別添資料 11

ボレレミ工業団地スマート工業都市構想（BL-SIC）

A Comprehensive Master Plan for Bole Lemi Industrial, Business and Science Park

Industrial Park Development Corporation: IPDC
Japan International Corporate Agency - JICA
Ethiopian Industrial Park Promotion: EIPP

April, 2019
Addis Abeba
Ethiopia

BOLE LEMI SMART INDUSTRIAL CITY MASTER PLAN

Industrial Parks Development Corporation

Industrial Park Development Corporation
Call Phone: +251-11-661-69-86 / +251-11-661-66-74
E-mail:-admin.info@ipdc.gov.et
Web: www.ipdc.gov.et

Forward

Executive Summary

The Bole Lemi Industrial Park is located in the South Eastern edge of Addis Ababa City Administration, bordered with Oromia Regional State. The total area of the industrial Park is 892.8 hectare. This industrial park is unique in its physical and functional traits. Physically, it is located at the south eastern expansion zone of Addis Ababa and traversed by Beshale and Akaki rivers and other small tributary. The park lies at an average altitude of 2254m above sea level and majority (70.43% of the land is within a slope range of 0-7%) of the area is best suited for industrial development activities. The industrial park is very near to Bole International Airport and accessible from the central parts of the city.

Functionally, the Bole Lemi Industrial Park followed clustered approach. The first cluster , that is located in the existing Bole Lemi Industrial Park I & II, encompasses textile and garment manufacturing; the second cluster focuses on ICT, the third cluster will address high-tech and aero-space manufacturing, and the remaining cluster address real estate (residential and commercial activities). This functional peculiarity makes the area compatible with the World Bank Economic Parks classification: Industrial Park (Bole Lemi I & II), Business Park (Industrial Business Parks I & II, High rise residence, and IP & ICT Commercial area) and Science Park (High-Tech, Aero-Space, and ICT Park).

Industrial areas need to set a platform for the transformation of the economy and life of the general public by providing quality infrastructure to inhabitants, investors, and visitors alike. Therefore, the areas need to be planned well and have detailed guidelines. Thus, this master plan is prepared with the aim of delivering a development plan for the anticipated programs and spatial needs. At the end, the environment will have a physical growth guideline that foster economic growth, and improve the well-being of the community. The final output charts a road map as to what IPDC wants to achieve in the planning horizon.

The nomenclature of this unique master plan is ‘Bole Lemi Smart Industrial City- Master Plan’ /BLSIC-MP/. This document comprises seven chapters. The first two chapters address the methodological approach and analysis of the existing situation. The development strategy and proposed spatial framework are presented in chapter three and four respectively. In chapter five proposed infrastructure development plan is presented, while environmental management and monitoring plan is discussed in chapter six. The last chapter addresses the viability of the project under the real estate market and business plan.

Acknowledgment

This integrated Smart Industrial City Master Plan was prepared by an Ethiopian Industrial Parks Promotion/EIPP/ Japan International Cooperation Agency /JICA/ team, which composed of Ethiopian and Japanese Nationals. The EIPP JICA team gratefully acknowledge IPDC Management Boards for their elicit comments and thought-provoking debate. The Master Plan represents standard Smart Industrial City that has a direct nexus to the IPDC vision of creating innovative and leading eco-industrial parks. During the preparation of this master plan, companies working in Bole Lemi-I were very helpful in providing relevant data. Thus, the EIPP JICA team forward deeps thanks to all managers and works of Bole Lemi Industrial Park-I for their support. This Master plan was discussed and reviewed by Master Planning and Land Bank Management Directorate; Infrastructure Development Directorate; Environmental Protection and Social Safeguard Directorate; Design, Contract, and Project Management Directorate, Energy Supply Directorate; and ICT Park Directorate.

Contributions and helpful comments from: Ms. Lelise Neme (CEO of the IPDC) Mr. Amare Asgedom (D/CEO of IPDC), Mr. Shiferaw Solomon (D/CEO of IPDC), Ms Feven Dagnachew (ICT Park Director of IPDC), Mr. Murad Hussein, Mr. Mergia Kuma, Mr. Araya Hailu, Henok Tadesse, Ms. Samra Mathewos, Ms. Mistere Melaku, Ms. Hanna Tesfahun, Mr. Getahun Wendmkun, Mr. Ashenafi Girma.

EIPP JICA Master Plan Preparation Japanese Core Team

Teddy Masanori (Project Leader)
Yutaka Taniguchi (Industrial Park Planning: Infrastructure Development Expert)
Isamu Asakura (Industrial Park Development Planer)
Kamishita Takahiro (Solid Waste Management Expert)
Hideyuki Wakasa (Infrastructure Development Expert: Maintenance Organization)
Yoko Kitauchi (Environmental Expert: Social Consideration)

EIPP JICA Master Plan Preparation Ethiopian Core Team

Biruk Tilahun (Urban Planner: the Master Plan Team Leader)
Getahun Habtamu (Water Engineer: the Master Plan Team Coordinator)
Daniel Tesfaw (Geographer/ Urban Developer and Manager)
Kinfe Abzo (Architect/Urban Designer)
Amanuel Atlabcheew (Urban/Environmental Planner)
Hermela Asrat (Electrical Engineer)
Senait Nigussie (Environmental Planner)

EIPP JICA Master Plan Preparation Ethiopian Supporting Staff

Tsion Lemawosen (Industrial Parks Promotion Master Planner)
Melon Girma (Industrial Park Promotion Engineer)

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Acronyms

AAWSA	Addis Ababa Water and Sewerage Authority
ADB	Africa Development Bank
BD	Board of Directors
BLIP	Bole Lemi Industrial Park
BLSIC	Bole Lemi Smart Industrial City
BOD	Biochemical Oxygen Demand
CBD	Central Business District
CEO	Chief Executive Officers
CMA	Cleansing Management Agency
CR	Cost Recovery
CRTC	Computer Refurbishment and Training Center
CSA	Central Statistics Agency
CSS	Compact Sub-Stations
EAMG	Environmental Assessment and Management Guideline
EEPCO	Ethiopian Electric Power Corporation
EIA	Environment Impact Assessment
EIPP	Ethiopian Industrial Parks Promotion
EmoP	Environmental Monitoring Plan
EMP	Environmental Management Plan
EPA	Environmental Protection Authority
EPRDF	Ethiopian People Revolutionary Front
ERA	Ethiopia Road Authority
ERCA	Ethiopian Revenue and Customs Authority
ESIA	Environmental and Social Impact Assessment
ETB	Ethiopian Birr
FDRE	Federal Democratic Republic of Ethiopia
GDP	Growth Domestic Product
GTP	Growth and Transformation Plan
HRM	Human Resource Management
HV	High Volt
ICT	Information and Communication Technology
IGNIS	Income Generation and Climate Protection
IMF	International Monitoring Fund
IPDC	Industrial Parks Development Corporation
JICA	Japan International Cooperation Agency
KVA	Kilo Volt Ampere

LED	Light Emitting Diode
LMT	Land Mark Tower
LV	Low Volte
MCIT	Ministry of Communication Information Technology
METEC	Metals and Engineering Corporation
MIS	Management Information System
MoUDHC	Ministry of Urban Development and Housing Construction
MoWIE	Ministry of Water, Irrigation and Electricity
MSAG	Multi Service Access Gateway
MSE	Micro and Small-Scale Enterprises
MV	Medium Volte
MVA	Mega Volt Ampere
NOD	Nitrogen Oxygen Demand
NPC	National Planning Commission
PP	Poly-Propylene
RMU	Ring Main Unit
STP	Sewer Treatment Plant
SWM	Solid Waste management
SWMP	Solid Waste Management Plan
SWRDPO	Solid Waste Recycling and Deposal Project Office
UN-HABITAT	United Nation Human Settlement Program
UNIDO	United Nation Industrial Development Organization
WB	World Bank
WBG	World Bank Group
WWTP	Waste Water Treatment Plant

CHAPTER I: INTRODUCTION

"The city in its complete sense, is a geographic plexus, an economic organization, an institutional process, a theater of social action, and an aesthetic symbol of collective unity."

Mumford, Lewis (1937)

1.1 Introduction

Over the past few decades, the challenges faced by city governments have become increasingly complex and interrelated. In addition to traditional problems of land-use and urban management, city governments must meet new challenges. These new challenges arise from a demand for, job creation, resource sustainability, energy consumption, public safety, transportation etc. Cities today compete with one another for new investments and human capital while addressing these unprecedented socioeconomic crises.

To prevent and manage the crises that they face, cities must innovate and become "smart". Technological innovation and the use of ICT, is helping cities to address the challenges of urban governance, improve the urban environment, increase effectiveness, and evade environmental risks.

1.2 Background

The Government of Ethiopia envisions a transformation from a largely agriculture based economy to an industrial based economy, in an effort to reach lower middle income status by 2025 (NPC, 2016). GTP II envisioned that the Industry (manufacturing industry) should become a major source of foreign exchange earnings for the country which will enable it to play an important role in the overall economy (NPC, 2016).

This is proposed to be achieved:

I. *By creating favorable conditions for investors;*

II. *By Creating conducive investment climate for domestic investors; and*

III. *By Building a manufacturing industry that catalyzes and supports sustainable development.*

To create the highly needed favorable condition IPDC is mandated to "prepare detail national industrial parks master plan based on the cities master plan/structure plan and make necessary infrastructure accessible to Industrial park developers". (Council of Ministers, 2014). The industrial master development plan helps in creating a clear vision for the development and maintenance of Industrial Parks. The master plan sets out an overall strategy for the proper planning and sustainable development of the area. The plan will be a blueprint for the economic and social development of the area, for which it is proposed.

1.3 Objective

The Growth and Transformation Plan (GTP) assumes that manufacturing industries will boost the nations move towards industry led economy, while additionally supporting the expansive objectives of the country to achieve a medium income status by 2025. Industrial areas need to set a platform for the transformation of the economy and life of the general public by providing quality infrastructure to inhabitants, investors, and visitors alike.

Industrial areas need to be planned well and have detailed guidelines. Plans are mandatory for the managed development of industrial parks; enhanced investment and attract in the most astounding and most ideal uses.

Consequently, the overall objective of this project was to deliver a development plan for the Bole Lemi industrial park area, which involves the existing Bole Lemi Industrial Parks (I & II), ICT Village and neighboring areas, an aggregate of around **892.8 ha**. The project considered the area's anticipated programs and spatial needs in such a way that the environment will have a physical growth guideline that foster economic growth, and improve the well-being of the community. The final output charted a road map as to what IPDC wants to achieve in the planning horizon.

The development planning process helps IPDC to comprehend alternatives for growth and its implications so that better decisions can be made about the development of the Industrial Park. The planning process provides an opportunity to assess the existing Industrial Parks & ICT Village, to envision changes and to deter unforeseen changes. The resulting plan will empower IPDC to make informed decisions about how public money is spent and guarantee that changes will best serve its central goal.

1.4 Scope of the Development Plan

The scope encompasses three noteworthy areas as related to Time, Location and Focus area.

Time Related Scopes

- The Master Development Plan will have 7 years of projected physical development consideration
- Detailed Development Plans will be confined for the first 3-years period following the completion of the document.

Geographical Scopes

- The project area is limited to the existing Bole Lemi Industrial Parks (I & II), ICT Park and adjacent areas. The total project area rests on 892.8 ha of land.
- The relationships of the project area to the existing and future planned land uses and infrastructure around the site will be considered.

Thematic Scope

- The physical development plan will focus on four different categories/ Themes –
    - Physical Infrastructure
        - Water
        - Waste (Solid & Liquid)
        - Energy
    - Housing
    - Environmental Issues
    - Real Estate and Business Plan

1.5 Methodology

Regardless the numerous types of design processes models/methodologies, the whole study pattern can be summarized as shown below.

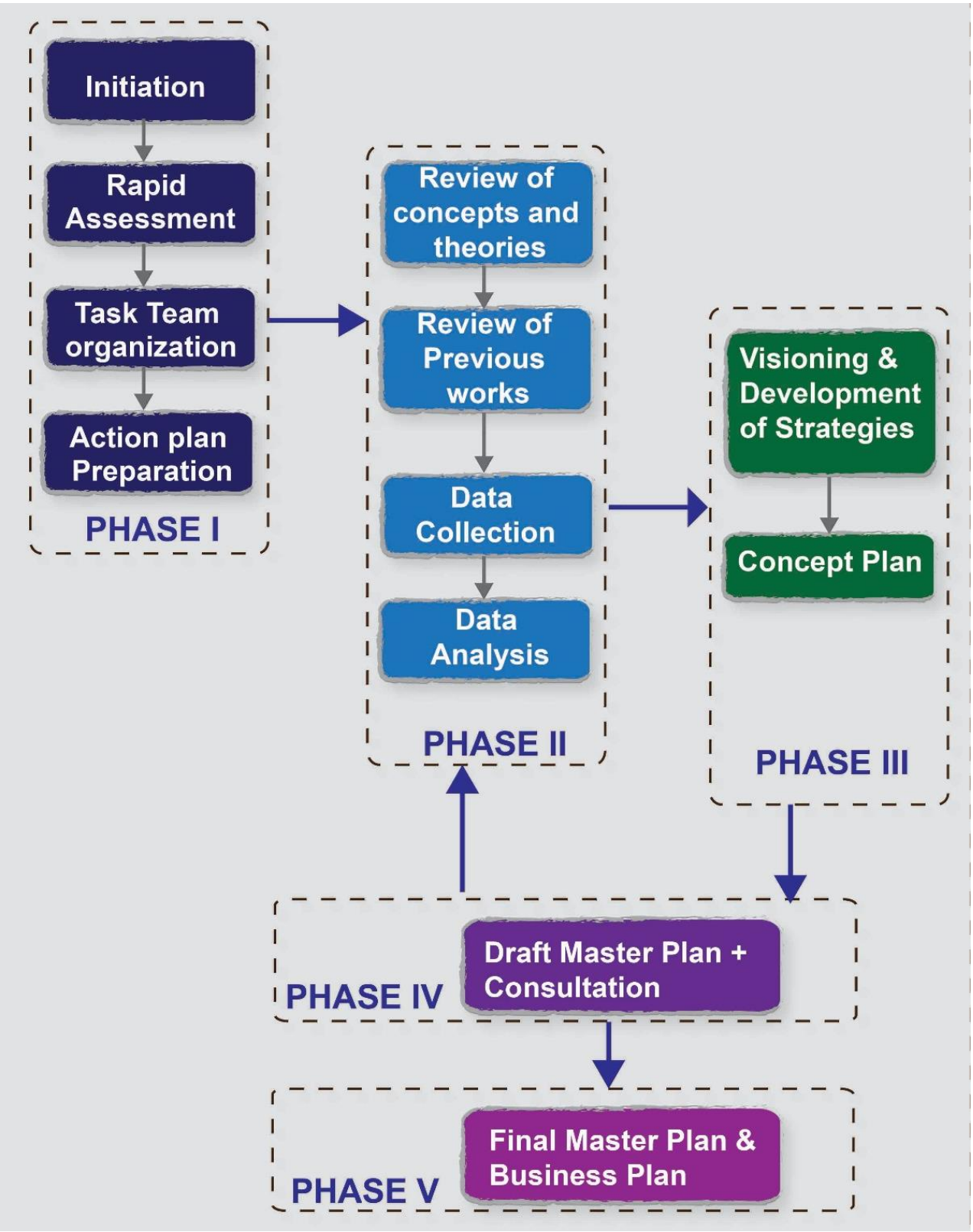


Figure 1: Methodological Design

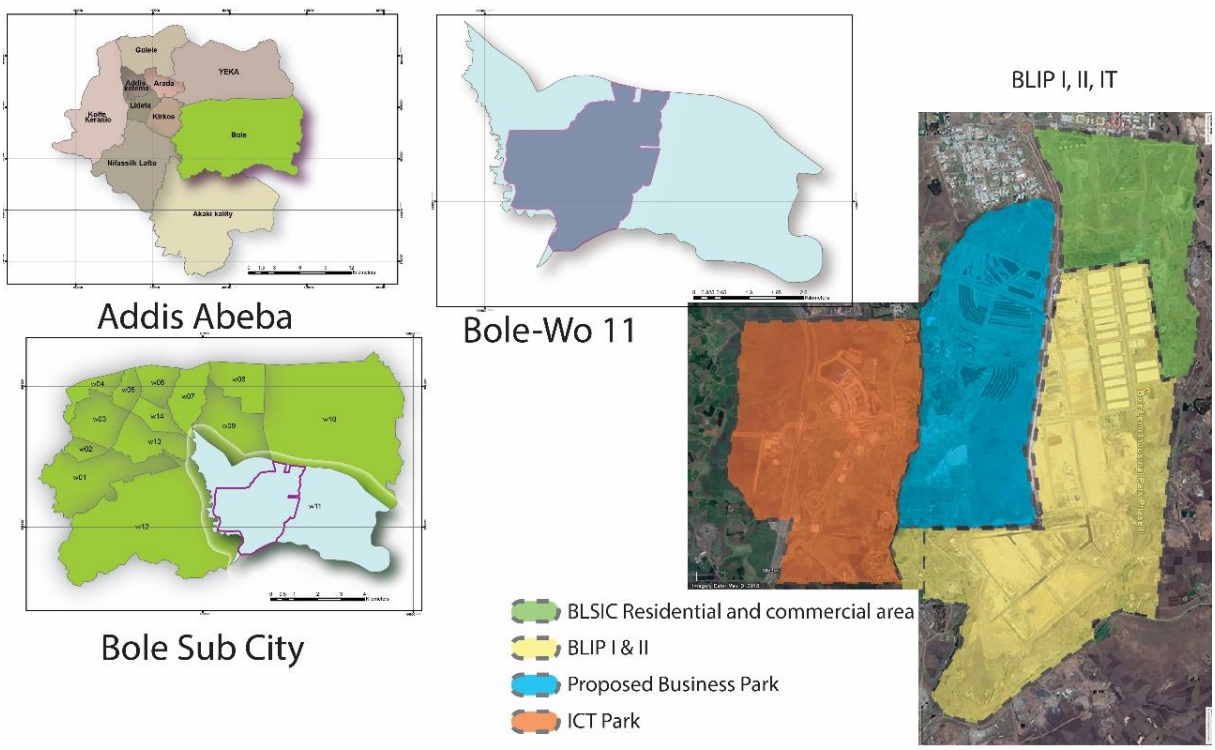
CHAPTER II: EXISTING SITUATIONAL ANALYSIS

2.1 General Description of the Area

2.1.1 Location

Absolute location

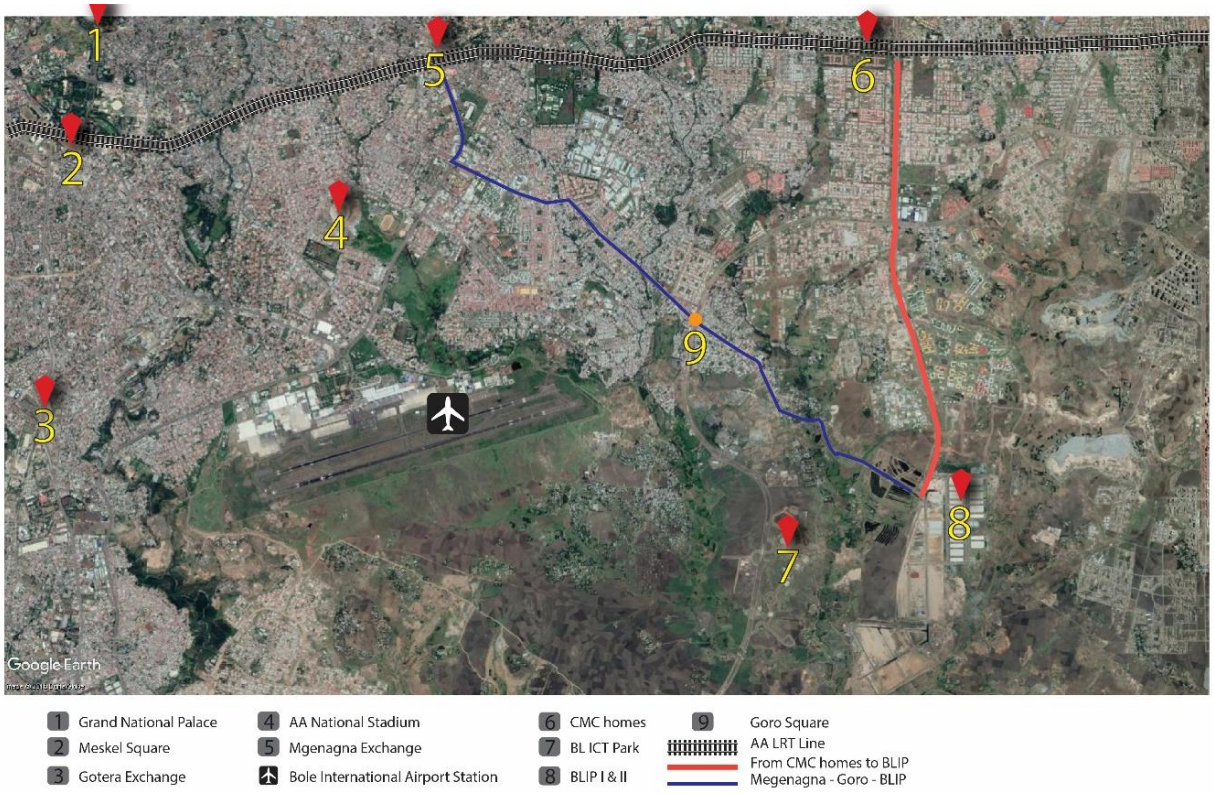
Bole Lemi Industrial Park/BLIP/ is located in the south eastern edge of Addis Ababa. Astronomically, the Park is located between $8^0$57′4″ to $8^0$59′1″ North latitude and $38^0$49′49″ to $38^0$51′ 53″ East longitude.



Map 1: Absolute Location of the Project Area

Relative location

Relatively, the project area is bordered with: in the north "Semit" Condominium, in the northwest Weregenu, in the south and in the east encircled with Akaki and Beshale Rivers respectively. The study area is well connected with more than three major roads. This industrial park is 9km far from Bole International Air Port, which is within 24-minute driving distance.



Map 2: Relative Location of the Project Area; Source: Google Earth

2.1.2 Physical Shape of the Project Area

The Bole Lemi Industrial Park project area covers 892.8ha/or 8.928 km^2.It accounts about 7.3 % (122.08 km^2) and 1.7% (526.99 km^2) of the total land area of Bole Sub-City and Addis Ababa City Administration respectively. The area encompasses different economical functions in the form of zones.

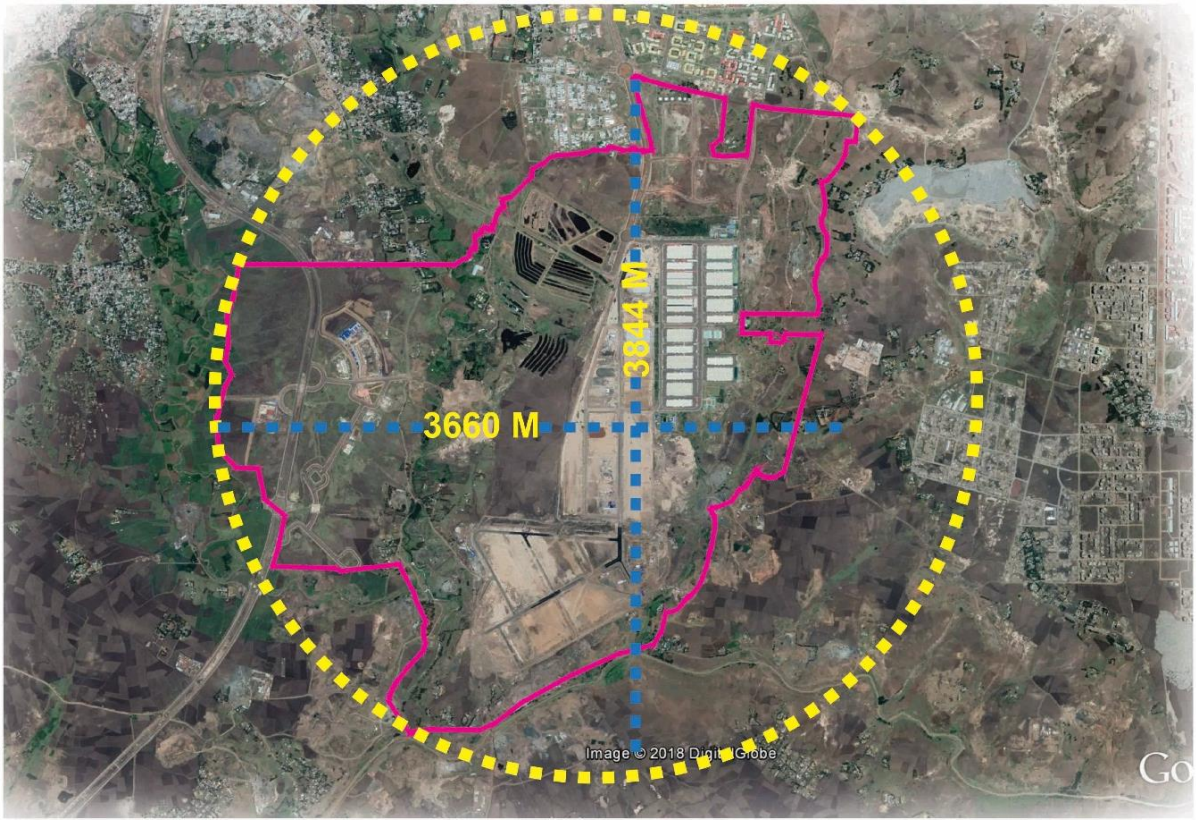
The north-south air distance of the project area is approximately 3,844km. The east-west air distance, on the other hand, is 3,661km. This indicates that north-south and east-west extends of the area is nearly compact shape with 396meter extension towards north. The quantification of shape is much more difficult, since it has many surfaces which are not readily measured. Perhaps the simplest measurement of compaction is the length-breadth/LB/ ratio.

$$LB = \frac{Length\ of\ long\ axis\ of\ cell}{Length\ of\ short\ axis\ of\ cell}$$

Where the long axis is the line joining the two points on the boundary which are furthest from each other in straight line, and the shortest axis is the longest line that can be drawn perpendicular to the long axis between two other points on the boundary. The LB for a circle will be 1, which is the minimum value. The, greater the value of LB, the shape gets less compact.

$$LB = 3844/3661 = \underline{1.0499 \sim 1.05}$$

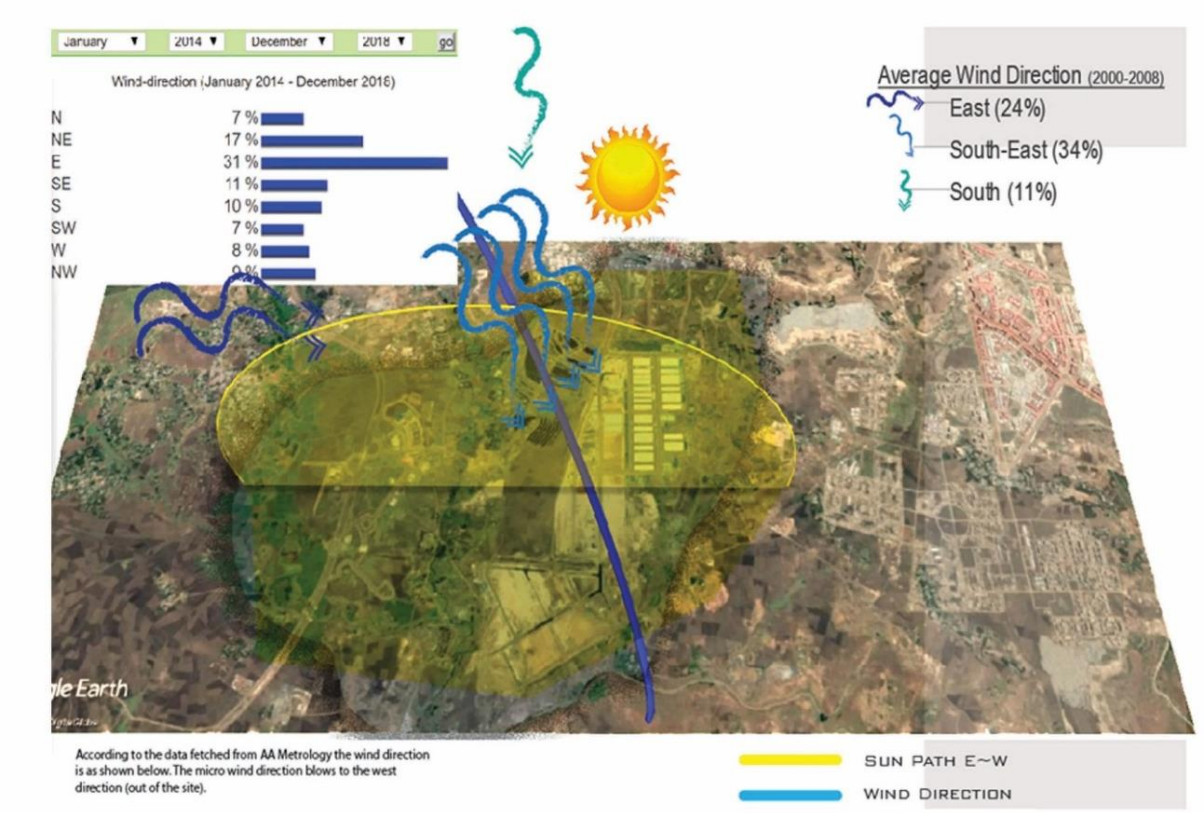
Thus, with this rough indicator the shape of the project area is nearer to compact i.e. 1.05 L/B ratio. This has its own advantage for physical and social infrastructure development, hence this shape increases accessibility and saves traveling time and cost in the proposed development.



Map 3: Length-Breadth Map of BLSIC; Source: Google Earth

2.1.3 Environmental Condition

In the Bole Lemi Industrial Park Project area the sun path is considered due to its importance for the future development of buildings site and positioning of windows and other features for natural lights and energy related considerations.



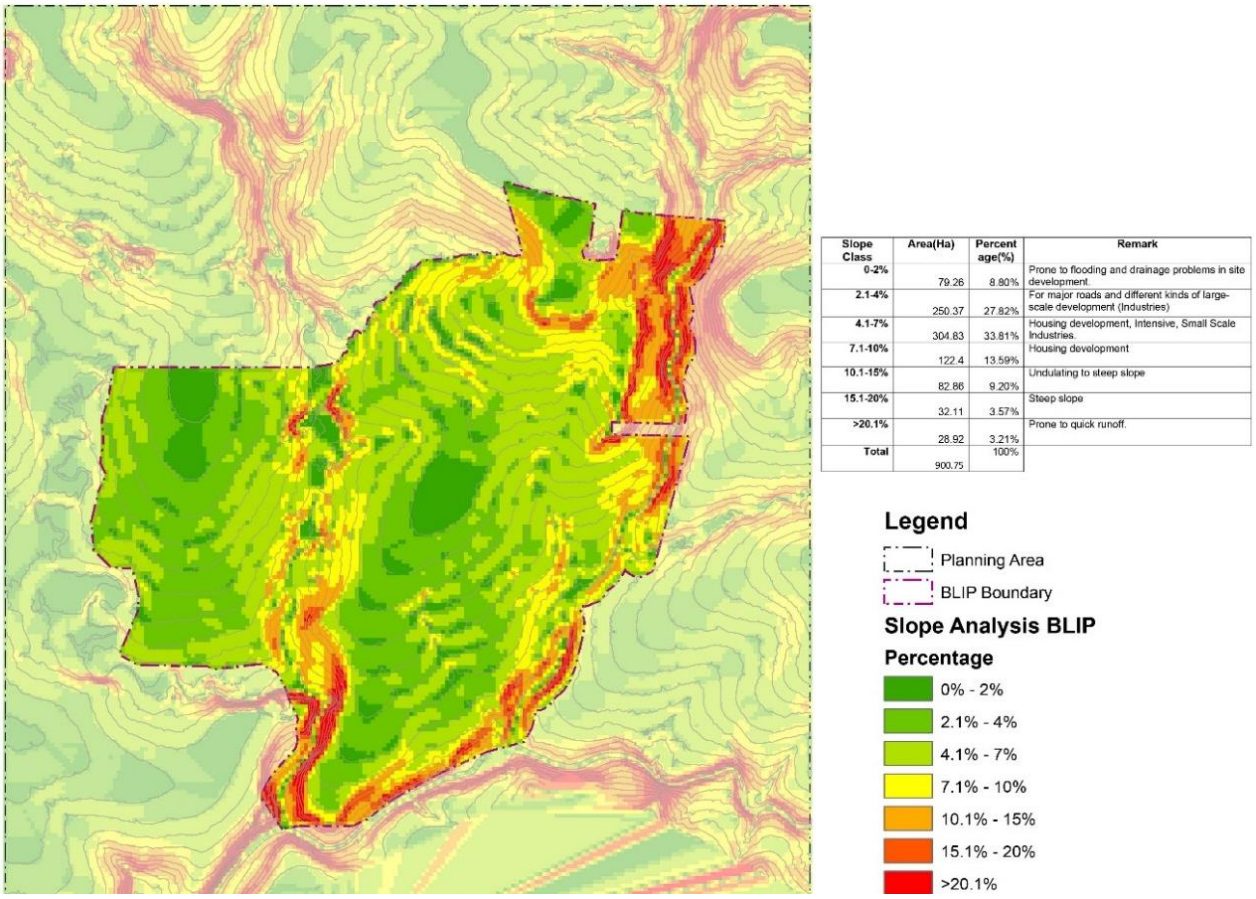
Map 4: Wind Direction and Sun Orientation; Source: Google Earth

The metrological data indicates that the heights (34%) portion of wind blows towards south east direction, followed by the east direction (24%) and south direction (11%). During the site observation the JICA EIPP team noticed that unpleasant smell originated from the existing sewerage treatment plant/STP/ blows towards BLIP-II and other near-by parts of the industry park.

2.1.4 Topography

Elevation and slope

The altitude of Bole Lemi Project Area lies between 2168 m and 2340m above sea level. The study area is situated at an average elevation of 2254 m above sea level. A typical description of the topography of the project area and its environment comprises suitable physical features and bounded by *Beshale River* on the eastern part, small tributary on the western side and *Kotebe River that divides the ICT zone* and Bole Lemi-II Industrial zone.



Map 5: Slope Analysis of BLSIC

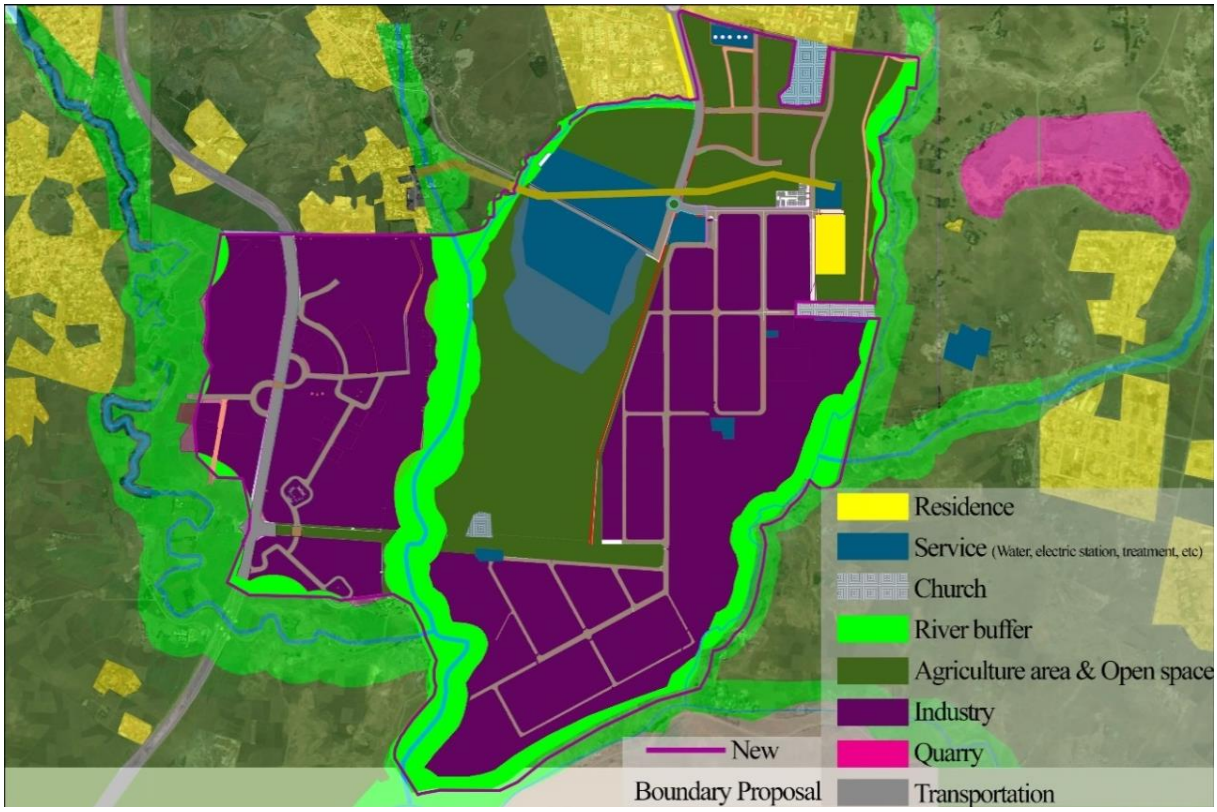
Table 1 indicates that majority (70.43%) of the land lies between 0-7% slope ranges. Such topographic features are best suited for industrial development. However, the remaining area lies with greater than 7.1% slope range. These areas need special attention before any development takes place.

Table 1: Slope Classification of BLSIC

Slope Class	Area (Ha)	Percentage (%)	Remark
0-2%	78.01	8.80%	Prone to flooding and drainage problems in site development.
2.1-4%	249.2	27.82%	For major roads and different kinds of large-scale development. (Industries)
4.1-7%	303.7	33.81%	Housing development, Intensive Small Scale Industries
7.1-10%	121.2	13.59%	Housing development
10.1-15%	81.76	9.20%	Undulating to steep slope
15.1-20%	31.01	3.57%	Steep slope
>20.1%	27.82	3.21%	Prone to quick runoff.
Total	**892.7**	**100%**	

2.1.5 Land Use

On the site visit the team identified that, there are different kinds of land use existed in the Project area. Accordingly, the major land uses are: Residential, Service, River Buffer, Agricultural Area, Open Space, Industry, Quarry and Transportation. Of these the predominant land use in the project area and its surrounding are agricultural area and open space respectively.



Map 6: Existing Land Use

2.1.6 Buildings

2.1.6.1 Factory Sheds and other Buildings

Except for Bole Lemi I there are only few buildings that exist in the project area. In Bole Lemi I almost 60% of the area is covered with Sheds. The other buildings that are existed in the park were served as: Factory Shed, Office, Clinic, Lounge, Health Center, Police Station, and Fire Station etc. On the other hand, Bole Lemi II is under construction and more than 80% of the ICT Park did not developed.

Picture 1: Partial View and Supporting Functions in Bole Lemi Industrial

2.1.6.2 Residential Buildings

The total number of workers will be approximately 240,500. From this 86,900 are expected to be accommodated within the dormitories and apartments within the city.

BLIP-I& II will accommodate 87,400 workers out of which the dormitories will be available for 60% of the workers who travel the maximum distances.

In order to identify the need of residential houses, which will be built in the BLSIC area, the team used existing workers as a sample. According to IPDC (2018) report, in Bole Lemi

Industrial Park I, there are eleven companies engaged in the production of textile, garment and shoe manufacturing within 126,500 m^2 area of working premises.

Table 2: Existing Companies in BLIP I

Company Name	Shade Type	Shade Area (m^2)	Number of Shade/s	Number of employees	Types of Industry	Status
New Wide	I	11,000	1	1,230	Textile	Operational
George Shoe	I	11,000	1	1,049	Leather	Operational
	II	5,500	1			
Arvind	I	11,000	1	1,000	Garment	Operational
	II	5,500	1			Operational
Vestes	II	5,500	1	525	Garment	Operational
Jay Jay	I	11,000	2	3,478	Textile	Operational
	II	5,500	1			
Lyu	II	5,500	1	583	Hand glove	Operational
Evertop	I	11,000	1	613	Garment	Operational
C & H	II	5,500	1	596	Garment	Operational
Shints	I	11,000	3	4,100	Garment	Operational
	II	5,500	2			
KEI	II	5,500	1	0		Not Operational
Ashten	I	11,000	1	1777	Garment	Operational
	II	5,500	1			
Total		126,500	20	14,951		

Source: IPDC and Field Survey, 2018

The team used probability sampling technique to set total number of respondents from the existing manufacturing companies of BLIP I by using the formula:

$$n = \frac{z^2 \, x \, p \, x \, q \, x \, N}{e^2(N-1) + z^2 \, x \, p \, x \, q}$$

Where:

N- Denotes the total number of people

P- Is percentage of population from N

q- Is 1-p

z - Is 1.96

e - 0.05

Using this formula, the sample population is

$$n = \frac{1.96^2 \, x \, 0.5 \, x \, 0.5 \, x \, 14951}{0.05^2(14951-1) + 1.96^2 \, x \, 0.12 \, x \, 0.88}$$

n = **374**

Based on this the number of sample respondents were selected using quota sampling. Accordingly, the number of sample respondents from each company is presented under.

Table 3: Number of Sample Taken

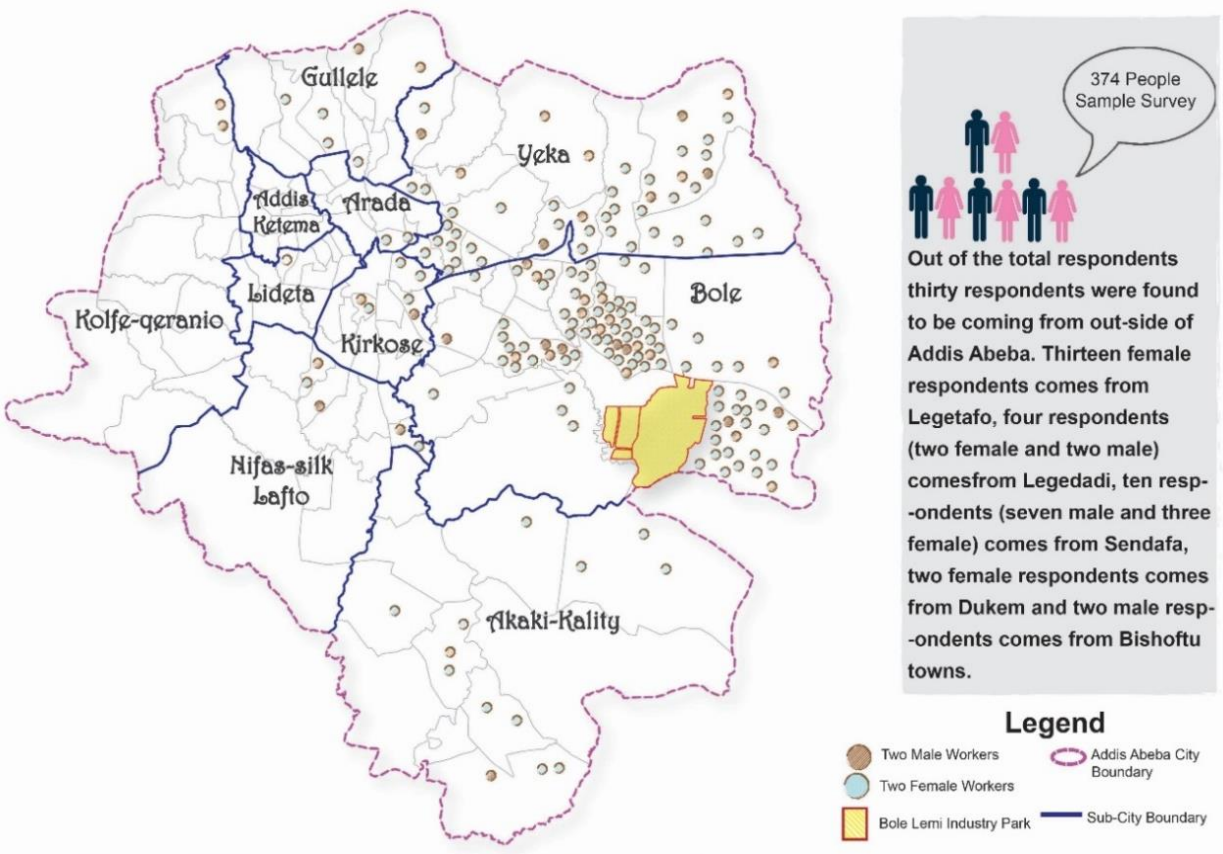
Company Name	Current Employees			Sample
	Male	Female	Total	
New Wide	58	1172	1,230	31
George Shoe	403	646	1,049	26
Arvind	100	900	1,000	25
Vestes	25	500	525	13
Jay Jay	239	3239	3,478	87
Liyu	96	487	583	15
Evertop	120	493	613	15
C & H	38	558	596	15
Shints	451	3649	4,100	103
Ashten			1,777	44
Total			14,951	374

Source: Field Survey, 2018

To explore the existing manufacturing companies, plan for improving productivity through constructing residential houses with in a walking distance, the team conducted an interview with administrative officials. The respondents provide relevant information on the distance of their employees' commute, the amount of transportation cost per month, their future plan to use shift system and constructing residential house for its employees in a form of dormitory.

A. Employees' Travel Distance and Transportation Costs

The representative of the existing manufacturing administrative and the data collected from site survey indicates that majority of employees commute with in 15km radius and the maximum travel distance for round trip is 30 km.



Map 7: Workers Distribution

Since each company provides transportation service, they spent more than ETB 4,373,186.00 per month or 52,478,232.00 ETB per year.

Table 4: Transportation Expenses

Company Name	Maximum Commute /km/	Transportation expense (Birr/person/month)	Total Price/Month
New Wide	22	400.00	419600.00
George Shoe	8.5	NR*	446250.00
Arvind	30	500.00	500000.00
Vestes	30	NR	NR
Jay Jay	-	470.00	1634660.00
Liyu	-	NR	165500.00
Evertop	-	392.00	240296.00
C & H	-	280.00	166880.00
Shints	17	400.00	800000.00
Ashten	-		NR
Total			4,373,186.00

Source: Field Survey, 2018; NR*: Not Respond

B. Companies Future Plan on Shift System and Dormitory Provision

With regards to companies' future plan to apply shift system; with the exception of Arvend and Jay Jay the others did not have plan to apply shift system. Pertaining to constructing

residential houses for their workers most of the companies has planned to construct residential houses. For that matter, three companies namely Arvind, Jay jay and Shint are on the land acquisition and construction stages.

Table 5: Companies Plan

Company Name	Plan to apply shift		Plan to construct residential houses		Remarks
	Yes	No	Yes	No	
New Wide		√	√		Requested land from IPDC
George Shoe		√		√	
Arvind	√		√		Requested land from IPDC & get permission (1.2ha)
Vestes		√		√	
Jay Jay	√		√		Under the process of construction
Liyu		√	√		There is a plan but not execute
Evertop		√		√	
C & H	NB	NB	√		It has future plan
Shints		√	√		Under construction (10.5ha) (See Pic ...)
Ashten			NA		

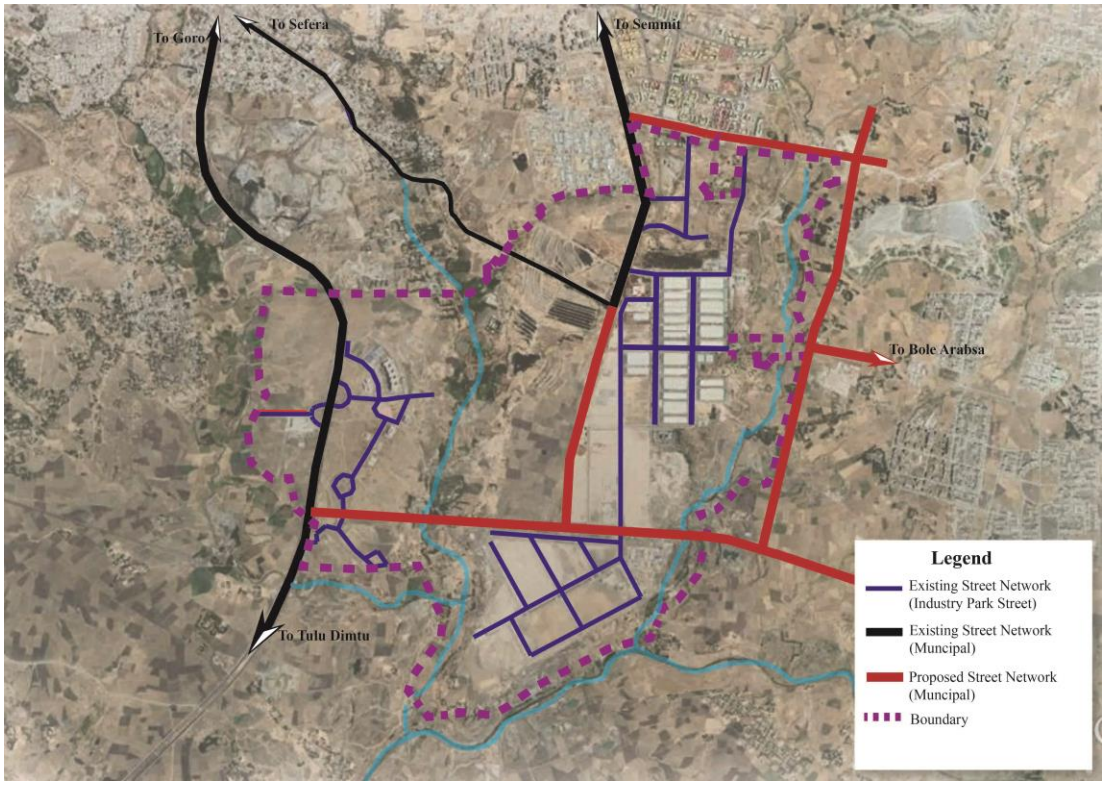
Source: Field Survey; 2018

Picture 2: One of the Dormitory's Under Construction

2.1.7 Existing physical Infrastructure

2.1.7.1 Street Network

According to the structure plan there are three major roads that pass through the project Site. Two of the roads pass through north-south direction the other one passed to east to waste direction. However, two of them are not finalized yet. Most of the streets within the park have already been constructed. (See Map 8 below)



Map 8: Existing Street Network

2.1.7.2 Electric /Power

Bole Lemi Industry Park is served by Ethiopian Electric Power Corporation (EEPCO). Currently EEPCO serves BLIP (Bole Lemi Industrial Park) through mobile Sub-Station which is located in the north east side of BLIP I (Bole Lemi Industrial Park I) with four incoming Utility feed power as the main intake power lines and produce 50 MVA (Mega Volt Ampere) power. This Sub-Station will temporarily serve the industrial park (existing sheds) until the proposed 250MVA (Mega Volt Ampere) power Sub-Station construction is completed.

Assessment was conducted on the power consumption of the equipment's in the industrial park to shade light for the projection. The information was gathered from site investigation and by conducting rough estimations for public utilities based on assumed power consumption of certain building types such as Cafeteria, Clinic, Bank, Administrative office, fire brigade and

others. In Bole Lemi Industry Park I (BLIP I), the existing Load and capacity of the current electrical distribution system is 15,000 kVA (Kilo Volt Ampere).

Similar to Bole Lemi Industrial Park the ICT Park also received electric power supply from the Ethiopian Electric Power Corporation (EEPCO). From the filed survey, the EIPP JICA team identified that, in the existing ICT Park jurisdiction there is unplanned electric power line with the capacity of 15 Kilo Volt/KV/ that passes through the park. In addition to this, the current electric power consumption of ICT Park is nearly 3 Mega Watt per Month.

In principle the line should pass underground using cable duck. However, EEPCO passes the line above the ground. This act of EEPCO is in total violation of Planning, safety, architectural and engineering standards.

Although, the ICT Park is an integral part of Bole Lemi Industrial Park, it does not get electric power from the Bole Lemi Industrial Park sub-station. Rather the ICT Park has get electric power from the line passed in its jurisdiction form EEPCO. Up until now the park does not have any dedicated electric power input.

The following are general findings and comments:

- The existing mobile Sub-Station do not have proper security fence which might be problematic and can lead to unwanted access and vandalism. (See Pic. 3)
- In some sheds electrical network distribution system & underground conduits are installed improperly that visual distracting to the area environment and also it has possibilities of line being dug up.

Picture 3: Existing Mobile Sub-Station and Improper Cable Installation

2.1.7.3 Existing Street Lights

Currently, a staggered layout pattern is proposed with LED lamps for roadway and street lighting and in parking lots with similar spaces on 25m distance between poles. Spacing will vary throughout the industrial park depending on the area and usage type; intersections will typically have closer spacing.

Picture 4: Existing Street Lights

Table 6: Power Consumption in the Existing Sheds

Power Consumption In Bole Lemi Industrial Park I						
Shed No	**Company Name**	**Total Kw Per Shade**	**Total Kva Per Shade**	**Total Kw Per Company**	**Total Kva Per Company**	**Transformer Rating Kva**
1	New Wide Ethiopia	2,644.6	3,778	2,644.6	3,778	1250 with P. F=0.7
2	George Shoe Ethiopia	663.4	737.11	663.4	737.11	500 with P.F=0.9
3	George Shoe Ethiopia		0			1250 with P.F=0.9
4	Arvind Life Style Apparel		0	2,644	2,115.2	1250 with P.F=0.8
5	Arvind Life Style Apparel		0			1250 with P.F=0.8
6	Vestis Karl International Plc.	262	291.11	262	291.11	1250 (600 standby) with P.F=0.9
7	Jay Jay Textile Plc	1,158.3	1,287	3,129	3,476.67	1250 with P.F=0.9
8	Jay Jay Textile Plc	812.4	902.67			1250 with P.F=0.9
9	Jay Jay Textile Plc	1,158.3	1287			1250 with P.F=0.9
10	Lyu Shoutoao Plc	582.29	646.99	582.29	646.99	500 with P.F=0.9
11	Evertops Sports Wear	739.82	924.77	739.82	924.77	1250 with P.F=0.8
12	C & H Garments	590.51	656.12	590.51	656.12	800 with P.F=0.9
13	Shints Etp Garment Plc		0	2,780.65	3,475.81	1250 with P.F=0.8
14	Shints Etp Garment Plc		0			630 with P.F=0.8
15	Shints Etp Garment Plc		0			1250 with P.F=0.8
16	Shints Etp Garment Plc		0			500 with P.F=0.8
17	Shints Etp Garment Plc		0			1250 with P.F=0.8
18	Kei Industrial Engineering Consultancy Plc	1,261.89	1,577.36	1,261.89	1577.36	1250 with P.F=0.8
19	Ashten Apparel	2,005.84	2,507.3	3328.8	4161	1250 with P.F=0.8
20	Ashten Apparel	1,322.96	1,653.7			1250 with P.F=0.8
Total Power Consumption by Existing Sheds				18,626.96	14901.57	
Total Power Consumption by Street Lights				25	20	
Total Power Consumption by Public Utility				75	60	
Total Power Consumption Estimated for Existing Infrastructure				18,726.96	14981.57	

2.1.7.4 Water Supply

The water supply source is from AAWSA system for the surrounding condominium areas, the demand of the new proposed smart city will be very high as compared to surrounding areas, and as a result there should be another source option. The existing water supply scheme in the project area is from both AAWSA and Bole Lemi-I and Bole Lemi-II water Supply Scheme. The factory shades under Bole Lemi-I currently get water from AAWSA source, but the Schemes of Bole Lemi-I and II are currently under Construction. Similarly, the ICT Park receives water from AAWSA system. When the ICT Park starts full operation, the demand for water will be very high. This needs looking other options to satisfy tenants' water demand.

2.1.7.5 Strom Water Drainage

Storm water drainage is part of the essential infrastructure of a modern city. Commonly separate systems are provided for the collection and disposal of storm water and sewage. Due to high urbanization rate life and property are from time to time under the threat of flooding due to heavy rainfall in combination with climate change. Since Addis Ababa is located under the category of high land area, the average annual rainfall is about >1000 millimeters.

A storm drain is defined as that portion of the storm drainage system that receives runoff from inlets and conveys the runoff to some point where it is then discharged into a channel, water body or piped system. It consists of one or more pipes connecting one or more inlets. A storm drain may be a closed conduit, open conduit or some combination of the two.

The purpose of a storm drain is to collect storm water runoff from the road way and convey it to outfall. Storm drain design generally consists of three major parts.

- System planning which includes data gathering and outfall location
- Pavement drainage which includes pavement geometrics and inlet spacing
- Location and Sizing of the mains and manholes

There are some existing drainage structures for areas which have road networks. ICT Park has already constructed drainage lay out.

2.1.7.6 Sewerage System

The decomposition of the sewage ingredients in wastewater treatment plants commonly produces methane/CH4 (65 to 75%), carbon dioxide/CO2 (30%) and trace of other inert gases like Nitrogen/N2, hydrogen sulphide/H2S, etc. If no control is made on these gases, there will be a significant contribution to the climate change. As UNDP Human Development Report

2007/08 stressed, that climate change cannot be narrowly defined as 'just' an environmental issue. If the accumulating scientific and economic analysis proves correct, there is perhaps no comparable threat to the well-being of the next generation and beyond.

The commonly known five greenhouse gases or families of gases according to their importance (or magnitudes of impacts) are Sulfur hexafluoride, perfluorocarbons (HFCs), nitrous oxide, methane and carbon dioxide.

The existing Bole Lemi I industrial shades sewage system has connection to the existing AWWSA system through pumping to the pipe which connects summit condominium. The buildings in the ICT Park their sewage system is directly connected to individual septic tanks.

2.1.7.7 Solid Waste

A. BLIP I Solid Waste Generation

According to the survey, cardboards, plastics and fabrics take the major type of wastes in the industries. All the companies in BLIP emit neither solid, liquid nor gaseous wastes that contain poison, except Arvind. Ashton, Shints, and Arvind factories provide a laundry service for their end products. This leads to liquid chemical wastes in a way. Arvind is studying the company's liquid waste chemical/ poison content. The laundry and toilet wastes are discharged to Bole Lemi waste water treatment plant which is located within BLIP I. The treatment plant segregates the waste and store the sludge within it. The companies pay for this service every month. According to the survey currently active industries in BLIP I, (10 industries) produce 983.41 kg of solid waste per day. The table below describes the content of the waste.

Table 7: Summary of Wastes Disposed from BLIP - I

Type of waste	kg/Day	Percent
Organic (food, etc.)	5	1
Plastic (bottles and film etc.)	240.92	24
Paper and cardboard	352.16	36
Glass	0.33	0
Metal (cans etc.)	11.7	1
Other (ashes, dust & Misc)	200	20
Fabric	173.3	18
E-waste	0	0
Total	**983.41**	**100**

B. Bole Lemi ICT Park /BL-ICTP/ Waste Generation and Management

The BL ICT Park is under construction and IPDC is giving a title dead to additional interested companies. Almost all of the companies in the ICT Park including Ethio. Telecom and Techno Mobile are either under construction or haven't yet start production. Due to this reason there is no proper waste management practice at the ICT Park. The wastes that are produced are organic or domestic wastes with null e-waste and hazardous waste character. Most of the waste generated on the ICT Park is dumped on open fields to be degraded. The responsibility of collection, storage, transportation, to informal dumping sites/ open spaces is done by janitors within the park.

Since the ICT Park deals mainly with electronic devices like computers, servers, switches, etc., its waste is limited to electronic waste mainly. The park will generate e-waster after some years of operation. E-waste is one of the most harmful by product of ICT industries. Incorrect disposal and dumping of old equipment such as computer parts and peripherals can be detrimental to the environment and can cause serious health hazards. Dumping of electronic equipment can lead to the release of toxic substances like Lead (Pb), Cadmium (Cd) and Mercury (Hg) to the environment. These chemicals can contaminate soil and groundwater. It is therefore mandatory for the IT village to establish an e-waste management strategy.

2.2 Socio-Economic Analysis

2.2.1 Demography

Currently in Bole Lemi industrial park there are ten companies which have a total of 14,951 employees. From this number the percentage of female workers is closer to 89%.

Table 8: Status of Employees in BLIP I

Company Name	Current Employees		
	Male	Female	Total
New Wide	58	1172	1,230
George Shoe	403	646	1,049
Arvind	100	900	1,000
Vestes	25	500	525
Jay Jay	239	3239	3,478
Liyu	96	487	583
Evertop	120	493	613
C & H	38	558	596
Shints	451	3649	4,100
Ashten	NA*	NA	1,777
Total			**14,951**

Source: IPDC and Field Survey, 2018; ***NA:** Not Available

2.2.2 Social Information

i. Marital Status

The survey revealed that majority (74%) of the workers were unmarried and a significant number (25%) of the respondents were married. Marital status of the respondents is very useful to determine the type of housing unit(s), allocation and development of social amenities as well as business activities.

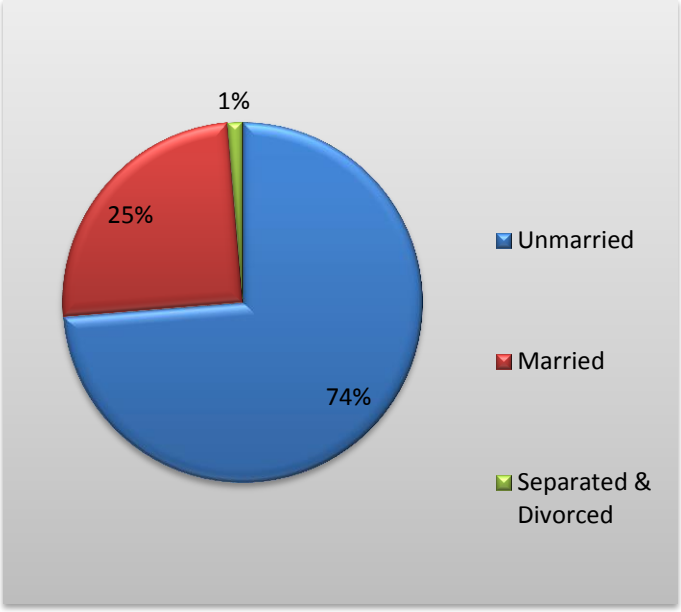


Figure 2: Marital Status

ii. Level of Income

From the field survey the team identified that most (48.3 %) of the workers has get less than 1650.00 ETB per month. The second highest (37.3 %) number of respondents lay with in the threshold of 1631.00-3200.00 ETB monthly income. This indicates that majority of the respondents are earned low income.

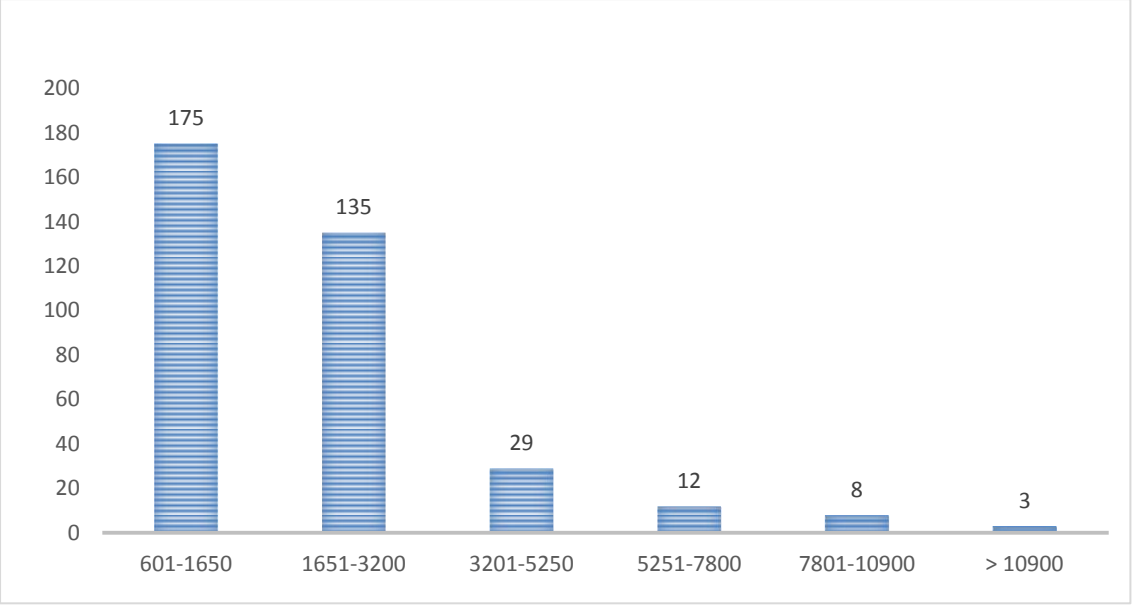


Figure 3: Level of Income

2.2.3 Workers Commuting Distance

Workers commuting distance has an intrinsic impact on productivity. A worker who came from a long distance has an adverse effect on production. To improve productivity one of the solutions is employing workers who live in the vicinity of work place, if possible, with in the average walking distance radius (800m-1200m).

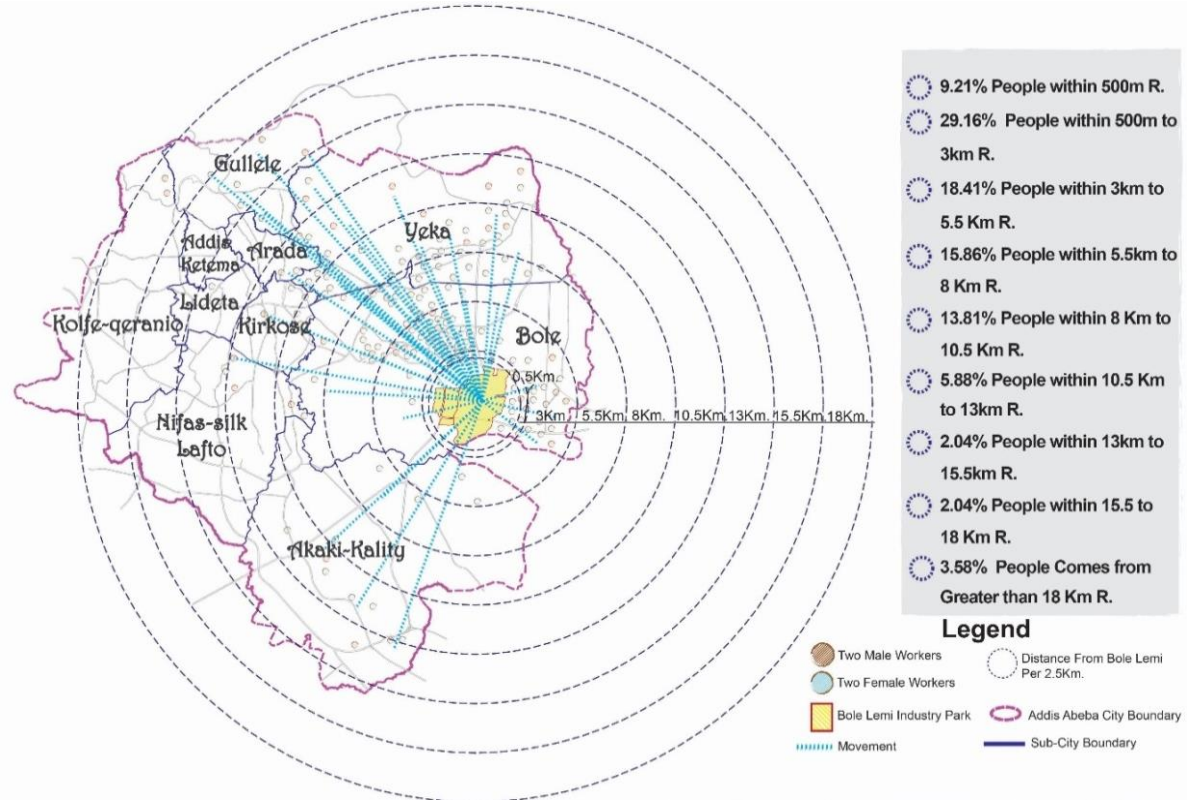


Figure 4: Workers Commuting Distance

Fig. 4 demonstrates that, very few (9.2 percent) workers reside within a working distance of 500m radius. Majority (61.6 percent) of the respondents are living greater than 3km commute distance. This indicates that majority of them needs residential houses with in the vicinity of Project Area.

2.2.4 Housing Tenure

The survey result depicts that almost all of the respondents are living in rental houses. Of the different rental houses, majority of the respondents rented from freehold owners. (See Table 9)

Table 9: Employees' Housing Tenure Statues at BLIP - I

Respondents Position Status	Tenure Type	Frequency	Percentage
Owner	Freehold	15	9.9
	Condominium	22	
Dependent	Freehold	51	13.6
Rental	Freehold	199	76.7
	Condominium	13	
	Cooperatives	8	
	Government house/Kebele house/	17	
	Informal/Chiqa house	47	
	Other	3	
Total		**374**	**100**

The average monthly rental price has also been calculated and the mean rental price of the respondents is found to be 1,216.70 birr.

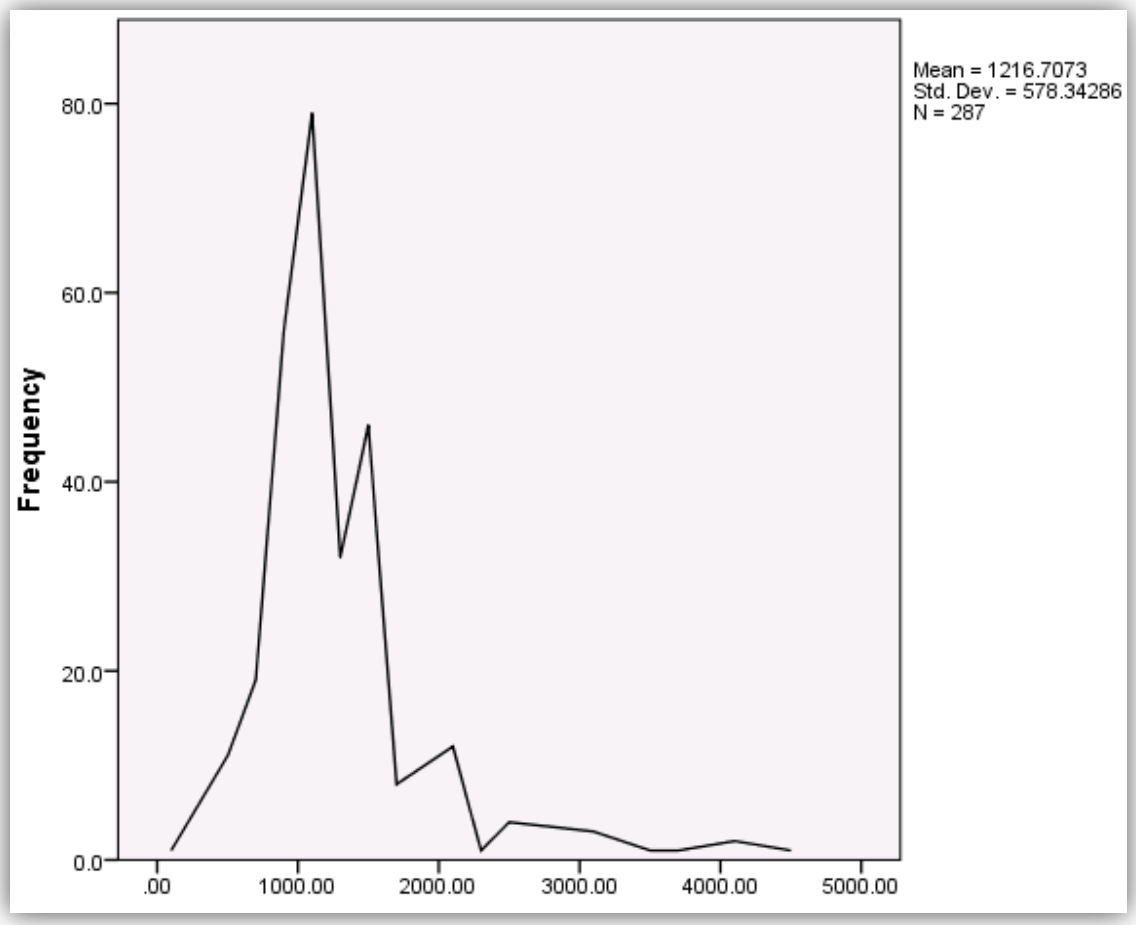


Figure 5: Employees' Average Monthly Rental Expense

The ability and willingness to pay of the respondents indicates that most of them are willing to pay 500-1000ETB amount per month. Of the different residential modalities majority of the respondents has shown desire to live in dormitory with one to two persons. (See Fig. 6)

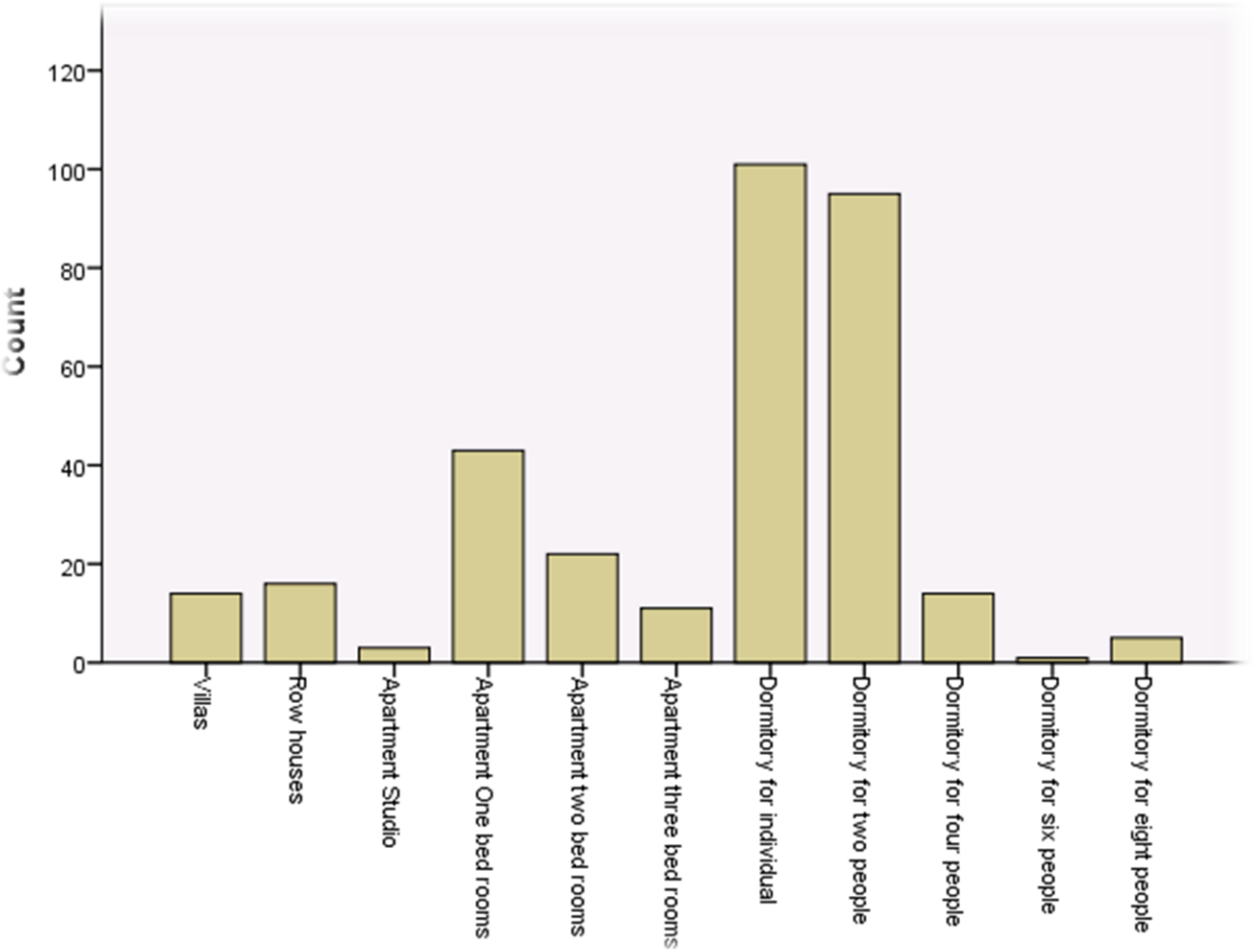


Figure 6: Empolyees' Desire to Rent

CHAPTER III: DEVELOPMENT STRATEGY

> ***"Building successful twenty-first-century cities will require new modes of thought about growth, particularly as it relates to sustainability. This new thinking must be capable of encompassing and even transcending the kinds of social, economic and environmental problems."***
>
> **Kriken, J. Lund (2010)**

3.1 Introduction

Urbanization is non-ending phenomenon. Currently, the majority of the world's populace (around 54%) resides in urban areas. Ethiopia is one of the countries with high rate of urbanization. According to the present rate, urbanization will add another 4.46 million individuals to Ethiopian urban communities every year. This rapid rate of urbanization will create a stress on the Environmental, social and economic sustainability of our cities. Now more than ever, our cities need to provide public services more proficiently while in the meantime supporting sustainable and long-term economic growth.

3.2 Proposal Visioning and Concept Development

The latest thinking suggests that the best way to lessen social, economic and environmental problems is by becoming *'smart'*. A smart city is a system, *transcendently engaged to create* and elevate sustainable development practices to address growing urbanization challenges.

> *The vision for "Bole Lemi IP" and the "ICT village" is to coalesce and become Smart city through Industrial diversity, improvement in Environmental Quality, Sustainable growth and Life Quality by 2025.*

The ICT will help in awakening the industrial potential and creating healthy & vibrant city. The Bole Lemi Smart Industrial City will introduce value addition and innovation to the Ethiopian Industry. It is expected to set examples that can be replicated in other industrial areas, catalyzing the creation of similar Smart Cities in various parts of the country.

Figure 7: Vision for the Smart City

> *"A smart sustainable city is an innovative city that uses ICTs and other means to improve quality of life, efficiency of urban operation and services and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social and environmental aspects."* (Tiwari, 2016)

To devise a better strategy, the Master Plan Team systematically categorized the different economic functions in the area into three *noteworthy* economic parks.

The contents of the proposed economic parks area are listed as follows:

a. Industrial Parks: this includes the two industrial parks (Bole Lemi Industrial Parks I & II)
b. Business Parks: this includes the two international business parks.
c. Science Parks: includes, High Tech Industrial Park, Aero-space Manufacturing, Knowledge Park, Research and Development, ICT Center and Fabricating Enterprises.

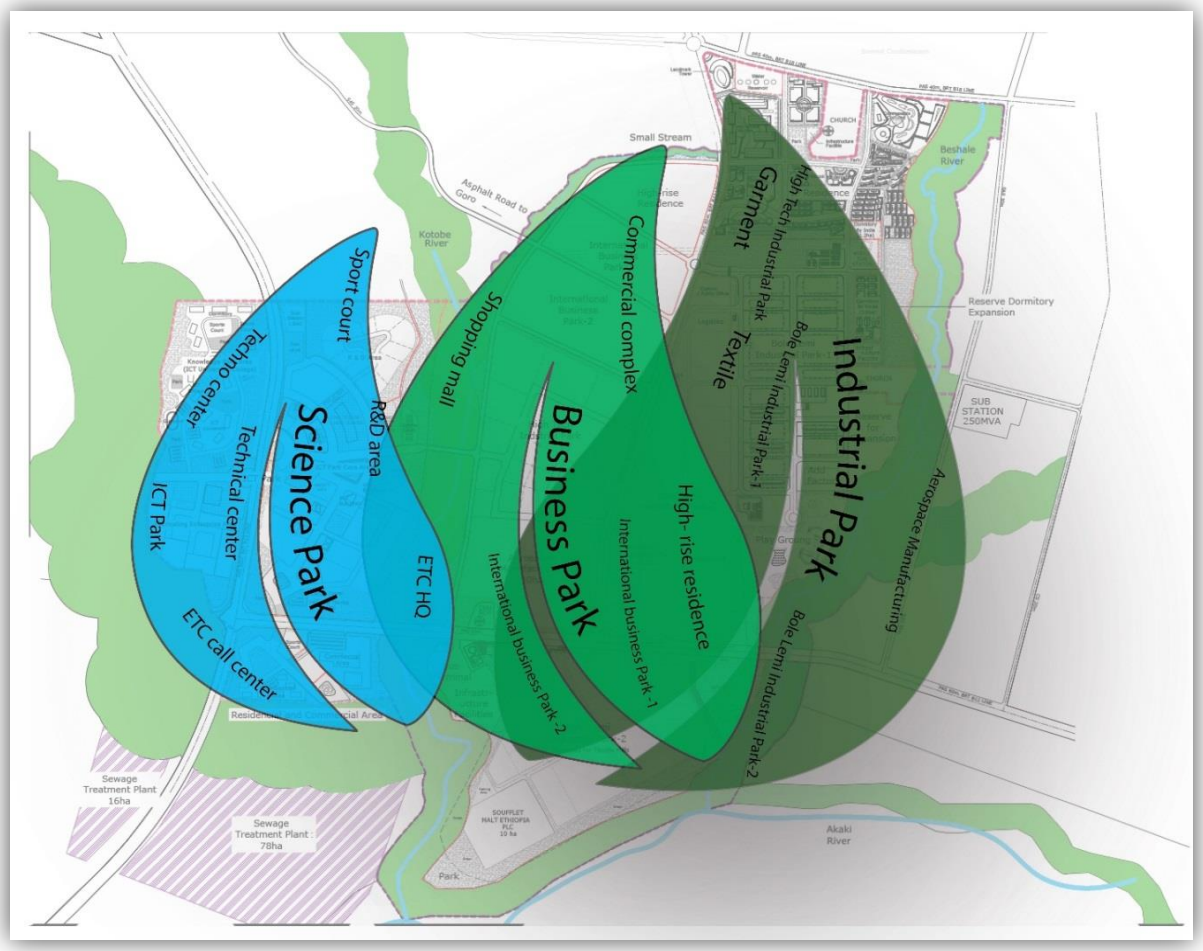


Figure 8: Proposed Economic Parks

Table 10: Area Share of the BLSIC

Types of Economic Parks	Location	Area/Ha/	Area/km^2/	Percentage
Industrial Parks	BL - I	99.2	0.99	11.11
	BL - II	174.8	1.75	19.58
Business Parks	International Business Parks I	16.6	0.17	1.49
	International Business Parks II	24.6	0.25	2.76
	IP Commercial Area	28.7	0.29	3.21
	ICT Commercial and residential area	20.9	0.21	2.34
	High rise residence	16.6	0.17	1.86
Science Parks	High-Tech	52.96	0.53	5.93
	Aero-Space	29.99	0.30	3.36
	ICT- Center of Excellency	16.9	0.17	1.89
	Research and Development	17.1	0.17	1.92
	ICT Center	78.5	0.79	8.79
	Fabricating Enterprises	39.6	0.40	4.44
Others	IP residence	16.8	0.17	1.88
	BLIP I & II Inner road & bus station	31.4	0.31	3.52
	High-Tech External road on west side edge	8.3	0.08	0.93
	Addis Ababa city arterial roads	37.8	0.38	4.23
	Bus terminal	8.2	0.08	0.92
	Solid waste sorting plant	1.9	0.02	0.21
	River front green	171.9	1.72	19.26
Total		892.75	8.93	100

3.3 Conceptual Framework

To guide the development in meeting meet the goal of becoming smart city, the team developed a conceptual framework, which addresses functional and physical connectivity.

a. Functional Connectivity

To realize the “Bole Lemi Smart Industrial City”, it is necessary to have participation of public authority, private firms and scholarly organizations. This will help the smooth implementation by reducing the burden on each participant. BLSIC envisions to bring together technology and the stakeholders (Government and Society) to enable for the creation of a smart economy, smart environmental practices, smart governance, smart living, smart mobility, and smart people.

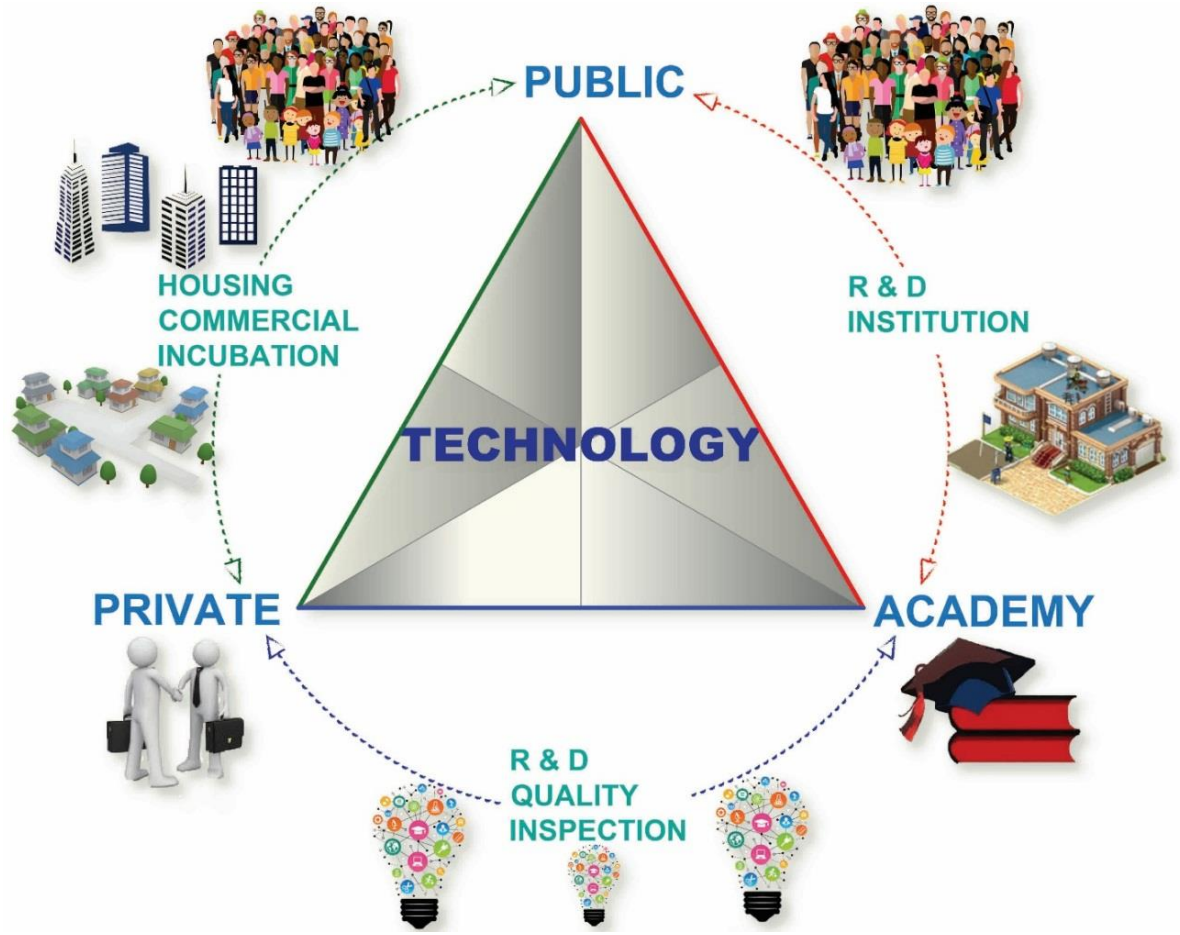
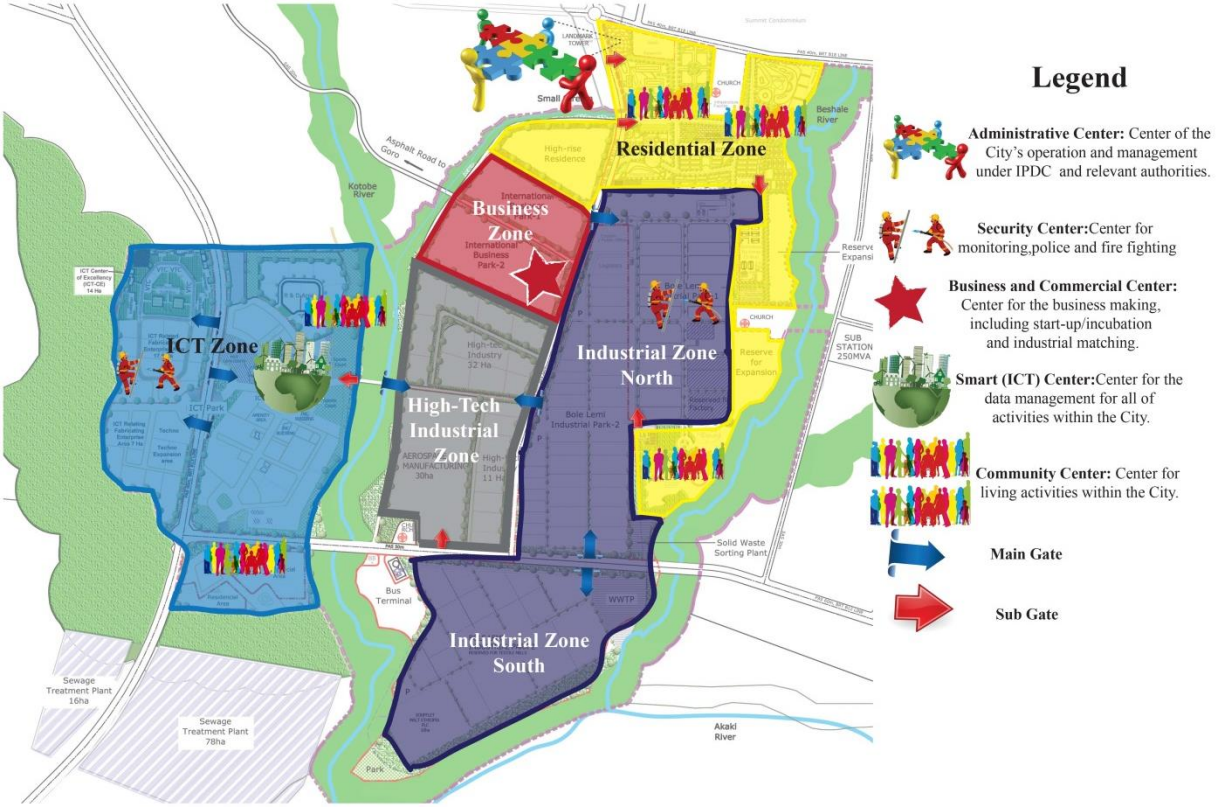


Figure 9: Conceptual Framework

b. Physical Connectivity

As stated above the different economic functions that make BLSIC are: The Industrial Park, The Business Park and The Science Park. To make BLSIC more vibrant, there should be sound functional and physical linkage through street network and IT based connectivity. The physical and functional interaction of the different economic zones will create four major nodal places with in BLSIC. These nodal places are located in the northern and eastern part of BLIP I; and northern and southern part of ICT zone. (See Map 9)



Map 9: Physical and Functional Connectivity Map

d. Synergy in the ICT Park

ICT is the center of smart city development. Hence the proper functioning of the ICT center in BL-SIC is Important for the rest of the development area. The ICT Park contains Fabrication area, Invention Area and Education Area. Human resource is the main engine of the ICT related business, and infrastructure (electricity, internet and data center) will be the fuel for the business. Branding will help to invite talented students to the ICT.

Business matching between the invention and fabrication will be the core synergy and merit of the ICT Park. The overall synergetic relationship between Fabrication, invention and education will amplify the industrial diversion within the park. (See Fig. 10)

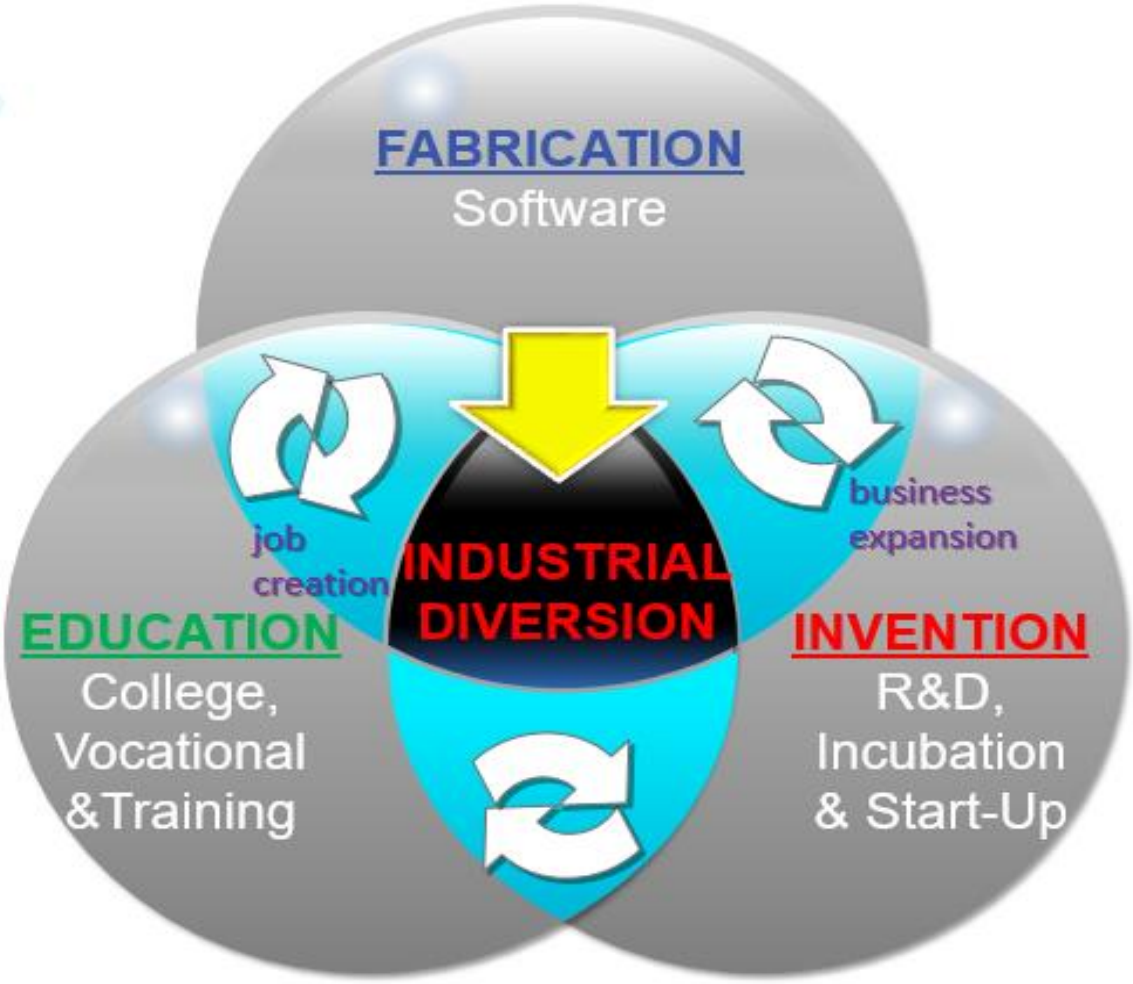


Figure 10: Synergy within ICT

CHAPTER IV: PROPOSED SPATIAL FRAMEWORK

"Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody."

Jacobs, Jane (1961)

4.1 Introduction

The Master Plan provides a framework for future development of the park and shows an indicative parcel layout, external and internal street network, landscape buffers, and land use allocation along with their percentages, integrated smart transportation system with parking and public gathering spaces. BL-SIC master plan encourages the use of smart mobility, smart data center, ecofriendly parks and river buffer and compact and mixed residential development. The layout is shown in the following map.

Map 10: Overall Master Plan

4.2 Population Projection of BLSIC

Based on the existing factories plan and architectural standards the number of workers within the development period has been projected. (See Table 11) According to the projection BL-SIC is expected to accommodate 86,900 residents, a total of 241,300 employees and 191,000 visitors. Based on this population projection the crude density of BLSIC will be 488 people per hectare ((241,300+86,900)/672.6). This indicates that the proposed population density lies in the intermediate density zone of Addis Ababa City.

Table 11: Forecasted Population

Zone	Area	Facility	Area (ha)	Population	Number of Worker	Number of Visitor
Bole Lemi Industrial Park	BL IP I		99.2	-	21,450	-
	BLIP II		174.8	-	65,950	-
	Subtotal		274.0	-	87,400	-
Industrial Park Residence Zone Of BLIP I & II		Dormitory	12.8	51,700	-	-
	Residential Area	Middle manager apartment	2.1	500	-	-
		Top manager apartment	1.9	800	-	-
		Sub total	16.8	53,000	-	-
		Shopping mall	6.8	-	17,500	49,000
	Commercial Area	Commercial Complex with apartment	21.9	15,800	30.000	75.000
		Other	31.4			
		Sub total	60.1	15.800	47.500	124.000
	Subtotal		76.9	68,800	47,500	124,000
High-Tech Industry & International Business Zone	International Business Park I		16.6	-	15,000	3,000
	International Business Park II		24.6	-	22,000	4,400
	High-rise Residence		16.6	13,300	-	-
		Sub total	57.8			
	Aerospace Manufacturing		30.3	-	4,000	-
	High-tech Manufacturing		52.6	-	6,900	-
	Others		8.3			
		Sub total	91.2			
	Subtotal		149	13,300	47,900	7,400
I CT Park	Knowledge Park (ICT-Center of Excellence	Educational Facilities	16.9	1,800	500	1200
	Fabricating enterprise area		39.6	-	2,200	-
	R & D area		17.1		7,500	1,500
	ICT park core area (inclusive of incubation core, data center, etc.)		78.5	-	30,000	6,000
	Commercial area; Residential area	Commercial facility; ICT residence for academia, researcher, engineers	10.5	3,000	18,300	51,100
	Other	Others (Sport court, greenery, & internal roads)	10.4			
	Subtotal		172.7	4,800	58,500	59,800
Total			672.26	86,900	241,300	191,200

4.3 Land Use

The land use plan clearly illustrates land allocation, placement and size for various purposes within BL-SIC. The land use in Bole Lemi Smart City has been categorized into seven major functions. These includes: Industrial park I and II, Residential Area, International Business Park I and II, High Rise Residence and IP Residence, High tech and Aerospace Manufacturing areas, Green Areas and public facilities.

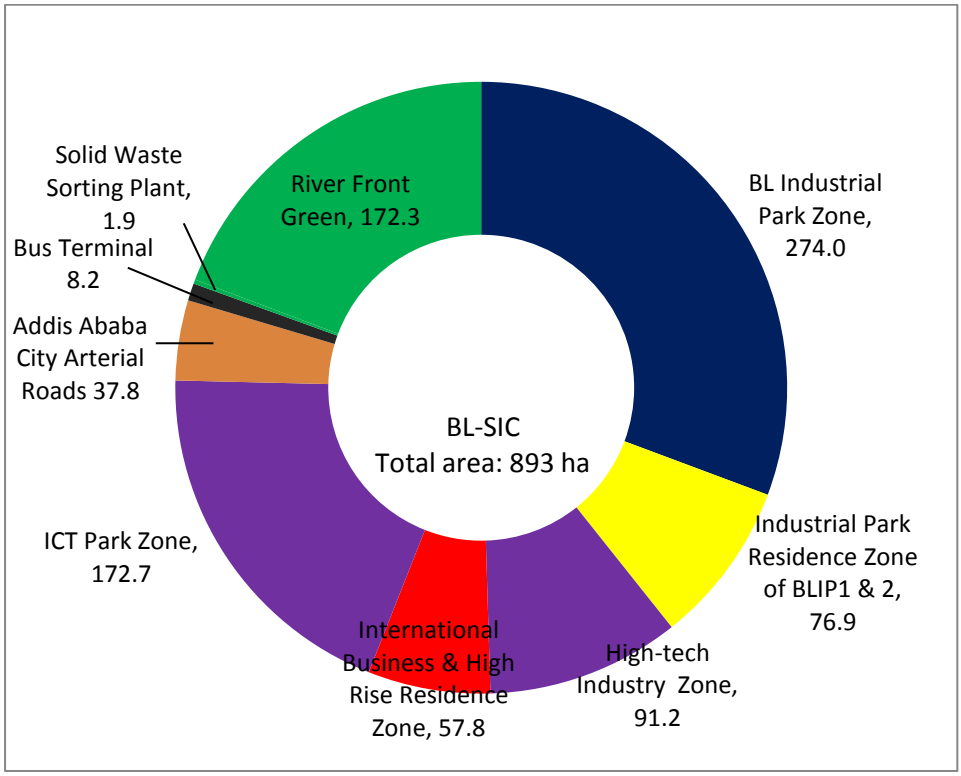
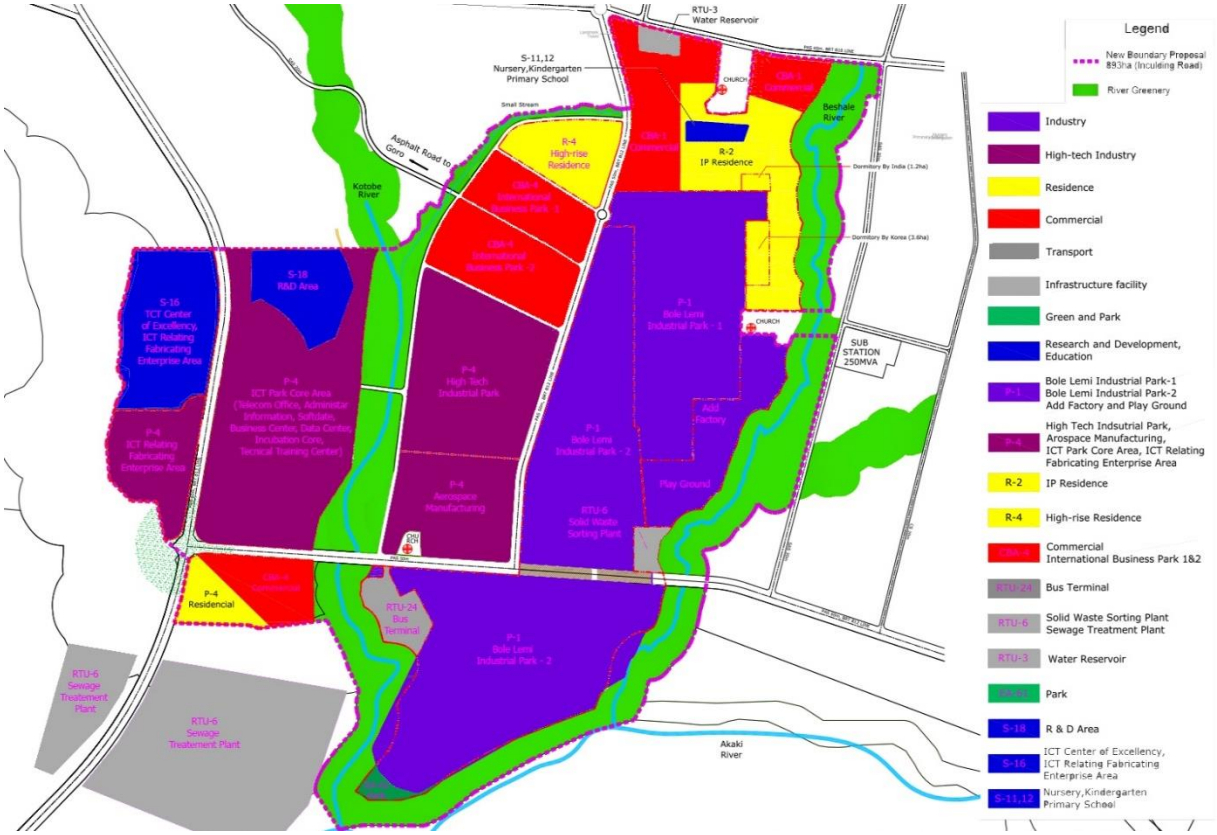


Figure 11: Area Distribution Plan of BL-SIC

As shown in Fig. 11 the largest area is covered by BLIP I and II followed by ICT Park while the smallest is allocated to facilities like solid waste sorting area. The detail land allocation (Area and Percentage) for each functions are presented below.

Table 12: Proposed Land Use Share

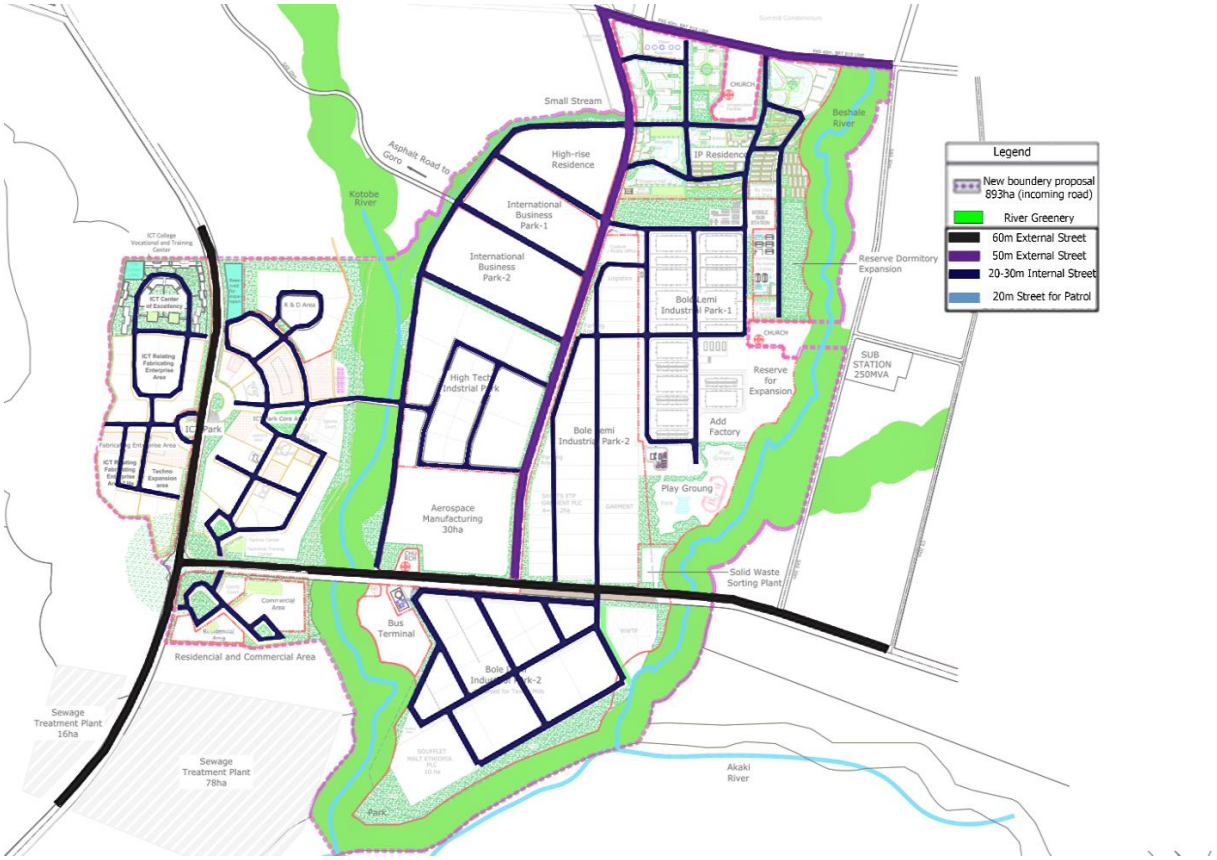
Zone	Area	Area (Ha)	Percentage (%)
Bole Lemi Industrial Park	BLIP – I	99.2	14.7
	BL IP - II	174.8	26.0
	Sub Total	274.0	40.7
Residential Area	Dormitory	12.8	1.9
	Middle Management Apartment	2.1	0.3
	Top Management Apartment	1.9	0.3
	Sub Total	16.8	2.5
Bole Lemi Industrial Park Commercial Area	Shopping Mall	6.8	1.0
	Commercial Complex with apartments	21.9	3.3
	Others (Streets, water reservoir, park, green, bus station etc.)	31.4	4.3
	Sub Total	60.18	8.3
	Sub Total	76.9	11.4
High rise Residence & International Business Park	International Business Park - I	16.6	2.5
	International Business Park- II	24.6	3.7
	High-rise Residence	16.6	2.5
	Sub Total	57.8	8.6
	Aerospace Manufacturing	30.3	4.5
High-Tech Industry and International Business	High-tech Manufacturing	52.6	7.8
	Others (External road on the west side)	8.3	1.2
	Sub Total	91.3	13.6
ICT Park	Knowledge park (Center of Excellency)	16.2	2.4
	Fabricating enterprise area	39.6	5.9
	R & D area	17.1	2.5
	ICT park core area	78.5	11.7
	Commercial area and Residential area	10.5	1.56
	Others (Sport court, greenery, & internal roads)	10.4	1.55
	Sub Total	172.7	25.7
Total	Sub Total	672.6	100.00
Addis Ababa City Arterial Roads		37.8	
River Front Green		172.3	
Bus Terminal		8.2	
Solid Waste Sorting Facility		1.9	
Total		**220.2**	
Grand Total		**892.8**	



Map 11: Land Use Plan

4.4 Street Network

Most of the major streets within BL-SIC has been constructed. The remaining proposed street are expected to respond to and strengthen the character of the area, and encourage non-motorized mobility. In addition the streets are expected to create visual and functional continuity through a system-wide design. The proposed street is expected to promote the transit corridor to also serve as a pedestrian greenway. (See Map 12 below)



Map 12: Proposed Street Network

4.5 Green Coverage

Theoretically, smart city give special emphasis to the natural environment. For the creation of smart city at BLIP the project team gave special attention for the reservation of green area with in the Industrial Park. Accordingly, the total green area reserved for BLSIC is 158.2ha, which accounts 23.5 percent. The percentage of the total green area of the master plan is based on IPDC standard manuals, architectural books as well as countries experience. (See Annex I - B) Studies and existing practice indicates that green coverage in industrial parks should be high. If the BLSIC green coverage includes the existing river buffers, the portion will increase to 37.2 percent. The team reserved land for river buffer developments based on the Addis Abeba river buffer development agency manual.

Map13: Green Coverage

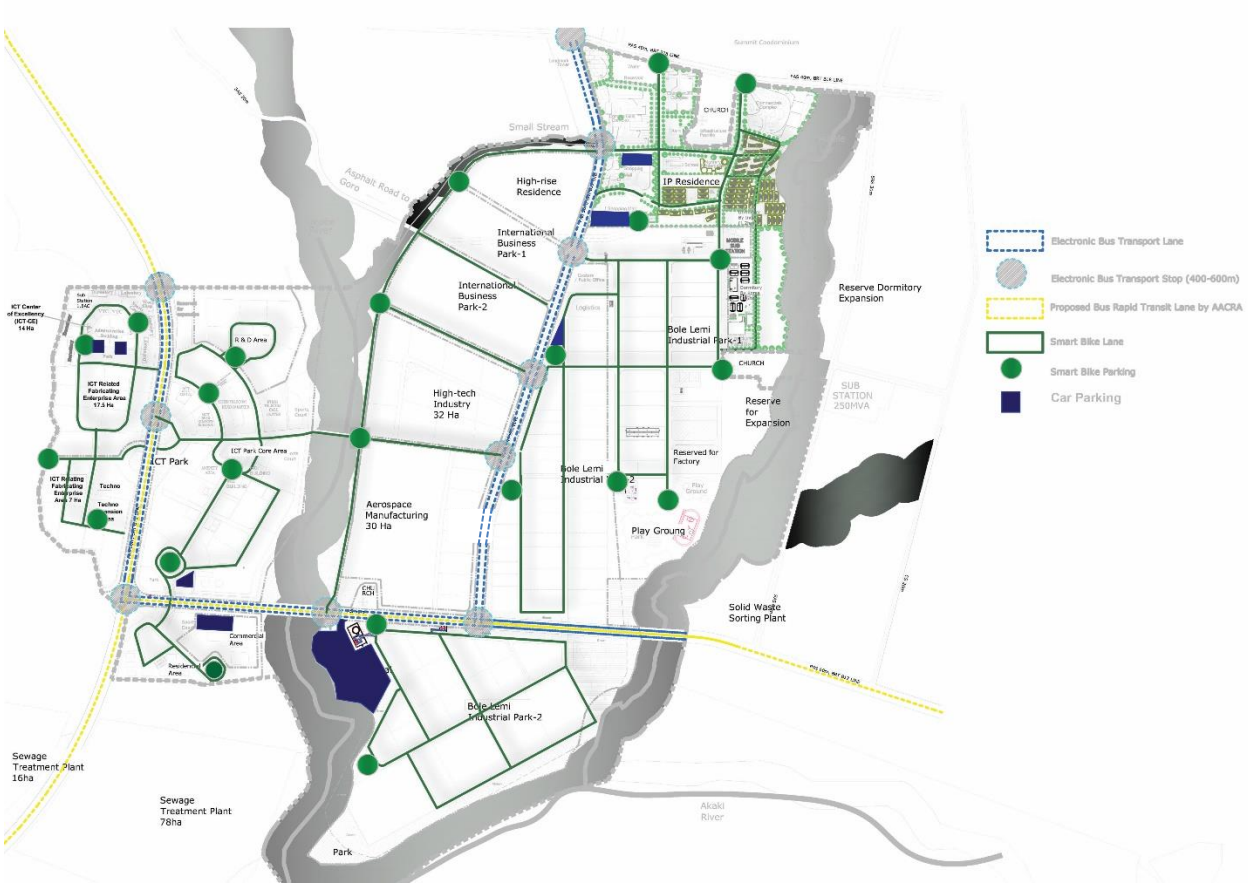
4.6 Public Space

Public space and mobility in the cities of the 21st century is still one of the most important challenges of urban life. Public space plays a vital role in the social development on various levels from small neighborhood parks to large city center square. They are places of great value where people of different backgrounds come together and pick up new ideas by merely being spectators. Bole Lemi smart industrial city has different public spaces such as play grounds and different recreational centers.

Map 14: Public Spaces

4.7 Integrated Smart Transport System

Integrated smart transportation system is incorporated in the master plan. Electric bus transportation lane is proposed along the main road that intersects both ICT and the Bole Lemi areas. The E-bus system will decrease the walking distance for the workers within the park since it has stops every 400 m intervals. In addition, smart bicycle lanes are proposed within each streets of the park. The Smart bicycles can be operated with workers ID to travel from some place to another within the park that can be controlled by the ICT data center. Apart from this, such transportation system has a great role in minimizing the negative environmental impacts.



Map 15: Integrated Transportation System

4.8 Proposed Residential Area Development

BL-SIC master plan allocated space for the development of and provision of housing for the workers. This will minimize uneconomical trip, encourage walking, and assist in sustainable development. The proposed residential development will:

- Promotes the proximity to jobs, shopping, and services
- Promotes non-motorized transportation options , and
- Ensure access to natural areas.

The proposed residential area is expected to accommodate 60% of the factory workers (87,400*0.6=53,000) in Bole Lemi I & II. The proposed area for residence and mixed activities is 16.8 ha. From the proposed housing development 97% is allocated for dormitory, 0.9% for middle managers and 1.5% is allocated for top managers. The area is expected to accommodate green areas, playgrounds, school, kindergarten and other amenities. (See map below)

Proposed Residential Area Development

Map 16: Blow Up Portion Plan of the Residential Area

Figure 12: Partial View of the Workers dormitory

CHAPTER V: PROPOSED INFRASTRUCTURE DEVELOPMENT PLAN

Infrastructure creates the form of a city and enables life to go on in a city, in a certain way

Goldberger, Paul (2009)

5.1 Introduction

The immediate need for cities in developing countries is to provide adequate urban infrastructure to meet the increasing pace of urbanization. In the process of meeting infrastructure demands, smart infrastructure applications provide a way for such cities to achieve leapfrogging in technology. In developed countries, the challenge is often to maintain legacy infrastructure systems, which cannot be abandoned due to cost, space and other considerations. In such countries, smart city applications may focus more on facilitating the optimal use of existing infrastructure resources and monitoring the operations of such legacy resources. However, in both developing and developed country contexts, the primary motive behind smart infrastructure applications should be that they respond to the sustainable development needs of society. (United Nations Economic and Social Council E/CN.16/2016/2, PP 18)

Smart city brings enormous opportunities and exciting challenges. In general, a metropolitan area can be considered as smart when city operations and services such as healthcare, education, transport, parking, and electricity grid are supported through ICT infrastructure in order to facilitate efficiency and ease of operation.

5.2 Electric/Power

5.2.1 POWER DISTRIBUTION SYSTEM

I. Demand Projection

Forecasting the load is a crucial input to strengthening the network between each infrastructure. Hence the load is forecasted based on regional demographic and historical load growth patterns of different countries. The anticipated long-term load forecast is directly used as input to the long-term expansion plan.

A comprehensive Demand - and Energy forecast was required to establish:

- The basis for the distribution system expansion plan, and
- A basis for the future forecast purchases, and sales of Energy, and Maximum Demand per customer category.

II. Load Forecast

The load forecast is a crucial input to the network strengthening between each infrastructure. During this task a load forecast is developed that is based on regional demographic and

historical load growth patterns of different countries. The anticipated long-term load forecast is directly used as input to the long-term expansion plan.

The load forecast is deterministic in nature where the loads were summated, taking load diversity into account, for each area. The load forecast used as basis:

- Futuristic economic information,
- Demographic data,
- Available land use data, and
- Future development initiatives.

Table 13: Electric Power Load Density Based on Type of Usage

Type of usage	Load density	Remarks
Individual/single plot	1MW Km^{-2}	Free-standing single-family houses, two-family houses
Built-up area	3MW Km^{-2}	Terrace houses, small portion of multiple-family houses with maximum of three stories
Dense land development	5MWKm^{-2}	Multiple-story buildings, multifamily houses
Business	5MWKm^{-2}	Manufacturing shops, small business areas
	0.2KW m^{-2}	Warehouses
	0.3KW m^{-2}	Supermarkets and shopping malls
Industry	Up to 15 MW KM m^{-2}	Medium-size enterprises, not very spatially expansive
General consumption	2MW KM m^{-2}	Schools, kindergartens, street lighting

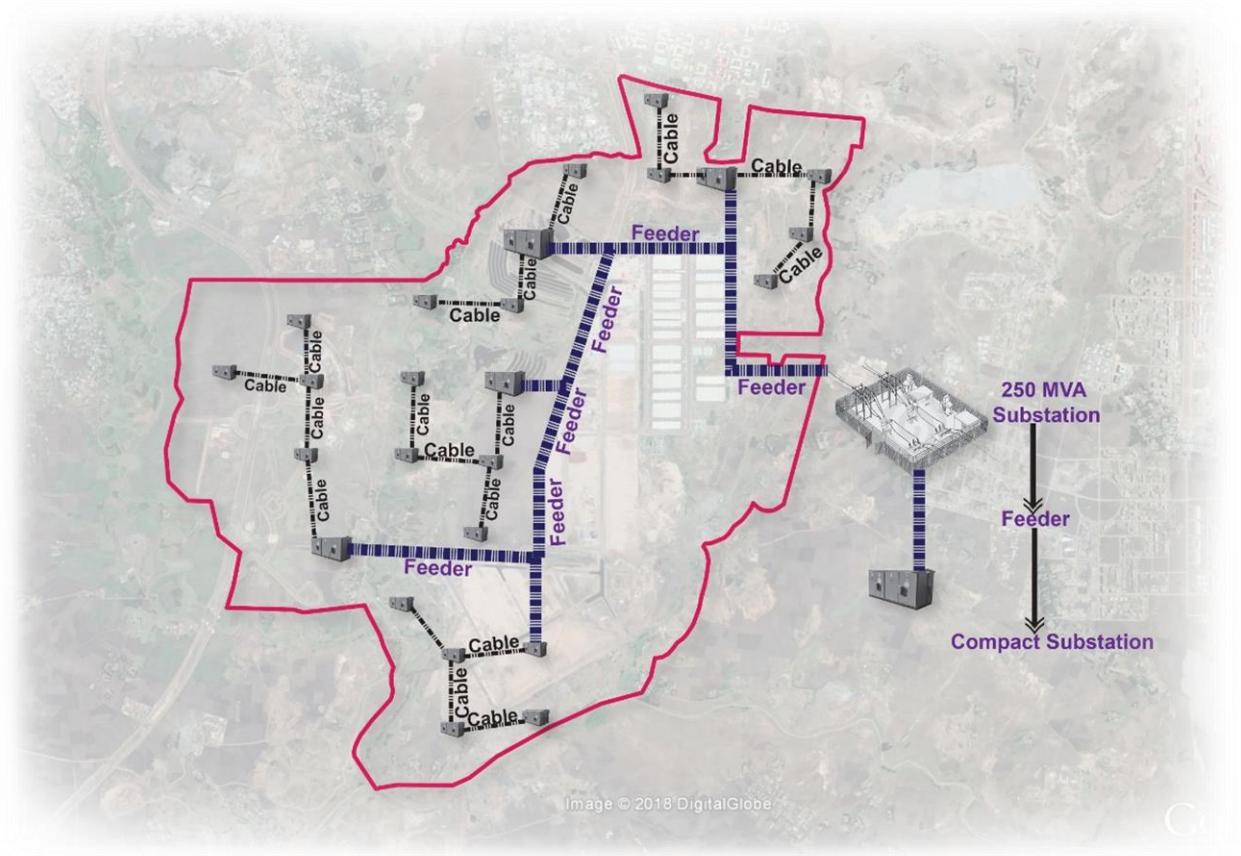
Table 14: Projected Power Demand

Zone	Area	Facility	Area (ha)	Electricity (MVA)						
				Classification	Unit	Unit Demand	Demand	Unit	Unit Demand as per Ethiopia Standard KVA per hectare	Demand
BL Industrial Park Zone	BLIP – I		99.2	Provided (45 MVA)						
	BLIP – II		174.8	Provided (55 MVA)						
	Subtotal		274.0							
Industrial Park Residence Zone of BLIP - I & II	Residential area	Dormitory	12.8	Residential	kVA/ha/day	105	1.27	kVA/ha/day	50.00	0.64
		Middle manager apartment	2.1	Residential	kVA/ha/day	105	0.21	kVA/ha/day	50.00	0.105
		Top manager apartment	1.9	Residential	kVA/ha/day	105	0.19	kVA/ha/day	50.00	0.095
		Sub total	16.8				1.67		150.00	0.84
	Commercial area	Shopping mall	6.8	Commercial	kVA/ha/day	100	0.68	kVA/ha/day	100.00	0.68
		Commercial complex with apartment	21.9	Commercial	kVA/ha/day	140	3.07	kVA/ha/day	50.00	1.095
		Sub total	28.7				3.75		150.00	1.78
	Subtotal		45.5				5.42		300.00	2.62
High-tech Industry and International Business Zone	International Business Park – I		16.6	Commercial	kVA/ha/day	140	2.32	kVA/ha/day	140	2.321
	International Business Park – II		24.6	Commercial	kVA/ha/day	140	3.44	kVA/ha/day	140	3.44
	High-rise Residence		16.6	Residential	kVA/ha/day	105	2.58	kVA/ha/day	105	1.743
	Aerospace Manufacturing		30	Industrial	kVA/ha/day	400	12.	kVA/ha/day	400	12
	High-tech Manufacturing		53	Industrial	kVA/ha/day	400	15.9	kVA/ha/day	400	21.2
	Subtotal		140.8				36.24		1,185.00	40.7
IT Park Zone	Knowledge park (ICT-Center of Excellency)	School buildings	16.2	Service	kVA/ha/day	84	2.79	kVA/ha/day	84	1.361
				Dormitory	kVA/ha/day	105	3.49	kVA/ha/day	105	1.701
	Fabricating enterprise area		39.8	Commercial	kVA/ha/day	75	2.99	kVA/ha/day	150	5.94
	R & D area		17.1	Commercial	kVA/ha/day	75	1.28	kVA/ha/day	100.00	1.71
	ICT park core area (inclusive of incubation core, data center, etc.)		78.5	Commercial	kVA/ha/day	75	53.86	kVA/ha/day	75	53.86
	Commercial area	Commercial facility	7.1	Commercial	kVA/ha/day	100	0.71	kVA/ha/day	100	0.71
	Residential area	ICT residence for academia, researcher, engineers	3.4	Residential	kVA/ha/day	105	0.36	kVA/ha/day	50	0.17
	Subtotal		161.9				65.46		664.00	65.45
Total			622.1			2,359	107.12		2,149.00	108.76

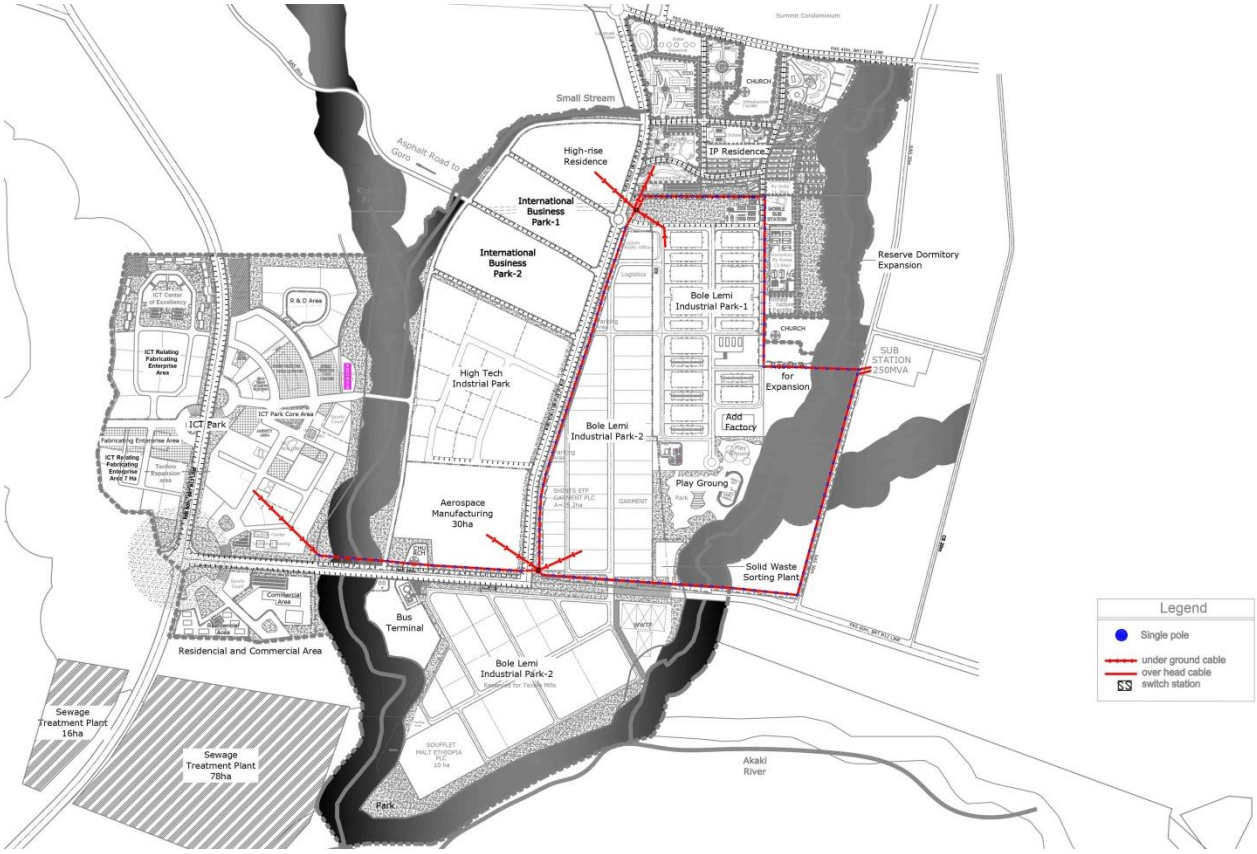
III. Distribution Model

The objective of this task was to develop an adequate network model representing the entire Smart Industrial City Park Distribution Network up-to 33kVA main feeder level. This distribution model is proposed with various load points, representing the feeder load. Since a continuous power supply system is a major element in the smart city development, below distribution model tries to make it essential to have strong and smart transmission and distribution system.

The summation hierarchy used to complete the Geographical Load Forecast is shown below:



Map 17: Power Distribution Model



Map 18: Power Distribution Layout

A. Main 250 MVA Sub-Station

This Sub-Station is located in the east side of Bole Lemi - I industrial park with in 1.5km radius, 33KV incoming utility feed power as the main intake power lines and produce 250 MVA (Mega Volt Ampere) power. In this design we use the 2-utility feeder intake power line only and distributed to each area using switch station. Electric power can be transmitted or distributed by means of overhead line until each switch stations then distributed using underground line for some reasons discussed below:

Overhead line

- Since power to ICT park area transmitted over long distance.
- Obviously, electrical power has to be transmitted at high voltages for economic reasons, thus installation costs are considered.
- Growth in power demand and consequent rise in voltage level is considered.

B. Feeder cable

A feeder is a conductor which connects the main sub-station (or localized generating station) to the area where power is to be distributed. Generally, no tapings are taken from the feeder, so that current in it remains the same throughout. The main consideration in the design of a feeder

is the current carrying capacity. A feeder cable with 400 sq.mm of copper cable is used from the point of Sub-Station up to switch stations and to interconnect each switch stations and to each designated compact Sub-Station area. After the compact Sub-Station the distribution line will continue in underground with a suitable sized cable.

C. Switch Station

These sub-stations do not change the voltage level i.e. incoming and outgoing lines have the same voltage. However, they simply perform the switching operations of power lines. It is used for switching the current to backup lines or for parallelizing circuits in case of failure.

In this design we have two switch stations which are connected together with suitable sized cables. This is to increase reliability when de-energization of a transmission line is needed during maintenance and when unplanned switching events are caused. Therefore, this switching station functioned automatically while the other is de-energized due to many factors so that the system will continue working without trouble.

D. Compact Sub-Station

Compact Sub-Stations (CSS) – are used for information in secondary distribution network from MV (medium voltage) to LV (low Voltage) or LV (low voltage) to MV (medium voltage). In this case we used the CSS to convert the 33 KV, MV (medium voltage) power to LV (low voltage). It is a fully factory assembled package of various Sub-Station equipment's housed in a metal enclosure. It is divided in three separate compartments, namely, MV compartment, transformer compartment and LV compartment. In MV compartment we can fit load break switches, ring main units, circuit breakers. In the transformer compartment, we can use different types of transformers. In the LV compartments we can provide LV distribution boards, LV switches or LV control panel. All these equipment's connected together with suitable sized cables or bus bars. Additionally, a metering kiosk on HV side and HD panel and a PFC panels on LV sides can also be provided as a separate attachment to the main compact Sub-Station.

Advantage

- The major advantage of a compact Sub-Station is that it requires almost half space, plus all the cabling from cubicle up to the LV panel is complete inside the factory so that time is saved at site. Also, dependency on labor skills and availability at site is remarkably reduced. In all the only major work left at site is connection of incoming and outgoing cables and earthing all the equipment's, everything is factory fitted.

- Another advantage of the equipment is that each and every equipment's are enclosed in the panel. Hence any accidental mishaps or thefts are forced to tubers rain, rats, and reptiles are avoided. Obviously, it is no need to mention that the maintenance cost is minimal in the case of CSS. All the cabling and wiring of the control and safety equipment's such as oil and temperature indicator, magnetic oil level gauge, winding temperature indicator etc. are done and tested in the factory. This again reduces lots of installation and commissioning time.
- Increase dependency on skilled and unskilled labor and separate technicians for each equipment's.
- Reduce huge spaces and easy transport
- Increase dependency on technicians for each technician

IP Residence Area

Given: unit demand - 300KVA/ha
Area - 44.6 ha
Total KVA – unit demand * Area
= 300KVA/ha * 44.6 ha
= 13,380 KVA
According to the local manufacturer, the maximum CSS they can manufacture is 1250KVA. As such, number of CSS needed for this area is: -
No of CSS = Total KVA / CSS
= 13,380 KVA / 1250 KVA
= 10.7~~~ 11

Each 11(Eleven) compact Sub-Stations are interconnected to form a ring. The arrangement of these compact Sub-Stations are depend on the space, correct distances are observed in the service area such as hallways, passages, access, and escape routes and location to allow authorized personnel to access it as necessary, to perform service operations and maintenance on the components of the Sub-Station. The location of the structures must be such that the MV lines necessary for connection can be built and maintained in compliance with current regulations regarding electrical installations and safety, as well as electromagnetic pollution.

As the industry park continuous to grow and future project changes, the power transmission and distribution system must be setup and in place to accommodate the changes and growth.

E. Service Mains (Cable)

A service main is generally a small cable which connects the distributor to the consumers' terminals. In the proposed design cables are used to interconnect each compact Sub-Station to form a ring, which is 3x120/70+1x70 sq.mm cu cables and to main distribution board of each area.

5.2.2 Lighting System

Roadway, street, and parking lot lighting are proposed for the Industrial Park primarily for security and safety reasons. It has been tried to make a comprehensive design with inclusive of human safety, reliability, implementation of new functions, and easy maintenance. The design function will allow maximizing productivity and value by minimizing down time and operational expenses, thus protecting the investment for long years, while still providing for a future migration path to evolving technologies. Since it is a smart city industry park, this design has considered all the modern systems with up-to-date technologies.

These lights get power from the nearest compact Sub-Stations and Formation of a lighting district for the industrial park is proposed for monthly energy usage costs and maintenance costs. In order to improve vagueness on billing system, smart controller is recommended.

a. Lighting Control Mechanism

All street lights will be illuminated with LED fluorescent lamps integrated with shadow sensor controller to make it vital for the smart city industry park and to control it automatically. It is used to save power, instead of using the power in unnecessary times it should be switched off.

b. Design Guidance

Parameters for the selection of light fitting are the standard of the building, function of the land, and architectural space orientation. Hence light illumination level guidance for international recommendations and regulations has strictly been followed in the design.

- System reliability, human safety factor and economy were among the main design parameter. Operational simplicity, comfortably and ease of maintenance are also considered in the design.
- All power feeder cables to be laid inside PVC/ cement pipes as required, no surface unprotected cable laying is allowed.

- No connection is to be made inside the pipes. Connections has to be done only inside the provided manholes with IP standard connection boxes (junction boxes)
- Every manhole is required to have removable cover, to remain covered all the time unless required for maintenance and cable laying works.
- Installation will be carried out in accordance with EEPCO regulation.
- Since design is a continuous process and technology is developing every day, there will be further revision and improvement before and during implementation.
- As a matter of fact, street lights are connected in parallel to prevent one malfunction from causing a power outage somewhere else.
- The distribution of power system for street lights are being connected underground.

5.3 Tele-Communications

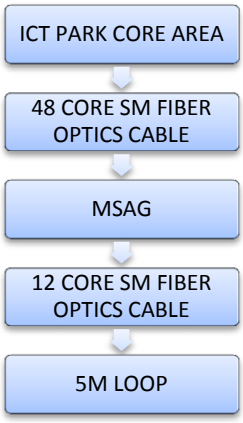
A Telecommunications Pathways distribution center is currently proposed in the ICT Park of the Industrial Park. The ICT Park location should allow for almost every user to be in small radius making a cost effective and flexible means of providing telecommunications infrastructure service to the industrial park. From the scope of distribution center, an underground conduit distribution system will be provided to all industry park areas for Utility provider's service connections.

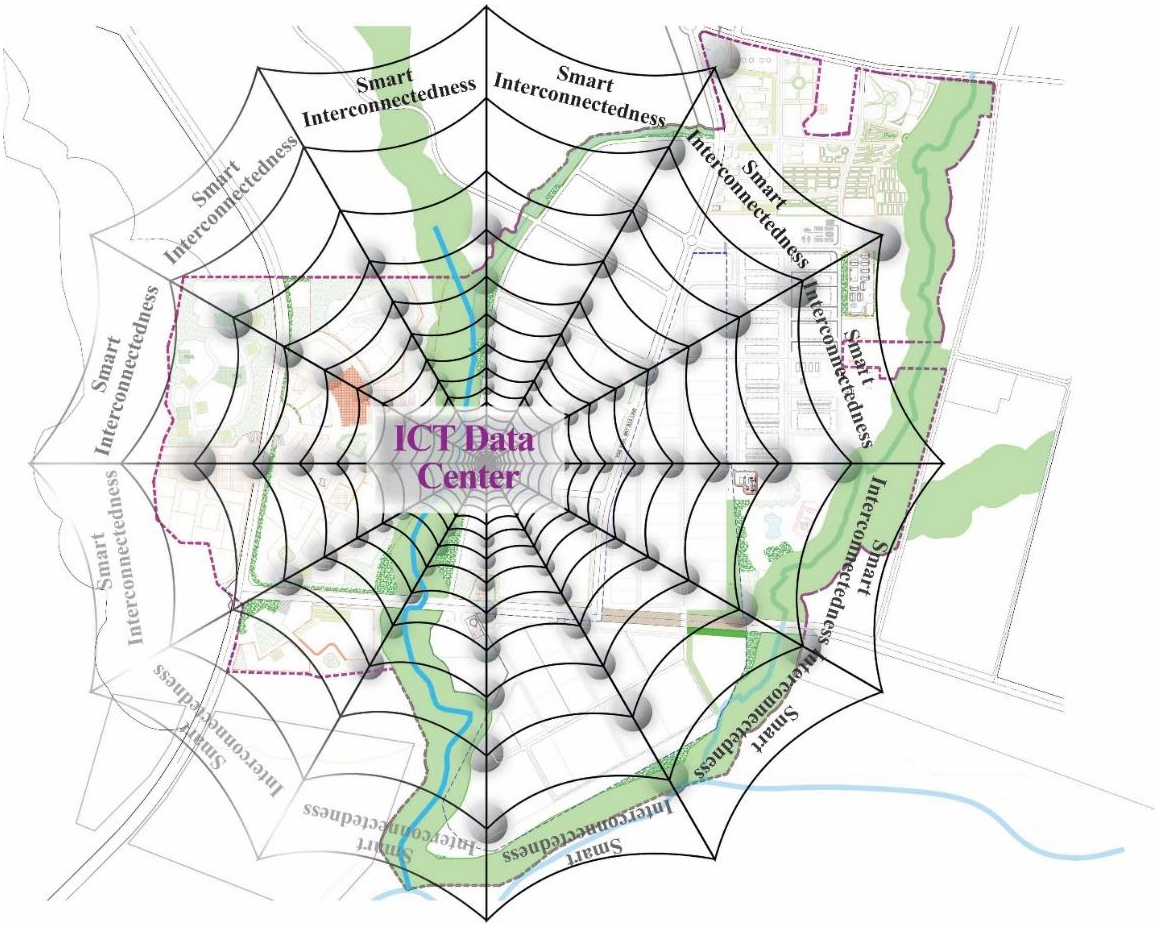
The figure below shows the layout of the proposed Bole Lemi smart Industrial city Park communications distribution system. The Industrial Park Infrastructure Pathway is proposed to be an underground distribution system in PVC conduit designed to accommodate telephone service, fiber service for Internet access, fiber service for point-to-point connections within the Industrial park, and point-to-point communication for Intra Company networking.

Distribution Model

The idea begins from core ICT Park area as a main telecom feeder with an optical fiber cable of 48core single mode underground distribution system. It also uses overhead distribution system to cross the river area to distribute data from ICT Park to other areas.

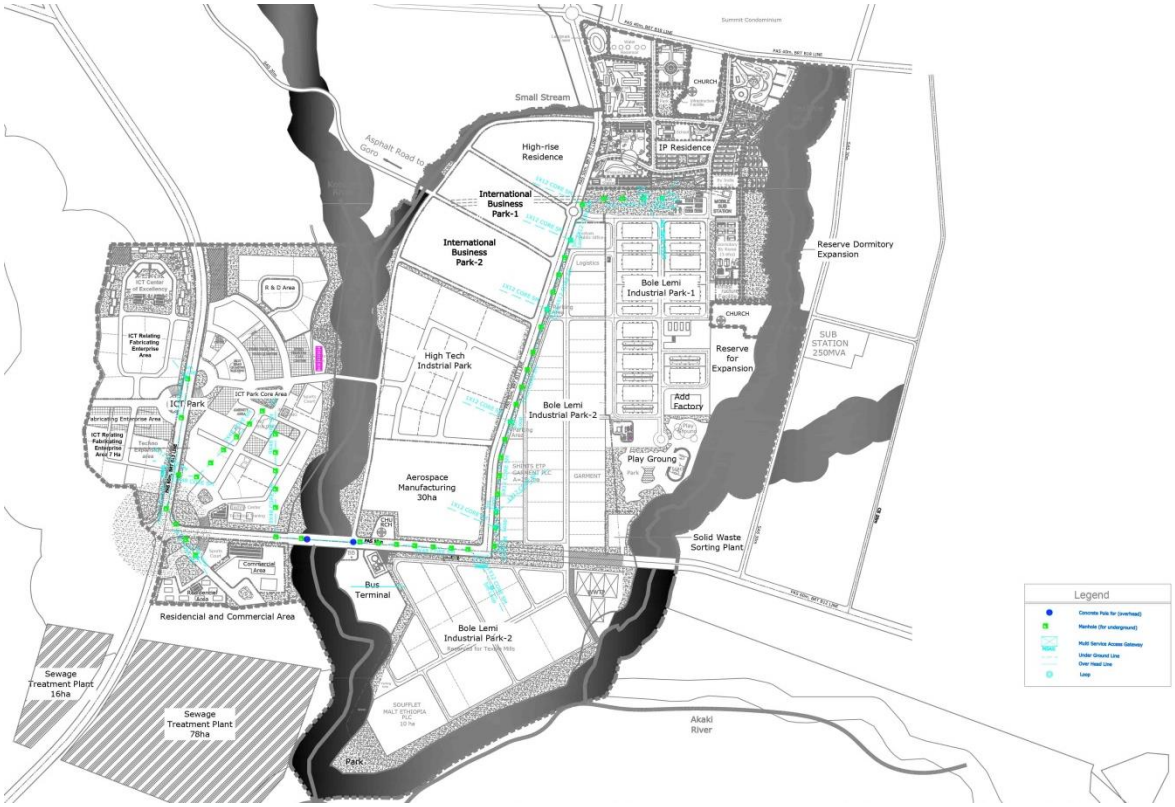
The summation hierarchy used to complete the Geographical Load Forecast is shown:





Map19: Conceptual Map Showing Network Interconnectedness of the BL-SIC

Map 19 shows the layout of the proposed Bole Lemi smart Industrial city Park communications distribution system. The Industrial Park Infrastructure Pathway is proposed to be an underground distribution system in PVC conduit designed to accommodate telephone service, fiber service for Internet access, fiber service for point-to-point connections within the Industrial park, and point-to-point communication for Intra Company networking.



Map 20: Proposed Telephone Line

5.4 Water Supply

It is notable that certain society real development can be ensured and attainable when water demand of that society is met as one of fundamental need. Such inevitable continuous dependence on this resource requires sufficient quantity and quality of water provision that serves the need of community

The 2006 design guideline prepared by the Ministry of Water, Irrigation and Electricity (MoWIE) and related International design standards for the study and design of Water Supply projects are reviewed to prepare the design criteria used as a guide for the design of Bole Lemi smart Industrial city Park Smart City Water Supply design.

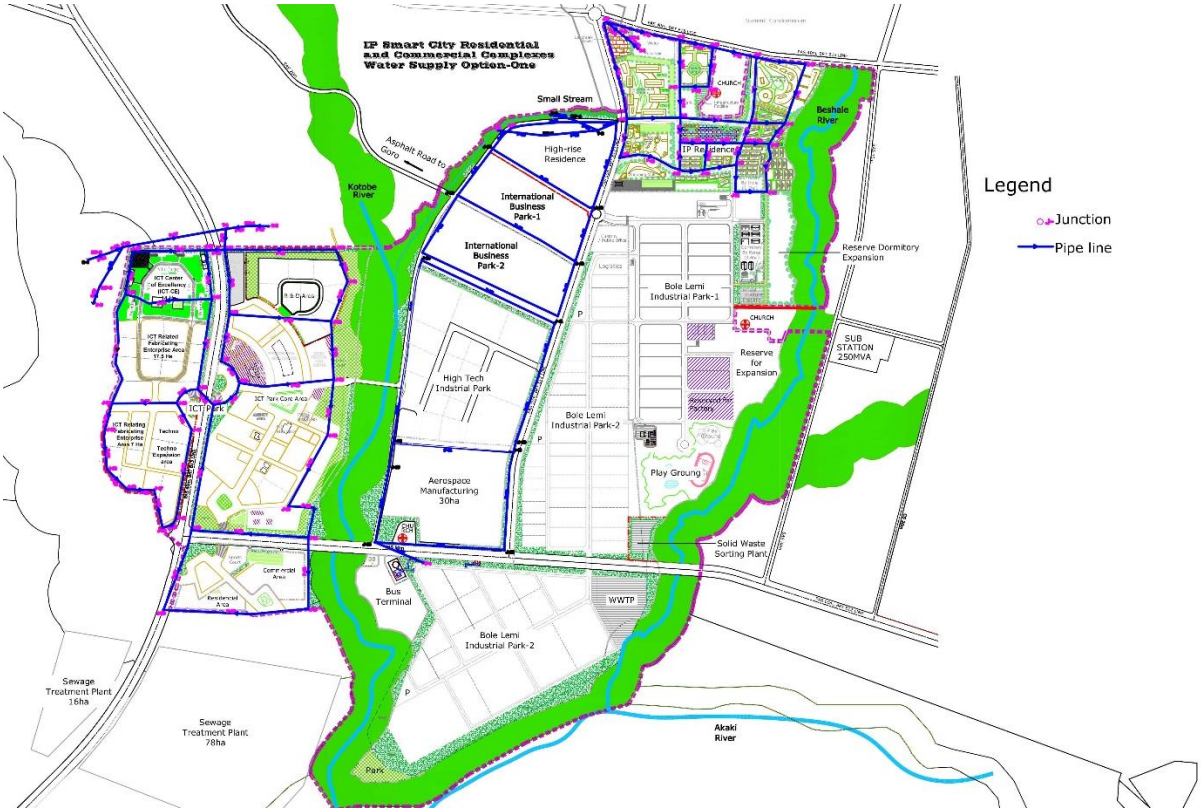
Proposed Water Supply Source and Scheme

Proposed Source:

The demand of the new proposed smart city is very high as compared to surrounding areas, therefore there is a need for another source option. Among the proposed options deep well is the best, because shallow wells will not be chosen as big discharge is not expected from shallow wells to install submersible pumps and it is not feasible to drill shallow wells for high demand. Surface water is also not economical and also there is no perennial stream which is suitable for construction of dam. So, after detail study that includes hydrogeology and geophysical survey

some boreholes are needed to satisfy the water supply need of the smart city. There are two options which is proposed as a source option

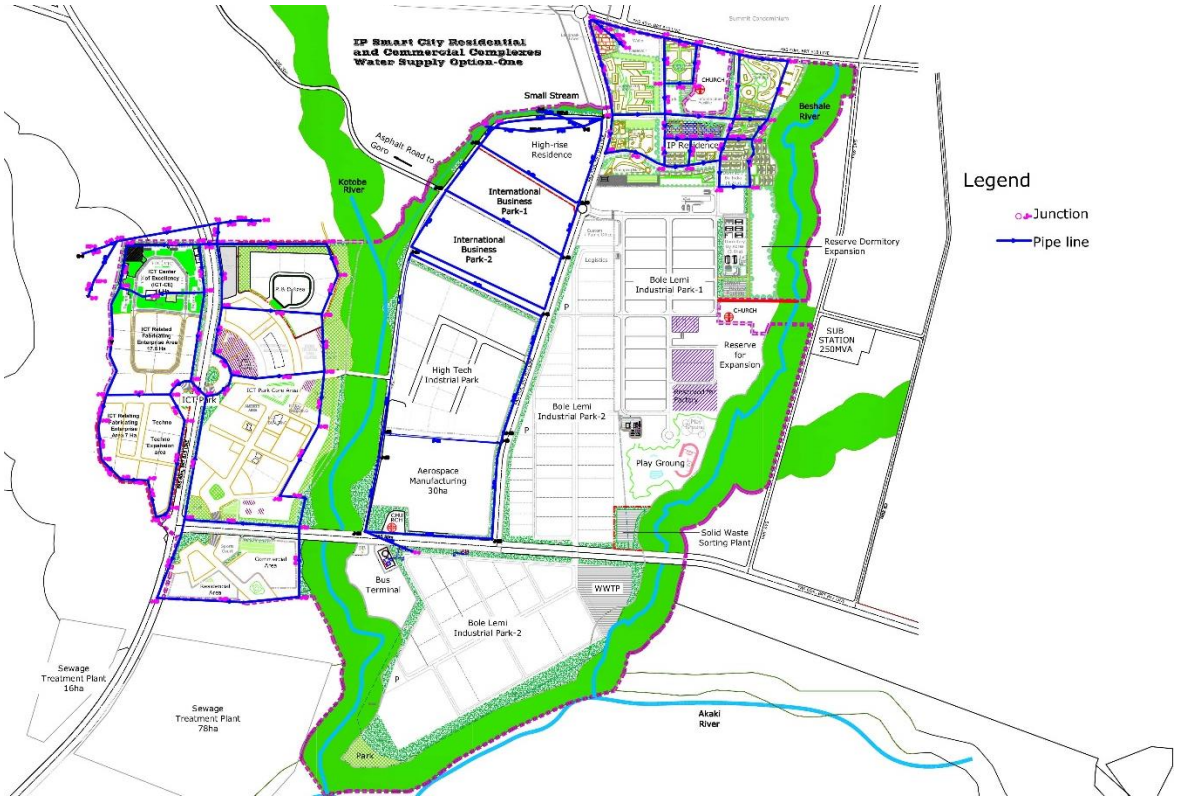
Option One: under option one the proposed areas such as Industrial park residence considered to get water from Bole Lemi-I water supply project whereas High-tech industrial park and Aero-Space manufacturing will get water from Bole Lemi-II water supply project. The remaining areas ICT Park, High rise residential and International Business Parks will get a connection from the new ground water to be drilled.



Map 21: Proposed Water Source and Distribution Line (Option I)

Option two: under option two, the source options remains the same as option one, except the High-tech industrial park and Aerospace manufacturing which is from the new ground water to be drilled.

The source should be able to supply the maximum day demand during low flow seasons. In both cases (the existing water supply system and the new proposed) the sources are Boreholes.



Map 22: Proposed Water Source and Distribution Line (Option II)

Design Period

Water supply projects are usually designed either for a single phase of 15-year period or two phases, each 10 years' period. Considering lifetime of electromechanical parts and economic considerations, a design period of 20 years divided in to two phases, each 10 years' period is adopted.

Design Flow

Different components of the Smart City Water Supply scheme will be designed using different design flows depending on their specific use in the system.

Average Day Flow

Average day flow is the total volume of water to be supplied to a distribution network over one-year period divided by the total number of days in a year.

Table 15: Climatic Adjustment Factors

Mean Annual Temp. (^{0}C)	Description	Altitude	Factor	Examples
<10	Cool	>3,300	0.8	
10-15	Cool temperate	2,300-3,300	0.9	Goba
15-20	Temperate	1,500-2,300	1.0	Addis Abeba
20-25	Warm temperate	500-1,500	1.3	Metahara
25 and above	Hot	<500	1.5	Kebridehar

Source: MoWIE, 2006

Table 16: Socio-Economic Adjustment Factor

Group	Description	Factor
A	Towns enjoying high living standards and with high potential for development	1.10
B	Towns having a very high potential for development, but lower living standards at present	1.05
C	Towns under normal Ethiopian conditions	1.00
D	Advanced rural towns	0.90

Source: MoWIE, 2006

Peak Day Flow

Max day flow is the maximum volume of water that should be supplied from a system over one-day period within a year. The raw water pumps, the treatment plant, raw water rising mains and clear water transmission mains are designed for phase II maximum day flow.

Peak Hourly Flow

Peak hour flow is the maximum expected flow in the system on a given hour within a year. Gravity distribution mains from the service reservoirs to the distribution network and the distribution network itself are designed for Phase II peak hour flow.

Hourly Peaking Factor

There are a number of approaches to determine the hourly peak factor used to estimate the peak hour flow from the average day flow. The method based on population size as given in the 2006 guideline from the Ministry of Water, Irrigation and Electricity is used in this project. Thus, an hourly peaking factor of 1.6 that is recommended for a population size greater than 100,000 is adopted for the Smart City Water Supply.

- **Peak hour demand**: is the highest demand of any one-hour over the maximum day. It represents the diurnal variations in water demand resulting from the behavioral patterns of

the local population. The peak hour demand is obtained by multiplying the maximum day demand with the peak hour factor.

The demand factors are very important for the designing of water supply system components. The recommended values are summarized in the following table.

Population Size	Minimum day factor	Peak hour factor
< 2,000	1.3-1.5	2.6
2,000-10,000	>>	2.4-2.2
10,000-50,000	>>	2.2-1.8
50,000-80,000	1.2	1.8-1.7
>80,000	>>	<1.7

Source: MoWIE, 2006

Climatic Factors

Average day consumption of water depends on rainfall. The following table is used to select climate adjustment factor for Smart City Water Supply. ***(Refer Annex for Demand Projection)***

Table 17: Climate Adjustment Factor used for Smart City

Group	Mean Annual Precipitation (mm)	Adjustment Factor
A	≤ 600	1.10
B	601 - 900	1.05
C	≥ 901	1.00

Source: MoWIE, 2006

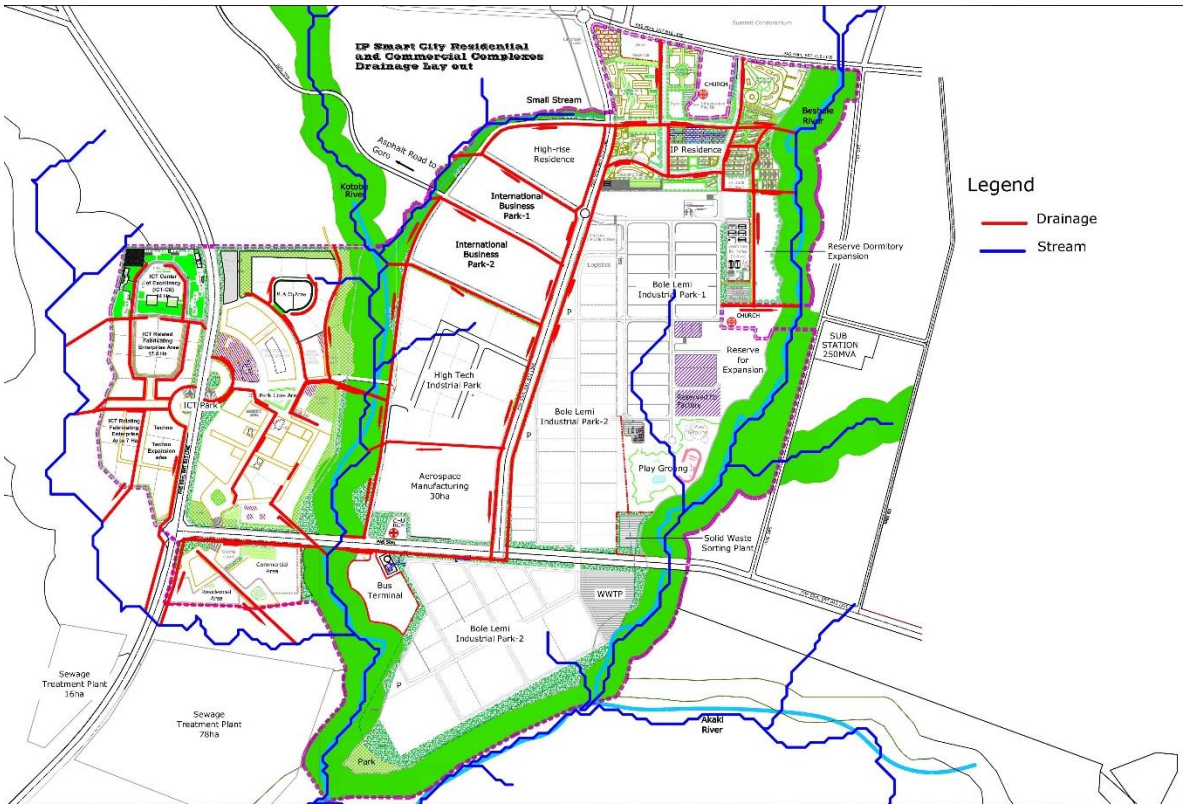
5.5 Strom Water Drainage

Proposed Storm Water Drainage Layout

Generally, drainage systems will be designed to prevent flood damage during the most usual floods and to minimize the modifications in the hydrology of the area. Different returning periods are considered (annual, 10-year, 50-year, or 100-year flood, depending on the importance of the road and the type of structures)

To reach these goals, different types of structures are incorporated in the drainage systems,

- Open channels, whether artificial or natural conveyances of the flows of water.
- Culvert and bridges, used when open channels cross embankments.
- Energy dissipaters, used to control the velocities of flows, especially at culvert outlets.
- Storm drainage facilities, used to collect the runoff of the carriageway and surrounding areas and direct it to the channels.



Map 23: Proposed Drainage Layout

Hydrological Methods for Run off Calculations

Many hydrologic methods are available. The methods to be used and the circumstances for their use depends on the size of area, soil type and land use types. If possible, the method shall be calibrated to local conditions and tested for accuracy and reliability.

Hydrologic analysis should include the determination of several design flood frequencies for use in the hydraulic design. These frequencies are used to size different drainage structures to allow for an optimum design, that considers both risk of damage and construction cost. Consideration shall be given to what frequency flood was used to design other structures along a highway corridor (ERA Drainage Design Manual, 2001). The SCS and Rational method will be used to calculate the runoff.

5.6 Sewerage System

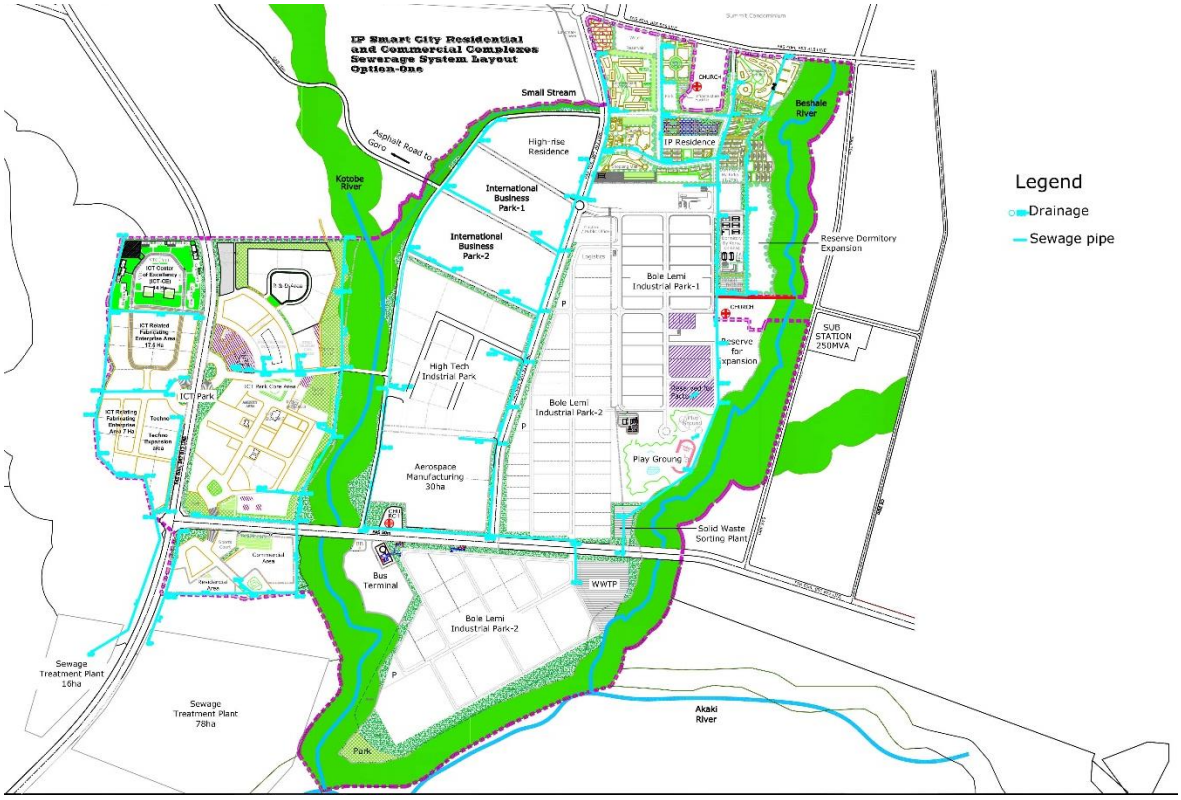
Proposed Sewerage System

The wastewater will be conveyed to the treatment plants through different sizes of pipe line which is either conveyed to Waste Water Treatment plant of Bole Lemi -II or to the newly proposed AAWSA sewage treatment plant.

There are two proposed options for conveyance of the sewage as described below.

Option One

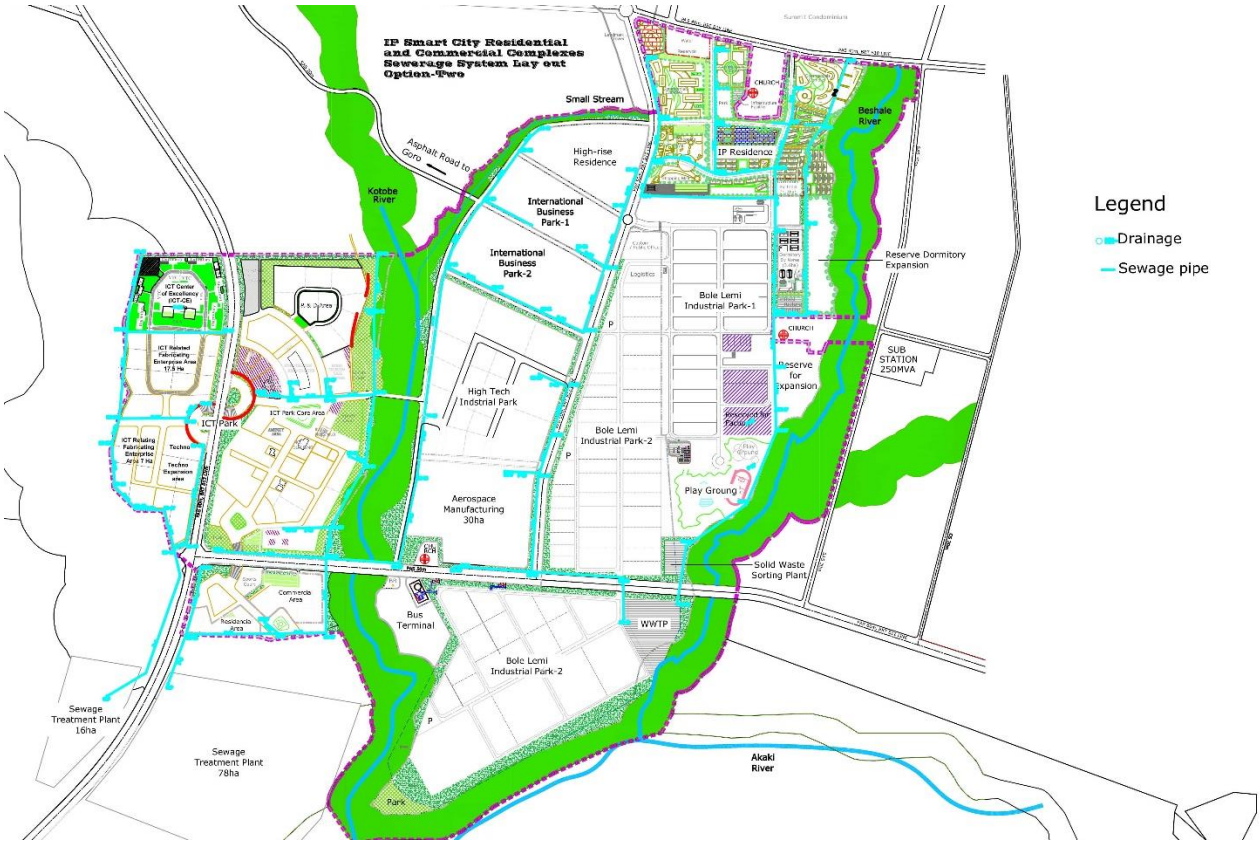
There are two proposed sewage conveyance options depending on the capacity of the newly under construction of Bole Lemi-II industrial Park Waste Water Treatment Plant (WWTP). In this Option the sewage from the proposed smart city lots such as Industrial Park residence, High rise residence, and International Business Park-1, International Business Park-2, Aero Space Manufacturing and High-tech industrial park will be conveyed to the Bole Lemi-II WWTP. The Sewage from ICT Park will be piped to the newly proposed AAWSA Sewerage Treatment Plant.



Map 24: Proposed Sewer Layout (Option I)

Option Two

In Option two the sewage from the proposed smart city lots, Aero Space Manufacturing and High-tech industrial park will be conveyed to the Bole Lemi-II WWTP. The Sewage from ICT Park, High rise residence, International Business Park-II, International Business Park-II, industrial park residence will be conveyed to the newly proposed AAWSA Sewerage Treatment Plant.



Map 25: Proposed Sewer Line (Option II)

CHAPTER VII: ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

"A city's environment is shaped not only by people who have an important influence, but by everyone who lives and works there."

Cowan, Robert

6.1 Description of the Project Component Having Environmental and Social Impacts

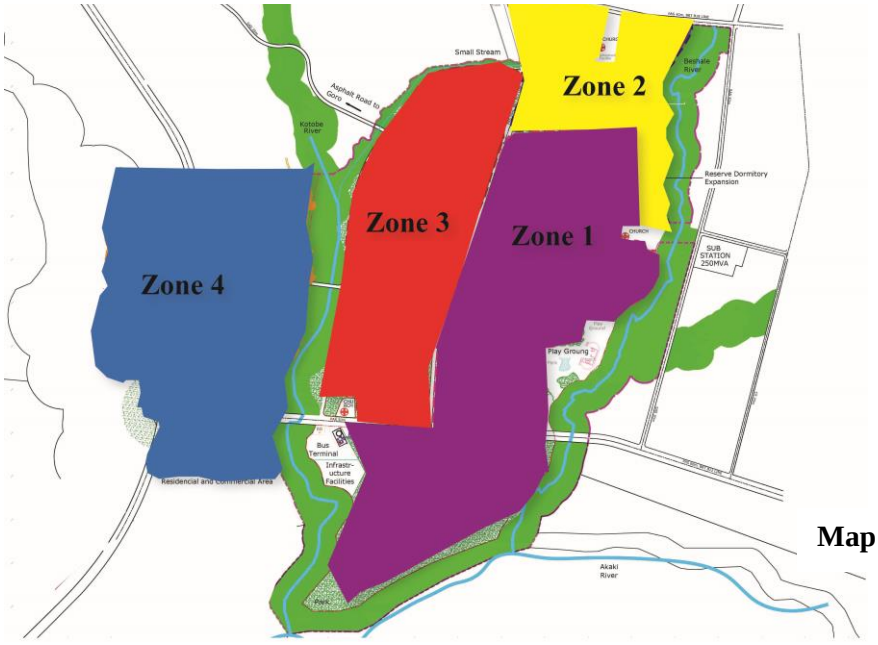
The BL-SIC master plan aims to develop a smart city in the area of 892 ha in Bole sub-city, Bole Lemi area, in order to assist the economic growth and enhancement of advanced technology/industry of Ethiopia.

Current land use of the plan BL-SIC site consists of:

- BLIP – I
- BLIP – II
- Addis Ababa Wastewater Treatment Plan (Kotebe treatment plant) under operation,
- ICT Park under operation, and
- Existing residences, farmland. (Refer Map 6: Land Use Map)

The master plan proposes four zones, namely: (See Map 26 below)

- BLIP zone consisting of BLIP – I and BLIP – II (Zone 1 on the map) for light industry manufacturing
- IP residence zone (Zone 2), which is high quality residence for the employees of the BL-SIC and other people and commercial complex
- High-tech Industry and International Business Zone (Zone 3), planned for high-rise residential buildings, international business parks, aerospace manufacturing and high-tech IP, and,
- ICT Park Zone (Zone 4) for ICT business and manufacturing



Map 26: Zonal Map of BILSIC

Bole Lemi-I IP is under operation of manufacturing while infrastructure construction in BL-II IP has not completed. Also, IPDC has started infrastructure construction in the IP residence zone. Land leasehold right of Zone 3 (High Tech Industry and International Business Zone) has not been transferred to IPDC yet and still under negotiation. In the ICT Park (Zone 4) some IT companies and ICT administration are operational and other companies including Ethio-Telecom HQ is under construction.

The major component of the BL-SIC is likely anticipated to give impacts on society and environment because it includes large-scale types of the industries (IT manufacturing, aerospace manufacturing, and high-tech industry). Some of these industries like ICT manufacturing is anticipated to generate not only general industrial waste, but also, hazardous e-waste.

6.2 Environmental and Social Conditions of the BL SIC Master Plan

6.2.1 Location, Topography, Overview of Natural and Social Issues

BL SIC plan site is located in Bole sub city. It is surrounded in the south by Akaki River and in the east by Beshale River. The river banks are eroded by heavy rainfall and no protection measures. There is very less vegetation on the river side which would have protected the soil from being eroded. There are different types of vegetation on the site, but mostly grasses. Trees like acacia and eucalypts and other indigenous trees are found on the site. Most of the plan area has gentle slope but east side of the farm land that is proposed for high rise residential area in the master plan (Zone 3 on the map) is structured by steep slope. Natural hot spring exists on the southern edge of the ICT Park which currently is used as public bathing purpose.

6.2.2 Current Situation of Plan Site

The Addis Ababa sewage treatment plant, under operation, is presently located on the Zone 3 (planned high-tech industry and international business zone). The collected waste water of the STP emits bad odor and polluting the surrounding air.

It is anticipated that BL-SIC plan will affect people live and use the plan site once the project proponent decides implementation. There are people who live inside the plan area particularly inside the area planned for ICT Park. There are houses constructed by mud/wood on the boundary of the ICT Park. IPDC and ICTC try the survey to find number of affected people but it is difficult due to aggressive reaction by the settlers. There are also agricultural lands within the IP residence zone (Zone2), the high-tech industry and international business zone (Zone 3),

and the ICT park zone (Zone 3). Farmers will lose their livelihood and the project proponent must consider and follow the compensation procedures as mentioned in the Ethiopian Proclamation and Regulations.

1

2

3

4

5

6'

Picture 5: Pictures from the Master Plan Site (‘1’, construction site in zone 1, ‘2’, agricultural site in zone 2, ‘3’, existing AAWSA WWTP site in zone 3 , ‘4’, existing agricultural site in zone 4, ‘5’, existing vegetation in zone 4, ‘6’, settlement in the zone

6.2.3 Current Situation of ESIA and Resettlement Action Plan (RAP)

There are approved ESIA documents for Bole Lemi - I IP and Bole Lemi -II IP. These documents, following Ethiopian EIA Guideline, provide information of the site, project description, anticipate impacts on the environment, and prepare environmental management plan (EMP) and environmental monitoring plan (EMoP). The document review important environmental legislation, policy, and proclamations that are necessary to consider. The RAP is prepared for BLIP - II which reviews applicable regulation and law on resettlement, provides information on negotiation with PAPs, number of PAPs and prepares mitigation plan to properly compensate them.

6.3 System of Environmental and Social Considerations in Ethiopia

I. Responsible institution

Ethiopian Environmental Protection Authority (EPA) is the administrative agency responsible for environmental and social considerations in Ethiopia.

II. Legal system, law and regulations

Article 44 of the Ethiopian Constitution (1995) provides that the environmental rights, all persons are entitled to: living in a clean and healthy environment; compensation including relocation with adequate state assistance.

Major laws and guidelines relating to environmental and social considerations are Environmental Impact Assessment Proclamation (Proc. No 299/2002), Environmental Impact Assessment Regulation (Reg. No 21/2006), Ethiopian EIA Guideline (2000) and EIA Procedural Guideline (2003).

At this moment, strategic environmental assessment or SEA is not legalized.

III. EIA process

Figure 4-3 shows the EIA implementation procedure of Ethiopia based on the Environmental Impact Assessment Procedural Guideline Series 1 (2003).

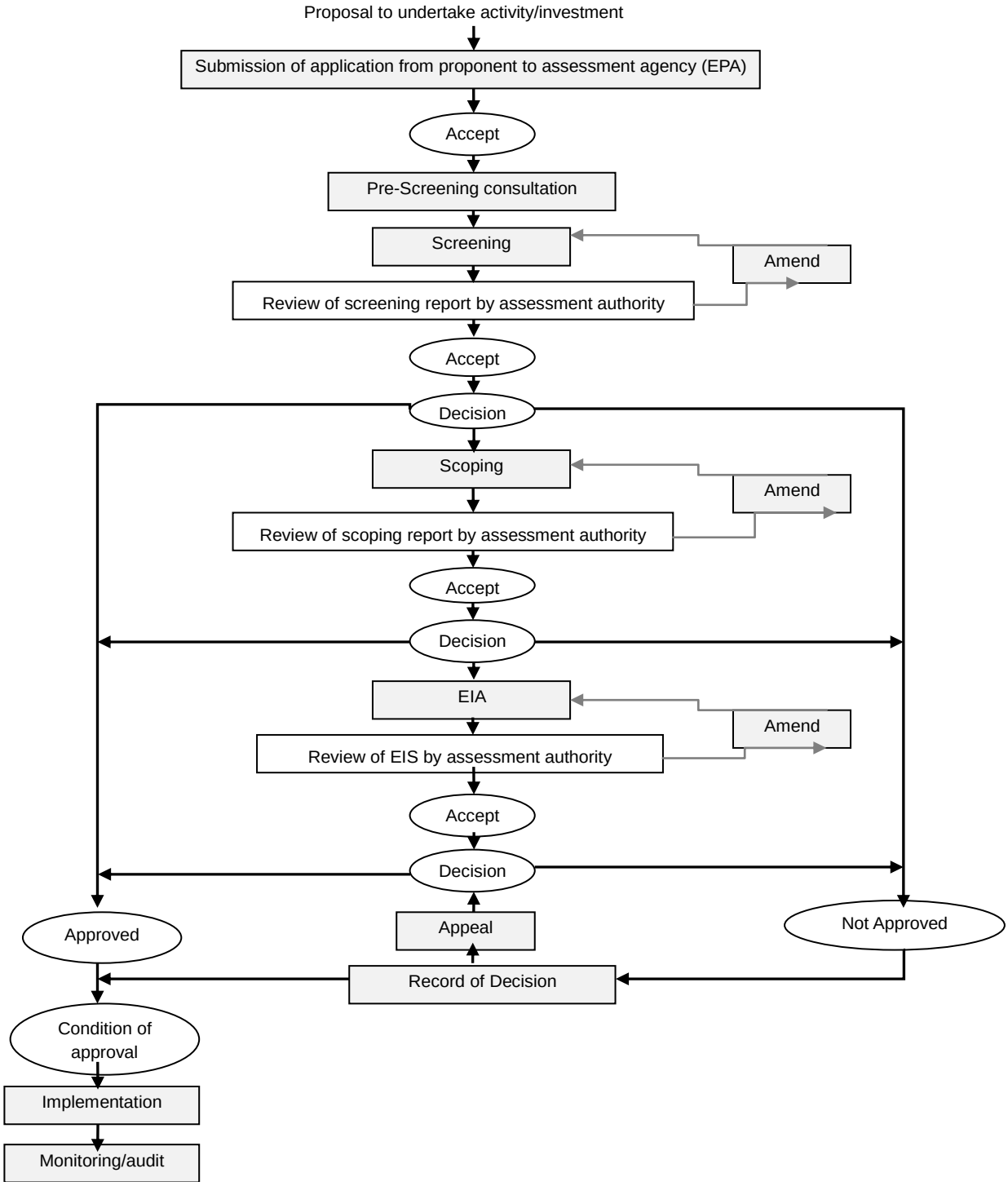


Figure 13: Implementation Process of EIA in Ethiopia

Source: Environmental Assessment and Management Guideline/EAMG/

IV. Necessity Procedure and Timing of EIA

Procedural Guideline (2003) Annex III provides that all project activities is divided into three categories: namely, Schedule 1 projects that require full EIA, Schedule 2 projects that require a preliminary environmental study, and Schedule 3 projects that may not require

EIA. Because various types of industry is classified into Schedule 1, BL-SIC must implement full range EIA when IPDC decides implementation. While BLIP - I and BLIP - II did ESIA and got certificate of environmental clearance, ICT Park was developed without them. As BL-SIC project will change land use except the manufacturing area of both IPs, JICA EIPP team recommends IPDC to contact with EPA on the ESIA implementation.

6.4 Comparison of Alternatives

The master plan aims to establish a smart industrial city of advanced quality in order to trigger Ethiopia's economic, industrial and scientific growth in compliance with the national policy. The option of no project/zero option will not allow further industrial development that comes with it such as large IT industry and international business and opportunities such as job opportunities and increase of exporting goods as well as other benefits. If the master plan is not implemented, the site will stay as it is which, is agricultural land within the periphery of the urban environment. Therefore, it is considered appropriate to implement the master plan.

The master plan compared two alternatives, one is with and the other is without plan for the non-development zone and selected the first option from viewpoint of future Ethiopian economic, industrial and scientific growth.

Alternative 1	Alternative 2
Proposed master plan. Plan area is 893ha including both developed and non-developed zones. 1) BL Industrial Parks Zone; 251.5ha, 2) Industrial Park Residence Zone of BLIP I & 2; 76.9ha, 3) Expansion Zone planned for High-tech Industrial and International Business; 355.0ha 4) ICT Park Zone; 171.6ha, 5) Addis Ababa City Arterial Roads; 37.8ha **Total 892.8 ha**	Limit the plan area to the zones where development has been completed or started. 1) BL Industrial Park Zone; 251.5ha, 2) Industrial Park Residence Zone of BLIP I & II; 76.9ha, 3) ICT Park Zone; 171.6ha, 4) Addis Ababa City Arterial Roads; 37.8ha **Total 537.8 ha** (60% of the proposed master plan)

Table 18: Comparison of Alternatives

Factor	Alternative 1	Alternative 2
Construction technique	+- Expansion zone requires advanced construction techniques.	+ As BL-IPs and ICT Park have been developed, only residential area will be constructed. Comparing with high tech IP, residential area may not need advanced technology.
Construction period	- Longer	+ Shorter
Cost	- High	+ Low
Environmental impact	Expansion zone will start construction after the current AAWSA STP be replaced to the proposed place. + This plot will be used for cleaner use and BLIP - I will not be annoyed by odor. - Soil of this plot is contaminated and it needs to disinfect and cover the land with fresh soil, which shall be considered in the basic design. * Newly relocated STP is expected higher treatment quality and less contamination.	Current AAWSA STP plant remains until AAWSA decides and relocate it. - BL 1 continues to be annoyed ty odor and any other pollution from AAWSA STP because no development plan for the vacant area. - Cleaner condition for BL-SIC and surrounding area will not be achieved.
Social and economic impact	+ High-tech IP and international business will generate employment not only in manufacturing but also in ICT business. + High-rise residential will supply high quality residence to meet citizen's demand. - Farmers using the southern part of the expansion area will lose farm land. - Land leasehold right has not been transferred to IPDC yet.	- BL-SIC will lose employment opportunity especially for IT business and high-level manufacturing.
Analysis	1. Cost and construction period is high and long due to the development area: 2. However, development of the extension zone will generate value added production base for future Ethiopian economic, industrial and scientific development applying smart technology. 3. Master plan for an integrated development (developed zone and non-developed zone) implies direction and steps to achieve the future BL-SIC which composes of various functions (IT business, IT academic, IT and aerospace manufacturing, and residence). An integrated plan will enhance development effect if entire plan is completed.	1. Cost and construction period is low and short for Option 2: 2. However, future Ethiopian economic and industrial and scientific is anticipated to be behind because international business park, high-tech IP and aerospace manufacturing will not be established in BL-SIC. 3. Because it is divided into two sites. 4. BL-SIC will not be a united entity but separated into two areas, which will not make it easy to influence each other. Integrated growth of the entire BL-SI is difficult. 5. If AAWSA decides to move STP and implements, IPDC needs to make an additional plan for the expansion area.
Conclusion	BL-SIC master plan is made in order that it becomes the model of smart industrial city and the base of future Ethiopian growth. Therefore, even initial cost may be high, it is expected to generate high value for the country, which meets the Ethiopian policy. For achieve this, an integrated master plan is indispensable. Considering these discussion points, the EIPP team selected Option 1.	

Source: Prepared by JICA EIPP Team

6.5 Scoping

The study team did preliminary scoping of anticipated significant impacts on environment using JICA Environmental Check List 19 "Other Infrastructure Project". The result of the preliminary scoping indicates that the degree of environmental impact, both positive and negative, likely to occur when the BL-SIC Master Plan is implemented. Result of scoping is attached at Annex III-A.

6.6 Identification, Prediction and Evaluation of Potential Impacts

The Study team has identified potential impacts of the BL-SIC Master Plan by examination.

I. Positive impacts
   - BL-SIC will contribute industrial development for Ethiopia because it introduces advanced technology such as ICT and aerospace manufacturing and its dissemination center,
   - The industries will create job opportunities to the society during construction and operation stages,
   - It will provide high quality residences for the people,
   - It facilitates the international business activity of the country

II. Negative environmental impacts of the master plan
   - Both light manufacturing in BLIP - I and BL - II and IT manufacturing generate and emit pollution in terms of air, water, and soil, and dispose solid waste including hazardous elements,
   - Development of BL-SIC forces involuntary resettlement and termination of farming
   - It may cause traffic jam around the site because of transportation of construction materials and commuting

Draft Tremens of Reference /TOR/

The EIPP National Team drafted a TOR for environmental and social considerations survey for the BL-SIC master plan. The project proponent (IPDC) shall implement an ESIA study by referring this draft TOR once it decides realization of the master plan and starts FS. The draft TOR is attached at Annex III-B.

6.7 Environmental Management Plan and Monitoring Plan

Based on the identified impacts, the study team prepared a draft Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP). EMP composes important

environmental issues, anticipated positive and negative impacts and mitigation plan and EMoP includes monitoring parameters, means of monitoring, monitoring standard and implementers. Draft EMP and EMoP is attached at Annex III-D and E respectively.

6.8 Stakeholder Meeting

JICA EIPP team recommends IPDC to conduct meetings with stakeholder, including residents inside the site and surrounding area, farmers, municipality, and sub-city, when it decides project implementation to explain the BL-SIC and get consensus of all stakeholders.

6.9 Land Acquisition and Resettlement

Current situation of land leasehold acquisition is summarized below. The project proponent (IPDC) shall continue negotiation with land leaseholders such as AAWSA, farmers and residents as well as land users.

Table 19: Resettlement Related Situation of the BL-SIC

Zone	Bole Lemi IP – I (A)	Bole Lemi IP – II (B)	Reserved Area for residence (C)	Expanded Area (D)	ICT Park (E)
Plan	-	-	Residence, commercial complex	High-rise residence, International Business Park, High Tech Industrial Park, Aerospace manufacturing	R&D, ICT center, ICT College enterprises, commercial zone, residential zone
Leasehold right	IPDC	IPDC	IPDC	AAWSA and farmers	IPDC, local residents
Current situation	Industrial Park	Industrial Park (under construction)	Vacant	Addis Ababa sewage treatment plant, cultivated land	ICT Park, houses and cultivate land (boundary is not clear)
ESIA/RAP	Done and approved	Done and approved	Done and approved	No	No (except solid waste management)
Resettlement	Done	Done	To be done. Some people are cultivating but they agree to relocate after they harvest	No information	Not done
Measures taken by for resettlement	-	-	-	(Once the project implementation is decided, IPDC shall start)	Master Plan Directorates of IPDC and ICTC try the survey to find number of affected people but it is difficult due to aggressive reaction by the settlers.
Issues	-	-	-	It is hard to tell when AAWSA moves to the proposed site. It is also not clear whether it will move to the new site.	Necessary to continue close communication and negotiation with residents and farmers

Source: JICA EIPP Team

6.10 Draft Environmental Management Plan

The EMP is prepared in response to the environmental impacts. EMP shall be included in EIA report and that mitigation measures and Environmental Monitoring Plan (EMoP) shall be a part of EMP. The study team prepared a preliminary EMP and EMoP focusing on the environmental items that were identified in the preliminary scoping likely to give positive and negative impacts. (See Annex III – D)

6.11 Draft Environmental Monitoring Plan

The preliminary monitoring plan which includes the frequency of monitoring based on the master plan implementation stage which is six years. The monitoring plan considers general monitoring plan for the overall projects within the master plan and is based on the evaluation of each environmental impact for the construction and operation phases. (See Annex III - E)

CHAPTER VIII: THE REAL ESTATE MARKET AND BUSINESS PLAN

7.1 Introduction

Real estate or *'real property'* broadly defined as "land and those things that are more or less permanently attached to the land like houses used for residential or business purpose, and trees (Hinkel, 2008, p. 2). Haila (1991) also defined the term as '… a creative process focused on value added (E., Sorensen et. al., 2015). Here real estate is considered as investment on land with the objective to increase its value and the investor should have an entrepreneur skill to alter the land. The value changing process using the entrepreneur skill due to investment on land considered as development.

Investment on land in the form of real estate development is broader in its scope. Scholars systematically categorized in to: residential, commercial, industrial and agricultural (Ratcliffe, Stubbs, & Keeping, 2009, pp. 503-617).

In general real estate development is a complex, and risky business (Ratcliffe & Stubbs, 2009). Although the real estate development characterized as complex and risky; it has a number of advantages such as addressing the issue of housing, slum upgrading, unemployment/job creation, and boosting the economy. Now a day, real estate, is considered as one of the economic pillars for the developed and emerging countries, which contributes 30 to 80 percent to the GDP.

7.1.1 Historical Incite on Real Estate Practice in Ethiopia

In Ethiopia, the real estate development activity by the private sector was started during the Imperial period; however, it was ceased during the Dergue regime due to the socialist ideology (UN-HABITAT, 2017, pp. 9-10). Then the private real estate development activity revived after the downfall of the Dergue by the Ethiopian People Revolutionary Front /EPRDF/ (UN-HABITAT, 2017, pp. 9-10). The EPRDF government introduced a new urban land tenure system technically known as the lease system through Proclamation Number 80/93. Since 1993 private real estate developers engaged in the residential housing development activities in Ethiopia particularly in Addis Ababa.

Table 20: Real Estate Investment Status in Ethiopia (April 19, 1993 - January 18, 2016)

Region	Total No of Projects	Pre-Implementation	Implementation	Operation			
		No of Projects	No of Projects	No of Projects	Capital in '000' Birr	Perm Empl	Temp Empl
Tigray	21	12	6	3	18,703	31	20
Amhara	49	31	12	6	13,095	110	15
Oromia	229	217	6	6	309,871	3,044	200
Somali	10	10					
SNNPR	244	176	35	33	128,449	914	629
Gambella	4	4					
Harari	114	109	3	2	5,173	67	0
Multiregional	22	16	4	2	61,366	568	210
Addis Ababa	696	666	21	9	203,211	148	742
Dire Dawa	178	175	3				
Grand Total	**1,567**	**1,416**	**90**	**61**	**739,867**	**4,882**	**1,816**

Source: The Ethiopian Investment Agency; 2016

The strategic location of Addis Abeba as seat of Federal, regional and International Organizations and the hub of Africa; ha an economic advantage to make the city best suited for real estate development. As per the 2015 World Bank report, the population growth of Addis Ababa is estimated at 3% by CSA and 3.8 % by the World Bank (UN-HABITAT, 2017, p. 12). Such kind of rapid urban population growth will put further and continued challenges and pressers on the city administration to provide efficient and affordable residential housing modalities. Studies as well as government reports indicate that, in Ethiopia the rapid urbanization process has not been coupled with adequate delivery of housing (UN-HABITAT, 2017, p. 46) (WBG & CA, 2015, p. 16).

The Ethiopia, government estimates that the current housing shortage is ranging between 900,000 – 1million units in urban areas. This situation becomes more challenging because most (70 %) of the existing hosing stocks are shanty houses that needs total renovation (UN-HABITAT, 2010, p. 6). This could imply the need for 6 million quality housing units from 2007-2028 or about 290,000 units per year to keep up with urban growth (UN-HABITAT, 2010, p. 6). This demand will be aggravated by the big government developments projects like Bole Lemi Industrial Park. The BLSIC will add 518,400 inhabitants to the city of Addis Ababa. This indicates that there is a great potential market in real estate sector.

To address this real estate demand the role of the private sector is crucial. The involvement of private developers in different kinds of development activities has got legal protection since

1991. However, the housing stock delivered by the private real estate developers is minimal, mainly because they primarily focus on high income groups in Addis Ababa (UN-HABITAT, 2017, p. 49).

In light of this JICA EIPP team propagates new modalities of housing scheme for the industrial park workers through dormitory and for other high and middle income inhabitants of the park through high rise apartments. The dormitories are very useful to address low income groups specifically industrial park workers housing problem. Apart from residential, real estate sector also address the issue of commercial and business area development. Therefore, this section will address the market condition of residential and commercial areas.

7.2 Normative and Institutional Framework

This sub section discusses the legal frameworks that are applicable for real estate market in Ethiopia. Studies indicated that there is absence of comprehensive legal framework, which regulates the real estate sector in Ethiopia. However, the real estate sector has been governed by the existing laws related to: law of property, contract law, construction law etc. The discussion will begin with a fairly detailed discussion of federal laws which has a direct nexus with real estate. Following to these applicable laws that are promulgated by the City Council of Addis Ababa will present briefly.

7.2.1 Normative Framework

A. The FDRE constitution

The real estate development is implicitly addressed under article 40 (1, 2, 3, 6, 7 & 8), and 90 (1). Article 40 of the Federal Constitution, addressed the "Right to Property", which stipul0061tes the right to ownership of private property. Sub-article 2 of the same article stipulates the different way of producing private property: labor, creativity, enterprise or capital of an individual citizen, associations which enjoy juridical personality under the law, or in appropriate circumstances.

Article 40 (3) addressed urban land ownership issue as:

> *The right to ownership of … urban land, as well as of all-natural resources, is exclusively vested in the State and in the peoples of Ethiopia. Land is a common property of the Nations, Nationalities and Peoples of Ethiopia and shall not be subject to sale or to other means of exchange.*

The Constitution has shown the way to acquire land by private individuals. Sub-article 6 of the same provision stipulates:

> *Without prejudice to the right of Ethiopian Nations, Nationalities, and Peoples to the ownership of land, government shall ensure the right of private investors to the use of land on the basis of payment arrangements established by law.*

Other important provisions concerning the security and rights of land-holders are provided under sub-articles 7 and 8 of the same provision. Sub-article 7 declares that every Ethiopian shall have the full right to the immovable property he builds and to the permanent improvements he brings about on the land by his labor or capital. This right shall include the right to alienate, to bequeath, and, where the right of use expires, to remove her/his/its property, transfer her/his/its title, or claim compensation for it. The right to land is also secured in that the state has the duty to pay compensation during expropriation. Sub-article 8, which is related to expropriation, states:

> *Without prejudice to the right to private property, the government may expropriate private property for public purposes subject to payment in advance of compensation commensurate to the value of the property.*

The government used this constitutionally granted eminent domain power to expropriate private properties including residential houses. To regulate this government, promulgate proclamation No. 455/2005.

B. The Urban Planning Law

The government of Ethiopia promulgates an Urban Planning law to regulate physical and socio-economic development of urban centers. The principal objectives of Urban Planning Proclamation No. 574/2008 are:

- to establish a legal framework in order to promote planned and well-developed urban centers; and
- to regulate and facilitate development activities in urban centers and thereby enhance economic development of the country;

There are ten basic guiding principles that are relevant for the preparations of plan are enshrined under Article 3 of Proclamation No. 574/2008 of Article 3. The team critically examined and incorporated all the ten basic principles such as: conformity with the city structural plan,

sharing national visions and standards, creating inter-intra urban and rural-urban linkage, efficient utilization of urban land, safe guarding the community and the environment and ensuring sustainable development within the umbrella of developing SIC.

Taking the governing urban planning law of Proclamation No. 574/2008, the team designed and prepared this SIC in line with the Master plan of the City.

C. Urban Land Lease Proclamation

For the past 25 years, leases have been in place as the cardinal landholding system for the transfer of urban land to users. The year 1993 is a landmark for the introduction of this new land tenure system. Since this tenure system is a new one the government of Ethiopia amended the law three times. The current applicable law in urban Ethiopia is the 'Lands Lease Holding Proclamation No. 721/2011'. Pursuant to Article 4 of the Lease proclamation, an urban land can be permitted to be held by lease:

- In conformity with plan guidelines where such a plan exists, or, where it does not exist, in conformity with the law which Region or City government makes, as the case maybe, and
- On auction or through negotiation; or
- According to the decision of Region or City government.

Article 12 (1, e) of the proclamation gives power for city administrators to allot land for manufacturing industry. Pursuant to Article 18 (1, b) of Proclamation No. 721/2011, the lease period for the city of Addis Ababa is presented as: 60 and 50 years for industry and commerce, respectively. Article 18 (1, a) of the same proclamation set 99 years lease period for residential housing, science and technology, research and study. This article provides maximum lease period for majority of the projects implemented in the SIC.

Moreover, advance payment of lease based on the type of investment is not less than 10%. (Arti 20(2) of Proc. No. 721/2011) The lease price is payable after the grace period annually. For those that pay the entire amount of the lease will receive 0.5% discount from the total lease value and those that pay in a loge amortization period will charged interest based on the prevailing interest rate of the banks. Moreover, based on the type of investment, two to seven years grace period shall also be provided.

In line to the lease proclamation Industrial park Proc. No. 886/2015 and Industrial Park Council of Ministers Regulation No. 417/2017 as well as Investment Proc. No. 769/2012 and Council of Ministers Regulation No. 270/2012 addresses issues related to: acquisition, ownership, development and transfer of land/immovable assets.

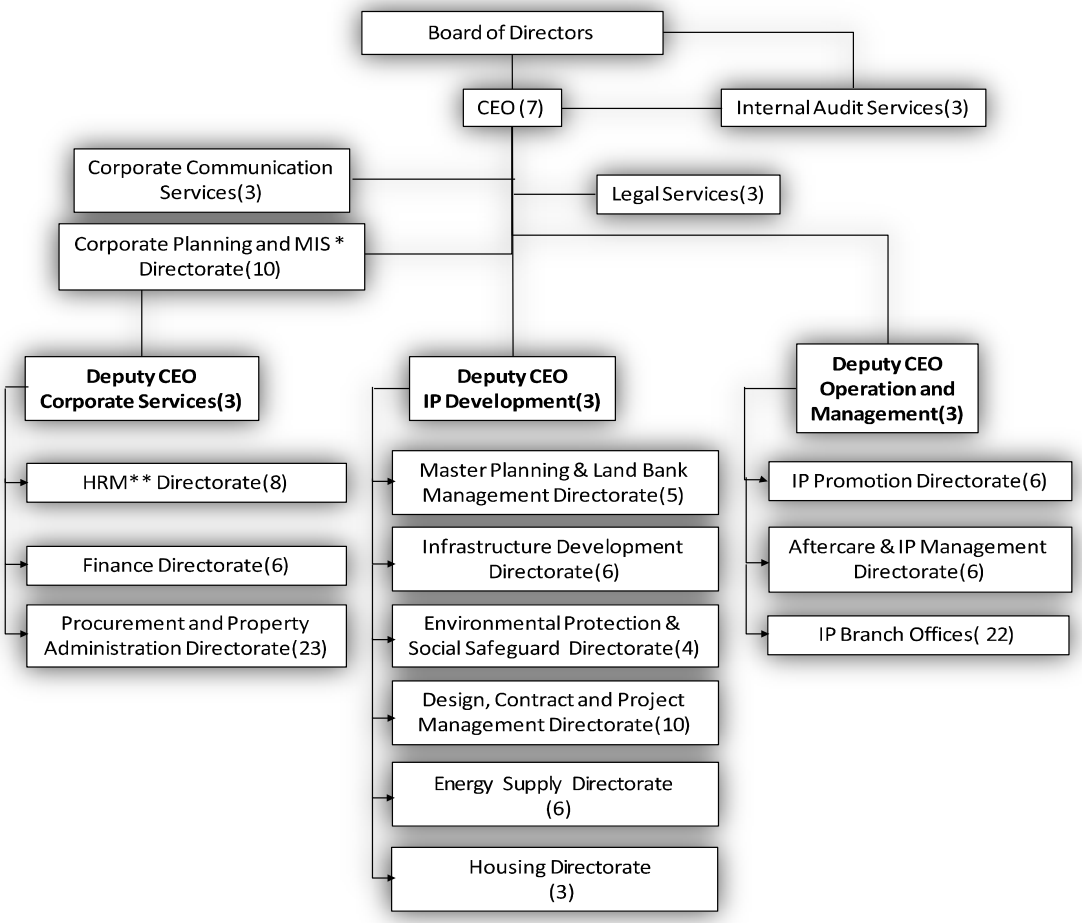
7.2.2 Institutional Framework

The government of Ethiopia has a vision to reach middle income country and make a leading manufacturing hub in Africa by 2025. For the realization of this vision the government established 'Industrial Park's Development Corporation by the virtue of Council of Ministers Regulation No. 326/2014.

The Industrial Park's Development Corporation/IPDC/ here in after the corporation has a mandate to administer the overall process of the industrial parks with the objective of:

a. regulating the designation, development and operation of Industrial Park;
b. contributing towards the development of the country's technological and industrial infrastructure;
c. encouraging private sector participation manufacturing industries and related investments;
d. enhancing the competitiveness of the country's economic development; and
e. Creating ample job opportunities, and achieve sustainable economic development.

IPDC is governed by Board of Directors/BD/ under this there is Chief Executive Officers /CEO/ with 7 members. Under CEO there are three deputy CEOs: Corporate Services, IP Development and Operation and Management. Under each Deputy CEOs there are directorates and the detail organogram of IPDC is presented below.



Remarks: No. in box present number of personnel in each directorate

1) IP Promotion Directorate: 1 Director & 5 Officers
2) Aftercare & IP Management Directorate: 1 Director, 3 Officers & 2 Staffs
3) Bole Lemi Office & Hawassa Office Care Presently
4) Master Planning & Land Management Directorate: 1 Director & 4 Officers
5) Infrastructure Development Directorate: 1 Director & 5 Officers
6) Environmental Protection & Social Safeguard Directorate: 1 Director & 3 Officers
7) Design, Contract & Project Management Directorate: 1 Director, 7 Officers & 2 Staffs
8) Total Number of Personnel are: 131

*MIS: Management of Information System

**HRM: Human Resource Management

Figure 14: Organogram of IPDC; Source EIPP

The corporation performed its activities with other government organs. Such as:

- The Ethiopian Investment Commission
- The Ethiopian Customs and Duties Authority
- Ministry of Industry
- Ministry of Trade
- Ministry of Water and Energy
- Ministry of Trade and Social Affairs
- And other relevant federal, regional, and city administration organs.

7.3 Demand and Supply Interaction

7.3.1 Demand Analysis

The total population of Addis Ababa specifically Bole sub-city has shown an upward growth during the past few years. For instance, the population of Addis Ababa has grown from 2,739,551 in 2007 to 3,243,514 in 2016; likewise, the inhabitant of Bole sub-city increased from 308,995 in 2007 to 446,825 in 2016. Within these 9 years the city of Addis Ababa and Bole sub-city shows 18.4% and 44.61% population growth respectively.

Compared to another sub-cities Bole is the fourth least economically active (63.18 rate) sub-city. (See Table 21 below) The full implementation of BLSIC has a direct nexus on the ability to rent or sell residential house as well as the need of housing units for business purposes. This will make the sub-city economically very vibrant area.

Table 21: Economic Activity Status and Rate of Addis Abeba

Sub-city	Economic Activity Status and Rate: 2016			
	Active	Inactive	Not Stated	Active rate
Akaki Kaliti	62,877.60	68,779.25	36,218.14	81.38
Nefas Silk Lafto	71,930.10	78,198.41	36,218.14	70.79
Kolfe Keranio	87,713.02	77,259.96	58,898.70	77.21
Gulele	74,534.94	72,044.27	33,817.51	75.50
Lideta	76,143.12	69,090.37	51,487.39	61.09
Kirkos	86,606.66	97,785.57	32,547.10	65.25
Arada	79,006.50	74,387.02	53,166.67	63.05
Addis Ketema	85,910.51	127,528.44	-	60.33
Yeka	92,122.15	94,161.06	-	72.17
Bole	66,765.27	74,125.90	28,241.86	63.18
Addis Abeba	78,786.44	82,150.34	40,622.01	70.02

Source: CSA, 2018

The field survey result also depicts that the area demands the construction of residential houses for the upcoming inhabitants, which will be agglomerated due to the realization of BL-SIC. According to the JICA EIPP team population forecast, there will be a total of 518,400 people living and working in the BLSIC on daily basis. Of this 240,500 will be workers and 86,900 are potential dwellers. This indicates that there will be high potential demand of houses for residential and commercial purposes in the BLSIC. (See Table 12 above)

7.3.2 Supply Analysis

The existing rapid urban population growth due to migration and natural growth will be intensified by the government intervention through large projects like Industrial parks development. The Industrial park development project has centripetal power for agglomeration of large population. The development intervention will aggravate the existing housing demand problem. So far, the Addis Abeba City Administration addressed the housing demand through: delivery strategy and enabling strategy (creating enabling environment for individual home developers as well as creating legal framework for the involvement of privet real estate developers).

All these do not satisfy the demand of housing to the inhabitants of Addis Ababa. Therefore, there is a need for revising the existing housing market and taking adequate measure, particularly for the new inhabitants of BL-SIC. For these reasons, the JICA EIPP team assessed the existing market price in the vicinity of BLIP to come up with a better plan for BL-SIC development.

7.4 The Market Value of Immovable Property in Addis Ababa

There are different methods to determine the value of immovable asset/land and building/ in Addis Ababa. Of the different methods three of them are discussed here.

7.4.1 Addis Ababa Municipality Leasable Land Minimum Threshold Value

In Addis Ababa, land is subject to lease. The mandate to determine lease price is given to the City Administration of Addis Abeba. Based on this, the municipal issued new regulation to set benchmark. The new regulation classified the city into three zones based on the level of development and distance to the Central Business District/CBD/. (See Table 22)

Table 22: New Land Lease Price for Plots in Addis Ababa,

Price	Zone													
	Central Market District					Transitional zone					Expansion zone			
	Level					Level					Level			
	1st	2nd	3rd	4th	5th	1st	2nd	3rd	4th	5th	1st	2nd	3rd	4th
Price/M^2 (ETB)	1686	1535	1323	1085	894	1035	935	809	685	555	355	299	217	191
Price/M^2 (USD)	59.91	54.55	47.01	38.56	31.77	36.78	33.23	28.75	24.34	19.72	12.62	10.63	7.71	6.79
Average Price /M^2/ (ETB)	1304.6					803.8					265.5			
Average Price /M^2/ (USD)	46.36					28.58					9.43			

Source: Addis Ababa City Administration

As stated above BLIP is located in the south eastern corner of the city, on the expansion zone. The average lease price of the expansion area is 265.5 birr or 9.43 USD per M^2. This is the least of all the three zones. This, however, does not reveal the current market price of land in the area. The FDRE constitution (Article 41 (3)) does not allow transaction of land. However, taking the existing shanty house as an intrinsic element of the land people usually transacts land. In order to get an insight about the current market price the research team collected data from the field. Accordingly, the average immovable asset/house or land/ price in the vicinity of industrial park is ETB 12,335.27 or 438.34 USD. This is 9 times or 46 times higher than the municipality Central Market District and Expansion zone lease prices respectively. (See Table 22 and 23)

Table 23: The Current Land Selling Price Around BLSIC

Location	Area (in m^2)	Price (000)		Price per M^2	
		ETB	USD	ETB	USB
Summit	500	6000	213.21	12,000.00	426.43
Ayat	1000	15000	533.04	15,000.00	533.04
	375	4100	145.70	10,933.33	388.52
	23000	70000	2,487.50	3043.48	108.15
CMC	500	5000	177.68	10,000.00	355.36
Kotebe	345	4000	142.14	11,594.20	412.01
	400	5000	177.68	12,500.00	444.20
Megenagna	360	8500	302.05	23,611.11	839.04
Average				**12,335.27**	**438.34**

Source: Field Survey, 2018

7.4.2 The IPDC Cost Recovery Price

On the other hand, IPDC employed cost recovery /CR/ method while transferring land to developers, operators or enterprises. IPDC designed this CR method to recover the cost of all necessary infrastructures expense. The cost recovery /CR/ method followed progressive payment scheme to recover the cost within 40 years amortization period. However, the amount of payment is insignificant as compared to the municipal lease benchmark price. (See Table 22 and 24)

Table 24: Cost Recovery Payment for Bole Lemi and Kilinto IP

Industrial Park Location	Bole Lemi I & II			Kilinto		
Years	1- 5	6 – 10	11 – 40	1-5	6-10	11-40
CR payment per M^2/Year (USD)	0.83	1.66	4.00	0.9	1.8	4.34
Average CR rate (USD)	3.31			3.59		

Source: IPDC, 2018

7.4.3 The Current Market Price of Immovable Assets

a. Real Estate Selling Price for Residential Purpose

From the field survey the team identified that, the average selling price for high income group is 2,260.00 USD or birr 63,500 per m^2, for apartments 1,390.00 USD or 39,210.00 birr per m^2 and for condominium houses 940.00USD or 26,410.00 birr per m^2. On the other hand the government transfers the 20/80 scheme condominium houses for 12^{th} (June 12, 2018) and 13^{th} (March 06, 2019) round winners with an average price of or 3772.75ETB or 134.07USD and 4,511.27ETB or 160.31USD per m^2 respectively.

b. Real Estate Rental Price for Residential Purpose

On the field survey the team gathered information on rental price for residential purpose. Accordingly, the average monthly rental price for G+n houses are 177.48 ETB or 6.31USD, for apartment 363.06ETB or 12.90USD and for condominium houses is 85.79ETB or 3.05 USD per M^2.

c. Rental Price for Commercial Activities

The rental price of houses for commercial activities varies from building type and floor heights. From the field survey the team identified that the monthly renal price of G+N compounds is 534.89 ETB or

19.18USD, for high rise building floor area monthly rental price is 375.00ETB or 13.33USD, for condominium house the rental price is 197.73 ETB or 7.03USD and for privately owned compound or unit of house for business purpose is 60.36ETB or 2.15USD Per m^2 per month.

7.5 Implementation Plan

The project promoter proposed new modalities for the development of SIC in Bole Lemi Industrial Park using Proclamation No. 886/2015; Industrial Parks Council of Ministers Regulation No. 417/2017; Investment Proclamation No. 769/2012; Investment Incentives and Investment areas Reserved for Domestic Investors Council of Ministers Regulation No. 270/2012; Investment (Amendment) Proclamation No. 849/2014; Urban Lands Lease Holding Proclamation No. 721/2011; Urban Planning Proclamation No. 574/2008; and other relevant laws.

Article 2(2) of Proc. No. 886/2015, article 5 of Proc. 849/2014 an immovable asset with in the IP might be developed and owed by: public or public-private or private developers. The Proclamation No. 886/2015, Proclamation No. 769/2012, Regulation No. 417/2017 and Regulation No. 270/2012 gives green light for developers to engaged in real estate development activities within the IP area.

Pursuant to Article 5 of Proclamation No. 886/2015 developers have rights to sub-lease, rent or sell their immovable asset. Based on this and other relevant articles of the proclamation as well as related legal documents, any developers can engage in real estate development activity for residential or business purposes using one of the following modalities:

i. Built and Transfer/BT/
ii. Built, Own, Operate and Transfer/BOOT/
iii. Built and Sub-lease/BS/

To build BLSIC, different activities should be performed by different stakeholders. The major components are enshrined under four zones:

- Zone I - IP Residence: this includes dormitory, apartment and commercial complex;
- Zone II - High Tech Industrial Park & Aerospace Manufacturing
- Zone III - High Rise Residence and International Business Park
- Zone IV - ICT Park: this includes Knowledge Park, fabricating enterprise area, research and development, ICT park core area, and commercial and residential area.

Apart from this there are other development projects, such as: social/common facilities and land mark area development. Table 25 presents the implementation plan of all projects.

Table 25: Implementing Organization Plan of Bole Lemi Smart Industrial City

Project				Implementing Organization				
Zone		**Project**		**IPDC**	**Private sector**	**IPDC+ PV JV**	**AA City**	**Others**
BL-SIC	BL Industrial Park Zone	BLIP – I		■				
		BLIP – II		■				
	Industrial Park Residence Zone of BLIP – I & II	On site infrastructure: Residential area		■				
		On site infrastructure: Commercial area		■				
		Building & social facility	Dormitory					factory
			Apartment					factory
			School	■				
			KG	■				
			Bus Station	■				
			Public facility	■				
			Shopping mall		■			
			Commercial complex		■			
			Land mark tower	■				
		Off-site infrastructure		■				EEPCO
	High-tech Industry and International Business Zone	On site infrastructure & buildings/facilities: International Business Park I			■			
		On site infrastructure & buildings/facilities: International Business Park II			■			
		On site infrastructure & buildings/facilities: High-rise Residence			■			
		On site infrastructure & facilities: Aerospace Manufacturing		■				
		Factory building: Aerospace Manufacturing			■			
		On site infrastructure & facilities: High-tech Manufacturing		■				
		Factory building: High-tech Manufacturing			■			
		Offsite infrastructure & facilities		■				EEPCO
	ICT Park Zone	On site infrastructure & buildings/facilities: Knowledge park (ICT- Center of			■			

Project			Implementing Organization				
Zone		Project	IPDC	Private sector	IPDC+ PV JV	AA City	Others
		Excellency)					
		On site infrastructure (except for factory): Fabricating enterprise area					
		On site infrastructure & buildings/facilities: R & D area					
		On site infrastructure: ICT park core area					
		On site infrastructure & buildings/facilities: Commercial area					
		On site infrastructure & buildings/facilities: Residential area					
		Off-site infrastructure					EEPCO
Others	Addis Ababa City Arterial Roads						
	Play ground						
	1 add factory						
	Reserve for expansion						
	Infrastructure (bus terminal)		Already constructed by WB project				
	Infrastructure (solid waste sorting plant)						
	Park						
	River Front Green						

7.5.1 Cost Estimate

a. Construction Cost Estimate

After assessing the market value of construction materials, the team set the following assumptions to estimate construction cost for the entire project:

- ✓ Exchange rate: 1 US$ = 28.14 ETB
- ✓ Engineering cost: 6% of the total direct construction cost
- ✓ Contingency: 15% of the total direct construction cost and 15% of engineering cost
- ✓ Tax: 15% of the total direct cost + cost allotted for engineering and contingency
- ✓ Administration cost: 2% of the total direct cost + cost allotted for engineering and contingency

Based on these assumptions the JICA EIPP team prepared two options for the project construction cost. The first option presume that water supply facility, domestic sewer treatment, electric power supply and internal road construction will be covered by the privet developers or using the existing plants. While in option two the construction cost will be covered by IPDC or other responsible government body. (See Table 26)

Table 26: Conditions of Option I and Options II

Item	Option I	Option II
Water supply facility	Supplied from BLIP	Drill new wells
Domestic sewer treatment	BLIP-II WWTP*	New AAC STP**
Construction of Internal road of High Tech Industrial Park	Private sector (cost is not included in the estimation)	IPDC (cost is included in the estimation)
Electricity supply facility	Both internal and external facility will be constructed by EEPCO (cost is not included in the estimation)	Internal and external facility will be constructed by IPDC or EEPCO (external facility cost is not included in the estimation)

Note: * BLIP-II WWTP: Bole Lemi Industrial Park II Waste Water Treatment Plant
**AAC STP: Addis Ababa City Sewer Treatment Plant

Accordingly the total project cost that are expected from IPDC for BLSIC development will be $216,600,000.00 or $229,900,000.00 for Option I and Option II respectively. (See Table 27)

Table 27: The Project Cost Implementation for BLSIC Option I & II

			IPDC's Cost Option I		IPDC's Cost Option II	
			Cost (ETB1,000)	Equivalent Cost (USD1,000)	Cost (ETB1,000)	Equivalent Cost (USD1,000)
Basic Cost						
1	ZP-1 :	IP Residence	2,869,000	102,000	2,997,000	106,500
2	ZP-2 :	High Tech Industrial Park & Aerospace Manufacturing	600,000	21,300	635,000	22,600
3	ZP-3 :	High-rise Residence & International Business Park	699,000	24,800	784,000	27,900
4	ZP-4 :	ICT Park	1,278,000	45,400	1,400,000	49,800
5	SCF:	Social/Common Facilities	650,000	23,100	650,000	23,100
	Total		**6,096,000**	**216,600**	**6,466,000**	**229,900**

*** Note:** i. the project cost covers all component of construction work items such as earthwork, building Construction, infrastructure and facility construction except for land purchasing cost.
ii. The total project cost includes engineering cost, contingency, tax and administration cots

b. Operation and Maintenance Cost

The operation and maintenance cost for each project is computed in line with the corresponding responsible organizations using 2% of the total construction cost.

7.5.2 Development Plan

a. Implementing Organization Plan

In order to realize the plan of building smart city in BLIP different stakeholders are engaged in the development and construction phase. (See Table 25) The major stakeholders in the implementation of Bole Lemi Smart Industrial City are:

a) IPDC: to construct basic infrastructures, utilities and develop social facilities

b) Privet developers: to develop residential area, business park and science park

c) Other government organs: EEPICO to provide electric power and AACA to construct arterial roads, social facilities, river buffer zone development etc.

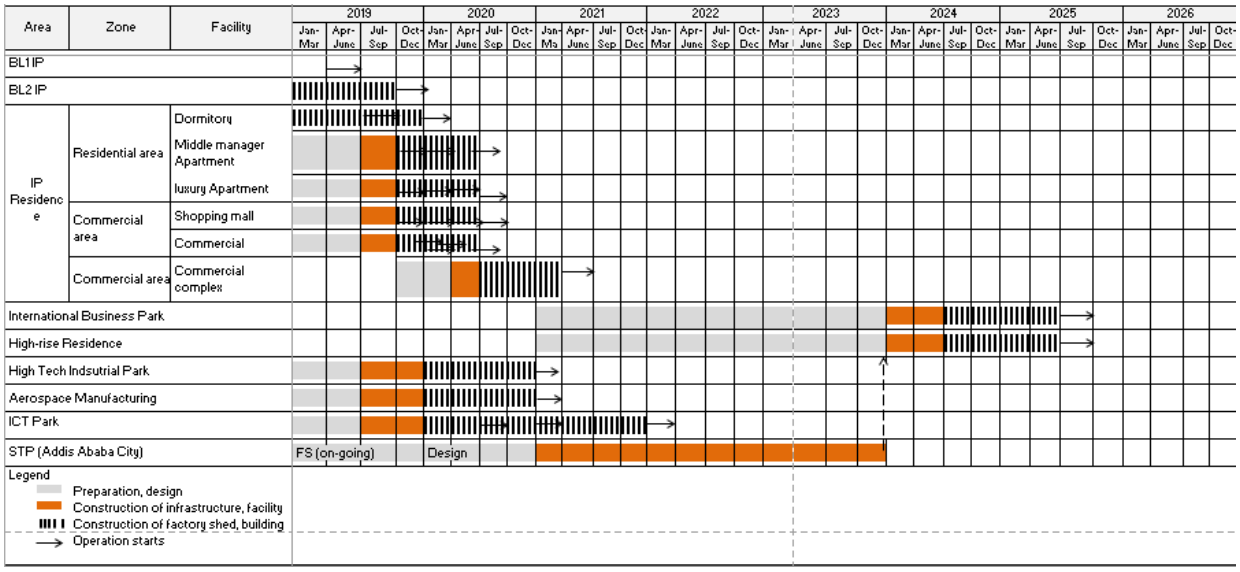
b. Development Schedule Plan

To strategically manage the development process off the city phasing plan has been prepared. Accordingly, the development schedule plan of BL-SIC indicates that all projects will finalized in 2025. Currently, the BLIP I construction of sheds and infrastructure is finalized and it is operational. While in BLIP II the infrastructure is partially constructed and is expected to be finalized in mid-2019.

IP Commercial areas, High-Tech Industrial park, Aerospace Manufacturing and the majority of the ICT Park are currently in the preparation Phase. And they are expected to be operational by 2020.The preparation phase of International Business Park and High rise residence, on the other hand, will start at the beginning of 2021.

From the municipal infrastructure side, the feasibility study and the design of the solid waste treatment plant is expected to be finalized at the end of 2020.In general, the construction of facilities and infrastructures in BL-SIC is expected to be finalized by the mid-2024, and become operational.

Table 28: Development Phase Plan of Bole Lemi Smart Industrial City (BL-SIC)



c. Financial plan

For the realization of BLSIC finance is very important element. As BLSIC have different components (mainly Industrial Park, Business Park and Science Park), sources of fund will also vary depending on the nature of the component as well as differ from project to project with in the component.

It is advisable for project implementers to follow 30/70 strategy i.e. developers should cover 30 presents of the total cost from its own budget and the remaining 70 will be covered from national and/or international financial institutions (IMF, WB, ADB, National Development Banks etc.).

The SIC will be financed by different stake holders depending on the nature of the projects. For instance, Bole Lemi I & II is financed by IPDC and other development partners like World Bank; IP residence area will be developed by Factory owners, private developers and the Addis Ababa Municipality; International Business Park, High Tech Industry and Aerospace manufacturing will be developed by private investors.

7.5.3 Operation and Management Plan

The prevailing trained depicts that the existing development activities are performed by different stakeholders. Due to this operation and management of the projects varies from components to components. The major actors in managing and operating projects with in SIC are IPDC, Privet sector and AACA, and it presented in the following table.

Table 29: Operation and Management Plan of Bole Lemi Smart Industrial City

Project				O & M Organization				
Zone		Project		IPDC	Private sector	IPDC+PV JV	AA City	Others
BL-SIC	BL Industrial Park Zone	BLIP – I						
		BLIP – II						
	Industrial Park Residence Zone of BLIP - I & II	On site infrastructure: Residential area						
		On site infrastructure: Commercial area						
		Building & social facility	Dormitory					factory
			Apartment					factory
			School					
			KG					
			Bus Station					
			Public facility					
			Shopping mall					
			Commercial complex					
			Land mark tower					
		Off-site infrastructure						EEPCO
	High-tech Industry and International Business Zone	On site & off site infrastructure & buildings/facilities : International Business Park I						
		On site & off site infrastructure & buildings/facilities : International Business Park II						
		On site & off site infrastructure & buildings/facilities : High-rise Residence						
		On site & off site infrastructure & facilities : Aerospace Manufacturing						
		On site & off site infrastructure & facilities : High-tech Manufacturing						
		Off-site infrastructure						EEPCO
	ICT Park Zone	On site infrastructure & buildings/facilities: Knowledge park (ICT – Center of Excellency)						
		On site infrastructure (except factory): Fabricating enterprise area						
		On site infrastructure & buildings/facilities: R & D area						
		On site infrastructure: ICT park core area						
		On site infrastructure & buildings/facilities: : Commercial area						
		On site infrastructure & buildings/facilities: Residential area						
		Off-site infrastructure						EEPCO
Others	Addis Ababa City Arterial Roads							
	Play ground							
	1 add factory							
	Reserve for expansion							
	Infrastructure (bus terminal)			WB project				
	Infrastructure (solid waste sorting plant)			50%			50%	
	Park			50%			50%	
	River Front Green							

7.6 Financial Viability Analysis

To compute financial viability of the project, the team set the following assumptions:

- ✓ IPDC will get revenue from lease
- ✓ The Land Mark Tower will generate revenue for IPDC through renting the floor
- ✓ The lease price will vary based on the nature of the project
- ✓ Engineering cost: 6% of the total construction cost
- ✓ Contingency: 15% of the total construction cost
- ✓ Administration cost: 2% of the total construction cost

The market price of immovable asset indicates that average property selling and rental price is by far greater than the current municipal lease price as well as IPDC cost recovery price. The IPDC cost recovery price is also very low to recover the cost of BLSIC construction cost. Therefore, the team used the Municipality lease price as a bench mark and distributed to the different projects by taking into account the current market price and nature of the project. Accordingly, the lease or rental price, 9 US$ per M2 per year is allotted for dormitory, high tech industry and aerospace manufacturing, knowledge park, Fabricating enterprise, Fabricating enterprise, R & D area, ICT park core area; 30US$ for Commercial complex and Commercial & residential area; 45US$ for International Business Park, and High-rise Residence projects; and 48US$ for Land mark tower projects. (See Table 30)

Table 30: The Proposed Lease/Rent Price for BLSIC

Zone	**IP Residence**		**High Tech Industry & Aerospace Manufacturing**	**High rise Residence & International Business**		**ICT Park**					**Other**
Projects	Dormitory & Apartment	Commercial complex		International Business Park	High rise Residence	ICT-Center of Excellency	Fabricating enterprise	R & D area	ICT park core area	Commercial & residential area	Land mark tower
US$/M^2/ Year	**9**	**30**	**9**	**45**	**45**	**9**	**9**	**9**	**9**	**30**	**48**

Based on the above assumptions, the total construction costs, operation and management costs, source and amount of revenues, cash flow and Internal Rate of Return /IRR/ will be presented using Option -I in the following parts.

7.6.1 Construction Cost of BLSIC

The overall cost of BLSIC is birr 6,096,005,000.00 or US$ 216,590,000.00. Of this direct construction cost will be birr 4,273,508,000.00 or US$ 151,862,000.00. (See Table 31) Based on the World Bank economic parks classification, BLSIC can be clustered in to: Industrial Park, Business Park and Knowledge Park. For the purpose of simplicity and systematic

implementation of the plan, the team estimates the construction cost using zone approach. Accordingly, BLSIC is categorized into four zones and one special zone. These are:

i. IP Residence,
ii. High Tech Industrial Park and Aero-space manufacturing,
iii. High-Rise Residence and International Business Park
iv. ICT Park; and
v. Social/Communal Facilities

Table 31 depicts that the IP Residence will take the highest portion (47%) of direct construction cost followed by ICT Park (21%). The remaining three zones will take almost equal portion of direct construction cost. The main reasons for high construction cost value for IP Residential are: presumption of providing developed land to investors and construction of land mark tower.

Table 31: Overall Construction Cost of BLSIC

Description	Amount	
	ETB	**Equivalent: USD**
A. Direct Construction Cost		
ZP-1: IP Residence	2,011,567,000	71,482,000
ZP-2: High Tech Industrial Park & Aerospace Manufacturing	420,540,000	14,944,000
ZP-3: High-rise Residence & International Business Park	489,587,000	17,398,000
ZP-4: ICT Park	895,802,000	31,833,000
SCF: Social/Common Facilities	456,012,000	16,205,000
Sub-total A	**4,273,508,000**	**151,862,000**
B. Engineering Cost (Planning, Design and Construction Supervision)		
Sub-total B (6% of Sub-total A)	**256,410,000**	**9,112,000**
C. Contingency		
Construction Cost (15%)	641,026,000	22,779,000
Engineering Cost (15%)	38,462,000	1,367,000
Sub-total C	**679,488,000**	**24,146,000**
D. Tax and Administration Cost		
Tax (15% of Sub-total A + B + C)	781,411,000	27,768,000
Administration Cost (2% of Sub-total A + B + C)	104,188,000	3,702,000
Sub-total D	**885,599,000**	31,470,000
Grand Total E	**6,095,005,000**	**216,590,000**

NB: This construction cost covers construction work of earthwork, infrastructure and facility construction to be developed by IPDC (See Table 27). Cost of all buildings except for land mark tower (to be developed by IPDC), dormitories, electric facilities to be developed by private sector and EEPCO, etc. is not included.

7.6.2 Source of Revenue for IPDC

The major source of revenue for IPDC is leasing the land. The total leasable area of BLSIC is 2,098,700 sq. meter. Of this the largest area is existed under ICT Park, which accounts 800,000 sq. meter followed by High Tech Industrial Park & Aerospace Manufacturing which accounts 554,700 sq. meter. The total revenue collected from leasing the land will be 37,067,300 US$ per year. (See Table 32)

The other source of revenue proposed by the team is renting the Land Mark Tower/LMT/ floor area for office or other activities. If IPDC construct the LMT and rent it for different office and commercial purpose with a monthly amount of 4US$, it will generate 2,726,400US$ per year. Therefore, the total revenue of IPDC from both leasing land and floor area renting price will be **39,793.70** per annum.

Table 32: Leasable Land Floor Area and Source of Revenue

Zone	Leasable land	Revenue in US$ per Year (1000)	Remark
Zone I. IP Residence	168,000	1,512.00	US$ 9/sq.m/year
	287,000	8,610.00	US$ 30/sq.m/year
Subtotal - A	**455,000**	**10,122.00**	
Zone II. High Tech Industrial Park &Aerospace Manufacturing	**554,700**	**4,992.30**	US$ 9/sq.m/year
Zone III. High-rise Residence & International Business Park	**289,000**	**13,005.00**	US$ 45/sq.m/year
Zone IV. ICT Park	717,000	6,458.00	US$ 9/sq.m/year
	83,000	2,490.00	US$ 30/sq.m/year
Subtotal - B	**800,000**	**8,948.00**	
Land Mark Tower/LMT/ leasable floor area	56,800	2,726.40	US$/sq.m/year 4$/Month/48$/year
Grand Total (A+ Zone II & III+ B + LMT)		**39,793.70**	

7.6.3 Cash flow and Internal Rate of Return of BLSIC

The implementation phase of each project has its own time table. (See Table 25) In line with this time frame construction cost and Operation and Management (O & M) cost are distributed for 20 years. As stated above, sources of revenue for IPDC are: leasing the land and renting the LMT.

The team assumed that there will be: 30, 50, 80 and 100 percent of occupancy rate in the first, second, third and fourth years respectively after the construction of LMT. Accordingly, the

overall Internal rate of return of the project is 11.41. This indicates that BLSIC project is viable to implement.

Table 33: Cash Flow and IRR for BLSIC: Option-I

Year		Costs			Revenue	Net Cash Flow (1000 US$)
		Capital Cost	O&M Cost	Total		
1	2018	38746.81	0.00	38746.81	0.00	-38746.81
2	2019	80054.00	0.00	80054.00	0.00	-80054.00
3	2020	27022.27	1429.65	28451.92	2313.36	-26138.56
4	2021	20209.75	1429.65	21639.40	6940.29	-14699.11
5	2022	2120.79	2456.54	4577.34	16290.84	11713.50
6	2023	2120.79	2456.54	4577.34	21243.30	16665.96
7	2024	8483.18	2456.54	10939.72	24820.50	13880.78
8	2025	6362.38	2456.54	8818.93	31336.50	22517.57
9	2026	0.00	2804.50	2804.50	34117.50	31313.00
10	2027	0.00	2804.50	2804.50	37825.50	35021.00
11	2028	0.00	2804.50	2804.50	37825.50	35021.00
12	2029	0.00	2804.50	2804.50	37825.50	35021.00
13	2030	0.00	2804.50	2804.50	37825.50	35021.00
14	2031	0.00	2804.50	2804.50	37825.50	35021.00
15	2032	0.00	2804.50	2804.50	37825.50	35021.00
16	2033	0.00	2804.50	2804.50	37825.50	35021.00
17	2034	0.00	2804.50	2804.50	37825.50	35021.00
18	2035	0.00	2804.50	2804.50	37825.50	35021.00
19	2036	0.00	2804.50	2804.50	37825.50	35021.00
20	2037	0.00	2804.50	2804.50	37825.50	35021.00
21	2038	0.00	2804.50	2804.50	37825.50	35021.00

Financial Internal Rate of Return (FIRR) =11.41%

7.7 Sensitivity Analysis

The sensitivity analysis of BLSIC has been examined by computing four possible scenarios. These scenarios based on lease price, floor area rent price, occupancy time and development cost. In all these scenarios IRR is steal greater than 10. (See Table 34 and Annex III) Therefor, the BLSIC project is viable.

Table 34: IRR for BLSIC in Different Scenarios

Scenario	Description	IRR
I	If the land lease price decreased by 10 percent	10.05
II	If the Land Mark Tower Floor Area rent price decreased by 10 percent	11.34
III	If the Land Mark Tower Floor Area occupancy schedule delayed by one year	11.34
IV	If the development cost increased by 10 percent	10.24

CHAPTER IX: APPENDIX

I: LAND USE

A. Space Utilization

Zone		Area	Facility	Area (ha)	Population	Num. of Worker	Num. of Visitor	Remarks
BL-SIC	**BL Industrial Park Zone**	BLIP I		99.	-	21,450	-	Residential area is not included.
		BLIP II		176.0	-	65,950	-	Area source: Engineering Design Report of DOHWA, Sep. 2015, page 101
		Subtotal		272.0	-	87,400	-	
	Industrial Park Residence Zone of BLIP – I & II	Residential area	Dormitory	12.1	51,700	-	-	
			Middle manager apartment	2.0	500	-	-	
			Top manager apartment	1.8	800	-	-	
			Sub total	15.9	53,000	-	-	
		Commercial area	Shopping mall	6.8	-	17,500	49,000	6.8hax60%x3floors/ 7m^2/worker=17,500workers 6.8hax60%x3floors/ 2.5m^2/visitor=49,000visitors
			Commercial complex with apartment	21.9	15,800	30,000	75,000	21.9hax60%x60%x6floors/ 30m^2/pop=15,800population 21.9hax60%x40%x4floors/ 7m^2/worker=30,000workers 21.9hax60%x40%x4floors/ 2.8m^2/visitor=75,000visitors
			Sub total	28.7	15,800	47,500	124,000	Road, car parking/bus station, water tank site is inclusive in total area.
		Zone inner road, bus station		7.6	-	-	-	
		Subtotal		52.2	68,800	47,500	124,000	
	High-tech Industry and International Business Zone	International Business Park – I		16.6	-	14,600	2,900	16.6hax40%x10floors / 45.5m^2/worker=14,600workers 14,600 workers x 20%=2,900visitors
		International Business Park – II		24.6	-	21,600	4,300	24.6hax40%x10floors / 45.5m^2/worker=21,600workers 21,600 workers x 20%=4,300visitors
		High-rise Residence		16.6	13,300	-	-	16.6hax40%x 10floors/ 50m^2/pop=13,300population

Zone		Area	Facility	Area (ha)	Population	Num. of Worker	Num. of Visitor	Remarks
		Aerospace Manufacturing		30.3	-	4,000	-	30.3hax60%/ 45.5m^2/worker=4,000workers
		High-tech Manufacturing		52.6	-	6,900	-	30.3hax60%/ 45.5m^2/worker=6,900workers
		Eternal road on west side edge		8.3				
		Subtotal		148.9	13,300	47,100	7,200	
	ICT Park Zone	Knowledge park (ICT – Center of Excellency)	School buildings, dormitories	33.2	1,800	500	1,200	Planned 3,000 students of IT university & IT college. (1,800 students stay in dormitory, 1,200 students commute) 500 staffs of university & college assumed will commute.
		Fabricating enterprise area		16.8	-	2,200	-	16.8hax60%/ 45.5m^2/worker=2,200workers
		R & D area		17.1	-	7,500	1,500	17.1hax40%x5floors / 45.5m2/worker=7,500workers 7,500 workers x 20%=1,500visitors
		ICT park core area		68.3	-	30,000	6,000	inclusive of incubation core, data center, etc. 68.3hax40%x5floors / 45.5m2/worker=30,000workers 30,000 workers x 20%=6,000visitors
		Commercial area	Commercial facility	7.1	-	18,300	51,100	7.1hax60%x3floors / 7m^2/worker=18,30000workers 7.1hax60%x3floors/ 2.5m^2/visitor=51,100visitors
		Residential area	ICT residence for academia, researcher, engineers	3.4	3,000	-	-	3.4hax40%x 10floors/ 50m^2/pop=3,000population
		Major road in zone			-	-	-	
		Subtotal		145.9	4,800	58,500	59,800	
	Total			619.0	86,900	240,500	191,000	
Others	Addis Ababa City Arterial Roads			37.8				
	Infrastructure (bus terminal, solid waste sorting plant)			8.2	-	-	-	bus terminal: 3.7ha, solid waste sorting plant: 4.5ha
	River Front Green			227.8			-	

Zone	Area	Facility	Area (ha)	Population	Num. of Worker	Num. of Visitor	Remarks
				-	-		
	Total		273.8	0.0	0.0	0.0	
Grand total			**892.8**	**86,900**	**240,500**	**191,000**	

B. Park/Green Area Ratio of Bole Lemi Smart Industrial City (Plan)					
Zone		Area	Total Area (ha)	Green Area (ha)	Green Ration (%)
BL-SIC	BL Industrial Park Zone	BL1 IP	99.2	24.6	24.8
		BL2 IP	174.8	30.2	17.3
		Subtotal	274.0	54.8	20.0
	IPResidence Zone of BLIP1 & 2	Residential area	37.7	5.1	13.5
		Commercial area	39.2	14.9	38.0
		Subtotal	76.9	20.0	26.0
	ICT Park Zone	ICT college (vocational and training center)	16.9	9.4	55.8
		ICT relating fabricating enterprise area	39.6	4.3	10.8
		R & D area	17.1	5.8	33.9
		ICT park core area	68.3	19.5	28.6
		Commercial and Residential area	20.9	6.3	30.2
		Subtotal	173.1	45.3	26.2
	High-rise Residence & International Business Park	International Business Park 1	16.6	5.0	30.0
		International Business Park 2	24.6	7.4	30.0
		High-rise Residence	16.6	5.0	30.0
		Subtotal	57.8	17.3	30.0
	High Tech Industrial Park	Aerospace Manufacturing	30.3	7.6	25.0
		High-tech Manufacturing	52.6	13.1	25.0
		Others	8.3	0.0	0.0
		Subtotal	91.2	20.7	22.7
	Total		**673.0**	**158.2**	**23.5**
Addis Ababa City Arterial Roads			37.8	-	0.0
Bus Terminal			8.2	1.6	20.0
Solid Waste Sorting Plant			1.9	-	0.0
River Front Green			171.9	171.9	100.0
Grand Total			**892.8**	**331.7**	**37.2**

II: INFRASTRUCTURE

A. Projected Water Demand

Zone	Area	Facility	Area (ha)	Population	Num. of Worker	Num. of Visitor	Water Supply (m3/d)				Demand projection 2% inc/yr. up to 2030	Climatic Adjustment factor for Res.	Socio economic adjustment factor for Res.	Adjusted Domestic Demand	Public Water Demand (15% of Domestic Water Demand)	Total Average Daily WD
							Classification	Unit	Unit Demand	Supply	Demand	Demand	Demand	Demand	Demand	Demand
BL Industrial Park Zone	BLIP I		99.2	-	21,450	-	Provided									
	BLIP II		174.8	-	65,950	-	Provided									
	Subtotal		274	-	87,400	-										
Industrial Park Residence Zone of BLIP I & II	Residential area	Dormitory	12.8	51,700	-	-	Residential	lpcd	110	5,687	6,932	1	1.05	7,279	1092	8,371
		Middle manager apartment	2.1	500	-	-	Residential	lpcd	110	55	67	1	1.05	70	11	81
		Top manager apartment	1.9	800	-	-	Residential	lpcd	110	88	107	1	1.05	113	17	130
		Sub total	16.8	53,000	-	-				5,830	7,107			7,462	1,119	8,581
	Commercial area	Shopping mall	6.8	-	17,500	49,000	Commercial	m3/m2/day	0.015	1,020	1,020	1	1	1020		1,020
		Commercial complex with apartment	21.9	15,800	30,000	75,000	Residential	lpcd	110	1,738	2,119	1	1.05	2225		2,225
							Commuter	lpcd	35	1,050	1,050	1	1	1050		1,050
							Visitor	lpcd	15	1,125	1,125	1	1	1125		1,125
		Sub total	28.7	15,800	47,500	124,000				4,933	5,314			5,420		5,420
	Subtotal		45.5	68,800	47,500	124,000				10,763	12,420			12,881.62	0	14,001
High-tech Industry and International Business Zone	International Business Park I		16.6	-	15,000	3,000	Commercial	m3/m2/day	0.01	1,658	1,658	1	1	1,658		1,658
	International Business Park I		24.6	-	22,000	4,400	Commercial	m3/m2/day	0.01	2,456	2,456	1	1	2,456		2,456
	High-rise Residence		16.6	13,300	-	-	Residential	lpcd	110	1,463	1,783	1	1.05	1,873		1,873
	Aerospace Manufacturing		30	-	4,000	-	Industrial	m3/ha/day	45	1,364	1,364	1	1	1,364		1,350

Zone	Area	Facility	Area (ha)	Population	Num. of Worker	Num. of Visitor	Water Supply (m3/d)				Demand projection 2% inc/yr. up to 2030	Climatic Adjustment factor for Res.	Socio economic adjustment factor for Res.	Adjusted Domestic Demand	Public Water Demand (15% of Domestic Water Demand)	Total Average Daily WD
							Classification	Unit	Unit Demand	Supply	Demand	Demand	Demand	Demand	Demand	Demand
	High-tech Manufacturing		53	-	6,900	-	Industrial	m3/ha/day	45	2,366	2,366	1	1	2,366		2,385
	Subtotal		140.7	13,300	47,900	7,400				9,307	9,627			9,717	0	9,722
IT Park Zone	Knowledge park (ICT-Center of Excellency)	School buildings	16.2	1,800	500	1,200	Commuter	lpcd	35	18	18	1	1	18		18
							Visitor	lpcd	15	18	18	1	1	18		18
							Residential	lpcd	110	198	241	1	1.05	253		253
	Fabricating enterprise area		39.6	-	2,200	-	Commercial	m3/ha/day	25	420	420	1	1	420		990
	R & D area		17.1		7,500	1,500	Commercial	m3/ha/day	25	428	428	1	1	428		428
	ICT park core area (inclusive of incubation core, data center, etc.)		78.5	-	30,000	6,000	Commercial	m3/ha/day	25	1,708	1,708	1	1	1,708		1,963
	Commercial area	Commercial facility	7.1	-	18,300	51,100	Commercial	m3/m2/day	0.015	1,065	1,065	1	1	1,065		1,065
	Residential area	ICT residence for academia, researcher, engineers	3.4	3,000	-	-	Residential	lpcd	110	330	402	1	1.05	422		422
	Subtotal		161.9	4,800	58,500	59,800				4,184	4,299			4,331		5,156
Total			622.1	86,900	241,300	191,200				24,254	26,347			26,930	1,119	28,879

B. Projected Waste Water Yield

Zone	Area	Facility	Area (ha)	Population	Num. of Worker	Num. of Visitor	Water Supply (m3/d)				Total Average Daily WD	Wastewater Yield (m3/d)		
							Classification	Unit	Unit Demand	Supply	Demand	Classification	Ratio (%)	Yield
BL Industrial Park Zone	BLIP – I		99.2	-	21,450	-	Provided					Provided		
	BLIP – II		174.8	-	65,950	-	Provided					Provided		
	Subtotal		**274**	-	**87,400**	-								
Industrial Park Residence Zone of BLIP – I & II	Residential area	Dormitory	12.8	51,700	-	-	Residential	lpcd	110	5,687	8,371	Residential	80	6,697
		Middle manager apartment	2.1	500	-	-	Residential	lpcd	150	75	81	Residential	80	65
		Top manager apartment	1.9	800	-	-	Residential	lpcd	180	144	130	Residential	80	104
		Sub total	16.8	53,000	-	-				5,906	**8,581**			**6,865**
	Commercial area	Shopping mall	6.8	-	17,500	49,000	Commercial	m3/m2/day	0.015	1,020	1,020	Commercial	80	816
		Commercial complex with apartment	21.9	15,800	30,000	75,000	Residential	lpcd	150	2,370	2,225	Residential	80	1,780
							Commuter	lpcd	35	1,050	1,050	Commuter	80	840
							Visitor	lpcd	15	1,125	1,125	Visitor	80	900
		Sub total	28.7	15,800	47,500	124,000				5,565	5,420			**4,336**
	Subtotal		**45.5**	**68,800**	**47,500**	**124,000**				**11,471**	**14,001**			**11,201**

Zone	Area	Facility	Area (ha)	Population	Num. of Worker	Num. of Visitor	Water Supply (m3/d)				Total Average Daily WD	Wastewater Yield (m3/d)		
							Classification	Unit	Unit Demand	Supply	Demand	Classification	Ratio (%)	Yield
High-tech Industry and International Business Zone	International Business Park – I		16.6	-	15,000	3,000	Commercial	m3/m2/day	0.01	1,658	**1,658**	Commercial	80	1,326
	International Business Park – II		24.6	-	22,000	4,400	Commercial	m3/m2/day	0.01	2,456	**2,456**	Commercial	80	1,965
	High-rise Residence		16.6	13,300	-	-	Residential	lpcd	180	2,394	**1,873**	Residential	80	1,498
	Aerospace Manufacturing		30	-	4,000	-	Industrial	m3/ha/day	45	1,364	**1,364**	Industrial	70	945
	Hgihtech Manufacturing		53	-	6,900	-	Industrial	m3/ha/day	45	2,366	**2,366**	Industrial	70	1,670
	Subtotal		**140.7**	**13,300**	**47,900**	**7,400**				**10,238**	**9,717**			**7,404**
IT Park Zone	Knowledge park (ICT – Center of Excellency)	School buildings	16.2	1,800	500	1,200	Commuter	lpcd	35	18	18	Commuter	80	14
							Visitor	lpcd	15	18	18	Visitor	80	14
							Residential	lpcd	110	198	253	Residential	80	203
	Fabricating enterprise area		39.6	-	2,200	-	Commercial	m3/ha/day	25	420	420	Commercial	80	792
	R & D area		17.1		7,500	1,500	Commercial	m3/ha/day	25	428	428	Commercial	80	342
	ICT park core area (inclusive of incubation core, data center, etc.)		78.5	-	30,000	6,000	Commercial	m3/ha/day	25	1,708	1,708	Commercial	80	1,570

Zone	Area	Facility	Area (ha)	Population	Num. of Worker	Num. of Visitor	Water Supply (m3/d)				Total Average Daily WD	Wastewater Yield (m3/d)		
							Classification	Unit	Unit Demand	Supply	Demand	Classification	Ratio (%)	Yield
	Commercial area	Commercial facility	7.1	-	18,300	51,100	Commercial	m3/m2/day	0.015	1,065	1,065	Commercial	80	852
	Residential area	ICT residence for academia, researcher, engineers	3.4	3,000	-	-	Residential	IPDC	150	450	422	Residential	80	338
	Subtotal		**161.9**	**4,800**	**58,500**	**59,800**				**4,304**	**4,331**			**4,125**
Total			**622.1**	**86,900**	**241,300**	**191,200**				**26,013**	**28,049**			**22,730**

III: ENVIRONMENT

A. Scoping of the BL-SIC Master Plan

Category	Environmental Item	Evaluation		Anticipated impacts		Confirmation of Environmental Considerations (Mitigation Measures)
		Before/ construction phase	Operational phase	Construction phase	Operation phase	
Pollution Control	(1) Air Quality	B-	B-	The process of stone crushing and movement of heavy vehicles generate dust particle. Vehicles for construction emit exhaust, too.	Manufacturing factories possibly emit exhaust containing harmful gas; vehicles emit exhaust in the air; Waste, domestic, industrial and e-waste and chemicals, disposed from residences, offices and factories generate air pollution if it is poorly managed.	**Construction** The project proponent and supervising consultant shall instruct contractor to use unleaded gasoline and maintain their vehicles to keep clean exhaust gas at the construction period. They should also use watering to prevent the dust. **Operation** The project proponent instructs tenants companies to follow the Ethiopian environmental standard and the Standard Operation Procedure (SOP) to avoid and reduce emission of hazardous exhaust, e.g. SOx, NOx. It also implements periodical air monitoring and instruct the pollutant if it detects pollution Also, it instructs tenants to use fuel of high quality having low emission factor.
	(2) Water Quality	B-	A-	Waste water from factories affects surrounding water body if it is not properly managed. If it leaks from the construction site, especially from the AAWSA STP, it contaminates water quality; Waste from construction site affects quality of surrounding water bodies if it is dumped there;	Waste water from factories affects water quality of surrounding water bodies If it is not discharged to and treated in the WWTP as planned in the Master Plan; Waste, especially hazardous industrial waste, affects water quality if it is disposed to surrounding water bodies.	**Construction** The current AAWSA STP site must be checked its contamination and cleared before any construction process to avoid leaking of contaminated water to other areas. Project proponent instructs contractor not to drain waste water to the river without treatment. **Operation** Project proponent instructs tenants to follow Ethiopian waste water standard and the SOP. It conducts water quality monitoring periodically at the discharging point of each plot and instruct improvement if it detects contamination.
	(3) Wastes	B-	A-	It is anticipated that waste lumber and waste construction materials such as iron frame will affect inside the plan area and surrounding area if it is not	Areas in the BL-SIC planned for manufacturing will produce hazardous industrial waste (mainly chemicals and metals)	**Construction** The project proponent and supervising consultant shall instruct contractor to treat wastes properly according to the regulations and the SOP They shall implement

Category	Environmental Item	Evaluation		Anticipated impacts		Confirmation of Environmental Considerations (Mitigation Measures)
		Before/ construction phase	Operational phase	Construction phase	Operation phase	
				properly collected and treated.	and e-waste; Disposal of chemical waste and e- waste cause health problems; Plastic bags also affect natural environment if they are disposed in the nature; Vegetable and animal products that are left from cooking make the BL-SIC unsanitary condition.	periodical monitoring. **Operation.** The project proponent instructs tenants to follow the Ethiopian laws and the SOP: They must segregate non-hazardous solid waste and hazardous one including e-waste before disposing them to the defined area and contract with the authorized garbage collection company. The workers should be given constant training on how to handle wastes. Periodical monitoring should be implemented.
	(4) Soil Contamination	B-	A-	It is anticipated at the relocation of the AAWSA SPT that dirty water leaks from the plant and contaminates the soil; also, contamination is anticipated if there is leakage of oil from vehicles.	Soil contamination is anticipated if proper waste management is not applied to the hazardous industrial waste and e-wastes as they contain dangerous chemicals	**Construction** For the current AAWSA SPT, the IP project proponent implements soil survey and examine possible measures to reduce contamination such as disinfection and reclamation using fresh soil. It instructs contractor to use construction machinery of the low leakage type. They will do periodical monitoring. **Operation** The project proponent instructs tenant companies to dispose solid waste following Ethiopian regulation and SOP and avoid leaking of waste water.
	(5) Noise and Vibration	B-	B-	Noise and vibration occur by land grading, construction of roads, buildings, water pipelines and sewage system; They also occur by travelling of heavy vehicles.	Manufacturing factories will generate noise and vibration if they use heavy machines for production.	**Construction** The project proponent shall instruct contractor to drive construction vehicles at low speed, use low-noise, low vibration construction machines, and follow Ethiopian noise standard and the SOP. It implements monitoring periodically. They will conduct periodical monitoring. **Operation** The project proponent shall instruct tenant companies to use low-noise, low-vibration production machines, and follow Ethiopian noise standard and the SOP. It implements monitoring periodically.
	(6) Subsidence	C-	B-	When ground water is used there will be subsidence.	ICT Park will use ground water pumped from deep well. It may cause subsidence if it pumps up	**Project design phase** The project proponent shall study and make plan of limit volume of water to pump up from deep wells in

Category	Environmental Item	Evaluation		Anticipated impacts		Confirmation of Environmental Considerations (Mitigation Measures)
		Before/ construction phase	Operational phase	Construction phase	Operation phase	
					large volume.	the project design phase. **Construction** Contractor follows the designed volume. **Operation** BL-SIC management office in charge of ground water supply shall follow the limit volume.
	(7) Odor	A- ffor the current AAWSA STP site, C- for the remaining areas	C-	AAWSA STP is located In the northern part of the plan area for International Business Park and High-tech Industrial Park, and the soil there must be contaminated by leaking; It is anticipated contaminated soil will give off bad smell when the area is developed.	The industrial type of the plan BL-SIC is IT industry and light industry for BL 1 and BL 2, not the heavy chemical industry that generate air pollution and bad smell.	**Construction** Contractor shall monitor odor periodically. **Operation** Tenant companies should avoid emission of bad smells.
Natural Environment	(1) Protected Areas	D	D	There is no protected area in the site.	There is no protected area in the site.	-
	(2) Ecosystem	D	D	Neither forest nor ecologically vulnerable habitats do not exist in the BL-SIC plan site; also, it has been already developed for IPs, ICT, AAWSA and agricultural land and construction of BL-SIC will not affect valuable and vulnerable eco-system.	Operation of BL-SIC will not affect the ecosystem.	-
Natural Environment	(3) Hydrology	B-	B-	BL-SIC will dig deep wells, which may affect hydrology of the area.	ICT Park will use ground water pumped from deep wells. It may cause subsidence if the ground water level is not exactly monitored.	**Project design phase** The project proponent shall study and make plan of limit volume of water to pump up from deep wells. **Construction** The ground water should be properly managed if it will be used. Periodical monitoring is required. **Operation** BL-SIC management office in charge of ground water supply shall follow the limit volume.
	(4) Topography and Geology	C-	D	It is anticipated that the construction of BL-SIC affects topography because the land will be excavated and re-graded; However, it is not large scale because the plan site is the area already	Operation of BL-SIC will not affect topography and geology.	**Construction** Contractor shall examine the construction method that causes the least change of topography.

Category	Environmental Item	Evaluation		Anticipated impacts		Confirmation of Environmental Considerations (Mitigation Measures)
		Before/ construction phase	Operational phase	Construction phase	Operation phase	
				developed for IP ICT and agricultural land		
	(5) Soil erosion	B-	C-	Though almost all plan site is flat but northern part of the BL-SIC planed for the residential area is the land with steep slope. It may cause soil erosion if construction plan is not suitable and inappropriate construction method is applied.	The edge of the plan site is slope area. If adequate slope protection method including planation is not applied and it is not properly managed, soil erosion is anticipated.	**Construction** Contractor shall apply the construction method to reduce soil erosion. **Operation** BL-SIC management office shall maintain vegetation to be planted following the Master Plan and manages rain water drainage systems to properly drain water.
Social Environment	(1) Resettlement	B-	D	There are people living inside the plan site, particularly on boundary of ICT park and future aerospace manufacturing. IPDC and ICTC try to communicate with them but they refuse to meet.	-.	**At the decision of project implementation** Project proponent, following Ethiopian proclamation and regulations, explain, negotiate and reach agreement with the affected people and pays compensation. **Construction** Project proponent make construction plan to avoid commencement of construction where resettlement is not finished.
	(2) Living and Livelihood	A-	D	People who live inside the plan site will be affected because they lose their house and/or agriculture land. They will lose house and means of livelihood if the compensation is not properly given.	-	**At the decision of project implementation** Project proponent, following Ethiopian proclamation and regulations, explain, negotiate and reach agreement with the affected people and pays compensation. **Construction** Project proponent make construction plan to avoid commencement of construction where affected people have not agreed. It shall continue negotiation
	(3) Heritage	D	D	There is no historical site inside the plan site.	-	-
	(4) Landscape	B-	B-	High-rise buildings and factories will change the land scape, especially in the pan residential area and present AAWSA STP and agriculture land.	High-rise buildings and factories will change the land scape, especially in the pan residential area and present AAWSA STP and agriculture land.	**Project design phase** Project proponent needs to explain to the stakeholders (local government, private sector and people around the plan site) about the master plan, proposed design and purpose of development to reach consensus.
	(5) Ethnic Minorities and	D	D	No ethnic minorities in the site.	No ethnic minorities in the site	-

Category	Environmental Item	Evaluation		Anticipated impacts		Confirmation of Environmental Considerations (Mitigation Measures)
		Before/ construction phase	Operational phase	Construction phase	Operation phase	
	Indigenous Peoples					
	(6) Working Conditions	A-	B-	It is anticipated that construction work causes negative impact on workers such as use of hazardous chemicals, heavy machines, work at heights, and so on, if proper construction method and management is not applied; For worker health, soil and air condition of the current AAWSA STP is badly contaminated which may affect the health of workers who work in this insanitary condition.	In the operation process, the workers may be affected if proper safety trainings on machines appropriate for the certain industry is not applied. The e-waste also may affect people health if they are not properly disposed.	**Construction** Contractor shall follow the proclamation and regulations related to working condition and the SOP. It shall prepare facilities and materials to keep safety and health of workers. Proper training on how to use construction machines and materials should be given constantly. Periodical monitoring and reporting shall be required. **Operation** Project proponent instructs tenants companies to follow proclamation and regulations relating to work safety and the SOP. They shall prepare facilities and materials to protect workers from health damage and accidents. They also shall constant training to the workers on how to manage industry machines and wastes, constantly. Periodical monitoring and reporting will be required as mentioned in the IP Regulation.

Source: JICA EIPP Team

Note: A +/-Significant positive/negative impact is expected.

B +/-Positive/negative impact is expected to some extent.

C+/-Extent of positive/negative impact is unknown (A further examination is needed and the impact could be clarified as the study progresses.)

D No impact is expected.

B. Draft TOR

Category	Environmental Item	Evaluation		Items of examinations	Means of examination
		Construction	Operation		
Pollution Control	(1) Air Quality	B-	B-	Confirmation of air quality standards of Ethiopia and WHO.	Examination of existing document
				Grasp of present condition of air quality	Survey of existing documents and actual measurement
				Estimate of degree of contamination occurred by increase of vehicles during construction period.	Examination of the construction plan: items of construction, construction method, period, type of machinery, place, period and time of operation, number of construction vehicles, moving route
				Estimate of degree of contamination generated by manufacturing	Estimate of type and volume of chemicals to be used for manufacturing and emitted
	(2) Water Quality	B-	A-	Confirmation of water quality standards of Ethiopia	Examination of existing documents
				Estimate of degree of impact that will be caused by water use by the construction and operation	Master plan document: quantity of water, construction method
	(3) Wastes	B-	A-	Means of disposal of construction wastes	Master plan document, hearing from related agencies
				Means of disposal from BL smart city (industrial waste, hazardous waste, domestic waste and e-waste)	Master plan document, hearing from IPDC
	(4) Soil Contamination	B-	A-	Measures to avoid oil leaking during the construction period	Master plan document
				Measures to avoid leaking from waste water and solid waste during operation period	Master Plan on the waste water management and solid waste management
				Measures to reduce contamination of soil at the current AAWSA STP	Hearing from IPDC and AAWSA
	(5) Noise and Vibration	B-	B-	Confirmation of related standards of noise and vibration of Ethiopia	Examination of existing documents
				Estimate of degree of noise and vibration to occur by construction.	Construction method, kind of machines, period, type of machinery, place, period and time of operation.
				Estimate of degree of noise and vibration caused by manufacturing and transport for business	Examination of environmental monitoring report (IPDC, EPA) and international organizations such as the World Bank
	(6) Subsidence	C-	B-	Estimate the possibility and degree of subsidence	Master Plan on the estimate of water supply volume, ground condition and hydrological analysis
	(7) Odor	A- for the current AAWSA STP site, A- for the remaining areas	C-	Confirmation of air quality standards of Ethiopia	Examination of existing documents
				Grasp of present condition of odor from STP	Survey of existing documents; actual measurement
				Estimate of degree of odor to be caused by the soil of the former AAWSA STP.	Hearing from IPDC, actual measurement,-examination of odor mitigation measures in the similar projects
Natural Environment	(1) Protected Areas	D	D	-	-
	(2) Ecosystem	D	D	-	-

Category	Environmental Item	Evaluation		Items of examinations	Means of examination
		Construction	Operation		
	(3) Hydrology	B-	B-	Estimate of volume of ground water to be pumped up during construction and operation	Master Plan on the estimate of ground water drawing volume, ground condition and hydrological analysis
	(4) Topography and Geology	C-	D	Estimate of volume of excavation and land filling	Master plan, analysis
	(5) Soil erosion	B-	C-	Estimate of degree of damage	Master plan, site observation
Social Environment	(1) Resettlement	B-	D	Progress of land title transfer	Hearing from IPDC and Municipality, stakeholder meeting, public hearing
	(2) Living and Livelihood	A-	D	Progress of compensation	Hearing from IPDC and Municipality
	(3) Heritage	D	D	-	-
	(4) Landscape	B-	B-	Estimate of degree of damage on the landscape	Master plan, observation,
	(5) Ethnic Minorities and Indigenous Peoples	D	D	-	-
	(6) Working Conditions	A-	B-	Confirmation of measures to be taken for work safety during the construction period.	Master plan, IPDG and SOP, hearing from IPDC (and agreement between IPDC and contractor if construction started)
				Confirmation of measures to avoid industrial/ labor accident to be taken during operation period	IPDG, SOP, hearing from IPDC, observation of factories operating in BL 1.
				Confirmation of capacity development program to mitigate industrial/ labor accident and enhance effectiveness of the BL Smart City	Recommendation, IPDSG, SOP, hearing from IPDC

Source: JICA EIPP Team

Note: A +/-Significant positive/negative impact is expected.

B +/-Positive/negative impact is expected to some extent.

C+/-Extent of positive/negative impact is unknown (A further examination is needed and the impact could be clarified as the study progresses.)

D No impact is expected.

C. Possible Negative Impacts of the Master Plan

Category	Environ-mental Item	Evaluation		Anticipated impacts		Confirmation of Environmental Considerations (Mitigation Measures)
		Before/ during construction phase	Operational phase	Construction phase	Operational phase	
Pollution Control	(1) Air Quality	B-	B-	The process of crushing of stones and movement of heavy vehicles produce dust particle.	During the operation process the air quality may be affected if waste management is poor and chemicals from the e-waste are released to the atmosphere	**Construction** The smart city project office and supervising consultant shall instruct contractor to use unleaded gasoline and maintain their vehicles to keep clean exhaust gas at the construction period. They should also use watering to prevent the dust. **Operation** Use fuel of high quality having low emission factor and properly dispose waste.
	(2) Water Quality	C-	C-	The surrounding water bodies may be affected if spoil from construction site is dumped there and waste water from the construction site (especially from the STP) drain to water bodies.	If there is no proper disposal of waste, the waste from operation could be washed away to the nearby river contributing to its pollution.	**Construction** The STP site must be treated before any construction process, spoil should not be dumped around the river, installation of proper drainage system. **Operation** Regular disposal of wastes and monitoring that the waste is not affecting the nearby water bodies.
	(3) Wastes	A-	A-	The spoil and waste materials from the construction process will affect the environment if not properly managed.	Waste will be generated from the production activity. The aerospace manufacturing, the high-tech manufacturing and ICT park will produce e-waste. The e waste that will be generated from the ICT park is hazardous waste which will cause health problems if it is not properly managed. Other solid waste that are expected in the operation stage include vegetable and animal products that are left from cooking, plastics and bags.	**Construction** The smart city project office and supervising consultant shall instruct contractor to treat wastes properly according to the regulations and they shall implement periodical monitoring. **Operation.** The smart city has waste should ensure that the wastes are collected regularly. . The workers also should be given constant training on how to handle e-wastes. Periodical monitoring should be applied.
	(4) Soil Contamination	A-	B-	The soil on the northern part of the site is already contaminated due to the current position of waste water treatment plant. Further contamination is expected if there is leakage of oil during the	In the operation stage, the soil may be contaminated if proper waste management is not applied to the e-wastes as these wastes contain dangerous chemicals and will contaminate the soil if they are not managed properly.	**Construction** The IP office and supervising consultant shall instruct contractor to use construction machinery of the low leakage type. They will do periodical monitoring. For the contaminated soil, it should be treated until it is healthy.

Category	Environ-mental Item	Evaluation		Anticipated impacts		Confirmation of Environmental Considerations
				construction stage.		**Operation** The e waste must be properly disposed and training for workers should be given constantly.
	(5) Noise and Vibration	B-	C-	Noise and vibration could occur during the construction process when using the crushing and from heavy vehicle that could be used in the construction process.	During the operation process there may be noise from the machines that will be used for production.	**Construction** **The smart city office and supervising consultant shall instruct contractor to drive construction vehicles at low speed, and monitor the noise and vibration. They will conduct periodical monitoring.** **Operation** **The industry shall use machines that produces less noise. Periodical monitoring is required.**
	(6) Subsidence	C-	D	During construction when ground water is used there will be subsidence.	In the operation phase there will not be any subsidence as the smart city will use the city's water line.	**Construction** There should be proper refill of the ground water site that was used for construction.
	(7) Odor	A-	D	Partial part of the site (the one with the STP is located) has very bad smell to the surrounding environment currently. During the treatment and construction stage it may be difficult to bear the odor for the construction workers.	There is no significant odor during operation phase.	**Construction** The IP office and the contractor should ensure constant medical care and insurance. Monitoring should be applied periodically. **Operation** The industries should ensure constant medical care and insurance for workers following the laws and regulations. Monitoring should be applied periodically.
Natural Environment	(1) Protected Areas	D	D	There is no protected area in the site.	There is no protected area in the site.	-
	(2) Ecosystem	C-	D	During the construction process the smart city will create interruption on the living things interaction with each other and the surrounding environment when infrastructures are applied on the site that used be habitat for living things.	In the operation process, it will not affect the ecosystem.	**Construction** Providing more green spaces that could sustain the ecosystem and maintaining green spaces. Periodical monitoring is required.
	(3) Hydrology	C-	C-	The smart city may affect the hydrology when ground water will be used during the construction phase. The waste water from construction process may affect the nearby rivers when it drains to the river.	In operation phase if the impervious surfaces are high and leads water to run off towards the river which eventually will lead to overflow of rivers.	**Construction** Proper discharge of waste water during construction. The ground water should be properly managed if it will be used. Periodical monitoring is required. **Operation** Use permeable paving techniques and material

Category	Environ-mental Item	Evaluation		Anticipated impacts		Confirmation of Environmental Considerations
						that facilitates infiltration and reduce surface runoff.
	(4) Topography and Geology	B-	C-	The topography will change due to the project as the land will be excavated and re-grading will be applied during the construction phase. The geology will be affected in the process of construction if there is deep digging.	In the operation phase, the topography will not be affected.	**Construction** Trying to keep the natural slope to avoid high alteration of the terrain. Periodical monitoring is required.
	(5) Soil erosion	B-	C-	The soil may be eroded by wind in relatively flat areas in the construction phase as the land will be cleared for construction. There will also be soil erosion in the rainy season as ground cover pants will be removed and there will be no less vegetation to protect the soil.	The soil will be eroded if enough plants will not be planted in open areas and if proper drainage system is not installed to guide rain water.	**Construction** Planting of vegetation simultaneously with construction of buildings and infrastructures to protect the top soil. **Operation** Maintaining of vegetation and managing the rain water drainage systems to properly drain water.
Social Environment	(1) Resettlement	A-	D	There will be resettlement as there are people living on the site particularly on the current site of the ICT park and future aerospace manufacturing. These will affect the people as they leave the area that they used to live in.	There will not be any effect.	**Construction** Properly compensate the relocating people according to the regulation. There should be meeting with the people to ensure their satisfaction on the compensation.
	(2) Living and Livelihood	A-	D	There is also agricultural land that belongs to the farmers in the site. When they will to be relocated and their means of income will be lost.	There will not be any effect.	**Construction** The people shall be given compensation according to the regulation and opportunities for their future livelihood that is balanced with the current livelihood that they are leaving.
	(3) Heritage	D	D	There is no historical site on the site. Therefore the master plan will not have any impact on the heritages.	There is no historical site on the site. Therefore the master plan will not have any impact on the heritages.	-
	(4) Landscape	B-	B-	The natural scene and reactiveness that can be seen in a single view will be lost when lots of buildings and infrastructures will be under construction as part of the industry park .	The natural scene and attractiveness of the site that can be seen in a single view will be lost when lots of buildings and infrastructures emerge as part of the industry park and natural areas that can integrate with the built areas will not be prepared.	**Construction** There should be preparation of natural landscapes that will integrate with the built structures. **Operation** Maintenance of prepared natural areas that will attach people. Periodical monitoring is required.
	(5) Ethnic Minorities and	D	D	No ethnic minorities in the site.	No ethnic minorities in the site	-

Category	Environ-mental Item	Evaluation		Anticipated impacts		Confirmation of Environmental Considerations
	Indigenous Peoples					
	(6) Working Conditions	A-	C-	The working conditions of workers may be affected especially on the current STP site as it is dangerous for health, if proper medical and safety issues are not considered during the construction process. There will be danger from construction machineries if proper usage and maintenance is not applied and training is not given to workers.	In the operation process, the workers may be affected if proper safety trainings on machines appropriate for the certain industry is not applied. The e-waste also may affect people health if they are not properly disposed.	**Construction** The safety and health of workers should be insured. Proper training on how to use construction machines should be given constantly. Periodical monitoring will be required. **Operation** Constant training on how to manage industry machines and wastes, especially e-waste should be given to workers constantly. Periodical monitoring will be required.

D. Draft Environmental Management Plan of the BL-SIC Master Plan

i. Construction Phase

Category	Environmental Item	Evaluation	Anticipated impacts	Mitigation Measures (preliminary)	Implementer	Responsible Organization
Pollution Control	(1) Air Quality	B-	The process of stone crushing and movement of heavy vehicles generate dust particle. Vehicles for construction emit exhaust, too.	The project proponent and supervising consultant shall instruct contractor to use unleaded gasoline and maintain their vehicles to keep clean exhaust gas at the construction period. They should also use watering to prevent the dust.	Contractor	IPDC, EPA (Municipality)
	(2) Water Quality	B-	Waste water from factories affects surrounding water body if it is not properly managed. If it leaks from the construction site, especially from the AAWSA STP, it contaminates the water quality; Waste from construction site affects quality of surrounding water bodies if it is dumped there.	The current STP site must be checked its contamination situation and cleared before any construction process to avoid leaking of contaminated water to other areas. Project proponent instructs contractor not to not drain waste water to the river without treatment.	Contractor	IPDC, EPA (Municipality)
	(3) Wastes	B-	It is anticipated that waste lumber and waste construction materials such as iron frame will affect inside the plan area and surrounding area if it is properly collected and treated.	The BL-SIC project office and supervising consultant shall instruct contractor to treat wastes properly according to the regulations and the SOP. They shall implement periodical monitoring.	Contractor	IPDC, Municipality
	(4) Soil Contamination	B-	It is anticipated at the relocation of the AAWSA SPT that dirty water leaks from the plant and contaminates the soil; also, contamination is anticipated if there is leakage of oil from vehicles.	For the current AAWSA SPT, the IP project proponent implements soil survey and examine possible measures to reduce contamination such as disinfection and reclamation using fresh soil. It instructs contractor to use construction machinery of the low leakage type. They will do periodical monitoring.	Contractor	IPDC, EPA (Municipality)
	(5) Noise and Vibration	B-	Noise and vibration occur by land grading, construction of roads, buildings, water pipelines and sewage system; They also occur by travelling of heavy vehicles.	The project proponent shall instruct contractor to drive construction vehicles at low speed, use low-noise, low vibration construction machines, and follow Ethiopian noise standard and the SOP. It implements monitoring periodically. They will conduct periodical monitoring.	Contractor	IPDC, EPA (Municipality)
	(6) Subsidence	C-	When ground water is used there will be subsidence.	**Project design phase** The project proponent shall study and make plan of limit volume of water to pump up from deep wells in the project design phase. **Construction Phase** Contractor follows the designed volume.	Contractor	IPDC

Category	Environmental Item	Evaluation	Anticipated impacts	Mitigation Measures (preliminary)	Implementer	Responsible Organization
	(7) Odor	B- for the current AAWSA STP site, C- for the remaining areas	In the northern part of plan area for International Business Park and High-tech Industrial Park, AAWSA STP is located and the soil there must be contaminated by leaking; It is anticipated contaminated soil will give off bad smell when the area is developed.	Contractor shall monitor odor periodically.	Contractor	IPDC, EPA (Municipality)
Natural Environment	(1) Protected Areas	D	There is no protected area in the site.	-	-	-
	(2) Ecosystem	D	Neither forest nor ecologically vulnerable habitats do not exist in the BL-SIC plan site; also, it has been already developed for IPs, ICT, AAWSA and agricultural land and construction of BL-SIC will not affect valuable and vulnerable eco-system.	-	-	-
	(3) Hydrology	B-	BL-SIC will dig deep wells, which may affect hydrology of the area.	**Project design phase** The project proponent shall study and make plan of limit volume of water to pump up from deep wells. **Construction** The ground water should be properly managed if it will be used. Periodical monitoring is required.	Contractor	IPDC
	(4) Topography and Geology	C-	It is anticipated that the construction of BL-SIC affects topography because the land will be excavated and re-graded; However, it is not large scale because the plan site is the area already developed for IP ICT and agricultural land	Contractor shall examine the construction method that causes the least change of topography.	Contractor	IPDC
	(5) Soil erosion	B-	Though almost all plan site is flat but northern part of the BL-SIC planed for the residential area is the land with steep slope. It may cause soil erosion if construction plan is not suitable and inappropriate construction method is applied.	Contractor shall apply the construction method to reduce soil erosion.	Contractor	IPDC
Social Environment	(1) Resettlement	B-	There are people living inside the plan site, particularly on boundary of ICT park and future aerospace manufacturing. IPDC and ICTC try to communicate with them but they refuse to meet.	**At the decision of project implementation** Project proponent, following Ethiopian proclamation and regulations, explain, negotiate and reach agreement with the affected people and pays compensation.	Municipality	IPDC, Municipality

Category	Environmental Item	Evaluation	Anticipated impacts	Mitigation Measures (preliminary)	Implementer	Responsible Organization
				Construction Project proponent make construction plan to avoid commencement of construction where resettlement is not finished.		
	(2) Living and Livelihood	A-	People who live inside the plan site will be affected because they lose their house and/or agriculture land. They will lose house and means of livelihood if the compensation is not properly given.	**At the decision of project implementation** Project proponent, following Ethiopian proclamation and regulations, explain, negotiate and reach agreement with the affected people and pays compensation. **Construction** Project proponent make construction plan to avoid commencement of construction where affected people have not agreed. It shall continue negotiation	Municipality	IPDC, Municipality
	(3) Heritage	D	There is no historical site inside the plan site.	-	-	-
	(4) Landscape	B-	High-rise buildings and factories will change the land scape, especially in the pan residential area and present AAWSA STP and agriculture land.	**Project design phase** Project proponent needs to explain to the stakeholders (local government, private sector and people around the plan site) about the master plan, proposed design and purpose of development to reach consensus.	Contractor	IPDC
	(5) Ethnic Minorities and Indigenous Peoples	D	No ethnic minorities in the site.	-	-	-
	(6) Working Conditions	A-	It is anticipated that construction work causes negative impact on workers such as use of hazardous chemicals, heavy machines, work at heights, and so on, if proper construction method and management is not applied; For worker health, soil and air condition of the current AAWSA STP is badly contaminated which may affect the health of workers who work in this insanitary condition.	Contractor shall follow the proclamation and regulations related to working condition and the SOP. It shall prepare facilities and materials to keep safety and health of workers. Proper training on how to use construction machines and materials should be given constantly. Periodical monitoring and reporting shall be required.	Contractor	IPDC, EIC,

ii. Operation Phase

Category	Environmental Item	Evaluation	Anticipated impacts	Mitigation Measures (tentative)	Implementer	Responsible Organization
Pollution Control	(1) Air Quality	B-	Manufacturing factories possibly emit exhaust containing harmful gas; vehicles emit exhaust in the air; waste, domestic, industrial and e-waste and chemicals, disposed from residences, offices and factories generate air pollution if it is poorly managed.	The project proponent instructs tenants companies to follow the Ethiopian environmental standard and the Standard Operation Procedure (SOP) to avoid and reduce emission of hazardous exhaust, e.g. SOx, NOx. It also implements periodical air monitoring and instruct the pollutant if it detects pollution Also, it instructs tenants to use fuel of high quality having low emission factor.	IPDC, Tenant Companies	IPDC, EPA (Municipality)
	(2) Water Quality	A-	Waste water affects water quality of surrounding water bodies If it is not drained and treated in the STP as planned in the Master Plan but leaked; Waste, especially hazardous industrial waste, affects water quality if it is disposed to surrounding water bodies or the treatment plant does not sufficiently function.	Project proponent instructs tenants to follow Ethiopian waste water standard and the SOP. It conducts water quality monitoring periodically at the discharging point of each plot and instruct improvement if it detects contamination.	IPDC, Tenant Companies	IPDC, EPA (Municipality)
	(3) Wastes	A-	Areas in the BL-SIC planned for manufacturing will produce hazardous industrial waste and e-waste; Disposal of chemical waste and e- waste cause health problems; Plastic bags also affect natural environment if they are disposed in the nature; Vegetable and animal products that are left from cooking make the BL-SIC unsanitary condition.	The project proponent instructs tenants to follow the SOP: They segregate non-hazardous solid waste and hazardous one including e-waste, before disposing them to the defined area and contract with the authorized garbage collection company. The workers should be given constant training on how to handle wastes. Periodical monitoring should be implemented.	Tenant Companies, Municipality	IPDC, Municipality
	(4) Soil Contamination	A-	Soil contamination is anticipated if proper waste management is not applied to the hazardous industrial waste and e-wastes as they contain dangerous chemicals	The project proponent instructs tenant companies to dispose solid waste following Ethiopian regulation and SOP and avoid leaking of waste water.	IPDC, Tenant Companies	IPDC, EPA (Municipality)
	(5) Noise and Vibration	B-	Manufacturing factories will generate noise and vibration if they use heavy machines for production.	The project proponent shall instruct tenant companies to use low-noise, low-vibration production machines, and follow Ethiopian noise standard and the SOP. It implements monitoring periodically.	IPDC, Tenant Companies	IPDC, EPA (Municipality)

Category	Environmental Item	Evaluation	Anticipated impacts	Mitigation Measures (tentative)	Implementer	Responsible Organization
	(6) Subsidence	B-	ICT Park will use ground water pumped from deep well. It may cause subsidence if the ground water level is not exactly monitored.	BL-SIC management office in charge of ground water supply shall follow the limit volume.	IPDC	IPDC, EPA (Municipality)
	(7) Odor	C-	The industrial type of the plan BL-SIC is IT industry (and light industry for BL 1 and BL 2), not the heavy chemical industry that generate air pollution and bad smell.	Tenant companies should avoid emission of bad smells.	IPDC, Tenant Companies	IPDC, EPA (Municipality)
Natural Environment	(1) Protected Areas	D	-	-	-	-
	(2) Ecosystem	D	-	-	-	-
	(3) Hydrology	B-	ICT Park will use ground water pumped from deep wells. It may cause subsidence if the ground water level is not exactly monitored.	BL-SIC management office in charge of ground water supply shall follow the limit volume.	IPDC	IPDC, EPA (Municipality)
	(4) Topography and Geology	D	-	-	-	-
	(5) Soil erosion	C-	The edge of the plan site is slope area. If adequate slope protection method including planation is not applied and it is not properly managed, soil erosion is anticipated.	BL-SIC management office shall maintain vegetation to be planted following the Master Plan and manages rain water drainage systems to properly drain water.	IPDC	IPDC, EPA (Municipality)
Social Environment	(1) Resettlement	D	Affected people may not be properly compensated as provide by the Ethiopian Regulation no.135/2007 and relevant legal guidelines..	Confirmation whether the affected people are properly compensated according to Ethiopian regulation.	Municipality	IPDC, Municipality
	(2) Living and Livelihood	D	Affected people may not be get support of livelihood recovery program and training and not be satisfying	Following up that the affected people are properly supported following the RAP to be prepared and approved	Municipality	IPDC, Municipality
	(3) Heritage	D	-	-	-	-
	(4) Landscape	B-	High-rise buildings and factories will change the land scape, especially in the pan residential area and present AAWSA STP	-	IPDC	IPDC

Category	Environmental Item	Evaluation	Anticipated impacts	Mitigation Measures (tentative)	Implementer	Responsible Organization
			and agriculture land.			
	(5) Ethnic Minorities and Indigenous Peoples	D	-	-	-	-
	(6) Working Conditions	B-	In the operation process, the workers may be affected if proper safety trainings on machines appropriate for the certain industry is not applied. The e-waste also may affect people health if they are not properly disposed.	Project proponent instructs tenants companies to follow proclamation and regulations relating to work safety and the SOP. They shall prepare facilities and materials to protect workers from health damage and accidents. They also shall constant training to the workers on how to manage industry machines and wastes, constantly. Periodical monitoring and reporting will be required as mentioned in the IP Regulation.	Tenant Companies, IPDC	IPDC EIC

Source: JICA EIPP Team

Note: A +/-Significant positive/negative impact is expected.

B +/-Positive/negative impact is expected to some extent.

C+/-Extent of positive/negative impact is unknown (A further examination is needed and the impact could be clarified as the study progresses.)

D No impact is expected.

E. Draft Environmental Monitoring Plan of the BL-SIC Master Plan

i. Construction Phase

Category	Environmental Item	Monitoring Parameters	Means of Monitoring	Environmental Standard	Monitoring Point	Frequency of Monitoring	Implementer	Responsible Organization
Pollution Control	(1) Air Quality	Temperature, humidity, wind velocity, dust, SOx, NOx, CO_2	Measurement	Ethiopian Air Quality standards	Selected points in the construction sites	once/ three months	Contractor	IPDC, EPA (Municipality)
	(2) Water Quality	pH, colour, BOD, COD, N, Total P	Measurement	Ethiopian water quality standards	Outlets	once/ three months	Contractor	IPDC, EPA (Municipality)
	(3) Wastes	Kind of wastes, amount, record of collection	Observation	Ethiopian waste management regulations	Construction sites	once/ three month	Contractor	IPDC Municipality
	(4) Soil Contamination	Oil leaking, disposed liquid waste	Observation, measurement	Ethiopian waste management regulations	Selected points in the construction sites	once/ month	Contractor	IPDC, EPA (Municipality)
	(5) Noise and Vibration	Noise	Measurement	Ethiopian noise pollution regulations	Boundary of the construction site	once/ three months	Contractor	IPDC, EPA (Municipality)
	(6) Subsidence	Subsidence	Observation		Critical points to be determined in the FS	once/ three months	Contractor	IPDC, Municipality
	(7) Odor	Disposed liquid waste	Measurement	Ethiopian waste management regulations	Construction sites, especially present STP area	once/ week	Contractor	IPDC, EPA (Municipality)
Natural Environment	(1) Protected Areas	-	-	-	-	-	-	-
	(2) Ecosystem	-	-	-	-	-	-	-
	(3) Hydrology	Volume of surface and underground water	Measurement	-	Water bodies	once/ three months	Contractor	IPDC, Municipality
	(4) Topography and Geology	Elevation	Measurement	Approved construction design	Construction sites	once/ three months	Contractor	IPDC
	5) Soil erosion	Degree of soil erosion	Observation	Ethiopian erosion control regulation	River side, slope area	once/ three months	Contractor	IPDC
Social	(1)	-	-	-	-	-	-	-

Category	Environmental Item	Monitoring Parameters	Means of Monitoring	Environmental Standard	Monitoring Point	Frequency of Monitoring	Implementer	Responsible Organization
Environment	Resettlement							
	(2) Living and Livelihood	Livelihood recovery of affected people	Observation	Ethiopian resettlement regulation	Proposed site	Before construction begins	Municipality	IPDC, Municipality
	(3) Heritage	-	-	-	-	-	-	-
	(4) Landscape	(View from road side)	Observation	-	Construction sites	once/ half year	Contractor	IPDC
	(5) Ethnic Minorities and Indigenous Peoples	-	-	-	-	-	-	-
	(6) Working Conditions	Construction accidents, traffic accidents, health effect, especially from STP area	Record of accidents, infections, Interview to labourers	Ethiopian labour law, regulations	Construction sites,	once/ day	Contractor	IPDC, EIC

IV: MARKET STUDY & FINANCIAL ANALYSIS

A. Real Estate Market Study

i. The Market Price of Residential House

The Current Selling Price of House Around BLIP								
Economic class	**Location**	**Type**	**Area /M2**	**Price (1000)**		**Price/M^2/(1000)**		**Description**
				$USD	**Birr**	**$USD**	**Birr**	
High Income Group	Semit	G+2	800	852.88	24,000.00	1.07	30.00	Private house
		G+3	94	159.91	4,500.00	1.70	47.87	
	Ayat	G+5	175	255.86	7,200.00	1.46	41.14	
	Goro	G+3	450	781.81	22,000.00	1.74	48.89	
	CMC	G+5	774	1,954.51	55,000.00	2.53	71.06	
		G+4	230	355.37	10,000.00	1.55	43.48	
	Wesen	Villa	200	135.04	3,800.00	0.68	19.00	3-bedroom, 1-bathroom
			240	206.11	5,800.00	0.86	24.17	3-bedroom,
			250	241.65	6,800.00	0.97	27.20	3-bedroom, 2-bathroom
	Kara	G+5	600	2,416.49	68,000.00	4.03	113.33	Compounded
	Kotebe	G+5	408	1,101.63	31,000.00	2.70	75.98	
	Megenagna	G+5	600	1,314.85	37,000.00	2.19	61.67	
		G+5	430	995.02	28,000.00	2.31	65.12	
	Gerji	G+2	175	461.98	13,000.00	2.64	74.29	
		G+2	100	710.73	20,000.00	7.11	200.00	
		G+4	206	533.05	15,000.00	2.59	72.82	
Average				**779.81**	**21,943.75**	**2.26**	**63.50**	
Middle Income Group	Ayat	Apartment	171	163.47	4,600.00	0.96	26.90	3-bedrooms
			96	99.50	2,800.00	1.04	29.17	2-bedrooms
			90	71.07	2,000.00	0.79	22.22	2-bedrooms
			94	106.61	3,000.00	1.13	31.91	3-bedrooms
			80	95.95	2,700.00	1.20	33.75	2-bedrooms
			90	95.95	2,700.00	1.07	30.00	2-bedrooms
	CMC		84	85.29	2,400.00	1.02	28.57	2-bedrooms
			103	124.38	3,500.00	1.21	33.98	3-bedrooms
			92	85.29	2,400.00	0.93	26.09	2-bedrooms
			115	113.72	3,200.00	0.99	27.83	2-bedrooms
			94	113.72	3,200.00	1.21	34.04	3-bedrooms
			216	184.79	5,200.00	0.86	24.07	4-bedrooms
			165	1,385.93	39,000.00	8.40	236.36	3-bedrooms
	Akim-Ginbata		132	106.61	3,000.00	0.81	22.73	3-bedrooms
			132	124.38	3,500.00	0.94	26.52	3-bedrooms
	Gerji		94	110.16	3,100.00	1.17	32.98	2-bedrooms
	Megenagna		183	159.91	4,500.00	0.87	24.59	4-bedrooms
			158	138.59	3,900.00	0.88	24.68	3-bedrooms
			117	103.06	2,900.00	0.88	24.79	2-bedrooms
			160	266.52	7,500.00	1.67	46.88	3-bedrooms
			170	213.22	6,000.00	1.25	35.29	3-bedrooms, 2-bathrooms

The Current Selling Price of House Around BLIP								
Economic class	Location	Type	Area /M2	Price (1000)		Price/M^2/(1000)		Description
				$USD	Birr	$USD	Birr	
Average				**188.01**	**5,290.48**	**1.39**	**39.21**	
Low Income Group	Semmit	Condominium	106	99.50	2,800.00	0.94	26.42	3-bedrooms
			60	67.52	1,900.00	1.13	31.67	2-bedrooms
			44	42.64	1,200.00	0.97	27.27	1-bedroom
	Ayat		74	37.31	1,050.00	0.50	14.19	2-bedrooms
			90	88.84	2,500.00	0.99	27.78	2-bedrooms
			38	26.65	750.00	0.70	19.74	1-bedrooms
	Gerji		94	127.93	3,600.00	1.36	38.30	2-bedrooms
			54	49.75	1,400.00	0.92	25.93	1-bedroom, 1-bathroom
Average				**67.52**	**1,900.00**	**0.94**	**26.41**	

Source: Field Survey, 2018

ii. Monthly Rental Price for Residential House Around BLIP

Rental Price for Residential House								
Economic class	Location	Type	Area /M^2	Price		Unite Price/M^2		Description
				$USD	Birr	$USD	Birr	
High Income Group	Ayat	G+1	300	1,314.85	37000	4.38	123.33	3-bedrooms
		G+3	290	1,776.83	50000	6.13	172.41	
	CMC	G+3	500	2,842.93	80000	5.69	160.00	3-bedrooms
			74	568.59	16000	7.68	216.22	
		G+1	400	533.05	15000	1.33	37.50	2-b3erooms
		G+3	94	639.66	18000	6.80	191.49	3-bedrooms
			250	2,842.93	80000	11.37	320.00	4-bedrooms
	Gurdshola	G+2	300	923.95	26000	3.08	86.67	3-bedrooms
	Kotebe	G+3	447	2,443.14	68750	5.47	153.80	4-bedrooms
	Gerji	G+3	400	1,670.22	47000	4.18	117.50	4-bedrooms
		G+2	300	2,487.56	70000	8.29	233.33	4-bedrooms, furnished house
	Megenagn	G+4	350	2,949.54	83000	8.43	237.14	3-bedrooms
		G+2	800	7,329.42	206250	9.16	257.81	8-bedrooms
Average				2,178.67	61,307.69	6.31	177.48	
Middle Income Group	CMC	Apartment	120	2,834.04	79750	23.62	664.58	2-bedrooms
			142	1,954.51	55000	13.76	387.32	3-bedrooms
			100	568.59	16000	5.69	160.00	3-bedrooms
	Gurdshola		170	2,247.69	63250	13.22	372.06	3-bedrooms
	Kotebe		220	3,020.61	85000	13.73	386.36	1-bedroom, 5th floor
	Gerji		82	888.42	25000	10.83	304.88	2-bedrooms
			35	497.51	14000	14.21	400.00	1-bedroom
			130	888.42	25000	6.83	192.31	3-bedrooms
			50	710.73	20000	14.21	400.00	
Average				1,512.28	42,555.56	12.90	363.06	
Low Income Group	Semit/No.2/	Condominium	83	213.22	6,000.00	2.57	72.29	3-bedrooms
			106	284.29	8,000.00	2.68	75.47	
			60	177.68	5,000.00	2.96	83.33	2-bedrooms
			73	195.45	5,500.00	2.68	75.34	

Rental Price for Residential House								
Economic class	Location	Type	Area /M^2	Price		Unite Price/M^2		Description
				$USD	Birr	$USD	Birr	
			44	124.38	3,500.00	2.83	79.55	1-bedrooms
			47	159.91	4,500.00	3.40	95.74	
			42	113.72	3,200.00	2.71	76.19	Studio
	Semit/Pepsi-Wanza/		83	213.22	6,000.00	2.57	72.29	3-bedrooms
			106	277.19	7,800.00	2.61	73.58	
			60	184.79	5,200.00	3.08	86.67	2-bedrooms
			73	195.45	5,500.00	2.68	75.34	
			44	127.93	3,600.00	2.91	81.82	1-bedrooms
			47	159.91	4,500.00	3.40	95.74	
			42	113.72	3,200.00	2.71	76.19	Studio
	Semmit/Cherkos/		83	220.33	6,200.00	2.65	74.70	3-bedrooms
			106	266.52	7,500.00	2.51	70.75	
			60	213.22	6,000.00	3.55	100.00	2-bedrooms
			73	230.99	6,500.00	3.16	89.04	
			44	177.68	5,000.00	4.04	113.64	1-bedrooms
			47	195.45	5,500.00	4.16	117.02	
			42	113.72	3,200.00	2.71	76.19	Studio
	Ayat/Chefe		83	220.33	6,200.00	2.65	74.70	3-bedrooms
			106	266.52	7,500.00	2.51	70.75	
			60	213.22	6,000.00	3.55	100.00	2-bedrooms
			73	230.99	6,500.00	3.16	89.04	
			44	177.68	5,000.00	4.04	113.64	1-bedrooms
			47	195.45	5,500.00	4.16	117.02	
			42	113.72	3,200.00	2.71	76.19	Studio
Average				192.02	5,403.57	3.05	85.79	

Source: Field Survey, 2018

iii. Rental House for Commercial Activities

Rental House for Business Activities (G+N)							
Location	Type	Area /M2	Price		Unite Price/M2		Discretion
			$USD	Birr	$USD	Birr	
Semmit/Plastic Factory/	G+4	700	12,189.05	343,000.00	17.41	490.00	26-bedrooms
	G+2	300	42.94	1,208.24	0.14	4.03	
Semmit/Cherkos	G+0	47	6.31	177.68	0.13	3.78	
CMC	G+14	350	23,809.52	670,000.00	68.03	1,914.29	72-bedrooms
	G+4	560	8,884.15	250,000.00	15.86	446.43	28-bedroomms
	G+4	175	1,776.83	50,000.00	10.15	285.71	12-bedrooms
Gurdshola	G+2	600	2,665.25	75,000.00	4.44	125.00	9-bedrooms
		600	14,658.85	412,500.00	24.43	687.50	42-bedrooms
Kara	G+4	700	7,107.32	200,000.00	10.15	285.71	17-bedrooms
Kotebe	G+4	650	5,330.49	150,000.00	8.20	230.77	10-bedrooms
	G+4	500	10,660.98	300,000.00	21.32	600.00	13-bedrooms
Gerji	G+3	400	10,216.77	287,500.00	25.54	718.75	30-bedrooms
Megenagna	G+5	600	9,594.88	270,000.00	15.99	450.00	11-bedrooms
	G+7	600	28,054.73	789,460.00	46.76	1,315.77	54-bedrooms
Average			9,642.72	271,346.14	19.18	539.84	

Rental House for Business Activities (G+N)							
Location	Type	Area /M2	Price		Unite Price/M2		Discretion
			$USD	Birr	$USD	Birr	
Rental Price of House for Office							
Jakros	G+0-1	Floors			17.77	500.00	Privet buildings for office
	G+2-3	Floors			14.21	400.00	
	G+4	Floors			13.33	375.00	
	G+5	Floors			12.44	350.00	
	G+6	Floors			11.55	325.00	
	G+7	Floors			10.66	300.00	
Average					13.33	375.00	
Rental Price of Private House for Business							
Semmit (Pepsi-Plastic)		300	604.12	17000.00	2.01	56.667	
		4	6.31	177.68	1.58	44.421	One unite house
		250	710.73	20,000.00	2.84	80.000	Full compound
Average			440.39	12392.56	2.15	60.36	
Rental Price of Condominium House for Business							
Semmit(No.2)	Condo	48	177.68	5000.00	3.70	104.17	Ground floor
		48	266.52	7500.00	5.55	156.25	
		54	355.37	10000	6.58	185.19	
		48	355.37	10,000.00	7.40	208.33	
		28	284.29	8,000.00	10.15	285.71	
Ayat(Chefe)		36	142.15	4,000.00	3.95	111.11	
		45	533.05	15,000.00	11.85	333.33	
Average			**302.06**	**8,500.00**	**7.03**	**197.73**	

Source: Field Survey, 2018

B. Construction Cost: Option I

Basic Cost of Project Implementation for Bole Lemi Industrial City Development: Option II including engineering cost, contingency, tax, and administration cost

Zone		All Constriction Cost		IPDC's Cost			Privet Developers Cost			Other Government Organ Cost		
		Cost (ETB1,000)	Equivalent Cost (USD1,000)	Cost (ETB1,000)	Equivalent Cost (USD1,000)	%	Cost (ETB1,000)	Equivalent Cost (USD1,000)	%	Cost (ETB1,000)	Equivalent Cost (USD1,000)	%
ZP-1	IP Residence	22,590,000	802,800	2,869,000	102,000	12.7%	19,706,000	700,300	87.2%	15,000	500	0.1%
ZP-2	High Tech Industrial Park & Aerospace Manufacturing	6,662,000	236,700	600,000	21,300	9.0%	6,037,000	214,500	90.6%	25,000	900	0.4%
ZP-3	High-rise Residence & International Business Park	14,890,000	529,100	699,000	24,800	4.7%	14,191,000	504,300	95.3%	0	0	0.0%
ZP-4	ICT Park	24,460,000	869,200	1,278,000	45,400	5.2%	23,182,000	823,800	94.8%	0	0	0.0%
SCF	Social/Common Facilities	650,000	23,100	650,000	23,100	100.0%	0	0	0.0%	0	0	0.0%
Total		69,252,000	2,460,900	**6,096,000**	**216,600**	8.8%	63,116,000	2,242,900	91.1%	40,000	1,400	0.1%

C. Financial Internal Rate of Return /FIRR/ Scenarios

Scenario I: If the land lease price decreased by 10 percent

Year		Costs			Revenue	Net Cash Flow
		Capital Cost	O & M Cost	Total		
1	2018	38746.81	0.00	38746.81	0.00	-38746.81
2	2019	80054.00	0.00	80054.00	0.00	-80054.00
3	2020	27022.27	1429.65	28451.92	2122.92	-26329.00
4	2021	20209.75	1429.65	21639.40	6314.42	-15324.98
5	2022	2120.79	2456.54	4577.34	14770.81	10193.48
6	2023	2120.79	2456.54	4577.34	19255.29	14677.95
7	2024	8483.18	2456.54	10939.72	22474.77	11535.05
8	2025	6362.38	2456.54	8818.93	28339.17	19520.24
9	2026	0.00	2804.50	2804.50	30842.07	28037.57
10	2027	0.00	2804.50	2804.50	34179.27	31374.77
11	2028	0.00	2804.50	2804.50	34179.27	31374.77
12	2029	0.00	2804.50	2804.50	34179.27	31374.77
13	2030	0.00	2804.50	2804.50	34179.27	31374.77
14	2031	0.00	2804.50	2804.50	34179.27	31374.77
15	2032	0.00	2804.50	2804.50	34179.27	31374.77
16	2033	0.00	2804.50	2804.50	34179.27	31374.77
17	2034	0.00	2804.50	2804.50	34179.27	31374.77
18	2035	0.00	2804.50	2804.50	34179.27	31374.77
19	2036	0.00	2804.50	2804.50	34179.27	31374.77
20	2037	0.00	2804.50	2804.50	34179.27	31374.77
21	2038	0.00	2804.50	2804.50	34179.27	31374.77

Financial Internal Rate of Return (FIRR) =10.05%

Scenario II: If the Land Mark Tower Floor Area rent price decreased by 10 percent

Year		Costs			Revenue	Net Cash Flow
		Capital Cost	O & M Cost	Total		
1	2018	38771.81	0.00	38771.81	0.00	-38771.81
2	2019	80078.99	0.00	80078.99	0.00	-80078.99
3	2020	27047.27	1429.65	28476.92	2272.46	-26204.45
4	2021	20234.75	1429.65	21664.40	6872.13	-14792.27
5	2022	2120.79	2458.18	4578.98	16181.78	11602.81
6	2023	2120.79	2458.18	4578.98	21106.98	16528.00
7	2024	8483.18	2458.18	10941.36	24684.18	13742.82
8	2025	6362.38	2458.18	8820.57	31200.18	22379.61
9	2026	0.00	2806.14	2806.14	33981.18	31175.04
10	2027	0.00	2806.14	2806.14	37689.18	34883.04
11	2028	0.00	2806.14	2806.14	37689.18	34883.04
12	2029	0.00	2806.14	2806.14	37689.18	34883.04
13	2030	0.00	2806.14	2806.14	37689.18	34883.04
14	2031	0.00	2806.14	2806.14	37689.18	34883.04
15	2032	0.00	2806.14	2806.14	37689.18	34883.04
16	2033	0.00	2806.14	2806.14	37689.18	34883.04
17	2034	0.00	2806.14	2806.14	37689.18	34883.04
18	2035	0.00	2806.14	2806.14	37689.18	34883.04
19	2036	0.00	2806.14	2806.14	37689.18	34883.04
20	2037	0.00	2806.14	2806.14	37689.18	34883.04
21	2038	0.00	2806.14	2806.14	37689.18	34883.04

Financial Internal Rate of Return (FIRR) =11.34%

Scenario III: If the Land Mark Tower Floor Area occupancy schedule delayed by one year

Year		Costs			Revenue	Net Cash Flow
		Capital Cost	O & M Cost	Total		
1	2018	38746.81	0.00	38746.81	0.00	-38746.81
2	2019	80054.00	0.00	80054.00	0.00	-80054.00
3	2020	27022.27	1429.65	28451.92	2040.72	-26411.20
4	2021	20209.75	1429.65	21639.40	6667.65	-14971.75
5	2022	2120.79	2456.54	4577.34	15881.88	11304.54
6	2023	2120.79	2456.54	4577.34	20970.66	16393.32
7	2024	8483.18	2456.54	10939.72	24820.50	13880.78
8	2025	6362.38	2456.54	8818.93	31336.50	22517.57
9	2026	0.00	2804.50	2804.50	34117.50	31313.00
10	2027	0.00	2804.50	2804.50	37825.50	35021.00
11	2028	0.00	2804.50	2804.50	37825.50	35021.00
12	2029	0.00	2804.50	2804.50	37825.50	35021.00
13	2030	0.00	2804.50	2804.50	37825.50	35021.00
14	2031	0.00	2804.50	2804.50	37825.50	35021.00
15	2032	0.00	2804.50	2804.50	37825.50	35021.00
16	2033	0.00	2804.50	2804.50	37825.50	35021.00
17	2034	0.00	2804.50	2804.50	37825.50	35021.00
18	2035	0.00	2804.50	2804.50	37825.50	35021.00
19	2036	0.00	2804.50	2804.50	37825.50	35021.00
20	2037	0.00	2804.50	2804.50	37825.50	35021.00
21	2038	0.00	2804.50	2804.50	37825.50	35021.00

Financial Internal Rate of Return (FIRR) =11.34%

Scenario IV: If the development cost increased by 10 percent

Year		Costs			Revenue	Net Cash Flow
		Capital Cost	O & M Cost	Total		
1	2018	42,621	0.00	42621.49	0.00	-42621.49
2	2019	88,059	0.00	88059.40	0.00	-88059.40
3	2020	29,724	1429.65	31154.15	2313.36	-28840.79
4	2021	22,231	1429.65	23660.38	6940.29	-16720.09
5	2022	2,333	2456.54	4789.42	16290.84	11501.42
6	2023	2,333	2456.54	4789.42	21243.30	16453.88
7	2024	9,331	2456.54	11788.04	24820.50	13032.46
8	2025	6,999	2456.54	9455.17	31336.50	21881.33
9	2026	0	2804.50	2804.50	34117.50	31313.00
10	2027	0	2804.50	2804.50	37825.50	35021.00
11	2028	0	2804.50	2804.50	37825.50	35021.00
12	2029	0	2804.50	2804.50	37825.50	35021.00
13	2030	0	2804.50	2804.50	37825.50	35021.00
14	2031	0	2804.50	2804.50	37825.50	35021.00
15	2032	0	2804.50	2804.50	37825.50	35021.00
16	2033	0	2804.50	2804.50	37825.50	35021.00
17	2034	0	2804.50	2804.50	37825.50	35021.00
18	2035	0	2804.50	2804.50	37825.50	35021.00
19	2036	0	2804.50	2804.50	37825.50	35021.00
20	2037	0	2804.50	2804.50	37825.50	35021.00
21	2038	0	2804.50	2804.50	37825.50	35021.00

Financial Internal Rate of Return (FIRR) =10.24%

IV: MAPS

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別添資料 12

第三国研修実施報告書（2017 年 7 月、カンボジア・ミャンマー）

第三国研修実施報告 **2017 年 7 月**

エチオピア国産業振興プロジェクト

（投資促進・工業団地開発）

I. 第三国研修の実施

7 月 12 日～18 日まで、以下の要領で第三国研修を実施した。本件に関わる主な内容を以下の通り報告する。

１．目的

（1）カンボジア：プノンペン SEZ
（a）OSS または入居企業に提供されているサービスの内容とそれに関わる実施体制（含む各サービスの無料有料）
（b）マーケティング・企業誘致の方法と実施体制
（c）工業団地の維持管理方法と実施体制
（2）ミャンマー：ティラワ SEZ
（a）OSS の内容とそれに関わる実施体制（含む各サービスの無料有料の提示）

２．招聘側参加者

Name	**Position, Organization**
EIC	
Mr. Teka Gebreyesus（＊）	Deputy Commissioner, Investment Facilitation
Mr. Tassew Negewo Gemmeda	Director, Incentives Directorate
Mr. Ahmednur Yusuf	Director, One-Stop Service Directorate
Mr. Girma Aberra	Project Manager, Investment Promotion and Facilitation
IPDC	
Mr. Yilma Belachew Geberesilase	D/CEO, Corporate Affairs
Mr. Tilahun Gemechu Gelashe	Director, Corporate Planning & MIS Directorate
Mr. Getenet Dinberu Gelaw	Director, Legal Directorate
Mr. Lekeyeleshe Abaye	Director, Marketing And Promotion Directorate
Mr. Zelalem Tadesse Belete	Corporate Finance Consultant
Ms. Mistere Melaku	Senior Master Plan Expert

（＊今次第三国研修については、各所で上記 10 名分の手配を進めていたが、Teka EIC 副長官が出発日当日に急病により急遽参加を取りやめたことから、実際の研修参加者は 9 名となった。）

３．実施スケジュール

日付	活動
7 月 12 日（水）	アディスアベバ発、プノンペン着
7 月 13 日（木）	プノンペン SEZ（PPSEZ）セミナー ・PPSEZ の概要説明 ・OSS 関係者による説明、OSS 事務所視察 ・PPSEZ 施設内視察 ・日系工場視察①Rohto-Mentholatum (Cambodia) Co., Ltd. ・日系工場視察②Artnature (Cambodia) Inc.
7 月 14 日（金）	プノンペン SEZ（PPSEZ）セミナー ・PPSEZ のビジネスモデル ・日系工場視察③Minebea (Cambodia) Co., Ltd. ・日系工場視察④O&M ・繊維業者研修所（Garment Manufacturers Association in Cambodia : GMAC）
7 月 15 日（土）	プノンペン市内視察
7 月 16 日（日）	プノンペン発、ヤンゴン着
7 月 17 日（月）	ティラワ SEZ セミナー ・ティラワ SEZ の概要 ・OSS についての説明 ・Golden Dowa Eco-System Myanmar Co., Ltd.（産業廃棄物処理企業）の概要説明・施設視察 ヤンゴン発
7 月 18 日（火）	アディスアベバ着

II. 概要

１．プノンペン SEZ（PPSEZ）

PPSEZ の運営形態、施設状況、主な入居企業と産業、電力・上下水道・ドライポート等の敷地内のインフラ整備、ビジネスモデル等について説明。その後、C/P との質疑応答及びディスカッションが行われた。

（1）入居企業、土地リース価格、優遇措置等について

- 基本は土地を貸し出し入居企業自身が工場を建設する。しかし、継続的に収益を得る

ためには、標準工場を建てて入居企業に貸し付ける方が好ましいことから、PPSEZ はレンタルビジネスを拡大する方針である。

- 土地リース価格設定は、近隣諸国も参考にして決めている（ティラワ SEZ は 70 ドル／㎡～、タイ 80 ドル／㎡）。現在の PPSEZ の価格は 70 ドル／㎡で、投資家による支払は一度のみ。10 年前に比べ（40 ドル／㎡）、倍近く値上がりしている。
- 製品を輸出する企業が使用する原材料に対する輸入関税は免税される。

（２）労働環境

- 2017 年の繊維産業の最低賃金は月額 153 ドル。15 年前の月 50 ドルから 3 倍程度に上昇。通勤、住宅費、食費等諸手当を合わせると、企業が負担する労働者賃金は約 200 ドル／月／人となる。
- 労働者の転職は禁止していないが、PPSEZ 内の多くは日系企業のため、四半期毎に入居企業が集まり、引き抜きの自重等を含めた行動規範を推進している。
- カンボジアの労働者はお金より労働環境を重視する傾向があり、企業は家族的な雰囲気づくりに努めている。

（３）消防対策について

- PPSEZ のある地域は、軍が消防・救急サービスを無償で提供している。
- 日本の NGO がスタッフの研修と施設・機材供与等支援し、PPSEZ も消火訓練の実施に一部資金援助している。
- バイヤーが入居企業との契約条件に消防対策を含めることはあっても、原則、PPSEZ にその義務はない。

（４）持続的な経営のためのビジネスモデル

- 投資家の言語に対応するため、外国語を話せるスタッフを雇用している。
- 関連文書は主にクメール語であり、上記スタッフは書類作成支援なども行っている。
- 入居企業への支援内容によって各種サービスの価格を設定している。
- カンボジアの電力はアジアでシンガポールに次いで高額だが、その質は悪い。当初、シンガポール企業と共同で電力事業を行っていたが、仲介を入れることで電力の価格設定に失敗した経験がある。将来オープン予定のポイペト SEZ ではその教訓を活かし、発電所から直接電力を供給する形を取る。
- ポイペト SEZ 開発にかかる費用は、土地取得に 10 ドル／㎡、インフラ整備に 20 ドル／㎡の計 30 ドル。50%の利益を上乗せし、土地の貸し出し価格を 60 ドル／㎡とする予定。
- PPSEZ の目標利益率は 15-20%の間で設定しており、持続的な経営に必要な戦略として、①収入源の拡充、②レンタル工場の増加、③新たな経済特区（ポイペト SEZ）の

開発・運営の 3 つを挙げている。

- カンボジア政府は配当金の本国送還を防ぐために高い税率を課しており、PPSEZ は配当金を出さず、再投資に回している。また、新たな SEZ 開発に投資することで更に 9 年間は免税措置を受けることができる。

２．カンボジア開発評議会（Council for the Development of Cambodia: CDC）、OSS センター関係者による説明、OSS 事務所視察

- 2016 年に承認された OSS 法（法令）に基づき OSS センターが設置された。
  - 全国で 47 企業がディベロッパー登録をしており、うち 30 企業が SEZ 開発の認可を受けている。12 の SEZ は OSS センターを有しており、PPSEZ は Sub-Decree No.148 on the Establishment and Management of the Special Economic Zone 制定の半年後に開発された、初期の SEZ の一つ。
- 関係省庁より OSS センターに職員が派遣されているが、入管については日常的に業務が発生しないため職員は配置されていない。
- 労働争議の主な原因は労働者への諸手当に関することであるが、法律では明確に規定されておらず、必要なら労働省職員仲介の下で、雇用者と労働者の間で協議し解決に努めている。
- OSS センターは PPSEZ の事務局オフィスにあり、小さなチームなので日常的なコミュニケーションが取れており、定期的に会合を持つということはない。
- 投資家による不服申し立ては、トラブルシューティング専門の機関（SEZ Trouble Shooting Committee：首相が議長を務める）で対応する

３．PPSEZ 内日系企業訪問

PPSEZ 内日系企業訪問 (7 月 13 日~14 日)

1. ROHTO-MENTHOLATUM (Cambodia) Co., Ltd.
   (1) 訪問日時：7 月 13 日(木)　13:30-15:00
   (2) 業務内容は次の通りである。
      (a) ROHTO-MENTHOLATUM (Cambodia) Co., Ltd.は 2013 年設立、2014 年 8 月操業開始。敷地面積 1.5ha、従業員数 20 人
      (b) Eye drop、skin care, lip care などのパッケージング、フィリングなど同グループのベトナム工場で配合、充填した製品の後工程を担当している。
   (3) 製造拠点としてだけではなく、アフリカ市場、特にエチオピアの市場に注目しているとのこと。

2. Artnature (Cambodia) Inc.
   (1) 訪問日時：7 月 13 日（木）15:30-17:00
   (2) 業務内容は次の通りである。
      (a) Artnature は 2015 年 5 月に設立された。PPSEZ 内の敷地面積は 3 ha 強。
      (b) 従業員数 899 人内女性 83%。月額賃金は、基本給 153 ドルに住宅手当、食事手当、交通費としてそれぞれ 10 ドル加算され、合計 183 ドル。
      (c) ヘアピース、かつらの製造を行っている。日本から送られてきた頭の形や頭髪の密度や流れ具合など顧客データに基づき工場内でデザインしている。製造部門では、合成樹脂製のネットを製作し、そのネットに人間または合成の毛髪を植毛する。植毛は多数の女性ワーカーが労働集約的に行っている。
      (d) 製品は空輸で日本に輸出しており、プノンペン国際空港から近い PPSEZ の利便性を活かした産業であると言える。

出典：EIPP 撮影

図１：事業説明会

   (3) 労働力や現地の需要を踏まえ、かつら業界ではアフリカに進出し始めており、

今後エチオピアへの投資が期待される。
かつらの製造は、廉価な若年労働力が豊富なエチオピアに適した産業と考えられる。また、軽量かつ重量当たりの価値が高いかつらの空輸による輸出を想定すれば、ボレ国際空港に近いボレレミ工業団地はかつら工場の立地に適していると考えられる。

3. Minebea (Cambodia) Co., Ltd.

(1) 訪問日時：7 月 14 日(金)　10:30-12:00

(2) 業務内容は次の通りである。

(a) Minebea は PPSEZ 内の土地 20 ha をリースされ、2011 年 4 月に商業運転を開始している。

出典：EIPP 撮影

図２：事業説明会

(b) 従業員数 5,000 人（4 シフト、各シフト 1,200 人）。従業員は、はじめは農業から工場勤務という環境の変化に馴染まなかったため、離職率が高かった。全員が同じユニホームを着て、同じものを食べ、家族意識を持てるようにして労働環境を改善した結果、今では結婚・出産によるものを除けば離職者はほとんどいない。また、労働省による技術訓練を利用している。

(c) 操業当初はタイ、マレーシア、中国などの工場で製造したパーツの組み立てなど労働集約的工程が中心だったが、次第に付加価値の高いパーツも製造　するようになった。主な製品は Brush DC Motor、Fan Motor、LED Back Light、Smart LED Street Light などである。

(d) カンボジア政府からは、税優遇措置の他、タイのトラックが PPSEZ まで積み替えなしで輸送できる措置を受けている。

4. O&M (Cambodia) Co., Ltd.

(1) 訪問日時：7 月 14 日(金)　13:30-14:30

(2) 業務内容は次の通りである。

(a) O&M は、1 ha 強の土地をリースされ、2012 年 1 月に操業を開始した。

(b) 同社は、中国とカンボジアに工場を持ち、小物革製品の OEM 生産を行っている。カンボジア工場では、原材料を日本および中国から輸入し、製品を日本に輸出している。製品は服飾品と一緒に販売されリードタイムが短いため、空輸により輸出している。
(c) 従業員数は 320 名で、ほとんどが女性。

最後に
PPSEZ ができた 2006 年に US$50 だった月額最低賃金は、2017 年には US$153 まで上昇している。テナント企業によっては、より付加価値の高い製品の製造を行うなどの対応策を取っていることがわかった。

４．カンボジア繊維製造業協会（Garment Manufacturers Association in Cambodia：GMAC）、カンボジア繊維訓練所（Cambodian Garment Training Institute: CGTI）

国内の繊維業界の人材育成・技術向上を目的とし、GMAC の下、3 年前にカンボジア繊維訓練所（Cambodian Garment Training Institute）を設立。訪問時の 1 ヶ月前に PPSEZ に移転し開校したばかり。主な研修プログラム等に関する説明と共に、施設内を視察。

５．ティラワ SEZ

先方よりティラワ SEZ の概要、OSS について説明、その後 C/P との間で質疑応答が行われた。またその後、OSS センター（OSSC）事務所内を視察した。

（1）ティラワ SEZ の概要

- ミャンマー初の SEZ。ヤンゴンの南東約 23 ㎞に位置し、2,400 ha の敷地を有する。
- Zone A は 96%が入居済み。今後、Zone B の一部（101 ha）について開発を行う。
- これまで 17 の国の企業に対し、90 の投資許可を発行（新規 85 件、延長 5 件）。
- ティラワ SEZ 開発はヤンゴン市の開発計画の一部に組み込まれている。
- エチオピアのように全国各地に多くの工業団地を設立する場合、関係省庁はそれだけ人員を配置しなければならない。政府の関心・重点課題に基づいて優先付けをすることが必要。

（2）ワンストップ・サービス・センター（One Stop Service Center: OSSC）

- OSSC には、DICA（投資・企業登録局）、商業省、労働省、工業省、入国管理・人口省、計画財務省租税・内国歳入局、計画財務省関税局、建設省、環境保全・森林省、中央銀行の 10 省庁から職員が派遣されており、入居企業に対し関連する許認可及びサービスを提供している。

- 許認可手続きをより簡素化かつ可視化するため、JICA 支援により標準業務手順書（SOP）が作成され、ウェブサイト上で常時更新されている。
- OSSC 事務所は、表に投資家等への受付カウンターがあり（Front Office）、その裏（Back Office）は大きな部屋で担当毎にスペースが区切られ、職員が各種申請書類の審査等を行っている。
- 工場建設の申請書類は、ハードコピーを 3 部提出することになっている。これは、ソフトデータの取り扱い・管理が難しいためであり、インターネット接続の問題に加え、職員のコンピューター知識が限定的であることに起因する。

６．Golden Dowa Eco-System Myanmar Co., Ltd.

同社より企業概要について説明を受けた後、廃棄物処理施設を視察。

- 100％日本企業の出資により設立。Dowa（本社）は元々130 年ほど前に鉱山事業のため設立、鉱山・製錬で培った技術や経験をもとに、現在では金属の生産から高付加価値製品の製造、廃棄物処理・リサイクルに至る、独自の循環型事業を展開している。
- 現在、55 名のミャンマー人スタッフと 2 名の取締役が在籍。
- 敷地面積は 42ha で、ティラワ SEZ と 50 年の契約を結んでいる。
- 同社が扱っているのは産業廃棄物のみだが、ティラワ SEZ 内だけではなく、SEZ 外の産業廃棄物も受けている。

【別添資料】

事前ブリーフィング資料

１．プログラム概要

２．視察ポイント（EIC）

３．視察ポイント（IPDC）

（了）

Outline of Study Program in Cambodia and Myanmar

July 2017

1. Objectives of the Study

There are four (4) objectives of the Study Tour to Cambodia and Myanmar:

- To enhance understanding on operation and management of PPSEZ;
- To observe facilities of Japanese tenant companies in PPSEZ;
- To better understand on how OSS service is provided in Thilawa SEZ;
- To learn eco-business (e.g. solid waste management) in Thilawa SEZ.

2. Program

(1) Schedule

The study tour period is conducted from July 12 (Wed) and July 18 (Tue), 2017.

For detailed schedule information, please refer to P.3.

(2) Study Tour Members

There are ten (10) participants from EIC and IPDC, accompanied by JICA and EIPP staff. The composition of study team is as follows:

Table 1: Study Tour Members

No.	Name	Organization	Designation, Position
1	Mr. Teka Gebreyesus	EIC	Deputy Commissioner (Investment Facilitation)
2	Mr. Tassew Negewo Gemmeda	EIC	Director, Incentives Directorate
3	Mr. Ahmednur Yusuf	EIC	Director, One-Stop Service Directorate
4	Mr. Girma Aberra Sisay	EIC	Project Manager, Investment Promotion and Facilitation
5	Mr. Yilma Belachew Gebreslasie	IPDC	Corporate Affairs D/CEO
6	Mr. Tilahun Gemechu Gelashe	IPDC	Corporate Planning & MIS Directorate Director
7	Mr. Getenet Dinberu Gelaw	IPDC	Legal Directorate Director
8	Ms. Likyelesh abay Tedla	IPDC	Marketing And Promotion Directorate Director
9	Mr. Zelalem Tadesse Belete	IPDC	Corporate Finance Consultant
10	Ms. Mistere Melaku Dagne	IPDC	Senior Master Plan Expert
11	Ms. Emi Kurita	JICA	JICA Ethiopia Office Project Formulation Advisor
12	Mr. Teddy Masanori	EIPP	Leader/Investment Promotion Business Environment Improvement 1
13	Ms. Kazuyo Kaneko	EIPP	Sub-Leader/Investment Promotion Business Environment Improvement 2
14	Mr. Minoru Nagai	EIPP	Regional Economy/Job Creation
15	Ms. Chiaki Shibayama	EIPP	Project Coordinator/Industrial Park Management/ Aftercare/Linkage

3. Logistical Information

(1) Preparatory Works

The program includes a target set meeting and evaluation meetings. In the meetings, the members are requested to share their own objectives and targets of the study in advance, with consultation to the EIPP Team if necessary. This aims to deepen the understanding and maximize the benefits from the study tour.

(2) Hotel Information

The following hotels are arranged in Cambodia and Myanmar respectively.

Table 2: Hotel Information

Name	Address	Contact
Sunway Hotel Phnom Penh	No.1, Street 92, Sangkat Wat Phnom, P.O. Box 633, Phnom Penh 12202, Kingdom of Cambodia	+855-(0)23-430-333
Jasmin Palace Hotel	No. (341) Pray Road, Sanchaung Township, Yangon, Myanmar	+95-(0)1-230-4402

(3) Other Information of Cambodia and Myanmar

- Weather in Cambodia, Myanmar in July:
  - Temperature: In Cambodia, the highest temperature in daytime is around 33 °C (≒ 91°F) and the lowest temperature is around 25 °C(≒77°F). In Myanmar, the highest temperature is around 30 °C(≒86°F) and the lowest temperature is around 24 °C(≒ 75°F). Short sleeve is recommendable.
  - Weather: It is rainy season and umbrella is necessary. It may squall suddenly for short period.
- Dress Code:
  - Business casual is recommended during the program.
- Arrangement for Muslim Members:
  - Schedule: The program will consider the praying time where possible. Please note that training schedule is prioritized and sometimes members will be kindly requested to slightly adjust their prayer schedule.
  - Food: Please note that food arranged by EIPP team does not contain pork.
- Other Remarks:
  - In Cambodia, US Dollar can be used as well as local currency. The local market price is nearly similar to Ethiopia. You can find more things for shopping in Cambodia than Myanmar.
  - In Myanmar, only local currency is valid. The local market price is nearly similar to Ethiopia.
  - Credit Card is mostly accepted except street vendor and/or local market/shops.

【別添１】事前ブリーフィング資料：視察ポイント（EIC）

1

MATERIAL FOR INTERNAL DISCUSSION OF EIC

Points of Lessons Learnt from Thilawa SEZ in Myanmar on OSS

JULY 11, 2017

PREPARED BY JICA EIPP TEAM

2

1. OSSC in Thilawa SEZ has a good reputation among tenant companies

- See the Guidebook for Study Tour to Cambodia and Myanmar
  - Outline of Thilawa SEZ
  - Organization and Services of One-Stop Service Center (OSSC) in Thilawa SEZ

3

2. OSSC in Ethiopian IPs is in the early development stage.

EIPP team just started the interview survey on current OSS activities from the end of June 2017. In the meantime, the followings were found by the survey.

- OSSC in Bole Lemi IP (BIP):
  - Due to low demand for OSS at present, OSSC is providing only the limited services such as custom clearance, issuance of working permit and certificate for import customs duty exemption, and sending support letters to ERCA for corporate income tax holiday.
- OSSC in Hawassa IP(HIP):
  - OSSC covers both administrative and customer services.
  - Administrative services, in addition to the same services as BIP, for personal income tax and resident permits are being provided in HIP.
  - Customer services are being provided for electricity supply, water supply, telecommunication, shipping and logistics, etc.

【別添１】事前ブリーフィング資料：視察ポイント（EIC）

4

3. Focusing on Administrative Service

- Thilawa SEZ
  - OSSC in Thilawa SEZ focuses on providing "Administrative Services" for issuing licenses, permits, and certificates.
  - "Customer Services" such as shipping and logistics, telecommunication, electricity supply, and water supply are provided by the developer or others outside OSSC .
- HIP
  - "Administrative Services" and "Customer Services" are mixed up in OSSC in HIP.

5

4. Establishing Structure of OSSC by the Initiative of Regulator

- Thilawa SEZ
  - Thilawa SEZ Management Committee (TSMC) has successfully established the structure of OSSC by gathering representatives from the related governmental organizations to issue licenses, permits, and certificates in the SEZ.
  - For details, see Guidebook for the Study Tour to Cambodia and Myanmar.
- Ethiopia
  - The structure of OSSC is being established.
  - Strong leadership of EIC is necessary to establish effective OSSCs.

6

5. OSS related to Factory Construction

- Thilawa SEZ
  - Tenant companies construct their factories on sub-leased land.
  - Administrative services for factory construction by tenant companies are being provided by OSSC (the construction, industry, and environment sections) and Developer.
  - For details, see Guidebook for the Study Tour to Cambodia and Myanmar.
- Ethiopia
  - Until now, there is no experience in OSS for factory construction on sub-leased land, although it is planned in some industrial parks.

【別添１】事前ブリーフィング資料：視察ポイント（EIC）

7

6. OSS for Environmental Conservation

- Thilawa SEZ
  - Environment Section of OSSC is managing the environment conservation activities by the tenant companies in Thilawa SEZ.
- Ethiopia
  - Ministry of Environment is sending officials to HIP just intermittently without dispatching resident staff, because of budget shortage.
  - Environmental management is absolutely necessary by OSSC in IPs.

8

7. Prepare Questions in Advance by EIC

- EIC should prepare questions in advance to the study tour for better learning from Thilawa SEZ.

9

8. After the Study Tour…

- After the study tour, please share JICA EIPP team what EIC learnt from PPSEZ and Thilawa SEZ.

【別添１】事前ブリーフィング資料：視察ポイント（IPDC）

1

MATERIAL FOR
INTERNAL DISCUSSION OF IPDC

Points of Lessons Learnt on how to Develop the Survival Strategy

JULY 10, 2017

PREPARED BY JICA EIPP TEAM

2

How to utilize the Study Tour for developping the Survival Strategy

1. Cambodia

- Learn the strategic direction from PPSEZ

2. Myanmar

- Learn an Eco-business from Golden Dowa

3

1.1 Strategic Direction of PPSEZ Increase Revenue from Rental & Utility Service

- PPSEZ's Revenue Breakdown vs Successful IP in Thailand

in FY2015	Real Estate Sale	Utility	Rental	Others
PPSEZ	84%	11%	5%	0%
Successful IP in Thailand (Amata)	26%	52%	16%	6%

- ***Strategic Direction of PPSEZ***: Increase revenue from rental and utilities services (e.g. power, water and wastewater treatment services) which are recurring revenue system

【別添１】事前ブリーフィング資料：視察ポイント（IPDC）

4

1.2 Business– Existing and New Direction

- ***Existing Utilities Service***
  - ***Independent Power Plant***: Colben Energy (Cambodia) PPSEZ Ltd. with Singaporean company, Capacity 11MW/h
  - ***Water Purification***: 14,900m3/day
  - ***Sewage Treatment Plant***: 4,500m3/day
- ***Existing Dry Port***
  - Bok Seng PPSEZ Dry Port Ltd. with a Singaporean company
- ***New Utility Service***
  - Feb. 2017, signed MOU to conduct FS with B. Grimm Power Public Company Ltd.: Leading energy company in Thailand and the key strategic partner with AMATA corporation
- ***New Engineering and Construction Company***:
  - In the process of setting up new construction company (Sahas E&CCo.,Ltd: SAHAS) under PPSEZ Plc.

5

1.3 Questions from IPDC

- Prepare questions from IPDC before the visit to PPSEZ

6

2.1 Eco Business in Myanmar
Golden Dowa Eco-System Myanmar Co., Ltd.

- Golden Dowa Eco-System Myanmar Co. Ltd. was established in Thilawa SEZ as the first private waste management facility in Myanmar.
- It provides services for transportation, pre-treatment, recycling, and final disposal of wastes.
- For details, see "Guidebook for the Study Tour to Cambodia and Myanmar"

【別添１】事前ブリーフィング資料：視察ポイント（IPDC）

- Prepare questions from IPDC before the Study Tour.

- After the Study Tour, please share ***the report to CEO of IPDC*** to JICA EIPP team.

別添資料 13

第三国研修実施報告書（2018 年 12 月、カンボジア）

第三国研修実施報告 **2018 年 12 月**

エチオピア国産業振興プロジェクト

（投資促進・工業団地開発）

I. 第三国研修の実施

12 月 1 日~21 日まで、以下の要領で第三国研修を実施した。本件に関わる主な内容を以下の通り報告する。

１．目的

（１）OSS または入居企業に提供されているサービスの内容とそれに関わる実施体制（含む各サービスの料金体系）

（２）工業団地の維持管理方法と実施体制

（３）上下水プラントの視察（オペレーション方法及び課題・対応方法、収益性）

（４）工業団地におけるマーケティング・企業誘致の方法と実施体制

２．招聘側参加者

名前	所属部門	役職
IPDC		
Mr. Birhan Alemneh Kidanu	Head Office	Senior IP Operation Expert
Mr. Semaw Chekol	Head Office	Senior IP Promotion Expert
Mr. Fitsum Ketema	Hawassa IP	General Manager
Ms. Kalkidan Aregahegne	Hawassa IP	Integrated Service Expert
Mr. Kahsay H/Kiros	Mekelle IP	ETP and STP Coordinator
Mr. Daniel Abebe	Kombolcha IP	Civil and Sanitary Engineer
Mr. Mebratu Deffere	Bole Lemi IP	ETP Coordinator
Ms. Selam Tarkeghn Neda	Head Office	Project Sub-Leader

（＊今次第三国研修については、各所で上記 8 名分の手配を進めていたが、Ms. Selam Tarkeghn Neda が出発日当日に家族の急病により急遽参加を取りやめたことから、実際の研修参加者は 7 名となった。）

３．実施スケジュール

日付	活動
12 月 1 日（土） ～2 日（日）	アディスアベバ発、プノンペン着

12 月 3 日（月）	【午前】プノンペン市内視察 【午後】カンボジア一般概況 PPSEZ についての説明
12 月 4 日（火）	【午前】SEZ 内発電施設、浄水施設、排水処理施設の視察 【午後】浄水・排水処理に関する説明 翌日訪問予定の中小企業（Okato、Heiko Asia）の紹介、日本の中小企業政策に関する説明
12 月 5 日（水）	【午前】インフラ開発に関する説明 電力供給面の課題と対応策に関する説明 【午後】Okato（Cambodia）工場の見学 産業人材の育成、工業団地開発全般に関するディスカッション（JICA カンボジア事務所）
12 月 6 日（木）	【午前】廃棄物処理についての 【午後】PPSEZ 内のセキュリティ対策についての説明 近隣地域の市場見学
12 月 7 日（金）	【午前】人材育成・管理についての説明 【午後】工場労働者向け寮の見学 SEZ 全体の視察（入居企業の紹介等） 寮施設に関する質疑応答、振り返り
12 月 8 日（土）	【午前】PPSEZ 内の Operation Meeting の見学
12 月 9 日（日）	資料整理
12 月 10 日（月）	資料整理（カンボジア祝日）
12 月 11 日（火）	【午前】カンボジア開発評議会（Council for the Development of Cambodia: CDC）による説明、ディスカッション 【午後】PPSEZ 周辺施設見学 関税消費税総局（General Department of Customs and Excise : GDCE）による説明（適格投資プロジェクト制度、税金等）
12 月 12 日（水）	【午前】商業省による説明（原産地証明書） 【午後】労働職業訓練省による説明（労務管理）
12 月 13 日（木）	【午前】PPSEZ の財務実績に関する説明 【午後】日系工場視察①　DENSO
12 月 14 日（金）	【午前】ドライポート視察 【午後】顧客サービス部からの説明（顧客万読度調査）
12 月 15 日（土）	資料整理
12 月 16 日（日）	資料整理
12 月 17 日（月）	【午前】日系工場視察②Minebea (Cambodia) Co., Ltd.

	【午後】CSR プロジェクトの説明 CSR プロジェクトサイトの視察 工場排水の一次処理施設の見学
12 月 18 日（火）	【午前】繊維業者研修所（Garment Manufacturers Association in Cambodia：GMAC）訪問 【午後】振り返り
12 月 19 日（水）	【午前】振り返り、フィードバック記入 【午後】B. Grimm Power 社による説明（電力事業）
12 月 20 日（木）	【午前】バンコクへの移動 【午後】B. Grimm Power 社発電所視察 アマタナコーン工業団地訪問 エチオピアへの移動
12 月 21 日（金）	アディスアベバ着

４．研修実施の委託について

今次第三国研修においては、プノンペン経済特区（PPSEZ）に実施業務を委託した。PPSEZ を委託先に選定した理由は、以下の通りである。

（１）PPSEZ の CEO が当案件の団員として調査に参画しており、IPDC の工業団地事業に対して改善支援を行っている。その為、IPDC の現状に即した研修の実施が可能である。

（２）IPDC から、工業団地事業についての提言・レクチャーだけでなく、PPSEZ での OJT を通じたより実践的なキャパビルへの要望がなされた（IPDC 社長からの別添要請レター参照）。

（３）OJT では事業の根幹であるビジネス・モデルを開示することがより実務的なキャパビルにつながるが、一般的に第三者への開示は行われない。
他方、PPSEZ は昨年 7 月の第三国研修で既に IPDC に対しビジネス・モデルの一部を提示し助言を行った実績を有しており、研修員へのキャパビルが情報開示制限による支障を受ける心配がない。

II. 概要

１．PPSEZ 運営管理全般

- PPSEZ の運営形態、施設状況、主な入居企業と業種、電力・上下水道・ドライポート等 PPSEZ 内のインフラ整備、ビジネス・モデル等について説明。研修員からは、PPSEZ が有する給排水設備や ISO 取得を含む様々な内容について質問が上がった。
- PPSEZ 社内の定例 Operation Meeting を見学した際には、社内の全部署及び 2 つの子

会社の経営層から業務報告が行われ、会計面等機微な情報を含め情報が詳細に共有されていることに驚いていた。

- PPSEZ の CEO からは、高い収益性を実現するためのビジネス・モデル、全社／各事業レベルの損益計算書、経営層のマインドセット、電力事業の計画などについて、ASEAN 諸国の工業団地と比較しながら説明を受けた。
- IR 担当からは、企業会計とプロジェクトファイナンスの基礎、PPSEZ の財務戦略について説明があった。
- 顧客満足度調査の概要と分析方法、政府機関での手続きやコンサルティング業務についての説明がなされた。
- PPSEZ が実施している CSR の概要と、今年度の CSR プロジェクトの検討プロセスについて説明があった。その後、PPSEZ が CSR の一環で建設した周辺道路と去年建築した学校図書館をそれぞれ見学した。

２．SEZ 内のインフラ整備

- SEZ 内の各種インフラ（発電施設、浄水施設、排水処理施設等）、及び SEZ 職員用の寮を視察。その際、特に浄水、排水処理の料金設定について関心が寄せられた。
- 道路・上下水道・通信網の設計とマネジメントについての説明がなされ、研修員からは水道管設計やプロジェクトマネジメントについて強い関心が寄せられた。
- 廃棄物処理会社（Gomi Recycle 110 Co. Ltd.）から廃棄物の再利用について説明があり、プラスチックごみが建設資材に再生すると知ると、研修員から驚きの声が上がった。
- 電力事業については、タイの B. Grimm Power 社から会社概要と事業内容について詳細な説明があった。帰国途中に立ち寄ったバンコクでは、同社の発電施設を視察した。

３．セキュリティ、OSS 等

- 民間警備会社職員から、SEZ 内の巡回サービスや犯罪調査、防火対策、救急サービス等、SEZ 内のセキュリティ対策全般について説明がなされた。
- カンボジア開発評議会（CDC）からは、組織概要や投資優遇策等、投資促進に係る通常業務と課題について説明がなされた。研修員からは、OSS センターのマネジメント体制や、顧客企業とのコミュニケーションなどについて質問がなされた。

４．労務関連

- 人事総務部長から、PPSEZ の組織構成や評価制度を含む人事制度について紹介がなされた。研修員からは、社員の福利厚生やストライキに関する質問が寄せられた。
- また、人事総務部次長からは、工場労働者向け福利厚生の現状について説明があり、寮利用者の内訳や収益性等について質問が上がった。その後、SEZ が提供する寮及び入居企業が所有する自社寮を視察し、カスタマーサービス部職員より PPSEZ の入居

企業が紹介された。研修員は、寮にコンビニや床屋等の生活機能が併設されていることに驚いていた。

- 労働職業訓練省からは、組織概要や労働法制などについて説明を受けた。研修員は、特にストライキへの対応や労働組合とのコミュニケーション等について質問した。

５．税、通関、物流関連

- 関税消費税総局（GDCE）職員からは、カンボジアにおける SEZ の概要や適格投資プロジェクト制度の詳細について説明が行われた。適格投資プロジェクト制度のマネジメントや、他の政府機関・PPSEZ・入居企業との情報共有のあり方について質問が上がった。また、エチオピア・カンボジア双方から、多国籍企業の節税対策に関する問題意識が共有された。
- 商業省からは、原産地証明書に関する規定や申請手続きについて、実際の申請書類を示しながら説明があった。エチオピア工業団地の OSS 事務所には商業省に該当する機関が存在しないため、研修員からはサービス需要に関する質問も寄せられた。
- シンガポール物流管理会社 Bok Seng Group と PPSEZ の合弁会社が運営するドライポートを訪問し、会社概要と各サービスの説明を受けた。内陸国であるエチオピアの工業団地にとって物流機能の強化は重要な課題であり、研修員から是非参加したいとの意見が上がった。

６．PPSEZ 内日系工場訪問

（１）DENSO

- 「Thai＋1」としてのカンボジアの位置づけや自社製品の紹介と共に、5S などの生産管理について説明を受けた後、工場内を見学した。現在は縫製業中心のエチオピアだが、自国の工業化には DENSO のような高付加価値の産業を呼び込むことの重要性が言及された。

（２）MinebeaMitsui

- 延床面積 59,250 ㎡の工場とそこで製造される先端部品に驚きの声が上がった。質の高い労働力を獲得する上で高等教育機関とどのような連携を図っているのか、といった質問が寄せられた。

７．カンボジア繊維製造業協会（Garment Manufacturers Association in Cambodia：GMAC）

- GMAC の組織概要やカイゼンコンセプトを用いた研修プログラム等について説明を受けた。繊維業のイメージを改善し優秀な人材の供給することの重要性や、現在外国人が務めることの多い中間管理職ポストの現地化、政府への交渉、成果につながる研修プログラムの策定、特に待遇面での労働者との円滑な交渉といった点について活発な議論が交わされた。

８．バンコク視察（B. Grimm Power 発電所、アマタナコーン工業団地）

- 飛行機乗り継ぎで立ち寄ったバンコクでは、B. Grimm Power 社の発電所を訪問し、電力事業に関する説明を受けた上で発電施設とコントロールルームを見学した。
- 続いてアマタナコーン工業団地を訪問し、アマタ・コーポレーションの歴史や今後の事業計画などの説明を受けた。研修員からは、企業誘致の戦略やサービスオペレーション、顧客企業とのコミュニケーションなどについて質問があった。

【別添資料】

１．日報

２．配布資料

３．研修員からのフィードバック

（了）

エチオピア IPDC 研修団　活動日報

作成日：2018/12/03

作成者：米村允志

参加者数：7 名		欠席者：無し
日付	2018/12/03(月)	
時間	内容	備考
AM	11:00-12:30 プノンペン市内案内	
PM	12:30-13:00 昼食 13:00-14:00 General explanation about Cambodia 14:00-15:50 General explanation about PPSEZ 16:00-17:00 終業　ホテル移動	 担当者：Mr. Sam (PPSEZ) 担当者：Mr. Uematsu (PPSEZ)

活動概要

前日（12/2)、フライトの遅延、変更等によりホテル到着が深夜となったため、参加者の体調なども考慮して本日の活動は少し遅めの時間より実施することとなった。

午前中は市内から PPSEZ へ向かいながら道中のランドマークの説明、カンボジアの簡単な概要などを上松 CEO より案内の上 PPSEZ へ向かった。

午後は PPSEZ 会議室にてカンボジアの一般的な概況の説明を PPSEZ 職員の Sam より、PPSEZ の説明を上松 CEO より実施した。

PPSEZ の説明の中で Mr. Birham をはじめ各 IPDC スタッフから給排水設備や ISO 取得をはじめ様々な内容に対して質問が出る場面もあり、非常に興味を持って研修に参加している様子が伺えた。

活動写真

午後の研修の様子

以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/04

作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/04 (火曜日)	
時間	内容	備考
AM	09:30-11:30　SEZ 内発電施設・浄水施設・排水処理施設の視察 11:30-12:00　視察に関する振り返り	担当者：Mr. Sarun (PPSEZ) 担当者：Mr. Pengkheang (Sahas Engineering and Construction) 担当者：Mr. Ota (PPSEZ)
PM	12:00-12:30　研修員手当支給、事務手続き 12:30-13:30　昼食 13:30-14:30　浄水・排水処理に関する説明 14:30-15:30　翌日訪問予定の中小企業の紹介、日本の中小企業政策に関する説明 15:30-16:00　講義内容に関する振り返り 16:00-18:00　市内案内 18:00-20:00　夕食、ホテル	担当者：Mr. Sarun (PPSEZ) 担当者：Mr. Ota (PPSEZ) 場所：Central Market 場所：Sara Ethiopian Restaurant

活動概要

午前中は SEZ 内の各種インフラ施設を視察した。また視察の合間に SEZ 内のワーカーの寮を見学した。振り返りミーティングでは、民間企業による電力供給に関して多くの関心が寄せられていた。エチオピアでも民間企業の参入に関する規制が緩和されるつつあるため、是非参考にしたいとの声があがった。

午後には、午前中に触れられなかった排水処理施設の詳細などについて Mr. Sarun より説明を行ったところ、特に料金設定について関心が寄せられていた。その後、翌日訪問予定の OKATO (Cambodia)と HEIKO ASIA の紹介、日本の中小企業を取り巻く環境や海外進出の動向について太田より説明を行った。

活動写真

午前中の視察の様子

以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/05

作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/05 (水曜日)	
時間	内容	備考
AM	09:40-11:10　Infrastructure development に関する説明 11:10-12:00　電力供給面の課題と対応策に関する説明	担当者：Mr. Rithy (Sahas Engineering and Construction) 担当者：Mr. Pengkheang (Sahas Engineering and Construction) 担当者：Mr. Ota (PPSEZ)
PM	12:00-13:00　昼食 13:30-13:40　講義の振り返り 13:40-14:40　OKATO (Cambodia)工場の見学 14:40-16:00　HEIKO ASIA 工場の見学 16:00-17:00　移動 17:00-18:00　産業人材の育成、工業団地開発全般に関するディスカッション	担当者：Mr. Yagi (OKATO) 担当者：Mr. Ota (PPSEZ) 場所：OKATO (Cambodia) 担当者：Mr. Imai (HEIKO ASIA) 担当者：Mr. Shinohara (JICA) 担当者：Mr. Yasuhara (JICA) 担当者：Mr. Ota (PPSEZ) 場所：JICA カンボジア事務所

活動概要

午前中は、まず Mr. Rithy より道路・上下水道・通信網の設計とマネジメントについての説明があり、特に道路下の水道管設計やプロジェクトマネジメントについて強い関心が寄せられていた。次に Mr. Pengkheang より昨日の施設見学で触れられなかった電力供給に関する詳細について説明があった。

午後には、SEZ 内にある OKATO (Cambodia)と HEIKO ASIA の工場を視察した。HEIKO ASIA では今井副社長がエチオピアの工業団地の状況について関心を示してくださり、積極的な情報共有が行われた。またプログラム終了後、JICA カンボジア事務所にて産業人材の育成や工業団地開発に携わる職員の方々との情報共有・ディスカッションを行った。

活動写真

午前中の様子

午後の様子

以上。

Ethiopia IPDC Stuffs the third country study daily report

Date：2018/12/06

Author：Hem Chamnan (Mr.)

No. of participants：7 persons		Absentee：None
Date	2018/12/06 (Thurs day)	
Time	Activity	Remarks
AM	08:00–09:00 Departure at Hotel 09:30-12:00 Solid waste management	Presenter: GOMI RECYCLE 110 CO.,LTD / Manager Mr. Kawai Venue: PPSEZ
PM	12:00-13:00 Lunch break 13:00-15:30 Security service in SEZ 15:30-16:30 Leave at PPSEZ 16:30-17:30 See around the local market	Presenter：Sahas Security & service / Mr.Tamas Venue：PPSEZ Office Venue: Russian Market

Details and Comments

In the morning, we had explanation about the reuse of garbage from GOMI RECYCLE 110 Co.,Ltd. that are processing garbage in the SEZ. The participants surprised at the fact that plastic waste to be reborn into a very strong construction material.

After the lunch, we have the presentation of the Security service in SEZ. The content were included Private Security Guard and Patrol Service in zone, Criminal Investigation, Fire Protection, Emergency Service and all participants understood that in times of emergency, security team need to immediately response. We understand that security 24/7 are security need are often unexpected.

Photos

Presentation of GOMI Recycle Co., Ltd.

エチオピア IPDC 研修団　活動日報

作成日：2018/12/07

作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/07 (金曜日)	
時間	内容	備考
AM	09:30-11:00　Human Resource Management に関する説明 11:00-12:00　振り返り	担当者：Mr. Sam (PPSEZ) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)
PM	12:00-13:00　昼食 13:00-14:00　Factory worker 向け寮の見学 14:00-15:00　SEZ 全体の見学（入居企業の紹介） 15:00-16:00　寮施設に関する Q&A、振り返り	担当者：Mr. Chamnan (PPSEZ) 担当者：Mr. Oudam (PPSEZ) 担当者：Ms. Kheav (PPSEZ) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)

活動概要

午前中は、PPSEZ 人事総務部長の Mr. Sam より組織構成から評価制度まで様々な人事制度の紹介があった。研修員の方々からは社員の福利厚生やストライキに関する質問が寄せられていた。

午後は、PPSEZ 人事総務部次長の Mr. Chamnan より Factory worker 向けの福利厚生の現状について説明があり、寮利用者の内訳や収益性などについて質問が寄せられていた。その後 SEZ が提供する寮及び顧客企業の自社寮の見学、そして PPSEZ カスタマーサービス部の Ms. Kheav による PPSEZ 入居企業の紹介があった。Mini mart や床屋等が併設されている寮に対して驚きの声が多かった。

活動写真

午前中の様子

午後の様子

以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/08

作成者：太田 優人

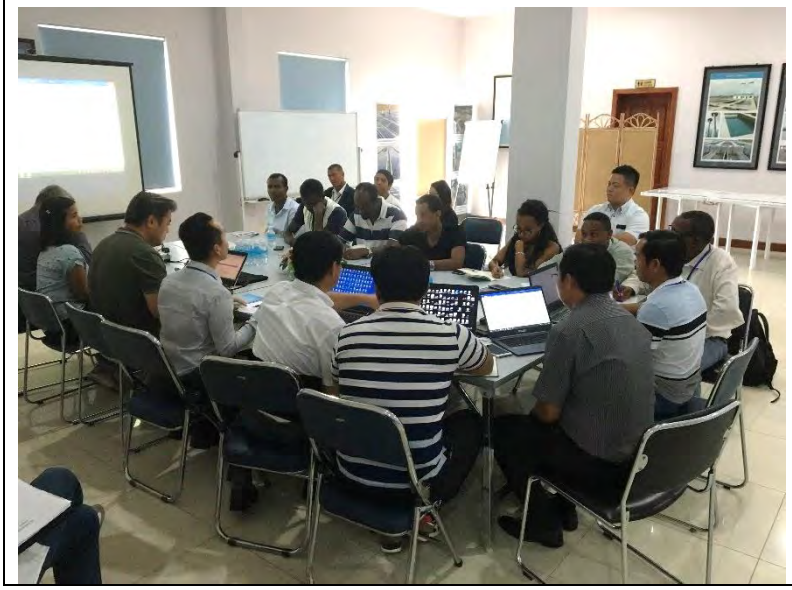
参加者数：7 名		欠席者：無し
日付	2018/12/08 (土曜日)	
時間	内容	備考
AM	09:30-12:00　Operation meeting の見学	担当者：Mr. Uematsu, Mr. Takahashi, Ms. Zhao, Mr. Nagaoka, Ms. Chanpey, Mr. Sam, Mr. Sarun, Mr. Rithy, Mr. Tamas, Mr. Serey, Mr. Ratana, Ms. Vichera, Mr. Yonemura, Mr. Ota (上記全て PPSEZ)
PM	12:00-12:30　昼食 12:30-13:30　ホテルに移動	担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)

活動概要

本日は PPSEZ 社内の定例 Operation meeting を見学した。社内の全部署と 2 つの子会社の経営層から業務報告があり、その都度上松 CEO より研修員に対して解説が行われた。研修員達は詳細な情報共有のあり方に驚いており、特に会計に関して興味深かったとの感想があった。

活動写真

午前中の様子



以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/11

作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/11 (火曜日)	
時間	内容	備考
AM	10:10-12:00　CDC の説明、ディスカッション	担当者：Mr. Dara (CDC) 担当者：Ms. Kheav (PPSEZ) 担当者：Ms. Kaneko (EIPP) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)
PM	12:00-13:00　昼食 13:00-14:20　PPSEZ 周辺見学 14:20-16:00　Customs procedure の説明	担当者：Mr. Kimsea (GDCE) 担当者：Mr. Sovan (GDCE) 担当者：Mr. Uematsu (PPSEZ) 担当者：Mr. Sotheary (PPSEZ) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)

活動概要

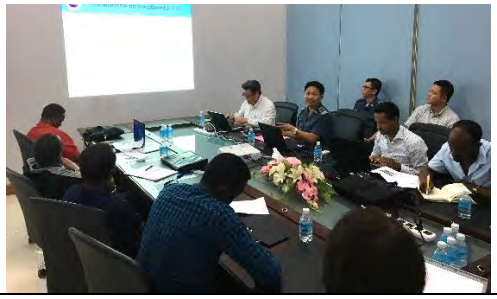
午前中は Council for the Development of Cambodia（CDC）の組織概要、通常業務における課題などの説明が行われた。研修員からはワンストップサービスセンターのマネジメント体制や顧客企業とのコミュニケーションなどについて質問が寄せられていた。

午後は PPSEZ 周辺の工業団地や工場を見学した後、General Department of Customs and Excise (GDCE)職員からカンボジアにおける SEZ の概要や適格投資プロジェクト制度の詳細についての説明が行われた。適格投資プロジェクト制度のマネジメントや、他の政府機関・PPSEZ・顧客企業との情報共有のあり方について質問が寄せられていた。またエチオピア・カンボジア双方から多国籍企業の節税対策に関する問題意識が共有された。

活動写真

午前中の様子

午後の様子



以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/12
作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/12 (水曜日)	
時間	内容	備考
AM	07:30-08:30　ホテルチェックアウト （Sovanna Villa Hotel） 08:30 -10:00　移動 10:10-12:00　Certificate of Origin の説明	担当者：Mr. Ouch Pisal (Ministry of Commerce) 担当者：Ms. Kao Lakhina (PPSEZ) 担当者：Ms. Kaneko (EIPP) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)
PM	12:00-13:00　昼食 13:00-14:30　Labor management に関する説明 14:30-16:00　ホテル移動・チェックイン （Frangipani living arts Hotel）	担当者：Mr. Pol Chandara (Ministry of Labor and Vocational Training) 担当者：Ms. Chamnan (PPSEZ) 担当者：Ms. Kaneko (EIPP) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)

活動概要

午前中は、Ministry of Commerce の職員から、Certificate of Origin（原産地証明書）に関する規定や申請手続きに関して、実際の書類を手に取りながら説明を受けた。またエチオピアの工業団地のワンストップサービスセンターには Ministry of Commerce に該当する機関が存在しない為、研修員からはサービス需要に関する質問も寄せられていた。

午後は、Ministry of Labor and Vocational Training の職員から、組織概要や労働法制などに関して説明を受けた。研修員からは、特にストライキへの対応や労働組合とのコミュニケーションなどについて質問が寄せられていた。

活動写真

午前中の様子

午後の様子

以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/13
作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/13 (木曜日)	
時間	内容	備考
AM	09:00-12:20　Phnom Penh SEZ financial performance の説明	担当者：Mr. Uematsu (PPSEZ) 担当者：Dr. Ardisak (PPSEZ) 担当者：Ms. Kaneko (EIPP) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)
PM	12:20-13:30　昼食 13:30-14:00　振り返り 14:00-15:30　工場見学（DENSO） 15:30-16:00　振り返り	担当者：Mr. Higa (DENSO) 担当者：Mr. Uematsu (PPSEZ) 担当者：Ms. Kaneko (EIPP) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)

活動概要

午前中は、上松 CEO から高い収益性を実現する為のビジネスモデル、全社/各事業レベルの損益計算書、経営層のマインドセット、電力事業の計画などについて、ASEAN 諸国の工業団地と比較しながら説明を受けた。その後 IR 担当の Mr. Boepraser から企業会計とプロジェクトファイナンスの基礎、そして PPSEZ の財務戦略について説明を受けた。

午後は、SEZ 内の DENSO を訪問し、「Thai+1」としてのカンボジアの位置づけや製品説明、5S などの生産管理ノウハウについて説明を受けた。その後工場内を見学した。研修員からは「現在エチオピアの産業は縫製業中心だが将来的には DENSO のような高付加価値の産業を呼び込みたい」との声が上がっていた。

活動写真

午前中の様子

午後の様子

以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/14
作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/14 (金曜日)	
時間	内容	備考
AM	9:30-11:00　Dry port（物流施設）の視察 11:00-11:30　振り返り 11:30-13:00　昼食	担当者：Mr. Sokha (BOK SENG PPSEZ DRY PORT) 担当者：Mr. Samnang (BOK SENG PPSEZ DRY PORT) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)
PM	13:00-14:00　顧客満足度調査の説明 14:00-15:00　顧客サービス部の説明 15:00-16:00　振り返り	担当者：Mr. Serey (PPSEZ) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)

活動概要

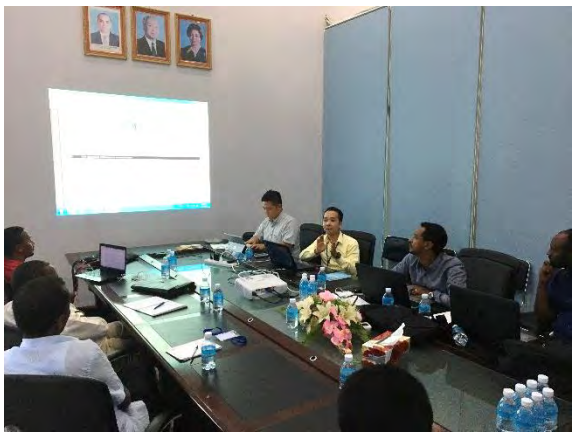
午前中は Bok Seng Group と PPSEZ の合弁会社が運営する Dry port (物流センター)を訪問した。まず会社概要と各サービスの説明を受け、その後 Dry port を見学した。物流機能の強化は研修員の工業団地にとって重要な課題であり是非参考にしたいとの声が上がっていた。

午後は、太田より今年の顧客満足度調査の概要と分析方法について説明を行った。顧客サービス部の Mr. Serey から政府機関との手続きやコンサルティング業務についての説明を受けた。

活動写真

午前中の様子

午後の様子



以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/17

作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/17 (月曜日)	
時間	内容	備考
AM	10:00-11:30　MinebeaMitsumi 工場の見学 11:30-13:00　昼食	担当者：Mr. Shima (MinebeaMitsumi) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)
PM	13:00-13:30　CSR プロジェクトの説明 13:30-15:00　CSR プロジェクトサイトの見学 15:00-16:00　工場排水の一次処理施設の見学	担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)

活動概要

午前中は、PPSEZ 内最大の工場を持つ MinebeaMitsumi を訪問し、工場内を見学した。延べ床面積 59,250m^2 の巨大な工場とそこで作られる先端部品に驚きの声が上がった。また、質の高い労働者を獲得する上で高等教育機関とどのような連携を図っているのか、といった質問が寄せられた。

午後は、太田より CSR の概要と今年度の CSR プロジェクトの検討プロセスについて説明を行った上で、今年度弊社が CSR の一環で建設した SEZ 周辺道路と、昨年度建築した学校図書館をそれぞれ訪問した。その後 Angkormilk 社が敷地内に所有する工場排水の一次処理施設を見学した。

活動写真

午前中の様子

午後の様子

以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/18
作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/18 (火曜日)	
時間	内容	備考
AM	10:00-12:00　GMAC 訪問	担当者：Mr. Tek Heng (GMAC) 担当者：Ms. Monh Timsorortha (CGTI) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)
PM	12:00-13:00　昼食 13:00-16:00　フィードバックの記入	担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)

活動概要

午前中は、GMAC（Garment Manufacturing Association in Cambodia）の Mr. Tek と Ms. Monh より、組織概要や Kaizen コンセプトを用いた研修プログラム等について説明を受けた。金融や経営分野に若年層の関心が集まる中で如何に縫製業のイメージを改善し優秀な人材を供給すべきか、現在外国人が務めることの多い中間管理職ポストを如何にカンボジア人が代替出来るか、如何に各企業が一丸となって政府と交渉していくべきか、表面的でなく成果につながる研修プログラムを如何に設計するべきか、待遇等に関して労働者と如何に円滑な交渉を行うか、といった点について活発な議論が行われた。カンボジア産業の成長に対する強い当事者意識と向上心に溢れる Mr. Tek から、一同大きな刺激を受けた様子が見受けられた。

午後は、これまでの全プログラムに対するフィードバックを行った。

活動写真

午前中の様子

以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/19
作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/19 (水曜日)	
時間	内容	備考
AM	10:00-15:00　フィードバックの記入、パッキング	
PM	15:00-17:00　B. Grimm Power 社の説明	担当者：Mr. Punjaphon (B. Grimm Power) 担当者：Mr. Ravi (B. Grimm Power) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)

活動概要

午前中は、研修員からの要請により、パッキングと本プログラム全体へのフィードバックの記入の時間を確保した。

午後は、タイの B. Grimm Power 社より会社概要と事業内容に関する詳細な説明を受けた。研修員からは、明日現地で実際の設備を見学するのが楽しみだとの声が上がっていた。

活動写真

午後の様子

以上

エチオピア IPDC 研修団　活動日報

作成日：2018/12/20
作成者：太田 優人

参加者数：7 名		欠席者：無し
日付	2018/12/20 (木曜日)	
時間	内容	備考
AM	8:20-9:10　タイへの移動 9:10-11:00　入国手続き 11:00-12:00　移動	
PM	12:00-13:00　昼食 13:00-13:30　移動 13:30-14:30　B. Grimm Power 社の発電所見学 14:30-15:00　移動 15:00-17:00　Amata City Industrial Estate 18:00　タイ空港到着 01:15 (12/21)　エチオピアへのフライト	担当者：Mr. Satha (Amata Corporation) 担当者：Mr. Punjaphon (B. Grimm Power) 担当者：Mr. Ravi (B. Grimm Power) 担当者：Mr. Uematsu (PPSEZ) 担当者：Mr. Yonemura (PPSEZ) 担当者：Mr. Ota (PPSEZ)

活動概要

午前中は、プノンペンからタイの Amata City Industrial Estate へ移動した。

午後は、まず B. Grimm Power 社の発電所を訪問し、発電事業に関する説明を受けたうえで、発電設備とコントロールルームを見学した。続いて Amata City Industrial Estate を訪問し、Amata Corporation の歴史や今後の事業計画などの説明を受けた。研修員からは、企業誘致の戦略やサービスオペレーション、顧客企業とのコミュニケーションなどについて質問が上がった。

活動写真

午後の様子

以上

Attachment 2.7

Feedback of the PPSEZ Training Program

Respondent Name: Birhan Alemneh Kidanu

After three weeks of PPSEZ Training program, we would like to know your honest opinion. Please answer in detail the following questions below;

c.f. Contents of the Program

Briefings: PPSEZ customer services/customer survey, different kinds of infrastructure, HR, financial performance, CSR, One Stop Service Center Site Visit: different kinds of infrastructure, JICA office, worker's accommodation, factories, Dry port, GMAC

Q1: Please specify and explain your three biggest learning's from the program. My biggest learning in this program is:- - Business minded construction and operation and management of special economic zone in construction of factory sheds, residential areas, waste water treatment, water treatment, infrastructure and operation and management of special economic zone. - Integration and cooperation of PPSEZ with one stop service providers. In addition to this performance evaluation and awarding of OSS and all staff is interesting. - Effective project management in construction and specially infrastructure development. The kick of meetings and their formats to implement is also very interesting - Establishment of subsidiary companies in security, solid waste management, power generation & distribution is targeted on quality and business minded, - All Human resource documents and performance evaluation is clear and motivates staffs - Presentation and way of working of GMAC is key learning - The Workers accommodation in the zone and the role of investors in availing foods, construction and rent of residential rooms - Establishment of Dry port is very vital for improving logistics management

Q2: How do you think you can/want to apply what you learnt from the Program?

In order to apply this key learning; the team is preparing document in identification of key issues and key learning to be presented higher officials and staff of IPDC and also Participant from each industry park should customize for implementation.

Q3: Please evaluate each of the contents during the Program. Please specify which parts of the Program you were satisfied as well as room for improvement in your opinion.

In my view I am satisfied with presentation of special economic zone operation and management, security, infrastructure, utility providers, Garment manufacturer association of Cambodia, human resource management, PPSEZ financial status, solid waste management, customer service and all visits of factories and facilities.

The presenters from investment of license (CDC), Ministry of labor and ministry of commerce are not well prepared for presentation. We get experience but it needs improvement.

Q4: How was the arrangement of the Program? (i.e.: length of the program, preparation prior to the program, logistical arrangements, responsiveness upon special requests, and etc.)\

The program arrangement generally good and organizers are ready and supportive. The length of program is enough; most of the presenters are ready and well prepared except presenters from CDC and Ministry of labor and commerce.

The logistical arrangement and responsiveness upon special requests is very good and appreciable. The organizers starting from JICA Ethiopia team up to Mr. Uematsu, Mr. Yunamura and Mr Yuto they are responsive and timely.

Q5: Please indicate any other comments, if any.

I hope other colleagues in IPDC also to get the same training program.

We would like to thank you very much for your kind cooperation!

From JICA-EIPP

Feedback of the PPSEZ Training Program

Respondent Name: Daniel Abebe , civil and sanitary engineer

After three weeks of PPSEZ Training program, we would like to know your honest opinion. Pleaseanswer in detail the following questions below;

c.f. Contents of the Program

Briefings: PPSEZ customer services/customer survey, different kinds of infrastructure, HR, financial performance, CSR, One Stop Service Center Site Visit: different kinds of infrastructure, JICA office, worker's accommodation, factories, Dry port, GMAC

Q1: Please specify and explain your three biggest learnings from the program..

First of all thanks to PPSEZ staff members, Special thanks to Mr. Hiroshi Uematsu,CEO of PPSEZ, Mr. Yenemura & Mr. Yoto Ota from PPSEZ and Mrs. Kazuyo Kaneko from JICA and there members to delicate us for this training program. Form program we learned some experience that are useful for our park. There are :

1 , from the financial side of PPSEZ , the cost for the infrastructural construction is lower than our industrial park and also for the facilities that your park provide and earns small fee. This attracts more investors to your zone.

2. From the management side of PPSEZ ,for the administration and management work in PPSEZ are operated by less than 100 staff members for 92 companies. Some part of the management is operated by some private companies that have shareholders of the park. This also minimizes the cost,

3. From the utility preparation side OF PPSEZ, , I appreciate your work for the utilities that are used for the park like water, telecom and internet and electricity by inserting governmental (ECD) and private companies (colben energy) and for maintenance work for the main electric grids CDC covers all costs and maintenance manpower's. For the water facility maintenance also done by the joint venture company of PPSEZ called SAHAS Construction Company and for the internet, it provided by the china's private company and maintenance also work. For inside the companies everything is done by their own staffs. I loved the concept of solid waste management system, it is very useful for keeping our country from plastic wastes and also it is one part of the income generating method.

4. From the factories side, I would like to say thanks for every company that we saw. Because they introduced as their modern technologies, management like 5S & kizen and how they prepare good environment for workers by supporting them.

Q2: How do you think you can/want to apply what you learnt from the Program?

Yes I get experiences that are useful for IP. Specially from the facilities that the PPSEZ provides the companies like sewage treatment plant , portable water treatment plant, electric power and construction of roads, factory sheds ,water drainage systems, straight lights ,,,etc.

For the portable drinking water treatment plant the row water sources is the river water that is interesting for our some area parks that have low quantity of ground water and also that minimize the cost of excess machineries and that also minimize the chemical consumption.

For the sewage treatment plant, the PPSEZ uses the secondary treatment plant that means only the biological treatment and they are not using any kind of chemicals. Also in this PPSEZ park is using the primary treatment on the each company's treatment plant that is the most interesting and best experience for us

For the electricity, the PPSEZ gates the electric power in two ways one is from the government substation that is manage every work by EDC and second way is using colban private electric power production company supply and manage the electric power. In some areas I observe solar system panels around water treatment plant, Coca-Cola Company for additional energy source.

Q3: Please evaluate each of the contents during the Program. Please specify which parts of the Program you were satisfied as well as room for improvement in your opinion.

From the beginning of the day, the general explanation about Cambodian culture and people that helps us to communicate each other without any problems. I am also satisfied by all :

1. On the different types of infrastructures I get good experience how to manage resources of different kinds and the use of private companies to maintained some facilities

2. By solid waste management system, how to collect it, how to convert it and how to use for other products

3. By human resource:- there human resources regulation is different from the other SEZ on Cambodia that make the workers feel free to work effectively.

4. By financial performance: - I understand how to stabilized the financial income of one SEZ by making more income generating methods

5. By visiting of different companies that shows us how to manage their work easily

6. By the security company, the company is using moderate technologies and making some formats to the gate keepers. It is good experience.

7. By dry port service, it is fast, secure, and moderate and cheep

8. By garment manufacturing association in Cambodia (GMAC) :- it is one of the good example of the PPSEZ. It is Amazing from the building architectural view up to the final effective and productive man power.

Q4: How was the arrangement of the Program? (i.e.: length of the program, preparation prior to the program, logistical arrangements, responsiveness upon special requests, and etc.)

The arrangement of the program is good. Because that the preparation is beginning when we are in Ethiopia, so it is good in some points well prepared with every scope (preparing power points, showing and sharing useful documents, visiting sites). But some of the training schedules are not satisfactory for us because they are not preparing any kind of manuals and some of them are not speaking English by themselves that makes me little confused.

Q5: Please indicate any other comments, if any

We would like to thank you very much for your kind cooperation!

From JICA-EIPP

Feedback of the PPSEZ Training Program

Respondent Name: Fitsum Ketema

After three weeks of PPSEZ Training program, we would like to know your honest opinion. Please answer in detail the following questions below;

c.f. Contents of the Program

Briefings: PPSEZ customer services/customer survey, different kinds of infrastructure, HR, financial performance, CSR, One Stop Service Center Site Visit: different kinds of infrastructure, JICA office, worker's accommodation, factories, Dry port, GMAC

Q1: Please specify and explain your three biggest learning's from the program.

1. Workers accommodation: - The accommodation aspect was very interesting part of the training content and I just found it very important lesson to be shared. It is very important to avail a dormitory to the workers to get the expected productivity and support the workers. On top of that, it can be also part of the income generation.
Since, this issue has become the most challenging aspect for our corporation, the PPSEZ experience is very valuable and to be suggested for the respected offices.
2. Dry Port: -availability of fast, reliable and cost competitive Logistics service is one of important aspects on attracting foreign direct investment. from the visit and explanation I have found this training content very interesting on speeding up The import and export process and this can be one part of Incentive for those investors operating in side PP Special Economic Zone (PPSEZ).
Having a Dry port and warehouse inside the zone has a lot of advantages, like minimizing the investor's burden on availing individual where house and also minimizing long waiting time for containers.
3. GMAC: - very impressing service given by the association to guarantee the continuous supply of skilled man power to the association members and of course serve the society.
Having such association will definitely help both the Government and the investors in terms of equipping the local community with the necessary skill, helping the investors to get a qualified employees, help to improve the workers skill and the productivity will ultimately improve, will help the investors to be strong and to challenge the government on delivery of quality service and related activities.
This has been the biggest lesson I have learned and got good experience to be shared.

Q2: How do you think you can/want to apply what you learnt from the Program?

Almost all contents of the training has been found very important for me and need to realize how we are operating our parks and improve by taking such vast experiences. Of course in some contents it might be difficult to apply directly but can be contextualize and improved.

Q3: Please evaluate each of the contents during the Program. Please specify which parts of the Program you were satisfied as well as room for improvement in your opinion.

The training contents are very interesting and all will highly help us to improve our services provision going home back.

Specially, the financial performance part has been noted as the major concern. All the experience of PPSEZ will highly help to the Industrial park development of my country in order to guaranty the profitability of the Parks.

Q4: **How was the arrangement of the Program? (i.e.: length of the program, preparation prior to the program, logistical arrangements, responsiveness upon special requests, and etc.)**

The training program was properly planed and implemented. The time management showed from the trainer and coordinator was very impressive.

Kindness and responsiveness of the trainer and coordinators were very amazing and it was energy for all the trainees.

In general all the above mentioned points were handled in a very professional way and this contribute for the successfulness of the training program.

Q5: Please indicate any other comments, if any.

This training program has witnessed PPSEZ capability to host related trainings in the future and I am sure my company will definitely strengthen the relationship in deferent aspects.

I would like to thank all PPSEZ officials, training coordinators, PPSEZ companies and JICA for letting us to attend such a wonderful and successful training program.

Last but not least I would also like to thank the driver and all Hotel staffs for their hospitability and support at all time.

We would like to thank you very much for your kind cooperation! From JICA-EIPP

Feedback of the PPSEZ Training Program

Respondent Name: **Kahsay Hailekiros**

After three weeks of PPSEZ Training program, we would like to know your honest opinion. Pleaseanswer in detail the following questions below;

c.f. Contents of the Program

Briefings: PPSEZ customer services/customer survey, different kinds of infrastructure, HR, financial performance, CSR, One Stop Service Center
Site Visit: different kinds of infrastructure, JICA office, worker's accommodation, factories, Dry port, GMAC

Q1: Please specify and explain your three biggest learning's from the program.

Dears I would like to Summarize and express my major thoughtful on the training and factory visit during my stay in Phnom Penh Special Economic zone (PPSEZ). The main lesson I had had in the visit and training is doted as follows:

1. Income generation skills to improve productivity: Industrial land sale, backup power plant construction and having cost effective (simple technology) water purification and waste water treatment plants are among the income generation practices to sustain the economy of PPSEZ Company as well as to increase the revenue of the country (Cambodia). This is the interesting occasion I have learnt from this training.
2. Creating sister companies of the PPSEZ for facilitating integrated services and confronting progressive challenges to attract investors: SAHAS-PPSEZ Infrastructure Design & Construction and Security companies are also the expressions of PPSEZ's Project management skills in Cambodia. As I understand so far this sister companies play a key role to implement projects with reasonable project quality, project cost, project schedule and keeping security of factories within the PPSEZ Company.
3. Human Resource Management policy and Establishment of the Cambodian Garment Technology Institution national association: The Human Resource Management policy is the one I have got interesting for its well-equipped and all rounded management system. The Cambodian Garment Technology Institution (CGTI) is also more interesting for the fact that it strengthens both the factories and the government by providing skilled professionals to the factories and give relief to the Cambodian government from the stress of un employment.

Q2: How do you think you can/want to apply what you learnt from the Program?

I am working in a newly constructed industrial park (Mekelle Industrial Park) and we know that different companies use different tools and event strategies to grow their business. I will do all my best to choose the way of delivering the lessons I have learnt in PPSEZ to my particular Industrial park. I will try to develop a well-organized presentation slide about all what I learnt and then train the respective people on how to effectively do and collaborate to plug in the implementation of the lessons I have already learnt.

Q3: Please evaluate each of the contents during the Program. Please specify which parts of the Program you were satisfied as well as room for improvement in your opinion.

Dears we have been committed the last three weeks of December 2018 to meet up every day both in the morning and afternoon sessions to discuss on PPSEZ customer services/customer survey, different kinds of infrastructure, HR, financial performance, CSR, One Stop Service Center and visit different kinds of infrastructure, JICA office, worker's accommodation, factories, Dry port, GMAC and I was tried to follow the briefings on high note and find most of them were interesting. However I have some comments on the presentations made on water purification and waste water treatment seam not well prepared and need further preparation for similar programs. The other comment is the silage disposal what I saw during the visit, silage disposal on the waste treatment plant was not well managed (i.e. disposed in nearby places within the treatment area).

Q4: How was the arrangement of the Program? (i.e.: length of the program, preparation prior to the program, logistical arrangements, responsiveness upon special requests, and etc.)

It is extremely interesting. Remember that our initial goal is training and understanding. It's not getting conducive environment having charming staff as well as innocent people in Cambodia, but you did it to its climax in addition to the training. In other words I am very glad to express your excellent preparation on the arrangement of the Program (i.e.: length of the program, preparation prior to the program, logistical arrangements, responsiveness upon special requests, and etc.).

Q5: Please indicate any other comments, if any.

Off-course not comment but a kind of appreciation: We spent the public holidays at rest enjoying down town and it was a kind of refreshment during our stay especially I couldn't forgot our recreation program at KEP pitch, which I was getting a much needed rest in my life.

We would like to thank you very much for your kind cooperation! From JICA-EIPP

Many thanks to Mr. Hiroshi Uematsu , Chief Executive Officer (CEO) and all the staff members of PPSEZ !! Kahsay Hailekiros (Mobile: +251914154596)

Feedback of the PPSEZ Training Program

Respondent Name: Kalkidan Aregahegne

After three weeks of PPSEZ Training program, we would like to know your honest opinion. Please answer in detail the following questions below;

c.f. Contents of the Program

Briefings: PPSEZ customer services/customer survey, different kinds of infrastructure, HR, financial performance, CSR, One Stop Service Center Site Visit: different kinds of infrastructure, JICA office, worker's accommodation, factories, Dry port, GMAC

Q1: Please specify and explain your three biggest learning's from the program.

The experience and the knowledge I got from the training is remarkable also very useful for our industry park even if the program gives me plenty learning's I have tried to list few of them below

Firstly, concerning the infrastructures I learned that privatizing the supply of electricity is very crucial for the park management, Government and also for companies, and considering the other power source like solar power is very cost effective and useful in different ways.

Waste water treatment system which the companies treating their primary waste is very good lesson for me.

Secondly, the important lesson I got is the training regarding recycles of the garbage for making different materials is best practice in protecting the environment, reduce cost and generate revenues.

Thirdly, workers accommodation is impressive, it reduce problems for companies, workers and government. The park management, companies as well as other private companies should participate in building accommodation for workers. I learned that this reduce turnover and it can be financial source.

Fourthly, PPSEZ financial performance and revenue generation mechanisms are very good. In most cases the infrastructures are cost effective and efficient this gives me different insights for revenue generation ideas and to think alternative sources of finance for the Park.

Lastly from HRM perspective, with small number of staff's compared to Ethiopia PPSEZ is handling 95 tenants is good. The management and motivations mechanisms for the staffs and OSS officers are very important practice and GMAC visit gives important lesson regarding the benefits of associations.

Q2: How do you think you can/want to apply what you learnt from the Program?

I Want first to share the training for my team members, managers and officials what I learnt in PPSEZ by preparing documents then together with my IP staffs we will work hard to improve and apply the important lessons I got from the training.

Q3: Please evaluate each of the contents during the Program. Please specify which parts of the Program you were satisfied as well as room for improvement in your opinion.

I am very satisfied by the training contents and site visits of Different infrastructures, HR training, Financial performance, solid and liquid waste management system, security system, dry port service the site visits of factories, workers accommodation and GMAC.

But there are things that needs improvement, not all but some of OSS officers were not prepared for the training presentation and had a language barrier (unable to express ideas In English) and in addition to this while we were visiting the Dry port the dedicated person for briefing was not able to answer our questions so I am less pleased but the site visit was satisfactory.

OSS centers should be more prepared use power points for training.

Q4: How was the arrangement of the Program? (i.e.: length of the program, preparation prior to the program, logistical arrangements, responsiveness upon special requests, and etc.)

The arrangement of the program was very good and well prepared even if the training time is short we acquired lots of knowledge and experience from the training. The logistical arrangement are well prepared as well as the organizers were very dedicated, helpful and responsive for our requests. But we were not able to visit some of the planned sites and some days there was a delay for a training time.

Q5: Please indicate any other comments, if any
I am very much thankful for PPSEZ and JICA preparing this wonderful training, And all staff members of PPSEZ, Specially Mr. Hiroshi Uematsu, CEO of PPSEZ, Mr. Yenemura & Mr. Yoto Ota and Ms. Kazuyo Kaneko from JICA. I hope this program will continues.

We would like to thank you very much for your kind cooperation!

From JICA-EIPP

Feedback of the PPSEZ Training Program

Respondent Name: Mebratu Deffere Geremew

After three weeks of PPSEZ Training program, we would like to know your honest opinion. Please answer in detail the following questions below;

c.f. Contents of the Program

Briefings: PPSEZ customer services/customer survey, different kinds of infrastructure, HR, financial performance, CSR, One Stop Service Center Site Visit: different kinds of infrastructure, JICA office, worker's accommodation, factories, Dry port, GMAC

Q1: Please specify and explain your three biggest learnings from the program.

I learnt many from the program. The biggest three are:

i) The visit program arranged particularly Denso, the Dry port, GMAC/CGTD the biggest factory we visited on monday Dec. 15/18, producing Bearings, lenses & camera and so on

ii) power point presentations particularly one stop services, Infrastructure debt, Human resources management policy, Security issue, How to make industrial parks profitable and soon.

iii) I also understood that the people of Phnom Penh are hospitable, honest and cooperative when moving in the city at the hotels and lunch area. In addition the road traffic movement of the city is very much interesting.

Q2: How do you think you can/want to apply what you learnt from the Program?

Being I am a coordinator of CETP (Common Effluent/Waste Water/Treatment plant at Bale Lemi Industrial park, I want to apply:

- How to mobilize workers and make them efficient on their activity
- How to keep clean the working environment
- How to prepare performance reports and conduct evaluation based on permanent programe (Weekly, monthly ---)
- How to make treatment plant profitable and the like.

Q3: Please evaluate each of the contents during the Program. Please specify which parts of the Program you were satisfied as well as room for improvement in your opinion.

Each Contents of the programme were very much interesting and valuable to me.

→ Parts of the program satisfied me more were:

- The visit programe made to different factories particularly Denso, GMAC/CBTI, DRY port ---
- Presentations made on the general explanation about Cambodia & RPSEZ,
- One stop shoping: particularly the HR, Customer service etc

→ Room for improvement:

- Being I am. CETP coordinator. I expected more to see the Waste Water treatment Undertaken by factories / the treatment Process, Chemicals they are using, Sledge management and so on. However because of ~~the~~ not getting permision from the factories side, We couldn't get information on the area. If Emproved in the future it will be good.

Q4: How was the arrangement of the Program? (i.e.: length of the program, preparation prior to the program, logistical arrangements, responsiveness upon special requests, and etc.)

Arrangement of the program were also very good as to my understanding. Particularly the points / except the labour management / logistical arrangement including accomodating / hotel, lunch program, coordination etc / were successful. In addition the visit program arranged to the Gulf of Thiland on Sunday was very nice.

Q5: Please indicate any other comments, if any.

Except minor problems already indicated above: (the presentation on Labour management and visit to Waste Water treatment at the factory level) I didn't see anything. All are good and interesting. Thank you very much.

We would like to thank you very much for your kind cooperation!

From JICA-EIPP

Feedback of the PPSEZ Training Program

Respondent Name: Semaw Chefole Fentaw

After three weeks of PPSEZ Training program, we would like to know your honest opinion. Please answer in detail the following questions below;

c.f. Contents of the Program

Briefings: PPSEZ customer services/customer survey, different kinds of infrastructure, HR, financial performance, CSR, One Stop Service Center
Site Visit: different kinds of infrastructure, JICA office, worker's accommodation, factories, Dry port, GMAC

Q1: Please specify and explain your three biggest learnings from the program.

- Income generating and cost issues
- In PPSEZ cost minimization is the basic factor to get the profit.
- The way of income generating through electric power, water and other utilities is also very important.
- The Infrastructure and waste the management is another important factor
- One stope service is also well organized. All the activities is focused for the customer satisfaction
- The employees regular performance handling is also important.

Q2: How do you think you can/want to apply what you learnt from the Program?

This occasion is very important to my job. In my country/organization we are looking FDI. Therefore to do things successfully this kind of manufacturing industries exposure is supports my daily activity.

Q3: Please evaluate each of the contents during the Program. Please specify which parts of the Program you were satisfied as well as room for improvement in your opinion.

→ CGTI - In site visiting the people who are in CGTI are very well organized
→ General explanation about PPSEZ
→ Waste management
→ Human Resource management policy is also given in well organized way
→ PPSEZ financial performance
→ Certificate of origine (CO) is presented in organized way

Q4: How was the arrangement of the Program? (i.e.: length of the program, preparation prior to the program, logistical arrangements, responsiveness upon special requests, and etc.)

-The preparation of the program is well organizes
-The facilitators including the driver are timely punctual and highly encouraged to support.
-The logestics arrangement is well organizes
-High responsiveness for every activities
-~~Keeping the plan/ schedul should be employed~~
-~~In general including the accomodation the program is~~ successful.

Q5: Please indicate any other comments, if any.

Thanks to JICA organizing this program. Industrialization is booming in our country, Therefore this kind of exposure is very important to us.

In hosting FDI our organization Industrial parks Development Corporation (IPDC) is looking for experience sharing from the domestics and from abroad to handling his jobs in a better way.

We would like to thank you very much for your kind cooperation!

From JICA-EIPP

別添資料 **14**

本邦研修実施報告書（2018 年 1-2 月、EIC/IPDC 対象）

Study Tour in Japan Report

Ethiopia Industrial Promotion Project
(JICA-EIPP)

I. Implementation of Study Tour in Japan

JICA-EIPP team conducted Study Tour in Japan from 29th January to 9th February 2018. The summary is as follows:

1. Objectives of Study Tour in Japan

- To learn Japan's investment promotion activities and creation of enabling investment climate.
- To promote attracting Japanese investors though an investment seminar and visiting Japanese companies during the program.
- To learn industrial park development/operation, wastewater treatment plants/technology, and operation of manufacturing industries.

2. Study Tour Members

Name	Position	Group
EIC		
Mr. Teka Gebreyesus	Deputy Commissioner (Investment Facilitation)	G1
Ms. Feruz Abdella Ahmed	IP Regulation Senior Expert	G2
Ms. Seble Beyene Wolle	License and Registration Team Leader	G2
Mr. Goitom Gebrekidan Tekle	Mekelle IP Branch Manager	G2
Mr. Aschalew Tadesse	Investment Promotion Director	G1
IPDC		
Mr. Amare Asgedom	Industrial Park Development D/CEO	G3
Ms. Shiferaw Solomon	Operation and Industry Park Management D/CEO	G3
Mr. Mergia Kuma	Environmental Protection and Social Safeguard Expert	G3
Ms. Medhanit Bekele	Senior Architect	G3
Ms. Melat Fishye	Customer Service Expert	G3

3. Schedule

Date		Time	[Group 1] Promotion Team	[Group-2] EIC	[Group-3] IPDC	Stay
1/20	Sat	15:40	[Only for Mr. Aschalew] Depart Addis Ababa (EK724)			Flight
1/21	Sun	17:20	[Only for Mr. Aschalew] Arrive Narita-Tokyo (EK318)			Tokyo
1/28	Sun	15:40	Depart Addis Ababa (EK724)			Flight
1/29	Mon	17:20	Arrive Narita-Tokyo (EK318)			Hotel Monterey Hanzomon
1/30	Tue	9:00	Depart Hotel to JICA Tokyo by bus			
		9:30	JICA Tokyo (TIC) for briefing			
		11:00	Move to Ethiopia Embassy by JICA bus			
		11:30	Ethiopia Embassy (Visit, Lunch)			
		14:00	Move by large taxi	Move to Kawasaki by JICA bus		
		15:00	Nikkan Kougyo News Paper Interview	Kawasaki Life Science & Environment Research Center		
		15:30	Move by large taxi			
		16:00	Tokyo Metropolitan Leather Technology Center			
		17:30	Back to Hotel by large taxi	Back to Hotel by JICA bus		
1/31	Wed	9:30	Depart Hotel by large taxi (9:40)	Depart Hotel by Metro	Move to TIC by JICA bus	
		10:00	JFE Engineering Corporation	JETRO	JICA Training Center-Tokyo International Center (SR401) Lecture on Industrial Park Development in Japan	
		11:00	Move by large taxi			
			[Lunch] Denny's Akihabara			
		14:00	YKK Corporation			
		15:00	Move by a large taxi		Move to Ota-ku by JICA bus	
		16:00	Toray International, Inc..		Factory apartment	
		17:00	Back to Hotel by large taxi	Back to Hotel by Metro	Move to TIC by JICA bus	
		17:30				
2/1	Thu	7:00	Check-out Move Hotel to Tokyo Station by bus, Tokyo - Utsunomiya 8:08 - 9:01 via Tohoku Shinkansen (Yamabiko 127) Utsunomiya to Kiyohara IP by Bus			JICA Tsukuba
		10:00	Visit Kiyohara IP in Utsunomiya-City, Tochigi-Pref.			
		12:00	[Lunch]			
		13:00	Visit tenant factory [Calbee (food processing)]			
		14:40	Visit IP site and waste water treatment facility inside Kiyohara IP			
		16:00	Move to Tsukuba by bus			
		17:30	Check-in JICA Tsukuba			

Date		Time	[Group 1] Promotion Team	[Group-2] EIC	[Group-3] IPDC	Stay
2/2	Fri	9:00	Check-out and move to Tsukuba Urban Transportation Center by bus			Hotel Monterey Hanzomon
		9:30	Tsukuba Urban Transportation Center Visit Mitsui Building and JAXA			
		11:45	[Lunch]			
		12:30	Tsukuba Western Industrial Park for a site tour			
		13:00	Factory visit [Nihon Generic Co. Ltd. , Tsukuba Plant (medicine)]			
		15:00	Move to Tokyo by bus			
		16:40	Check-in			
2/3	Sat	9:30	Discovery Tokyo by Bus			
2/4	Sun	9:00	Check-out, Move to city tour by JICA bus [Lunch]	Check-out and move to Tokyo Station		G1: Dormy Inn Mishima G2/3: ANA Crowne Plaza Hotel Kobe
		13:00	Tokyo 13:26 - Mishima 14:20 by Toukaidou Shinkansen (Kodama 659)	Tokyo 10:50 - Shin-Kobe 13:27 by Toukaidou Shinkansen (Nozomi 107)		
		14:00	Check-in (14:30)	Check-in (14:00)		
2/5	Mon	8:30	Check-out /move by large taxi			ANA Crowne Plaza Hotel Kobe (G1, G2, G3)
		9:00	Yazaki Corporation	9:20 Depart Hotel by bus		
		10:00		Higashi-nada Sewerage Treatment Plant		
		11:00	Move to Mishima by bus			
		12:00	Mishima 11:57 - Shin-Osaka 14:50 by Shinkansen (Kodama 649)	Lunch		
		13:00		Kobe City Government (Lecture)		
		14:00		Visit Kobe Techno Logistic Park and Seishin IP		
		15:00	Move by bus			
		16:30	ROHTO Pharmaceutical Co., Ltd.			
		17:30	Move to Kobe by bus	17:40 Back to Hotel by bus		
		18:30	18:40 Check-in			
2/6	Tue	8:30	Depart Hotel, move by large taxi			G1: Meitetsu Grand Hotel, Nagoya Station G2/G3: ANA Crowne Plaza Hotel Kobe
		9:00	ASICS Corporation	JICA Kansai (until 09:45)		
		10:00	Move to Kobe City Government	Visit Earthquake Memorial Park (until 10:45)		
		11:00	Courtesy Call to Kobe City Vice Mayer			
		12:00	[Lunch] Kobe Haborland Mosaic			
		13:30	Seminar in Kobe at Kobe Industrial Promotion Center			
		17:00	Move to Shin-Kobe Station [Dinner] Sin-Kobe 18:49 - Nagoya 19:53, by Toukaidou Shinkansen (Nozomi 50)	Back to Hotel (17:45)		
		20:00	Check-in			

Date		Time	[Group 1] Promotion Team	[Group-2] EIC	[Group-3] IPDC	Stay
2/7	Wed	7:00		Check-out and move Shin-Kobe Station Shin-Kobe 7:29 - Okayama 8:06 by Sanyou Shinkansen (Sakura 545)		G1: Flight G2/3: Kurashiki Ivy Square
		8:00	Check-out and move by a large taxi	Okayama 8:20 - 10:00 Kurashiki City Government by bus		
		9:00	Brother Industries Ltd.			
		10:00		Kurashiki City Government		
		11:30	Move by a large taxi			
		12:00	[Lunch]	Move to Kojima District by bus		
		13:00	Seminar in Nagoya at "Orque d'or salon"	Visit Kojima Chamber of Commerce and Industry, Kojima Industrial Promotion Center, Jeans Factory, Die Factory, Wastewater Treatment		
		16:00		Visit Mt. Washu		
		17:00	[Dinner]	Move to Hotel and Check-in at 17:45		
		19:00	Nagoya 19:22 - Tokyo 21:03 by Toukaido Shinkansen (Nozomi 138)			
		21:00	Move to Haneda Airport by taxi with JICA			
		22:30	[Haneda Airport] Check-in			
2/8	Thu	0:30	Depart Haneda-Tokyo (EK313)			G2/3: Flight
		9:00		Check-out and Discovery Kurashiki		
		10:00		Move to Himeji City by bus		
		12:00	Arrive Addis Ababa (EK723) 12:40			
		13:00		Visit Himeji Castle		
		15:00		Hyogo Pref. Leather Industrial Technology Support Center		
		16:30		Move to Kansai Airport		
		19:00		Dinner		
		21:00		[Kansai Airport] Check-in		
		23:00		Depart Kansai Airport (EK317) 23:35		
2/9	Fri	12:40		Arrive Addis Ababa (EK723)		

Category Lecture, Site Visit, etc. | Business Meeting | Investment Seminar

II. Summary

1. Embassy of Ethiopia in Tokyo (G1, G2, G3)

Date and time: 30 January, 11:30-14:00

Represented from the Embassy of Ethiopia: Mr. Cham, Ambassador and some others

Study tour members paid a courtesy call to the Ethiopian Embassy. They exchanged their opinions about invest promotion for Japanese companies. After the courtesy call the Embassy kindly hosted a lunch for the participants.

Photo by EIPP

2. Nikkan Kogyo News Paper (G1)

Date and time: 30 January, 15:00-15:30

Represented from Nikkan Kogyo News Paper: Mr. Ohashi, Executive Vice President; Mr. Yamanaka, General director of Saitama

G1 members visited Nikkan Kogyo News Paper. Mr. Teka and Mr. Aschalew exchanged their views with Mr. Ohashi. The interview was posted on its paper dated on

Photo by EIPP

3. Tokyo Metropolitan Leather Technology Center (G1)

Date and time: 30 January, 16:00:17:00

Represented from Tokyo Metropolitan Leather Technology Center: Mr. Yoshimura, The head; Ms. Terashima, Researcher

G1 members received a presentation about the service made by Tokyo Metropolitan Leather Technology Center, and Tour of equipment and facilities of the center.

Photo by EIPP

4. Kawasaki Life Science & Environment Research Center (G2, G3)

Date and time: 30 January, 15:00-17:00

Represented from Kawasaki Environment Research Institute: Mr. Hayasaka; Ms. Kondo and some others

Staff of Kawasaki Environment Research Institute first made a presentation on environmental pollution in the 1960s-1970s, and measures to be taken from institutional and technical viewpoints in order to restore the living environment.

Photo by EIPP

5. JETRO Head Office (G2)

Date and time: 31 January, 10:00-17:00

G2 members had a one-day lecture by JETRO on how the organization has done for investment promotion and export promotion in Japan.

6. SME Support (G3)

Date and time: 31 January, 10:00-15:00

Represented from SME Support: Mr. Norihiko Kimura, Representative Director

Mr. Kimura lectured on industrial park development and operation in Japan. They learned the history of industrial park development in Japan and development method of industrial parks.

Photo by EIPP

7. Ota-ku (ward) Factory Apartment (G3)

Date and time: 31 January, 16:00-17:00

Represented from Ota-ku Factory Apartment: Mr. Tanaka, Chief of Factory apartment; Mr. Miyamoto, Manager of Ota-ku; Ms. Tanobe, Assistant manager of Ota-ku

G3 members visited factory apartment in Ota ward. They learned how small-scale manufacturing factories are operational in the factory apartment, and how the local government (Ota Ward) supports SMEs.

Photo by EIPP

8. Kiyohara Industrial Park (G1, G2, G3)

Date and time: 1 February, 10:00-14:40

Represented from Kiyohara Industrial Park: Mr. Amazaki, Chief director; Mr. Tomuro, Director and some others

Study tour members visited Kiyohara Industrial Park. In the morning Tochigi prefecture explained support policy for manufacturing sectors in the prefecture, and the Kiyohara Industrial Park Management Committee made a presentation on the overview of the Industrial Parks, including the sectors, management structure of the Industrial Park, and operational issues such as wastewater treatment and solid waste treatment. In the afternoon session, they visited a tenant factory (i.e. Calbee, food processing) and a wastewater treatment facility within the Industrial Park.

Photo by EIPP

9. Tsukuba Urban Transportation Center (G1, G2, G3)

Date and time: 2 February, 9:30-12:00

Represented from Tsukuba Urban Transportation Center: Mr. Miyamoto, Representative Director and some others

Study tour members received a lecture by Tsukuba Urban Transportation Center on 1) background and objectives of constructing Tsukuba Science City, 2) history of Tsukuba Science City and its construction plan, 3) development of surrounding area, and 4) challenges for the future. After the lecture, they visited Tsukuba Western Industrial Park.

Photo by EIPP

10. Nihon Generic (G1, G2, G3)

Date and time: 2 February, 13:00-15:00

Represented from Nihon Generic: Mr. Nonaka, Factory manager; Mr. Sugano; Mr. Mizushima and some others

Participants visited Nihon Generic to learn pharmaceutical industry in Japan. The first session was a presentation on the overview of the factory operation, followed by the visit inside the factory where they observed production line and packaging section.

Photo by EIPP

11. Higashi-nada Sewerage Treatment Plant (G2, G3)

Date and time: 5 February, 10:00-12:00

Represented from Higashi-nada Sewerage Treatment Plant: Mr. Kusuda, Representative and some others

Members of G2 and G3 had lecture about Sewerage system in Kobe. They learned the standard of wastewater treatment in Japan and treatment method.

Photo by EIPP

12. Kobe City Government (G2, G3)

Date and time: 5 February, 13:00-17:00

Represented from Kobe City Government: Ms. Sugisako and some others

Photo by EIPP

G2 and G3 received a lecture from Kobe City Government on the invest promotion activities in the city and Overview of New Town Development Project in Kobe City (Inland Development and Landfill Project). They learned there is Industrial Park which has a function for town. After the lecture, they visited Industrial Parks (Techno Logistic Park and Seishin Industrial Park) in Kobe.

13. Courtesy Call to Kobe City Vice Mayor (G1, G2, G3)

Date and time: 6 February, 11:00-12:00

Represented from Kobe City Government: Mr. Tamada, Vice Mayor and some others

Photo by EIPP

Study tour members made a courtesy visit to Kobe City Vice Mayer, Mr. Tamada, together with the representatives from the Ethiopian Embassy in Japan.

14. Investment Seminar in Kobe (G1, G2, G3)

Date and time: 6 February, 13:30-17:00

Photo by EIPP

Investment Seminar was conducted in Kobe. During the seminar Mr. Teka introduced an overview of investment climate in Ethiopia, and Mr. Shiferaw introduced nationally-owned Industrial Parks in the country. After the presentations, panel discussion was held by inviting representatives from Fukunaga Engineering, PPSEZ, Ethiopian Ministry of Foreign Affairs and Kobe City Government (a graduate of ABE Initiative). The Vice President of Kobe Institute of Computing facilitated the discussion around the themes of investment opportunities in Ethiopia, and issues and challenges for the foreign investors.

15. Kurashiki City (G2, G3)

Date and time: 7 February, 10:00-12:00

Represented from Kurashiki City: Mr. Kawata, Vice Mayor ; Mr. Harada, Director; Mr. Fujiwara, Head of Section; Mr. Beppu, Section manager; Mr. Ueda; Mr. Ishihara; Ms. Kanmera; Mr. James

G2 and G3 members had a courtesy call to Kurashiki City Vice Mayor. After courtesy call, Kurashiki city introduced about 1) municipal overview of Kurashiki city and 2) efforts to support industrial promotion in Kurashiki City.

Photo by EIPP

16. Kojima Chamber of Commerce and Industry (G2, G3)

Date and time: 7 February, 13:00-16:00

Represented from Kojima Chamber of Commerce and Industry: Ms. Ozaki, Manager; Mr. Komatsubara

After the meeting at Kurashiki City Government, G2 and G3 moved to Kojima area. They visited a jeans factory (Johnbull) and a dying factory (Howa) which has the facility of waste water treatment plant. They learned the linkage system among different factories in the production line, as well as a process of wastewater treatment in the dying factory.

Photo by EIPP

17. Hyogo Prefecture Leather Industrial Technology Support Center (G2, G3)

Date and time: 8 February, 15:00-16:30

Represented from Hyogo Prefecture Leather Industrial Technology Support Center: Mr. Mori, The head, Mr. Nishimori; Mr.Matsumoto

Members of G2 and G3 received a lecture and made a tour inside the Center. The Center provides technical supports for further development of prefecture's industry and secondary processing industry.

Photo by EIPP

The visit of Japanese companies

G1 members (Mr. Teka and Mr. Aschalew) met the following Japanese companies during their stay.

- JFE Engineering Corporation: 30 January, 10:00-11:00 (Tokyo)
- YKK Corporation: 30 January, 14:00-15:00 (Tokyo)
- Toray International, Inc. : 30 January, 16:00-17:00 (Tokyo)
- Yazaki Corporation: 5 February, 9:00-11:00 (Mishima)
- ROHTO Pharmaceutical co., Ltd. : 5 February, 16:30-17:30 (Osaka)
- ASICS Corporation: 6 February, 9:00-10:00 (Kobe)
- Brother Industries Ltd./ Brother International: 30 January, 9:00-11:30 (Nagoya)

ETHIOPIA INDUSTRIAL PROMOTION PROJECT
Investment Promotion and Industrial Park Development

Meeting Information		
Subject	本邦研修　企業訪問	
Time and Date	1 月 31 日　10:15-11:15	
Venue	JFE エンジニアリング本社 千代田区丸の内 1-8-1 丸の内トラストタワーN 館 19 階	
Attendant	JFE エンジニアリング	・川畑篤敬：常務執行役員 社会インフラ本部 副本部長 ・川嵜祐之：社会インフラ本部 海外事業部 営業部長 ・杉林　泉：社会インフラ本部 海外事業部 営業部 部長
	EIC	・タカ副長官 ・アスチャロ投資促進部長
	JICA	・関
	EIPP チーム	・上松、永井

Minutes

１．JFE エンジニアリング

(a) ミャンマーでの Steel Structure Fabrication Factory をミャンマー建設省の JV で設立し、技術移転を含むプロジェクト実施の経験談を紹介。

(b) エチオピアの道路プロジェクトにおいて、建設省や道路公社（ERA : Ethiopia Road Authority）への技術移転を含め協力したい。

２．EIC

(a) 政府が民間企業と PPP で事業実施するための法制度として PPP Proclamation が必要だが、エチオピアではまだ構築されていない。

(b) JFE エンジニアリングの関心がある社会インフラ分野については、建設省や ERA など関係機関に直接アクセスした方が良い。

(c) エチオピアでは繊維・縫製などの軽工業を中心に外国企業を誘致しており、鉄鋼構造物製作を業務とする企業の誘致には目が向けられていない。但し、機械組立については、アダマ工業団地において繊維・縫製、靴の製造とともに誘致対象となっている。

(d) JFE エンジニアリングがミャンマーで行ったような技術移転は、エチオピアにとって必要である。

以上

ETHIOPIA INDUSTRIAL PROMOTION PROJECT
Investment Promotion and Industrial Park Development

Meeting Information		
Subject	本邦研修　企業訪問	
Time and Date	1 月 31 日　14:00-15:00	
Venue	YKK 株式会社 千代田区神田和泉町 1	
Attendant	YKK	・古川裕二：執行役員ファスニング事業本部事業企画室長 ・その他 6，7 名
	EIC	・タカ副長官 ・アスチャロ投資促進部長
	在京エ大	・ハイル公使
	JICA	・関
	EIPP チーム	・上松、永井

Minutes

１．YKK

(a) 2017 年 8 月 16 日、顧客（アパレルバイヤー）の進出に合わせ市場調査を行う目的で、アディスアベバに駐在員事務所を開設した。現在市場調査担当と機械メンテ担当の 2 名が駐在している。

(b) エチオピアは、中国およびアジアに次ぐアパレルの製造拠点として期待され、顧客も興味を示している。

(c) YKK は、エチオピアのアパレルメーカーに対して、国外の協力会社を通してファスナーを供給している。

(d) YKK がエチオピア国内でファスナーを生産するまでには、次のような課題を解決する必要がある。

- 縫製技術レベル（納期管理を含む）の向上・・引き続き政府のご支援をお願いしたい
- 外貨規制緩和・・外貨規制がファスナーの材料輸入の阻害要因になる可能性がある。政府に規制緩和をお願いしたい。

(e) 結論として、YKK はエチオピアに強い関心を持っていると申し上げる。

２．EIC

(a) YKK については EIC 内部で話し合った結果、「小さく始めて大きくする」という YKK の意向を踏まえ、ボレレミ I 工業団地内の 500m²のレンタル工場を提供する。その後、当初の工場レンタル契約が終了した時点でもっと大きな工場に移って欲しい。ボレレミ I 工業団地の入居企業は、ほとんどが小規模なガーメント企業であり、YKK のような大企業に是非入居して欲しい。工場の規模は小さくて良いので 1 つ工場を設置して欲しい。

(b) EIC では、YKK の誘致担当として Belachew 副長官をアサインした。

３．YKK

(a) YKK は、エチオピアでの製造拠点設立について、日本の本社とエチオピアの駐在事務所の両方で検討している。現地では YKK のジョシー氏が EIC の Belachew 副長官と既にコンタ

クトしている。

(b) そのために、重要なのは YKK にとっての顧客の動向 である。

(c) もう少し、いろいろな政府のご支援をお願いしたい。

４．EIC

(a) EIC は、Belachew 副長官を中心に万全の体制で、YKK 誘致に図る。

(b) 外貨不足問題については、政府は改善にむけ努力しており、今すぐではないが、将来的にはきっと改善する。現在、ほとんどの輸出業者には優先的に外貨割当を行っており、工業団地内外に立地する YKK 等輸出アパレル用のアクセサリー製造業者は、間接輸出（Indirect Export）とみなし、輸出業者と同じように優先的に外貨割当を行う 。

(c) 日本以外のガーメント産業も進出済みであり、YKK の顧客となり得ると考えられる。

５．YKK

(a) 材料の輸入も勿論重要だが、資金調達の観点からは、機械の輸入に係る外貨規制も重要な要素である。

６．EIC

(a) 政府は、製造機械の輸入に関しては、外貨規制のための関与をしない。当該企業は銀行を通さずに、直接、無税で製造機械を輸入できる。

(b) 政府が支援して従業員に基礎的な訓練をした後、YKK が独自の訓練で従業員を教育すればよい。

以上

ETHIOPIA INDUSTRIAL PROMOTION PROJECT
Investment Promotion and Industrial Park Development

Meeting Information		
Subject	本邦研修　企業訪問	
Time and Date	1 月 31 日 16:00-17:00	
Venue	東レインターナショナル株式会社 中央区日本橋本町 3-1-1　日本橋 TI ビル	
Attendant	YKK	・西田　誠：アパレル製品第 3 室長 ・浅山　功：アパレル製品第 3 室
	EIC	・タカ副長官 ・アスチャロ投資促進部長
	在京エ大	・ハイル公使
	JICA	・関
	EIPP チーム	・上松、永井

Minutes

１．東レインターナショナル

(a) 東レインターナショナルは、東レの 100%子会社。アパレル事業では、中国、カンボジア、ミャンマー、インドネシアでアパレル製品を製造している。

(b) 東レインターナショナルは、2014 年に、Ayka 社（トルコ）のエチオピア工場にアパレル製品の委託生産を開始し、以来アパレル製品をエチオピアから米国市場に輸出している。しかし、2017 年に Ayka 社に財務上および製品品質上の問題が発生し、まだ有効な解決策が見つからない状況である。

(c) エチオピアのアパレル業界の成功例を聞きたい。

２．EIC

(a) 貴社の代表団をエチオピアに送り、パートナーや EIC と MOU を結んでは如何でしょう。

(b) PVH、JP/Wuxi、Isabella(スリランカ)、Hyaramani(スリランカ)、Raymond（インド）などもそれぞれ業績を残している。また、Ayka も市場をよく知っているが、マネージメントに失敗したのではないか。

(c) エチオピアの投資環境（インセンティブ、廉価な労働力、OSS 等）の概要説明

３．東レインターナショナル

(a) 東レインターナショナルがエチオピアに投資するとすれば、ボレレミ II 工業団地が第 1 希望となる。

(b) エチオピア政府は、Ayka をどう考えているか？まだ同社マネージメントの合意を得ていないので、秘密にして欲しいが、東レインターナショナルが Ayka を買収することは可能か？また、その事業に政府が資本参加することは可能か？また、EIC は資本参加以外で、東レインターナショナルをサポートしてくれるか？

４．EIC

(a) Ayka はマネージメントに問題があり、財務状況が悪化したと考えている。

(b) Ayka はオープンであり買収に問題はないので、Ayka と東レインターナショナルの交渉により決定して欲しい。政府はエチオピア開発銀行を通して Ayka に融資しているが株主ではない。また、株主になることもない。

(c) EIC は、資本参加以外では、東レインターナショナルをサポートする。

以上

ETHIOPIA INDUSTRIAL PROMOTION PROJECT
Investment Promotion and Industrial Park Development

Meeting Information		
Subject	本邦研修　企業訪問	
Time and Date	2018 年 2 月 5 日　9:00-11:00	
Venue	矢崎総業ワールドヘッドクォーター　静岡県裾野市御宿 1500	
Attendant	矢崎総業	・岩田功：企画室長 ・小西春樹:企画室　欧米部長 ・西川英治：企画室　渉外部長 ・ブラッドリー・ポール：企画室　主査（メインスピーカー） ・上原　亮：企画室　企画部企画チームリーダー
	EIC	・タカ副長官 ・アスチャロ投資促進部長
	在エ日大	・斎田大使　中村書記官
	JICA	・広瀬
	EIPP チーム	・上松、永井

Minutes

１．矢崎総業

(a) 矢崎の標準的なワイヤーハーネス工場は、敷地面積 : 50,000 m^2、建屋床面積 : 30,000-40,000 m^2、従業員数:3,000-8,000（シフト・オペレーションにより異なる）

(b) 矢崎のワイヤーハーネス工場では、ロジスティックが非常に重要である。顧客の自動車会社が発注してから矢崎が納入するまでの期間が短いため、輸送費だけでなく輸送時間も重要である。

(c) 投資環境について質問。

(d) 矢崎では、原材料を輸入し製品を輸出する委託加工を行い、付加価値分だけが製造工場に支払われる方式を採用している。このような委託加工を、エチオピアで行うことは可能か。

(e) ユニクロ、YKK のエチオピア進出の件はどの程度進んでいるか。

２．EIC

(a) アディスアベバ・ジブチ間の輸送は、これまで道路輸送により 3~4 日を要し問題であったが、鉄道と道路による複合一貫輸送により 8 時間に短縮される。

(b) ジブチにはエチオピアの税関事務所があり、通関業務を行っている。

(c) 工業団地は、ジブチに近くロジスティックの便が良いディレダワでも開発されている。

(d) 法人所得税は、業種により 5~10 年間免除され、これに加え輸出企業には 2~4 年の免税期間がある。

(e) 労働組合は、公的なものが 1 つあるだけで、その他の労働組合はない。

(f) 労働者の質向上のため、政府は職業訓練を行っている。（JICA からはカイゼン委員会について紹介があった）

(g) インフレ率は、年 8~10%程度である。

(h) エチオピアには、最低賃金の規定はない。

(i) ハワサ工業団地等の繊維・縫製業では、CMP 呼ばれる委託加工が行われており、矢崎も他

国と同様に委託加工を採用することができる。

(j) ユニクロ及びYKKに関しては、まだ公表できる段階にない。

３．在エ日本国大使館

斎田大使から資料（A4で1枚）を配布し、①治安情勢は安定、②投資のメリット、③問題点と対策について説明。投資家及び投資財産を保護する「二国間投資協定」についても、両国政府間で交渉が開始された旨説明された。

【追加情報】

(a) 矢崎総業がエチオピアに進出すると仮定すると、欧州本部（所在地：ドイツ・ケルン）の管轄下になる。

以上

ETHIOPIA INDUSTRIAL PROMOTION PROJECT
Investment Promotion and Industrial Park Development

Meeting Information		
Subject	本邦研修　企業訪問	
Time and Date	2018 年 2 月 5 日　16:30-17:30	
Venue	ロート製薬　グランフロント大阪オフィス 大阪市北区大深町 3-1 グランフロント大阪タワーB-29F	
Attendant	ロート製薬	・山田邦雄：代表取締役会長兼 CEO ・畠山　薫：エマージング市場開発部長 ・牛山　正昭：エマージング市場開発部地域担当 ・徳冨　早紀：エマージング市場開発部地域担当 その他取締役を含む 3~4 名の方が参加
	EIC	・タカ副長官 ・アスチャロ投資促進部長
	エ外務省・在京エ大	・アクリル外務国務大臣 ・チャム大使 その他 5~6 名
	在エ日大	・斎田大使　中村書記官
	JICA	・広瀬
	EIPP チーム	・永井

Minutes

１．ロート製薬のプレゼン

(a) DVD による会社概要、一般的な商品紹介

(b) 山田会長の説明

エチオピア市場では、当初 Skin Aqua, Sun Cream などの紫外線から肌を保護する商品を導入し、将来的には目薬も導入したい。

２．エチオピア側のプレゼン

(a) ロート製薬から、事前にプレゼン資料を準備してプレゼンを行って欲しいとの要望があったことを、事前にタカ副長官に伝えた。タカ副長官は、セミナーのプレゼン資料は一般向けに投資環境を説明したものなので、会議ではこのプレゼン資料を使わずロート製薬のビジネスにあった内容で簡単に説明し、あとは質問に答えたいとの意向だった。牛山様には、会議開始前にそのことをお伝えし了解していただいた。

(b) アクリル外務国務大臣

エチオピアの投資環境、128 の在外のエチオピア大使館が各国企業とコンタクトしていることなどを流暢に説明。プレゼン資料なし。

(c) タカ副長官

他社訪問時と同様に投資環境について、簡単に説明（上記(a)参照）。

３．質疑応答

(a) 鉄道輸送費

【ロート製薬】

1) なぜ、輸出が安く、輸入が高いのか？（牛山様が以下をホワイトボードに書いて質問した。）

a)輸入（ジプチ-アディス）の場合＝0.051 USD/ton/km

b)輸出（アディス-ジプチ）の場合＝0.025 USD/ton/km

2) 医薬品原材料の輸入輸送費の優遇はないか？

【タカ副長官およびアクリル国務大臣】

1) 政府は輸出振興政策に基づき、輸出時の鉄道輸送費を安く設定したため、ご指摘のように輸出・輸入の輸送費に格差がある。

2) 医薬品原材料の鉄道輸送費については、現在政府内で検討中であり、最終決定に至ってない。したがって、ロート製薬が入手した鉄道輸送費は、最終的なものではない。

3) 鉄道輸送が開始されるとアディスアベバ・ジブチ間の輸送時間は大幅に短縮される（道路輸送　3 日間→鉄道輸送　8 時間）

３．在エ日本国大使館

時間がないため、準備した紙の説明はせず、斎田大使からエチオピアにお越しいただければ、大使館、JETRO、JICA がロート製薬を支援すること、および、政府関係者との面談も八方手を尽くしてアレンジすることを強調。

【所感】

(a) 企業トップが会議に参加されたことで、エチオピア側へ強い印象を与えられた。

(b) ロート製薬は、もっとビジネスライクな会議を希望していたようだが、関係者が大勢いる中での会議で希望通りにはいかなかったことと察する。

(c) 多分、工業団地の廃水処理、電気代、廃棄物処理などについても、EIC に確認したかったことと察する。これらの数値は公表されていないので、3 月にエチオピアを訪問した際に直接 EIC のマネージメントに確認することをお薦めしたい。

以上

ETHIOPIA INDUSTRIAL PROMOTION PROJECT
Investment Promotion and Industrial Park Development

Meeting Information		
Subject	本邦研修　企業訪問	
Time and Date	2018 年 2 月 6 日　9:00-10:30	
Venue	アシックス本社ビル　神戸市中央区港島中町 7-1-1	
Attendant	アシックス	取締役セールス統括部長　西前　学 グローバルスポーツマーケティング統括部 統括部長　松下直樹 スポーツマーケティング部長　大谷　忍 同部　パフォーマンススポーツチーム　田中杏奈 同部　戦略チーム　達川朋美
	EIC	・タカ副長官 ・アスチャロ投資促進部長
	エ外務省・在京エ大	・アクリル外務国務大臣 ・チャム大使 その他 5~6 名
	在エ日大	・斎田大使　中村書記官
	JICA	・広瀬
	EIPP チーム	・上松、永井

Minutes

１．アシックス

(a) アシックス・ヨーロッパ（オランダ）が中東・アフリカを統括。

(b) アッシクスの販売網は、現在アフリカの北部、南部、西部にはあるが、東アフリカにはない。このため、東アフリカへのマーケティングを検討している。

２．エチオピア側

(a) アクリル国務大臣：エチオピアでブランドを広めて、製造を行うことを推奨。

(b) EIC タカ副長官：エチオピアには有名アパレル・ブランドを持つ企業が進出している。こうした企業とのコラボレーションをしてはどうか。また、PVH は他国では生産を外注しているが、エチオピアでは世界で初めて自社工場で生産している。

３．アッシクス

(a) 自社工場は日本だけにあり、ベトナム、カンボジア、インドネシアなどで OEM 生産を依頼している。現状の方式では生産コストが大きくなったため、生産体制の変更が必要。

(b) 西前取締役は、2014 年までホンダに勤務。現地社長として、ホンダのナイジェリア工場およびナイロビ工場の立ち上げを行うなどアフリカのビジネスの経験を有する。

４．在エ日本国大使館

斎田大使から資料（A4 で 1 枚）を配布し、①治安情勢は安定、②投資のメリット、③問題点と対策について説明。投資家及び投資財産を保護する「二国間投資協定」についても、両国政府間で交渉が開始された旨説明された。

以上

ETHIOPIA INDUSTRIAL PROMOTION PROJECT
Investment Promotion and Industrial Park Development

Meeting Information		
Subject	本邦研修　企業訪問	
Time and Date	2018 年 2 月 7 日　9:00-11:00	
Venue	ブラザーミュージアム　名古屋市瑞穂区塩入町 5 番 15 号	
Attendant	ブラザー工業	工業ミシン営業部 部長　北村達也 同部営業企画グループ チームマネジャー　安井康之 プリンティング＆ソリューション事業 SOHO・新興国推進部 部長　岩垂友美子 同部新興国グループ グループマネジャー　多田眞治
	ブラザーインターナショナル	代表取締役社長　山田健司 経営統括部経営企画グループ グループマネジャー　鈴木裕市
	EIC	・アスチャロ投資促進部長
	エ外務省・在京エ大	・アクリル外務国務大臣 ・チャム大使 その他 5~6 名
	在エ日大	・斎田大使　中村書記官
	JICA	・関
	EIPP チーム	・米村、永井

Minutes

１．ブラザー

(a) エチオピアへの工業用ミシン(Industrial Sewing Machines)の流通拠点は、ドイツの Emmerich にある。

(b) この他、ドバイの Star Sewing Machines Trading LLC（代理店（Distributor））を通してエチオピアに納入している。

(c) ブラザーは日本、中国、ベトナムなどにある工場で製造した工業用ミシンをエチオピアの市場で販売を拡大することを目指している。

(d) プリンターもドバイ経由でエチオピアに販売している。

２．アクリル国務大臣

エチオピアでは繊維縫製産業を振興していている。ブラザーがエチオピアで工業用ミシンを製造し、国内販売、及び、他のアフリカ諸国へ輸出してはどうか。

３．EIC アスチャロ投資促進部長

タカ副長官に代わり、エチオピアの投資環境と工業団地についてプレゼンした。

４．在エ日本国大使館

斎田大使から資料（A4 で 1 枚）を配布し、①治安情勢は安定、②投資のメリット、③問題点と対策について説明。投資家及び投資財産を保護する「二国間投資協定」についても、両国政府間で交渉が開始された旨説明された。

以上

別添資料 15

本邦研修実施報告書（2018 年 10 月、EIC 対象）

EIC 本邦研修：個別企業面談

EIC による個別企業との面談

(1) 目的：

1. 対エチオピア投資に関心のある企業に対しエチオピアの投資環境に関する最新情報を提供する。
2. 日系投資家の関心事項について理解する。

(2) 日程：2018 年 10 月 22 日~26 日

(3) 参加者（敬称略）：

- EIC　テメスゲン副長官（IP Division）アンベソ部長（IP OSS Facilitation 部）
- 大使館　アイェレ公使参事官 II（経済・ビジネス課）
- JICA 産業開発・公共政策部　広瀬、上原（一部参加訪問）
- JICA・EIPP　上松、永井

(4) 主要な話題

- 各社共通：戦略的投資エリア、工業団地情報、投資インセンティブなどを EIC が説明。政府は EIC の下に IPDC および Land Bank Development Corporation（新設）を置くことを今月決定し、これによって EIC の権限が強化される。

表：個別企業との面談での主要な話題

訪問日時・訪問先	主な面談内容
10/22 14:00-14:30 **YKK㈱**	• 製造拠点の場所を本年 12 月までに決定する。 • 外貨法案に注目。 • ジブチ港のインフラと治安の状況への関心。
10/22 15:30-16:30 **東レインターナショナル㈱**	• 投資先の Shin Textile Solution Co., Ltd.（韓国）が子会社（Shints）を BLIP に設立。 • 今年 10 月初旬に調査を目的にエチオピアを視察。 • 特に IP 外部に投資の場合のインセンティブに関する質問 • 工場建屋の床面積当り建設費の相場に関する質問
10/23 13:30-14:30 **㈱LIXIL**	• SATO プロジェクト、現在、事業計画を作成しており、それができれば決裁を受けて事業を開始。 • 外貨問題が課題。
10/24 10:30-12:00 **㈱ヒロキ**	• 2013 年時点での賃貸料は 1 米ドル/m2/月、できるだけ 1 米ドル/m2/月に近い価格での提供を希望 • 金融機関をはじめとした企業に説明するため応援のレターを希望。
10/24 16:00-17:00 **ロート製薬㈱**	• キリント IP の土地賃貸料 3.59 米ドル/m2/年は高いとの評価。 • ロジスティックコスト、外貨の制約、製造原料の調達、通信インフラの脆弱性が課題。EIC は、民営化など現況を説明。

10/25 13:30-15:00 ㈱ダイマツ	• エチオピアのビジネス環境紹介のため、概況、皮革産業、繊維・縫製産業などについて説明。

出典：EIPP 作成

(5)　実施結果についての所見（日系企業訪問に出席した EIC 職員に行った聞き取りに基づく）

- 本邦研修実施前に調査団より EIC に対する事前ブリーフィング（各企業に関する情報共有含む）があり、大変有益だった。
- 本邦企業より直接エチオピアへの投資に向けた関心及び課題を理解することができ、今後の投資促進を考えるうえで参考となった。
- 調査団が、企業とのコーディネートを行うことにより、EIC と企業とのコミュニケーションが円滑に行われた。

EIC 本邦研修：個別企業面談

2018 年 11 月 3 日作成

1. EIC による個別企業との面談

(1) 日程：2018 年 10 月 22 日~25 日

(2) 参加者（敬称略）：

- EIC　テメスゲン副長官（IP Division）アンベソ部長（IP OSS Facilitation 部）
- 大使館　アイェレ公使参事官 II（経済・ビジネス課）
- JICA 産業開発・公共政策部　広瀬、上原（YKK、東レインター、LIXIL、ダイマツのみ訪問）
- JICA・EIPP　上松、永井

(3) 主な面談内容

- EIC は、訪問先に関連する戦略的投資エリア、工業団地情報、投資インセンティブなどを中心に説明した。
- EIC は、政府は EIC の下に IPDC および Land Bank Development Corporation（新設）を置くことを今月決定し、これによって EIC の権限が強化されると説明した。
- 主な面談内容を訪問先ごとに以下の表に示す。

表 1：EIC による個別企業との面談内容

訪問日時・訪問先（敬称略）	主な面談内容
10/22 14:00-14:30 **YKK㈱** 古川裕二（執行役員　ファスニング事業本部事業企画室長）、他 4 名	• 【YKK】現在製造拠点の設置場所を選定中であり、既に MOU を締結済みのアダマ IP が第一の候補地。本年 12 月までに場所を決定し、2019 年末から 2020 年はじめに製造を開始できるよう準備する。この件のため、イギリスのコンサルタントを起用している。 原材料を輸入しエチオピアで加工した後、製品の一部を輸出する。操業時には外貨の問題が重要になるため、外貨法案が施行されるかどうかに注目している。 →【EIC】政府は外貨法案を国会に提出しているが、まだ可決されていない。 • 【YKK】ジブチ港から輸出する予定。インフラと治安の状況が気になる。 →【EIC、大使館】新首相就任後ロジスティック業界の変革などが進められている。また、エリトリアとの国交回復により同国の港湾が使用できるようになり、全部で 9 つの周辺国の港湾を代替案として提案できるようになった。
10/22 15:30-16:30 **東レインターナ**	• 【東レ】 投資先の Shin Textile Solution Co., Ltd.（韓国）が子会社（Shints）を BLIP に設立している。 今年 10 月初旬に調査を目的にエチオピアを視察した。

ショナル㈱ 塩村和彦（常務取締役　繊維統括　東京事業場長　アパレル部門長）他 2 名	豊富な労働力、安価な賃金、AGOA 等の特恵関税制度は、エチオピアの魅力である。 合成繊維の 7、8 割がアジアで製造されており、エチオピアには合成繊維の供給者がいない。合成繊維の素材をアジアから船で運ぶだけで約 50 日かかり、リードタイムが 90 日のジャケットなどの生産は今のところ無理。 →【EIC】合成繊維の生産をする Cavico 社(イタリア)が進出済。 • インセンティブに関する質疑応答 ✓【東レ】IP 外部に工場を建設する場合にも、法人所得税免除はあるのか？ ✓→【EIC】IP 内部ほど大きくはないがある。詳しくは、後日回答する。 ✓【東レ】輸入関税が免除される建築資材は何か？ ✓→免除の対象に関する規定はないが、セメントなど国内で調達可能な建築資材は、国内で調達して欲しい。 ✓【東レ】IP 外部の工場から繊維製品を輸出する場合には、何%の輸出関税が課税されるか？ ✓→繊維製品に対して輸出関税は課税されない。 ✓【東レ】IP 内には税関事務所があるのか？ →【EIC】IP 内では OSS として税関事務所での通関手続きとともにエチオピア商業銀行支所での輸出入許可証や L/C の発行が可能。 ✓【東レ】土地の収用に対する保証とは何か？ →【EIC】企業が持つ資産を国際投資保護法の下保護し、かつて行われた国による資産接収による損害がないことを保証することである。 • 【東レ】平屋および 3 階～5 階建て工場建屋の床面積当り建設費の相場を教えて欲しい →【EIC】帰国後調べて連絡する。
10/23 13:30-14:30 **㈱LIXIL** 安藤　豊（Social Sanitation Initiative 部グループリーダー）、他 1 名	• 【LIXIL】SATO プロジェクトについて説明。 ✓ポリプロピレン樹脂を中東から輸入し、エチオピアで成型。製品市場は、エチオピア国内およびケニア、タンザニアなど東アフリカ諸国への輸出。製造拠点は、BLIP-II に予定されている日本ゾーン内に置く。 ✓現在、事業計画を作成しており、それができれば決裁を受けて事業を開始する。 ✓外貨問題が課題。
10/24 10:30-12:00 **㈱ヒロキ** 権田浩幸（代表取締役社長）、西岡正樹（取締役会長）、他 1 名	• 【ヒロキ】2013 年時点でのレンタル工場の賃貸料は 1 米ドル/m2/月であったが、その後上昇している。できるだけ 1 米ドル/m2/月に近い価格での提供をお願いしたい。 →【EIC】レンタル工場の賃貸料はなるべく低く抑え、雇用創出、技術移転、輸出拡大という間接的利益を享受するのが政府の方針。 ✓何をどうするかはまだ言えないが、EIC はヒロキをサポートする。EIC の下に新たに設立される Land Bank Development Corporation が土地の価格に関する決定権を持つことから価格面での EIC の影響力は強化される。 ①現地企業または日本企業との合弁設立、②IP の価格は場所により

	異なることに配慮する、③今後数か月で国際的銀行の支店設立が許可されるので、そこからの融資を検討する、以上 3 点をソリューションとして提案。 • 【ヒロキ】エチオピアでのヒロキの活動について金融機関をはじめとした企業に説明したいので、テメスゲン副長官から応援のレターをいただければありがたい。 →【EIC】すぐに協力するので、レターのドラフトを送って欲しい。また、来週の中頃にヒロキ・アディスに伺いたい。
10/24 16:00-17:00 **ロート製薬㈱** 巌　順花（エマージング市場開発部　副部長）、他 1 名	• 【ロート】キリント IP の土地賃貸料 3.59 米ドル/m2/年は、かなり高い。カンボジアでも 40 年間の賃貸料は 70 米ドル/m2 であり、キリントはその倍である。 →【EIC】EIC の下に設立される Land Bank Development Corporation が土地の価格に関する決定権を持ち、価格面での EIC の影響力が強化される。工業団地の価格は、場所により異なることを配慮して欲しい。 • 【ロート】ロジスティックコスト、外貨の制約、製造原料の調達、通信インフラの脆弱性が課題。 →【EIC】国営ロジスティック企業や Ethio-Telecom の民営化が進められている。 • 【ロート】エチオピアでは様々な変化があるようなので、また行かなくてはならないと思う。
10/25 13:30-15:00 **㈱ダイマツ** 種本裕一（代表取締役社長）	• 【ダイマツ】ダイマツは 1950 年に設立されサンダルおよび靴の製造を行っている。工場は日本（焼津）、インドネシア、中国、カンボジアにある。カンボジアでは特恵関税制度（GSP）を活用して日本のデパートや専門店向けに革製品の OEM 製造をしている。 • 【EIC】EIC は、準備した資料「エチオピア　アフリカの新たな製造拠点」に基づき、エチオピアの概況、皮革産業、繊維・縫製産業などについて説明するとともに、関連するダイマツからの質問に対し回答した。

出典：EIPP 作成

2. EIPP によるフォローアップ面談

(1) 日程：2018 年 10 月 26 日および 11 月 2 日

(2) 参加者：

JICA・EIPP　上松、永井

(3) 主な面談内容

下記 2 社を訪問しフォローアップのための面談をし、結果は EIC および大使館にも共有した。

表 2：EIPP によるフォローアップ面談の内容

訪問日時・訪問先（敬称略）	主な面談内容
10/26 14:00-15:30	• 【東レ】エチオピア、その他のアフリカ諸国およびハイチで新規投資の調査を行っている。10 月初旬にエチオオピア（アディスアベバ、ハワサ、メケレ）で調査した。

東レインターナショナル㈱ 駿河公博（アパレル事業統括部長）、石坂卓也（同部アパレル生産管理課長）	ユニクロ向けのヒートテック（東レ・ユニクロによる共同開発商品）の生産を想定している。 製品市場には欧米を想定。バングラデッシュの東レ関連会社でもヒートテックを生産しているが、同国では米国向けの特恵関税制度がないため米国向けの生産は無理。AGOA が認められるエチオピアなどに利がある。またヒートテックなら通年同じ商品を生産することができるため、日本や中国からの原材料輸送に時間がかかることが大きな問題にならない。 標準工場ではレイアウト面での自由が利かず効率的なオペレーションができないため、自社工場を建設するよう考えている。 →【EIPP】カスタムメイドのレンタル工場（BTS）の考え方やタイで事例が多いことを紹介した。 • 【東レ】工場建設地は IP 内部および外部の両方を検討している。 →【EIPP】（10 月 22 日の補足として）テメスゲン副長官によれば、IP 外部の土地には、連邦政府が所有するものと州政府が所有するものがあり、前者は Land Bank Development Corporation(移行期は IPDC)、後者は州政府の investment bureau または investment unit が担当。また、政府 IP 内部の土地は、Land Bank Development Corporation(移行期は IPDC)が担当する。 • 【東レ】従業員が通勤しやすいよう周辺に住民が多いサイトを選定する。BLIP は周辺住民が少ない地域であるため、Shints が寮を建設しなければない。このことから、BLIP は好ましいサイトとは言えないと思う。 バングラデッシュ企業がメケレ（IP 外部）で繊維・縫製工場を建てており、ここからエリトリアの港まで近いと聞いている。 エ国ではまだ労働者の生産性が低い。メケレのバングラデッシュ企業は、メケレ大学の繊維学科による労働者のトレーニングを受けていると聞いた。また、財務問題がある Ayka 社が労働者を解雇する場合には、その中の熟練労働者を雇いたい。 • 【EIPP】10 月 22 日にご照会の IP 外部の法人所得税免除に関しては、EIC からの回答を待って欲しい。
11/2 13:30- 14:15 **YKK㈱** 小島寛之、吉田和紀（事業企画室）、田中俊輔（アパレル戦略推進部）	• 【EIPP】YKK からの質問に応えて、EIPP の立ち位置を次のように説明した。「EIPP は EIC/IPDC の支援プロジェクトで、プロジェクトメンバーは JICA に雇われたコンサルタントである。EIPP では、EIC が行う投資促進、投資ファシリテーション、OSS サービスに対する支援および IPDC が行う IP の開発・管理運営に対する支援を行っている。」 • 【EIPP】先週エチオピアが国際ファッション EXPO にはじめて出展した際にも EIPP が全面的に支援した。 →【YKK】エチオピアのブースを訪問したが、盛況の様子だった。また、民族衣装やコーヒーなどエチオピアらしさが印象的だった。 • 【YKK】ビジネスを小さく始めて状況に応じて拡張するのが YKK の方針。自社で工場を建設するのではなく、アダマ IP のレンタル工場を借りることにしたのも、その方針に沿った選択である。 • 【YKK】YKK の操業開始までのスケジュールは、10 月 22 日に説明した通り。11 月中の手続き終了を目途に投資許可・会社登記の手続きを開始した。 →【EIPP】EIC は EIPP の支援の下、Investment Application Process（英語版および日本語版）をまとめた。10 月 22 日に既に YKK にコピー

	を差し上げているので、参考にして欲しい。 • 【YKK】工場内で使用する機械や機器に対する関税免除は受けられるか？（バングラデシュでは法の運用に問題があったための質問） →【EIPP】既に 22 日お渡しした EIC 作成の資料に記載されている通り機械や機器に対する関税免除は受けられる。また、EIC は EIPP の支援の下で、ボレレミ IP で提供されている OSS サービスのガイドブックを作成中である。完成後には、EIC が他の工業団地にも展開する予定と聞いている。 • 【YKK】YKK はイギリスのコンサルタントを雇って投資手続きを行っている。YKK は手続きに関する確認が必要になれば、EIPP チームにも連絡する。

出典：EIPP 作成

以上

ETHIOPIA INDUSTRIAL PROMOTION PROJECT
Investment Promotion and Industrial Park Development

Wrap-up Meeting: After Apparel Expo

Date and time: Thursday 25 October, at 10:00-12:00

Venue: Embassy of Ethiopia, Japan

0. DISCUSSION POINTS

1. After Expo…
   （1）Achievements
   （2）Challenges
2. Questions from Expo participants
3. Way forward: follow-up after Expo, roles of each stakeholder
   （1）EIC
   （2）EoE
   （3）Companies (Akaki & Oasis)
   （4）EIPP

1.(1) ACHIEVEMENTS

EIC:

- Well organized, attracted many investors;
- Good presentation with Ethiopian flag and coffee, etc.;
- Language support (E-J) facilitated interactions with Japanese companies;
- Japanese-translated information was well shared;
- Well introduced of Ethiopia to Expo participants;
- Comparative advantage of Ethiopian textile and garment was well presented.

1.(1) ACHIEVEMENTS (Cont.)

EoE:

- Good representation by EoE, EIC and private sectors;
- First opportunity for Ethiopian textile & garment to join Expo in Japan;
- 2 companies (i.e. Akaki, Oasis) promoted whole industry, not only their own companies;
- Many business meetings with foreign companies as well.

1.(1) ACHIEVEMENTS (Cont.)

Companies (Akaki, Oasis):

- Many visitors came to Ethiopia booth;
- Japanese investors interested in business with Ethiopian companies;
- EoE/EIC/Companies had a unified goal to promote Ethiopia;
- Sell Ethiopia to Japanese investors well.

1. (2) CHALLENGES

EIC:

- Communication/language issue outside the booth;
- Japanese investors prefer to supply rather than invest; difficult to convince the investors to invest Ethiopia;

EoE:

- Small order management (discounted by Ethiopian Airlines for shipment?)

  → Challenge for supply side to order big volume, too

Companies:

- Information of E-J bilateral agreements, such as duty exemption, should be more expressed;
- Labor cost in Vietnam/Bangladesh will be increased

  → How should we use this chance to promote Ethiopia?
- Continuous representation/promotion at EXPO

2. QUESTIONS FROM INVESTERS

- Incentives for investment
- Wage of factory workers (average/real-base)
- Logistics (port), delivery days between Ethiopia and Japan
- Macro economic situation (GDP growth rate, labor force, youth, etc.)
- Bureaucratic procedures for investment
- Availability of skilled/trained labor
- Availability of raw materials
- Foreign exchange
- Security
- Investors should establish a joint venture with local companies

3. WAY FORWARD

Possible inquiries from investors	Responsibility
Price and quality of products, minimum order	Individual companies
Tax for exporting products to Japan	EIC
Delivery time between Ethiopia and Japan	EIC
Wage (average/real-base)	EIC & companies
Lead time (production)	Individual companies
Capacity to accept special orders	EIC

3. WAY FORWARD (Cont.)

Possible inquiries from investors	Responsibility
Capacity to manufacture particular products (e.g. socks, stuffing animals, gloves, accessories, etc.)	EIC
Suppliers of materials and fabric	EIC & companies
System of product inspection, availability of inspectors	EIC & companies
Availability of agents/brokers	EoE w/ Chamber of Commerce
No. of operation days at factories	EIC

3. WAY FORWARD (Cont.)

Possible inquiries from investors	Responsibility
Track record of business with Japanese companies: i.e. orders from/investment by Japanese companies	EIC & EoE
Track record of business with foreign textile and garment companies	EIC
Foreign currencies	EIC & National Bank

Thank you!

別添資料 16

本邦研修実施報告書（2018 年 11 月、IPDC 対象）

Industrial Parks Development Corporation（以下 IPDC）本邦研修

2018 年 12 月 25 日

(1) 目的：

- 従来の生産機能のみに特化した工業団地の開発・運営から、労働者の住宅整備や環境にも配慮した工業都市に関する知識を得る
- ICT パークやハイテクパーク等の第 2 世代工業団地に関する視察を行い、今後のエチオピア国内での計画に応用する
- 環境問題（廃棄物処理、緑化率、下水処理等）への配慮・取組方法について理解する

(2) 日程：2018 年 11 月 10 日~19 日

(3) 参加者（敬称略）：

表：参加者

組織	名前	所属
IPDC	Wondossen Teka	アフターケア部門、部長
	Araya Hailu	デザイン、建設部門、部長
	Murad Hussen,	マスタープラン部門、部長
	Bereket Fisseha	住宅部門
	Melat Fesehaye	アフターケア部門
Japan International Cooperation Agency (JICA)	広瀬　恵美	産業開発・公共政策部
	上原　実彩子	産業開発・公共政策部
	野崎　みゆき	コーディネーター（通訳）
Ethiopia Industrial Promotion Project (EIPP)	深島　一郎	日本立地センター
	谷口　豊	日本工営

出典：EIPP 作成

(4) 内容

表：講義内容及び各工業団地の視察内容

訪問日時、 講義又は視察先	内容
11/12　13:00-15:00 **日本の工業団地開発について（講師：伊藤清武）**	• 日本の工業団地の概要と工業団地開発の流れ • 大都市圏の工業団地、地方の工業団地、研究学園都市等、各種工業団地の開発手法 • 今後求められている工業地再編
11/12　16:00-16:30 **豊島区新庁舎**	• 環境対策、緑化を重点とした建築設計手法 • 屋上緑化及び壁面緑化の方法及びメンテナンス方法 • 官民連携での開発手法

11/13　10:00-11:30 **ジャーマンインダストリーパーク**	• 外資系企業（ドイツ企業）によるハイテクビル開発の取組 • ハイテク企業を誘致する為の必要な機能・施設・設備・環境 • 研究・工場・倉庫部分の仕様（構造・設備）
11/13　13:30-14:30 **川崎ゼロ・エミッション工業団地（エコタウン会館）**	• 日本のエコタウン PJ と川崎エコタウン PJ のコンセプトとマスタープラン • 川崎ゼロ・エミッション工業団地が取り組んでいる環境活動
11/13　15:00-16:00 **川崎ゼロ・エミッション工業団地（浮島処理センター）**	• ごみの回収方法、処理工程、ゴミ種別毎の処理方法 • ごみ焼却時に発生する「熱」についての説明とその再利用方法
11/14　09:45-11:30 **柏の葉オープンイノベーションラボ**	• 柏の葉スマートシティの全体構想及びシステム • 環境配慮への取組とエネルギー管理システム • イノベーション促進に関する仕組みと体制
11/14　13:00-14:50 **東葛テクノプラザ**	• 産業支援施設として、新産業創出とベンチャー企業育成の為に必要な機能・施設・環境 • 施設運営方法及び入居企業に行っている支援内容 • 産学官連携による企業支援の方法 • 入居企業訪問とその事業説明
11/14　15:00-16:20 **駅前複合開発**	• 駅前複合開発の概要及び全体構成 • フロアープラン及び業種毎のゾーニング計画
11/15　09:20-09:50 **厚木森の里**	• 工業団地、住宅地、オープンスペース等の全体構成 • 緑化状況と緑化促進方法
11/15　10:30-12:00 **神奈川県中津内陸工業団地**	• 工業団地開発と協同組合設立の背景と概要 • 各入居企業へ行っている独自の設計基準と現在の工業団地の全体計画 • 協同組合が、実際に行っている運営管理と運営方法
11/15　15:00-16:30 **久喜菖蒲工業団地**	• 地域の特長（池）を生かした全体計画 • 環境と住民を考慮した工業団地開発手法 • 運営主体及び、池の水を活用した運営方法
11/16　09:05-10:45 **宮城県庁（講義：宮城県の投資環境について）**	• 企業誘致における宮城県の取り組み • 宮城県のインフラ、教育環境、労働力及び労働コスト等の投資インセンティブ
11/16　13:00-14:30 **仙台北部中核工業団地、大和流通・工業団地、大和リサーチパーク**	• 地方都市の工業団地開発の手法 • 地方都市への企業誘致の取り組み • 入居企業独自の環境に関する取り組み
11/16　15:30-16:30 **泉パークタウン**	• 全体開発の歴史、現在の計画及び今後の展開 • 住宅、工業団地、ホテル、高齢者住宅、公園、レクリエーション施設等のマスタープラン

出典：EIPP 作成

(5)　実施結果についての所見（研修員からの評価及び意見）

- 本邦研修実施前に調査団より研修員に対する事前ブリーフィング（各工業団地に関する情報共有含む）があり、事前の知識が身につき、研修での理解が深まった。
- 工業団地の視察先及び講義内容は、現在のエチオピア状況を理解してスケジュールを組んでおり、有益であった。ただし、日本の文化や歴史がわかるような施設への訪問も組み込み、日本を理解できる視察先があれば、もっと良かった。

別添資料 **17**

第 1 回 JCC 議事録（2018 年 3 月 28 日、IPDC）

Meeting Information		
Subject	First Joint Coordination Committee (JCC) meeting for IPDC	
Time	2:00 PM - 3:00 PM on March 28, 2018	
Venue	IPDC, Meeting Hall	
Material	PPT on project progress, Progress Report, Inception Report	
Attendant	IPDC	Mr. Amare Asgedom: Deputy CEO for IP Development Mr. Shiferaw Solomon: Deputy CEO for IP Management
	Embassy of Japan	Mr. Kazuto Nakamura, Second Secretary, Economic Division
	JICA	Mr. Ken Yamada: Chief Representative Mr. Hiroyuki Tanaka: Senior Representative Mr. Yasuto Kikuma: Representative Ms. Emi Kurita: Project Formulation Advisor Mr. Gebeyehu Tuji: Programme Officer
	JICA Project Team	Mr. Teddy Masanori: Team Leader Ms. Kazuyo Kaneko: Sub Leader Ms. Chiaki Shibayama: Project Coordinator Ms. Tsion Lemawossen: Project Staff Ms. Bezawit Yohannes: Project Staff Ms. Melon Girma: Project Staff

Discussion points

1. Presentation on the annual progress (Feb. 2017 - Feb. 2018) report for IPDC.

Presentation on the annual progress report for IPDC was made by Mr. Teddy Masanori, EIPP Team Leader.

2. Comments and Questions

Mr. Amare

There are more than 10 Industrial parks that IPDC operates nowadays. IPDC expects JICA to support IPDC more than now. With regard to IP development, IPDC has some issues as follows;

- IPDC is currently facing so many housing-related challenges. IPDC needs a support for new housing department.
- IPDC would like to get information about different innovated concepts from another country Industrial Parks experience.
- Another issue is the national masterplan. IPDC was expected to receive budget from the government for this activity but has not got yet. IPDC needs JICA's support to (1) develop the master plan in-house jointly with IPDC master plan department, or (2) recruit national consultants to develop M/P. For monitoring purpose EIPP experts will be able to collaborate with IPDC staff.
- Environment is also an important issue. IPDC has challenges on water treatment plant because of the quality of deep wells, different streams and rivers nearby treatment plant or ZLD discharge areas. For this reason IPDC is in need of Water Specialist.
- IPDC would also like to ensure the auditing process for water and power efficiency, and IPDC needs to have a working manual for auditing and efficiency.

Mr. Shiferaw

- IPDC is responsible for promotion of individual IPs, even EIC is in charge of overall investment promotion. IPDC needs support on IP promotion strategy.
- SOP will be a workable document for the operation of industrial parks. IPDC kindly asks JICA study team to finalize this document as soon as possible.

- In addition to study tour, IPDC would like to ask for short-term training for a period of 3-6 months for its experts to learn how industrial parks work in different countries, especially in relation to wastewater treatment, IP management and development.

JICA Ethiopia Office

- Elaborated needs of IPDC on housing issue, and current status of study supported by DfID
  (Mr. Amare) DfID recruited a consultant to conduct a study, and it is almost finishing. It would be beneficial to conduct exposure visit in different countries.
- Future prospective of IPDC's financial status: whether IPDC receives budgets from the government or the organization will become financially independent.
  - (Mr. Amare) IPDC is expected to manage expenses and benefits by themselves.
- Responsible ministry of agricultural industrial park and ICT park
  - (Mr. Amare) Ministry of Communication and Information Technology is responsible for IT parks, and agricultural industrial parks are under responsibility of Ministry of Agriculture. IPDC is in charge of industrial parks developed by themselves. Mojo Leather City is handled by IPDC.
- The current condition of Mojo leather city.
  - (Mr. Amare) The government is planning to collect all leather fabrics in Mojo.

(End of Document)

別添資料 **18**

第 1 回 JCC 議事録（2018 年 4 月 3 日、EIC）

Meeting Information		
Subject	First Joint Coordination Committee (JCC) meeting for EIC	
Time	Tuesday, 3 April 2018, at 9:15 AM - 10:30 AM	
Venue	EIC Meeting Hall	
Material	Progress Report, Inception Report, and PPT slide	
Attendant	EIC	Mr. Fitsum Arega: EIC Commissioner Mr. Teka Gebreyesus, Deputy Commissioner, Investment Division Mr. Abebe Abebayehu Chekol, Deputy Commissionaire, Policy Research and Improvement Division Mr. Ewnetu Feleke, Chief of Staff Ms. Hanna Arayaselassie, Chief of Staff
	Embassy of Japan	Mr. Kazuto Nakamura, Second Secretary
	JICA	Mr. Ken Yamada: Chief Representative Mr. Hiroyuki Tanaka: Senior Representative Mr. Yasuto Kikuma: Representative Ms. Emi Kurita: Project Formulation Advisor Mr. Gebeyehu Tuji: Program Officer
	EIPP	Mr. Teddy Masanori: Team Leader Ms. Kazuyo Kaneko: Sub Leader Ms. Chiaki Shibayama: Project Coordinator Mr. Abraham Zewdu: Project Staff Ms. Bezawit Yohannes: Project Staff

Minutes

1. Presentation on the annual progress (Feb.2017-Feb.2018) report for EIC.

Presentation on the annual progress report for EIC was made by Mr. Teddy Masanori, EIPP team leader

2. Comments and Questions

Mr. Fitsum

- Mr. Fitsum appreciated the way Japanese brings work ethics and discipline to Ethiopia's industry, and the works that have been done in promoting investment activities.
- One day seminar organized by JETRO was very helpful compared to study tour which required to hold many staff time for longer period. Therefore, EIC has only little interest in study tour, and it is necessary to plan and coordinate very carefully if it is to be conducted
- The Project should be demand-driven and EIC will identify priority area for JICA support.
- Regarding investment promotion, Japanese investors tend to take cautious approach and it will be better to focus on approaching Japanese companies from third countries such as Kenya, India, Dubai and other countries, instead of the ones based in Japan.
- YKK based in Egypt is interested to expand their business to Ethiopia, and JICA could help EIC in bringing them to invest in Ethiopia.
- Even bringing only one big company, such as UNIQLO, in Ethiopia will greatly help EIC in attracting related Japanese textile companies.
- Japan has a good advantage in customer service and it can be our benchmark.
- Regarding investment promotion strategy, Japan does not have much experience in the attraction of FDI, therefore it is better to concentrate in sector Japan has good advantage instead of providing support on this sector.

- One of the current scope of cross-ministerial business environment improvement is already supported by the World Bank through Doing Business, and EIC sees this item to be taken out of JICA's support.
- We need support from Japan in areas of eco-friendly industrial park.

Mr. Abebe

- EIC will identify priority areas for JICA's support according to Japan's comparative advantage, based on which further discussion should be done between EIC and JICA.
- The way the project is executed should be changed by improving the quality of deliverables and making activities more demand driven (fulfill the interest of the commission) to achieve the project target effectively.

Mr. Teka

- Project team is working hard to provide expected outputs but the project scope is too broad. To be more effective, it is better to focus on some specific tasks
- The visit program had a lot of activities, hence it is a little complicating as different types of activities were squeezed in a tight schedule (e.g. observation visits, lectures, business meetings and investment seminars). It is better to focus on specific objectives.
- EIC will internally discuss areas of support and inform JICA the results.

Mr. Ewnetu

- Japan has good experience in promoting local investors and it would be good if this could be applied to Ethiopia**.**

Ms. Kurita

- JICA agrees that the project should be demand driven and can restructure the project design for the remaining period according to the needs of EIC.
- For EIC's information, IPDC expressed its needs for EIPP's support in its JCC earlier held including Industrial Park Development Guideline and Standard Operating Procedure.

Way forward

- EIC will identify and select priority activities, and notify to JICA within 2 weeks of JCC: i.e. the week of 16 April.
- Mr. Abebe was assigned to identify EIC's priority in terms of EIPP support.
- Based on the list of EIC's needs, EIC and JICA will discuss on the proposed tasks and finally reach consensus.

(End of Document)

別添資料 19

2 年次活動計画について

Planned Activities in July 2018-May 2019

Based on the recent discussions with IPDC and EIC respectively, it was agreed that the EIPP will focus on the following activities for the rest of the project implementation.

1. Industrial Parks Development (Counterpart: IPDC)

(1) Finalize the Industrial Park Development Guideline (IPDG) and Standard Operation Manual (SOP).

EIPP is currently revising the documents based on the comments received by IPDC. Once the document is finalized, the Project team will brief relevant directorates within IPDC.

(2) Strengthen industrial park business sustainability.

The Project reviews standard agreements for off-site infrastructures and draft maintenance manual (supported by engineer team).

Also, a two-month OJT program will be conducted for IPDC staff: 4 staff will be sent to Phnom Penh SEZ (PPSEZ) in Cambodia.

2. Investment Promotion (Counterpart: EIC)

(1) Identify potential Japanese investors for targeted investment promotion in priority sectors

EIPP will identify potential Japanese investors by the following approaches:

a) The 6th Fashion Wear Expo Tokyo[1]

EIPP is planning to run a booth at the 6th Fashion Wear Expo Tokyo which is scheduled to be held in Tokyo on 22-24 October 2018. This Expo attracts buyers throughout the world and allows the participation of foreign companies and governments. Through participation in this Expo, EIPP intends to provide opportunities for Japanese apparel companies to look for partners to produce their own branded products in Ethiopia. There are two purposes: (1) to make Ethiopia's textile and apparel industry know, and; (2) to pass on information of the visiting companies to the Ethiopian counterpart. Ethiopian companies are welcome to participate with conditions that the advertisement and selection of the companies is arranged by the Ethiopian side, and the financial expenses are covered by the participating companies. The booth will be run under the name

[1] http://www.apparel-expo.jp/en/home_autumn/

of the Ethiopian Government / Embassy of Ethiopia.

b) Investment seminar in Tokyo metropolitan area
The Project plans to organize an investment seminar. For the venue, Tokyo metropolitan area is a tentative option. Nikkan Kogyo Newspaper (a Japan-based newspaper company specializes in manufacturing sector) is interested to organize the seminar together with Embassy of Ethiopia in Tokyo.

(2) Facilitate interaction and contact with potential Japanese investors
Once the potential Japanese investors are identified through the above approaches, EIPP facilitates interaction and communication with those companies by arranging business meetings in Japan and Ethiopia.

(3) Prepare and update PR tools in Japanese
EIPP has been developing PR tools in Japanese language such as brochures, quarterly newspapers, etc. The Project continues to develop them to keep the interested Japanese investors updated on Ethiopia's investment climate and industrial parks.

3. OSS and Aftercare Service at Bole Lemi Industrial Park (Counterpart: EIC)

(1) Prepare a brochure regarding OSS at EIC head office and Bole Lemi IP
EIPP has collected information on application procedure of OSS at EIC head office and BIP since last year. EIPP is planning to update such information and prepare a brochure of application procedure to provide to potential Japanese investors to Bole Lemi IP.

(2) Support to improve OSS implementation and aftercare services especially for investor complaint handling
EIPP is planning to provide support for improving OSS implementation and aftercare service at BIP especially for investor complaint handling through proposing improvement of collection and response system for the comments and claims from tenants.

4. Activities focused on Bole Lemi Industrial Park (Counterpart: IPDC)

In addition to the above activities, the EIPP will focus its support on Bole Lemi Industrial Park. Below are some specific activities planned to be implemented:

(1) Support on housing issues (improve workers' living environment).
(2) Support on environmental issues (improve sewerage treatment and solid waste

management).

(3) Support master planning of Bole Lemi to be established as an Smart Industrial City.
(4) Support to improve OSS implementation and aftercare services including investor complaint handling. See item 3(2).
(5) Support to bring Japanese investors to Bole Lemi 2.

5. Japan Study Tour (Counterpart: IPDC)

EIPP organizes the study tour in Japan in relation to the industrial park development and operation/management. It is tentatively scheduled in November 2018 for about 10 days (including travel time). Details of the program shall be shared once prepared.

(End of Document)

別添資料 **20**

第 2 回 JCC 議事録（2019 年 3 月 12 日、EIC）

Meeting Information		
Subject	Second Joint Coordination Committee (JCC)	
Date and Time	Tuesday, 12 March 2019, 9:30 - 11:30	
Venue	Meeting room at EIC	
Material	PPT, Progress Report	
Attendant	EIC	Ms. Temesgen Tilahun, EIC Deputy Commissioner Mr. Fekadu Nugussie, EIC Project Manager
	JICA	Mr. Makoto Shinkawa, Chief Representative Mr. Takeshi Matsuyama, Senior Representative Mr. Hiroyuki Amaya, Project Formulation Advisor Mr. Gebeyhu Tuji, Program officer Ms. Sara Semi, Public Relation Officer
	JETRO	Mr. Takao Seki, Director General Mr. Tewdros Getachew, Project Manager
	Embassy of Japan	Mr. Nobohisa Edamura, Second Secretary
	EIPP	Mr. Teddy Massanori, Team Leader Mr. Kazuyo Kaneko, Sub Team Leader Mr. Hiroshi Uematsu, Investment Attraction Mr. Abraham Zewdu, Investment and Marketing Officer Ms. Bezawit Yohannes, Marketing and Operation Assistant

Minutes

1. **Presentation on the annual progress (Feb. 2018 - Jan. 2019) report for EIC.**
   Progress of the project activities from February 2018 to January 2019 was reported by Mr. Teddy and Ms. Kaneko.

2. **Comments and Questions**

   Comments on Phase 1

   Mr. Temesgen (EIC)

   - The report could have been great if it includes quantitative comparison: i.e. target of the project, inputs by EIPP (e.g. human resource, financial resource), and outputs and outcomes. This will help EIC to evaluate achievements/success of the project's intervention.
   - Business meetings with Japanese companies were assessed very successful, but a follow-up system was not very clear; i.e. who is responsible to follow-up after the meetings. EIC would like to be updated on the status of these B2B meetings.
   - PR tool prepared by EIPP is quite an achievement, but the Project may want to consider using other platforms in order to spread the information more widely, such as a newly-created "iGuide Ethiopia" (https://www.theiguides.org/public-docs/guides/ethiopia).
   - EIC is focusing on new economic strategy and needs JICA's support for research and development in specific sectors (e.g. leather, power, etc.).

   Mr. Seki (JETRO)

   - In response to Mr. Temesgen's comment on follow-up system, JICA, Japanese Embassy and JETRO regularly update the information. Recently, JETRO organized a visit to Europe for Japanese companies, and invited Mr. Teka on behalf of EIC.

All Japanese stakeholders are making follow-ups formally and informally.

- Japanese companies tend to start small and they are not willing to make huge investment upon their establishment.
- In the above context, many companies start with liaison/representative office at initial stage, and gradually set up for full-scale manufacturing stage.
- JETRO and JICA cannot enforce Japanese companies to come and invest in Ethiopia: what we can do is just to keep knocking their doors with patience.

Mr. Tewodros (JETRO)

- It is better for the Project to focus its support on EIC's strategic area.
- EIPP should provide EIC with better project management model to improve its operational efficiency.

Mr. Fekadu (EIC)

- It is not sure why Japanese investors do not invest in Ethiopia, and it is important for EIC to know what kind of strategy the organization needs to follow for attracting Japanese companies.

Mr. Teddy (JICA-EIPP)

- Evaluation of the works with the documentation can be done, however evaluating the service activities which is not depending on the project team in a quantitative way is difficult; e.g. the Project supported EIC to improve investment climate (e.g. OSS, investment promotion) for attracting Japanese investors, but it is eventually investors' decision whether they invest in Ethiopia or not.

<u>Regarding the next phase:</u>

Mr. Temesgen (EIC)

- It is necessary to reconsider the scale of the next phase: a proposal by EIPP during the presentation seems to scale down from the current phase.
- During the current phase, EIC officials traveled to Japan to meet with Japanese companies, and it is considered very successful. For the next phase, the Project may want to consider bringing Japanese investors to Ethiopia to let them see the current economic and investment climate in the country.
- For support to OSS Implementation at BLIP, it is better to develop a standard OSS manual which applies to all the industrial parks across the country, whether publicly or privately owned.
- Additionally, the project is better focus on improvement of operation and management at industrial park, not only OSS implementation.

3. Closing Remarks by Mr. Shinkawa (JICA)

- The JCC is supposed to receive a report not only from the Project team, but also from the counterpart. Since the Project is owned both by JICA and your government, it was expected that EIC come up with its report as well.
- Recently I (Mr. Shinkawa) met the newly assigned Ambassador to Japan, who was previously the Ambassador to US. During the meeting, he showed great interest to attract Japanese investors and we look forward to working with him.

- There are five challenges that hinder Japanese companies from making investment decision. These are;
    1) issues on foreign currency and opening LC,
    2) cost/prices,
    3) low worker's productivity,
    4) logistic cost, and
    5) power interruption
- If the above problems are addressed, it would be easier to attract Japanese companies.
- For future assistance, the Japanese side would like to know what specifically EIC is expecting from Japan.
- Japanese government will closely work with EIC to further promote Japanese investment flow to Ethiopia.

Mr. Temesgen (EIC)

- EIC should have prepared a report to be presented at JCC and apology is made that it was not done this time.
- Based on the comments from JETRO and JICA, EIC is ready to adjust its policy to create good investment climate for attracting Japanese investors.
- EIC will improve its follow-up system and provide feedback.
- Overall, EIC appreciates the effort that has been made by the Project to promote Japanese investment, as well as its support for industrial parks

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別添資料 **21**

第 2 回 JCC 議事録（2019 年 3 月 12 日、IPDC）

Meeting Information		
Subject	Second Joint Coordination Committee (JCC)	
Date and Time	Tuesday, 13 March 2019 at 14:00-15:00	
Venue	IPDC Meeting hall	
Material	PPT, Progress Report	
Attendant	IPDC	Mr. Amare Asegedom, Deputy CEO Mr. Shiferaw Solomon, Deputy CEO
	JICA Ethiopia	Mr. Takeshi Matsuyama, Senior Representative Mr. Hiroyuki Amaya, Project Formulation Advisor Ms. Sara Sem, Public Relations Officer
	JETRO	Mr. Tewodros Getachew, Project Manager
	JICA Project Team	Mr. Teddy Masanori, Team Leader Ms. Kazuyo Kaneko, Sub Team Leader Mr. Hiroshi Uematsu, Investment Attraction Ms. Tsion Lemawossen, Civil Engineer (Master Plan) Ms. Melon Girma, Engineer (IP Promotion) Mr. Biruk Tilahun, Urban Planner

Discussion points

1. Discussion on Progress of project activities

Progress of project activities for February 2018 to January 2019 and proposed activities for the next phase by Mr. Teddy Masanori.

- Final document of Industrial Park Development Guideline (IPDG) and Standard Operation Procedures (SOP) was submitted. In addition, preparation of similar document for ICT Park was requested by IPDC.
- For additional documents on ICT Park, the team discussed with Ms. Feben (ICT park manager) and it will be the continuous task to Phase-2.
- Draft Bole Lemi Smart Industrial City (BL-SIC) Development Plan was submitted in December 2018. For finalization, land use plan for ICT Park is necessary to be coordinated between ICT and Planning departments.
- The green shade and smart OSS building are being finalized based on given comments and it will be submitted within Phase-1. It is only left with the division part.
- EIC requested the OSS guideline for entire Industrial Park across the country.

2. Comments from IPDC

- It is better to identify the challenges that IPDC are facing and the way IPDC addresses those issues.
- Remaining document for ICT Park are important to be finalized during this Phase-1 and activities for Phase-2 will concentrate more in practice.
- ICT Park land use should be practical from investment attraction point of view.
- For Phase-2, not only national team is assigned, but IPDC is need of real technology/skill transfer from Japanese or international experts.
- About a month ago there was a stakeholder meeting which discussed business development, waste water treatment, etc. Development Partners are expected to present

their support plan.

- For OSS system in Bole Lemi, it is better to implement a new solution or model since the Hawassa system is not satisfactory.
- IPDC is expecting training or study tour abroad to gain knowledge. Follow-up after the training/study tour is also necessary.
- The current Master Plan has to be legal framework or plan, and it should be accepted by the Government and implemented by IPDC. For implementation, IPDC should show Addis Ababa City administration how to relocate their existing wastewater treatment plant including its financial plan. Land use for ICT Park needs to be practically considered.
- Business/strategic plan for electricity business is being prepared together with EIC, with support of Tony Blair Foundation, therefore it is not necessary to include as a main task for Phase-2.
- IPDC hopes this is not the last of JICA support and it would like to work together.

3. Comments from EIPP

- One of the challenges IPDC faces is that the situation around the industrial parks and investment promotion is changing very fast, and the approach taken should meet the needs under the moments.
- The current situation that approach might be different, because the capital investment is so high. World Bank and Chinese Bank wanted to give loan but on the other hand the Ethiopian government has a challenge in terms of liability.
- All Phase-1 documents will be finished and submitted by the end of April.
- Power distribution business in Ethiopian is done solely by the Ethiopian Electric Power Corporation (EEPCo). EIPP has been suggesting that one of the big income sources is power business. EEPCo can set up a distribution line to the substation near IPs, but from there to inside industrial parks and each tenant factory it is recommended that IPDC takes care of the power distribution. IPDC can invite private companies to distribute the power so as to generate income out of this business.

4. Comments from JICA

- The way forward for Phase-2 is one of the priority projects to support the government to make the park sustainable, and JICA would like it to be continues.

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