

Practicality

This performance indicator can be measured by conducting surveys and reviewing records and agreements that the IP authority has with local community partners regarding development/renting of the facilities.

Scientific basis

This indicator ranks highly with regard to enabling a humane working environment for workers inside the IP. The provision of evaluating an IP on the basis of available social infrastructure has been kept in other similar handbooks on the implementation of EIPs. A noted example is “An International framework for Eco-Industrial Parks”.

Data source

Data for evaluating this performance indicator can be found through physical surveys and documentary evidence with IP authority.

Indicator S2: Annual maintenance of social infrastructure

Relevance

The purpose of this indicator is to ascertain the continued and regular efforts of the IP management authorities in ensuring maintenance and upkeep of social infrastructure assets within the IP or in close proximity (covered under a third party agreement), as reported under indicator S1. Each of the ten types of social infrastructure noted above requires regular maintenance to remain usable throughout its lifetime.

Scoring methodology

This will be treated as a binary question, where, in order to obtain the top score (of 5), the IP authority will need to demonstrate that annual maintenance has been carried out in all three years of the assessment cycle and for all of the reported social infrastructure assets. Failing this, the IP will be awarded a score of 0 on this indicator. The response of IP authorities will need to be substantiated by valid documentation that demonstrates the engagement of maintenance work contractors by the IP authorities/sub-contractors.

Practicality

IP authorities/third party contractors could be mandated to maintain maintenance logs and records with regard to the upkeep of the facility. These records can be reviewed by the evaluating authority. In addition, the evaluating authority can conduct surprise checks to ensure that social infrastructure is being properly maintained.

Scientific basis

This indicator has been selected to ensure that workers have access to well-maintained and usable facilities. The absence of a mechanism to keep a check on regular maintenance activities for social infrastructure could result in the creation of sub-standard infrastructure.

Data source

Records maintained by IP authorities and user feedback register.

Indicator S3: Provision for IP security

Relevance

The purpose of this indicator is to ascertain that the IP implements security systems and services that are fully operational. Examples include an adequate number of security guards, appropriate lighting systems in and around the park, closed-circuit television (CCTV) systems and a centralized security office.

Scoring methodology

This will be treated as a binary question, where, in order to obtain the top score (of 5), the IP authority will need to demonstrate that the security system has been maintained within the IP throughout the entire duration of the assessment cycle and a mechanism has been established to record and address security-related issues within 30 days of the incident. Failing this, the IP will be awarded a score of 0 on this indicator. The response of IP authorities will need to be substantiated by valid documentation that records breaches in security and the remedial measures undertaken. The IP authority would also need to maintain documentary evidence pertaining to the installation of security surveillance infrastructure and daily monitoring, as well as appointing security personnel.

Practicality

This performance indicator can be measured by conducting perimeter audits and a review of records kept with the IP authority. The evaluating authority can review the number of security lapses reported inside the IP and response time taken by the IP authority to address the issue.

Scientific basis

Security and crime in IPs are often issues of concern, in particular in developing countries. This indicator is a measure of the safety and sense of security prevalent inside the IP. Adequate security measures would enable companies to concentrate on their day-to-day business. The provision of evaluating an IP on the basis of available security systems has been kept in other similar handbooks on implementation of EIPs. A noted example is “An International framework for Eco-Industrial Parks”.

Data source

Data for evaluating this performance indicator can be found in the records of the IP authority, while physical surveys can be undertaken to further verify the information.

3.2. COMPANY-LEVEL SOCIAL INDICATORS

At company level, the following indicators are proposed.

Table 3: Company-level social indicators

#	Indicator	Nature of response
S4	Increase in annual spending towards local community engagement and annual dialogue	Percentage change over the assessment period
S5	Direct employment generated	Percentage change over the assessment period
S6	Direct local employment generated	Percentage change over the assessment period
S7	Capacity-building programmes	Percentage of total participating companies
S8	Gender diversity in employment	Percentage change over the assessment period
S9	Companies having formal grievance redressal mechanism	Percentage of total participating companies
S10	Companies having ISO 45001/ OHS 18001 certification	Percentage of total participating companies

The details on scoring for each of the indicators listed above are explained below.

Indicator S4: Increase in annual spending towards local community engagement and annual dialogue

Relevance

The International Framework for Eco-Industrial Parks notes that a number of international experiences show that the engagement of companies in community activities can lead to significant positive contributions to society. Similarly, ongoing dialogue can strengthen the trust and relationships between industries and local communities. The purpose of this indicator, therefore, is to ascertain the engagement of the local community (defined as the community within a daily commutable of the IP) by the tenant companies of an IP. Examples of community engagement initiatives include, but are not limited to:

- Conducting free medical camps for underprivileged sections of local communities
- Arranging for donations of food/medicine/clothing/other utilities to economically disadvantaged communities
- Conducting recreational events involving local community inhabitants
- Conducting community cleanliness drives
- Hosting educational sessions in factories
- Holding talks and obtaining feedback from local communities
- Contributing to the creation of community assets such as public toilets, green areas, etc.

The indicator will demonstrate the increased contribution of the participating companies of an IP in being socially more responsible and inclusive. Moreover, it will encourage participating firms to prepare a comprehensive community engagement strategy and conduct further initiatives towards community outreach and welfare.

Scoring methodology

In arriving at a scoring methodology for this indicator, the number of participating companies in the IP shall be utilized.

Calculation of the indicator at company level

Baseline Year Company Value (A) = Money spent towards community engagement initiatives in baseline year

The baseline year can be selected as the first year of monitoring the EIP indicators. All future year data can subsequently be calculated with reference to the first year data.

Current Year Company Value (B) = Money spent towards community engagement initiatives in current year

Calculation of the indicator at IP level

$$\text{Baseline Year IP Ratio (C)} = \frac{\text{Money spent towards community engagement initaitives by participating firms (A) and IP in baseline year}}{\text{Number of participating firms}}$$

$$\text{Current Year IP Ratio (D)} = \frac{\text{Money spent towards community engagement initaitives by partiicipating firms (B) and IP in current year}}{\text{Number of participating firms}}$$

Indicator calculation for EIP is:

$$\text{Increase in community engagement spending for EIP} = Y = \frac{D - C}{C} * 100$$

Based on the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
Y < 1%	1% ≤ Y < 4%	4% ≤ Y < 8%	8% ≤ Y

Practicality

Companies involved in such activities would be required to keep updated records related to the nature of community outreach activities undertaken and the amount of money spent on such activities. This information should be periodically submitted to IP authorities in a standard format issued by the IP authority to the tenant companies.

Scientific basis

This indicator would measure the flow of dialogue between the local communities and the companies operating within the IP. A strong dialogue is important between both parties as they would be perpetually interdependent for mutual growth and welfare. The companies have the potential to provide employment to local communities, who themselves can act as a source of cheap labour for the companies within the IP. The provision of evaluating an IP on the basis of local community outreach has been kept in other similar handbooks on the implementation of EIPs. A noted example is “An International framework for Eco-Industrial Parks”.

Data source

Data towards hosting community outreach events would need to be maintained by both the IP authority and tenant companies. Local government authorities should also maintain such a database.

Indicator S5: Direct employment generated

Relevance

The purpose of this indicator is to assess the employment generation potential of the participating companies. Employment shall include both full-time and contractually engaged people within the premises of the participating companies.

Scoring Methodology

Calculation of the indicator at company level

Baseline Year Company Value (A) = Number of people directly employed within the premises of the company in baseline year

The baseline year can be selected as the first year of monitoring the EIP indicators. All future year data can subsequently be calculated with reference to the first year data.

Current Year Company Value (B) = Number of people directly employed within the premises of the company in current year

Indicator calculation for company

$$\text{Increase in direct employment for company} = X = \frac{B - A}{A} * 100\%$$

Calculation of the indicator at IP level

$$\text{Baseline Year IP Ratio (C)} = \frac{\text{Sum of people directly employed within their premises by participating companies (A) and IP in baseline year}}{\text{Number of participating companies}}$$

$$\text{Current Year IP Ratio (D)} = \frac{\text{Sum of people directly employed within their premises by participating companies (B) and IP in current yrear}}{\text{Number of participatingcompanies}}$$

Indicator calculation for EIP

$$\text{Increase in Direct Employment for EIP} = Y = \frac{D - C}{C} * 100$$

Based on the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
Y < 1%	1% ≤ Y < 3%	5% ≤ Y < 8%	8% ≤ Y

Practicality

Companies would be required to keep updated records pertaining to employment figures, with a separate database for permanent and contractual employees. This information should be periodically submitted to IP authorities in a standard format issued by the IP authority to the tenant companies.

Scientific basis

Governments across the world are focusing on the development of industries and factories as a means of generating employment. This indicator reflects access to a range of livelihoods for people associated with the functioning of the companies. On the basis of their skill-set requirements, companies can bring in expats to work on their premises or could hire locally. Both courses of action result in the social and economic development of the local community, as expats would spend a part of their income locally in procuring items of daily necessity.

Data source

Data pertaining to employment generation can be availed from records maintained by the IP authority, as well as company records. In addition, the domestic government should possess an updated database in respect of annual employment generation.

Indicator S6: Direct local employment generated

Relevance

International examples suggest that industrial development can have a significant positive impact on improving local employment. This indicator, therefore, assesses the local employment generation potential of IPs in Viet Nam as the percentage increase of local direct employment over total employment. A local employee is defined as a person who is a permanent resident within a daily commutable distance of the EIP.

Scoring methodology

Calculation of the indicator at company level

$$\text{Baseline Year Company Ratio (A)} = \frac{\text{Local people directly employed within the premises of the company in baseline year}}{\text{Total people directly employed within the premises of the company in baseline year}}$$

The baseline year can be selected as the first year of monitoring the EIP indicators. All future year data can subsequently be calculated with reference to the first year data.

$$\text{Current Year Firm Ratio (B)} = \frac{\text{Local people directly employed within the premises of the firm in current year}}{\text{Total people directly employed within the premises of the firm in current year}}$$

Indicator calculation for company

$$\text{Increase in percentage of local direct employment for company} = X = (B - A) * 100\%$$

Calculation of the indicator at the IP level

$$\text{Baseline Year IP Ratio (C)} = \frac{\text{Sum of local people directly employed within their premises by participating companies and IP in baseline year}}{\text{Sum of people directly employed within their premises by participating companies and IP in baseline year}}$$

$$\text{Baseline Year IP Ratio (C)} = \frac{\text{Sum of local people directly employed within their premises by participating companies and IP in current year}}{\text{Sum of people directly employed within their premises by participating companies and IP in current year}}$$

Indicator calculation for EIP

$$\text{Increase in percentage of direct local employment ffoor EIP} = Y = (D - C) * 100\%$$

Based on the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
$Y < 0\%$	$0\% \leq Y < 2\%$	$2\% \leq Y < 5\%$	$5\% \leq Y$

Practicality

Companies would be required to keep updated records pertaining to local employment figures, with a separate database for permanent and contractual employees. This information should be periodically submitted to IP authorities in a standard format issued by the IP authority to the tenant companies.

Scientific basis

This indicator would assist in evaluating the social development induced in the immediate vicinity by establishing an IP. It would assist in rating parks according to their contribution to the social and economic well-being of a community living within a daily commutable distance.

The provision of evaluating an IP on the basis of employment generation has been kept in other similar handbooks on implementation of EIPs. A noted example is “An International framework for Eco-Industrial Parks”.

Data source

Data pertaining to local employment generation can be availed from records maintained by the IP authority and company records. In addition, the domestic government should possess an updated database in respect of annual employment generation.

Indicator S7: Capacity-building programmes

Relevance

International examples suggest that the development of employees' skills is crucial to ensuring that the employees can remain employable for a longer duration and thereby achieve career growth and self-development. The purpose of this indicator is to assess initiatives undertaken by the companies within an IP to provide training to their employees and safeguard their interests.

Scoring methodology

Calculation of the indicator at company level

Each participating company will be asked the following questions to assess the availability of a capacity-building programme:

- Do they have a formal training plan for different categories of employees in place?
- What is the objective of the training?
- What percentage of employees have availed the training facility?
- What is the benefit accrued to the employee?

A company will be considered to have a capacity-building programme in place if it can provide documentary evidence of having benefited at least 5 percent of its total employees in a year.

Calculation of indicator (proportion of companies) at IP level

$$\textit{Current Year IP Proportion (A)} = \frac{\textit{Number of participating companies having with a capacityty-building programme in place}}{\textit{Number of participating companies}}$$

Based on the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
A < 25%	25% ≤ A < 50%	50% ≤ A < 75%	75% ≤ A

Practicality

Companies would be required to keep updated records pertaining to training programmes undertaken, as well as to maintain a database of training hours logged by employees. This information should be periodically submitted to IP authorities in a standard format issued by the IP authority to the tenant companies.

Scientific basis

This indicator has been selected to ensure that companies in the IP provide an environment conducive to promoting the growth and development of employees.

This mechanism is in place across all major industrial hubs and work places to promote a healthy and happy working environment.

Data source

Data for this indicator can be obtained from the records maintained by the IP authority and from company records.

Indicator S8: Gender diversity in employment

Relevance

Increasing the proportion of women in the workforce indicates an inclusive approach towards job creation in the industrial sector. This indicator assesses the gender diversity of employment in IPs in Viet Nam as the percentage increase in the female workforce over the assessment period.

Scoring methodology

Calculation of the indicator at company level

$$\text{Baseline Year Firm Ratio (A)} = \frac{\text{Number of women directly employed within the premises of the company in baseline year}}{\text{Total people directly employed within the premises of the company in baseline year}}$$

The baseline year can be selected as the first year of monitoring the EIP indicators. All future year data can subsequently be calculated with reference to the first year data.

$$\text{Current Year Company Ratio (B)} = \frac{\text{Number of women directly employed within the premises of the company in current year}}{\text{Total people directly employed within the premises of the company in current year}}$$

Indicator calculation for company

$$\text{Increase in percentage of direct female employment for company} = (B - A) * 100\%$$

Calculation of the indicator at IP level

$$\text{Baseline Year IP Ratio (C)} = \frac{\text{Sum of women directly employed within their premises by participating companies and IP in baseline year}}{\text{Sum of people directly employed within their premises by participating companies and IP in baseline year}}$$

$$\text{Current Year IP Ratio (D)} = \frac{\text{Sum of women directly employed within their premises by participating companies and IP in current year}}{\text{Sum of people directly employed within their premises by participating companies and IP in current year}}$$

Indicator calculation for EIP

$$\text{Increase in percentage of female employment for EIP} = Y = (D - C) * 100\%$$

Based on the EIP indicator calculated above, a score will be awarded to the IP as follows:

Score=0	Score=1	Score=3	Score=5
$Y < 0\%$	$0\% \leq Y < 2\%$	$2\% \leq Y < 4\%$	$4\% \leq Y$

Practicality

Companies would be required to keep updated records pertaining to gender-wise employment figures, with a separate database for permanent and contractual employees. This information should be periodically submitted to IP authorities in a standard format issued by the IP authority to the tenant companies.

Scientific basis

Gender equality is a fundamental right. While the world has achieved progress towards gender equality, women continue to suffer discrimination and violence. This indicator would assist in evaluating IPs on the basis of the creation of equal employment opportunities.
Gender diversity in employment is also one of the 17 Sustainable Development Goals to be achieved by the year 2030, as outlined by the United Nations General Assembly in 2015.
This indicator is already in use across different industries around the world as a measure of encouraging inclusion and diversity in the workplace.

Data source

Data pertaining to gender diversity in employment can be availed from records maintained by the IP authority and from company records. In addition, the domestic government should possess an updated database in respect of the female workforce employed inside the IP.

Indicator S9: Companies having formal grievance redressal mechanism

Relevance

The presence of a grievance address mechanism helps companies in an IP to build an inclusive and continually improving work environment for its workforce. This indicator assesses the availability and implementation of a framework that allows for effective grievance management.

Scoring methodology

Every participating company in the IP will be asked the following questions to assess the availability of an effective grievance management system:

- Has the company put in place a formal mechanism for soliciting complains/grievances from its employees?
- How many grievances has the company received over the last year and how many of them have been addressed to the complainant's satisfaction?
- How does the company intend to improve and streamline their grievance management system going forward?

Calculation of the indicator at company level

A company will be considered to have implemented a grievance management system if it is able to provide documentary evidence of implementing a grievance redressal mechanism addressing the above questions. The answers will need to be in the form of a self-declaration.

If the company is unable to substantiate the above questions through documentary evidence, it will be deemed that the company has no grievance redressal mechanism in place.

Calculation of indicator (proportion of companies) at IP level

$$\textit{Current Year IP Proportion (A)} = \frac{\textit{Number o.of all companies declaring that they have a formal grievance addressal system}}{\textit{Number of participating companies}}$$

Based on the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
A < 25%	25% ≤ A < 50%	50% ≤ A < 75%	75% ≤ A

Practicality

Companies would be required to have a well-defined grievance redressal policy that is displayed prominently within their premises with unrestricted viewing. Each company should maintain records of grievances raised by employees and action taken to address them, along with a log of the time taken to resolve the issue. This information should be periodically submitted to IP authorities in a standard format issued by the IP authority to the tenant companies.

These reports and disclosures should be further verified by surprise audits conducted by the evaluating authority.

Scientific basis

This indicator has been selected to ensure that companies in the IP listen to concerns raised by their employees and strive to resolve them. This would create a healthy ecosystem, ensuring the well-being of employees. This mechanism is in place across all major industrial hubs and workplaces to promote a healthy and happy working environment.

Data source

Data for this indicator can be obtained from the records maintained by IP authority and from company records.

Indicator S10: Companies having ISO 45001/OHS 18001 certification

Relevance

The ISO 45001:2018 or OHSAS 18001:2007 on Occupational Health and Safety Management Certification are internationally agreed standards that provide a framework to identify, control and decrease the risks associated with health and safety within the workplace. ISO 45001/OHSAS 18001 certification allows companies in an IP to demonstrate their efforts towards the systematic health and safety management of their employees.

Scoring methodology

Every participating company will be asked the following questions to assess the availability of an effective grievance management system:

- Do they have an ISO 45001 or OHSAS 18001 certification?
- When did the company obtain the certification?
- Until when is the certification valid?

A company will be considered to have the certification if it is able to answer the above questions satisfactorily. The answers will need to be accompanied by a copy of the certificate and the outcomes of the mandatory and periodic audits.

Calculation of indicator (proportion of companies) at IP level

$$\textit{Current Year IP Proportion (A)} = \frac{\textit{Number o.of participating companies having ISO 45001 or OHSAS 18001 certification}}{\textit{Number of participating companies}}$$

Based on the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
A < 25%	25% ≤ A < 50%	50% ≤ A < 75%	75% ≤ A

Practicality

This can be measured on the basis of documentary evidence and certifications produced by the companies. Companies should also be mandated to submit valid certificates to the IP authority.

Scientific basis

A major focus of social development induced by industrialization is to ensure that employees are provided with a healthy and safe working environment.

A number of international organizations, including the International Labour Organization (ILO), International Organization for Standardization (ISO) and World Health Organization (WHO), are actively involved in ensuring the safety and well-being of employees at work place.

ISO and occupational health and safety certifications are internationally recognized documentary proof certifying the adherence of companies to international safety standards in workplaces.

Data source

Data for this indicator can be obtained from the records maintained by the IP authority and from company records.

4. ECONOMIC PERFORMANCE INDICATORS FOR EIPs IN VIET NAM

4.1. IP-LEVEL ECONOMIC INDICATORS

At IP level, the following indicators are proposed.

Table 4: IP-level economic indicators

#	Indicator	Unit
EC1	Industry value added per hectare	Percentage increase over the assessment period
EC2	Gross capital investment mobilized (industries + infrastructure) per hectare	Percentage increase over the assessment period
EC3	Investments on eco-industrial initiatives per hectare	Percentage increase over the assessment period
EC4	Share of small and medium-sized enterprises (SMEs) among tenant companies	Percentage of micro, small and medium-sized enterprises (MSMEs)
EC5	Support companies in value chain linkages	Yes/No
EC6	Occupancy factor	Percentage of plots occupied
EC7	Contribution to state revenue per hectare	Percentage increase over the assessment period

Indicator EC1: Industry value added per hectare

Relevance

The development of an EIP, along with its industrial infrastructure and services, provides an opportunity for value creation, both locally and regionally. The pre-qualification criteria require that the park conduct a systematic demand and feasibility study before developing towards an EIP. A viable IP should therefore have a mechanism for increasing value creation over time by selecting and attracting the right mix of industrial investments from domestic and international investors. This indicator assesses the value creation performance of an IP over the assessment period.

The objective would be to increase the value creation per unit area of the IP over the assessment period. It is anticipated that this value creation indicator will show positive growth as (i) the occupancy of the IP increases and (ii) each participating company achieves economies of scale over time.

Scoring methodology

Industry value added (IVA) can be estimated by adding up the monetary value of salaries paid, profit before tax and depreciation. The data used for calculating IVA will be as per the audited financial statements of the company/IP developer.

Calculation of the indicator at IP level

$$\text{Baseline Year IP Ratio (A)} = \frac{\text{Sum of IVA of all participating companies within the IP in baseline year}}{\text{Total area of the IP in hectares}}$$

$$\text{Current Year IP Ratio (B)} = \frac{\text{Sum of IVA of all participating companies within the IP in current year}}{\text{Total area of the IP in hectares}}$$

Indicator calculation for EIP is:

$$\text{Indicator EIP} = X = \frac{B - A}{A} * 100$$

On the basis of the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
X < 0%	0% ≤ X < 2%	2% ≤ X < 5%	X≥ 5%

Practicality

Companies would be required to submit IVA figures to the IP authority on an annual basis. The IP authority would maintain an IVA/hectare database.

An independent auditor should further validate and certify IVA/hectare figures. The IP authority could also be mandated to share the figures with the relevant government departments.

Scientific basis

This indicator is used as a parameter to measure the contribution of industries to the overall GDP figures of a country. Governments across the world use this indicator as a measure of economic development.

Data source

Data pertaining to IVA per hectare can be obtained from records maintained by IP authority. In addition, the domestic government should possess an updated database pertaining to IVA per hectare.

Indicator EC2: Gross capital investment mobilized (industries + infrastructure) per hectare

Relevance

One of the key attributes of the development of EIPs is that they help to mobilize and concentrate investments in industrial infrastructure within a defined geographical boundary. This indicator, therefore, assesses the investments in an IP over the assessment period.

The objective would be to increase gross capital investments per unit area of the EIP over the assessment period. It is anticipated that this indicator will show positive growth as (i) the occupancy of the EIP increases and (ii) both green and non-green common infrastructure are constructed within the EIP to make it more attractive and business-ready for sustainable industrial investments.

Scoring methodology

Gross capital investments shall include investments made towards developing physical infrastructure, including civil constructions, machinery and land improvements, minus any disposal of physical assets within the IP during the relevant year. The data used for calculating gross capital investments will be as per the audited financial statements of the company/IP developer.

Calculation of the indicator at the IP level

$$\text{Baseline Year IP Ratio (A)} = \frac{\text{Sum of gross capital investments of all participating companies within the IP and the IP developer in the baseline year}}{\text{Total area of the IP in hectares}}$$

$$\text{Current Year IP Ratio (B)} = \frac{\text{Sum of gross capital investments of all participating companies within the IP and IP developer in the current year}}{\text{Total area of the IP in hectares}}$$

Indicator calculation for EIP is:

$$\text{Indicator EIP} = X = \frac{B - A}{A} * 100\%$$

Based on the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
X < 0%	0% ≤ X < 5%	5% ≤ X < 10%	X ≥ 10%

Practicality

The IP authority is expected to maintain a database containing details regarding per hectare capital investment figures attracted within the IP. This database should be regularly updated.

Scientific basis

This indicator is used as a parameter to evaluate the success of the IP in attracting investors and manufacturers. It is also an indication that the park is aligned with the market requirements.

Globally, industrial hubs publish figures related to capital investment attracted by them as one of the measures of their success.

Data source

Data pertaining to investment per hectare can be obtained from records maintained by IP authority. In addition, the domestic government should possess an updated database pertaining to investment per hectare.

Indicator EC3: Investments on eco-industrial initiatives per hectare

Relevance

This indicator captures the investment made by the IP developer towards setting up physical infrastructure, information systems and other related technical measures in improving the environmental performance of the park towards an EIP. Qualifying investments towards eco-industrial initiatives within the EIP include, but are not limited to, the following:

- Setting up of a waste collection, disposal and recycling system
- Central utilities and infrastructure for steam and/or power generation, which serve multiple industries in the IP
- Information sharing and exchanging system among enterprises, which provides information on waste/by-products produced by enterprises and promotes industrial symbiosis and circularity
- Information system for the promotion of environmental protection, natural resources and energy saving activities in the IP
- Reuse/recycling of treated effluent from the Common Effluent Treatment Plant (CETP) for street cleaning, watering of green areas or other purposes
- Technical measures to save electricity for lighting within public areas of IP (energy efficient or solar-powered street lighting)

Scoring methodology

Calculation of the indicator at IP level

$$\text{Baseline Year IP Ratio (A)} = \frac{\text{Sum of investments by IP developer towards qualifying eco i industrial initiatves in baseline year}}{\text{Total area of the IP in hectares}}$$

$$\text{Current Year IP Ratio (B)} = \frac{\text{(Sum of investments by IP developer towards qualifying @eco industrial initiatves in current year)}}{\text{Total area of the IP in hectares}}$$

Indicator calculation for EIP

$$\text{Indicator EIP} = X = \frac{B - A}{A} * 100\%$$

Based on the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
X < 0%	0% ≤ X < 2%	2% ≤ X < 5%	5% ≤ X

Practicality

The IP authority would need to maintain a database containing details of investment made on eco-industrial initiatives within the IP. The database should have a provision to record investment figures pertaining to each eco-industrial initiative. This database should be regularly updated and shared with the relevant government department.

Scientific basis

This indicator would highlight the efforts undertaken by the IP authority in reducing the IP's carbon footprint. It would also serve as a benchmark figure for other IPs being developed.

Handbooks on the implementation of EIPs also speak of promoting eco-industrial initiatives within IPs in order to enable an IP's transition towards an EIP. A noted example is "An International framework for Eco-Industrial Parks".

Data source

Data pertaining to investments on eco-industrial initiatives per hectare can be obtained from records maintained by the IP authority.

Indicator EC4: Share of SMEs among tenant companies

Relevance

IPs offer an environment conducive to the growth of SMEs by enabling them to access common facilities and promoting synergies and efficiency gains across companies. This indicator assesses the share of SMEs among the total number of companies in the EIP. With improved availability of EIP infrastructure, a greater number of SMEs will be encouraged to establish operations within the IP.

Scoring methodology

A company is considered to be a SME as per Decree 56/2009/ND-CP, which states that SMEs are business establishments that have registered their business according to law and are divided into three levels – very small, small and medium – according to the size of their total capital (equivalent to the total assets identified in an enterprise's accounting balance sheet) or the average annual number of labourers (total capital is the priority criterion).

Calculation of indicator (proportion of companies) in the IP

$$\textit{Current Year IP Ratio (A)} = \frac{\textit{Number of companies in the IP that are SMEs} * 100}{\textit{Number of participating companies}}$$

On the basis of the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
A < 5%	5% ≤ A < 35%	35% ≤ A < 60%	A ≥ 60%

Practicality

The IP authority would need to maintain a database containing details of each tenant company operating within the IP and segregate them on the basis of their size and scale. This database should be regularly updated and shared with the relevant government department.

Physical surveys can also be undertaken to further verify the accuracy of the database maintained by IP.

Scientific basis

SMEs are major employment generators in developing countries. An EIP provides opportunities for the establishment of SMEs within the park that can provide services and add value to larger industries operating in proximity.

Handbooks on the implementation of EIPs acknowledge the importance of supporting SMEs within the IPs for generating employment and economic growth.

Data source

Data pertaining to the ratio of SMEs within the IP can be obtained from records maintained by the IP authority.

Indicator EC5: Support companies in value chain linkages

Relevance

IPs offer a unique opportunity to consolidate business actions across their tenant companies and thereby realize economies of scale and greater bargaining power in business transactions. The purpose of this indicator is to assess the contribution of IP management authorities in supporting the tenant companies in achieving the above business efficiencies through different business facilitation exercises, such as the following:

- Joint purchases/procurement of input materials
- Identification of and access to best-in-class global and local technologies/practices
- Promotion of products to new markets
- Facilitation of export

Scoring methodology

The IP authority will need to demonstrate the initiatives that they have taken annually to offer business facilitation services to their tenant companies. Typical questions that may be asked are as follows:

- Has the IP taken measures to consolidate business transactions of multiple tenant companies?
- Has the IP helped its tenant companies to identify new markets?
- Has the IP conducted any dissemination exercises on new technologies, business trends, etc.?

If an IP has not taken any of the aforementioned initiatives, the IP will be awarded a score of 0 on this indicator. The response of IP authorities will need to be supported by valid documentation (e.g. minutes of meetings) that demonstrates the engagement of maintenance work contractors.

Practicality

The IP authority would need to maintain documentary evidence in the form of memoranda of understanding/agreements signed by participating firms. These documents could be signed on an annual/half-yearly basis and would need to be renewed upon expiry.

Scientific basis

Strategic IP interventions can improve park and firm-level competitiveness when they are included in the IP's operational procedures. Generating value for tenant companies through creating economies of scale while purchasing/selling goods outside the park can be one such intervention. This would further incentivize investors to set up manufacturing units within the IP.

This has been an observed strategy among EIPs across the world, which are adopting best procurement practices to benefit from the joint purchase of goods and services.

Data source

Data pertaining to support extended by the IP can be obtained from records maintained by the IP authority.

Indicator EC6: Occupancy factor

Relevance

The effective IPs are "investment-ready" platforms that offer lower economic risks and better investment opportunities to companies. With the availability of essential infrastructure services, including access to water, energy, roads, service corridors, etc., IPs attract increasing investment interests, which in turn is demonstrated in the form of higher occupancy rates.

Scoring methodology

Calculation of occupancy factor at IP level

$$\text{Current Year IP Ratio (A)} = \frac{\text{Number of occupied plots of land within the IP}}{\text{Total number of plots (occupied+vacant) in the IP}}$$

Based on the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
A < 20%	20% ≤ A < 50%	50% ≤ A < 75%	75% ≤ A

Practicality

This indicator can be verified through physical surveys of the IP. Moreover, the IP authority would be required to maintain updated records of plots within the IP along with occupancy details.

Scientific basis

This indicator is relevant from the point of view that higher occupancy rates provide easily verifiable evidence regarding the attractiveness of investment within the IP. Moreover, during the master planning stage of the IP, plots are segregated on the basis of industrial, commercial, utility, common use facilities etc.

Hence, an indicator to verify the quantum of occupancy would further strengthen the IP's case to be further developed as an EIP. Since the IP has already proved its merit in terms of attracting investments, it would also justify extending such IPs by procuring more adjacent land (if available).

Consideration could be given to the example of IPs being developed in Bangladesh, where the Government is developing 100 EZs/IPs. Once these IPs become operational, the occupancy factor could be taken as one of the parameters for selecting which IP could be further developed as an EIP, since the IPs in Bangladesh already factor in provision for common facilities, utility, green spaces etc. before earmarking industrial plots.

Data source

Data pertaining to occupancy factor within the IP can be obtained from records maintained by the IP authority.

Indicator EC7: Contribution to state revenue per hectare

Relevance

The development of an EIP, along with its industrial infrastructure and services, also provides an opportunity for contribution towards the development of the country. The pre-qualification criteria require that the Government fix annual targets for the IP in terms of tax revenue generation before developing towards an EIP. A viable IP should thus have a mechanism for providing incremental tax revenue to the Government over time by supporting the growth of profits generated by tenant companies. This indicator assesses the contribution to state revenue by an IP over the assessment period.

The objective would be to contribute to state revenue per unit area of the IP over the assessment period. It is anticipated that this indicator will show positive growth as (i) the revenues of tenant companies increase and (ii) each participating company achieves economies of scale over time.

Scoring methodology

Contribution to state revenue can be calculated as the monetary value of the amount paid to the Government, which could be a percentage of the gross revenue generated by tenant companies. The data used for calculating contribution to state revenue will be as per the audited financial statements of the company/IP developer.

Calculation of the indicator at IP level

$$\textit{Baseline Year IP Ratio (A)} = \frac{\textit{Sum of contribution made by all participating companies within the IP in baseline year}}{\textit{Total area of the IP in hectares}}$$

$$\textit{Current Year IP Ratio (B)} = \frac{\textit{Sum of contribution made by all participating companies within the IP in current year}}{\textit{Total area of the IP in hectares}}$$

Indicator calculation for EIP is:

$$\textit{Indicator EIP} = X = \frac{B - A}{A} * 100\%$$

On the basis of the EIP indicator calculated above, a score will be awarded to the IP as per the following methodology:

Score=0	Score=1	Score=3	Score=5
X < 0%	0% ≤ X < 2%	2% ≤ X < 5%	X≥ 5%

Practicality

Companies would be required to submit figures pertaining to the contribution made to the Government by the IP authority on an annual basis. The IP authority would maintain contribution per hectare database.

An independent auditor should further validate and certify contribution per hectare figures. The IP authority could also be mandated to share the figures with the relevant government departments.

Scientific basis

This indicator is used as a parameter to measure the contribution made towards boosting the revenue for the Government. This contribution can be used by the Government to undertake further economic development activities within the region/country.

The consistent source of revenue would also incentivize the Government to provide state support to the IP to ensure continuous development.

Handbooks on the implementation of EIPs consider as one of the prerequisites the need for the EIP to meet the economic interests of the Government (UNIDO, World Bank, GIZ, 2017).

Data source

Data pertaining to IVA per hectare can be obtained from records maintained by the IP authority. In addition, the domestic Government should possess an updated database pertaining to IVA per hectare.

4.2. COMPANY-LEVEL ECONOMIC INDICATORS

At company level, the following indicators are proposed.

Table 5: Company-level economic indicators

#	Indicator	Unit
EC8	Share of export revenue	Percentage of total revenue
EC9	Share of local procurement in the IP	Percentage of total companies
EC10	Long-term employment contracts	Percentage of total companies employing more than 40 percent of employees under permanent contracts

Indicator EC8: Share of export revenue

Relevance

Exposure to both domestic and export markets fosters business diversification, contributing to hedging the risks for producers due to market fluctuations. This indicator is a measure of the extent of export diversification of IP companies.

Scoring methodology

Total revenues and revenues from export markets of participating companies need to be based on audited financial reports.

Calculation of the indicator at company-level

$$\text{Current Year Company Indicator (A)} = \frac{\text{Revenues of the company coming from exports in the current year}}{\text{Total revenues of the company in the current year}}$$

Calculation of the indicator at IP level

$$\text{Current Year IP Indicator (X)} = \frac{\text{Sum of revenues of all participating companies in the IP coming from exports in the current year}}{\text{Sum of total revenues of all participating companies in the IP in the current year}}$$

On the basis of the IP indicator calculated above, a score will be awarded to the IP as follows:

Score=0	Score=1	Score=3	Score=5
X < 5%	5% ≤ X < 10%	10% ≤ X < 20%	X ≥ 20%

Practicality

Companies would be required to keep updated records pertaining to annual revenue figures and the percentage of revenue earned through exports. This information should be periodically submitted to IP authorities in a standard format issued by the IP authority to the tenant companies.

IP authorities would also be required to maintain a consolidated database containing the percentage of revenue figures earned from exports.

Scientific basis

This indicator would assist in evaluating the amount of foreign exchange being earned by the IP. IPs engaged in exports serve to generate revenue for the host country/region, thereby fostering economic growth.

Governments across the world attempt to boost the export potential of their domestic industries in order to generate employment and foster economic growth.

Data source

Data pertaining to the percentage of export revenue can be availed from records maintained by the IP authority and company records. In addition, the domestic Government should possess an updated database in respect of the percentage of export revenue generated.

Indicator EC9: Share of local procurement in IP

Relevance

EIPs help to boost the domestic economy by providing employment, as well as by creating value along the value chain through procurement. This indicator assesses the share of companies (including the IP management authority) in the IP complying with a minimum level of domestic procurement.

Scoring methodology

In order to calculate this indicator, each participating company will be required to report whether they procure at least 50 percent of the value of their inputs (raw materials, plant and machinery, etc.) from domestic suppliers or service providers. These reports will need to be supported by audited financial statements. The answer for each company will be binary (yes or no).

Calculation of the indicator at IP level

$$\textit{Current Year IP Indicator (A)} = \frac{\textit{Number of participating companies with at least 50\% value of procurement from domestic sources in the current year}}{\textit{Total number of participating companies}}$$

On the basis of the EIP indicator calculated above, a score will be awarded to the IP as follows:

Score=0	Score=1	Score=3	Score=5
A < 20%	20% ≤ A < 50%	50% ≤ A < 75%	A ≥ 75%

Practicality

Companies would share regular reports with the IP authority about the source of their procurement and value of purchase. The IP authority would be required to maintain a consolidated database of all procurement reports of all tenant companies.

Scientific basis

IPs are intended to provide strong economic benefits through promotion of linkages with domestic businesses in the form of suppliers to tenant companies. This indicator would assist in evaluating the domestic economic development induced by the establishment of an IP.

The provision for evaluating an IP on the basis of local procurement has been kept in other similar handbooks on implementation of EIPs. A noted example is “An International framework for Eco-Industrial Parks”.

Data source

Data pertaining to the value of domestic procurement can be availed from records maintained by the IP authority and company records.

Indicator EC10: Long-term employment contracts

Relevance

EIPs help to boost the domestic economy by providing employment in an organized and sustainable fashion, providing financial stability to employees working within the IP. Employees experience greater economic security when they are employed by companies under permanent contracts, as compared to employment on a contractual basis. This is because domestic labour laws often mandate companies to provide added benefits in terms of insurance, gratuity, provident fund etc. to employees under permanent contracts.

This indicator assesses the share of companies (including the IP management authority) in the IP that employ more than 40 percent of employees under permanent contracts.

Scoring methodology

In order to calculate this indicator, each participating company will be required to report whether they employ at least 40 percent of their employees under permanent contracts. The answer for each company will be binary (yes or no).

Calculation of the indicator at IP level

$$\textit{Current Year IP Indicator (A)} = \frac{\textit{Number of participating companies with at least 40\% of their employees under permanent contract in the current year}}{\textit{Number of participating companies}}$$

On the basis of the EIP indicator calculated above, a score will be awarded to the IP as follows:

Score=0	Score=1	Score=3	Score=5
A < 15%	15% ≤ A < 25%	25% ≤ A < 50%	A ≥ 50%

Practicality

Companies would be required to keep updated records pertaining to employee figures, with a separate database for permanent and contractual employees. This information should be periodically submitted to IP authorities in a standard format issued by the IP authority to the tenant companies.

Scientific basis

This indicator would assist in evaluating the economic security induced among employees by the establishment of an IP.

The provision of evaluating an IP on the basis of permanent employment generation has been kept in other similar handbooks on the implementation of EIPs. A noted example is “An International framework for Eco-Industrial Parks”.

Data source

Data pertaining to long term employment contracts can be accessed from records maintained by the IP authority and company records.

5. FINAL SCORING FOR EIPs IN VIET NAM

The development of an EIP requires that, beyond efficient park management, equal importance be accorded to the environmental, social and economic performance of an IP.

In order to ensure consistency with the scoring mechanism adopted in the report entitled "National Technical Guidelines for Eco-Industrial Parks in Vietnam" (IFC, 2018), it is recommended that the maximum score obtained for social and economic performance indicators – currently 50 each – be increased to 100.

This would ensure that equal weight was given to environmental, social and economic performance indicators during the evaluation of EIPs. Once the scores have been provided against each of the social and economic indicators, it is recommended that the score against each social and economic performance indicator be multiplied by a factor of two, thus resulting in a scoring framework wherein all three performance indicators – environmental, social and economic – are rated against a total score of 100.

The final rating for an IP's performance on social and economic development is derived from the total score, as follows.

Table 6: EIP rating criteria for social performance

Rating	Criteria
No rating or disqualification	Total score < 40 OR Total score of company level indicators < 20 OR Total score of IP-level indicators < 20
Bronze	Total score ≥40 and <60
Silver	Total score ≥60 and <80
Gold	Total score ≥80

Table 7: EIP rating criteria for economic performance

Rating	Criteria
No rating or disqualification	Total score < 40 OR Total score of company level indicators < 20 OR Total score of IP-level indicators < 20
Bronze	Total score ≥40 and <60
Silver	Total score ≥60 and <80
Gold	Total score ≥80

6. MONITORING AND REPORTING

All participating IP authorities shall monitor the indicators and regularly share data pertaining to each indicator with a national/subnational-level supervising agency/body. A standard template could be prepared and provided to each IP authority in order to standardize the reporting process. Additionally, IP authorities would also be required to submit a road map as to how they intend to improve the social and economic performance of their respective IPs over the next assessment period.

The agency/body would be responsible for conducting physical surveys, surprise audits and stakeholder interviews to verify the authenticity of the data shared. Authorities in this agency/body would aggregate the data received from different IPs and prepare a comparative framework to rate the IPs on the basis of their performance. A database could be created for the purpose of storing the annual IP data and could be published in the public domain to improve transparency and aid investment decision. This would make a provision for storing and archiving the data in electronic format for future reference.

7. WAY AHEAD

The concept and practice of EIPs offer an important and integrated approach to driving and scaling up efforts by private and public sectors for inclusive and sustainable industrial development.

The social and economic performance indicators highlighted in this report can be leveraged by IP authorities in Viet Nam to form an understanding of the baseline performance requirements of EIPs, identify improvement opportunities and monitor the operational performance of their respective IPs.

It should be noted that the development of EIPs is a continuously evolving process and, as a result, the indicators for measuring the performance of EIPs cannot be static and would require revision after every two evaluation cycles – a period of six years.

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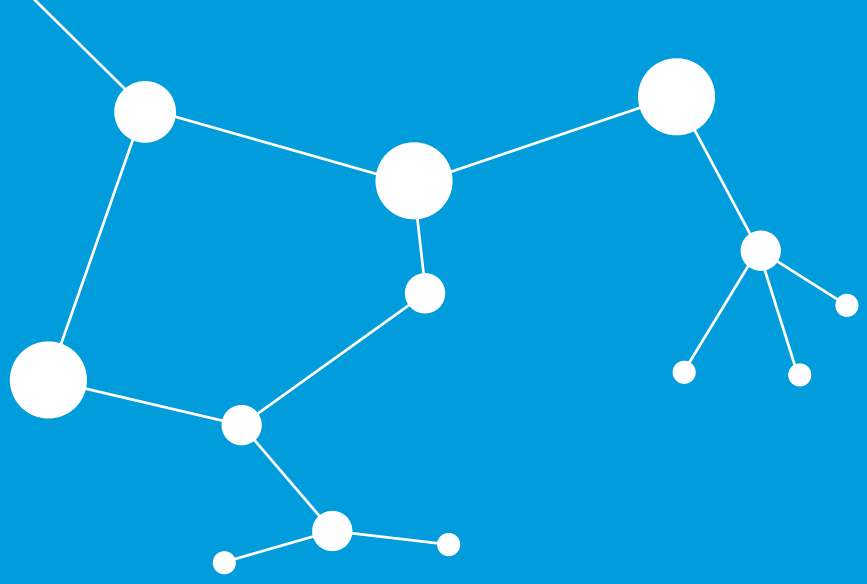

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