

**Ethiopian Economics Association  
(EEA)**



**Investigation on Poverty, Food Security,  
Quality of Work and, Participation in  
Leadership among Female Employees in  
Ethiopia: Evidence from Selected Industrial  
Parks**

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Megresa, Matebu Tadesse, Nigatu Regassa, Emebet  
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**Policy Working Paper 22/2023**

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BILL & MELINDA  
GATES *foundation*

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## Abbreviations and Acronyms

<b>AAU</b>	Addis Ababa University
<b>ADLI</b>	Agriculture Development Led Industrialization
<b>BMGF</b>	Bill and Melinda Gates Foundations
<b>CoDS</b>	College of Development Studies
<b>CGE</b>	Computable General Equilibrium
<b>CSA</b>	Central Statistical Agency
<b>COVID-19</b>	Corona Virus -2019
<b>EEA</b>	Ethiopian Economics Association
<b>ETB</b>	Ethiopian Birr
<b>FAO</b>	Food and Agricultural Organization
<b>FDI</b>	Foreign Direct Investment
<b>FGD</b>	Focus Group Discussion
<b>GDP</b>	Gross Domestic Product
<b>GTP</b>	Growth and Transformation Plan
<b>HDSD</b>	Household Dietary Diversity Score
<b>HFIAS</b>	Household Food Security Access Scale
<b>KII</b>	Key Informant Interviews
<b>IDI</b>	In-depth Interview
<b>IPDC</b>	Industrial Parks Development Corporations
<b>ILO</b>	International Labor Organization
<b>MoFED</b>	Ministry of Finance and Economic Development
<b>NBE</b>	National Bank of Ethiopia
<b>NGOs</b>	Non-Governmental Organizations
<b>SGDs</b>	Sustainable Development Goals
<b>UN</b>	United Nations
<b>UNFPA</b>	United Nations Population Fund
<b>WB</b>	World Bank
<b>WEE</b>	Women Economic Empowerment

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## **Executive Summary**

Ethiopia, as a developing nation, has implemented numerous programs to end hunger and poverty and promote equitable growth. The country has built a number of industrial parks to promote manufacturing industries, such as the garment and textile industry, through expanding shade constructions and is predicted to account for 42.4 percent of new jobs over the next five years. Women make up more than 80% of the workforce in these industrial parks, particularly the textile industry. The garment and textile industries have a hidden black shadow when it comes to producing decent work, notwithstanding their significant contribution to the creation of employment for women.

The average monthly income of park employees is still insufficient to ensure the right to a decent quality of living, which is a fundamental human right, according to empirical evidence, which includes the Ethiopian Human Rights Commission (UNFPA, 2022). Additionally, the occurrence of COVID-19 has also highlighted the necessity of reconsidering the fundamental principles of development and given rise to the "build back better" agenda in an effort to promote equitable and sustainable development in the future. It is, therefore, appropriate to conduct a thorough analysis of the overall welfare situation of workers at industrial parks in order to provide evidence by assessing the degree to which recent development initiations and interventions are effective enough to combat poverty, ensure food security, ensure decent work and ensure inclusive development.

The study employs multistage sampling technique. Four industrial parks-Hawassa, Bole Lemi, Eastern Industrial Zone, and Kombolacha-were specifically chosen based on a variety of factors, including years of experience, the priority given to the production of textiles and apparel, park ownership, and geographic location. 460 samples have been chosen. The sample was divided among the industrial parks using the weighted average of the number of shades and types of productions. The study used a variety of approaches to conduct a thorough analysis of poverty, food security, and conditions for decent work in industrial parks, as well as how the connections between these issues undercut the power of the women who worked in the corresponding industries. Among these are qualitative methods like Focus Group Discussions (FGD) and Key Informant interview. A range of quantitative analysis methods notably logit, ordered logit, Poisson regression, and multiple linear regression were also deployed to identify factors that affect poverty, food insecurity and decent work.

Overall evaluation and research findings indicate that industrial parks' compensation for female workers is insufficient and unable to help them break from imposed poverty's cycle of insecurity and hunger. Only 37% of the employees reported having access to food, whereas other workers have varying levels of food insecurity. According to the survey, workers in the four industrial parks reported a variety of challenges with work quality, including mobbing, work-life balance, and a lack of job autonomy.

The outcome further revealed that only foreigners seem to have significant stakes in decision-making, which implies that the trickle-down effect to improve the decision-making abilities of local employees is still insufficient. Female employees' participation in decision-making and their engagement in career development also appear to be limited. The workers in industrial parks lack motivation and energy. The findings showed a significant level of mobbing as well as health issues like headaches, backaches, and joint pain that will have long-term health issues. The aspirations set on the sectors to create good jobs are set back by the presence of these markers of decent work. Employees in the parks generally have poor levels of work satisfaction and nevertheless feel that their job is not secured.

Low salaries, high transportation costs, marital status, and lack of access to housing are the most significant factors that influence level of satisfaction, dietary diversity, and food security. Women workers have struggled to obtain food security, escape poverty, and work in an atmosphere that recognizes their rights and benefits. The report recommends several strategies to guarantee food security and reduce poverty. These include access to the transportation network, funding for education, reasonable housing, and the availability of high-quality food at the industrial park. Furthermore, it is crucial to put in place solid strategies and processes for controlling, overseeing, and monitoring the practices surrounding the rights and privileges of female workers in industrial parks. Eventually, a defense and legal action are needed to overcome the reported cases of abuses and harassments at workplace in the industries through sufficient capacity and knowledge development.

## **Chapter-One: Introduction**

Ethiopia aims to attain double-digit growth, boost its GDP, creates more job opportunities, reduces poverty and food insecurity and becomes more competitive globally. Its goal is to reach lower middle-income status by 2025 and to do away with poverty and food insecurity by 2030. In spite of such development ambitions, poverty, unemployment and food insecurity have remained high and, they have been disproportionately affecting females compared to men (ESS, 2021, PDC 2018). Cognizant to this, the government of Ethiopia has designed national and sector level policies to create wider employment opportunities for women. For instance, priority sectors, particularly the garment sub sector whose 80% of the labor force are female, have been promoted through various interventions including construction of industrial parks. In addition, strategic supports including tax holidays have been provided to foreign firms which operate in the industrial parks. As a result, 57% of the active firms in the industrial parks in Ethiopia engage in textiles and garments (Cepheus Research & Analytics, 2019). 81 out of the 141 active firms (57%) in 2018 focused on the production of garment and textile products. Consequently, 42.4 percent of the jobs created in the total economic structure over the next few years is anticipated from the garment sub-sector. This helps to create more jobs to women (ILO, 2021).

In spite of its massive contribution to employment creation, empirical evidence revealed that the garment and textile industries have black spots as far as producing decent jobs, ensuring food security and combating poverty is concerned. For instance, the Ethiopian Human Rights Commission has documented that the average monthly wage of park workers remains insufficient to guarantee the right to an adequate standard of living. (UNFPA, 2022). Such precedence of the sector makes it more difficult for the nation to attain its wide and inclusive development goals which have been widely acknowledged and become center of development agenda in national and international levels. For instance, the key global, national and local development policies and strategies such as the 2030 sustainable development goals (Ethiopia is fully committed for its fulfillment and has already mainstreamed SDGs in its national and sector level plans), the ten years development plan and the women's development and change package at local levels have anchored women empowerment as ultimate development outcomes (UNDP, 2018).

In order to improve the life of female employees working in the garment sector, the Ethiopian government has introduced and put into effect regulations such

the national policy on Ethiopian women and the labour proclamation. Most of the current laws, policies, and rules have been created with the intention of creating an environment where women can participate and benefit equally in the workplace, including the industrial setting, and gain equal influence in all areas of operation. The Ethiopian Constitution (FDRE 1996) and the labour proclamation (1156/2019) guarantee maternity leave and maternity protection for women, with the aim to fight against the supports to be extended to women working in the industries post of child delivery. Employers are also required to provide female workers with protective equipment at their work settings. The laws also assert women's right to work in a safe and healthy environment.

There were some empirical researches that had been conducted so far on the industrial parks and their role for creating employment, reducing poverty and combating income inequality (Solomon et al, 2019). In addition, some other empirical research (ILO, 2019, WB, 2021) have also revealed existing realities in the industrial parks in Ethiopia in terms of wage payments, working conditions and productive efficiency. Although there has been substantially growing evidence around the working conditions in garment and textile industries in Ethiopia, efforts to increase examine the working conditions of female workers at textile factories and the outcomes of the efforts have not been well documented. Studies by UNDP (2018) narrates on the opportunities and challenges of women in the manufacturing sector as a whole while Mitt (2019) reported on the working condition of women in the textile and garment sector in Ethiopia. These studies provided evidence of the working circumstances faced by women in the textile and apparel industries, as well as the manufacturing industry as a whole. But there are areas and issues that require deeper and meticulous assessment as far achieving inclusive development is concerned. These include to what extent that the garment sectors ensure food security and reduce poverty of female employees? Does the garment sector create decent and quality job for female employees? What are the key and most important factors that affect the food security, job satisfaction and poverty status of female employees who are working in the industrial parks? What are the most prevalent socio-economic problems that affect female employees in the garment industries?

The prevailing gaps in research and knowledge on the state of poverty, food security, leadership and overall decent work in industrial settings and how these would contribute either in promoting or deterring women economic empowerment in the industrial settings had emerged as an area of much concern. This study therefore investigates the aforementioned issues using rigours qualitative and quantitative method of analysis.

## **1.1 Objectives of the Study**

The main objective of the study was to examine status of decent work, poverty, and food security conditions of women in industrial parks at Bole Lemi, Eastern, Hawassa and Kombolcha industrial zones.

More specifically, the study generated evidences that assist to:

1. Assess the level of poverty, and food insecurity among the women workers in the selected industrial parks,
2. Determine the derivers that affect the level of poverty, and food security in the industrial parks of Ethiopia,
3. Analyze the practices of decent work in the selected industrial park
4. Assess the level of participation of female employee in leadership position.
5. Assess the socio-cultural and normative factors that influence the poverty, food security and decent work conditions of women in the selected industrial parks.

## **Chapter Two: Literature Review**

### **2.1 Conceptualizations**

This study examines the socioeconomic situations of women working in the garment industry in terms of poverty, food security, decent employment, and other factors, as well as the normative behavior that affects them at work, at home, on excursions to and from work. The following paragraphs gave a brief review of these key study themes.

#### **2.1.1 Poverty**

Poverty can be absolute and relative. According to Rohwerder (2016), the definition of absolute poverty occurs when a person's basic requirements are not being met, which entails a lack of necessities including food, shelter, and clothing. A relative poverty compares a person's state of living and access to resources with other persons in surrounding and communities. Poverty is a multidimensional concept that seeks to measure levels of deprivation encountered by a person, household or community. Although most of the literature focuses on indicators of deprivation such as income, food, access to housing and so on, the choice of indicators to measure levels of deprivation can often be arbitrary and hence may not

reflect a full-scale measure of unmet basic needs in different social contexts. This study had employed income-based measurement of poverty. Toward this end, the national poverty line has been used to gauge the level of poverty of women employees in the garment factories and industrial parks.

### **2.1.2 Food Security**

Food is a fundamental human requirement and a right. A healthy and productive life is fundamentally dependent upon there always being enough food available for everyone, in both quantity and quality. However, providing enough and nourishing food for the employees continues to be a serious problem for policymakers in many developing nations. According to the World Food Summit held in 1996 food security exists when all people at all times have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences and can thus live an active and healthy life. There are four pillars of food security namely availability, access, utilization and stability. An ideal food security indicator should capture all the four food security dimensions (availability, access, utilization and stability) and components (quantity, quality, safety and preference). In this study globally, accepted measurement of food security such as dietary diversity, Household food scale access condition and copy strategy index have been used. These enable us to look at the extent of food security in the garment industry in Ethiopia.

### **2.1.3 Decent Work**

Decent work entails employment that respects the fundamental rights of the human person as well as the rights of workers in terms of conditions of work safety and remuneration (ILO, 1999). Job creation, rights at work including minimum wage, social protection and social dialogue constituted among the major indicators for decent work in industrial settings (Schulte, P.A.; Iavicoli, I.; Fontana, L.; Leka, S.; Dollard, M.F.; Salmen-Navarro, A.; Salles, F.J.; Olympio, K.P.K.; Lucchini, R.; Fingerhut, M.; et al.: 2022).

### **2.1.4 Women Economic Empowerment (WEE)**

Women's Economic Empowerment (WEE) entails economic equality, closing the gender pay gap and increasing job opportunities and access to income

by women in the industrial settings. Moreover, it also underscores breaking down the barriers and discriminatory laws that undermines women's engagement in family responsibilities and housework (Elizabeth Peters, et.al. 2016).

WEE involves economic advancement resulting from improved women's access to resources and improved leadership (agency and voice). The study further considers the enabling environments (such as the role of rules, policies, norms and standards, including cultural attitudes and prevailing norms at different levels) that help achieve and sustain the desired impact on the benefits to working women and the industry, sustaining these behaviors among people, companies, subsectors and society (ILO, 2021).

## **2.2 Theoretical Underpinnings**

The involvement of women in industrial settings have been explained by a number of models. Each theory has its own distinctiveness and major domains of accentuations. The theories listed below were chosen to shed light on the engagement of women in industrial contexts.

### **2.2.1 Growth Pole Theory**

A growth pole theory entails an economic growth; a central location of economic activity; a point where economic growth starts and spreads to surrounding areas; and a location where economic activity ignites growth and better quality of life (Ionela Gavrilă-Paven and Ioan Bele, 2017). Enriching further, Hirshman (1958) also argued that the impact of growth pole falls on both spillover effects and the effects of polarizing economic growth, increasing per capita income and creating opportunities for economic development of surrounding areas. The premises of the growth pole theory remained useful for investments in an area aiming to accommodate huge labor force. The industrial parks including the regional clusters typifies the growth pole model in Ethiopia. The industries helped improving the socio-economic life of the working women, and create economic value chains in the surrounding communities of each cluster. Ultimately, the overarching impacts of the growth pole model would be to overcome poverty and food insecurity of women employees in the industries.

## 2.2.2 Theoretical Models on Food Security and Insecurity

Food security possess interrelated dimensions of availability, access, and utilization. Food availability is necessary but not sufficient to ensure access to consumption, which is in turn necessary but not sufficient for effective utilization. In this regard, the entitlement approach to food security was used to examine how the accessibility and availability of food has remained a top concern for women employed in industrial parks (Webb et al., 2006).

- a. ***Sen's entitlement approach:*** entitlements have been defined by Sen (1984:497) as cited in (Ionela Gavrilă-Paven and Ioan Bele, 2017), as 'the set of alternative commodity bundles that a person can command in a society using the totality of rights and opportunities that he or she faces.' Hence, the entitlement approach focuses on each person's entitlement to food, and views food insecurity as resulting from failure to entitlement to a bundle including of rights including food. Authors such as Dorah H. Mende, Maulid W. Mwatawala and Kim A. Kayunze (2015) restated Sen's classification of entitlements into three categories: (i) legal endowments for creating access to food, including money etc; (ii) entitlement mapping involving trade between endowments and food, goods, and the ratio between money wages and the price of food; and (iii) entitlement-set, covering the basket of food, goods, and services that a person can obtain using his/her endowments. The food security is more manageable when some or all of the above entitlement categories were attained by women workers in the industry. The theory would be applied to examine the situation in the industries.

## 2.2.3 Perspectives on Decent Work

The United Nations Declaration of Human Rights, which included the requirement for labor as a component of human rights, is where the idea of "decent work" originates, as proclaimed by (Blustein DL, Olle C, Connors-Kellgren A, and Diamonti AJ; 2016). In this regard, the General Assembly of the UN in December 1948, decreed the following:

*Everyone has the right to work, to free choice of employment, to just and favorable conditions of work and to protection against unemployment...Everyone who works has the right to just and favorable remuneration ensuring for himself and his family an*



*existence worthy of human dignity, and supplemented, if necessary, by other means of social protection (UNDHR, 1948).*

### **2.2.3.1 The Psychology of Working Theory (PWT)**

The Psychology of Working Theory (PWT) assumes decent work satisfies three fundamental human needs such as survival and power, social connection, and self-determination (Kim, M.; Kim, J; 2022). These authors further discussed that PWT helps to identify the predictors, mediators, moderators, and outcomes of decent work in terms of (1) contextual factors, such as economic constraints and marginalization processes; (2) psychosocial factors like work volition and career adaptability; (3) proactive personality, critical consciousness, social support, and economic conditions as moderators of these relations; and (4) decent work leading to the opportunity of satisfying survival, social connection, and self-determination needs, which in turn positively affects work fulfillment and general well-being.

The PWT helps to analyze the indicators of decent work targeted in this study involving: employment opportunities, adequate earnings and productive work, decent hours, stability and security of work, balancing work and family life, fair treatment in employment, safe work environment, social protection, and social dialogue and workplace relations (Brian P. Bettonville, 2015).

## **2.3 Empirical Reviews**

Huge impetus behind the establishment of industrial parks today comes from Alfred Marshal's theory that promotes the agglomeration of small to medium-sized firms with the aim to speed up economic changes (Belussi & Sedita, 2010) in the society. In the 1970s, East Asian and Latin American regions began establishing such zones - initially in the form of Export Processing Zones (EPZs) - to attract foreign direct investment in labor-intensive manufacturing sectors to encourage exports (World Bank, 2011).

Ziliang, Rod, and Adam (2008) examined productivity spillovers of foreign direct investment using a Computable General Equilibrium (CGE) model and showed that national gross output, value added, and exports increased monotonically following an increase in total factor productivity. There is, however, limited research on the economy-wide effects- of industrial parks in Africa in general and in Ethiopia in particular-of industrial-resource allocation following the introduction of industrial park.

Women employed in the garment industry face numerous bottlenecks emanating from the gender biases rampant in the society as well by their productive roles in the industries. Gendered pay gap has been one of the major challenges raised by studies conducted in the area. The average monthly salary of female factory workers is 1,100 ETB, which is lower as compared to that of men, which is 1,471 (Mondiaal FNV, 2019: 22). This figure remains the same for those who have been working in the sector for as long as 20 years. Women and men work on the same machines and receive comparable working responsibilities while their wage continues to vary in significant degrees (Schaefer and Oya 2019; Gifawosen, 2019; Mondiaal FNV, 2019).

Rashid (2006) revealed that girls, women, and their children had better health as they had access to a balanced diet and nutrition. Yuan et al (2022) have revealed that that the occupational stress had a significant positive influence on health risk in the garments sector of Bangladesh. The findings also reveal that both the male and female employees perceived garment job highly stressful and risky for their health causes many dies and sickness, but it was higher among the female employees than men. Sophie et al (2020) used a mixed-method approach to generate evidence on food security and nutrition in young female garment workers in Myanmar. The research revealed that women have poor quality of nutrition, restricted their food intake, and ate less preferred food.

Abdullah and Mahmudul (2022) showed that with access to employment opportunities in this sector enable women to become economically empowered and independent. The higher economic capacity gives them greater autonomy and makes them confident to make some household and strategic life choices. Increased access to public spaces and consciousness about their right to make life choices have boosted their self-esteem. Heath and Mobarak (2015) found that it improved the welfare of young women and provided them with greater autonomy in delaying marriage and childbirth. However, Fatema (2019) showed that those women who are in garment sectors in Bangladesh, empowerment basically means social and economic empowerment and argues that lack of aptitude to raise voice in the family and at the workplace against exploitation and discrimination seriously hinders women's actual levels of empowerment. The female workers still work in a vulnerable environment due to the absence of trade unions, gender-based wage disparities, informal recruitment, irregular salaries, long working hours, lack of health, safeguard and childcare facilities, sexual harassment, and violence (Rahman,2014).

There are many socio-economic factors that also affect the food security and work stress status of females. Cancian and Reed (2009) showed that married or living together with a spouse has a greater chance of avoiding food insecurity. Mwaniki (2011) links food insecurity in developing nations to low income. Kassiet al., (2012) find a negative relationship between the age of household head and food security. Olayemi (2012) claimed that large household sizes put strains on food consumption. In addition, these various studies identified different socio-economic variables that affect the occupational stress. Age (Gin, 2020), level of education, experience, and marital status (Mathangi, 2017) are among the significantly associated with occupational stress.

The study conducted by World Bank (2021) indicates that the median industrial park production worker earns a base pay of 1,800 Ethiopian Birr (ETB) per month plus variable pay of 1,175 ETB across the industrial parks. As per the assessment results of the Bank, the median base pay is the lowest in Hawassa Industrial Park and the highest in Eastern Industrial Park. Combining base and variable pay shows that the median industrial park firm pays nearly 3,000 ETB per month in monetary terms. In publicly owned industrial parks, these payments are smaller. For example, in Hawassa Industrial Park the median monetary payment is slightly more than 2,100 ETB, while in Bole Lemi Industrial Park and Kombolcha Industrial Park median monetary pay is 2,700 ETB. Firms in privately-owned parks are paying more (their base pay is 33 percent higher than publicly owned parks), with Eastern Industrial Park paying more than 3,400 ETB in monetary terms.

The International Labor Organization (ILO) Advancing Decent Work Baseline Survey (2019) conducted workers experience on sexual harassment and verbal abuse. Close to half of the respondents reported that there has been flirting in the factories that make them feel uncomfortable; two-third of them reported that supervisors or managers talked to them or touched them in ways that made them uncomfortable. The survey reveals that two-thirds of workers have received some in-house training. Sixty-four per cent of workers report to have received in-house training, and 31 per cent received training through formal programs. Regarding the type of skill training received, slightly more than half (52 per cent) of the respondents reported that they learned production techniques such as weaving, knitting, braiding, stitching and the like from the formal trainings arranged and sponsored by the employers. Around 22 per cent received training about quality control of products, six per cent learned about marketing management, five per cent acquired knowledge about financial management, and the remaining 15 per cent of the respondents learned other types of skills from the formal trainings they received.

Women working night shifts in the factories face multifaceted challenges; a major one being risks of safety. Many of the companies are located far from the city where there is no public transport and as a result women have to walk long distance during the night. Women working in factories with transportation services mention that they are dropped off at the bus stop which means they need to walk to reach home (Mondiaal FNV, 2019). Transportation services are still valued by employees as they are instrumental to enable them to save a proportion of their income in addition to better safety. However, not all companies provide transportation service. A survey conducted by World Bank (2018) showed that it was only 68 percent of the factories which provided transportation services to employees.

Gender based violence is another challenge highlighted by various empirical studies. Employees mention a number of instances whereby women were subject to sexual violence from foreign and Ethiopian supervisors as well as male colleagues. Such a problem is exacerbated by the paucity of sexual harassment policies in many of the factories and women's hesitancy to report such happenings which is considered as a taboo (Mondiaal FNV, 2019). Poor facilities by factories make women prone to sexual violence. According to a study conducted by World Bank (2018), 40 percent of women reported that the firm they work for does not have separate changing rooms for the gowns etc. 33 percent also reported that there have been insufficient bathroom facilities.

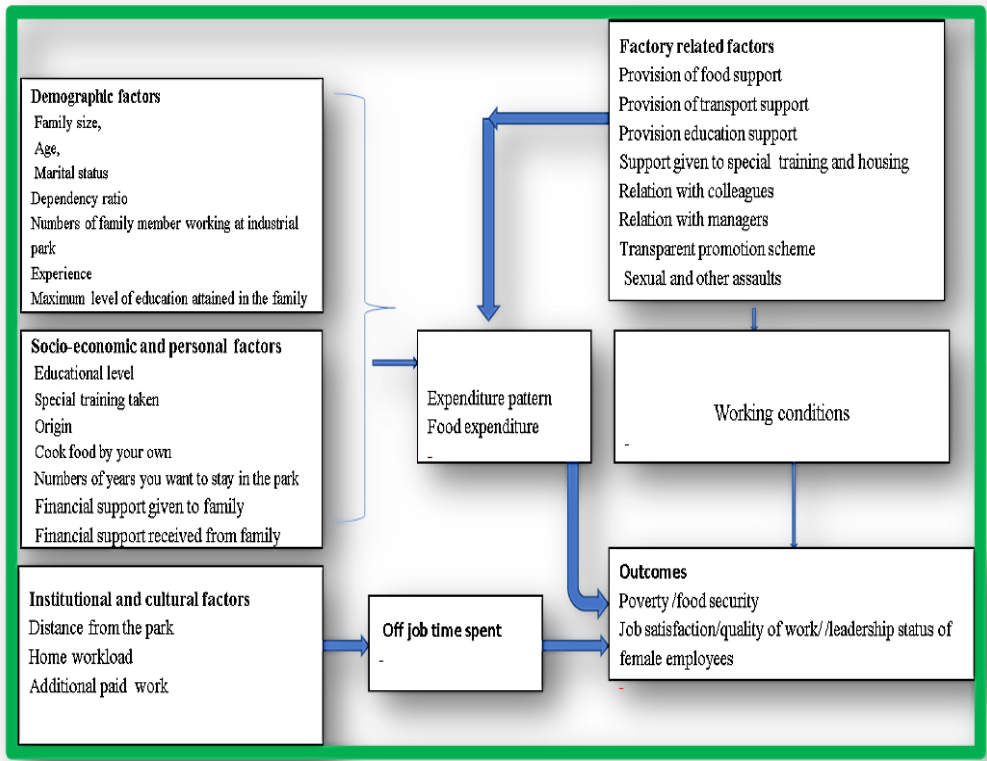
The empirical literature demonstrated that the role of the parks in poverty alleviation, ensuring food security and maintaining decent work was marginally covered through research and constituted a debated subject in Ethiopia.

## **2.4 Conceptual Framework**

There are diverse personal attributes that affect individuals' poverty and food insecurity status. Empirical evidence have shown that female workers with larger family are typically poorer and tend to be more food insecure (Lanjouw & Ravallion, 1994). In addition to this, gender of household head significantly correlates to household poverty and food insecurity (Haughton & Khandker, 2009). The marital status of female workers correlates to the dependency ratio of children thus creating more financial pressure on family expenditure. This leads to lower expenditure and poverty. Evidences show that attainment of higher levels of education enhances the welfare of female workers in the industrial parks (Minot & Baulch, 2005). Those female employees with higher level of education have higher likelihood to be employed in high and mid-level professional roles.

Given the above empirical facts and the theoretical reviews, the following conceptual framework (Figure 2) has been sketched in a bid to show the mechanism of action as to how women employees operate at industrial parks in Ethiopia.

**FIGURE 1: CONCEPTUAL FRAMEWORK (SOURCE: RESEARCHERS’ OWN CONSTRUCTION, 2022)**



### Chapter-Three: Methodology and Study Sites

This chapter describes the study's settings, design, target groups, sampling strategy, data gathering techniques, and corresponding analysis methods. The following subsections are where the specifics are presented.

### **3.1 Target Population and Sampling Frame**

The study considered female employees who are working in the industrial parks in Ethiopia. four industrial parks namely Hawassa, Bole Lemi, Eastern industrial zone and Kombolcha industrial parks have been purposively selected based on a set of criteria including years of experience, priority given to the production of textile and garment, ownership of parks and geographical location of parks. Those parks which started operation before five years have been included into the study.

Hawassa, Bole Lemi I and Kombolcha have been solely allocated for textile and garment. In order to compare government and private owned parks, one private industrial park, the eastern industrial zone, which is owned by Chinese, has been also included in the sampled industrial parks. Many of the factories in each industrial parks are producing the same product and hiring relatively young female employees.

In order to have full information about industrial parks in Ethiopia, industrial parks have been selected from eastern side (Eastern Industrial Park), central Ethiopia (Bole Lemi), southern side (Hawassa industrial park) and norther side (Kombolcha). Bole Lemi Phase I is located in Addis Ababa. It has started operations in 2014, with more than 20 factory sheds already rented out to different Investors from India, China, and South Korea. It specializes in Apparel & Textile, 100% exportable products and sheds are fully occupied. Hawassa Industrial Park is located in Hawassa city. It is 275 km from Addis Ababa. It has started operations in 2016, with 52 factory sheds already rented out to different Investors from USA, India, China, Sri Lanka, France, Belgium, Indonesia, South Africa and Ethiopia. It specializes in Apparel, Textile, and Garment. Kombolcha Industrial Park (75 hectares) is located in Kombolcha town which is 380 km from Addis Ababa towards the north east. It has started operations in 2017 with 9 factory sheds already rented out to different Investors from the USA/Turkey, China, South Korea, and Italy. It specializes in Apparel and Textile; 100% exportable products and sheds are fully occupied. Eastern Industry Zone, which is 30 kilometers from Addis Ababa, the capital of Ethiopia, is the only overseas economic and trade cooperative zone in the country at national level. Eastern Industry Zone was mainly invested in by Jiangsu Yongyuan Investment Co Ltd, which is based in Suzhou's Zhangjiagang city. It was Founded in 2007.

All female employees who were working in industrial zones constituted the population of the study. Thus, the sampling frame comprises those female employees who were working in the four selected industrial parks at the time of survey.

## 3.2 Study Design

The research used cross-sectional research design. The study aims to describe the key aspects of poverty, food security, decent work and participation of female employees in leadership in the chosen industrial parks. The interplay between the fundamental components of poverty, food security, and decent work for female workers in the targeted industrial parks was also explained and predicted using a variety of models and interpretative approaches.

### 3.2.1 Sampling technique

The study used multiple stage sampling techniques. First from all industrial parks four industrial parks namely: Hawassa, Bole Lemi, Eastern industrial Zone and Kombolacha Industrial Parks were purposively selected. In the second stage, three factories each from bole Lemi and Hawassa industrial parks, and 2 factors each from Easter industrial zone and Kombolcha industrial parks have been considered. The numbers of factories selected from each industrial zone depend on the size of the industrial parks and the ownership profile of factories operating in the industrial parks. In Eastern industrial parks, almost all of the factors are owned by Chines. Kombolcha industrial park was not fully operational because of the conflict that occurred in the norther part of the country.

The total numbers of sampled employees were distributed proportionally across sampled factories. Based on the list of employees in each factory, systemic sampling techniques has been used to draw sample units to be surveyed.

### 3.3.2 Sample size

Since the population is known, the sample size determination formula developed by Yemane (1976) was used to estimate the sample size. The presentation of the sample size determination follows as given below.

$$n = \frac{N}{1 + N(e)^2}$$

At the time of the study, there were more than 45,000 female employees at the selected parks. Since, the study follows a multistage sampling procedure, a total of ten companies were selected. Since there was only one type of ownership of companies in the eastern industrial zone, two shades were selected. In Hawassa and

Bole Lemi I, there are companies owned by Chinese, Turkish and Indian investors so that three shades from each park were selected. As Kombolcha industrial park was affected by the conflict in the northern part of Ethiopia, two shades were included in the study.

The sample size was computed at 95 percent precision with 15 percent additional samples that constituted it a total of 460 samples. The sample has been distributed taking the numbers of shades as weights and the distribution of the samples were presented (in Table -2) below

**Table 1: Sample size determination**

<b>Name</b>	<b>Numbers of factories</b>	<b>Number of sampled employees</b>
Bole Lemi	3	138
Hawassa	3	138
Easter industrial zone	2	92
Kombolacha	2	92
<b>Total</b>		<b>460</b>

Source: Researchers' own computation, 2022

### **3.2.2 Methods of data analysis**

The analysis adopted a thorough scrutinization of women's poverty, food security and decent work situations at the chosen industrial parks and how the nexuses among these dimensions empowered or disempowered women working in the respective factories.

### **3.2.3 Poverty analysis and construction of poverty line**

In order to examine the effect of industrial parks on poverty for female employees, the poverty line of the 2015/16 has been deflated by the Consumer Price Index (CPI). The poverty line in 2015/16 was 7184-birr annum per adult equivalent. As of October 2022, the CPI is 312 and this has resulted in the poverty line to be 1921 per month. Given this poverty line, the poverty status of female employees has been measured using Foster Greer and Thorbecke (1984). The salary of employees including bonus and other benefits from the company (lunch and transportation support) has been considered as income of employees since the study's aims is to gauge the extent to which the salaries of employees are helping female employees



taking out of poverty. Given this, Foster Greer and Thorbecke (1984) may be written as follows.

$$P_{\alpha} = \frac{1}{N} \sum_{i=1}^N \left( \frac{G_i}{z} \right)^{\alpha} \quad (\alpha \geq 0)$$

where  $\alpha$  is a measure of the sensitivity of the index to poverty and the poverty line is  $z$ , the value of expenditure per capita for the  $i^{\text{th}}$  person's household is  $X_i$ , and the poverty gap for individual  $i$  is  $G_i = z - x_i$  (with  $G_i = 0$  when  $X_i > z$ ). Where  $z$  is the poverty line. When parameter  $\alpha = 0$ ,  $P_0$  is simply the headcount index. When  $\alpha = 1$ , the index is the poverty gap index  $P_1$ , and when  $\alpha$  is set equal to 2,  $P_2$  is the poverty severity index.

### 3.2.4 Measurement of quality of work

To see the quality of work, Organization for Economic Cooperation and Development (OECD) measurement of quality of job and the instrument developed by Georges et al (2020) were referred in this study. These measurements exhibited distinct dimensions that helped to gauge the extent to which quality of work is prevailed at the industrial parks. There are individual level indicators of quality of work measurements which allow us to carry out detail assessment. Moreover, the job characteristics approach which defines the quality of the working environment in terms of a number of specific characteristics that influence workers' well-being were also used. Conceptually, this approach adheres to "capability approach" developed by Sen (1999, 2002), which is a broad normative framework for assessing individual well-being. Though researchers used various dimensions, the key dimensions could be to group them into six broad classifications namely the physical and social environment of work, job tasks, organizational characteristics, working-time arrangements, job prospects and the intrinsic aspects of the job.

Unless specified, a five-point Likert response format ranging from 1 (= to a very low extent) to 5 (= to a very large extent) was used. The area job design contained three dimensions. Participation was measured by two items reflecting if an employee has ample opportunities to be involved in the decision-making process. Feedback is measured by two items reflecting if an employee receives feedback from his/her superior and colleagues. Autonomy was measured by four items reflecting if an employee has ample opportunities to do his/her work autonomously/or in an autonomous manner.

**Table 2: The attributes that help to measure quality of work**

Dimensions	Job demand	Job resource
The physical and social environment of work	<ul style="list-style-type: none"> <li>○ Physical risk factors</li> <li>○ Physical demands</li> <li>○ Intimidation and discrimination at the workplace</li> </ul>	Social support at work
Job tasks	<ul style="list-style-type: none"> <li>○ Work intensity</li> <li>○ Emotional demands</li> </ul>	Task discretion and autonomy
Organizational characteristics		<ul style="list-style-type: none"> <li>○ Organization participation and workplace voice</li> <li>○ Good managerial practices Task clarity and performance feedback</li> </ul>
Working-time arrangements	Unsocial work schedule	Flexibility of working hours
Job prospects	Perceptions of job insecurity	<ul style="list-style-type: none"> <li>○ Training and learning opportunities</li> <li>○ Opportunity for career advancement</li> </ul>
The intrinsic aspects of the job.		<ul style="list-style-type: none"> <li>○ Opportunities for self-realization</li> <li>○ Intrinsic rewards</li> </ul>

Source: Researchers own construction, 2022

To compute the quality of work, mental demands, time pressure, emotional demands, competition, mobbing, physical burden and risk of accident were included, and higher scores entails more favorable working conditions (e.g., less mobbing exposure). The quality of work is then created by calculating the mean of each eleven scales. In addition, variant of attributes was used to compute quality of employment index. These attributes include training opportunities, career advancement, job security, employability, work life conflict and income satisfaction. Each of which has its own attributes which have a five point like response format ranging from 1 (= to a very low extent) to 5 (= to a very large extent). The quality of employment index is then computed by calculating the mean of each six scales.

### 3.2.5 Determinant of poverty and quality of work

Apart from assessing the level and severity of poverty, authors also used econometrics notably logit/probit for poverty analysis. This is because the status of female employees so long as poverty is concerned is being to be either poor or non-poor which are going to have either a value of 1 for non-poor or 0 otherwise. Thus, the factors that determine the status of poverty of women employees will be examined using binary logit model of the following form.

$$Li = \ln\left(\frac{Pi}{1 - Pi}\right) = Zi = \beta_1 + \beta_2 Xi$$

Where Z represents either 1 or 0. (1 if the female worker is poor and 0 otherwise). The Xi are the covariates which are indicated in the table below.

In addition to this, ordered logit model has been used to examine factors that affect quality of work of female employees at the park. This is because the quality of work was measured in Likert Scale (the responses of the female employee about the quality of work, which is proxied by the level of satisfaction they have on their work ranging from 1 to 4 in hierarchal order). These included not satisfied with the work condition at the park (category-1), less satisfied (category-2), satisfied (category-3), and fully satisfied (category-4).

In the ordered logit model, there is a continuous, unmeasured latent variable  $Y^*$ , whose values determine what the observed ordinal variable Y equals. The continuous latent variable  $Y^*$  has various threshold points. The values on the observed variable Y depends on whether or not the values have crossed a particular threshold or not. In this case the thresholds could be presented as follows.

$$Y_i = 1 \text{ if } Y^* \leq K_1, Y_i = 2 \text{ if } K_1 < Y^* \leq K_2, Y_i = 3 \text{ if } K_2 < Y^* \leq K_3, Y_i = 4 \text{ if } Y^* > K_3$$

Based on this hierarchical cut points, the Ordered Logit Model will be estimated in the following way:

$$Z_i = \sum \beta_k X_{ki} = E(Y_i^*)$$

The estimated cutoff terms to estimate the probability that Y will take on a particular value could be computed as follows.

$$P(y = 1) = 1 - \frac{\exp(X_i \beta_i - k_1)}{1 + \exp(X_i \beta_i - k_1)}$$

Thus, the ordered logistic regression enabled us to find socio-economic, factor specific and institutional factors that influence the level of job satisfactions and quality of work at the industrial park. The indicators that the authors used in a hierarchal order in terms of measuring quality of work.

### 3.2.6 Food insecurity and its determinants

In order to assess the level of food insecurity of women employees in the industrial parks, two indicators notably household food diversity and household food scale access condition were used.

**Household Dietary Diversity Score (HDDS)** refers to “the number of food groups consumed by household members” during 7-days recall period, which represents count data. HDDS is used to assess the utilization component of food security. Specifically, it helps to measure the quality and quantity of food to meet all households’ members’ nutritional requirements for productive lives. HDDS measures a number of food group consumed over a period of a week (FAO and WFP, 2009). Food groups including Cereals, Pulses/Legumes, Root and Tubers, Vegetables, Fruits, Fish and seafood, Eggs, Milk and milk products, Meat/poultry, Oil/fats, Sugar/honey, and spices/beverages were used to calculate the HDDS. Data for HDDS indicators were collected using a ‘Yes’ or ‘No’ response for each household. The value of this variable ranged from 0 to 12, to represent the food group. An increase in HDDS reflects an improvement in the household’s diet. Following Rashid et al., (2011) we use of zero-truncated Poisson regression model to estimate DDS as the random variable following a Poisson distribution with probability density defined as:

$$pr(y_i = DDS_i) = \frac{e^{-\lambda_i} \lambda_i^{DDS_i}}{DDS_i}, DDS_i = 0, 1, \dots, 12$$

Where DDS is the realized value of a random variable with mean and variance  $y_i$  and  $\lambda_i$  respectively.  $y_i$  is assumed to be strictly positive ( $y > 0$ ). Where, the parameter  $\lambda$  is specified as:

$$E \{ y_i / Y_i, x_{ik} \} = \lambda_i = \exp(\phi Y_i, x' \beta) = \exp(\psi_0 + \phi Y_i + \beta_1 x_1 + \dots + \beta_k x_k)$$

In addition to dietary diversity **Household Food Insecurity Access Scale (HFIAS)** is used to measure the degree of food insecurity (access) in the household within the past 30 days, which is an ordinal variable. HFIAS provides information on food insecurity (access) at the household level (Coates et al. 2007). There were nine occurrence questions asked to determine whether a specific condition associated with the experience of food insecurity ever occurred during the previous 4 weeks prior to surveys. Each question was rated by using Likert scales: rarely, sometimes and often. The HFIAS variable was calculated for each household by summing the codes for each frequency-of-occurrence question. The maximum score for a household was 27 (the household response to all nine frequency-of occurrence questions is “often”, coded with response code of 3); the minimum score is 0 (the household responded “no” to all occurrence questions, frequency-of-occurrence questions were skipped by the interviewer, and subsequently coded as 0 by the data analyst). The higher the score, the more food insecurity (access) the household experienced. The lower the score, the less food insecurity (access) a household experienced. Moreover, households’ food insecurity access prevalence (HFIAP) was used to classify households into four levels of food security status: (1) food secure, and (2) mildly food insecure, (3) moderately food insecure and (4) severely food insecure. The classification was made to indicate household vulnerability to food shortage and reveal its seriousness (Maxwell et al., 2014). It categorized finally, ordered logit regression model was applied for HFIAS analysis to determine the food insecurity status of pastoral and agro pastoral communities. A generalized ordered logit model is a refinement of ordered logit model and hence superior in terms of accounting for the parallel assumption, this avoiding the bias in the estimation. The generalized ordered logit model is specified as follows following Richard Williams and Quiroz (2019).

$$P(Y_i > j) = g(X\beta_j) = \frac{\exp(\alpha_j + X_i\beta_j)}{1 + \{\exp(\alpha_j + X_i\beta_j)\}}, \quad j = 1, 2, \dots, M - 1$$

Where M is the number of categories of the ordinal dependent variable. From the above, it can be determined that the probabilities that Y will take on each of the values 1, ..., M are equal to

$$\begin{aligned} P(Y_i = 1) &= 1 - g(X_i\beta_1) \\ P(Y_i = j) &= g(X_i\beta_{j-1}) - g(X_i\beta_j) \quad j = 1, 2, \dots, M - 1 \\ P(Y_i = M) &= g(X_i\beta_{M-1}) \end{aligned}$$

Where  $X_i$  denotes all relevant socio-economic and institutional variables affecting food insecurity.

### 3.2.7 Coping Strategy Index (CSI)

The Coping Strategy Index (CSI) has been used to determine the coping mechanism of employees at the industrial park. CSI is an indicator of household food security that is relatively simple and quick to use, straightforward to understand, and correlates well with more complex measures of food security (Maxwell and Caldwell, 2008). The index is computed as the sum of the product of the scores of copying strategies times the weight associated to each strategy. The mathematical presentation is given below.

$$CSI = \sum_{k=1}^n CSIC * Wgt$$

Where CSIC refers to the score of the copying strategy and Wgt is the associated weight of the copying strategies. Since the values of the copying strategies is a continuous variable, a multiple linear regression was used to identify factors that affect the copying strategy index of employees at the parks.

**Table 3: Description of variables for measuring the drivers of poverty, food insecurity and decent work among female workers in industrial park**

Name of the Variables	Unit	Poverty /food insecurity/coping strategy index	coping strategy index	job satisfaction/quality of work
Age	Year	+/-	+/-	+/-
Marital status	1= married, 0= Not Married	+/-	+/-	+/-
Urban	1= in the town where the park is located, 0= other area	-	-	-
Family size	Numbers of family members	-	-	-
Dependency ratio.	Share of family size below 14 and above 65 years old	-	-	+
Level of education	Level of education in grades completed	-	-	-/+
Frequency of training	Numbers of training	-	-	-
Remittance sent to family	Total amount of Birr sends to a family per month	+	+	-/+
Remittance received	Total amount of remittance received per month in birr	-	-	+
Distance from the park	Walking distance from the park in km	+	+	-
Salary	Birr in month	-	-	+
Meal support	Measured in birr equivalent	-	-	+
Transport support	Yes, if there is transport support no otherwise	-	-	+
Bonus	Amount of bonus earned per month in Birr	-	-	+
Amicable relationship with immediate boss	Yes, if there is no otherwise	NA <sup>3</sup>	NA	+
Amicable relationship with colleagues	Yes, if there is no otherwise	NA	-	+
Presence of Sexual and physical assaults	Yes, if there is no otherwise	NA	NA	-
Transparent promotion schemes	Yes, if there is no otherwise	NA	NA	+
Average time spend on house-work	Total amount of time spent on house work per day	NA	+	-

Source: Researchers own construction, 2022

<sup>3</sup> NA implies Not applicable

### 3.3 Qualitative Methods: sampling and analysis

Three methods of qualitative data collection techniques were employed to generate rich qualitative data and complement the survey results. These three methods were in-depth interviews, key informant interviews and focused group discussions. The total number of IDI, KII, and FGDs done during the fieldwork is shown in the table below (Table 5).

**Table 4 : Summary of target groups consulted for qualitative data through Various Methods**

S/N	Methods of Data Collection	Bole Lemi-Industrial Park		Hawassa Industrial Park		Kombolcha Industrial Park		Eastern Industrial Zone		Sum
		M	F	M	F	M	F	M	F	
		1	FGD	-	-	-	-	4	3	
2	KII	2	6	3	4	5	-	4	2	26
3	IDI	-	6	-	6	-	6	-	7	25

Source: Researchers' own construction, 2022

## Chapter Four: Results and Discussions

This chapter focuses on four major areas. The first part focuses on descriptive and inferential analysis. The second part covers on the work and employment qualities that prevailed at the industrial parks using multitudes of attributes. The third part presents the results of regression analysis on food security and communicates results on the determinants of work satisfaction through ordered logistic regression. The fourth part presents results on poverty analysis.

### 4.1 Socio-Economic Characterization of Female Employees

The following table (Table 6) presents the descriptive statistics for the socioeconomic and demographic characteristics of sampled employees. The result revealed that the average age of employees is nearly 22 years of age. There is statistically significance difference on age of employees among industrial parks. For example, the average age of respondents is 22 years at Kombolcha, Hawassa and Eastern industrial zone while the figure was found to be 23 at Bole Lemi. The level of education of employees also varied across industrial parks and there was a



statistical difference at 5 % confidence level. The highest level of education was observed at Hawassa industrial park (12+2) while the lowest average grade was observed in Easter industrial zone (grade10). Bole Lemi and Kombolcha had the same level of average level of education which was nearly grade 11 (10+1). The result goes with the studies formerly conducted by Christian et al (2021) who showed that industrial Park firms tend to hire young female workers who have completed 10th grade education (Christian Johannes Meyer, Eduard Krkoska, and Koen Maaskant, 2021).

The average duration of employment is the highest at Hawassa industrial park (nearly 31 months) followed by Bole Lemi (28 months) and in eastern industrial zone (27 months). The lowest figure was observed at Kombolcha industrial zone, which could be partly attributed to the war that occurred around the region, which disrupted the production activities and process of the park. Regarding the amount of the salary earned, Bole Lemi-I industrial park took the highest rate of salary compared to other industrial parks pursued by Eastern industrial zone.

The monthly salary of sampled employees at Hawassa was found to be the least and it was only birr 1664 per month. Qualitative interviews held with the female employees confirmed that the minimum and the maximum salary of the female employees' range from 900 to 3500, which was also verified through other earlier studies. Bole Lemi and Eastern Industrial zone demonstrated the highest frequencies of working hours beyond 7 pm per month while employees at Hawassa industrial park has the least frequencies of working hours beyond 7 PM per month. Working hours are similar across firms. Most firms require workers to work eight hours a day spread over six days a week. While most firms in publicly owned industrial parks report no overtime hours, firms in privately-owned industrial parks report two hours of overtime on average each day (Christian Johannes Meyer, Eduard Krkoska, and Koen Maaskant, 2021). There is no any significant difference on family size among employees working the four industrial parks. The average family size of employees was close to 2.5.

**Table 5: Age distribution, level of education, employment duration, monthly salary, family size and worktime duration of female employees at industrial parks**

Items	Kombolcha	Bole Lemi	Hawassa	Eastern Industry	p value
Age	22.389	23.438	22.136	22.443	0.001
Level of education in grade	10.843	11.110	13.955	9.845	0.030
Duration of employment in months	19.907	28.452	31.394	26.732	-
Monthly salary	1,910.398	2,700.596	1,664.242	2,353.856	-
Frequency of working hours beyond 7pm per month	4.595	6.595	1.917	5.885	0.000
Worktime	49.676	56.778	49.789	156.247	0.002
Family size	2.49	2.49	3.40	2.23	0.2952

Source: Survey, July- August 2022

Moreover, the analysis of the primary data showed that the employees in industrial parks were living in rented houses. As a case in point, 70 percent of employees at Hawassa industrial parks had revealed that they were living in rented houses but shared with friends and the figure was 46 percent at Easter industrial zone. Since the rental cost of houses were relatively cheaper at Kombolcha, only 44 percent of female employees had rented houses. The result further revealed that it was only few employees (5 percent in Kombolcha and 6 percent in Bole Lemi) who were able to live in their own houses. In terms of marital status, many of the female employees were single and never married. For instance, nearly 88 percent of the employees at Hawassa industrial park had never married and the figure goes as low as 60 percent at Eastern industrial zone where 35 percent of the respondents were married.

The employment modalities at the parks reveal that many of the employees have a six month or above contracts. In addition to this, more than 90 percent of the respondents were floor operators while the rest less than 10 percent were working as lower-level management position at in the respective plants. Bole Lemi-I and Hawassa industrial parks widely created employment opportunity for female employees. They mostly came from out of the region where the industrial parks are operating and geographically located. Kombolcha and Eastern industrial widely absorbed female employees who came from out of the town in the respective regions. For instance, at Kombolcha industrial park nearly 42 percent of the employee came from the town while the rest 56.48 percent came from the region but out of the town

itself. This entails that almost 98 percent of the employment opportunities have been seized by female employee who travels through the region. The figure goes as low as 43 percent at Bole Lemi. This goes along with the argument that industrial parks create employment opportunities for all citizens in the country regardless of their regional location and proximity. In the qualitative interviews, it was noted that, the female workers at Bole Lemi-I industrial park originally come from the provinces of Shewa; administratively north, east, west and south west Shewa of the Oromia region.

**Table 6: Distribution of mode of living, marital status, position at work and employment types of sampled workers at industrial parks**

<b>Dimensions</b>	<b>Kombolcha</b>	<b>Bole Lemi</b>	<b>Hawassa</b>	<b>Eastern Industry</b>	<b>p value</b>
<b>Mode of living</b>					
Living in parent or relative house	35.19	15.75	12.88	17.53	0.000
Living in rented house alone	44.44	27.4	16.67	36.08	
Living in rented and shared house with friends	15.74	28.77	70.45	46.39	
Living in company provided housing	0	21.92	0	0	
Living in own house	4.63	6.16	0	0	
<b>Marital status</b>					
Never married	81.48	67.81	87.88	59.79	0.0021
Married	12.04	29.45	12.12	35.05	
Divorced	6.48	2.74	0	5.15	
<b>Position in the organization</b>					
Lower management at floor level	6.16	9.85	7.22	6.83	0.299
Operator	96.3	93.84	90.15	92.78	
<b>Type of employment</b>					
Contract six month and above	78.7	86.99	93.18	73.2	0.0001
Contract less than six months	21.3	13.01	6.82	26.8	
<b>Origin</b>					
In the town	41.67	4.11	15.15	5.15	0.0001
Out of the town in the region	56.48	39.04	53.03	65.98	
Out of the town out of the region	1.85	56.85	31.82	28.87	

Source: Survey, July- August, 2022

The survey results revealed that female employees in the sampled industrial parks had more or less the same pattern of expenditure on some basic non-food items. For instance, there was no any statistically significant difference on the mean monthly expenditure on cloth, transport entertainment, health and other miscellaneous expenditures. On the contrary, there was a difference on the monthly expenditure among the employees in terms of spending on house rent, family support and education among employees in the sampled industrial parks. The amount of expenditure made on house rent was relatively the highest compared to other set of expenditure across all areas of the industrial parks. In this regard, the monthly average expenditure on house rent goes as high as 1134 birr at Bole Lemi-I pursued by Easter industrial zone where the average expenditure made by household on house rent was 992 Birr.

Female employees surveyed at Kombolcha and Bole Lemi-I transfer higher amount of money to their families compared to Hawassa and Eastern industrial zone. Employees at Hawassa industrial parks reported relatively spending and investing much on education. This was linked to the fact that employees at Hawassa industrials parks have higher level of education and many of them were keen enough to pull themselves out to higher positions and also new works environments through education.

**Table 7: Expenditure patterns of female employees at industrial parks in Ethiopia**

Items	Kombolcha	Bole Lemi	Hawassa	Eastern Industry	p value
Cloth	444.44	566.330	442.49	584.46	0.4317
House rent	537.22	1,134.11	872.42	992.58	0.0001
Transport	161.713	204.49	223.29	128.03	0.4370
Entertainment	72.82	102.67	100.58	81.67	0.7590
Family support	275.56	467.10	96.66	192.67	0.0068
Education	110.84	141.24	336.64	161.78	0.0081
Health	135.42	199.33	118.68	171.43	0.4589
Others	11.62	39.05	59.82	39.73	0.247

Source: Survey, July- August 2022

## 4.2 Quality of Work and Employment Situations

The overall wellbeing and satisfaction of employees at workplace depends on various factors which could be related to each other. Empirical evidence have also

showed that social support, burn out at work place and mobbing were strongly associated with work satisfaction, while mobbing and work life conflict were strongly associated with burnout. Additionally, it was shown that mobbing and work life conflict were strong predictors for all well-being outcome variables (Malinauskas et al, 2022). The meta-analysis has revealed that mobbing exposure affects job satisfaction because several negative outcomes including work satisfaction, burnout, general well-being, work motivation and physical health problems are associated with mobbing (Thielmann et al, 2022). Notably, mobbing may also affect other work characteristics, as it tends to decrease job and personal resources, inhibits cooperation, and decreases job satisfaction (Hacimusalar et al, 2021).

On the other hand, work life conflict has also been linked to several negative consequences. The assessment covers, participation of employees in decision making, the way feedback is given to the employees, the autonomy of employees to decide their working hours work volume etc., time and emotional pressures that employees experienced at the industrial park. In addition to these, the working environment have been assessed through the social support experiences of employees in the park, the presence of health competition which improves the overall performance of employees, mobbing coming from both employees and supervisors, the physical burden and accident of the work, the availability of training and career development packages, job security, life work balance, satisfaction of employees and other additional parameters.

#### **4.2.1 Internal consistency verifications through Alpha Cronbach Results**

The results of the internal consistencies have shown that many of the questions have strong internal consistency and their Cronbach's alphas lie above 0.8. The internal consistency is a bit weaker for job security, emotional demand and subjective health evaluation. The employees at Hawassa and Bole Lemi industrial parks seem more consistent in their response to the questions posed to them. The results showed that only the job security component, and the employee responses seem inconsistent while the employees at Kombolcha, in terms of settings, seem relatively inconsistent in their responses. Above all, the female employees at Kombolcha appeared more inconsistent and present emotional demands, physical burden, job security and subjective health problem. Overall, the results can be considered reliable for further analyses and drawing implications.

**Table 8: Alpha Cronbach test results on the working conditions of female employees**

Specific areas	Kombolcha	Bole Lemi	Hawassa	Eastern I
Participation	0.83	0.70	0.96	0.77
Feedback	0.89	0.89	0.96	0.86
Autonomy	0.89	0.95	0.95	0.90
Mental demand	0.74	0.65	0.86	0.71
Time pressure	0.85	0.80	0.83	0.78
Emotional demand	0.56	0.68	0.87	0.53
Social support	0.84	0.85	0.96	0.81
Competition	0.89	0.86	0.91	0.84
Mobbing	0.93	0.90	0.91	0.86
Physical burden	0.58	0.86	0.88	0.64
Risk and accident	0.75	0.72	0.85	0.83
Training	0.83	0.85	0.92	0.93
Care development	0.89	0.77	0.82	0.82
Job security	0.22	0.36	0.26	0.05
Employment	0.86	0.88	0.88	0.81
Work life balance	0.89	0.88	0.90	0.84
Income satisfaction	0.82	0.87	0.91	0.80
work satisfaction	0.73	0.83	0.93	0.88
Burning	0.88	0.90	0.95	0.86
General well-being	0.89	0.91	0.90	0.89
Subjective health problem	0.46	0.68	0.73	0.80
Vigor	0.74	0.84	0.70	0.84
Work performance	0.78	0.74	0.62	0.73

Source: Survey, July- August 2022

#### **4.2.2 Female employee’s participation in decision making and collection of feedback systems at industrial parks**

The *results revealed that female employees in all industrial parks have low level of engagement in decision making. Respondents have also added that their immediate supervisor marginally involve them in decision making. The situation seems worse in Kombolcha industrial park where 55.56 percent of the respondents reported that their extent of involvement in decision making is very low and the figure goes as low as 17.42 in Hawassa. Underscoring the same argument, the key informant from Bole Lemi-I industrial park has explained the situation as follows.*

*Most of the female workers in our company have been doing what they are instructed by the owners. No one here in our company does*

*a thing without the knowledge of foreign investors and supervisors. They are involved at every level and detail in each department of the company. In general, workers do not have any power to bargain with the management, who are mostly the Chinese owners or employed.*

The evidences from the survey also showed that Hawassa industrial park appeared the least in terms of considering the opinion and thoughts of the employees in the improvement of work place environment. Low levels of women participation in workplace decision making practices deter productivity, efficiency and profitability of the business and services. Under rare circumstances, unnecessary conflicts and fatigue might be created due to misconceptions emanating from poor participation of women employees in decision making (ILO, 2021). Hence, low participation in decision making disempower women workers and constrains their productivity as well as hampers their self-development capacity.

#### **4.2.3 Autonomy and mental demand**

Work autonomy is an important factor to employees' sense of engagement with their work and organization, and plays a big part in workers' decisions to stay or leave their organization and place of work (Locke et al., 1986). The results of the assessment on women employees in industrial parks of Ethiopia revealed that employees had less autonomy to determine their own work and working hours. For instance, nearly 36.3 percent of the employees at Bole Lemi-I and 34 percent of employees at Kombolcha industrial parks had very low chance to determine their own work by themselves. The figure goes as low as 20.45 in Hawassa. The situation seems a bit worse in Bole Lemi industrial zone where only 8.9 percent of the employees able to have a say on their own work while the figures were somehow above 13 percent in other industrial parks. A similar pattern was observed related to making the arrangement of the work hour of employees. For instance, above 75 percent of the respondents in all parks have shown that they have either very low or low autonomy to have a say in their working hours and schedules. Much of it was decided by the management of the respective industries. Having say in work schedules and space for work autonomy reduces workers high turnover and affiliation with the respective companies. Empirical case studies had also proved it that "organizations that provide more effective and flexible work environments have

been shown to have more engaged, satisfied, and healthier employees with fewer intentions of looking for new employment' (Khan, Raza, and Siddiqui: 2020).

The result further revealed that employees have limited autonomy to set the order and volume of the work by themselves. This could be partly linked to the fact that industrial products have their own distinct line of production and thus leaves no room for employees to determine the order of the work. In addition, more than 80 percent of the respondents have either low or very low autonomy to determine the order of their work. The figure remained more or less the same for work volume. Apart from this, 38 percent of the respondents (Kombolcha 44 percent, Bole Lemi-I 37 percent, Hawassa 36 percent and Eastern Industrial zone 34 percent) rated the extent of the mentally challenging nature of their work as average and the corresponding figures for very large extent is 37 percent (Kombolcha 28 percent Bole Lemi 40 percent Hawassa 43 percent and Eastern Industrial zone 34 percent). In addition to this, the level of concentration the work requires has been gauged by employees and the majority of the employees rated it as average and low. In manners to overstate, Bushiri (2014), identified the key problems relating to work environment such as flexibility of working environment, work noise distraction, supervisor's interpersonal relationship with subordinates, job aid, the use of performance feedback and improvement of work incentives in the organization help to motivate employees to perform their job.

#### **4.2.4 Time and emotional pressures and social support**

The other important dimension of working conditions that affect the quality of work is linked to time and work pressure of the work created on employees and the kind of social support employees entertain at their work place. In the work context, interpersonal relationships can also become a source of stress. On the other hand, if the relationships with peers, or colleagues in different positions are tense, conflictive and prolonged, feelings of burnout increase at the workplace (Karademas, 2006; Wang et al., 2015; Kassis et al., 2019). Behaviors at the workplace and institutional qualities determine time and work pressure.

In this regard, the results of the survey reveal that in general employees fall under time pressure at their work and rush to meet deadlines at their workplace. The situation seems better in Eastern and Kombolcha industrial zone compared to Hawassa and Bole Lemi-I. For instance, 36 percent of the employees sometime falls under time pressure in their workplace and the figures were 34 and 32 percent at Bole Lemi-I and Hawassa, respectively. The corresponding figures for rushing to meet



deadlines were 33 and 34 percent at Bole Lemi-I and Hawassa, respectively and 31 percent at Kombolcha and Easter industrial zone.

The results of the assessment had also illuminated that there was better social support at the industrial parks. Employees fairly support each other at work and at workplace. The response of the employees has shown that more than 65 percent of the employees have enjoyed support either on average or large extent by their colleague at their workplace. The key informant from Bole Lemi-I has supported this result. She has explained that the companies organize different socialization events for workers once or twice per year. In addition to that when workers get pregnant and give birth, the company prepares different congratulatory programs and gifts. On top of that workers prepare different parties during holidays by collecting money from themselves and from the contribution made by the company.

#### **4.2.5 Competition**

Studies have shown that productive rivalry and teamwork are valuable assets for businesses. Managers must choose whether to put their employees in a cooperative or competitive environment within the company. Internal rivalry can motivate individuals and teams to strive for excellence, which results in continuous, incremental performance gains. On the other hand, internal cooperation can result in creative problem-solving and efficient knowledge exchange (Naidoo and Sutherland, 2016).

Competition among employees create the dynamics in which employees compete against each other for recognition, bonuses, and promotions. Some studies suggest such competition can motivate employees, make them put in more effort, and achieve results (Vance, 2006). The results of the survey assessment revealed that there was low level of competition among employees and the extent of rivalries among work groups was quite low. For example, from the total respondents nearly 43 percent of the employees at Kombolcha and Bole Lemi gauged their level of competition with their colleague as average. In addition, employees claimed that the level of rivalries among group work colleagues was very low. From the total respondents, more than 67 percent of them revealed that the degree of rivalries among employees was low or very low. The situation even seems very worse at Kombolcha and Bole Lemi-I and a better situation was revealed at Hawassa and Eastern industrial zone. The implication to drawn from this analysis was that industrial parks were not operating under healthy conditions. The women workers in the industrial parks of Ethiopia were not given opportunities to compete for and

collaborate on much of the operations in the companies. This had caused little or rooms for workers innovations and change. Furthermore, according to Naidoo and Sutherland (2016), the existence of internal competition can encourage high levels of performance in both the person and the firm.

#### **4.2.6 Mobbing**

Mobbing is one of the problems that occurs in workplaces and particularly the problem is pervasive in labor intensive manufacturing companies (Chappell and Martino, 2006). An assessment has made regarding mobbing at the industrial parks in Ethiopia. The results have shown that mobbing has not been totally absent in the working place in the industrial parks. Some of the mobbing types are quite prevalent in the industrial zones in Ethiopia. The problem seems a bit prevalent at Hawassa industrial park than the other three sampled parks. The results revealed that 45 percent of respondents were occasionally criticized by their colleague or supervisors while the figure goes as low as 24 percent at Kombolcha industrial parks. Nearly 36 percent of the respondents have also showed that they occasionally got ignored in their workplace by their boss or colleague. In addition, 39 percent of the respondents have responded that they have been ridiculed in front of their colleague by their supervisors while the figure goes as low as 20 percent at Kombolcha industrial park. The key informant contacted at Eastern Industrial Zone has narrated on the level of mobbing at their work as: *there are companies' owners that cut down payments of female workers, abuse then including sexual harassments, insult and verbally abuse them. There has been practices of mistreating workers and forcing employees to handle the domestic work of some foreign investors and owners.*

Furthermore, the key informant consulted at Bole Lemi-I industrial park characterized the practices of mobbing at the factories as follows:

*Mostly, Company owners do not have the practices of respecting workers' rights and dignity. The way owners and supervisors communicate and lead the company does not consider workers' rights. It has been quite common to experience shouting, insulting and firing workers arbitrarily. They do not care about the contract and legal rules and obligations expected from them. Besides interference at every activity has been also common. I do not remember circumstances under which the companies were made accountable.*

In addition to the above practical cases, nearly 39 percent of the employees at Hawassa industrial park have occasionally been assigned to meaningless task (tasks which are marginal and labor some). Employee also experienced conflict at their workplace. The result revealed that 34 percent of the employees (Kombolcha 39 percent, Bole Lemi 45 percent, Hawassa 33 percent and Eastern industrial zone 41 percent) have never experienced conflict at their workplace but 32 percent and 22 percent of the respondents revealed that they experienced conflict with their colleague either occasionally or sometime at their workplace, respectively. In essence, the violations of women employees' rights, denial of humane treatment and abuses, including labor and sexual abuses, had exposed the women employees in the park to lose the sense of empowerment and continue to work under conditions of disenchantment and disempowerment.

#### **4.2.7 Burden, risk and accident**

The results had revealed that it was only 5 percent of the respondents (4 percent at Kombolcha, 4 percent at Bole Lemi-I, 8 percent at Hawassa and 4 percent at Eastern industrial zone) who had responded that they have never experienced physically exhaustion at their work. However, the rest 80 of the respondents fall under different levels of physical exhaustion. For example, 25 percent (19 percent at Kombolcha, 29 percent at Bole Lemi, 31 percent at Hawassa, and 16 percent at Eastern industrial zone) have mostly encountered physical exhaustion. 50 percent of the sampled employees have responded that their work exposed them into risk at a low or a very low extent, which appears to be a good indicator as compared to other industries and factories. The key respondent from Bole Lemi-I industrial zone had narrated about the conditions of risk and accidents in the factories of the park stating that *I think our workplace is a better place. They give us different materials to protect us from possible hazards during work but most of us do not strictly apply them.*

As result, significant number of employees rated the harmfulness nature of their working condition as average and low extent. In this regard, nearly 34 percent of the sampled employees rated the harmfulness nature of their working condition as low extent and 31 of the respondents rated it as average. The figure varies across industrial parks. For instance, nearly 20 percent of the employees at Eastern industrial zone rated the harmfulness nature of their working condition as very large extent but the corresponding figure for other parks was less than 10 percent. This entails that the situation at Eastern industrial zone seem a bit worse in terms of the

working condition of employees. The key informant from Eastern Industrial zone characterized their work situation as follows.

*Female workers often get sick due to burdens at work. Observations during the fieldwork also corroborates the presence of deteriorated physical appearances. It has been so common to stand and continuously work for several hours. Most of our supervisors are much concerned for the quantity of products and commodities to be produced rather than the well-being of the workers in the factory. Although it occurs under rare circumstances, there are conditions when workers get faint out because of exhaustion and stress at the site.*

Safety materials seen as luxury items in some factories, but this had happened due to negligence while everybody knows its necessity during the task engagements. There are areas of work where workers must wear gloves on mandatory requirements, the same is true for protective eyeglasses, head protectors, and the like. But female employees do worry much about using or strictly wearing them on daily routine activities. Likewise, we also had reports where factories and their management fail to provide working shoes or other important items for workers. Only one company in the park tried to fulfill all the necessary safety materials for its workers with promising follow-up and where others can also learn out of it as a good lesson. It is implied that female employees were not properly instructed on safety guidelines. The larger operations of industrial parks and women focused programs must have included on-the-job trainings for induction and continuous capacity building. The managers and owners of the individual enterprises must make significant investments in both soft skill development programs and standard protection equipment. Industrial Park workers safety and security systems' governing and regulatory structures, from the government side, must be firmly in place and routinely audited.

#### **4.2.8 Training and career development**

One of the dimensions that improves the quality of work by the female employees is the availability of adequate and work-related training and capacity building which promotes the career development of employees in industrial parks. The assessment has showed that training and career development is not that much promising in the industrial parks in Ethiopia. For instance, the majority of the

respondents have clearly indicated that they have either low or very low training opportunities implying the presence of low spillover effect from capacity building endeavors. This was substantiated by the fact that from the total respondents above 35 percent of them (38 in in Kombolcha, 36 percent in Bole Lemi-I, 38 percent in Hawassa and Easter Industrial zone) have disclosed that they had very low opportunities to engage in further trainings that could enhance their skills and operations. The key informant, the supervisor at the Bole Lemi industrial park, has also supported the overall claim that training and career development practices of workers were poorly institutionalized as follows: in the following way.

*I have got some pieces of training with the workers under my line department about fire accident, first aid, and sexual and physical harassment at the workplace. In my opinion, those pieces of training were not much serious and just conducted for a sake of reporting the trainings. The topics need to be diverse and based on the preliminary assessment of the operational capacity and skill gaps of the workers. That will help to strategically aim on improvement and there should be a certain mechanism to make follow up on the impact of the trainings on workers life and product outputs.*

In connection with the training, there are employees at Bole industrial park who has never attended any of the trainings at all. In a related matter, in the focus group discussion held at Kombolacha Industrial Park, it was noted that there were training opportunities at Technical, Vocational Educational Training (TVET) institutions although these trainings were not as such designed to meet the specific demands of the factories at work and did not also create the required level of impacts.

The situation was also similar for career development practices. For instance, more than 70 percent of the respondents (74 percent at Kombolcha, 71 percent at Bole Lemi, 76 percent at Hawassa and 67 percent at Easter industrial zone) responded that they had either low or very low possibilities of promotion in their factories. The same pattern was observed on the extent to which their factories support them for professional progress. For example, more than 75 percent of the employees rated the extent of factories supporting employees in professional advancement as either low or very low extent. The results in general show that the human development experiences of industrial parks remained to be weak and requires strategic designs and interventions. The personnel in industrial parks could readily promote the production systems and outputs with the help of soft skill

trainings and professional development, according to authors like Bekkers and Ritchie (2020). In a sense, it also prepares the way for the transformation of the nation's skilled labor force.

#### 4.2.9 Job security

Certainty of employees' job continuation makes them committed to the organization and in turn they perform more job duties (Adesubomi, 2018). Because of this job security is considered as one of the key indicators of quality of work. In this regard, it was only few respondents who perceived their job as secured. The larger proportion of the respondents have revealed that the status of their job security was either average or very low. There was no any statistical difference on the situation across parks. The key informant from Bole Lemi explained that *the owners and supervisors are above the law and undermine everyone. No one can stand to explain against their decision. They threaten everyone and the job security of employee is under their will.*

Numerically, 46 percent of the employees at Hawassa industrial park have reported that their status of their job security was very low and the corresponding figures for Kombolcha, Bole Lemi and Eastern industrial zone were 36.11, 42.47 and 34.2, respectively. As a result of these employees do have the fear that they would lose their jobs. For example, nearly 28 percent of employees at Hawassa industrial parks fear that they could lose their jobs. In the rest of the industrial parks the figures lie between 22 and 24 percent. The supervisor at Bole Lemi-I characterized the situation of job security in the park as follows.

*Most of the workers fear losing their job. Let alone the operators, most of the Ethiopians who are working at different management levels fear losing their job. If a certain supervisors or owner does not like you for some reasons, he/she may fire you. No one dares here to stand beside you. The company recruited workers randomly, the management simply posts the advertisement at the gate of the factory and hire job seekers found at the gate. If someone has an ID and bank account, it's enough for them to be hired. The contracts are written in English and sometimes in the language of investors such as Mandarin (Chinese), and most workers do not understand what the contract states. When they fire someone, they do not*

*consider the contract at all. Like the way they hire you easily, they also fire you easily.*

The employability of employees has also been examined if they lose their current job. The results of the analysis have shown that it takes some time for the largest share of employees to secure either similar or another jobs. For instance, nearly 30 percent of sampled employees have reported that it takes quite some time to secure similar jobs. The figure was high at Kombolcha compared to other similar parks. The figures are more or less similar to find another job.

#### **4.2.10 Work life balance**

Work-life balance has shown growing linkages and balancing one's professional work, family responsibilities, and other personal activities (Keelan, 2015; Kerdpitak and Jermsittiparsert, 2020). A flexible working environment enable employees to balance personal and professional responsibilities (Redmond et al., 2006). Organizations that don't take into account the issue of work-life balance suffer from reduced productivity and employee performance (Naithani, 2010). Indeed, employees with a healthy work-life balance are generally appreciative to their employers (Roberts, 2008). As a result, they exert their best effort for the company as a gesture of gratitude, resulting in improved job performance (Ryan and Kossek, 2008). Thus, a high work-life balance employee could be highly productive and an excellent performer (French et al., 2020). Because of this, work life balance is considered as one of the most important components of quality of job.

Cognizant of its importance, an assessment has been made to evaluate the extent of work life balance problem at the industrial parks. Respondents have shown that they sometime or occasionally fail to balance work and their private life because of their work. For instance, in some industrial parks notably Hawassa and Easter industrial zone, more than 30 percent of the sampled employees had explained that they mostly failed to reconcile private life and work. One of the employees consulted at Hawassa industrial park has explained the challenges of work life balance in the following way:

*It's difficult to handle both household responsibilities and the workload here. Most of the time, I feel sick around my back and Kidney when I got home. Unfortunately, all household tasks are waiting for me. I know that I am less productive than my friends.*

*When I am trying to take a break during production time, my supervisor shouted and insulted me. I do not recommend industrial park work for anyone, especially married women especially who do not have any backing from other family members. Life continues to be tedious.*

Based on the survey results, the situation seems a bit worse at Hawassa industrial park where nearly 16 percent of the respondents replied that they always experience work life balance problem. Because of these conflicts arise in their private life. This was evidenced by the fact that more than 20 percent of the sampled employees had replied that conflict mostly arise as a result of the work and the figure goes as high as 41 percent at Kombolcha industrial park where employees sometime encounter conflict due to lack of proper life and work balance. The key informant from Hawassa industrial park, a supervisor at one of the companies, has shared what she observed about the work -life imbalance of employees which became the source conflict at home stating that *we often hear workers fight with their husbands because of the nature of their work at the factory. Most women are leaving their job after they get married. After giving birth very few of them come back to work mainly as they do not have someone to support them.*

#### **4.2.11 Work and income satisfaction**

It is generally believed that higher pay leads to higher job satisfaction which increase productivity of employees. The work and income satisfaction of employees clearly show that employees at the sampled industrial parks feel that their salaries do not reflect their work input. Because of this, more than half of the respondents of the sampled employees in industrial parks have revealed that their satisfaction appeared very low due to the salaries they earn. For instance, nearly 60 percent of the respondents (77 percent at Kombolcha, 51 percent at Bole Lemi, 63 percent at Hawassa and 49 percent at Eastern industrial zone) responded that the extent to which their salary reflected their work as a very low extent. The differences on the industrial parks could be linked to the fact that the lowest salary was being paid by Hawassa followed by Kombolcha.

Hence, the findings showed that the employees were not satisfied by the amount of salary being paid in industrial parks. On average 58 percent (63 percent at Kombolcha, 64 percent at Hawassa, 50 percent at Bole Lemi and 57 percent at Easter



industrial zone) of the respondents confirmed that they were extremely dissatisfied by their salary. The line manager at Bole Lemi has explained the mismatch between salary and living cost of employees which caused the dissatisfaction in the following way.

*Workers have got different types of payments in the form of basic salary, allowances, bonus, and incentives. On average, the workers in our company have been getting around 2500 birr per month. This amount of money is not enough to move the female employees out of poverty. They have different expenses, house rent, food, and other expenses. In addition to that the cost of living in Cities such as Addis Ababa and food prices are sky rocking day by day. This created extra pressure on employees who are earning such low amount of salary. So, I trust that employees are not happy by their payment.*

On the other hand, although their salaries appeared low, the majority of the employees, reported being satisfied by their work and working conditions. For instance, 36 percent (37 percent at Kombolcha 40 at Bole Lemi 26 at Hawassa and 39 at Eastern industrial zone) of the respondents have rated their level of satisfaction by their work as average. This entailed that there is a significant difference on work and income satisfaction at various industrial parks and the difference is statistically significant. This calls once again, for strategic interventions by the concerned industrial park management and other actors in the process.

#### **4.2.12 Burning**

Burnout is a psychological stress syndrome when a person in condition with high emotional engagement request for continuous and long extent of time to take rest. Burnout is a response to chronic job stress that manifests as a three-dimensional construct characterized by emotional exhaustion or the loss of emotional resources with which to face work; depersonalization or the development of negative attitudes, insensitivity and cynicism toward those receiving the service provided, the value of the work itself and the body to which one belongs; as well as low personal accomplishment understood as a tendency to evaluate one's work negatively and low professional self-esteem (Maslach, 1982).

The results from the survey assessment also revealed that it was only less than 10 percent of the respondents who had never felt burnt by their work. This

implies and leads to the argument that, more than 90 of the respondents had fallen under various degree of feeling of burning out by their work. The results had revealed that, on average, 33 percent (40 percent at Kombolcha, 36 percent at Bole Lemi, 30 percent at Hawassa and 25 percent at Eastern industrial zone) had openly uncovered that they sometime feel burning out due to the nature of their work. The focus group participants at Bole Lemi industrial park have also verified that *there are situations where employees were ordered to work from Sunday up to Sunday without any rest. Because of this, there has been riots and demonstrations inside the industrial park which has been settled by the involvement of police.* The need to programmatically and strategically approach work environments with excessive work schedules and high levels of demands that leave employees emotionally exhausted and lacking in a sense of personal accomplishment has also been established by a number of studies and models developed around burnout (Ed-Valsania, Laguna, and Moriano, 2022). Burning and its different manifestations have already been prevalent among Ethiopia's female industrial park workers, highlighting the significance of putting in place the proper policies and procedures that would help to curtail it.

#### **4.2.13 Wellbeing**

The notion of overall employee well-being should be seen from different spectrums including mental health/depression (Sanne et al. 2005), the life satisfaction and happiness (Diener and Tay 2017), and work motivation and the life cycle (Kets De Vries et al. 1984). The employees at each industrial park were asked to rate their level of happiness they had in the last two weeks.

The survey results demonstrated that nearly 45 percent of employees were occasionally happy in the last two weeks. The figures were different across industrial parks where some values go as high as 56 percent at Hawassa and as low as 37 percent at Kombolcha industrial park. The results further attested that nearly 12 percent of employees feel never to be happy in the last two weeks. The figure was the highest at Kombolcha industrial park where nearly 16 percent of the employees reported to never feel happy in the last two weeks. The status of employees on their level of energy and being active in the last two weeks were also examined. The results revealed that 38 percent of the employee responded that they were occasionally energetic in the last two weeks while 34 percent of the employees responded that they sometimes got energetic in the last two weeks. More or less, the same pattern of response was observed on other attributes linked to wellbeing of employees such as being refreshed and well rested and the extent to which employees

engaged in doing things that interested them. The result in general entails that employees were not that much happy and were less energetic to accomplish their work.

#### **4.2.14 Health**

Authors such as Talapatra and Rahman (2016) and Chegini et al. (2019) have pointed out that there are some common health hazards of the garment's factory premises including excessive sound and temperature, lighting and uncondusive working environment, exposure to undue vibration and dust, poor ventilation and work safety, and lack of disposal of wastes and effluents in Bangladesh. The same pattern is observed in Ethiopia where this study has illuminated that the major illnesses faced by employees in the garment factors were: more than 85 percent of the respondents have reported that they suffered from headache but with various intensity. They sometime suffered from headache while some other occasionally suffered from headache. The lion shares of employees sometimes suffered from headache. In addition, more than 62 percent of the respondents have suffered from back pain but with various level of intensity. The corresponding figures for joint and insomnia problems are 56 and 66 percent, respectively. The key informant at Hawassa industrial park, who is a supervisor, has further added on the health problems of the female workers stating that: *not eating properly and sufficiently is the challenge we have often faced in the production process. Most of the workers could not handle the work pressure, they feel dizzy and sleepy and in the worst cases, they fell.*

#### **4.2.15 Vigor**

Vigor is a series of interrelated affective states experienced by employees where they work, referring to an employee's feelings related to physical strength, emotional energy and cognitive activity. Vigor is one aspect of positive employee engagement at work (Arie, 2010). Vigor can spur employee performance to be more optimal and it will tend to do useful things for the organization on their own awareness and will be driven towards positive tendencies behavior (Shekari, 2015).

The survey results have shown that 74 percent of employees (69 percent at Kombolcha, 74 percent at Bole Lemi-I, 86 at Hawassa and 71 percent at Eastern industrial zone) occasionally or sometime feel that they were overflowing with energy at work. On the other hand, it was less than 5 percent of the employees that

feel fit and vigorous at work. The lion shares of the respondents have shown that they sometime or occasionally feel fit and vigorous and the same pattern is observed on the way employees look forward to travel to the work place as they get up in the morning. An in-depth interview held with female employee at Hawassa industrial park further enriched that:

*I feel tired and unable to wake up from my sleep during the morning. The workload and pressure here made me so tiresome. Nonetheless, as we don't have other options rather than working here. I always wake up at 4 pm after midnight, then I prepare my breakfast and wash the dishes. In addition to that, I clean the house, wash clothes, and accomplish other domestic chores. Imagine, I am also working for 10 hours per day at the industry by standing. Very rarely, the supervisors reduce the workload on us and give us break to get rest. Actually, such arrangements minimize our income at the end of the month. My parents advise me not to work at the industry, instead propose to marry and live another life.*

#### **4.2.16 Job satisfaction**

Job satisfaction is linked to the amount of overall positive affect that individuals have toward their jobs. Tziner and Vardi (1984) also indicated that job satisfaction is an attitude or affective response or reaction to a great variety of aspects related to work. Job satisfaction could be affected by a range of factors including pay, training and promotion opportunities, the nature of the job itself, management style, working conditions notably social support and the work group which is linked to the presence of mobbing (Arnold and Feldman, 1986).

Employee's rate their work performance by their own compared to others and many of them, more than half of the interviewed employees, responded that they evaluate their work performance as average compared to others. The majority of the employees have also revealed that their supervisors also evaluated their work performance as average.

Employees in general were not satisfied by their working condition. The result revealed that 53 percent of the respondents (62 percent at Kombolcha 60 percent at Bole Lemi-I, 37 percent at Hawassa and 57 percent at Eastern industrial zone) were less satisfied and nearly 31 percent of the employees responded that they were unsatisfied. The situation seems a worse at Hawassa industrial park where

nearly 55 percent of the employees responded that they are dissatisfied by their work. It is only less than 5 percent of the employees who responded that they are highly satisfied by their work.

### **4.3. Ordered Logistic Regression on Work Satisfaction of Female Employees in Industrial Parks in Ethiopia**

One of the easiest ways to gauge the job satisfaction of employees is by focusing on workers' own evaluations of their jobs (Yoshida and Torihara, 1977; Staines and Quinn, 1979). Seashore (1974), for instance, associated good jobs as a job that satisfied its employees. Wnuk-Lipinski (1977) saw job satisfaction as an important part of the quality of life and thus an end in itself. Based on this perspective, a number of criteria for assessing the quality of work were devised, encompassing both general measures of job satisfaction as well as specific measures of workers' contentment with an array of job facets (Land, 1975; Staines & Quinn, 1979; Kalleberg and Vaisey, 2005; Krueger et al., 2002).

This study allows employees to gauge their level of job satisfaction. It is crystal clear fact that work satisfaction is affected by a range of variables including age, level of education, family size and marital status which are traits of the employee. In addition to these, the nature of the work, the social and work environs affect the level of employees' satisfaction. Area specific factors which have been captured using area dummies are also important dimensions to affect job satisfaction of employees.

The results of the ordered regression have shown that as the salary of the female employees increase the probability of the employee being to be satisfied increases and it is significant at 1 percent. In the same way, the probabilities of employees being to be unsatisfied decrease as salary increases and it is significant at 10 percent. The other important factor that affects the level of job satisfaction is related to the marital status of employees. In this regard, the result has shown that the probability of the employees being to be unsatisfied increases if the employee is widowed compared to never married and in return, their probability of being to be satisfied decreases if the employee is widowed. In addition to this, the probability of being satisfied is also determined by the housing status of the employees. The result revealed that the probability of those employees who live with families or relative houses tend to be more satisfied than those who live in rented house with friends. Nearly, 41 percent of the respondents are living in rented houses shared with friends. The presence and extent of social support and the extent to which employees' work

burn them largely affect the level of work satisfaction of employees at work place. Since many of the employees are coming from out to the town where the industrial park is located, they don't have strong social relationship and support out of their work places. Thus, the presence of social support at work place eases their life and creates more comfort for employees at their work station. In addition, the result in general entails that income related and factory specific factors are important to determine the status of employee's satisfaction. For instance, higher rental cost of house clearly takes the lion share of employees' income that further urge them look for additional means of livelihoods, creates additional pressure and stress for employees which affects the satisfaction of employees. Low level of salary of employees also reduces the quality of life of employees. This is because low level of salary prone employees to food insecurity and thus employees many not be fit to work long hours at work place.

**Table 9: Ordered logistic regression for female workers in industrial parks**

Variables	Satisfied		Less satisfied		Unsatisfied	
		P-Value		P-Value		P-Value
Age	0.0002	0.9690	0.0001	0.9690	-0.0002	0.969
Grade	(0.0026)	0.1720	(0.0011)	0.1790	0.00373	0.167
Duremp	(0.0012)	0.0700	(0.0005)	0.1040	0.0017	0.073
Salary	0.0000	0.0850	0.0000	0.1140	-0.00001	0.086
famsize	(0.0029)	0.1210	(0.0013)	0.1360	0.00414	0.118
mstat						
Married/Living together	0.0123	0.7100	0.0055	0.6920	(0.0178)	0.7050
Divorced/Separated	0.1243	0.2000	0.0067	0.7840	(0.1310)	0.0820
Widowed	(0.1504)	0.0000	(0.5312)	-	0.6816	-
studysite						
Bole Lemi	0.0344	0.4100	0.0093	0.4650	(0.0437)	0.4130
Hawassa	(0.0761)	0.0160	(0.0809)	0.0230	0.1570	0.0130
Eastern Industrial Park	0.0298	0.4570	0.0087	0.4980	(0.0384)	0.4590
livelihood						
Living in rented house alone	(0.0486)	0.2120	(0.0132)	0.2100	0.0617	0.1900
rented and shared house with friends	(0.0709)	0.0770	(0.0274)	0.0890	0.0983	0.0620
Living in company provided housing	(0.0415)	0.4220	(0.0099)	0.5660	0.0514	0.4440
Living in own house	0.0645	0.5060	(0.0059)	0.7710	(0.0586)	0.4620
Burnt						
Occasionally	(0.0864)	0.1830	0.0016	0.9190	0.0848	0.1210
Sometimes	(0.0391)	0.5490	0.0062	0.6790	0.0329	0.5190

Variables	Satisfied		Less satisfied		Unsatisfied	
		P-Value		P-Value		P-Value
Mostly	(0.1656)	0.0080	(0.0638)	0.0270	0.2294	-
Almost always	(0.2045)	0.0010	(0.1609)	0.0030	0.3654	-
Social support						
To a low extent satisfied	0.0232	0.3770	0.0469	0.4050	(0.0701)	0.3930
Average	0.1133	-	0.1168	0.0220	(0.2301)	0.0020
To a large extent satisfied	0.1129	-	0.1167	0.0230	(0.2296)	0.0030
To a very large extent satisfied	0.1169	0.0260	0.1175	0.0240	(0.2344)	0.0110

Source: Survey, July- August, 2022



Decent work is central to economic empowerment, given its inherent importance to women's well-being and ability to advance in areas such as acquiring income and assets. The extent to which women's employment is empowering depends on the type and quality of the work, as well as its potential to provide a secure income (Hunt and Samman, 2016). While this is the reality, the assessments conducted and the results obtained significantly departs from the theoretical expectations and do not exhibit and give a proof of institutionalizing economic empowerment of female workers in the industry.

#### **4.4 Food Security and Coping Strategies**

Food security status of the female employees has been one of the utmost focuses of this study while targeting the economic empowerment of female employees in the industrial parks. The team had used The Household Food Insecurity Access Scale (HFIAS) to measure the food security status of the female employees included in the survey. There are nine questions which are used to measure access to food ranging from "simple worry for food shortage" to "experience of spending the day and night without eating any food." Based on these questions, the food security status of employees has been gauged and reported through the discussions presented in the subsequent sub-sections. Moreover, item response theory has been used to validate the questions and the results obtained through the study.

##### **4.4.1 Food Security Status of Female Employees in the Industrial Parks of Ethiopia**

The result of the assessment indicated that it was only 37.9 percent of the sampled employees were food secured. The result further illuminated that nearly 33 percent of the sampled employees were suffering from severe food insecurity. The situation seems better at Kombolcha industrial parks where nearly 54 percent of the sampled employees found out to be food secure while the corresponding figure went as low as 20 percent at Hawassa industrial park and 30 percent at Eastern industrial zone (Table 26). Other employees had fallen under different food insecurity status. The results revealed that 19 percent of employees at Kombolcha and 14 percent of employees at Eastern industrial zone were mildly food secure and the corresponding figures for Bole Lemi and Hawassa were 7.6 and 5.5 percent, respectively.

**Table 10: Food security status of female employees in industrial parks of Ethiopia**

Food Security Status	Kombolcha	Bole Lemi	Hawassa	Eastern I	Average	Total
Food secure	54.37	47.22	20.31	29.9	37.92	0.0001
Mildly	19.42	7.64	5.47	14.43	11.02	
Modestly	10.68	16.67	21.09	23.71	18.01	
Severely Food insecure	15.53	28.47	53.13	31.96	33.05	

Source: Survey, July- August, 2022

On the other hand, the highest level of severely food insecure employees was found at Hawassa industrial park where more than half of the employees (53 percent) were severely food insecure. Nearly 32 percent and 29 percent of employees at Eastern and Bole Lemi industrial parks were severely food insecure. The lowest reports in terms of severely food insecurity of the employees (16 percent) were found in Kombolcha industrial park. In addition, in this industrial park it is only 11 percent employees who were modestly food secure. While the corresponding figures for Eastern industrial park, Hawassa and Bole Lemi were 24, 21 and 17 percent, respectively. Overall, the assumption and thoughts that female employees in urban industrial parks comprised more food secure had been undermined and challenged with the results of these findings. The key informant from Bole Lemi industrial park, a supervisor at a factory level, has explained the prevalence of food insecurity in the following way.

*I have witnessed female employees struggling to get food stuff. Sometimes, employee spend their lunchtime in the toilet, around their machines and some other places because they cannot afford the expenses for their lunch throughout the days of the months. Because of low income and inflated living costs, most of the female workers are leading subsistence life i.e., hand to mouth.*

The other measurement of food insecurity status of the female workers is dietary diversity score. The results of the assessment revealed that there was no any significant difference on the dietary diversity score of employees among the four industrial parks. The average HDDS was 7.34 foods, on a scale of 0 to 12 food diversity consumption groups. The survey questionnaire included 12 food groups namely cereals; roots and tubers; fruits; sugar/honey; eggs; legumes or grains; vegetables; oils/fats; milk and dairy products; meats; miscellaneous; fish and shellfish.

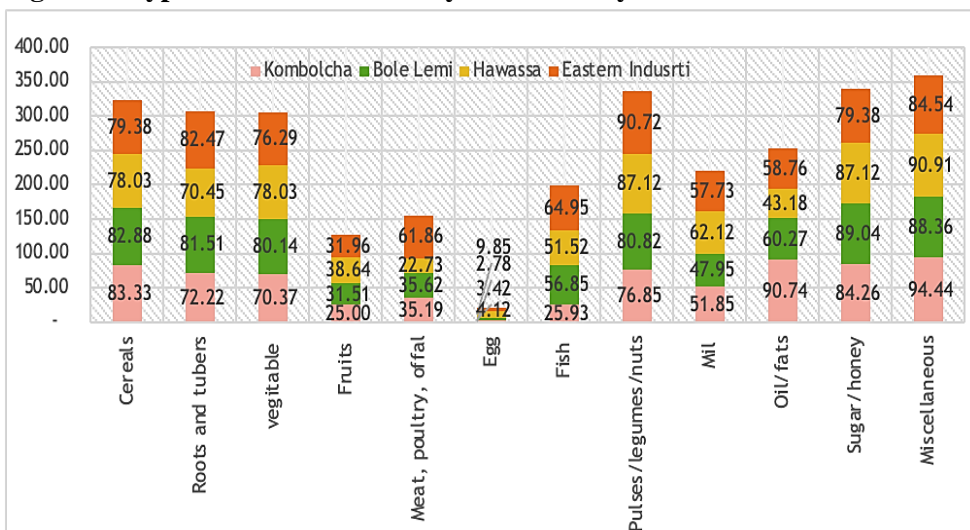
**Table 11: The Food Security Status of Female Workers measured through HDDS**

Study site	Mean	P-value
Kombolcha	7.13	0.2
Bole Lemi-I	7.38	
Hawassa	7.20	
Eastern Industrial Park	7.72	
Total	7.34	

Source: Survey, July- August, 2022

The results show that the foods most consumed were cereals, roots and tubers, pulses, vegetables sugar/honey, and others. For instance, more than 80% of female employees had reported that they consume cereals. Furthermore, relatively more employees, above 75 percent, reported that they ate also pulses and sugar. According to the results, most female employees were highly dependent on staple crops such as cereals and roots and tubers due to their low cost. The food group least consumed in households was fish, egg and fruits and meat which is associated to the fact that the prices of these food items are expensive and employees couldn't afford them.

**Figure 2: Types of food items mostly consumed by female industrial workers**



Source: Survey, July- August, 2022

Moreover, the female worker interviewed at Hawassa has clearly narrated her food consumption patterns, which backups the aforementioned notion, in the following way.

*I bought the food for the month immediately after obtaining monthly salary. I buy food items such as Teff, Shiro, and others. I buy the remaining items weekly. Almost throughout all days of the month, we consume Shiro and Kita (a sort of bread) in the house. We do not have the capacity to consume more than that. I would like to attest that we get better food from the company. The company provides lunch for every worker here. Even if it has some quality problems, I think it is better than nothing.*

#### **4.4.2 Determinants of food security status of female employees in the industrial parks of Ethiopia**

The results of the econometric estimation are summarized in the table below (Table 28). The factors determining the HDDS were modeled using the Poisson regression model. Poisson regression allows for the modeling of count data-in this case, the dietary diversity score (which ranges from 0 to 12). Count data assumes that the results are Poisson-distributed. In this research, prior to the choice of the most appropriate model of the factors that influence dietary diversity, it was necessary to compare the estimates of Poisson regressions and Ordinary Minimum Squares (MCO) to ensure the robustness of the results. Indeed, two modeling approaches were used: Poisson and MCO, in order to ensure robust and reliable results. The Ordinary Least Squares (OLS) regression was also estimated to validate the study findings. Comparing results from the two models is important because originally Poisson regression model was used when modeling count data. The set of explanatory variables under consideration were tested in both models and then the final model was determined. Therefore, the determinants of the dietary diversity score were estimated using OLS regression to test the robustness of the results. The coefficients were more significant in the Poisson model, and this model was selected according to the likelihood test and the Wald test. However, as the significant factors did not change that much compared to the OLS model, so the Poisson results are reliable, robust, and estimated with robust standard errors.

**Table 12: Determinants of food security status of female employees in the industrial parks of Ethiopia**

Variables Dss	Robust				
	Coefficient	std. err.	P>z	[95% conf.	interval]
age	0.0034	0.0055	0.5370	-0.0073	0.0141
grade	0.0009	0.0004	0.0540	0.0000	0.0017
duremp	-0.0004	0.0007	0.5760	-0.0018	0.0010
salary	0.0000	0.0000	0.0000	0.0000	0.0001
Others salary	0.0000	0.0000	0.0050	0.0000	0.0000
mstat					
Married/Living together	0.0198	0.0370	0.5930	-0.0527	0.0922
Divorced/Separated	-0.1400	0.1001	0.1620	-0.3362	0.0562
Widowed	-0.0275	0.0711	0.6990	-0.1669	0.1119
famsize	-0.0051	0.0073	0.4890	-0.0194	0.0093
studysite					
Bole Lemi	0.0647	0.0424	0.1280	-0.0185	0.1478
Hawassa	0.0425	0.0407	0.2970	-0.0374	0.1224
Eastern Industrial Park	0.1036	0.0398	0.0090	0.0255	0.1817
Housing status					
Living in rented house alone	0.0015	0.0426	0.9720	-0.0820	0.0849
rented and shared house with friends	-0.0133	0.0405	0.7420	-0.0927	0.0660
Living in company provided housing	-0.1729	0.0676	0.0110	-0.3054	-0.0405
Living in own house	-0.0767	0.0777	0.3240	-0.2289	0.0755
Place of birth					
Out of town within the region	-0.1247	0.0401	0.0020	-0.2032	-0.0461
Out of town out of the region	-0.1150	0.0468	0.0140	-0.2068	-0.0232
_cons	1.8811	0.1206	0.0000	1.6448	2.1175

Source: Survey, July- August, 2022

The results in the above table shows the coefficients of the different factors that determine the HDDS of employees. The coefficients represent a percentage change in the dietary diversity score when one of the variable changes by one unit. The results of the robust model show that monthly salary, salary from other sources, the level of education of the head of the household, being working at eastern industrial zone, origin of the employee (being out of town and within town) and

company provided houses are statistically significant variables and important factors determining the HDDS.

In general, the results have shown that income categories, knowledge and access to market are important factors that affect the dietary diversity. The first categories namely income and other income and level of education positively affects the dietary diversity score while factors that affect access to market and information such as the origin of the employees (coming out of town and coming out the region) and living in a company given house have negatively affected the dietary scores. The model results also indicate that age of the head of household, family size and marital status were not statistically significant to affect the dietary scores. This can be partly linked to the fact that income is the most important factor that affect the consumption capacity of employees. In addition, there is no as such huge difference in terms of age, family size and marital status of employees.

#### **4.4.3 Ordered logistic regression for food security status of female employees in industrial parks of Ethiopia**

Identifying the most important variables that affect the food insecurity status of employees is important for policy making. The total score of HFIAS ranges from 0 to 27. Base on this score employees have been classified into four categories namely severe food insecure, modestly food secure mildly food insecure and food secure. Hence, ordered logistic regression has been used to identify the most important factors that affect the food security status of employees. The validity of the questions have been tested using Item Response Theory (IRT) (see appendix)

The results of the ordered logistic regression have shown that salary, marital status, whether employee live in rented house or not, the transportation expenses, health expenses, and the place of the industrial parks significantly determine the level of food insecurity status of employees. For instance, an increase in salary of employees decreases the probability of the employees being to be severely and modestly food insecure by very small figures of 0.0001 and it increases the probability of being food secure by 0.0001. The most significant variable that affects the food insecurity of employees is marital status of households. Particularly, the probability of widowed employees to be food insecure is very high compared to never married and divorced. This is because many of widowed employees have children and this creates additional pressure on the food security status of the employees. The probability of the employee being to be food secure tend to decrease if the employee is living in rented house with friends. The transportation cost again

creates additional pressure on employees to be food insecure. The result shows that transport costs increase the likelihood of employees being to be modestly and severely food insecure. The results clearly portrayed that income related factors such as transport cost, salary and rental cost of households play significant role to determine the food security status of employees. Higher salary enable households to be food secure. In addition, in Ethiopia the rental cost of house is extremely high compared to the income of employees. Particularly the problem tends to be sever for garment employees whose salary is relatively small. As a result, those households who live in their own house tend to be more food secured that those who are living in rented house. In addition, those employees who live far away from the industry parks spend relatively more to transportation. This reduces their income and prone them to be more food insecure. The result in general signals that strategic interventions such as construction of industrial parks should be accompanied by the provision of related services such as housing and accessible transportation services.

**Table 13: Ordered logistic regression for food security status of female employees in industrial parks of Ethiopia**

Variables	Food secure		Mildly food secure		Modestly food secure		Severely food insecure	
Age	(0.0045)	0.5670	(0.0003)	0.5730	0.0004	0.5710	0.0044	0.5680
Grade	0.0007	0.2240	0.0000	0.2470	(0.0001)	0.2690	(0.0006)	0.2250
experience	(0.0005)	0.6070	(0.0000)	0.6120	0.0000	0.6080	0.0005	0.6080
Salary	0.0001	0.0050	0.0000	0.0360	(0.0000)	0.0310	(0.0001)	0.0060
Others salary	0.0000	0.8120	0.0000	0.8110	(0.0000)	0.8140	(0.0000)	0.8120
P4Q5	0.0000	0.6300	0.0000	0.6320	(0.0000)	0.6350	(0.0000)	0.6300
Transportation	(0.0001)	0.0080	(0.0000)	0.0220	0.0000	0.0860	0.0001	0.0070
Education	0.0000	0.5740	0.0000	0.5760	(0.0000)	0.5880	(0.0000)	0.5740
Health	(0.0001)	0.2030	(0.0000)	0.2380	0.0000	0.2400	0.0001	0.2050
<i>Marital status</i>								
Married/Living together	0.0293	0.5580	0.0020	0.5180	(0.0026)	0.6050	(0.0287)	0.5510
Divorced/Separated	0.0179	0.8380	0.0013	0.8230	(0.0014)	0.8560	(0.0178)	0.8350
Widowed	(0.3641)	0.0000	(0.1060)	-	(0.1854)	0.0000	0.6554	0.0000
Famsize	(0.0009)	0.7670	(0.0001)	0.7680	0.0001	0.7700	0.0009	0.7670
<i>Studysite</i>								
Bole Lemi	(0.2400)	0.0000	(0.0017)	0.8040	0.0514	0.0020	0.1903	0.0000
Hawassa	(0.3357)	0.0000	(0.0193)	0.0460	0.0457	0.0050	0.3094	0.0000
Eastern Industrial Park	(0.2304)	0.0000	(0.0006)	0.9330	0.0508	0.0020	0.1802	-0.0000
<i>Livelihood</i>								
Living in rented house alone	(0.1499)	0.0170	(0.0078)	0.0910	0.0224	0.1120	0.1353	0.0100
rented and shared house with friends	(0.1660)	0.0130	(0.0100)	0.0570	0.0228	0.1100	0.1532	0.0070
Living in company provided housing	0.1542	0.2430	(0.0126)	0.4640	(0.0441)	0.2930	(0.0975)	0.2000
Living in own house	0.4164	0.0010	(0.0750)	0.0450	(0.1368)	0.0010	(0.2045)	-0.0000

Source: Survey, July- August 2022

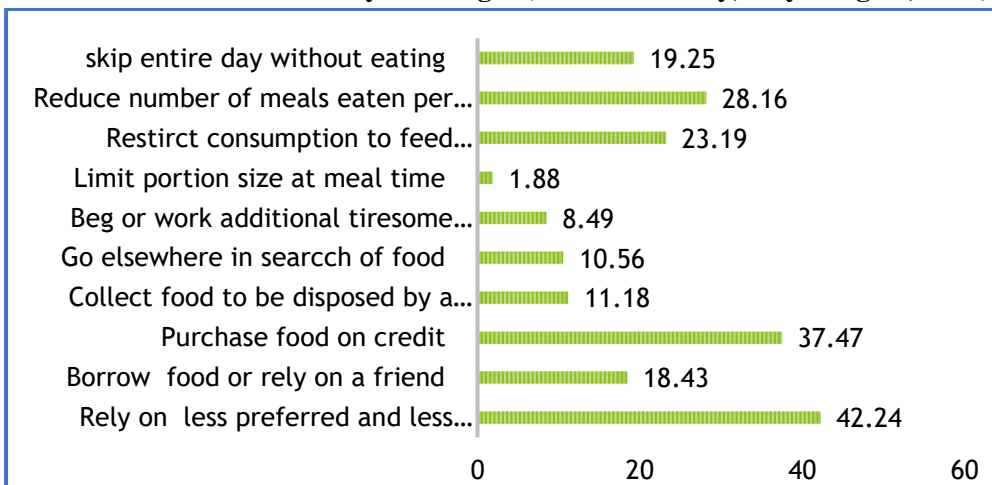


#### 4.4.4 Coping strategies

The figure below summarizes the list of coping strategies employees had adopted in response to food shortage encountered after joining the work. The results revealed that there was no any statistical difference on the copying strategy index deployed by employees of the four industrial parks. The average figure of the coping strategy index was 14.2. In addition, from the total number of respondents, 61 percent of them reported to use one or more coping strategies.

Of the different coping mechanisms, relying on less preferred food (42.21 percent), purchase food on credit (37.47 percent), restricting consumption of meal to feed other family member (23 percent), reducing numbers of meals eaten per day (28.6 percent) and skip entire day without eating (19 percent) were among the most widely used responses that employees used to adapt into food shortages that they faced with. The figure below (Figure 5) shows the copying strategies frequently and mostly used by the female workers to overcome their food insecurity challenges.

**Figure 3: Coping strategies frequently used by the female workers to overcome their food insecurity challenges (Source: Survey, July- August, 2022)**



Moreover, the informant interviewed at Bole Lemi industrial park shared the coping mechanisms she mostly used to overcome the challenges of food insecurity as follows:

*My income is very low and I cannot cover my food expense. Most days of the month, I am struggling to get sufficient food. Sometimes, I eat at my brother's home, some days I just eat one meal per day, I*

*buy and eat biscuits with plain water; most of the time for dinner and either my parents send me or I bring food items from my parents in Butajira. I think the challenges accessing food are the cost of food items is increasing on daily bases, and my income is not increasing significantly as much as the time is required. Almost all the time I am eating the same food, and I cannot eat sufficiently. Sometime I may eat one meal per day not eating either breakfast or dinner is common in my life since I came to Addis Ababa.*

Overall, coping strategies such as begging or working additional tiresome work to get food (8 percent), limiting portion size during mealtime (2 percent), go elsewhere in search food (11 percent) and collecting food disposed by family or a friend were relatively the least practiced coping strategies by employees at the industrial park. Many of the widely used copying strategies were consumption-based coping strategies which constituted short-term alteration of consumption patterns. Since many of the employees came from the nearby town or out of town, they have limited opportunity and social linkage to adopt non-consumption-based copying strategies. In the focus group discussion employees have explained that their salary sometime is not adequate enough to settle their monthly food expenditure that urge them to adopt different copying strategies. The easiest way for them is to buy food on credit basis. To do so, they usually rely on single supplier of food or shop. This helps them to create trust between the employees and the seller so that they can buy their food on credit. The employees have also stated that their salary is not increasing in the same pace as the general inflation of the country. Particularly, the ever-rising price of food items in Ethiopia also urged employees to consume less preferred and less expensive foods or else sometime it makes them reduce the numbers of meals they eat per day. In addition to this, employees revealed that they get exhausted after they come back to work so that they usually don't engage in other work to get additional income.

#### **4.4.5 Coping strategy index and household food access scale condition**

It is known that the actual figures of copying strategy indexes don't tell us any specific information about the level of food insecurity status of employees. Thus, the copying strategy index is not appropriate as a stand-alone tool and CSI's main application in assessment is to provide triangulation or verification of other indicators, to get a more nuanced overall analysis of household food insecurity. In

addition, there is no designated cut-off point in a CSI scale below which a household would be considered “food secure” and above which it would be considered “food insecure.” But CSI can be used in cross-sectional analysis to determine which households are better off and which are worse off, and what the correlates of these two kinds of households are (Maxwell and Caldwell,2008).

In order to validate the extent to which the CSI scores are consistent or not across employees with different food insecurity status in the industrial parks of Ethiopia, an assessment has been made. The results revealed that the highest CSI was scored by severely food insecurity employees followed by modestly food insecure employees and parallels the lowest CSI was registered by food secure employee. The results were statistically significant at 1 percent and were seemingly consistent with the reality for the fact that those female employees with severely food insecure members tend to adopt many copying strategies such that their CSI score tend to be the highest compared to food secure employees.

**Table 14: Coping strategy index and household food access scale condition**

Food Secure	1.715084	
Mildly food secure	5.461539	
Modestly food insecure	9.105882	0.00001
Severely food insecure	25.87821	

Source: Survey, July - August 2022

#### ***4.4.5.1 Determinant of copying strategy index***

There are a lot of variables that affect the copying strategy index of employees. These include socio economic and demographic characteristics such as age level of education experience, salary, the numbers of people an employee supports at her family and her living condition regarding house rent. It is known that those employees who are in severely food insecure status tend to apply various copying strategies. Hence, higher copying strategy index corresponds to those employees who are using variant of copying strategies to withstand the problem of food insecurity. The regression result shows that salary and marital status of the employee coupled with the numbers of family members supported by the employee and whether employee living in rented or not significantly affect the copying strategy index of employees. They are statistically significant at 5 percent.

According to the result salary negatively affects the copying strategy index. This entails that as salary increases, employees tend to be more resilient and food secure so that they rarely apply copying strategies. The employees who live in rented

house with friends adopt more copying strategy compared to households living with relative or families. This because rental cost of houses constitutes the lion share of income of employees that makes the remaining income for food consumption very low. This then urge employees to adopt different copying strategies. The result further revealed that as the numbers of people who are supported by the employee increases, the copying strategy index increases proportionally. It is evident that employees mainly come from poor family and thus they usually send some money to their families or else constantly support some family members even though their salary is very small. In literary speaking employees shared family's poverty in some way. But this is not achieved without applying copying strategies. As a matter of this fact, employees are urged to adopt various copying strategies ranging from relying on less preferred food .to escaping the whole day without eating. In addition, the result further illuminated that those employees who are married adopted less numbers of copying strategies. This signifies that married employee are more food secure compared to the unmarried one. The result has shown that many of the employees don't have children or only few have children. So, they consider marriage as a scheme to escape the burden of life. The following table shows the details of the result

**Table 15: Determinants of copying strategy index**

<b>CSIF</b>	<b>Coefficient</b>	<b>Std. err.</b>	<b>P&gt;t</b>
Age	(0.101)	0.264	0.703
Grade	(0.016)	0.021	0.433
Duration of employment	0.036	0.042	0.393
Salary	(0.001)	0.001	0.016***
<i>Housing condition</i>			
Living in rented house alone	0.562	1.803	0.755
Living in rented and shared house with friends	7.036	1.962	0.000***
Living in company provided housing	(0.781)	3.156	0.805
Living in own house	(1.695)	2.648	0.522
Numbers of people helped	3.905	0.487	0.000***
<i>Marital status</i>			
Married/Living together	(4.880)	2.029	0.017 ***
Divorced/Separated	1.739	6.071	0.775
<i>Study site</i>			
Bole Lemi	0.377	2.129	0.859
Hawassa	(0.583)	2.101	0.781
Eastern Industrial Park	0.714	2.402	0.766
_cons	10.776	6.113	0.079

Source: Survey, July- August, 2022

#### 4.5 The Poverty Status of Female Employees Working at the Industrial Parks

In countries such as Ethiopia, where food has a relatively larger expenditure share, an increase in price of food exacerbates poverty. Trends in general consumer price index, as well as the consumer price indices for food and non-food commodities in Ethiopia has shown that all of them have generally been increasing since 2015/16. But the highest surge has occurred since 2000 Ethiopian Fiscal Year (EFY). The average annual inflation rate during the EFY spanning from 1980 to 2003 was 5.5%. During EFY 2004 - 2012, however, the country experienced two-digit inflation rates (averaging 18.1 percent). However, around EFY 2005 and 2006, single digit average inflation rate was recorded although it again rose to as high as 16.8% in EFY 2010. The trends in general price indexes, as well as food and non-food price indexes, reveal a consistent upward trajectory in the country since November 2018, with a significant surge occurring from 2019 onwards. By December 2021, the general inflation reached a peak of 35.1%, while the corresponding figures for food and non-food inflation reached as high as 41.6% and 26.6%, respectively (ESS, 2021). These figures illustrate the extent of the inflationary pressure and its impact on the cost of living, particularly in terms of food expenses in the country.

The poverty line in 2016 in Ethiopia was 7184 Birr per adult equivalent per year. In order to estimate the poverty line at the current year, the poverty line of the 2015/16 has been deflated by the October 2022 CPI<sup>4</sup> to reach the current level of poverty line. The aim of the analysis is to gauge to what extent the of the monthly income the employees enable them escape out of poverty.

The analysis considers the share of employees who earning a salary level less than 1912 which is the equivalent form of ensuring poverty. Nearly 77 percent of the employees earn a salary level less than the computed poverty line. The figure goes as low as 39 and 47 percent at Bole Lemi and Eastern Industrial zone, respectively. The corresponding figure for Hawassa Industry Park is 62 percent entailing that the rate of poverty is quite high as Hawassa Industrial Park. The poverty gap is the highest at Hawassa which entails that the salary level of employees who are earning below the poverty line is quite far from the poverty line. Because the *poverty gap* shows the amount of money that would be needed to lift the incomes of all people in extreme poverty up to the poverty line. In other words, it measures the extent to which individuals on average fall below the poverty line, and it is

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<sup>4</sup> CPI in October in Ethiopia was 321.

expressed as a percentage of the poverty line. The result shows that 15 percent of the poverty line is required to lift every employee from poverty at Kombolcha and the figures go as high as 0.23 percent for Hawassa and as low as 0.04 at Bole Lemi.

**Table 16: Poverty gap and conditions of female workers in industrial parks**

<b>Industrial site</b>	<b>Head count</b>	<b>Poverty gap</b>
Kombolcha	0.77	0.15
Bole Lemi	0.39	0.04
Hawassa	0.62	0.23
Eastern Industrial Park	0.47	0.07

Source: Survey, July- August 2022

#### **4.5.1 Logistic regression on determinants of the poverty conditions of female workers at the industrial parks**

The logistic regression has shown that level of education, origin of the employee, work position of the employee and the work place are statistically significant variables that affect the probability of the employee being poor. In this regard, the probability of the employee getting poverty is lower for employee who is working at Bole Lemi compared and Eastern industrial zone to employees working at Kombolcha. For instance, the probability of the employee getting poor will be lower by 0.375 and 0.55 for employees working at Bole Lemi and Eastern Industrial zone compared to the employee who is working at Kombolcha.

The probability of falling into poverty is bigger for employees who are operating at floor level than the employee who is working as supervisor. This is evidenced by the fact that the probability of becoming poor increases by 0.262 for employee who is working at floor level compared to the supervisor position. In the same way, the probability of becoming poor tends to increase by 0.173 for an employee who came from out of the town but with the same region compared to the employee who came from the town where the industrial park is located. But variables such as experience, marital status and family size don't affect the probability of female employee becoming poor.

**Table 17: Logistic regression on determinants of the poverty conditions of female workers at the industrial parks**

	<b>dy/dx</b>	<b>std. err.</b>	<b>z</b>	<b>P&gt;z</b>
Age	(0.001)	0.007	(0.170)	0.868
<i>Marital status</i>				
Married/Living together	(0.061)	0.051	(1.190)	0.234
Divorced/Separated	0.104	0.092	1.140	0.256
Family size	(0.002)	0.010	(0.220)	0.822
level of education	(0.017)	0.007	(2.280)	0.023**
<i>Study site</i>				
Bole Lemi	(0.371)	0.070	(5.280)	0.001**
Hawassa	0.105	0.064	1.640	0.101
Eastern Industrial Park	(0.500)	0.065	(7.680)	0.001**
<i>Place of origin</i>				
Out of town within the region	0.173	0.056	3.080	0.002**
out of town out of the region	(0.026)	0.067	(0.390)	0.695
Work experience	(0.000)	0.001	(0.360)	0.719
Employment position employee	0.262	0.081	3.260	0.001**

Source: Survey, July- August 2022

#### **4.6 Norms and Women in Leadership Positions**

Workplace gender discriminatory social norms often create barriers to women’s economic empowerment, affecting both their access to decent work and their experience in workplaces (Marcus, 2018). Such discriminatory barriers also expose female workers to food insecurity ultimately resulting in server impoverishment and inability to feed oneself. This would lead into the argument that socio-cultural norms negatively constrain women’s labor market benefits, outcomes and long-term impacts (ODI, 2016).

There are a range of socio-cultural norms and practices that operate to drag back female workers from participating in and benefiting out of their engagement at industrial parks. The study on hand identified and characterized the major socio-cultural norms that discouraged women’s role in the industrial parks. These include socio-cultural norms that undermine the occupation of leadership positions by female workers; socio-cultural norms surrounding the sexual harassment and abuses at workplace in the industries; and socio-cultural norms that justify work-life burdens of women. Besides there are also socio-cultural norms that penetrate through the formal and legal systems of the industrial parks but affecting women’s benefits in

the form of compromised payments, limited opportunities available for women while men entertain unlimited accesses services in the industries. The next sub-paragraphs would provide illustrative cases for each of these socio-cultural norms and their interfaces with women's economic empowerment at industrial parks in Ethiopia.

#### **4.6.1 Socio-cultural norms that characterize female workers subordinate positions in the industrial parks**

Much has been acclaimed on the presence of perceptible and real gaps that Ethiopian women have not been equal beneficiaries of economic, social and political opportunities due to the historical legacy of gender inequality and discrimination, justified by persistent social norms and traditions (IMF, 2018). Having recognized these prevailing gaps, a number of policy instruments and legal frameworks have been enacted and implemented at national level and streamlined across development organizations.

There was a perpetuating tendency to assign women in subordinate positions. This has emanated from the deep rooted cultural and normative factors of the society (IOM, 2018). Due to existing power relations and social norms in Ethiopia, women are discouraged from actively engaging in exploring the opportunities in the labor market (Svetlana Pimkina and Luciana de la Flor, 2020). The customary believes of avoiding women from the public sphere have not been eroded from the general ethos and men's managers mentality. The interviews conducted with female workers and also the secondary sources demonstrated that the lion shares of employees, nearly 80 percent, at the industrial parks have been female employees. However, the top management and key decision-making positions are occupied by men. The interviewee interviewed at Bole Lemi has revealed that:

*The leadership positions in the industry such as human resources, finance, production departments, and supervision are occupied by males. This has constrained the participation of females in decision making. The interviewee further elucidated the presence of gender bias towards promotion such that companies preferred males to females in leadership positions. She took herself as a testimony by explaining the fact that she has all the qualifications but the company did not want to promote her for the last three and half years. Still female workers assumed to take and engage in routine and non-creative activities.*



The discussions carried out in the forgone parts on themes and topics of decent work already proved that female workers in the industrial parks have been far from empowerment. This is further compounded with negligible engagement of female workers in leadership position and participation in decision making. The entitlement and capability approach advocates the importance of creating more resources and opportunities for females while practical occurrence and experiences on the ground is quite different.

#### **4.6.2 Socio-cultural norms that support sexual harassment and abuses at workplace in the industries**

Discrimination, harassment, sexual and physical abuse, lack of support mechanisms to empower female laborers, lack of health insurance for workers, limited or no Sexual and Reproductive Health Services, absence of transparent recruitment and promotion process, lack of complaint handling mechanisms, poor implementation of safety regulations and procedures, absence of functioning unions and workers associations are also among the forefront factors recurrently mentioned for justifying and grounding the norms around sexual harassment and abuses at workplaces in the industrial settings (Marcus, 2018). All these factors deter female workers' position in the labor force and contributes to gendered job segregation at industrial parks and even in terms of creating interest among women to seek for positions and involve in leadership.

Concern about sexual harassment and abuse while commuting or at work is a barrier to women's employment in contexts where such harassment is widespread. In industrial parks where there are a number of female workers such abuses are commonly expected. The differences across societies in how common public harassment is seem partly due to differences in the social acceptability and norms (Jayachandran, 2021) reiterating to explain reported and observed harassment and abuses in factory settings.

The result of the key informant interview and focus group discussions have revealed the presence of massive and gross violation of rights and presence of widely prevailing harassments. One of the key informants interviewed at Hawassa industrial park narrated the extent of the problem in the following way:” *If you stay few days and weeks with us, you can easily see how our rights and dignity are violated by the owners and investors.*” On the contrary, the respondent from the Korean company at Bole Lemi has shown that the situation is quite better compared to firms owned by Chinese. The same key informant forwarded those reports on the incidences of

physical and sexual violence have been quitted limited in number. Those prevailing cases, as reported by the key informant, were attempts of sexual harassment against female workers during the night shifts. In some factories of the industrial parks, there were tendencies to recruit female workers for sexual exploitation and the recruitment was done through hidden ways with the involvement of the foreign investors and owners of the factories themselves.

The human resource director at one of the companies in Easter Industrial Zone, at Dukem, has also discussed that in each corner of the factory, they have installed security cameras and have been trying to control the situation. In addition to the cameras, the company assigned security guards, near male and female toilets to ensure the safety of workers. The same key informant further underlined that he has received several reports of mistreatment and workers' rights violations against workers by ex-pat staff. He explained that:

*The ex-pat staff damned the female workers to wash their cloth, clean their houses, and carry out other domestic chores without any payment. If the female employees engage in any verbal confrontation with them, either they fire workers or cut their salaries by mentioning discipline as a reason. Such warning and firing of female employees by ex-pats have been almost a common practice. Because of this, employees fear to lose their job at any time since their job security is basically relying on their amicable relationship with the ex-pats. Keeping silent is the only option to escape from such perpetrators for than losing what to eat for a day.*

One of the major reasons for such prevailing sexual harassment and abuses are the absence of well-organized mechanism and institutional approaches to handle the concerns of female workers. In-depth interview held at Bole Lemi, with married women working in Top Ever Garment Manufacturing PLC showed that attempts by workers themselves and IPDC is not successful so far. The presence of solid and stronger association of workers are not supported and mostly its operations are also discouraged all in all. The experts from IPDC organizes and provides training on the use and operation of associations. However, apart from the training, practical commitments to establish the labour union associations and follow ups were so weak. Hence, follow up actions were almost forgotten. Female workers empowerment, protection of the rights and privileges of the workers cannot just come unless stringent measures are taken to uniformly impose throughout the industrial parks in the country as part of the packages for monitoring and operation of key activities and

accomplishments. All companies and factories in the industrial parks need to own and allow the operation of unions and associations that build the capacity of female workers.

#### **4.6.3 Socio-cultural norms that justify work-life burdens on women workers**

Norms assigning the bulk of domestic duties to women and that also justify inequalities in workloads and leisure time had emerged as the other main circumstances that constrained women's economic activity and engagement in public affairs (Marcus, 2018). Due to the social and cultural norms of the society, women were not encouraged to work outside of their home; but if they are given with the chance to work elsewhere, they have been burdened with house chores and responsibilities a double standard. This is even more frustrating when they give birth and are also given the primary task of raising children, which affects the participation of women in the labor market due to which they are unlikely to get back to work. The social norms and values within the communities justified that female worker are also expected to handle household chores such as cleaning, cooking, fetching water, raising children, and taking care of dependents.

Based on the qualitative assessments conducted, comparing situations after and before work, most women interviewed mentioned they have continued to engage in household chores. Nothing had changed in life both in terms of the volumes of work or the time they spent on household activities. Rather, female workers were expected to accommodate and divide their time among work and house responsibilities. As a result, they are overburdened with chores and work at the industry's leading to inefficiencies, poor productivities and disenchantments in life. In addition, those female workers have been expected to undertake social responsibilities, which keep them as part of the community, particularly married women. Most women interviewed indicated it is hard for them to give attention to their children, spend time with family, participate in social engagements and have self-care in addition to the tasks at the industries. All mentioned, as a result, they do not have time to rest or take care of themselves due to the workloads both at home and industry. A key informant from Kombolcha Industrial Park shared that:

*Pregnancy and raising children create, however, the most daunting responsibility that female laborer's face when working in the factories of industry. Most female laborers quit their jobs after giving birth to a new child. This is because of the absence of*

*day-care centers at the industries, financial constraints to hire babysitters, and pressures from spouses or other family members to raise their children as housewives. In the factories, lactating mothers have not been given sufficient time to travel to home and feed their babies. Moreover, commuting between home and the factories is expensive and tough. The pregnant women prefer dropping their jobs as a best option to lead their lives.*

Companies are solely concerned about production outputs instead of providing capacity building activities. One way to free up women to participate more fully in the workforce and the industries would demand shifting norms about who is responsible for household work, but other types of policies at the industries could help as well. For example, interventions that make household chores less time-consuming disproportionately free up women's time with the introduction of technologies, and redefinition of gendered roles (Jayachandran, 2021). Factors in the industrial parks need also to come up work orientations that takes into account the burdens of their female work as employees of the factory and home makers as well.

## **Chapter Five: Conclusion and Recommendations**

The industrial sector obviously supports the Ethiopian economy by providing a growing employment opportunity. This have focused on industrial parks located in close proximity to Addis Ababa and outside of the capital, centering on poverty statuses, food security, decent work and normative practices. Conclusions, presented below, are made based on the data generated and analyzed from the industrial parks; followed by the suggested recommendations.

### **5.1 Conclusions**

Ethiopia has pursued ambitious industrial policy since the early 2000s with a large set of policy instruments. One of the strategies being used as a sound policy has been linked to constructing industrial parks in different part of the country to promote selected labor-intensive priority industries thereby creating employment opportunities to young female population. One of the key sectors is the textile and garment sector which was considered as a genuine source to generate foreign exchange to the economy and to generate job opportunities to youths.

The overall assessment and result of the research have shown that the salaries being paid by industrial parks are too small and couldn't enable female employees to escape from food insecurity and also move out of the vicious circles of poverty. It is only 37 percent of the employees that had reported to be food secure while other employees fall under different food insecurity status.

The study has indicated that employees in the four industrial parks have experienced a variant of quality of work problems related to mobbing, work life balance, less degree of work autonomy. The result further illuminated that participation of female employees in decision making and their engagement in career development seem limited. Employees at the industrial parks are not motivated and have weak vigor. The results indicated that there is high degree of mobbing at the parks. Employees have been suffering headache, back pain and joint pain which will have long lasting health problem. The presence of these indicators of decent work drags the ambitions set on the sectors one step back to create decent jobs. In general, the level of job satisfaction at the parks are low and employees still feel that their job is not secured.

The most important factors that affect the level of satisfaction, dietary diversity and food security is linked to low salary, transportation cost, marital status and access to houses. Female employees have been unable to secure food security, move out poverty conditions and not working a decent environment that identifies their rights and privileges. Moreover, female workers have been detached from the pressures of normative practices that justified shouldering workloads and burdens at home and at the factory settings. Aside from securing employment opportunities at the industrial parks, female workers are not in the state of being economically empowered. Absence of the indicators of decent jobs, where significant proportions of female employees live under conditions of poverty and food insecurity proves growing practices of limited efforts towards empowering female workers in economic and other dimensions.

## **5.2 Recommendations**

This reported navigated several strategic significances while looking at the poverty levels, food security conditions, quality of work and normative behaviors prevailing among female workers in industrial parks of Ethiopia. The following recommendations thus cover ways to suggest interventions that enhances the engagement of female workers in the industrial parks. The implementation of the recommendations entail strengthening female workers empowerment as manifested

through working environment, food security status, poverty level and strategies that would help to overcome the crushing power of normative practices that daunt women from their engagement at the industrial parks.

### **1. By the Ethiopian government and industrial parks**

- Revisit the design and strategies that would absorb more jobs along the value chain systems of industrial parks. These could include the linkage with primary producers and supplier of raw materials and inputs for industrial parks. While this notion was also part of the initial thoughts and strategies, it has never been realized in the senses of actual implementations.
- Putting in place robust techniques and mechanisms for regulating, monitoring and supervisions of the practices around the rights and privileges of female workers in the industrial parks.
- Advocate on the changes required to influence the beliefs and attitudes that privilege men in the workplace. This further requires the reproaching and redefining the workplace norms and introduce mechanisms for reducing the burdens of female factory workers.
- A legal response and actions are needed to overcome the reported cases of abuses and harassments at workplace in the industries through sufficient capacity and knowledge development. In addition, massive awareness creation should made to alert employees how to report cases of abuses and harassments to the concerned body.

### **2. Management of the respective factories of the industrial parks**

- Well organized recruitment systems, human resource handling and firing need to be put in place. The half hazard practices of hiring and firing female employees and other workers requires property institutionalized approaches and practices.
- Due to the absence of minimum wage and the weak bargaining power of female employees, it is also important that the industrial parks need to develop a strategy to adjust the salary scale and benefits to female workers regularly based on the existing socio-economic situation, changing inflation rates and living conditions specific to the location of industrial parks.
- The female workers should be supported by proving training and other capacity building endeavors. Career development programs and training programs should be provided to employees to enhance their skill and knowledge and to make the sector competitive in the long run.

- The largest segment of the coping strategies is linked to adjusting the feeding system of the employees. This again calls for provision of cheap and affordable food to employees and if possible, to their families. Even though there are some initiations in this regard, more and better interventions are required. Introduction of food supply systems and meals at least twice day; breakfast and lunch times need to be further strengthened and be made as part of the negotiations for employment at the industries.
- Services such as housing and transport infrastructures should be provided to improve the food security status of households since house rent takes the lion share of employees' expenditure. In addition to that the establishment of child care center in collaboration with IPDC is also quite essential. This should also be accompanied with the establishment of basic health facilities at park level where at least female workers could obtain emergency health problems and treatments for accidents.
- Promotion of women more to top management level in the factory and at the park level. This requires design work based on merit-based indicators than adopting g the normative believes of promoting men.
- Working hours adjustment and reductions need to be revisited as strategic shift by the factories which is long in some factories sometimes going beyond eight hours including overtimes

### **3. Employees**

- Formation of strong labor unions, council and associations that operates to meet the rights and privileges of the female workers.
- Request for and participate in experience sharing forums at least one in a year with other industrial parks in the country for lesson learning. This would significantly contribute to skills and knowledge transfer.

### **4. Other stakeholders**

- Engaged in social and community level awareness raising strategies that need to be advanced about empowering women so that gender equality is achieved to address the challenges that female laborer face in the industrial parks.

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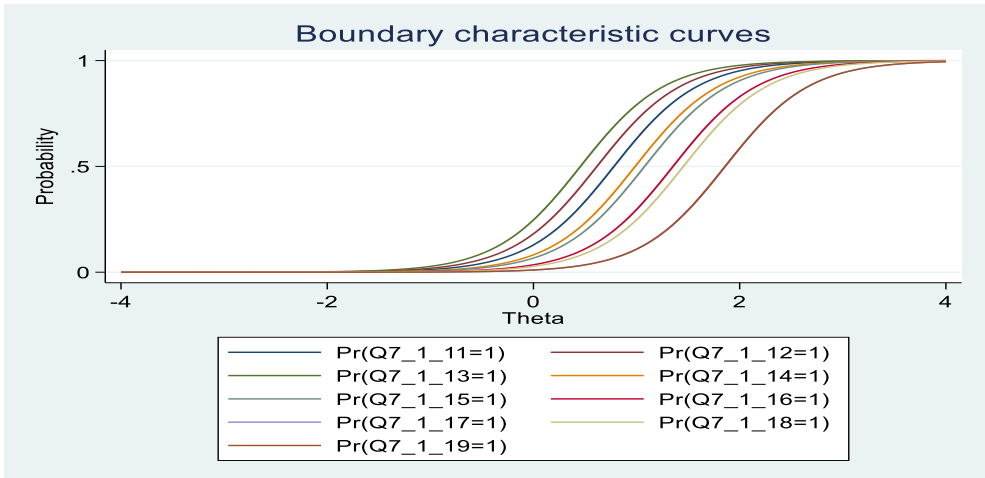
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## Appendices

Check of consistency of questions of food security using item response theory



### Post estimation tests

CSIF	Coefficient	Std. err.	t	P>t	[95% conf.	interval]
_hat	0.90	0.27	3.33	0.001	.3674547	1.43
_hatsq	0.00	0.01	0.41	0.681	-.0129375	0.02
_cons	0.58	1.92	0.30	0.764	-3.20267	4.36

1. Model fitness test (Linktest )

2. Omitted variable test (ovtest)

Ramsey RESET test for omitted variables

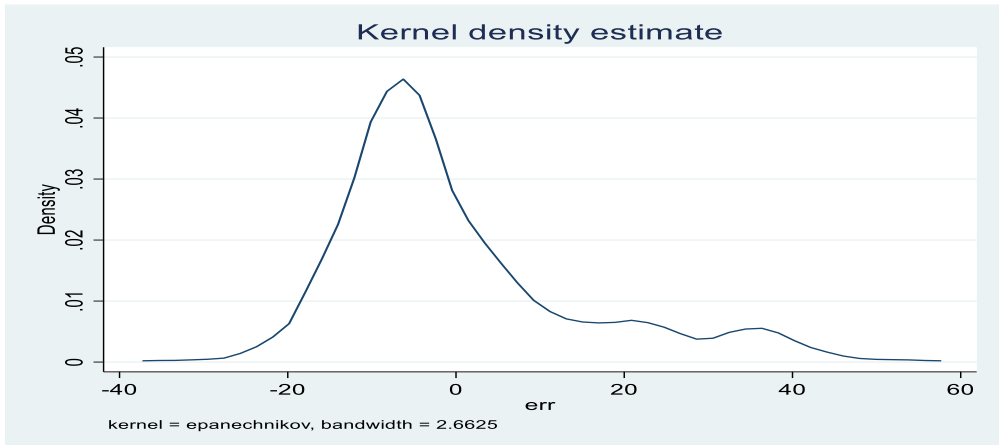
Omitted: Powers of fitted values of CSIF

H0: Model has no omitted variables

$F(3, 465) = 0.53$

Prob > F = 0.6650

### 3. Normality



### 4. Multicollinearity (variance inflation factor)

Variable	VIF	1/VIF
Age	1.39	0.72
Grade	1.05	0.95
Duration of employment	1.15	0.87
Salary	1.31	0.76
Livelihood		
Living in rented house alone	1.88	0.53
Living in rented and shared house with friends	2.3	0.43
Living in company provided housing	1.54	0.65
Living in own house	1.35	0.74
other_tot	1.1	0.91
Marital status		
Married	1.47	0.68
Divorced	1.24	0.80
studysite		
Bole lemi	2.24	0.45
Hawassa	2.1	0.48
Eastren Industrial zone	1.77	0.56
Mean VIF	1.56	