



SKILLS FOR INDUSTRY

Making Uganda's Industrial Parks more productive by addressing their specific skills gaps and their requirements.



Ramathan Ggoobi
October 2021

**FRIEDRICH
EBERT
STIFTUNG**

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FOREWORD

The creation of jobs is essential to defuse the time bomb of the so-called “youth bulge” and ensure the transition of Uganda’s economy towards becoming a middle-income country.

Industrial parks can be seen as laboratories in that transition. Here, so goes the theory, government agencies, investors and companies can experiment with ways to create the best conditions for investments and job creation – before the successful practices and solutions can then be adopted on a nation-wide scale.

Yet, what kind of jobs are demanded by foreign and Ugandan firms locating in those industrial parks? What skills and talents are available, being churned out by the national education system or vocational training facilities? And how can demand and supply be better matched?

Whereas there is a lot of research about the creation, organisation and impact of industrial parks in Asian countries, already analysing the pros and cons of a “new generation of industrial parks”, there are few studies in Uganda about the experiences with some of those industrial parks still in its infancy. This study by Ramathan Ggoobi is trying to fill that gap by addressing the specific mismatch of skills and the missing conditions for improving on the performance of the quickly expanding landscape of industrial parks.

Due to the restrictions of COVID-19 standard operating procedures (SoPs) the scope of the study had to be reduced. Yet, it still provides a small but representative sample with interesting, and sometimes unexpected results. Who for instance would have expected that firms in Uganda’s industrial parks have fewer problems in finding people with adequate skills, but complain more about general educational and social limitations of their workforce.

As any good study, this one raises as many new questions as it answers. And it points the way to where further research is needed - on those missing social skills, on working conditions, on union organisation and on environmental aspects in those industrial parks.

For the Friedrich-Ebert-Stiftung (FES) focusing on industrial parks seemed to be the logical next step after having published a series of studies on aspects of industrialisation, all by Ramathan Ggoobi in our much appreciated collaboration with the Makerere University Business School and its Economic Forum: Economic Development and Industrial Policy in Uganda (2017); From Paper to Practice: Implementation of Uganda’s Industrialisation Agenda (2019); Import Substitution: Uganda’s Post-COVID-19 Industrial Policy Strategy (2020).

Rarely can the commissioner of economic papers be so happy and ensured about their direct impact as FES - given the fact that Ramathan Ggoobi has recently been appointed as Permanent Secretary and Secretary to the Treasury (PS/ST) of the Ministry of Finance, Planning and Economic Development - when the author has written his own script and will have the opportunity to implement the policy recommendations from this series of publications to the largest degree possible.

For him personally this might be both a blessing and a curse. But it will, no doubt, be for the better of Uganda.

Rolf Paasch

Resident Representative
Friedrich-Ebert-Stiftung (FES), Uganda

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LIST OF **ACRONYMS**

COVID-19	Coronavirus disease
BDS	Business Development Services
BUBU	Buy Uganda Build Uganda
FES	Friedrich-Ebert-Stiftung
GIZ	German Agency for International Cooperation
GoU	Government of Uganda
ILO	International Labour Organisation
KIBP	Kampala Industrial and Business Park (Namanve)
MDAs	Ministries, Departments and Agencies
MEACA	Ministry of East African Community Affairs Uganda
MoES	Ministry of Education and Sports
MoEMD	Ministry of Energy and Mineral Development
MoFPED	Ministry of Finance, Planning & Economic Development
MoGLSD	Ministry of Gender, Labour and Social Development
MoTIC	Ministry of Trade, Industry and Co-operatives
MoWE	Ministry of Water and Environment
MTAC	Management Training and Advisory Centre
MUBS	Makerere University Business School
NDP	National Development Plan
NEMA	National Environment Management Authority
NPA	National Planning Authority
OP	Office of the President
OPM	Office of the Prime Minister

LIST OF **ACRONYMS** (CONTINUED)

SME	Small and Medium Enterprise
TVET	Technical and Vocational Education and Training
UBOS	Uganda Bureau of Statistics
UDC	Uganda Development Corporation
UFZA	Uganda Free Zones Authority
UIA	Uganda Investment Authority
URI	Uganda Industrial Research Institute
UMA	Uganda Manufacturers Association
UNBS	Uganda National Bureau of Standards
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNIDO	United Nations Industrial Development Organization
UNRA	Uganda National Road Authority
URSB	Uganda Registration Services Bureau
USSIA	Uganda Small Scale Industries Association

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EXECUTIVE SUMMARY

This study set out to investigate and document operations in Uganda's industrial parks, primarily the employment and skills requirements of firms operating in the parks, their working conditions, and the successes and challenges faced by these firms, with the aim of making recommendations to improve performance of industrial parks to deliver good-quality jobs and skills. Section 4 summarises the operations in the parks that have been prioritised by UIA and private developers. Some of the key findings of this study include:

- Most of the production workers in industrial parks are male “skilled operatives” and “supervisors/foremen”.
- Most firms declined to provide information on the wages they pay their workers. This in itself could be an implicit disclosure that they were not comfortable revealing what they pay.
- Over 70% of the surveyed firms across all sectors reported employing substantial numbers of casual workers who are paid a daily wage as opposed to a monthly salary, and who work an average of 50 hours per week.
- Only one third of medium-sized firms operating in industrial parks have their workers belonging to a trade union. Two thirds of workers in large firms belong to a trade union.
- All permanently contracted workers in large firms contributed to some form of pension scheme, while two-thirds of workers in medium-sized firms did not have any social security.
- 80% of firms reported facing no obstacle in hiring skilled workers. No firm whatsoever, across all sectors and industrial parks, reported facing a major obstacle hiring skilled workers. However, 75% of large firms experienced persistent failure of staff to implement assigned job-related tasks due to insufficient proficiency.
- Asked to list skills they deem important in the workplace in order of importance, firms placed general skills such as communication, interpersonal skills, literacy & numeracy, and personal health and hygiene, at the top of that list. These are the same skills which firms reported as leading to persistent failure of their staff to implement assigned job-related tasks.
- Almost all manufacturing firms provide in-house training to their workers (both shop-floor and management/administrative) when they join. They mainly train them in occupational health and safety, quality control and assurance, work place practices, and machine operation.
- Over 95% of large firms employ apprentices at their own discretion, compared to less than 7% of medium-sized firms. However only half of the firms that employed apprentices paid them a monthly stipend and offered them a contract.

- Provision of basic infrastructure (good road network, electricity and water) doubles as one of the key successes and challenges for locating within the industrial park relative to operating outside a park. Other successes cited include increased sales and market penetration, special economic zone treatment, BUBU (which has boosted sales), and agglomeration economies of scale.
- The top challenges faced by firms in industrial parks include underdeveloped infrastructure, labour related issues (including labour costs, long commuting times, inadequate skills for new technologies, and limited general soft skills), long distances from the central business district, more exposure to environmental impacts caused by other firms crowded in the park, a small/inaccessible export market, and the impact of Covid-19. Recommendations to improve performance of industrial parks to deliver good-quality jobs and skills are provided in Section 5.2.



Aerial view of Goodwill Ceramics Tiles Factory in Liao Shen Industrial Park at Kapeeka, Nakaseke District.



Employees outside the Soroti Fruit factory

1.0 INTRODUCTION

Uganda has placed industrial parks at the heart of its industrialisation strategy. Although there are a number of demonstrable weaknesses in its planning and implementation,¹ Uganda's industrialisation strategy is being driven by the development of industrial parks across the country. In his State of the Nation Address delivered in June 2019, President Yoweri Museveni stated that "Government is prioritising investment in Industrial Parks to support industrialisation and create jobs. So far, there are already 284 new factories in the Industrial Park at Namanve, 11 in Luzira Industrial and Business Park, 10 in Bweyogerere Industrial Estate, eight in Jinja Industrial and Business Park, 10 in Soroti Industrial and Business Park, 16 in Kasese Industrial and Business Park, and 42 in Mbarara SME Park. The total number of factories in Uganda today is 4,900."

The original plan was to build twenty two industrial parks by delivering three parks every year.² In 2017, Uganda Investment Authority (UIA)³ Board approved five additional industrial parks, increasing the number of planned Government of Uganda (GoU)-owned industrial parks to twenty seven.⁴ However, the third National Development Plan (NDP III) 2020/21 - 2024/25 has planned for the development of eighteen industrial parks as part of the "core projects" under the manufacturing programme⁵ Most importantly, the plan cites "construction of four fully environmentally-sustainable serviced industrial parks (one per region)" as one of the key interventions by GoU during the plan period (NPA 2020, p.128). The NRM Manifesto for 2021-2026 proposes a total of thirty-one planned industrial parks, including four regional science and technology industrial parks.⁶

So far ten parks have been established by the UIA.⁷ There are also a number of emerging privately-owned industrial parks, most notably Liao Shen Industrial Park in Kapeeka, Matugga Industrial Park, Lugazi Industrial Park, and MMP Industrial Park in Buikwe.

1 FES (2019)

2 *ibid*

3 *Uganda Investment Authority is a semi-autonomous government agency set up under the Investment Code 1991 (revised in 2019) to initiate and support measures that enhance investment in Uganda and to advise Government on appropriate policies conducive for investment promotion and growth. UIA mainly markets investment opportunities, promotes packaged investment projects, ensures local and foreign investors have access to information, especially about the business environment so as to make more informed business decisions, and offers business support, advisory and advocacy services.*

4 *ibid*

5 *The eighteen parks planned for under NDP III are: Namanve, Bweyogerere, Luzira, Soroti, Moroto, Mbale, Masaka, Jinja, Mbarara, Kasese, Luwero-Nakaseke, Arua, Gulu, Fort-Portal, Kabale, Hoima, Oraba, and Onaka (see NDP III, p.55)*

6 *NRM Manifesto 2021-2026*

7 *The ten industrial parks currently prioritised by Uganda Investment Authority (UIA) are Kampala Industrial and Business Park (KIBP) a.k.a Namanve Industrial Park, Luzira Industrial and Business Park, Bweyogerere Industrial Estate, Jinja Industrial and Business Park, Sino Uganda Mbale Industrial Park (a PPP between GoU and Tangshan), Soroti Industrial and Business Park, Moroto Industrial and Business Park, Kasese Industrial and Business Park, Mbarara Small and Medium Enterprises (SME) Park, and Masaka Industrial Park.*

However very little is known about the operations of these industrial parks – what they exactly do, their employment and skills requirements, the types of people and labour they employ or demand, their skills development programmes and plans, the working conditions and quality of jobs in the parks, notable success stories and challenges they face, their capacity utilisation levels, productivity and competitiveness, the markets the firms in industrial parks produce for, their technological requirements and utilisation levels, whether there are enterprise development services in the industrial parks, their ownership and nance issues, and environmental impact assessment performance, amongst other things.

Since 2016 FES Uganda has been facilitating the reinstatement of industrial policy to Uganda’s development agenda. It started by examining the main features of Uganda’s industrial policy⁸, developing an Issues Paper that guided debate among stakeholders on the review of Uganda’s National Industrial Development Policy.⁹ In 2019 FES launched a study that interrogated the implementation performance of Uganda’s industrialisation agenda.¹⁰ In 2020 they reviewed, discussed and documented Uganda’s record in import-substitution industrialisation (ISI), identifying lessons from success stories in economic literature to guide Uganda’s industrial policy ambitions during the post-COVID-19 period. This particular study, therefore, represents the latest step in a series of studies on industry policy in Uganda facilitated by FES.

One of the emerging issues that keeps reemerging during these dialogues is the presence of skills gaps in Uganda’s manufacturing sector. A number of stakeholders claimed there was inadequate supply of practical skills among Uganda’s labour force and a mismatch between the skills acquired in the formal education system and the jobs available in Uganda’s industries. Some studies have also cited inadequate supply of practical skills as a primary constraint faced by firms in Uganda.¹¹ A recent employment diagnostics analysis (EDA) conducted by MoGLSD (2018) stated that almost all fast-growing industries in the country - dairy, agro-processing, leather, plastics and steel - reported shortages of highly skilled personnel.

Additionally, the recently launched National Industrial Policy (NIP 2020)¹² highlights unskilled human resources as one of the challenges facing Uganda’s industrial sector. One of its specific objectives is “developing and strengthening skilled human resources in order to increase productivity and efficiency in the industrial sector”. It attributes the inadequate supply of skilled human resources in the industrial sector to a lack of, and inadequate equipping of, technical institutions, as well as negative attitudes towards vocational education and limited linkages between academia and industry.

8 See FES, 2017

9 FES, 2018

10 FES, 2019

11 MoFPED, 2014; MoGLSD, 2018; IFC, 2013.

12 The National Industrial Policy (2020) as well as the National Industrial Sector Strategic Plan (FY 2020/21 – FY 2024/2025) were launched in May 2021 by the Ministry of Trade, Industry and Cooperatives (MoTIC) with support from the United Nations Development Programme (UNDP)

However discussions on skilling and skills shortages that focus only on the supply side tend to miss an important dimension - the demand for skilled workers.

Studies have shown that a one-sided analysis of just the supply-side policies and focused solely on increasing the supply of skilled workers cannot be adequate in addressing the skills gap problem faced by a modern sector such as manufacturing.¹³

In view of the above, this study set out to use industrial parks as a unit of analysis to establish the types skills required for employment in Uganda's industrial sector and in the industrial parks. The intention was to find out whether there was a mismatch between supply and demand for particular skills, and whether firms in the industrial parks are investing adequately (or at all) in further training of their workers. We wanted to document any success stories in industrial skills development and suggest ways in which they can be scaled up. In addition, we also set out to establish the conditions in which workers employed in industrial parks work and the quality of jobs in these parks. The overall intention was to offer recommendations on how to deliver high-quality and well-targeted skills as demanded and/or needed by Uganda's growing industry. The paper, therefore, concludes by considering how the analysis and the lessons learned could inform the improvement of design and implementation of skills development programmes for Uganda's industrial development.

1.1 Purpose of the study

The study tries to establish what exactly has been going on in Uganda's industrial parks particularly in areas of employment, operations, markets for the products they produce, enterprise development services, and ownership and governance, in order to guide policy makers to address any identified gaps and upscale the success stories.

1.2 Specific objectives of the study

To document the operations in Uganda's industrial parks

To establish the available employment opportunities and skills required in Uganda's industrial parks

To examine the working conditions and quality of jobs in industrial parks

To document notable success stories and challenges faced by industrial parks

To present recommendations of changes which might improve the performance of the industrial parks in delivering good-quality jobs and skills

¹³ See ILO, 2016 for example.

2.0 APPROACH AND METHODOLOGY

The study mixed qualitative, consultative and participatory processes in its approach, involving key stakeholders at all stages of the analysis. This was important for ensuring ownership of the results and smooth implementation of the recommendations.

2.1 Data collection and analysis

The study relied on an extensive literature review supplemented by primary data as elaborated below:

2.1.1 Literature review

A quick but thorough desk review was undertaken of documents related to industrial parks and in particular to (industrial) skills development in Uganda in comparison to other countries. In addition, literature from research papers and other studies was critically reviewed to answer the study objectives. This literature was also used to inform interview questions.

2.1.2 Key informant interviews (KIIs) and structured questionnaires (SQs)

KIIs and SQs were conducted among a range of stakeholders, but with an emphasis placed on private sector representatives from industrial parks, implementing team(s) of skilling Uganda programme/strategy and other skills development initiatives (e.g. the Uganda Skills Development Project (USDP)), representatives of the Ministry of Science, Technology and Innovation (MOSTI) – Department of STI Skills Development, the Ministry of Education and Sports (MoES), the Ministry of Trade, Industry and Cooperatives (MoTIC), the Uganda Industrial Research Institute (UIRI) and the National Planning Authority (NPA). Others included the Uganda Investment Authority (UIA), the Ministry of Finance, Planning and Economic Development (MoFPED) and the Management Training and Advisory Centre (MTAC), as well as academic and training institutions. Other key industrial policy actors such as development partners that support industrial training, representatives of TVET associations and institutions, CSOs and interest groups such as the Uganda Manufacturers Association (UMA) were also interviewed.

2.1.3 Sample of industrial parks

From the ten GoU-owned parks and the five privately-owned parks that have so far been established, a sample of four parks (two from each category) were purposefully selected and involved in the study. These are the Kampala Industrial and Business Park (Namanve) Industrial Park, the oldest and largest GoU-owned and urban-located park, Soroti Industrial Park, an upcountry based GoU-owned park located in Eastern Uganda, Liao Shen Industrial Park in Kapeeka, a privately-owned and fast-growing park, and MMP Industrial Park in Buikwe, another privately-owned park in rural Uganda.

2.1.4 Data analysis and reporting

Data analysis techniques were triangulated but the major one was descriptive analysis based on qualitative and quantitative indicators. The data obtained from the KIs was processed, analysed (using Atlas-ti qualitative data management software), and discussed to provide a common body of evidence. Reporting followed the ToRs and reporting guide provided by FES.

2.2 Scope of the study

This study focused in particular on establishing the available employment opportunities and skills required in Uganda's industrial parks, as well as on the working conditions and quality of jobs in these parks. In general, the study concentrated on establishing the current situation on the ground in Uganda's industrial parks, particularly in the areas of employment, operations, and markets for products they produce, as well as enterprise development services and ownership of the firms.

2.3 Limitations of the study

One key limitation of the study was the inability to undertake field inspections and in-person interactions that could have further enriched the study. The researchers were obliged to rely on remote interviews and questionnaires in adherence to the coronavirus (COVID-19) standard operating procedures (SOPs). Despite this constraint, the data gathered was sufficient to provide credible findings.



President Yoweri Museveni commissions Nile Batteries Limited factory in MMP Industrial Park, Buikwe district

3.0 LITERATURE REVIEW

This section summarises the key themes gleaned from the wide range of literature which was reviewed and critiqued to inform the study. The section is organised in three main themes: literature on the industrial park model, literature on employment and skill development in the manufacturing sector, and literature that brings together supply and demand for skills.

3.1 Literature on the industrial park model

The idea of industrial parks¹⁴ is a seductive one. It is a means to overcome hurdles such as access to information, new technological knowledge, finance, high transaction costs because of a lack of infrastructure, and weak institutions, all of which stand in the way of industrial development.¹⁵ Advocates of industrial parks consider them a pragmatic mechanism for overcoming coordination issues in a developing country with poor infrastructure and an inefficient bureaucracy, and they can be used to reduce operation and transaction costs.¹⁶ In other words, they can be used to tackle, in a geographically confined space, some of the principle bottlenecks to industrial development, rather than trying to improve the business environment for the whole country.¹⁷ According to the database of the ILO, the number of industrial parks worldwide increased from 75 in 1975 to 3,500 in 2006,¹⁸ and in 2011 more than 130 countries were known to be implementing industrial parks.¹⁹

Concentrating firms in an industrial park can provide significant spillover effects both inside and outside the park.²⁰ These include information spillovers, including knowledge and technology, the specialization and division of labour among enterprises, the development of skilled labour markets and skill spillover through inter-firm linkages, and the development of markets around the parks.

The World Bank (2014), however, argues that although at their best industrial parks align infrastructure provision and agglomeration economies to jolt industrial growth, more often they generate negative spill-overs, provide handouts, sit empty, or simply do not get built. The main argument is that industrial parks tend to produce white elephants, eroding the tax base, creating vehicles for land speculation, delivering hand-outs to favoured firms, and funneling spending to favoured districts.²¹ That is if the parks are even completed in less than a decade. Many of these failures have at one time or another afflicted Uganda's industrial parks since the concept was adopted in 2007.

14 *Peddle (1990) defines the industrial park as "a large tract of land, sub-divided and developed for the use of several firms simultaneously, distinguished by its shareable infrastructure and close proximity of firms."*

15 *UNIDO 2012*

16 *Lin and Xu 2016; World Bank 2015; Festel & Wurmseher 2013*

17 *UNECA 2017*

18 *Boyenge, 2007*

19 *Farole & Akinci, 2011*

20 *See Zeng 2016; World Bank 2011*

21 *World Bank 2014*

On 8th February 2007, President Yoweri K. Museveni wrote to the Ministry of Finance, Planning and Economic Development (MoFPED) directing them to “Initially develop an Industrial Park for each of these towns: Arua, Lira, Gulu, Soroti, Moroto, Mbale, Tororo, Iganga, Jinja, Masaka, Luwero-Nakaseke, Nakasongola, Mbarara, Bushenyi, Kabale, Kasese, Fort Portal, Hoima, Rakai and Mubende.” The Uganda Investment Authority (UIA) started implementing the Presidential directive in 2008.²² In June 2019, the UIA developed a National Industrial and Business Parks Development Strategy to develop the parks.

Literature shows that where industrial parks have succeeded, they were planned in line with: (i) the national development strategy (macro-economic policies, power and transport infrastructure, science, technology and innovation, and linkages with universities and research centres), (ii) clusters²³, (iii) good location taking into consideration the size of plots, the cost, availability and access to raw materials, accessibility to bulk transport, market needs and expectations, human resources at a reasonable cost, and personal/cultural services.²⁴

Other considerations include: infrastructure and service provision (including physical infrastructure and utilities- electricity, telephone, internet, water, sewage treatment, transportation, and accommodation, resource centres to host cluster animation, as well as facilities to exchange research and knowledge- as well as ‘soft services’ related to management support to industrialists, management capacity (having an efficient and responsive management that provides quick and effective responses to the demands of industrialists), innovation linkages (information about skills, finance and other needs), environmental management systems and a strong environmental regulator, and effective marketing and promotion of the facilities and services provided by the parks.²⁵

Literature also shows that proper development of industrial parks should include strategic environmental assessments, environmental impact statements, life cycle cost analysis, land use planning, and risk management tools.²⁶ However, in the case of Uganda, a value for money audit by the Office of the Auditor General (OAG, 2015) revealed that only one feasibility study had been undertaken (for Namanve industrial park), and that even in this case, land allocation was made without a proper long term strategy or standardised criteria.

Some authors have argued that the choice of industrial park model needs to be taken with caution since “concentration of a large number of industrial facilities in a specific and narrowly defined area competing with one another to attract new locators may be a source of significant environmental damage, and may increase environmental health and safety risks if pollution discharges from the industrial park are not strictly controlled.”²⁷

22 OAG 2015

23 *Industrial parks are developed in regions/towns where companies from different industries that are related to each other in the production of goods and services can easily be developed and linked with government agencies, universities and other institutions.*

24 UNIDO 2012

25 *ibid*

26 Festel & Wurmseher 2013

27 *ibid*

For this reason UNIDO (2012) advises thus, “Instead of developing general guidelines on how to develop industrial parks, it is important to conduct specific needs assessments and adapt each industrial park to the social, economic, cultural and environmental characteristics of each region and community, taking into consideration local governance competences and capabilities.”

It is also advisable that at the planning stage, decisions must be taken related to the strategic objectives of the industrial park, financing, the type of companies and sectors that the park wants to attract, and the range of services to be supplied to intended tenants. To achieve this, a range of stakeholders should be involved who must then carry out a number of diverse functions ranging from governance to strategy to investment decisions. Regional authorities, banks and private companies interested in developing a park must together form an organisational board. All these prerequisites were lacking at the time when industrial parks in Uganda were first being set up. UNECA (2017) argues that Ugandan industrial parks seemed to have lacked specialisation and focus.

Operators in Namanve industrial park describe facing challenges of insufficient infrastructure, high production costs, high dependency on imports, volatile exchange rates, non-tariff barriers to trade in the EAC, disharmony in Common External Tariffs (CET) and unstable regional markets.²⁸ They have also cited congestion which has impeded expansion and mobility, non-integrated industries located in the park leading to low economies of scale, missed intra-industry knowledge spillovers and linkages, and poor ‘software’ management– GoU MDAs are not responsive to investors’ needs.²⁹

Lessons in the development and management of industrial parks can be drawn from Ethiopia and China, two countries that have experienced impressive growth of their manufacturing sectors in recent years. UNECA (2017) reports that the Ethiopian government established an Engineering Capacity Building Program (ECBP) to improve the workforce capacity in four key areas: university reform, technical and vocational education and training (TVET) reform, quality assurance infrastructure reform, and private sector development. However evidence shows that despite this effort investors in Ethiopia’s industrial parks are struggling to attract and retain sufficiently skilled labour and are currently operating far below capacity, severely hampering productivity and competitiveness.³⁰ Lack of access to skills is increasingly cited by Ethiopian firms as their primary constraint.³¹ A recent survey found 38% of employers complained of a lack of availability of appropriately skilled labour.³²

In China, as well as in other East Asian countries, industrial parks set up their own technical and vocational colleges to offer skills training and human resources support to their resident firms.³³ For example, Suzhou Industrial Park (SIP), a modern industrial park developed in the early 1990s in China, established the SIP Institute of Vocational Technology in 1997.³⁴

28 See UNECA (2017)’s interview with Mr. Lalani, the Founder and Executive Director of Roofings Group, producers of iron and steel construction materials located in Namanve industrial Park.

29 See UNECA (2017)’s interview with Managers of Roofings Group – a Steel manufacturer located in Namanve Industrial Park.

30 Hilton 2019

31 IFC 2013

32 See EDFI (2016), *Bridging the skills gap in developing countries*.

33 Zeng 2016

34 *ibid*

It trains workers in over 60 subjects including electronics, machinery, engineering, and others, and has more than 10,000 students enrolled. The institute also set up its own internship and joint teaching programs with firms in the park. As a result, the students from the college are 100% employed after graduation. The park also provides employment assistance, including an entrepreneurship service centre, small loans, and incubators for job-seeking migrants from rural China. These are great lessons that the nascent Ugandan industrial parks should heed if they are to be the answer to the country's burgeoning and largely unskilled labour force.

3.2 Literature on industrial park operations

Literature outlines multiple stages of industrial park operation. From studies that measure the effect of resources, innovation, risk, and strategies on the growth of firms in the parks,³⁵ to those that examine logistics³⁶ and overall performance in the parks,³⁷ we benefited from a variety of frameworks to analyse and evaluate the operations in Uganda's industrial parks. Three key stages were common in efficient industrial park operations. The first stage of industrial park operation is promotion of business which includes marketing and branding to create a corporate image based on firms' and parks' distinctive characteristics in order to attract investments and specialised human resources.³⁸

The second stage is facilitation of production and it includes shaping forward and backward linkages, enhancing business support, developing entrepreneurship, and creating opportunities for improving labour skills. Efforts to achieve these features can be observed in the creation of incubators and science parks for start-ups and technological innovation, local institutional reform, strengthening of the cooperation between industries and universities, and stimulating the growth of supporting industries.³⁹

The third and last stage of industrial park operation is economic returns. This represents the rewards for the establishment of industrial parks. It's the stage where fiscal revenue from the parks is required for their financial sustainability, including the ability of the parks to pay their own operating costs. In short, promotion of business, the facilitation of production, and the enhancement of economic returns are successive and highly correlated stages of industrial park operation. Inefficiency in one stage may lead to underperformance in the next stage. For example, taxation reduction was a main method used in Chinese industrial parks to lure foreign companies, but it hampered the generation of fiscal revenue, causing budgetary problems for industrial construction and maintenance, and the policy was abandoned gradually after 1999.⁴⁰

35 *Löfsten and Lindelöf, 2003;*

36 *Rivera et al. 2016*

37 *Nosratabadi et al. 2011*

38 *Yanga et al, 2018*

39 *ibid*

40 *Kynge, 1999*

Achieving operational efficiency in parks is no easy task. A recent study on operational efficiency of industrial parks in China found only three of 22 parks in Beijing to be running efficiently.⁴¹ Yet within the fastest growing industrial parks globally over the past few decades, China has been one of the most successful countries at employing them as an engine to boost its economy. The study found taxation (being much lower than expected) is the main contributor to inefficiency in parks, and advised that a preferential tax policy needs to be assessed carefully as it could affect budgetary issues and the financial sustainability of the parks. The other key factor cited is high marketing competition.

3.3 Literature on employment and skills development in the manufacturing sector

The Government of Uganda (GoU) has shown a clear intention to support Ugandan firms and to attract others from across the globe to invest in manufacturing and other industrial sectors (NPA, 2020). To meet this objective, the country needs a workforce with skills that meet international standards. Yet Uganda is adopting an aggressive industrialisation agenda at a time when the 4th Industrial Revolution is underway, implying that most of the repetitive jobs in manufacturing will be lost to automation, and that the manufacturing sector will steadily shift toward new-age, high-order, skill-intensive jobs. The World Economic Forum (WEF) (2017) argues that rapidly emerging exponential technologies such as robotics and additive manufacturing triggered by artificial intelligence and deep machine learning, including the Internet of Things (IoT), which between them are driving industrial automation, are all spurring the development of new production techniques.

Uganda’s largely under-skilled and/or semi-skilled workforce is pulling the country’s regional and global competitiveness down. This is because Uganda’s labour and output distribution are skewed. With the policies of economic liberalisation that started in the late 1980s, agriculture as a share of Uganda’s GDP more than halved from 49% in 1991 to 22% in 2019, and the share of industry has more than doubled (see Table 1). However, the percentage of workers engaged in the agricultural sector has not changed, with the sector still accounting for over 72% of overall employment. Industry value addition increased from 11.6% of GDP in 1991 to 27% of GDP in 2019. Yet over the same period, employment in industry has reduced from 7.4% of the total employment to 6.6%. In particular, manufacturing value addition increased from 5.4% of GDP in 1991 to 15.4% of GDP in 2019 without having a commensurate growth in employment. Both modern sectors- industry/manufacturing and services- have been slow in attracting employment away from agriculture.

TABLE 1: UGANDA’S SECTORAL SHARE IN GDP AND EMPLOYMENT 1991 AND 2019

SECTOR	% GDP (1991)	% GDP (2019)	% OF EMPLOYMENT (1991)	% OF EMPLOYMENT (2019)
Agriculture	49.4	21.9	72.6	72.7
Industry	11.6	27.1	7.4	6.6
Services	32.5	43.3	20	20.7

Source: World Bank

41 Yanga et al, 2018

Evidence also shows Uganda has in recent years experienced an increasing tendency of workers to transition from formal to informal employment rather than from informal to formal employment, with a high prevalence of 'self-employed' and 'informal salaried' workers.⁴² More educated workers are more likely to remain in formal employment and less educated workers are more likely to switch from formal to informal employment.⁴³

Byiers et al. (2015) argue that difficulties in providing quality education pose a challenge for Uganda to overcome as it aims to skill its labour force and to take advantage of the employment opportunities created by investment and the emergence of new sectors. But Bessen (2000) reports that during the Industrial Revolution, factory jobs did not require formal education and training periods were brief. New skills developed on the job by ordinary workers were critical to the adoption and efficient implementation of new technologies. Manufacturing firms only made substantial human capital investments in the mid-19th century.

In addition, most of the work in a factory requires specific skills which cannot be provided by general-purpose education.⁴⁴ On-the-job training is required. Similarly, new technologies require continuous learning, best accomplished by workplace training. Indeed many policy-makers and experts believe that low-education workers can also benefit from changes in the demand for skills so long as they are receiving training.⁴⁵

3.3.1 Why manufacturing firms and workers under-invest in skills development

Historical evidence suggests that firms would not have efficient incentives to invest in their workers' skills because trained workers could quit and go to work for other employers (Pigou, 1912). However, in his seminal work Becker (1964) drew a crucial distinction between general and specific skills. He defined general skills as those which are also useful with other employers. Because they are 'generic', they are 'transferable'. The scope of these skills typically includes communication (verbal and written), numeracy, IT, team work, and problem solving and learning to learn. They may also on occasion be expanded to include leadership, motivation, discipline, self-confidence, self-awareness, networking, entrepreneurship and the general capacity to embrace change. They are "seen as having a broad application across a wide range of employment contexts and as transcending individual subjects" and are argued to be the basis for a "flexible" and "multi-skilled" workforce.⁴⁶

In contrast, specific skills increase the productivity of the worker only in his current job. Pigou's argument seems to apply mainly to general skills. Indeed, in a competitive market firms are hesitant to pay for general skilling. It's only workers with the right incentives to improve their general skills that will pay for them. This too applies to apprenticeship. As long as workers can pay for training, either out of their pockets or by taking lower wages, workers will invest in general skills and apprenticeship.

42 Kavuma et al. 2015

43 *ibid*

44 Acemoglu et al. 1999

45 *ibid*

46 Keep and Payne 2004: 57

For specific skills, since they are not transferable and since firms can recoup their investments in such skills from higher productivity, they are willing to invest in them. In short, Becker's theory makes two key empirical predictions: First, firms should never pay for investments in general training. Second, workers have no incentive to pay for skills that are industry specific, unless there are many firms in the same industry using similar technologies. Insufficient investment in skills is likely to arise when either the skills required are both firm and technology specific, or if workers are severely credit-constrained to invest in general skills.

However, Acemoglu et al. (1999) argue that although evidence is not entirely clear-cut, it suggests that firm-sponsored investments in general skills are widespread. For example, evidence suggests that the widely-available apprenticeship training system in Germany is provided by way of large German firms bearing a significant financial cost.⁴⁷ Similar studies elsewhere (in the US and UK) find substantial net costs for training apprentices being borne by firms.⁴⁸ This evidence gives us a clear example that firm-sponsored general training is possible. There are also many examples of firms that send their employees to universities, Master of Business Administration (MBA) courses and other such high-skill programmes, as well as to problem-solving courses, and pay for the expenses while the wages of workers who take up these benefits are not reduced.

Other researchers have reported that in places where industrial parks have succeeded, such as in China, they have absorbed mostly high-end, skilled workers.⁴⁹ Their argument is that, despite the evidence of positive systems' existence and benefits as provided by Acemoglu et al. (1999), market failures may still lead manufacturing firms and individuals to under-invest in skills development, whilst public sector attempts to correct these failures have often led to bureaucratic and inefficient skills programming that is not tailored to the needs of industry. For example, evidence shows that in Ethiopia firms persistently underinvest in training their workforce, partly because the costs of training are tangible and immediate, whilst the results are often intangible and/or take longer to fully materialise.⁵⁰ Individuals also underinvest in their own skills development for similar reasons. Firms are further disincentivized by the threat of losing trained workers to competitors.

For the above reason, Hilton (2019) reports that skills provision has traditionally been in the domain of the public sector, through structures including Technical and Vocational Education and Training (TVET) programmes and Active Labour Market Policies (ALMPs) such as labour exchanges and apprenticeship schemes. The challenge is that government provision of such schemes has often been through supply-side policies characterised by poor levels of engagement with industry, and with few incentives to deliver high-quality and well-targeted skills. Several studies indicate that in order to improve the quality and appropriateness of skills for industrialisation, direct private sector involvement in skills development is essential.⁵¹

47 *ibid*

48 *Ryan 1980; Jones 1986*

49 *World Bank 2011*

50 *IFC, 2013*

51 *IFC 2013; OECD 2012; UNESCO 2012*

Dunbar (2013) documents a number of preconditions for private sector involvement in skills development: (a) Firms are most likely to engage when they have confidence in both the business environment and the government's commitment to skills development, and when bureaucracy is low; (b) On-the-job training and apprenticeships are effective in both the delivery of practical skills and financial incentives for trainees; (c) Fiscal measures such as tax breaks and skills levies can have some success, but tend to rely on the existence of a large formal sector and strong governmental administrative capacities – often neither are true of developing countries; and (d) Multinational firms can be influential in skills development through their extensive supply chains, particularly when supported by donors and/or NGOs.

Some authors have suggested that the problem of underinvestment in skills development by firms and individuals can be approached using public-private partnership models whereby service offerings are tailored to the needs of industry, enabling the development of cost-sharing arrangements.⁵²

A survey of this relatively rich literature suggests that Uganda's ambitious industrialisation agenda and opportunities for employment growth could be jeopardised if skills development programmes are not oriented towards preparing a workforce for the future, not just for today. Yet skill gaps are not the only likely explanation for high unemployment among young Ugandan workers, or for why their employment is commonly concentrated in low-productivity such as agriculture and the informal economy, while manufacturing enterprises continue to experience labour shortages. Labour market conditions, especially prevailing wages, the industrial structure of the economy and population growth, could be other key explanatory factors. This study set out to interrogate all these angles.

3.4 Literature that brings together supply and demand for skills

Literature shows many countries are experiencing a persistent gap between the skills demanded by the labour market and those supplied by the workforce.⁵³ This results in skills mismatches and skills shortages. This paradox is explained by ILO (2014) where it is argued that low demand for skilled labour results in a low supply of skilled labour and that this linkage of the two is what perpetuates the low supply of skilled labour. Therefore, getting out of this vicious cycle requires simultaneous action, both in terms of firm strategies and the externally-motivated supply of a skilled workforce.

In addition, evidence supports a strong causal inter-relation between the supply of higher levels of education, training and skills, and increased demand for technical and organisational innovation.⁵⁴ To sustain a "virtuous circle", instead of a "vicious cycle", skills development policies should serve three objectives: they should match demand and supply of skills, maintain employability of workers and sustainability of enterprises, and sustain a dynamic development process.⁵⁵

52 *Hilton 2019*

53 *Kawar 2011*

54 *Toner 2011*

55 *ibid*

It goes without saying, therefore, that any analysis of issues in skill development and the resulting framing of policies for increasing the supply of skilled workers, needs to be weighed against other factors that affect the demand for skilled workers such as the industry's overall performance, firms' strategies, technology adopted, the organisation of labour, and size and composition of firms.⁵⁶ A one-sided analysis of just the supply side and of policies focused on increasing the supply of skilled workers will not be adequate in addressing firms' specific skills gaps.

3.4.1 The vicious circle of low level of skill

The starting point of an analysis of the skills problem in manufacturing should not be the skills gap but rather the existing low skill levels of workers in the manufacturing sector. The vicious circle of low levels of skill, low levels of productivity and low levels of wages in small units, particularly in informal units, needs to be understood.⁵⁷ -There was also a need to establish whether the dominance of the informal sector in Uganda's manufacturing could be accentuating this problem, as a good proportion of the firms might be unable to afford educated skilled workers. Thus, the spotlight on the skills problem in Uganda's manufacturing industry needed to be refocused to addressing the question of how to move the industry away from competition purely based on price, towards quality competition. This is because evidence shows that encouraging firms to focus on quality increases the demand for skilled labour.⁵⁸

Thus an increase in the supply of skilled labour can work in tandem with an increase in the demand for skilled labour. The two sides of the market for skilled labour- its supply and demand- need to be impacted simultaneously, since they are, in a sense, complementary. ILO (2014) argues that low demand for skilled labour results in a low supply of skilled labour and in turn perpetuates the low supply of skilled labour. Getting out of this vicious cycle requires simultaneous action, both in terms of firms' strategies and the market for skilled labour. Ultimately, the growth of firms in itself weakens this vicious circle.

In section 3.1, we have surveyed some recent and older research, on industrial parks as an approach to industrial development, on employment and skill development in the manufacturing sector, and on supply and demand for skills. We have suggested that for industrial parks to be an answer to Uganda's burgeoning and largely unskilled labour force, policy makers need to pick lessons from countries that have implemented the model in a way that avoided negative spill-overs, handouts, and parks sitting empty or not getting built. Another important conclusion which follows from this review is that since most of the work in a factory requires specific skills which cannot be provided by general-purpose education, on-the-job training is required as well as continuous learning through workplace training. Motivated by this observation, we argue that in order to break the 'vicious cycle' of low demand for skilled labour resulting in a low supply of skilled labour and in turn perpetuating the low supply of skilled labour, there is need for simultaneous action to raise firms' competitiveness as well as the skilling of the available workforce.

⁵⁶ ILO 2016

⁵⁷ *ibid*

⁵⁸ ILO 2008



Workers in SIMI Mobile factory assembling mobile phones in the Namanve Industrial Park.

4.0 KEY FINDINGS OF THE STUDY

4.1 Operations in Uganda's industrial parks

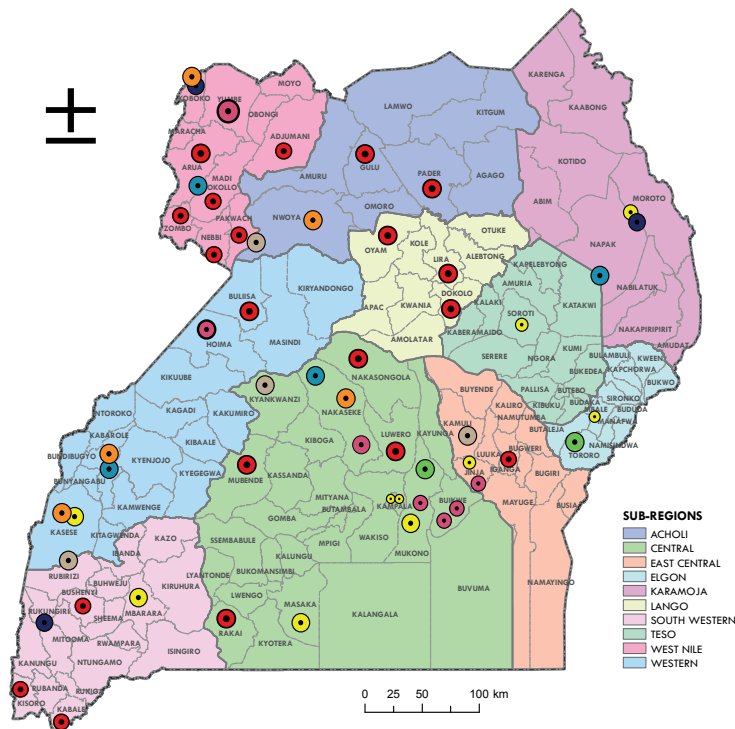
In order to analyse the operations in Uganda's industrial parks, we adopted the three-stage framework advanced by Yanga et al. (2018). The three stages are promotion of business, facilitation of production, and enhancement of economic returns. These stages are optimally observed in a successive and highly correlated pattern. The first stage (promotion of business) entails marketing and branding of the park to create a corporate image to attract firms and innovators. The second stage (facilitation of production) involves shaping forward and backward linkages, enhancing business support, developing entrepreneurship, and creating opportunities for improving labour skills within the park. The third and last stage (economic returns) entails creation of fiscal sustainability so that the parks pay their own operating costs as well as rewarding investors (in the parks and the firms).

Our finding was that all the parks in Uganda are still in the first stage, although some are in the process of transiting into the second stage of operation. In June 2019 the UIA developed a National Industrial and Business Parks Development Strategy that outlines a "criteria for locating of industrial parks" stating that they "should be located across the country on suitable land in or near urban centres such as Towns, Municipalities or Cities as specified in the Local Government Act."

So far, ten industrial parks have been prioritised by UIA. These are Kampala Industrial and Business Park (KIBP) a.k.a Namanve Industrial Park, Luzira Industrial and Business Park, Bweyogerere Industrial Estate, Jinja Industrial and Business Park, Sino Uganda Mbale Industrial Park (a PPP between GoU and Tangshan Company), Soroti Industrial and Business Park, Moroto Industrial and Business Park, Kasese Industrial and Business Park, Mbarara SME Park, and Masaka Industrial Park. The privately-owned industrial parks include Liao Shen Industrial Park in Kapeeka, Matugga Industrial Park, Lugazi Industrial Park, and MMP Industrial Park in Buikwe.

MAP 1: MAP OF UGANDA SHOWING PROPOSED INDUSTRIAL PARKS

NATIONAL INDUSTRIAL PARKS DEVELOPMENT STRATEGY (2020/21 - 2024/25)



NATIONAL INDUSTRIAL PARKS DEVELOPMENT STRATEGY:

- Gazetted Industrial and Business Parks under Development
- Gazetted Industrial and Business Parks not yet developed
- Proposed Large Scale Industrial & Business Parks specific to the (SGR) Project
- Proposed Regional Science, Technology and Industrial Parks (STIPs)
- Proposed Industrial Parks under the Forum on China-Africa Cooperation (FOCAC) Programme
- Proposed Regional Science, Technology, Engineering, Innovation (STE) Parks
- Proposed Regional Parks
- Developed Private Industrial Parks

	Kampala Industrial and Business Park, Namanve	2,200 acres
●	Luzira IBP	70 acres
	Bweyogerere I/E	50 acres
	Mbarara (SME Park)	12 acres
	Kasese IBP (also FOCAC)	216 acres
	Soroti IBP	219 acres
	Tian Shan Mbale Park	619 acres
	Karamoja IBP	417 acres
●	Liao Shen Industrial Park Co. Ltd	1,280 acres
	Lugazi Industrial Park	150 acres
	MMP Industrial Park Buikwe Ltd	1,000 acres
	Yumbe Industrial Park	
	Jinja Industrial Park	200 acres
	Katosi Industrial Park	10 sq. miles
●	Mukono (SGR) Industrial Park	300 acres
	Tororo (SGR) Industrial Park	600 acres
	Oraba Industrial Park	139 acres
●	Kaweweta Industrial Park	11,520 acres
	Anaka Industrial Park	3,612.6 acres
	Kabarole Industrial Park	500 acres
●	Moroto	
	Rukungiri	
	Koboko	
●	Arua, Adjumani, Gulu, Pader, Madi Okollo, Zombo, Pakwach, Nebbi, Oyam, Lira, Dokolo, Buliisa, Bushenyi, Kabale, Kisoro, Nakasongola, Mubende, Luwero, Rakai, Iganga	

Source: Uganda Investment Authority (UIA)

This study was conducted in four parks; Namanve and Soroti (both representing the GoU-owned parks), and Liao Shen (Kapeeka) and MMP Buikwe (both representing the privately-owned parks). As of the end of July 2021 a total of 71 firms had been established in the Namanve Park and were operational. Another 146 firms were under construction and at different stages ranging from “newly

allocated” to “pre-start studies” to “construction phase” (see Table 2). A total of 339 firms are expected to be located in the Namanve Park when it reaches completion. In Soroti, only three firms were operational and another eight firms were under construction and at different stages. The Kapeeka Park (Liao Shen) had 14 fully operational firms and another two under construction. It plans to host a total of 80 firms at full capacity. MMP Industrial Park in Buikwe had four fully operational firms and another two under construction out of a total of 26 planned firms. In total, 155 firms have been established and are operational within 8 industrial parks. Another 176 firms are at different stages of construction. A total of 712 firms are expected to be established in the 13 industrial parks under review. The 155 firms already established account for less than 3% of the total number of industrial firms in Uganda, which was estimated at 5,500 as of the end of 2020 (MoTIC estimates based on UR A tax register).

For the purpose of this study, information was collected from 14 firms using the structured questionnaire Annexed 1. These were randomly and purposefully drawn from KIBP (Namanve), Soroti, and Kapeeka (Liao Shen) industrial parks. MMP Park could not be reached. Of the surveyed firms, the largest number (40%) were in manufacturing, followed by agro-processing (29%), logistics and warehousing (9%), ICT (3%) and other enterprises (19%) (See Annex 2).

TABLE 2: STATUS OF INDUSTRIAL PARKS IN UGANDA (AS AT MAY 2021)

S/N	Industrial Park	Number of Firms Expected in the Park	Number of Operational Firms	Firms under Construction
1	KIBP (Namanve)	318	71	146
2	Masaka	80	0	0
3	Mbarara SME Park	50	37	0
4	Moroto	30	0	0
5	Mbale	30	8	8
6	Kasese	20	0	2
7	Soroti	19	3	8
8	Luzira	12	10	2
9	Bweyogerere	10	8	2
10	Jinja	8	0	2
11	Liao Shen Kapeeka	80	14	2
	Total	657	151	172

Source: UIA and Liao Shen

4.1.1 Size of the firms operating in industrial parks

In Uganda the size of a firm is defined (by the Uganda Investment Authority) in terms of its number of employees, capital investments, and total turnover. A small-sized firm is categorised as employing between 5 and 50 people, with a capital investment as well as an annual total turnover of between UGX 10 million (US\$ 2,800) and UGX 100 million (US\$ 27,800). A medium-size firm is categorised as employing between 51 and 99 people, with a capital investment as well as annual total turnover of between UGX 100 million and UGX 360 million (US\$ 100,000). A large firm is categorised as employing over 100 people with a capital investment of over UGX 360 million (US\$ 100,000). Table 3 summarises the distribution of the surveyed firms by size.

TABLE 3: DISTRIBUTION OF SURVEYED FIRMS BY SIZE

Size of Firm	KIBP	Soroti	Kapeeka	MMP	Total	%
Micro	0	0	0	N/A	0	0%
Small	0	0	0	N/A	0	0%
Medium	3	1	1	N/A	5	36%
Large	5	1	3	N/A	9	64%
Total	8	2	4	N/A	14	100%

Source: Survey

Nearly two-thirds of the firms surveyed (64%) were classed as 'large' and the rest were medium-sized firms. The survey found no small/micro firms operating in industrial parks. In addition, all of the firms were registered under different laws and authorities, ranging from the Companies Act (Cap 110), UIA (the Investment Code Act) (Cap 92), URSB, UNBS, REA, NEMA, and Town Councils. None of the firms reported registration under the Factories Act (Cap 220) or the Occupational Safety and Health Act, 2006 (Act No. 9) under which they are required to register. Other legislations used by the Department of Labour and Industry and the MoGLSD to inspect and advise workplaces on safety and health measures include the Employment Act, 2006 (Act No. 6) and the Workers' Compensation Act, 2000 (Act No. 8) (Cap. 225). The Public Health Act (Cap. 281) is another legislation that is critical in Uganda's occupational safety and health (OSH) regulatory framework.

TABLE 4: OWNERSHIP PATTERNS IN SURVEYED FIRMS

Type of ownership	Agro	Minerals	Logistics	Manufacturing	Other	Total
Proprietary	-	-	-	-	-	-
Partnership with members of same households	7.1	-	-	14.3	-	21.4
Partnership outside households	-	-	-	-	-	-
Private limited company	21.4	7.1	7.1	28.7	14.3	78.6
Public limited company	-	-	-	-	-	-
Others	-	-	-	-	-	-
Total	28.5	7.1	7.1	43.0	14.3	100

Source: Survey

Two types of ownership patterns were predominant in the firms surveyed; private limited companies and partnership of members of same households (see Table 4). The share of private limited companies accounted for nearly 77% of the enterprises surveyed. Combined, half of them were in manufacturing (29%) and agro-processing (21%). Indeed, manufacturing, at 43%, is the main sector of investment in the industrial parks.

Over half (55%) of the firms surveyed are wholly foreign-owned, mostly private limited companies (although a few were partnerships of members of same households), and are part of a larger firm established either within Uganda or outside Uganda. The wholly foreign-owned firms that were surveyed originated from China (43%), India (29%), Kenya (7%), Lebanon (7%), United Kingdom (7%), Switzerland (7%), and USA (7%). Data from UIA shows other countries where other wholly-owned firms hosted in the parks across the country originated include: Ethiopia, Japan, St Lucia, United Arab Emirates, Canada, South Africa, and Tanzania. See Annex 3 showing the origin of investors in Namanve (Kampala Industrial and Business Park).

A third of the surveyed firms are wholly Ugandan, private limited companies or partnerships of members of same households, and they are not part of a larger firm. The rest (12%) of the surveyed firms operating in Uganda's industrial parks are partly Ugandan and partly foreign. These are also part of a larger firm established either within Uganda or outside Uganda. These are mostly private limited companies and large sized firms.

Some of these firms are old companies established between the 1970s and early 1990s while others are recently established firms, some only beginning operations as recently as 2015. The proportion of new entrants (post-2000) was higher in agro-industrialisation and 'other' sectors such as ICT. On the other hand, the proportion of existing firms (pre-2000) was higher in the manufacturing sector.

4.1.2 Salient operational characteristics of the surveyed firms

The firms were asked to report about their output as a proportion of the maximum output possible if they were using all resources during the fiscal year before Covid-19 (2019/20). This question was intended to establish the level of capacity utilisation amongst the firms operating in the parks, as well as the factors that affect their operations. The highest range of capacity utilisation was 40-60%. Over 57% of the firms across sectors, firm size and in different industrial parks reported that level of capacity utilisation (see Table 5).

Capacity utilisation seemed to improve with firm size in most industries. On average, large sized firms outperformed medium sized firms at capacity utilization above 60%, with only one large-sized firm operating in the range of 80-90%. Most medium sized firms reported higher operational costs in the form of power tariffs and especially outages, skills gaps, and high transport costs. Their larger counterparts seem to enjoy economies of scale that help them reduce these costs. The main challenges they cited that limited capacity utilisation was closure of the Rwanda border, which affected their exports, and infrastructure challenges such as power outages, roads, and poor drainage.

TABLE 5: CAPACITY UTILISATION

Capacity utilization (%)	Medium	Large	Total
20-40	7.1	-	7.1
40-60	28.6	28.6	57.2
60-80	7.1	21.5	28.6
80-90	-	7.1	7.1
90-100	-	-	0
Total	42.8	57.2	100

Source: Survey

Firms were also asked whether they export any of their main products, and if they do, the proportion of their total output that they exported in FY 2019/20. Only 35.7% of the surveyed firms exported some of their main products, and these exported less than 20% of their output.

Some of the prominent products exported included iron and steel products exported in the EAC region, beverages (soda, water and juices) to EAC and DRC, ceramic products (tiles and toilet seats) to EAC and Zambia, candied/dried fruits exported to China, and cement (both general purpose and slag cement) to South Sudan and DRC. The rest of the firms (64.3%) did not export any of their output. The GoU offered a ten-year tax holiday to firms exporting 80% of total output, as an incentive to instill export discipline among manufacturing firms. Current performance of the firms operating in the industrial parks suggests that this incentive has not been utilised since no company has managed to export even half of the threshold required.

Also worth noting is the finding that 64% of the firms surveyed import between 40% and 60% of all the material inputs/supplies that they use to produce their output. Some of the prominent raw materials and industrial inputs imported by firms include galvanised steel wire and coils, fibre board, cement clinkers, copper wire, aluminium alloys and black printing ink. Others include corrugated paper, active yeasts, vinyl, pulp/fruit concentrates, adhesive paper and sewing thread among others. These are imported mainly from China, Russia, Kenya, Poland, Ukraine and South Africa in that order. Only 12% of the firms reported that they import less than 10% of the material inputs/supplies that they use to produce their output. These were mainly firms engaged in primary processing such as wood treatment, as well as firms engaged in logistics. The rest imported between 11% and 39% of their raw materials.

Asked to whom they sell their products, six in ten firms reported that they sell to both traders and final consumers. Two in ten firms sell only to final consumers, while the remaining two in ten sell to other manufacturing enterprises. None of the firms sells only to traders or only to traders and other manufacturing enterprises. This points to a question on how the relationships between manufacturers and distributors, distributors and retailers, franchisors and franchisees are regulated since Uganda does not have a competition and/or antitrust law. Most economists hold the view that competition lies at the heart of any successful market economy and that it is crucial to the protection of consumers and to ensuring efficient allocation of resources. It is also known that businesses everywhere strive to prevent, restrict or distort competition.

Manufacturing firms are known for abusing dominant market positions (for example, through exclusive dealings that tie a retailer or wholesaler to purchase from a firm, refusal to supply to eliminate competition, predatory pricing by selling below cost to drive competitors out of the market, etc.). Without a competition law, how will Uganda prevent anti-competitive agreements between manufacturers and distributors, distributors and retailers, franchisors and franchisees? How will the authorities prohibit firms from entering into anti-competitive agreements or concerted (informal, written or verbal) practices with others?



Textile workers at factory in Liao Shen Industrial Park at Kapeeka, Nakaseke District.

4.2 Employment opportunities and skills required in Uganda's industrial parks

This section examines employment characteristics in the firms surveyed. We begin by analysing the quality of employment through employment status. Then, we examine the earnings of workers and their working conditions, and the pattern and growth of employment. Then we conclude by analysing entrepreneurs' perception of the skills quality in Uganda.

4.2.1 Status of employment

The employment status of workers may be classified into production and non-production workers. Production workers include supervisors/foremen, skilled/semi-skilled operators, unskilled workers, and junior engineers. Non-production workers, on the other hand, include professional/technical, clerical/accountant, sales/service and security/canteen workers.⁵⁹ These workers may be further classified into regular and casual workers. Regular workers include those who are usually called permanent or regular by the firms surveyed. They may also be those who have been working for a longer period. Casual workers may be contract workers or other flexible labourers.

TABLE 6: DISTRIBUTION OF WORKERS BY PRODUCTION/NON-PRODUCTION WORKERS

Status	Medium	Large	Overall
Production	60.0	88.9	74.5
Non-Production	40.0	11.1	25.5
Total	100	100	100

Source: Survey

Table 6 presents the distribution of workers in the various industries in terms of their involvement in production. The results showed that at 74.5%, production workers dominated employment by the firms that were surveyed compared to non-production workers. In particular, production workers formed the highest proportion of workers at large firms (88.9%) compared with medium-sized firms (60%). Indeed, the share of non-production workers reduced with the firm size. Some of the medium-sized firms employed only non-production workers, a phenomenon uncommon among large firms.

The most dominant types among the production workers employed in large manufacturing firms across the industrial parks surveyed were "skilled operatives" and "supervisors/foremen".

59 Toner, 2011

These are employed more regularly than on contract, and are male dominated. For example, in three of the large manufacturing firms in Namanve and Kapeeka industrial parks, 92.5% of the skilled operatives and foremen are male. The number of female employees grows when management/administration positions such as professional/technical workers and clerical/accountant professionals are considered. Nonetheless, the non-production workers among medium sized firms are on average predominantly male (95%). It was not clear why women remain so vastly underrepresented in the manufacturing firms operating in the industrial parks. Future studies should examine in greater detail this glaring manufacturing gender gap, particularly in the production jobs of the sector.

4.3. Working conditions and quality of jobs in industrial parks

Working conditions or environment is understood- in the broader ILO framework on job quality- as a combination of job characteristics defining the setting in which workers operate. It encompasses a broad range of the non-pecuniary characteristics of a job, ranging from the nature of the labour tasks assigned to each worker, to the physical and social conditions under which these tasks are carried out, the characteristics of the firm where the work takes place, the scheduling of working time, the prospects that the job provides to workers, and the intrinsic rewards associated with the job. Table 7 summarises the indicators that ILO uses to define “decent” work.

To interrogate some of these indicators, we started by analysing the distribution of production workers by skill type. Then we analysed the income and earnings for both regular and casual workers. We interrogated the typical contract type per category of employee. Finally, we analysed the broader indicators of working conditions such as how the firms deal with accidents that employees face, the length of a shop-floor shift, the total number of hours a week each employee works, and whether the firm received any labour inspectors in the year preceding the study.

TABLE 7: ILO DECENT WORK INDICATORS

Dimensions	Indicator
a. Intrinsic job quality	<ul style="list-style-type: none"> • Pay per month relative to average manufacturing wage index • Contract type (short vs. long term) • Worker satisfaction by type of work in present job • Real earnings of casual workers relative to national median earnings
b. Lifelong learning and career development	<ul style="list-style-type: none"> • On-the-job training over last 12 months • % of workers using computers to accomplish tasks • Main job involves learning new things • Perceived career prospects from current job

Dimensions	Indicator
c. Health and safety at work	<ul style="list-style-type: none"> • Incidence rate of accidents (fatal or otherwise) • Number of days lost due to sickness • Exposure to harassment, humiliation, etc. • Work when sick over last 12 months • Labour inspection
d. Flexibility and job security	<ul style="list-style-type: none"> • Work intensity • Number of employees working part-time or with fixed-term contract • Perceived worker security
Decent working time and work-life balance	<ul style="list-style-type: none"> • Number of working hours a week • Maternity protection and care leave entitlement • Presence of care facility for small children at organisation. • Workers allowed to take time off to take care of personal or family matters • Working hours fit with family or social commitments outside work • Commuting time • Level of worker satisfaction with their work-life balance
Collective interest representation	<ul style="list-style-type: none"> • Membership of trade union • Whether the worker is consulted about changes in work organisation • Workers represented in top management meetings and can freely express their views. • Days not worked due to strikes
Equal opportunity and treatment	<ul style="list-style-type: none"> • Occupational segregation by sex • Female share of employment in senior and middle management • Gender wage gap
Social security protection	<ul style="list-style-type: none"> • Share of workers contributing to a pension scheme • Medical insurance coverage

Source: Extracted by author from ILO (2012) and UNECE (2015)

4.3.1 Distribution of production workers by skill type of workers

Table 8 shows the distribution of production workers currently employed by the surveyed firms by skill type. Overall, two thirds of the workers were skilled, 23% unskilled and 11% semi-skilled. However, the differences lie in the level of skills among the various industries. The logistics sector had the highest proportion of skilled workers (89.7%) followed by manufacturing 71%. At only 44%, agro-processing firms had the lowest proportion of workers. But agro-processors also reported a higher proportion of semi-skilled workers (22%) than any other sector, and the highest proportion of unskilled workers (33.7%).

TABLE 8: DISTRIBUTION OF PRODUCTION WORKERS BY SKILL TYPE OF WORKERS

Skill Type	Agro	Logistics	Manufacturing	Other	Overall
Skilled	44.2	89.7	71.3	59.4	66.2
Semi-skilled	22.1	7.9	6.1	9.3	11.4
Unskilled	33.7	2.4	22.6	31.3	22.5
Total	100	100	100	100	100

Source: Survey

It was also observed that the proportion of skilled workers increased with the firm size, particularly in the manufacturing sector. For example, two large manufacturing firms in Namanve industrial park reported an average of 96.4% of their workforce as skilled. The reason for this lies in the nature of work in these firms, which consists in large part of shop-floor manufacturing processes, as opposed to firms in agro-processing that require a substantial number of semi- and unskilled operatives.

4.3.2 Income and earnings

The average monthly salaries of regular workers are presented in Table 9. Overall, the average monthly salary of skilled regular workers was five times higher than that of unskilled workers. The average salary difference between skilled and unskilled workers was much higher in medium-sized firms (nearly seven times) compared to large firms (just above four times higher). There was no observable firm-size induced difference in salaries between semi-skilled and unskilled workers. It appears when it comes to semi-skilled and unskilled workers, all categories of firms (medium and large) hire from the same segment of the labour market. However, the average salaries of semi-skilled and unskilled workers in large firms were twice those in medium-sized firms.

It is important to note that the data quality on income and earnings for large firms could have been impacted by their unwillingness to provide information on the wages they pay their workers. Only a third of the large firms in different industrial parks provided information on the wages paid to workers. Over 66% of the large firms left questions 29 and 53 on the questionnaire (see Annex 1) unanswered, while one of the firms responded thus, “This is very sensitive information that requires clearance from the Chairman.” That clearance did not occur even when we wrote to the Chairman as advised.

TABLE 9: AVERAGE MONTHLY SALARY (IN USHS) OF REGULAR PRODUCTION WORKERS BY INDUSTRY

Skill Type	Medium-Sized Firms	Large Firms	Overall
Skilled	1,500,000	2,200,000	1,850,000
Semi-skilled	500,000	1,000,000	750,000
Unskilled	220,000	500,000	350,000

Source: Survey [Currency Equivalent: US\$ 1 = UShs 3,555 as at 31st July 2021]

Whereas the typical contract type for employees of most large firms was permanent, a large proportion of medium-sized firms preferred contract labour. Over 70% of the surveyed medium-sized firms (across sectors) reported substantial numbers of casual/contract/flexible/outsourced workers, while over 68% of the large firms reported that their workers were on permanent contracts.

The large firms that reported a substantial proportion of contract labour, especially in production, as well as most medium-sized firms, typically paid a daily wage as opposed to a monthly salary. The average daily wage for a casual semi-skilled worker was reported at UShs. 10,000 (which translates into a monthly take-home of UShs. 240,000) and was 1.7 times higher than the average paid to the unskilled casual worker of UShs. 6,000 (or a monthly wage of about UShs. 144,000). Interestingly, the daily wages paid to unskilled casual workers in large firms were generally lower than those paid by medium sized firms. Semi-skilled and unskilled workers are typically offered temporary contracts ranging between one and four months. However, 42% of the firms did not respond to the question of whether they offer a contract to their casual workers or not.

Although these average monthly salaries may appear low at face value, they are slightly higher than the national median monthly wage. The latest Uganda National Household Survey (UNHS) shows that the overall median monthly wage of an employee in Uganda was UShs. 168,000 per month, with the median wage in urban areas (UShs. 220,000) almost twice the wage in rural areas (UShs. 120,000).

4.3.3 Do firms in industrial parks exploit their workers?

In economic theory, a firm pays the last worker it hires what they're worth to the firm. Every other worker brings in more revenue than the firm pays him or her. This has sometimes led people to the claim that (unregulated) employers exploit workers (i.e. taking unfair advantage of their workers) because they do not pay the workers what they are worth (or what economists call marginal product). This study (see Section 4.3.2 above) has established that a skilled production worker in a firm located in a Ugandan industrial park is paid UShs. 1,850,000 (US\$ 500) a month on average, while an unskilled worker is paid UShs. 350,000 (US\$ 97) on average.

It was found that the average pay increases with the size of the firm, with large firms paying their skilled workers higher monthly salaries of UShs. 2,200,000 (US\$ 610) and unskilled workers UShs. 500,000 (US\$ 140) compared with the UShs. 1,500,000 (US\$ 417) and UShs. 220,000 (US\$ 60) that medium-sized firms pay their skilled and unskilled workers respectively. Is this exploitation, or it is what each category of workers is worth? This is difficult to answer based purely on the face value of these figures.

However, it should be noted that for each of these workers to be employed by the firm, capital (financial and physical capital) and technology must be paid for by the firm. In economic theory, the difference between workers' worth and their compensation goes to pay for the capital and technology, without which the workers wouldn't have a job. The difference also goes to the firm's profit, without which the firm would close and workers wouldn't have a job. Unregulated private limited companies tend to be reluctant to reveal their profits because often they may be deemed excessive, in which case it would imply exploitation of labour and/or other productive factors. It is therefore in the manufacturing firms' interest to facilitate analyses that would comprehensively reveal a return to each factor vis-à-vis its cost such that empirical evidence is provided on whether or not firms in Uganda's industry exploit their workers. Analyses of this nature require information on factory inputs and their prices, as well as sales and sales revenue. This is information which most firms were unwilling to provide.

Additionally, it would be more rewarding to push, first and fast, for improved working conditions in the manufacturing firms. Practice has shown that non-wage factors such as working conditions can be more important in determining worker morale and productivity than wages per se.⁶⁰ If non-wage factors are negative, the higher wages may be insufficient to boost productivity. Since Uganda's industry is still in its formative stage, most firms enjoy monopsony power (that is, they are unique employers) and thus can comfortably dictate the wages they pay. Such firms have no incentive to raise wages to retain labour, including high quality workers. This implies that there is limited room, if any, for Ugandan workers or trade unions to negotiate for pay rises or the minimum wage. The bill seeking to establish a minimum wage was passed by the Uganda Parliament in 2015 but rejected by the President who argued that would have negative implications for investment and the economy.

⁶⁰ For example, a recent study on job satisfaction among factory workers (Najimuddin & Abeyundara, 2019) found that work arrangements in the workplace, the distance employees travel, and modes of transportation available to employees were the most influential factors for their job satisfaction.

4.3.4 Overall working conditions

To further investigate the level of decent work and the work-life balance in firms domiciled in Uganda's industrial parks, we asked the firms to report the average number of weekly working hours for different categories of workers, as well as whether the workers are entitled to paid maternity leave, whether the firm has a care facility for small children, the average commuting time for a typical employee, and whether workers in the firm belong to any trade union.

TABLE 10: AVERAGE WORKING HOURS PER WEEK BY TYPE OF WORKERS AND INDUSTRY

Type of Worker	Medium	Large	Total
Managerial	45.3	52.7	49.0
Sales & Admin	45.3	48.7	47.0
Production workers	45.3	55.3	50.3
Average shifts	1.0	2.5	1.3

Source: Survey

The average number of working hours at the surveyed firms for production workers (50 hours per week) and managers (49 hours per week) were higher than the international labour standards on working time for industry of 48 hours per week (according to ILO's Hours of Work (Industry) Convention 1919). However, the sales and administration personnel worked one hour less than the international average. Working less means being able to spend time becoming more educated, or simply enjoying leisure time. The average weekly working hours were highest in large firms, particularly for production workers (55 hours) and managers (53 hours). Notably, production workers and managers in one manufacturing firm work 70 and 60 hours a week respectively. Workers at medium-sized firms worked 45 hours a week, in only one daily shift on average, compared to their colleagues in large firms who work 2.5 shifts on average. The existing legal and regulatory framework in Uganda provides for an eight-hour working day and a 48-hour working week, with extra hours payable as overtime.⁶¹ The law further guides that even when overtime is offered, the hours of work should not exceed ten per day and 56 per week.

It is important to note that the Hours of Work (Industry) Convention, 1919 (No. 1) provides for exceptions where the international limit of 48 hours of work per week may be exceeded, such as in processes which are required to be carried on continuously by a succession of shifts, but these exceptions are subject to the condition that the working hours must not exceed 56 in the week on the average. Asked whether workers are entitled to paid maternity leave, all of the surveyed firms (of all sizes) answered

⁶¹ The Employment Act, 2006

in the affirmative and reported that they offer working mothers such a leave of between 60 and 90 working days. Meanwhile the ILO Maternity Protection Convention No. 183 provides for 14 weeks (3.5 months) of paid maternity leave. We also asked firms whether they have a care facility for small children on site, to enable nursing mothers to work. None of the surveyed firms had such a facility.

When it came to the average commuting time for a typical employee, firms in industrial parks located in and around Kampala reported one hour while those in parks located in the countryside reported two hours.

However, commuting time in and around Kampala may be significantly longer than reported because of frequent construction work to repair roads, rain, and traffic congestion. Commuting time to industrial parks from residential neighbourhoods is significant. A substantial number of workers are also often seen walking to and from the industrial parks and other factories along highways. If higher, commuting time increases levels of physical and psychological strain/stress and fatigue among workers as well as exposure to pollutants and, by extension, to cardio-respiratory diseases. In some industrial parks, informal units have been illegally erected in the neighbourhoods to get around these problems.

Finally, we asked the firms whether their workers belonged to any trade union. Two thirds of the large surveyed firms responded in the affirmative, while only one third of medium firms had their workers belonging to a trade union. The ILO suggests that industrial relations, and in particular union membership, are a means to promote better wages and working conditions as well as social justice. There is currently no legal standard or guidelines for determining the representativity of competing trade unions within an enterprise or for collective bargaining in Uganda.

We also probed other indicators of working conditions such as the ways through which firms deal with accidents that employees face, worker contribution to pension schemes, insurance cover, as well as policy issues, and particularly labour inspection. As far as dealing with accidents is concerned, only a third of the large firms had their staff covered under a GPA (Group Personal Accident) Insurance Policy, which provides financial protection to employees against unexpected events such as accidents. The remaining two thirds of large firms surveyed reported vaguely about this critical requirement, such as “[The accident is] reported, investigated, [and] come up with a corrective action. The action is implemented and monitored for effectiveness.” Interestingly medium-sized firms responded in a more convincing way about this subject, with most of them reporting HSE (personal security coordinator) supervision and workers’ compensation as well as first-aid training to staff and affiliation to nearby clinics to deal with accidents. Over 83% of the firms had their permanent staff covered by medical insurance.

On worker contributions to a pension scheme, all of the large firms surveyed stated that their workers contributed to some form of pension scheme, ranging from national saving schemes such as the National Social Security Fund (NSSF) to in-house provident funds, as well as to privately-provided schemes such as the UAP Provident Fund. Only a third of the medium-sized firms surveyed stated that their workers contributed to a pension scheme. These were permanently contracted workers,

excluding those on temporary contracts and casual workers. A majority of these firms (67%) reported that they do not contribute to the social security funds of their workers.

We also asked the firms whether they had received any labour inspectors over the previous 12 months. Overall, two thirds of the surveyed firms had been inspected, and there was no difference between medium and large firms, or between the industrial parks.

4.3.5 Labour regulations

Overall, the firms surveyed reported that labour regulations were not an obstacle. Only a couple of medium-sized firms saw them as a “minor obstacle”. The reason for a lower perception of labour regulations as an obstacle is because most labour laws in Uganda,⁶² though entrenched, are seldom enforced. Challenges in the implementation of these laws arise in various ways, especially due to the lack of a cohesive trade union movement in the country and because of challenges with enforcement by the relevant government agencies. In addition, the private-sector led economic model has elevated the investor and profit motive to a supreme position.

International competitiveness reports such as World Bank’s Doing Business and the Global Competitiveness Index rank Uganda favourably as far as labour market liberalisation is concerned. For example, “restrictive labour regulations” have often been ranked last among the “most problematic factors for doing business” in Uganda.⁶³ Employment regulation in Uganda is considered very flexible and convenient for investors. Why? Perhaps because of the flexibility of wage determination, or because firms can hire and fire easily and pay relatively lower weekly wages, amongst other factors. Although these are good for investment attraction, they negatively impact workers’ welfare and advocacy for workers’ rights.

62 *The parent law for employment (also known as labour law) is the Constitution of Uganda of 1995, as amended. The Constitution sets out certain rights of employees, including the right of workers to organise in trade unions and other labour organisations, the right of persons to work under satisfactory, safe and healthy conditions, equal pay for equal work without discrimination; a requirement for rest and reasonable working hours with periods of holiday with pay as well as remuneration for public holidays, and the right of every female worker to be accorded protection by their employer during pregnancy and after birth. Other labour laws in Uganda are contained in the Employment Act, 2006, The Labour Unions Act, 2006, the Workers Compensation Act, Cap 225, The Occupational Safety and Health Act, 2006, The Minimum Wages Advisory Board and Wages Council Act, Cap 221, The Labour Disputes (Arbitration and Settlement) Act, 2006, The National Social Security Fund Act, Cap 222, The Pensions Act, Cap 286 and in common law and equity.*

63 See The Global Competitiveness Index 2017-2018 edition. Here: http://www3.weforum.org/docs/GCR2017-2018/03CountryProfiles/Standalone2-pagerprofiles/WEF_GCI_2017_2018_Profile_Uganda.pdf



Roofing Rolling Mills factory in Kampala
Industrial and Business Park at Namanve.

4.4 Skills and training in the manufacturing sector

This section examines the extent of the skills gap in the manufacturing sector among firms operating in Uganda's industrial parks. In particular, it investigates the skill level and skill demand in order to determine the skills gap. Then it examines the scope of skill training and apprenticeship among firms operating in the industrial parks to bridge the gap and improve the level of productivity of their workers. In the end this can help to better understand the demand for skilled workers, and so to move the debate on skilling and training in Uganda away from focusing on the supply side only.

4.4.1 Skill Level

Table 11 presents the distribution of workers in the surveyed firms by skill level. Almost three quarters (74%) of the total workers were production workers, and this group was dominated by skilled and semi-skilled workers who can operate machines and instruments. They also included supervisors/foremen and junior engineers. Skilled workers perform routine cognitive tasks⁶⁴ and they are educated up to a higher secondary school level and TVET. They also acquire more skill through experience (see Table 12).

TABLE 11: DISTRIBUTION OF WORKERS BY SKILL LEVEL OF JOBS

Skill Level	Medium	Large	Overall Average
Production	74.7	73.5	74.1
Non-Production	25.3	26.5	25.9
Total	100	100	100

Source: Survey

Semi-skilled workers normally perform non-routine manual tasks⁶⁵ and are usually educated up to a secondary school level. Supervisors or foremen perform non-routine cognitive/interactive tasks and are required to have TVET and a Diploma in engineering. The last category of production workers listed were the unskilled workers. These workers perform routine manual tasks⁶⁶ and are usually educated up to a primary school level. There was no observable difference in skill level of production workers between medium and large firms.

64 For example Metal Production Process Controllers who coordinate and monitor the operation of a particular aspect of metal processing production through control panels, computer terminals or other control systems, usually from a central control room, or Chemical Processing Plant Controllers who operate electronic or computerised control panels from a central control room to monitor and optimise physical and chemical processes for several processing units.

65 For example Security Guards, who control access to establishments such as a factory, monitoring and authorising the entrance or departure of employees and visitors, checking identification and issuing factory security passes.

66 For example, Machine Operators who perform routine manual tasks such as operating and monitoring machines for tearing woollen rags into fibre, or operating and monitoring machines which mark patterns and cut shoe parts

On the other hand, non-production workers were mainly those working in management/administration and typically performing non-routine cognitive/analytical tasks. Their education level is a university degree and above, although some of them who work in lower administrative jobs such as clerical, sales and security/canteen etc. possess lower qualifications.

TABLE 12: SKILLS LEVELS, TYPES AND EDUCATION LEVELS

Types of Skill	Skill Classification	Educational level
Routine manual tasks	Unskilled	Up to primary school
Non-routine manual tasks	Semi-skilled	Up to secondary school
Routine cognitive tasks	Skilled	Up to higher secondary school, TVET, also through experience
Non-routine cognitive/ interactive tasks	Setter, supervisor	TVET and Diploma Engineer
Non-routine cognitive/ analytical tasks	Manager/ professional	Graduate and above

Source: ILO (2014)

4.4.2 Skill demand

The units surveyed were asked to specify their educational requirements when hiring different kinds of workers such as supervisors, operators and helpers. Table 13 summarises their responses to this question. All the firms surveyed reported an education requirement for supervisors and operators no matter the sector and size of the firm. With the exception of large agro and large logistics firms, other firms surveyed did not report any education requirement for helpers.

TABLE 13: SKILL LEVEL QUALIFICATION REQUIRED FOR WORKERS

Level	Agro		Logistics		Manufacturing		Other		Overall
	Medium	Large	Medium	Large	Medium	Large	Medium	Large	
Supervisor	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Operator	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Helper	No	Yes	No	Yes	No	No	No	No	No

Source: Survey

The demand for skilled workers was further ascertained by asking the firms about the level of difficulty faced in hiring skilled workers. Eight in ten firms that were surveyed reported that they faced no obstacle in hiring skilled workers.

The remaining two in ten firms reported that they faced a “minor obstacle” in hiring skilled workers. Across all different sectors and industrial parks, no firm reported facing a major obstacle in hiring skilled workers. This finding is similar to ODI (2019) that reports that skills did not emerge as a key constraint in relation to the manufacturing sector.

4.4.3 The Skills Gap

In order to establish the perceived skills gap, we further probed the firms by asking them a follow-up question about skills demand; namely, whether the firms encountered difficulties in hiring workers because of insufficient skills. The ability to hire skilled workers depends upon the availability of such skilled or experienced workers in the market and also on the ability of firms to pay the salaries demanded by them. Table 14 shows that overall the surveyed firms faced no difficulty hiring workers caused by insufficient skills, except a few firms that struggled to hire engineers (only 11% of the firms) and managers (22%). It’s only the medium-sized firms that struggled to find engineers for hire. When asked to give the reason(s), 20% of the medium-sized firms said the applicants they received were not of sufficient quality. In addition, 20% of the medium firms and 11% of the large firms reported that they were struggling to hire unit managers because applicants lacked work experience in some specific areas that the companies demanded.

TABLE 14: PROPORTION OF FIRMS THAT FACE DIFFICULTY IN HIRING WORKERS BECAUSE OF SKILL INSUFFICIENCY BY TYPE OF WORKERS

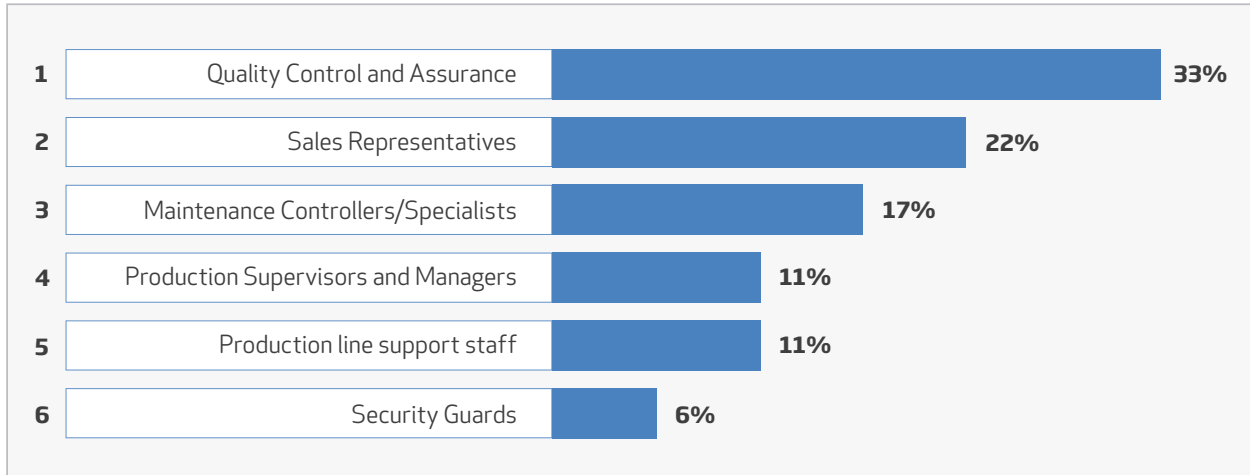
Skill type	Medium	Large	Total
Unskilled workers	-	-	-
Skilled workers	-	-	-
Engineers	20.0	-	11.1
Managers	20.0	11.0	22.2

Source: Survey

However, when asked whether they faced problems in which staff could not implement job tasks due to insufficient proficiency, 50% of the surveyed firms answered in the affirmative. This problem increased with the size of the firm. About 75% of the large firms reported that they faced this problem, compared with only one in ten medium-sized firms. Asked to list up to five occupations in which they experienced persistent failure of staff to implement assigned job-related tasks due to insufficient proficiency, large firms reported the occupations listed in Figure 1. The list of occupations corresponds to the weighted ranking of the responses according to the frequency with which each was mentioned. The weighted ranking adds up to 100%. Quality control and assurance was mentioned by a third of the firms, followed by sales representatives (22%), and maintenance specialists (17%).

Interestingly, even non-technical occupations in industry such as security guards were also listed among the jobs where there was insufficient proficiency causing persistent failure of staff to implement the assigned tasks.

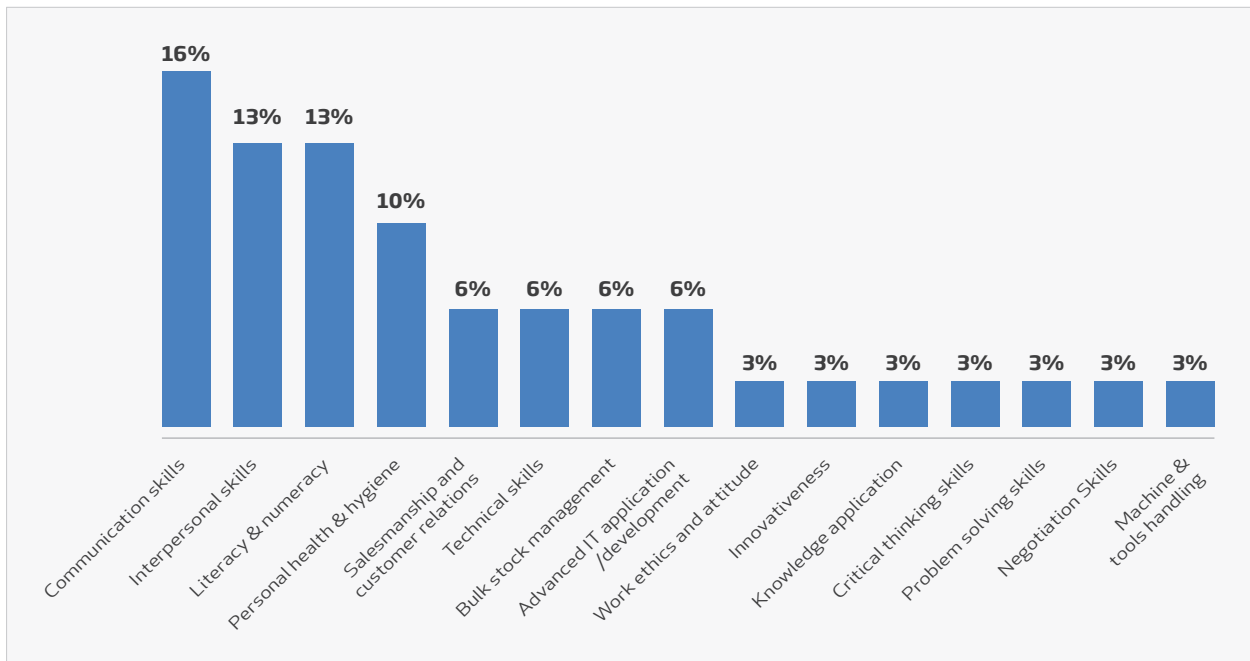
FIGURE 1: OCCUPATIONS IN WHICH SURVEYED FIRMS' EXPERIENCED PERSISTENT FAILURE OF STAFF TO IMPLEMENT ASSIGNED JOB-RELATED TASKS DUE TO INSUFFICIENT PROFICIENCY



Source: Survey

The firms were also asked to list skills they deemed important in the workplace, in order of importance. Interestingly, Figure 2 shows that the top four skills that the firms mentioned were general skills—oral and written communication, interpersonal skills, literacy and numeracy, and personal health and hygiene (mainly mentioned by industries engaged in processing or handling of food).

FIGURE 2: IMPORTANT SKILLS IN THE WORKPLACE IN THE ORDER OF IMPORTANCE



Source: Survey

Interestingly these same skills (communication, interpersonal skills, and literacy and numeracy) were the ones mentioned when firms were asked to list the skills in which they experienced persistent failure of staff to implement assigned job-related tasks due to insufficient proficiency.

4.4.4 Skills training

We asked the surveyed firms whether they provide training to staff when they join the industries. Table 15 shows that only about 8% medium-sized firms that were surveyed did not provide any training for their workers (both shop-floor and management & administrative) when they joined work. All large firms that were surveyed provided in-house training to their workers when they joined the workforce. Controlling for logistics and warehousing, manufacturing firms (at 98%) were more concerned about training their workers than other industries.

Firms reported that when new shop-floor workers joined, they were trained in occupational health and safety, quality control and assurance, work place practices, and machine operation. When it came to management and administrative staff, firms reported training them in team building, communication, corporate governance, management, team building, company policies, legal and compliance, as well as human resource policies and procedures.

TABLE 15: DISTRIBUTION OF FIRMS PROVIDING TRAINING TO SHOP-FLOOR AND MANAGEMENT & ADMINISTRATIVE WORKERS AT THE TIME OF JOINING

Firm Type	Medium	Large	Total
Agro	90.4	100	95.2
Logistics & Warehousing	-	100	100.0
Manufacturing	95.5	100	97.8
Others	89.2	100	94.6
Total	91.7	100	95.9

Source: Survey

The large firms also reported that they develop the skills of their staff through training from equipment suppliers, coaching by senior staff, mentoring, and by offering them in-house training.

4.4.5. Apprenticeships

We asked the firms whether they employed apprentices, and if so whether they offered the apprenticeship as a legal/regulatory requirement, or on their own discretion. We further inquired whether those that accepted apprentices contracted and paid any stipend to them, and if so how much. Table 16 shows that on average 95% of the large firms that were surveyed employed apprentices, compared to less than 7% of the medium-sized firms that accepted apprentices. All the large manufacturing firms and 98% of those in agro-processing that were surveyed reported that they employed apprentices, with numbers ranging between nine and twenty.

TABLE 16: DISTRIBUTION OF FIRMS THAT EMPLOYED APPRENTICES BY SIZE AND TYPE

Firm type	Medium	Large	Total
Agro	-	98.0	49.0
Logistics & Warehousing	-	-	-
Manufacturing	-	100.0	50.0
Others	26.4	87.8	57.1
Total	6.6	95.3	50.9

Source: Survey

All the firms that accepted apprentices did it at their own discretion as opposed to being compelled by any legal/regulatory requirement. Only half of the surveyed firms that employed apprentices paid them any monthly stipend, and stipends ranged between UShs 500,000 and UShs 2,000,000 (US\$140 and US\$550). Those that paid a stipend also offered a contract to the apprentices.

However all the surveyed firms (including those that reported that they did not employ apprentices) considered having an apprentice as a worthwhile endeavour. Some of the reasons cited included developing future labour, creating brand ambassadors, providing cheap labour, and the building of a recruitment reservoir for the firm. Others cited provision of opportunity to grow a skilled, talented and qualified workforce. One large manufacturing firm reported that apprentices have contributed “amazing fresh ideas that have improved efficiency and effectiveness in the company.” Firms also reported that apprenticeships provide opportunities for them to equip young graduates with hands-on technical skills to increase their employability.

The Cabinet endorsed the Uganda National Apprenticeship Framework (UNAF) in 2018 with a directive to Ministry of Gender, Labour and Social Development (MoGLSD) to design and pilot an Apprenticeship Scheme. The scheme is being piloted in the Hotel Sector, and information from MoGLSD shows that the curriculum and trainers’ manuals are being developed. It was not clear whether the employers (private sector, in this case the industrialists) were leading the process to ensure the scheme was tailored to their needs.

Box 1: Apprenticeship and internship by Uganda Manufacturers Association (UMA) and German Agency for International Cooperation (GIZ)

1. Higher Education Science and Technology (HEST) Project

Between 2015 and 2019 the Uganda Manufacturers Association (UMA) implemented an internship scheme called the Higher Education Science and Technology (HEST) project, in partnership with the Ministry of Education and Sports and funded by the African Development Bank (AfDB). The project targeted students from Makerere University, Gulu University, Kyambogo University, Muni University, Lira University, Busitema University, Mbarara University of Science and Technology and Makerere University Business School, with a focus on those studying science and technology. The objectives of the HEST project were to:

- Increase the capacity of UMA to manage internship programs
- Promote apprenticeship and internship among UMA members and other private sector companies
- Improve the skills of science and technology students
- Reduce industries' reliance on expensive expatriate labour

During each of the five years of the program, UMA would receive lists of recommended applicants from the pool of institutions, then hold a two-to-three-day induction training covering basic life- and workplace-based skills, and finally they would issue contractual letters to selected students to be presented to companies as confirmation for internship placement. A total of 5,502 interns were registered and trained during the five years of the project, considerably more than the target of 2000 interns. The skills in which they received training included report writing, communication, time management, teamwork, interpersonal relations and attitude change, problem-solving, introduction to entrepreneurship, and occupational health and safety and insurance.

2. Ready-to-Work Project by GIZ

Relatedly, the GIZ, in partnership with Absa Bank and UMA, runs an Employment and Skills for Development in Africa (E4D) initiative which focuses on preparing young people for the world of work. Through this Ready to Work Project, university and vocational graduates get access to work, human resources, money and entrepreneurship skills.

The objective is to improve the employment outcomes of young people with post-secondary, technical or tertiary education, which is why the project helps students to get soft skills training, internship placements and mentorship. So far over 2,400 students have been trained and certified, and over 960 of these have found decent employment.



A worker inspecting oxygen cylinders at Roofing Rolling Mills factory at Namanve Industrial Park before distribution to hospitals in Uganda.

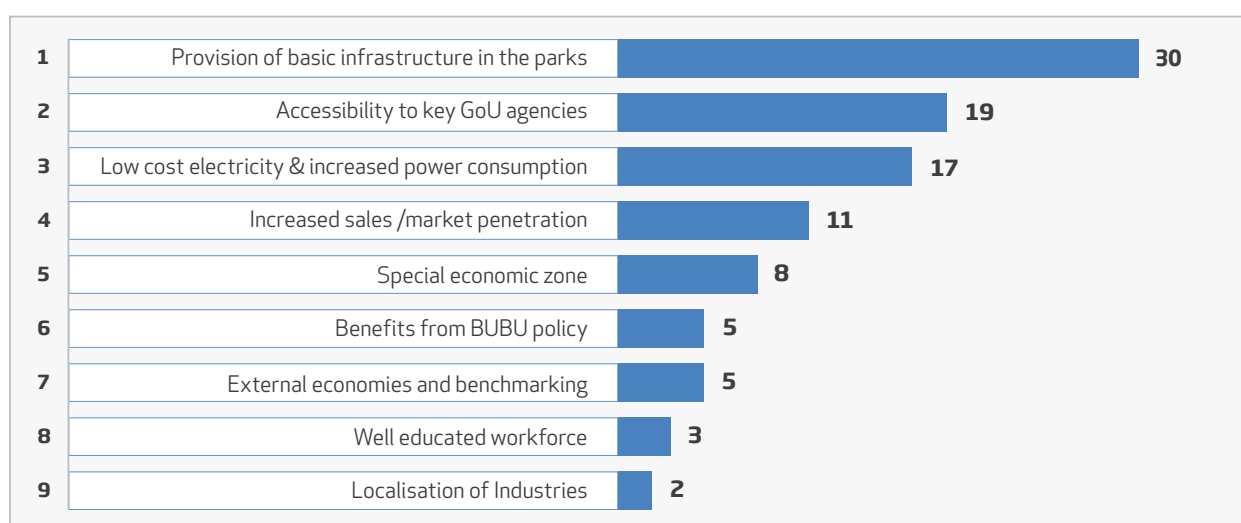
4.5 Success stories in Uganda’s industrial parks

Surveyed firms were asked to delineate the key successes or benefits they had registered in the recent past on account of locating their operations within the boundaries of an industrial park relative to operating outside of a park. Figure 3 illustrates the responses, whose ranking was weighted according to the frequency with which each success/benefit was mentioned. The weighted ranking adds up to 100%. The surveyed firms cited provision of basic infrastructure, particularly access to good and spacious road networks, electricity and water, as the top-ranked successes/benefits they achieved by locating within an industrial park. Interestingly, infrastructure also doubled as one of the key challenges cited by the surveyed firms (see section 4.6). This serves to underscore the significance of good infrastructure to the firms, and also the level at which performance of firms located outside of the parks could be adversely affected by poor infrastructure.

The firms also cited the ease with which they accessed Government of Uganda (GoU) agencies delegated to facilitate industry as another key benefit. Locating in industrial parks has provided firms with the opportunity to get relatively quicker access to government services through UIA’s One-Stop Centre. Through UIA, firms can access services for business registration (URSB), tax registration and payment (URA), land offices (MoLHUD), environmental management (NEMA), the standards bureau (UNBS), the work permit office (MoIA), providers of utilities (UMEME and NWSC), the free zone authority (UFZA), labour related offices (FUE and MoGLSD), and city/municipal authorities (KCCA etc.).

They also cited the benefit of the low electricity tariffs paid when a firm is located in the park relative to those paid when located outside. For example, during the last quarter of 2020, a large heavy manufacturing firm located in one of the parks paid 6.28 US\$ cents per kilowatt hour (kWh) of electricity during energy off-peak hours and 10.76 US\$ cents during energy peak hours. Its plant located outside the park paid 6.62 and 13.11 US\$ cents during off-peak and peak hours respectively. The two plants also paid varying tariffs during “normal” (energy shoulder) hours- 8.20 US\$ cents for the plant within the park compared to 9.85 US\$ cents for the plant located outside the park.

FIGURE 3: KEY BENEFITS OF LOCATING WITHIN THE INDUSTRIAL PARKS



Source: Survey

The surveyed firms also cited increased sales and market penetration as another benefit accrued from locating in the parks. This has led to increased revenue, employment, profitability, and tax revenue contribution as benefits to the overall economy. About 42% of the firms surveyed reported increased revenue and profitability in 2020 despite the pandemic. Most of them attribute this to the “favourable government policies” that subsidised them and also protected their markets.

Some of the firms located in the industrial parks reported that they were enjoying some benefits from being treated as a special economic zone. These include income tax holidays, simplified customs procedures, free land, and “other exemptions”. These, however, were mainly foreign-owned firms. In the survey, no local business cited these benefits although information from UIA shows that they also benefit.

A small proportion of firms, particularly large firms, cited the ‘Buy Uganda, Build Uganda’ (BUBU) policy as a success that has boosted sales. Through BUBU, which launched in March 2019, these largely manufacturing firms have been awarded big contracts to supply public construction projects with cement, electricity transmission materials and other materials.

External economies and benchmarking was also cited as a benefit of locating in a park. By locating in close proximity to each other in a park, firms reported that they have the opportunity to observe the business processes of other firms, particularly FDIs, and to use them as a benchmark. By doing this, they are gradually learning new ways to improve their own operations.

Relatedly, agglomeration economies of scale have started to accrue to medium-sized enterprises located in the parks. They have, for example, started to enjoy productivity benefits accruing from large firms locating within the industrial parks. For example, one large manufacturing firm in Namanve Industrial Park reported that it is supplying 39 other formal small and medium-sized (SME) manufacturers, as well as over 3,000 informal fabricators and artisanal firms located within the vicinity of the park.

Other successes reported include easy access to an educated and young workforce, including casual workers that are easy to train thanks to their educational background. Firms can also easily recruit from competitors. Localization of industries has facilitated business process outsourcing and also given firms greater opportunities to work with other manufacturers in product development and brand equity.

Another observed success that was surprisingly not mentioned by the surveyed firms is the creation of employment and value. For example, a single heavy manufacturing firm located in Namanve Park reported direct employment of 1,457 workers (of which 56 are engineers), and another 8,203 people who are indirectly employed or outsourced. However, the numbers employed directly are still lower than international standards, which require “at least 25% of total firm workers in industrial park to be

employed through direct employment and permanent contracts, not on a fee-for-output basis.”⁶⁷ The average proportion of workers employed directly and on permanent contracts in a typical firm located in Uganda’s industrial parks is 15%.

Some of the surveyed foreign-owned firms operating in the industrial parks also cited reduction of work permit fees as a big advantage for them. They observed that this cost had been reduced to \$400 from \$2,500 per year, a reduction of 84%.

4.6 Challenges faced by industrial parks

We also inquired from the surveyed firms and industrial park proprietors and/or administrators whether there were disadvantages to firms locating within the industrial parks relative to firms operating outside the parks, as well as other outstanding challenges the firms faced. Figure 4 summarises the challenges as cited by the firms and/or park administrators. The ranking was weighted according to the frequency with which each challenge was mentioned. The weighted ranking adds up to 100%.

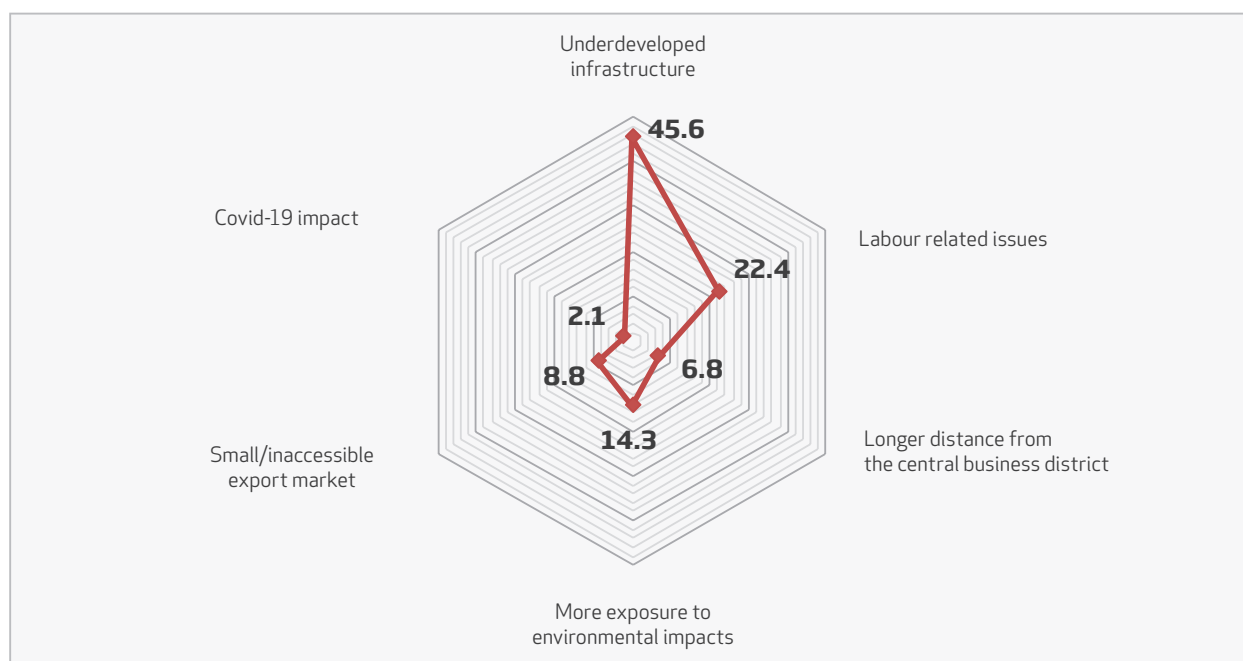
Underdeveloped infrastructure stands out as the main challenge cited by the surveyed firms. It was cited by firms in all of the surveyed industrial parks. Inadequate road infrastructure was in particular cited by firms. For example, out of the total network of 42km of planned roads in the Namanve Park (KIBP)- the most developed park in the country- less than 10km has been tarmacked. Surveyed firms resident in the park reported that they had spent their own resources to procure water trucks to wet the dusty roads adjacent to their factories. Their representatives that were interviewed spoke bitterly about GoU’s failure to fix the roads.

Relatedly, since most parks were still under construction with a range of infrastructure and civil works also under construction by different developers, firms face the challenge of poor drainage which often results in flooding during rainy seasons.⁶⁸ A significant portion of the road network was still hard-packed dirt and thus dusty when dry and muddy when wet. For example, firms reported that the incomplete Jinja Road roadworks across from the gate of Namanve Park made the park very dusty during dry season and muddy during rainy season. A number of these firms deal in food processing or other kinds of enterprises that require a clean environment as a prerequisite for functioning. These particular firms also mentioned that the non-integrated location of industries in the parks (e.g. locating a smelting firm next to a food processor) leads to operational challenges and low economies of scale.

67 See Van Beers et al., 2020

68 Most industrial parks are located in wetlands, making them vulnerable to flooding. It has also raised the cost of civil works that firms incur to prepare sites for construction (sites require backfilling with earthen material such as murrum, soil, rock, shingle and aggregate). It may also raise environmental damage due to change in the wetlands’ ecological character.

FIGURE 4: CHALLENGES FACED BY FIRMS IN INDUSTRIAL PARKS



Source: Survey

Another pressing infrastructure-related challenge cited by the surveyed firms was poor-quality electricity supply leading to frequent power fluctuations that harm industrial equipment and firm productivity. Over 73% of the firms involved in the study, across different industrial parks (GoU-owned and private; upcountry and city-based parks) cited this problem. Firms reported that most GoU MDAs are not responsive to their infrastructural needs and demands.

Firms, especially those located in upcountry parks, cited labour-related issues as obstacles. These included labour cost, relatively long commuting times for employees since most parks do not provide accommodation to workers, most workers not being equipped with the knowledge and skills for the new technology applicable to manufacturing firms, and workers lacking in general soft skills such as communication skills, interpersonal skills, negotiation skills, problem-solving skills, and critical thinking skills. They also cited a lack of supporting infrastructure/programs for skills development within the parks and/or in the country. All surveyed firms reported that there were no business development services (BDS) offered to enterprises domiciled in the parks.

In addition, firms also cited the long distance from the central business district (CBD) as a major challenge to them. Since much of the economic activity and business is concentrated in the central part of the country, firms located in upcountry parks reported higher transaction costs. As distance from the CBD increases, accessibility decreases and transport costs increase proportionately. For example, whereas firms located in Namanve Park reported that at least 72% of their workers live within a daily commuting distance of 2km, 59% of firms in Soroti and Kapeeka Parks reported that their workers lived more than

5km from the park. This is mainly because most parks have not yet provided primary social infrastructure such as accommodation for workers. The firms in upcountry parks also face higher transport costs to the market and for imported raw materials compared to those located near the CBD.

Surveyed firms also reported that they faced more exposure to environmental impacts as a result of poorly managed industrial waste and air pollution. In almost all of the parks surveyed, firms were not satisfied with environmental management and monitoring, as well as the management of waste generated by neighbouring firms. They reported that, contrary to requirements, some firms in the park do not appropriately handle, store, transport, or dispose of waste, including toxic and hazardous materials. Environmentally sensitive firms reported that there are no adequate arrangements in the parks to ensure industrial waste generated by firms and the park is treated to the appropriate environmental standards.

A small export market that is increasingly becoming inaccessible was also cited as a key challenge. Firms indicated that although GoU has worked on market access, market entry is still a big problem. In particular, the surveyed firms cited the closure of the Rwandan border as a factor that has adversely affected their exports. Consequently, the few firms that export (themselves exporting typically less than 20% of their total output), reported that since the closure of the Rwandan border and entry restrictions to the Kenyan market, their exports have dropped by nearly 40%. This has even been made worse by the impact of COVID-19 which has slowed down business, restricted the number of recruitments, and raised production costs.



A woman using a machine to weave a mattress in a factory at Namanve Industrial Park

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This study set out to investigate and document the status of business operations in Uganda’s industrial parks, primarily the employment and skills requirements of the firms operating in the parks, their working conditions, and the successes and challenges faced by firms, to make recommendations for performance improvement. Section 4 has summarised the operations in the parks that have been prioritised by UIA and private developers. Below are this report’s recommendations to improve the performance of industrial parks and to boost their capacity to deliver good-quality jobs and skills.

5.2 Recommendations

The following recommendations seek to achieve two objectives: first, to make Uganda’s industrial parks more productive, and second, to address some specific skills gaps and other requirements of manufacturing firms in Uganda.

5.2.1 RECOMMENDATIONS TO MAKE UGANDA’S INDUSTRIAL PARKS MORE PRODUCTIVE

S/N	Recommendation	Responsibility
	Urgently invest in development of well-integrated infrastructure in the parks, particularly access roads and dedicated high voltage power lines (132KV and 33KV) and substations in the parks to supply factories with reliable and stable electricity to eliminate the power outages and surges cited by all of the surveyed firms.	MoFPED, UNRA, MoEMD
	Reduce the cost of electricity for manufacturing firms to 5 US\$ cents per kWh to make them more competitive domestically and in the export markets, and also to boost their capacity utilization levels and productivity. Power tariffs in Egypt and Ethiopia (COMESA members) are as low as 2.3 and 6.5 US\$ cents respectively.	MoFPED, MoEMD
	Urgently invest in collection, treatment, and disposal of solid and toxic waste in the industrial parks. Also open up drainage channels and reservoirs to harvest storm water since most industrial parks were located in low lands and are prone to flooding during rainy seasons.	MoFPED, UIA, MoWE
	Improve land use planning to locate similar industries in close proximity within the parks, to enable them to create agglomeration economies of scale, reduce transactional costs, nurture inter-firm collective learning and improve efficiency, and to enable easy access to suppliers of specialised inputs and services. Large firms should be linked to small enterprises.	UIA

S/N	Recommendation	Responsibility
	Collaborate with other EAC members to agree on country-specific comparative advantages to avoid competition in similar industries. This will help to reduce market entry restrictions in the region.	MoTIC, MoFPED, MEACA
	Create efficient and responsive management teams in GoU-owned parks to provide quick and effective responses to the demands of industrialists and other businesses located in the parks. The teams should improve the marketing and promotion of the facilities and services provided by the parks to industrialists and investors.	UIA
	Improve regulation of manufacturing firms located in the parks to manage pollution of the environment.	NEMA
	Develop SME incubation and BDS programs to facilitate SME enterprise development and location in the industrial parks.	UIA, UIRI, UDC, UMA, USSIA

5.2.2 RECOMMENDATIONS TO ADDRESS SPECIFIC SKILLS GAPS AND OTHER REQUIREMENTS OF MANUFACTURING FIRMS

S/N	Recommendation	Responsibility
	Accelerate the creation of more and better-paying employment (demand-side reforms) in the manufacturing sector by mainstreaming jobs in every sector intervention funded by the government. No firm across the industrial parks reported facing a major obstacle hiring skilled workers. The low skill level of labour in Uganda is in itself a reflection of the nature of Uganda's manufacturing and will improve with the growth of the sector.	NPA, MoFPED, OP & OPM
	Set a specific goal for companies to create a stated number of jobs per year as a pre-requisite for receiving government incentives. To achieve this, incentives for firms should be conditioned on their commitment to creating local employment, not to outsource jobs or lower their head count.	NPA, MoFPED, UIA, OP & OPM
	Offer tax breaks that support job creation and help domestic manufacturing by expanding up-front expensing for plant and equipment purchases and R&D tax credits for firms that create more jobs here in Uganda. Insist on results first, and pay later.	MoFPED & UIA

S/N	Recommendation	Responsibility
	To eliminate potential skills-work mismatches, existing industrial players should be closely involved in the development of training curricula as well as in training itself. This calls for close collaboration between universities, TVET institutions and industrial parks and other manufacturing firms to facilitate imparting of practical knowledge and skills to students.	MoES, UIA, NPA, UMA, USSIA
	Create a skills training centre, to provide information about the skills demanded by firms in the industrial parks, for easy recruitment of workers and also to support firms to take on apprentices for skills development.	MoES, UIA, NPA, UMA, USSIA
	Enforce laws/rules that regulate working conditions including the maximum number of mandatory working hours per week, workers' freedom to belong to a trade union, contribution to some form of social security, employers' duty to ensure workers' occupational safety and health, their right to a contract of service, and the right to medical cover. Better regulation against such violations is more important than a push for the minimum wage.	MoGLSD, UMA, USSIA
	Emphasise effective provision of soft general skills in curriculum and training. Firms mainly cited communication, interpersonal skills, literacy & numeracy, and personal health and hygiene as leading to persistent failure of their staff to implement assigned job-related tasks.	MoES
	Develop and implement the apprenticeship institutional framework (policy, law and guidelines) in a more organised and results-oriented manner. Firms are employing apprentices at their own discretion.	MoGLSD
	Enact and enforce a new Factories Act to regulate working conditions in factories, to regulate health and safety welfare among other things in respect of people who work in factories. The Factories Act 1953 has become obsolete and is thus unenforceable.	MoGLSD, Parliament
	Industrial park plans should include residential houses, resource centres and other amenities for workers, professionals, and expatriates, to reduce commute time.	UIA



DEMAG

SWL: 32t

CRANE NO. 330652/2011

DEMAG 12.5t

DEMAG 12.5t

Roofing Rolling Mills factory in Kampala Industrial and Business Park at Namanve.

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ANNEXES

Annex 1

QUESTIONNAIRE FOR REPRESENTATIVE FIRMS OPERATING IN UGANDA'S INDUSTRIAL PARKS

Confidentiality Pledge:

The information sought through this Questionnaire and Interviews will be used for study purpose only, and will remain protected from disclosure outside of the research setting or to unauthorized persons.

Topic of Study:

Skills for Industry and Decent Employment: Making Uganda's Industrial Parks More Productive by Addressing their Specific Skills Gaps and Other Requirements

Purpose of the study

To establish what exactly is going on in Uganda's industrial parks in areas of employment, operations, markets for products, enterprise development services, and ownership and governance in order to guide policy makers to address the specific gaps and upscale the success stories.

Specific Objectives:

1. To document the operations in Uganda's industrial parks;
2. To establish the available employment opportunities and skills required in Uganda's industrial parks;
3. To examine the working conditions and quality of jobs in industrial parks;
4. To document notable success stories and challenges faced by industrial parks; and
5. To present recommendations to improve performance of industrial parks to deliver good-quality jobs and skills.

A. General Information on Operations (Ownership, Products, Sales and Market)

1. Type of ownership _____
(Proprietary Male -1, Proprietary Female -2, Partnership with members of same households - 3, Partnership outside Households -4, Private limited company -5; Public Limited Company -6, Others -7 (specify)?
2. Ownership of the company _____
(Wholly Ugandan -1, Wholly foreign -2; Partly Ugandan & Partly Foreign -3)?
3. Is the company part of a larger firm _____
(Yes -1; No -2)?

4. Year of beginning of operations _____?
5. Is the company currently registered under any act/authority? _____ (Yes - 1, No -2)
6. If yes, what is the Authority of Registration _____ and Year of Registration _____
7. Does the company have an internationally recognized quality certification? _____
 (Yes -1; No -2; Don't know -3; Still in the process -4)
 [Examples of Quality Certifications are: ISO 9000/14000; TS 16949].
8. In 2019/20, what was the company's output produced as a proportion of the maximum output possible if using all resources (capacity utilisation)? _____
 (20 to 40% -1; 40-60% -2; 60-80% -3; 80-90% -4; 90-100% -5).
9. What are your main products (in terms of sales)?
 1. _____ 2. _____
 3. _____ 4. _____
10. What percentage of total sales do the main products represent? _____
11. Does the company export? _____ (Yes -1, No -2, Don't Know -3)
12. In 2019/20, what proportion of the company's total output was exported? _____
 (less than 20% -1; 20 to 40% -2; 40-60% -3; 60-80% -4; 80-90% -5; 90-100% -6).
13. In 2019/20, what percentage of all material inputs/supplies was of foreign origin _____
 (if any)?
14. Whom do you sell your product? _____
 (Traders -1; other manufacturing enterprises -2; both traders and manufacturing enterprises -3;
 final consumers -4; both traders and final consumers -5).
15. If you are selling to other manufacturing enterprises, whom do you supply your products

 (Final product assemblers/OM (original manufacturers) -1; large component manufacturers -2;
 largely to assemblers/OM and partly to other component manufacturers -3; partly to assemblers/

OM and largely to other component manufacturers -4).

16. From whom do you source your components/parts _____

(Smaller component manufacturers -1; Other industry lines -2; Largely from smaller component manufacturers and partly from other industry lines -3; Partly from small component manufacturers and largely from other industry lines -4)

17. Does the company contract out any work _____ (Yes -1; No -2)

18. If yes, duration of contract _____

(all the time - 1; most of the year - 2; some months in a year -3; few months in a year -4; occasionally -5).

19. Does industrial park management or any other authority offer business development services

(DBS) to enterprises domiciled in the park? _____ (Yes -1; No -2)

B. Information on Employment, Wages and Skills

20. Number of full-time employees when you started operation _____?

21. Average number of persons engaged in your company (last year)

Category/Status	Regular			Contract		
	Male	Female	Total	Male	Female	Total
	(1)	(2)	(3)	(4)	(5)	(6)
A. Management/Administration						
• Professional/Technical						
• Clerical/Accountant						
• Sales/Service						
• Security/Canteen etc.						
B. Production						
• Supervisor/Foreman						
• Junior Engineer						
• Skilled Operative						
• Semi-skilled Operative						
• Unskilled workers						

22. Change in employment in following occupations in the last five years

Category/Status	Direction of Change 1 - Rise, 2 - Fall, 3- no change	Change in number of employees	Main Reason for change (see codes)
A. Management B. Administrative Staff			
C. Shop Floor			

[Codes: Business growth -1, fall in business -2; uncertainty -3; new technology -4; shortage of skilled workforce -5; restructuring of business -6; rising wage/salary cost -7; rising non-wage cost -8; labour laws - 9; any other-(specify) _____]

23. Is your current level of employment? _____

(Adequate -1; inadequate -2; more than required -3).

24. If current level of employment is more than required, what are the reasons? _____

(code: Anticipation of an upturn in sales -1; laws & regulation regarding laying off workers -2; pressure from labour unions -3; pressure from gov't/political group -4; fear of social sanction -5; others -6 (specify)

25. Total number of workers in the enterprise who left/terminated/retired in 2020 _____

26. Average number of workers per month in 2020 _____

27. To what extent is labour regulation an obstacle to your company? _____

(Not an obstacle -1; Minor obstacle -2; Major obstacle -3; Don't know -4)

28. To what extent is labour cost an obstacle to your establishment? _____

(Not an obstacle -1; Minor obstacle -2; Major obstacle -3; Don't know -4)

29. Wages paid to workers

Category/Status	Regular		Contract	
	Range of Wages (UGX per month)	In relation to going wage rate code)	Range of Wages (UGX per month)	In relation to going wage rate code)
	(1)	(2)	(3)	(4)
A. Skilled workers				
B. Semi-skilled workers				
C. Unskilled workers				

[Code: Higher -1; Similar -2; Lower -3]

30. Do the technical and vocational training (TVET) graduates able to meet your expectations? _____
(Yes -1; No -2, Don't Know -3)

31. If the answer above is "No", what is the exact problem? _____ (see codes below)
(Quantity of workers with vocational skills -1; Quality of workers with vocational skills -2; Both quantity and quality -3)

Do you provide training to management/administrative staff when they join? _____
(Yes -1; No -2, Don't Know -3)

If Yes, what do you train them in? _____

32. Do you provide training to shop floor workers when they join? _____ (Yes -1; No -2, Don't Know -3)

If Yes, what do you train them in? _____

If you provide training, how long is the training? (Mention unit e.g. days/weeks/months) _____

33. Last year, did employees participate in any additional external or internal training courses that were organised wholly or partly at the cost of your establishment? _____ (Yes -1; No -2, Don't Know -3)

34. If yes, other than through structured training courses in which fields were trainings organised? Please tick in appropriate box.

A. Occupational health and safety	
B. Literacy / numeracy	
C. Foreign language	
D. IT training	
E. Management and administration (including human resource management and quality management)	
F. Training in new technology / new product or service	
G. Environmental protection	
H. Accounting and finance	
I. Any other types? (please specify)	
J. Don't know	

35. How do you develop the skills of your staff? Please Tick in appropriate box

A. Training from equipment suppliers/vendors	
B. Coaching by senior staff	
C. Mentoring or buddy system	
D. Courses (internal and external)	
E. Any other types? (please specify)	

36. Do you employ apprentices? _____ (Yes -1; No -2)

If yes, how many do you have at present? _____

If yes, do you offer apprenticeship as a legal/regulatory requirement, or on your own discretion?

37. Do you pay any stipend to the apprentices? _____ (Yes -1; No -2)

If yes, how much? (UGX per month) _____

38. Do you offer a contract to the apprentices? _____ (Yes -1; No -2)

39. If you consider all the costs and benefits of having an apprentice, do you think it's worthwhile to take on apprentices? _____ (Yes -1; No -2)

Give reason(s) _____

40. How many shifts do you operate (*number of shifts in a month*)? _____

41. What is the average number of working hours (*in a week*) of workers at different categories?

Managerial _____ sales & administrative _____ production workers _____

42. How many days of production last year did you lose due to

A. Strikes or other labour disputes _____

B. Any other (*specify*) _____

43. Do you find the right skills available and accessible in Uganda? _____ (Yes -1; No -2, Don't Know -3)

44. Do you find difficulty hiring workers because of insufficient skills?

a. Unskilled workers _____ (Yes -1; No -2).

b. Skilled workers _____ (Yes -1; No -2).

c. Engineers _____ (Yes -1; No -2).

d. Managers _____ (Yes -1; No -2).

45. If Yes, please give reasons for relevant categories:

a. Unskilled workers _____

b. Skilled workers _____

c. Engineers _____

d. Managers _____

[Codes: Poor terms and conditions (e.g. pay) offered for post -1; Applicants have not been of sufficient quality -2; There have been few or no applicants -3; Lack of work experience the company demands -4; Poor career progression / lack of prospects -5; Job entails shift work/unsociable hours -6; Seasonal work -7; Part-time work -8; Remote location -9; No particular reason -10; Don't know -11; Others -12(specify) _____]

46. Is there any educational requirement for employees in your company? If yes, tick the relevant categories

- i. Supervisor ()
- ii. Operator ()
- iii. Helper ()

47. How much time did it take to fill your most recent vacancy?

- a. Unskilled workers _____
- b. Skilled workers _____
- c. Engineers _____
- d. Managers _____

48. Among your workforce, do you face problem where staff cannot implement job tasks due to insufficient proficiency _____ (Yes -1; No -2, Don't Know -3)

49. Please list 1 to 5 occupations in which you experience persistent failure of staff to implement assigned job-related tasks due to insufficient proficiency:

Occupations (to be classified by NCO 4 digit)	Titles
1.	
2.	
3.	
4.	
5.	

50. In these occupations, which of the following suffers the most due to insufficient proficiency of your staff during implementation of tasks?

Skill Gap	Occupations				
	1	2	3	4	5
A. Literacy					
B. Numeracy					
C. IT literacy/using IT					
D. Advanced IT application/development					
E. Oral communication					
F. Written communication					
G. Knowledge of a foreign language					
H. Adapting to new equipment / materials					
I. Manual dexterity					
J. Pro-environmental tasks (e.g. resource efficiency, saving energy or water, limiting pollution/waste, recycling, restoring environmental quality etc.)					
K. Other job-specific tasks (specify)					

51. To what extent is Skilled Staff/workforce an obstacle to your establishment? _____
 (Not an obstacle -1; Minor obstacle -2; Major obstacle -3; Don't know -4)

52. What do you deem to be important skills in the workplace? Mention them in order of importance:

a. _____

b. _____

c. _____

d. _____

e. _____

C. Information on working conditions and quality of jobs in industrial parks

53. What is the average pay per month? Please Fill the box

Category/Status	Pay (UGX per month)
A. Management/Administration	
a) Professional/Technical	
b) Clerical/Accountant	
c) Sales/Service	
d) Security/Canteen etc.	
e) Professional/Technical	
B. Production	
1. Supervisor/Foreman	
2. Junior Engineer	
3. Skilled Operative	
4. Semi-skilled Operative	
5. Unskilled workers	
6. Supervisor/Foreman	

54. What is the typical contract type per category of employee? Please Fill the box

Category/Status	Casual/Temporary/ Part-time/Permanent
A. Management/Administration	
f) Professional/Technical	
g) Clerical/Accountant	
h) Sales/Service	
i) Security/Canteen etc.	
j) Professional/Technical	
A. Production	
7. Supervisor/Foreman	
8. Junior Engineer	
9. Skilled Operative	
10. Semi-skilled Operative	
11. Unskilled workers	
12. Supervisor/Foreman	

55. How do you deal with accidents (*fatal or otherwise*) that your employees face? _____

56. On average how many days in a month do you lose due to employee sickness? _____

57. Are there incidents when employees work when they have reported mild sickness? _____
(Yes -1; No -2, Don't Know -3)

58. Have you received any labour inspectors over last 12 months? _____
(Yes -1; No -2, Don't Know -3)

59. On average, how long is a shop-floor shift in your organisation? _____
(Please state the number of hours).

60. On average, how many hours a week does each employee work? _____
61. Are workers entitled to paid maternity leave? _____ (Yes -1; No -2, Don't Know -3)
If yes, how long? _____
62. Do you have a care facility for small children at organisation? _____
63. On average, what is the commuting time for a typical employee? _____
64. Do your workers belong to any trade union? _____
If yes, kindly state the name of the trade union _____
65. Have your workers staged a strike in the past 12 months? _____ (Yes -1; No -2, Don't Know -3)
If yes, how many days were not worked due to strike? _____
66. How many of your workers are contributing to a pension scheme? _____
67. Please state the name of the pension scheme _____
68. How many of your workers are covered by medical insurance? _____

D. Information on successes, challenges and recommendations [kindly use a separate sheet of paper to provide responses to questions in this section]

69. What are the key successes/achievements of your enterprise/ company/ organisation in the past 2 years?
70. Can you identify any advantages of locating within the industrial park relative to other operating outside the park?
71. Can you identify any disadvantages of locating within the industrial park relative to other operating outside the park?
72. What are the outstanding challenges your company has faced:
(a) Since it located within the park?
(b) In the past 12 months?
73. Suggest the possible solutions to the challenges in (72) above
74. Overall, what needs to be done to:
(a) Make Uganda's Industrial Parks more productive
(b) Address specific skills gaps and other requirements of manufacturing firms in Uganda?

Thank You So Much for Four Time

ANNEX 2

Geographical and sectoral distribution of firms operating in Uganda's industrial parks

S/N	Park	Agro	Mineral processing	Logistics	General manufacturing	ICT	Warehousing	Others	Total
1	KIBP	93	1	15	129	14	16	50	318
2	Mbarara	6			8			7	21
3	Soroti	7			4			8	19
4	Kasese	11			2		2	2	17
5	Kapeeka	4		1	2			7	14
6	Luzira	3			5		1	3	12
7	Bweyogerere	2			5		1	2	10
8	Jinja	1		1	5			1	8
9	Mbale	1			13		1	2	17
	Total	128	1	17	173	14	21	82	436

Source: UIA and survey data

ANNEX 3

Investor distribution in namanve industrial park (kibp) by country

Countries of Origin	Stage of Development					Total	%
	Operational	Construction	Pre-Start Stage	Newly Allocated	Withdrawn		
Austria	0	0	0	0	1	1	0.2
Belgium	0	1	0	0	0	1	0.2
Burundi	0	0	0	0	1	1	0.2
Canada	0	0	0	0	1	1	0.2
China	13	18	6	4	14	55	9.4
Denmark	0	0	0	0	1	1	0.2
DR Congo	0	0	1	0	0	1	0.2
Egypt	0	0	0	0	1	1	0.2
Eritrea	0	0	0	0	2	2	0.3
Ethiopia	1	0	0	0	1	2	0.3
Italy	0	1	0	0	0	1	0.2
India	8	13	14	7	33	75	12.9
Iran	0	0	0	0	1	1	0.2
Japan	1	0	0	0	0	1	0.2
Kenya	3	4	2	0	19	28	4.8
Lebanon	2	3	0	0	3	8	1.4
Lybia	0	0	0	0	1	1	0.2
Malaysia	0	0	0	0	1	1	0.2
Mauritius	0	1	0	0	0	1	0.2
Netherlands	0	1	0	0	0	1	0.2
Nigeria	0	0	1	1	0	2	0.3
Pakistan	0	0	0	0	2	2	0.3
Panama	0	1	0	0	0	1	0.2
Somalia	0	0	0	0	1	1	0.2
S. Africa	0	1	0	0	1	2	0.3
St Lucia	1	0	0	0	0	1	0.2
Sudan	0	0	0	1	1	2	0.3
Switzerland	1	0	0	0	1	2	0.3
Tanzania	1	1	0	0	0	2	0.3
Uganda	40	93	44	16	146	339	58.1
UAE	1	2	2	0	2	7	1.2
UK	2	8	1	0	7	18	3.1
USA	1	1	0	0	1	3	0.5
Mixed Nationality	2	4	3	6	2	17	2.9
Total	77	153	74	35	244	583	100

Source: UIA

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