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ASSESSING THE IMPACT OF THE ENTOTO PARK PROJECT ON THE ECONOMIC EMPOWERMENT OF WOMEN IN THE SURROUNDING COMMUNITIES.

BY

MAHIDEREKAL ASHENAFI BELAY

JULY 2024

ADDIS ABABA, ETHIOPIA

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BY: MAHIDEREKAL ASHENAFI BELAY

ADVISOR: MARU SHETE (PhD and Associate Professor).

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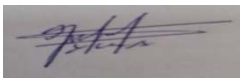
APPROVED BY BOARD OF EXAMINERS

Dean Graduate studies	**signature**
MARU SHETE (PhD and Associate Professor)	
Advisor	**signature**
Yilkal Wassie (Asset Prof)	
External Examiner	**signature**
MULUADAM ALEMU(PhD)	
Internal Examiner	**signature**

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Acronyms

- ATT - Average Treatment Effect on the Treated
- CIA - Conditional Independence Assumption
- LPM - Linear Probability Model
- NNM - Nearest Neighbor Matching
- OLS - Ordinary Least Squares
- PSM - Propensity Score Matching
- RCT - Randomized Control Trial
- STATA – statistical software for data science

Abstract

This study investigates the impact of employment opportunities provided by Entoto Park on women's empowerment indicators, focusing on decision-making and financial adequacy. It uses descriptive and explanatory research design with a quantitative research approach. Utilizing Propensity Score Matching (PSM) techniques and logistic regression, the research analyze data from women employed in Entoto Park and those not engaged in park employment. The results reveal a significant positive impact of Entoto Park employment on women's decision-making abilities, with a 66% increase observed at a one percent significance level. Additionally, financial adequacy indicators show a 79% improvement among employed women. Key influencing factors identified through the logit model include age, education years, financial savings, proximity to the park, training, and ownership of mobile assets. These findings suggest targeted support programs, education initiatives, financial inclusion strategies, and gender-responsive policies to enhance women's empowerment within Entoto Park and similar settings.

Key words: Women empowerment, financial adequacy, decision making, PSM

1. Chapter one: Introduction

1.1. Background

Project Management Institute (PMI, 2017) defined project as a temporary endeavor undertaken to create a unique product, service, or result. Projects are undertaken to fulfill objectives by producing deliverables. An objective is also defined by the institute as an outcome toward which work is to be directed, a strategic position to be attained, a purpose to be achieved, a result to be obtained, a product to be produced, or a service to be performed.

Park is an important space in the relationship of man and nature to promote and provide space for physical activity, health behavior, and can reduce some diseases such as diabetes and certain cancer. Previous research note that has parks not only provide a healthy contribution in the physical but also it provides the benefits the community interrelationship, as well as increase the value of the property. Public parks have always been an important component in an urban area (Sakip, 2015).

"Impact is the effect on project stakeholders directly attributable to the value created from a project or program and distributed to its stakeholders. Impact can be positive or negative; can occur anytime from immediately after project completion until after a long lead time." (Ofer Zwikael a, 2023).

Empowerment is a multidimensional social process, and it helps people gain control over their own lives. Further, it can be called as a process that fosters power in people for use in their own lives, their communities and in their society, by acting on issues they think as important. "Empowerment refers to increasing the spiritual, political, social, or economic strength of individuals and communities" (Mandal, 2013). Economic empowerment looks for guarantee of skills, capabilities, resources and access to secure and sustainable incomes and livelihoods as well as access to assets and resources(Luttrell, 2009).Women's economic empowerment relates to the enhancement of women's capacity for strategic choice and agency in the sphere of the economy and to the possibilities this opens up for change in other spheres of their lives (Kabeer, 2009).

According to S. Sharaunga (2019) women's empowerment as "The multidimensional process of increasing the capacity/capabilities (i.e., resources and agency) of individuals or groups to make choices and to transform those choices into desired actions and outcomes".

Entoto Natural Park is a park of serenity and resounding joy. It's a unique place to discover the most breathtaking ancient mountain nature with streams flowing from clear springs and waterfalls. The Park lies on the south-eastern slopes of Mt Entoto, between the northern limit of the city of Addis Ababa at an altitude of 2,600 m and the track along the mountain ridge at altitude over 3,100 m. Entoto Park project is fully equipped with various indoor and outdoor facilities including sport centers, library, Entertainment, Restaurants and coffee shops, Artificial Lake and Fountains Walkways, Bike, scooter and cart roots. Most of These facilities were constructed using local material so they blend in beautifully with the natural environment of the park. Entoto Natural Park is significant in terms of facilitating service economies and changing the look and feel of the city of Addis Ababa.

The Entoto Natural Park is vital for the energy and livelihoods of surrounding communities, with women mainly engaged in low-paid firewood collection. This study assesses how the Entoto Park project has impacted the economic empowerment of these women.

1.2. Statement of the problem

Entoto Park Project is part of the government's extensive greenery and beautification mega project aimed at enhancing Addis Ababa's image and boosting tourism. Established with multiple goals, the park seeks to provide recreational facilities for city residents, educate the public—particularly the youth on the importance of environmental conservation, and promote the re-emergence of natural vegetation. The park plays a crucial role in maintaining healthy ecosystems, ensuring clean water and air, and conserving natural resources while setting a positive example for conservation management. Additionally, the project aims to create job opportunities for former firewood collectors as part of the transition process. It was anticipated that the development of Entoto Park would significantly reduce the reliance on extractive practices in the forest by women, thereby contributing to resource preservation. The project also intended to provide these women with alternative livelihood programs to replace their labor-intensive wood harvesting jobs.

According to Dr.K.Venugopalan (2014) , women are often the most severely affected by deprivation and destitution. Consequently, poverty eradication programs must focus not only on improving the living environment but also on empowering women communities. In line with this perspective, Entoto Natural Park has created job opportunities for 467 women who were previously engaged in wood harvesting. This initiative aims to enhance women's economic

empowerment by providing them with stable employment and reducing their dependency on extractive practices.

Despite there is some studies highlighting the positive impact of parks in providing job opportunities for women see for example, (Benti, 2022) but there is insufficient literature on their impact on women's economic empowerment. Furthermore, the available studies often rely on simple t-tests and descriptive analyses, which do not control for observed characteristics see (Alemayehu, 2020). This lack of in-depth, rigorous analyses leaves a significant gap in understanding the observed factors influencing the relationship between employment opportunities in the parks and women's empowerment in Ethiopia. This is particularly evident in the context of the Entoto Park project, which aims to provide alternative livelihoods for women previously engaged in wood harvesting. Therefore, a comprehensive analysis is essential to determine the true impact of these job opportunities on women's economic empowerment in the study area and beyond, ensuring that the project's goals are being met and informing future initiatives for women's economic development. This study aims to fill these gaps by using Propensity Score Matching (PSM) to analyze the impact of participating in job opportunities in the park on different dimensions of women's empowerment, such as decision-making and financial adequacy.

1.3. Research objective

1.3.1. General objective

- To assess the impact of the Entoto Park project on the economic empowerment for women living in the surrounding communities.

1.3.2. Specific objectives

- To Identify the determinants of formal employment at Entoto Park
- To evaluate the impact of the Entoto Park project on women's financial adequacy.
- To investigate the role of the Entoto Park project in promoting women's decision-making.

1.4. Research questions

- What are the key factors influencing formal employment opportunities at Entoto Park?
- How does the Entoto Park project impact women's financial adequacy?

- What are the contributions of the Entoto Park project in enhancing women's decision-making abilities?

1.5. Significance of the study

The significance of this study lies in its comprehensive examination of the impact of Entoto Park on women's empowerment within the local community. By employing the rigorous Propensity Score Matching (PSM) technique, the analysis able to establish a causal relationship between employment at the park and various indicators of women's empowerment. This approach allowed for a more robust and reliable assessment of the park's influence, moving beyond the limitations of traditional observational studies.

The findings of this study hold substantial importance for both policymakers and development practitioners. The identification of key factors influencing women's employment decisions, such as age, education, financial habits, and accessibility, provides valuable insights for the design and implementation of targeted interventions. By understanding these nuanced determinants, stakeholders can develop more effective strategies to enhance women's participation in the workforce and promote their overall empowerment.

Moreover, the positive impact of Entoto Park on women's decision-making abilities and financial adequacy underscores the multifaceted benefits of such employment opportunities. Beyond economic contributions, the park's role in fostering an environment conducive to women's empowerment highlights its broader societal influence. This knowledge can inform the development of similar initiatives in other regions, with the potential to replicate and scale the positive outcomes observed in this study. By addressing the systematic barriers that hinder women's participation and agency, such interventions can contribute to the larger goal of gender equity and sustainable community development.

1.6. Scope of the study

The scope of the study focused on Addis Ababa, the capital city of Ethiopia, and examined the impact of the Entoto Park project on the economic empowerment of two specific groups of women: those who were previously engaged in wood harvesting work and were involved in the project (beneficiaries), and those who were not involved in the project (non-beneficiaries). The study

aimed to assess the impact of employment opportunities provided by Entoto Park on women's empowerment indicators, focusing on decision-making and financial adequacy.

The time scope is a period after the Entoto Park project was implemented, to evaluate the impacts on the economic empowerment of women in the surrounding communities. It is also important to note that the scope of the study uses cross sectional studies only.

1.7. Limitation of the study

The most important limitations of the research are reliance on self-reported data or secondary sources could introduce biases or inaccuracies. The research may be limited to a specific time frame, which may not capture the long-term or evolving impacts of the Entoto Park project on women's economic empowerment and other variables of women's economic empowerment.

1.8. Organization of the study

The study was organized into five chapters. The first chapter provided the background to the study, the problem statement, the objectives, research questions, and the significance of the study among other introductory elements. The second chapter delved into a review of related literature on the topic, analyzing existing studies and findings related to the impact of projects like Entoto Park on women's economic empowerment. The third chapter covered the detailed methodology used in the research, including data collection methods, sampling techniques, and analytical approaches employed.

Chapter four focused on the discussion and results obtained from the study. This section analyzed the data collected, discussed the findings in relation to the research questions and objectives, and provided insights into the impact of the Entoto Park project on the economic empowerment of women previously engaged in wood harvesting.

Finally, chapter five presented the conclusion and recommendations of the study. This section summarized the key findings, drew conclusions based on the data analysis, and provided recommendations for future initiatives or policies related to women's economic empowerment within the context of projects like Entoto Park.

2. Chapter Two: Literature review

2.1. Theoretical literature

2.1.1 Women's empowerment

Empowerment is a dynamic and multifaceted process that empowers women to fully embrace their identity and capabilities across all areas of life. Empowerment of women is not only essential but also imperative for all round development of a country. The term empowerment is defined as "the process of gaining control over one's own life while supporting and facilitating others' control over their lives" (Mandal, 2013). Women empowerment is defined as the competence of women to hold the fort of their situations and categorize ambitions to lead their lives (Irfan, 2023). Women's economic empowerment is a process that increases women's power over economic decisions that influence their lives and priorities (Williams, 2022). The World Bank also defines the term empowerment as "the process of increasing the capacity of individuals or groups to make choices and to transform those choices into desired actions and outcomes.

When women and girls go from having limited power and access to resources to a situation where they experience economic progress, their lives are transformed. They gain more control over their lives and have the ability to make decisions and take action. This empowerment leads to economic advancement and an increase in their power and agency (Pereznieto, 2014).

The four dimensions of power are commonly referred to as "change outcomes." and define these dimensions as follows:

1. Power within: the knowledge, individual capabilities, sense of entitlement, self-esteem, and self-belief to make changes in their lives, including learning skills to get a job or start an enterprise.

2. Power to: economic decision-making power within their household, community, and local economy (including markets), not just in areas that are traditionally regarded as women's realm, but extending to areas that are traditionally regarded as men's realm.

3. Power over: access to and control over financial, physical, and knowledge-based assets, including access to employment and income-generation activities.

4. Power with: the ability to organize with others to enhance economic activity and rights.

2.1.2 Types of Empowerments

It is evident from the above discussions the author and organization have tried to define the term 'empowerment' from their own perspectives. It ranges from self-strength to efficiency building of women. However, empowerment of women now can be categorized into five main parts – economic, social, educational, political and psychological.

Economic empowerment

Economic empowerment is a process by which women are able to participate in productive activities, earn incomes and decide what to do with their incomes. To economically empower women, it is important that they own and control resources and property. To be able to control their own production in order to take decisions regarding their own labor and lives (Moindi, 2012).

Economic power means access to income, assets, food, markets and decision-making power in the economic activities. Economic empowerment aims to ensure individuals have the skills, resources, and access to secure and sustainable incomes. It involves providing opportunities for capacity building, access to assets, and resources. The goal is to enable individuals to improve their livelihoods, achieve financial stability, and have control over their economic well-being. Economic empowerment is about fostering self-reliance and creating an environment that promotes equal economic opportunities and inclusive growth (Luttrell, 2009).

Economic empowerment holds significant potential in combating poverty. (Biswas, 2010, p.27). Without economic self-sufficiency other rights and scopes remain meaningless to the people.

Women's empowerment can be defined as a progressive journey where women acquire a larger portion of authority over various resources, including material possessions, human capital such as knowledge, information, ideas, and financial assets such as money and its accessibility. It also encompasses the ability to partake in decision-making processes at the household, community, societal, and national levels, ultimately leading to increased power. Economic empowerment is achieved through equal employment opportunities, fair treatment, equitable organizational benefits, and the creation of a gender-neutral working environment. The Self Employed Women's Association (SWEA) advocates for women's empowerment by emphasizing the importance of attaining full employment and self-sufficiency for economically disadvantaged women in both rural and impoverished areas (Sivaraman, November 2021).

Social Empowerment

Social Empowerment refers to the enabling force that strengthens women's social relations and their position in social structures. Social empowerment addresses the social discriminations existing in the society based on disability, race, ethnicity, religion, or gender. the term empowerment is defined as "a multi-dimensional social process that helps people gain control over their own lives (Mandal, 2013).

Educational empowerment

Education serves as a tool for personal growth, expanding one's intellectual boundaries, promoting well-being, and enhancing individual empowerment (Sivaraman, November 2021). Without proper education to all children including girls, gender empowerment is not possible. This maxim - if one male child is literate personally, he alone becomes educated but if one girl child is educated the whole family becomes benefited - has been realized by the national political leaders, policy makers, administrators and bureaucrats. Education creates self-confidence, self-esteem, self-sufficiency to a person. It brings light of hope; increases social, political, intellectual, cultural and religious consciousness; broadens the length of mind; removes all kinds of bigotry, narrowness, superstition and enhances fellow-feeling, tolerance etc. Kiran Devendra (2001).

Political empowerment

Women's political empowerment is a process of increasing capacity for women, leading to greater choice, agency, and participation in societal decision-making. The definition is three dimensional, capturing the three most prominent strands in thinking on empowerment: that of choice, that of agency, and that of participation (Aksel Sundström, 09 January 2018).

Research has shown that women in leadership and management positions bring a distinct perspective to political leadership. It is believed that increasing the participation of women in politics can help address the challenges associated with ongoing poverty, particularly the ones affecting women. Women's leadership not only contributes to nation-building but also fosters a more balanced decision-making process (Moindi, 2012).

Psychological empowerment

Psychological empowerment (PE) is a subjective, cognitive, and attitudinal process that helps individuals feel effective, competent and authorized to carry out tasks. In the past two decades,

extensive research on psychological empowerment has consistently provided robust evidence that reinforces its significance as a motivating factor in the field of organizational psychology (Llorente-Alonso, 2023).

The Women participation in Income Generating Activities (IGAs) is a crucial mechanism for ensuring the rural development of developing countries (al., 2022). The role of women in income generating activities is of paramount importance to economic development of their household. In developing countries, however, women are not economically free, especially in rural areas. It is very rear case that women walk against their male's guardian decision because they are depended on their husband's income (Alemu, 2022).

2.1.3 The factors influencing women's Economic Empowerment

According to Sujatha Gangadhar (2015) the key indicators of women's empowerment include household economic decision-making, legal awareness, mobility, economic security, and family decision-making.

According to Moindi (2012) Economic empowerment among women is affected by various factors, among them being sources of income, the levels of income and ownership and control of property.

In more sense sub factors of source of income; salary, profits from business, savings from self-help groups, spousal support another sources of income. Sub factors of the levels of income; high income level, middle income level and low-income level. Ownership of property has also sub factors such as land, buildings, livestock's and other.

2.1.3.1 Direct factors affecting women's economic empowerment.

According to Hunt (2016) the process of enhancing women's economic empowerment is enabled or constrained by six key factors such as education, skills development, and training access to quality, decent paid work, unpaid care and work burdens, access to property, assets, and financial services, collective action and leadership, and social protection are directly affecting women's individual and collective lived experiences.

2.1.3.2 Education, skills development and training

Education and training matter throughout the life cycle. Access to quality education during childhood is important in itself and has important spill-over effects in breaking intergenerational poverty cycles, delaying marriage and childbearing and improving labor market outcomes later in life. So educating girls is a primary means of increasing economic outcomes later in life, adult training and skills development programmes are also important to women's economic empowerment (Hunt, 2016).

2.1.3.3 Access to quality, decent paid work

According to Alemu (2022) the engagement of women in income-generating activities is a crucial pathway towards promoting women's empowerment by enhancing their economic development. Women's economic empowerment plays a vital role in fostering gender equality, as it significantly contributes to bridging the gap between women and men. The International Labor Organization (ILO), decent work 'involves opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men. 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. Formal sector work is more likely to be 'decent'. Women's employment is empowering depends on the type and quality of the work, as well as its potential to provide a secure income. An extensive body of evidence confirms that formal/semi-formal employment is the most consistently empowering for women. Findings from a major research programme carried out in Egypt, Ghana and Bangladesh confirm this: in these countries, such work was predominantly found in the public sector, and, to a lesser extent, in private firms and non-governmental organizations (NGOs) (Kabeer et al., 2011).

2.1.3.4 Address unpaid care and work burdens.

The care economy, meaning the unpaid care and domestic work disproportionately carried out by women, "Unpaid work" includes activities like routine household work (e.g. cooking, cleaning, and gardening), caring for children and other family and nonfamily members, volunteering, and shopping. Around half of men surveyed spent no time on housework on an average day, nearly

five times the share of women who did no housework, while 6% of men spent three to five hours on household work compared with 28% of women. The resulting time poverty is directly associated with women's lower income and asset base, and limits women's ability to move into higher-return economic activities (Hunt, 2016).

2.1.3.5 Access to property, assets, and financial services

Having access to and being in control of assets like money, property, and physical resources is extremely important for women's financial stability and plays a vital role in their personal and household economic growth. Numerous studies and evidence highlight that when women have control over household resources such as land and housing, it positively impacts their self-esteem, earns them respect from other family members, opens up economic opportunities, allows them to move freely outside the home, and increases their decision-making power (Klugman, 2014.).

When women have access to formal financial institutions, they can open bank accounts, obtain credit, and engage in financial transactions. This inclusion allows them to have a secure place to save money, build assets, and access financial services tailored to their needs. It empowers women by providing a means to manage their finances independently, make informed decisions, and invest in income-generating activities. Financial inclusion also enhances women's economic opportunities by facilitating access to financial resources, entrepreneurial support, and business development services. By promoting women's financial inclusion, we can empower them economically, contribute to their financial security, and foster their participation in economic growth and development (Hunt, 2016).

2.1.3.6 Collective action and leadership

The ability of women to collaborate with others in order to enhance economic activity and advance their rights is crucial for their economic empowerment. This collective action, known as "power with," takes various forms and is closely linked to improved productivity, income, and working conditions. It brings about positive changes in areas such as workers' rights, wages, social protection, and benefits. Moreover, when collective efforts aim to challenge social norms that restrict women's work and property ownership, they can contribute to boosting women's self-esteem and their sense of belonging as active citizens. These collective actions have the potential to bring about transformative progress in gender equality within communities and broader political structures (Domingo, 2015).

Women's engagement in informal groups offers a valuable chance to cultivate confidence, self-belief, and effective leadership abilities. By actively participating in these groups, women can gain experience and refine their skills through taking up leadership roles. This process not only bolsters their self-assurance but also equips them with the necessary capabilities to pursue leadership positions in other informal or formal settings, including public or political offices. Moreover, involvement in informal groups enables women to establish networks and constituencies, fostering connections and collaborations with like-minded individuals. These connections create opportunities for women to expand their influence and pave the way for further advancements in their leadership journey (Domingo, 2015).

2.1.3.7 Social protection

Social protection encompasses both legal and non-legal measures aimed at preventing, managing, and alleviating circumstances that negatively impact people's quality of life. It includes a range of interventions and policies that provide support and assistance to individuals and communities facing various challenges. These measures can address issues such as poverty, unemployment, illness, disability, and other risks that threaten people's well-being. Social protection programs and policies aim to ensure that individuals and families have access to essential services, income support, healthcare, education, and other forms of assistance. By offering this support, social protection initiatives strive to improve living standards, promote social inclusion, and enhance overall societal well-being (Razavi, 2011).

An illustration of this is through the provision of cash transfers or public employment opportunities. Social protection plays a role in promoting women's economic empowerment by addressing poverty, reducing vulnerability to economic risks, and removing barriers that hinder their economic participation, such as caregiving responsibilities. By positively impacting household productivity and labor market engagement, social protection initiatives have significant, enduring benefits for inclusive economic growth in developing nations. Moreover, they serve as a safeguard against shocks that can harm long-term growth and women's economic empowerment, such as the sale of productive assets or the withdrawal of children from education (Mathers, 2014).

2.2 Variables and their measurement

According to Williams (2022) Women's economic empowerment (WEE) is often measured using indicators that are similar to those used in previous studies. These indicators typically capture three key aspects: labor market outcomes, access to resources, and economic decision-making.

Labor market outcomes indicators focus on employment status and income levels. They assess whether women are engaged in paid work, whether they have access to decent job opportunities, and whether their income levels are sufficient to support economic independence.

Access to resources indicators encompass various dimensions such as education, financial resources, and land ownership. They examine whether women have equal access to education and skills development opportunities, whether they have access to financial services like savings accounts and credit, and whether they have ownership or control over land and other productive assets (Williams, 2022).

Economic decision-making indicators explore the extent to which women have agency and decision-making power within the household economy. This includes examining who makes decisions regarding the use of the woman's income and her husband's income, as well as decisions related to household expenditure on significant items (Williams, 2022).

According to Bayissa (2018) in numerous studies, income generated by women and asset ownership have been identified as significant indicators of women's empowerment.

2.3 Concepts related to Economic Empowerment

Reshi (2023) study highlights that the economic empowerment of women involves a wide range of strategies and interventions aimed at improving women's economic status. Recent research has identified several important concepts associated with women's economic empowerment,

1. Education and Skills Development: Providing access to education and skills training is crucial in enhancing women's economic empowerment. These opportunities equip women with the knowledge and abilities needed to participate in the labor market and secure higher-paying jobs.
2. Financial Inclusion: Ensuring women's access to financial resources, such as credit, savings, and insurance, is vital for economic empowerment. This enables women to invest

in their businesses, acquire assets, and establish financial security for themselves and their families.

3. Gender-Responsive Policies and Legal Frameworks: Implementing policies and legal frameworks that consider gender disparities is essential for fostering women's economic empowerment. These measures promote equal opportunities for women in the workforce and protect their rights.
4. Market Access: Facilitating women's access to both domestic and international markets is critical for women entrepreneurs to sell their products and services and expand their businesses. This access opens up opportunities for growth and success.
5. Transforming Social Norms and Attitudes: Challenging and transforming societal norms and attitudes is a fundamental aspect of women's economic empowerment. This entails dismantling gender stereotypes, promoting women's leadership, and encouraging men to actively support gender equality efforts.
6. Entrepreneurship and Innovation: Promoting entrepreneurship and innovation among women can serve as a powerful catalyst for economic empowerment. By fostering an entrepreneurial ecosystem, women can create employment opportunities, drive economic growth, and contribute to sustainable development.

2.4 Concept and Definition of development project

Development projects constitute an integral part of economic growth and development. The European Commission (1997) defined a development project as “a multi-dimensional interventions which is intended to develop human, physical and economical potentials of a country to bring about the change leading to the improvement of economy, environment, communities and institutions". Gittinger (1982) sees a development project as a model which aims primarily to add value through internal inputs/resources that are organized and operated by projects Thus, development project consist of an optimum set of investment-oriented actions based on comprehensive and coherent sector planning by means of which a defined combination of human and material resources is expected to cause a determined amount of economic and social development (Serbeh-Yiadom, 2014).

2.4.1 Impact of Women's Labor Contribution on Community Development Projects

The availability and contribution of women in development implementation can have a significant positive impact on the community. According to UNESCO (2017), women are often more accessible and ready to support development initiatives. They not only offer their support but also provide free labor that is invaluable and cannot be measured in monetary terms.

In countries like India, the majority of employees or free laborers in the cottage industry are women, youth, and girls. These women contribute their labor for free, providing timely designs and trends in consumption, budgeting for households, and even financing marriage expenses such as dowries. Additionally, they actively participate in the implementation of development projects, both in rural and urban areas (Madhowe, 2018).

According to Wema (2010) research conducted in Tanzania; a significant majority of the respondents (181 out of 189) expressed support for the notion that women offer affordable labor in the implementation of community projects when given the opportunity. The study also highlighted that women bring effective and timely expertise to project implementation. Furthermore, women were recognized for their valuable insights into identifying the most appropriate community development projects to undertake. Additionally, women were found to dedicate substantial time to completing their tasks and were perceived as relatively more trustworthy than men when entrusted with multimillion-dollar projects.

According to Arthur. K (2014) Women face multiple disadvantages, including limited access to education, political representation, information, and awareness. They often lack relevant knowledge in information and communication technology (ICT) and are denied property ownership rights, among other challenges. The research concludes that empowering women in various community development projects is crucial. Empowered women contribute affordable and uncompromised labor, offer effective guidance, and provide labor that is not easily influenced by external factors like corruption.

2.5 Empirical literature

The empirical literature review aims to examine existing studies that have assessed the impact on women's economic empowerment. Specifically, this review focuses on the Entoto Park project and its effects on women's empowerment in the surrounding communities. By analyzing previous research, this review will provide a comprehensive understanding of the empirical evidence, methodologies employed, and gaps in knowledge regarding the relationship between community development initiatives and women's empowerment. The following two empirical studies have been identified, providing valuable insights into the specific aspects of women's empowerment and the effects of community development projects in similar contexts. By analyzing these studies, a comprehensive understanding of the empirical evidence and research methodologies employed can be gained, contributing to a more comprehensive assessment of the Entoto Park project's impact on women's empowerment.

According to Deedam (2015) study, a significant number of indigenous women in the Port Harcourt metropolis actively participate in poverty alleviation activities, initiated by both the government and private organizations. The study identified several motivating factors that drive their engagement, with one notable benefit being a substantial increase in personal incomes upon joining these programs. Specifically, the research found that 75.5 percent of the women experienced an impressive income growth of 36.6 percent after enrolling in the Poverty Alleviation Programs (PAP). This outcome highlights the importance of placing women at the forefront of poverty alleviation program designs, as they exhibit a remarkable ability to convert investments into favorable outcomes. The study also revealed statistically significant differences in income among women involved in various livelihoods or economic activities, further supporting these findings. Overall, these empirical results underscore the significance of promoting active participation of indigenous women in poverty alleviation programs as a means to achieve sustainable development in Nigeria.

The study conducted by Merra (2019) aimed to analyze the economic impact of the Omo Microfinance Institution (OMFI) on women's empowerment. The findings of the study indicate that, despite its limitations, OMFI had a positive influence on women's economic empowerment in the study area, as revealed by both descriptive and econometric results.

The intervention of microfinance programs, such as OMFI, is expected to improve the living standards of the poor, particularly women at the grassroots level, and subsequently reduce poverty. The study suggests that the economic status of women and their level of participation in decision-making can significantly improve as a result.

However, the econometric results indicate that the impact of OMFI on women's access to resources and control over assets is statistically insignificant. This suggests that OMFI's effect on these aspects of women's empowerment is limited. To address this, OMFI should prioritize asset formation, access to resources, and the ability to control them through credit provision. These actions can help reduce poverty levels and enhance women's economic capacity.

While the impact of OMFI on women's average yearly income is significant, ongoing efforts should focus on increasing access to resources and asset accumulation to further alleviate poverty and empower women.

According to Mengstie (2020) , access to microfinance institutions, including credit, savings, and training, plays a vital role in facilitating women's economic development and their involvement in decision-making processes related to savings, credit, and business activities. Investing in women's economic development can have a transformative effect on Ethiopian women's employment and society as a whole. The study findings suggest that microfinance has a significant impact on women's assets, income, savings, and control over resources. Women who are clients of microfinance institutions tend to have higher income levels, better asset positions, larger savings amounts, and greater control over resources within their households and communities. Improving microfinance services, particularly in terms of credit provision and training, can further enhance women's entrepreneurship development.

The study's regression results indicate that factors such as women's age, education, marital status, training, and the amount of credit obtained have a significant positive influence on women's economic empowerment. However, the study found no significant impact of women's business experience on their economic development. Additionally, the study did not find any moderating effects of age and education on the relationship between microfinance and women's economic empowerment.

In conclusion, the study emphasizes the importance of microfinance in empowering women economically. Access to microfinance services, coupled with factors such as education, training, marital status, and credit provision, can significantly contribute to women's economic empowerment. Understanding these dynamics can inform efforts to improve microfinance programs and promote women's entrepreneurship development.

According to Gebretsion (2012) , His study is undertaken with the major objectives of: examining the contribution of water supply project to economic empowerment of women in the study area, exploring the association between women's participation on water supply project and empowerment .The findings highlighted that lack of formal and non-formal education, low level of income work over load due to fetching water are the main impediment factors for economic, and social empowerment and transformation in the rural areas. This research also confirmed the prevalence of the same case in the study area. It is also empirically observed that women spend much of their time fetching water and doing other in-home related activities mainly driven by their poor technical skills and poor acquaintance with the external environment. Thus, the supply of water has changed the life of women and curbed the persisted and deep-rooted problem of the community. It is also be noted that supplying of water to the community, though enabled women to have excessive time which could be used for further activities, ought to be accompanied by other skill enhancement schemes in order to enable women to use their saved time by the project for other income generating activities.

The study conducted by Kuma (2023) in Sodo Zurea district in Ethiopia aimed to assess the economic empowerment status of rural women and identify the factors that influence it. Despite the implementation of various policies and strategies by both government and non-governmental organizations to empower rural women, the findings revealed that 69% of the total sample were not economically empowered. The model analysis indicated that factors such as age and negative perceptions towards economic activities had a detrimental effect on rural women's economic empowerment, while marriage, access to credit, annual income, motivation, and livestock ownership had a positive impact.

The study highlights the need to address gender issues comprehensively and integrate a theoretical perspective into all levels of society, politics, and programs. It emphasizes that current efforts to mainstream gender in Ethiopia, though present, have not fully achieved their objectives. The

practical implication of the study is that despite government initiatives, significant gender inequalities persist in leadership positions, decision-making processes, awareness creation, and access to education, credit, extension services, and asset ownership among women (Kuma, 2023).

The policy implications of the study suggest that governmental and non-governmental organizations involved in women's empowerment should strengthen their efforts. This can be done by facilitating access to credit, engaging women in livestock rearing activities, providing training and capacity building opportunities to enhance their perception of economic activities, and creating alternative income-generating activities. These measures aim to empower rural women economically and contribute to reducing gender disparities in society (Kuma, 2023).

In the study conducted by Sultana (2010) the impact of micro-credit on the economic empowerment of rural women was examined. The research took place in Bariyali, Teknogpara, and Naga villages in the Basan and Kayaltia union of Gazipur Sadar Upazila, Gazipur District. A total of 90 respondents were selected using stratified random sampling, with 45 women involved in the micro-credit program of the Bangladesh Rural Advancement Committee (BRAC), while the remaining 45 women comprised a control group with no involvement in micro-credit programs. Both groups shared similar socio-demographic characteristics. Data was collected through surveys using interview schedules.

The study focused on three economic indicators—personal income, savings behavior, and asset ownership—to measure the economic empowerment of rural women. A sample t-test was conducted to evaluate the impact of micro-credit on economic empowerment. The findings revealed significant differences between BRAC women and non-BRAC women in terms of these economic indicators. BRAC women exhibited higher levels of economic empowerment compared to the non-BRAC women. Additionally, BRAC women demonstrated greater participation in various income-generating activities. The study also highlighted that BRAC women received more micro-credit and utilized it to engage in a higher number of income-generating activities compared to the control group. Consequently, BRAC women earned higher incomes, saved more money, and owned more assets than non-BRAC women (Sultana, 2010).

According to Panta (2018), the protected areas in Nepal, particularly those situated in lowland regions, hold promising prospects for ecotourism growth. This presents opportunities for tourism and hospitality businesses in the buffer zone communities. The study aimed to investigate the

advantages and challenges faced by women entrepreneurs in these communities, as well as the potential role of empowerment. The research employed qualitative methods such as semi-structured interviews and focus group discussions with women entrepreneurs engaged in hotel and homestay enterprises.

The findings of the study revealed that women entrepreneurs experienced various individual-level benefits through their involvement in tourism, including enhanced self-confidence, personal skills development, increased access to cash income, and an expanded role in decision-making within their families. Some of these benefits were associated with empowerment. However, to establish stronger links between ecotourism entrepreneurship and women's empowerment, it is crucial to address the gender-specific challenges prevailing in the patriarchal society of rural Nepal. The study emphasized the necessity for capacity-building programs that specifically target the enhancement of women's non-traditional roles. Additionally, broader programs aimed at increasing family and community support were deemed essential for promoting women's active participation as entrepreneurs in the tourism sector (Panta, 2018).

2.6 Conceptual Framework

Conceptual framework is generally established in accordance with the theoretical framework and literature review. All independent variables included majorly in demographic factors, physical factors and socioeconomic factors determine the dependent variable access to employment. The other two dependent variables such as financial adequacy and decision making, indicators of women empowerment, are in return dependent on access to employment.

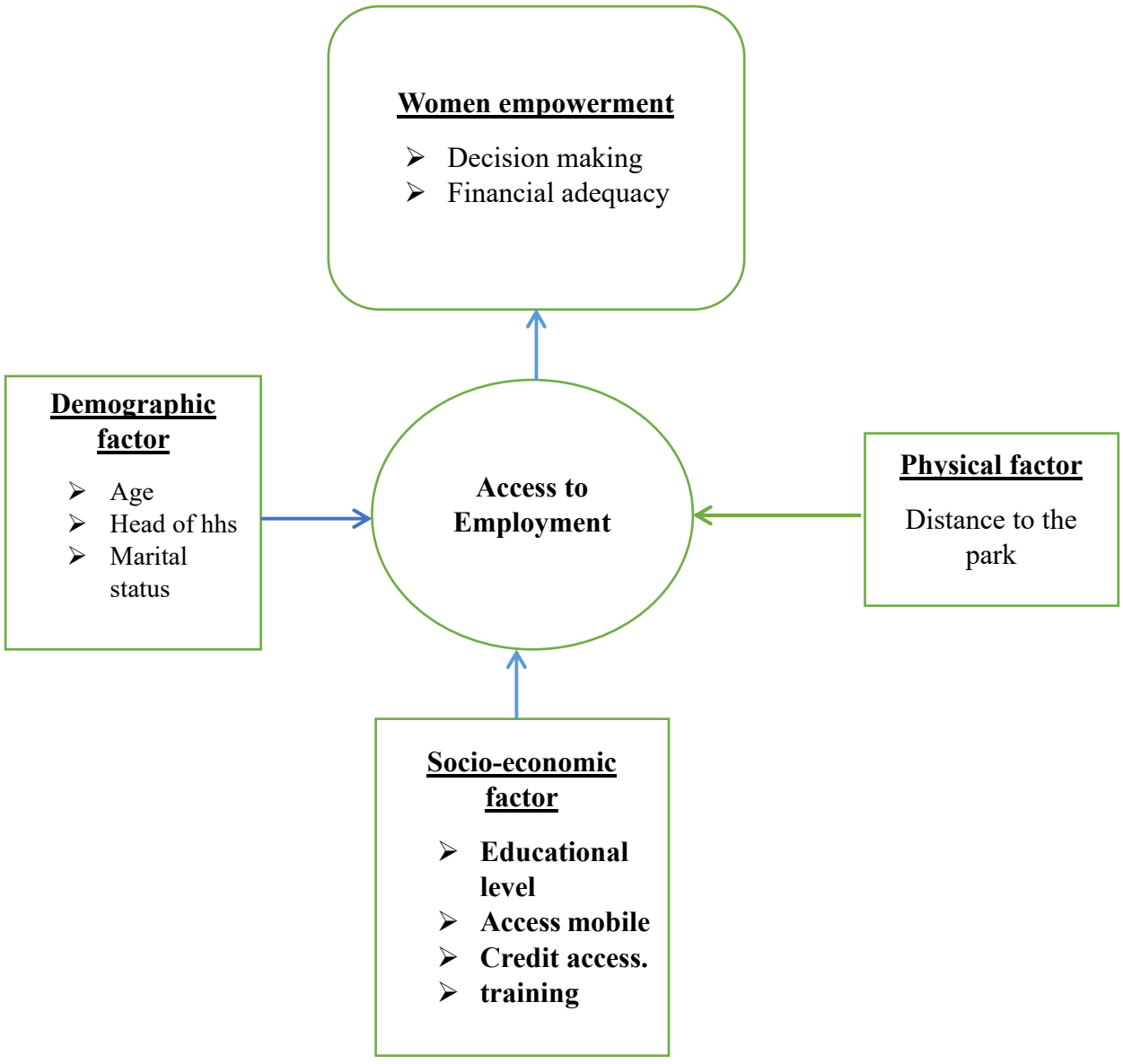

Figure 2.1. Conceptual framework

3. Chapter Three: Research Design & Methodology

3.1 Research approach and design.

The study utilized a quantitative research approach involving cross-sectional data. The research design is both descriptive and explanatory research design. Survey data were collected from women to assess the impact of Entoto Park formal employment membership on women's economic empowerment. The survey covered both treatment and comparison households, employing a non-experimental approach. The research used random sampling procedures to ensure the representativeness of sample subjects and the generalizability of results. Data analysis was carried out using descriptive statistics and econometric models. A logit regression model was used to identify factors that determine a household's membership in Entoto Park employment. Propensity score matching (PSM) was applied to measure the impact of membership in Entoto Park employment on the economic empowerment of women whose livelihoods depend on the park. Sampling Technique and sample size determination.

3.2 Sampling technique

In this study, both probability and non-probability sampling techniques were applied to obtain the desired sample size. To achieve this, a two-step sampling technique was implemented. In the first stage, the surrounding communities of Entoto Park were selected because the area contributes to the livelihood of poor communities, mostly women. In the second stage, after the targeted area was selected, respondents were chosen from both women who are formally employed at Entoto Park and women who still depend on their livelihood through wood collection from the surrounding area of Entoto Park.

Since the total population of women, particularly those who rely on wood collection, is not known, the research used a sample of 100 women who live by collecting wood from Entoto Park. For the total population of beneficiary women, which is 467, the research applied the Yemane formula and obtained a sample size of 215. In total, the research used a sample size of 315 to analyze the impact of Entoto Park's establishment on women's empowerment, comparing beneficiaries of the park's formal employment and non-beneficiaries who still engage in wood collection from the area.

Sample size determination.

To determine the sample size of this study, it was used (Yamane, 1967) with 95 confidence levels. To determine respective samples from the study areas for random sampling, probability proportion to size of population sampling method was used. The reason for using formula is because this kind of formula is valid for survey researchers which compose large population.

$$N = \frac{p}{1+p(e)2} \quad (1)$$

Therefore the total sample size of beneficiary is N= $\frac{p}{1+p(e)2}$=n=$\frac{467}{1+467(0.05)2}$=215

Where N= is the desired sample size

P= is total household size in the targeted kebele

e= level of precision 5%, sometimes called sampling error is the range in which the true Population.

The total sample size for the study is 315 respondents. The characteristics of the respondents were found to exhibit homogeneity, which further informed the determination of the sample size. The research objectives were carefully considered to ensure that the sample size would be sufficient to address the specific research questions in a descriptive manner. This sample size provides meaningful insights and statistically reliable results that align with the research objectives while optimizing available resources. The homogeneity of the respondents allows for a more focused and targeted investigation, enhancing the internal validity of the findings.

3.3 Data sources and data collection method

The data was collected from both primary and secondary sources. Primary data was collected using open and closed-ended questions in the questionnaires, while open-ended questionnaires were used to enable the respondents to express their opinions about the problem in their own words. Closed-ended questions were very convenient for collecting factual data and were usually easy to analyze. The data for this study was collected directly by the researcher. All the questionnaires used in the data collection process were prepared and administered in the English language. The researcher took full responsibility for managing the questionnaire distribution, collection, and overall data gathering process. Secondary data was collected and reanalyzed from different documents, and other reports prepared by the park development group.

3.4 Data Collection Procedures implemented.

Quantitative data on women's economic empowerment was gathered through structured surveys. The surveys covered different facets, such as Demographic characteristics, Institutional Characteristics, Women's Empowerment. The surveys were physically distributed to women participating in the park project and non-participants. Participants were requested to assess their economic empowerment using measurement methods.

3.5 Data analysis Techniques

Once the data collection was complete, it was systematically organized, coded, and tabulated based on the question types and the diverse data obtained from various sources. Subsequently, descriptive statistical and Propensity Score Matching (PSM) techniques were employed to analyze the data. To analyses the data the researcher used STATA software. As a researcher, data presentation tools like tables, bar graphs, and percentages were utilized to effectively present the findings. This process allowed for a comprehensive understanding of the collected data and facilitated the communication of key insights in a visually accessible manner.

3.6 Specification of econometric model

In this study, two econometric models were adopted to analyze the data. These are the logit Regression model and the propensity score matching (PSM) models. Logit model was employed for propensity of impact of Entoto park services. Besides, chi-square test would also conduct to the association of independent variable with dependent variable. Propensity score matching (PSM) econometric model was applied to net out the impact of membership in Entoto program to the outcome variables of the study. The aim of matching is to find the closest comparison group from a sample of non-beneficiary to the sample of program members. “Closest” is measured in terms of observable characteristics. The PSM was applied to estimate the average treatment effect on the treated group (ATT) compared to the comparison group. The main steps in matching based on propensity scores are as follows.

3.6.1 Logit model

Binary choice models assume that individuals are faced with a choice between two alternatives and that the choice depends on certain identifiable characteristics. In binary choice models, it is implicitly assumed that the dependent or response variable Y is dichotomous in nature, taking a 1

or 0 values. A unique feature of such a model is that it elicits a yes or no response. We start to study qualitative response models by first considering the binary response regression model.

The logit and probit models are two binary choice models commonly used in analyzing the response variable Y is dichotomous in nature, taking a 1 or 0 values. Both models provide consistent, efficient, and asymptotically normal estimates, and yield very similar prediction results in an empirical work and assume that the error term (εi) is normally and logically distributed.

In most applications the models are quite similar, the main difference being that the logistic distribution has slightly fatter tails. That is to say, the conditional probability Pi approaches zero or one at a slower rate in logit than in probit. Therefore, there is no compelling reason to choose one over the other. In practice many researchers choose the logit model because of its comparative mathematical simplicity (Gujarati and Porter, 2004).

So, let us consider logit regression.

$Yi = \beta0 + \beta1X1i + \beta2X2i + \beta3X3i + ... \beta nXni + \varepsilon i$

Where Yi = the outcome variable predicted from the equation

X1i = a vector of explanatory variables representing household demographic, socioeconomic factors, institutional and physical factors.

β's = a vector of regression coefficients to be estimated,

εi = the random error term

In this study case According to Gujarati and Porter (2004) in estimating the logit model, the dependent variable should be dummy (entoto park formal job beneficiary) which takes a value of 1 if the household is beneficiary and 0 for non-beneficiary. PSM model was there after applied to estimate the impact of Entoto on women empowerment. The results were presented in tabular and graphical formats.

The logit model is mathematically formulated as follows:

$pi = (Y=1/Xi)$

$=\beta0+\beta1X1i+\beta2X2i+\beta3X3i+\beta4X4i+\cdots+\beta n1iXni$

3.6.2 Propensity score matching

The concept of Propensity Score Matching (PSM) was first introduced by Rosenbaum and Rubin (1983) in their paper "The Central Role of the Propensity Score in Observational Studies for Causal Effects" (Heckman, 1997). Also contributed to the development of PSM methods, focusing on addressing selection bias to make causal inferences when assignment is non-random. He later developed the difference-in-differences approach, which is applicable to PSM. There might be a possibility that women who were empowered and had more formal education been employer of a on Entoto parks, potentially exaggerating the parks impact on women's economic empowerment. To address such selection bias, program participants are matched with non-beneficiaries. PSM involves pairing treatment and control units with similar propensity scores and possibly other covariates, while discarding unmatched units (Peterson, 2015).

In the next step, the differences in outcome variables between beneficiary and their matched non-beneficiary are calculated. This is known as the average treatment effect on the treated (ATT), representing the mean difference between members and matched non-members. The impact of an intervention can be studied using experimental and non-experimental or quasi-experimental approaches. The main difference between these approaches lies in how they identify a comparison or control group, aiming to match non-members with similar characteristics to the treated group. A typical example of an experimental approach is the Randomized Control Trial (RCT), where beneficiary (treated group) and non-beneficiary (control group) are randomly selected before the intervention (Caliendo, 2008).

PSM has gained popularity for its ability to reduce bias in non-experimental data. The PSM model involves five steps. First, the propensity score, or predicted probability of beneficiary, is estimated for each sample woman using a standard logit or probit model based on observable characteristics. Second, a balance check between the observed characteristics of the treated and control groups is necessary to evaluate the overlap or common support based on the propensity scores. For PSM to be effective, the balancing property must be satisfied. Similar propensity scores indicate that the observed characteristics between the groups are comparable. However, if variables are mis specified in the model, the balancing property fails, resulting in biased estimates (Khandker, 2010)
.

Third, a matching estimator is selected to estimate the average effects of beneficiaries in the entoto on the outcome of interest, thereby identifying the impact of the intervention variable. To ensure credible results and the absence of hidden bias, two important assumptions must be met for the PSM model to accurately estimate the impact of membership in the program: the Conditional Independence Assumption (CIA) and the Common Support Condition (Khandker, 2010).

The Conditional Independence Assumption (CIA), also known as confoundedness, states that treatment assignment is solely based on observed characteristics and potential outcomes are independent of treatment assignment. This assumption is crucial for accurately identifying the impact of beneficiaries, as it accounts for differences between treated and untreated groups to reduce selection bias. Establishing a counterfactual for the treatment group using comparison groups requires observing all variables that influence both participation and outcome variables simultaneously. For valid and reliable results, the CIA must be met (Harris, 2016).

The Common Support or Overlap Condition is another assumption alongside the CIA. This assumption requires that probabilities (P(x)) lie between 0 and 1, meaning that the balancing property test is performed only on observations whose propensity scores fall within the common support region of the treated and control groups (Harris, 2016). Individuals outside this region are excluded from the treatment effect estimation, which is crucial for improving the quality of the matching used to estimate the ATT.

This assumption ensures that households in the treatment and comparison groups are comparable. The ATT is therefore given by the difference in mean outcomes of matched treated and controlled households within the common support region, conditional on the propensity scores.

3.6.3 Estimating the Propensity Score

Estimating the propensity score is the first step in the PSM technique, and matching can be performed based on P(X) rather than directly on X. Consequently, outcomes without the intervention are independent of membership given X, and also independent of membership given P(X), which simplifies a multi-dimensional matching problem to a single-dimensional problem (Rosenbaum, 1983).

In this study, the logit model was used to estimate the propensity score (Caliendo, 2005). According to Gujarati (2004), when estimating the logit model, the dependent variable was employment, which takes the value of 1 if a women is employed in Entoto Park and 0 otherwise.

To properly estimate the impact of a certain program or treatment, we need to have two groups: the treatment group and the control or comparison group. The group that receives the treatment is called the treated group, and the group that does not receive the treatment is the control or comparison group. The variable that the treatment is expected to affect is the outcome variable.

The treated group is the group of interest and the one for which we want to calculate the effect of the intervention. In this study, women employed in Entoto Park are considered the treated group. Those who are not employed in Entoto Park represent the control or comparison households. In defining the treatment assignment, D is a binary variable that indicates whether the household has received the treatment or not.

3.6.4 Region of Common Support and Overlap Condition

The third crucial step in PSM is imposing the common support condition, as the average treatment effect on the treated and the population is only defined within this region (Caliendo, Estimating the Propensity Score with Stata., 2005). The common support region encompasses the range between the minimum and maximum propensity scores of the treated and control groups. Observations with propensity scores outside this range are excluded (Caliendo, Estimating the Propensity Score with Stata., 2005).

3.6.4.1 Matching Algorithms

After establishing the common support region and ensuring the balancing condition, various matching estimators can be employed to determine whether households improve their income due to participation in the program.

Nearest Neighbor Matching (NNM): This method pairs participants and non-participants closest in propensity scores. It can be performed with or without replacement, where the former allows a control observation to match multiple treated observations, improving match quality but reducing precision (Dehejia, 2002).

Caliper Matching: This method sets a tolerance level for the maximum allowable difference in propensity scores between matched pairs, reducing the risk of poor matches (Smith, 2005).

Radius Matching: Similar to caliper matching, radius matching uses a set maximum propensity score distance and matches all control units within this range to treated units, enhancing match quality (Caliendo, Some Practical Guidance for the Implementation of Propensity Score Matching. , 2008).

Kernel Matching: This non-parametric method compares treated households' outcomes to a weighted average of all control households, with greater weights assigned to those closer in propensity scores (Caliendo, Estimating the Propensity Score with Stata., 2005).

Stratification Matching: This approach divides the common support region into strata based on propensity scores and calculates the treatment effect within each stratum (Dehejia, 2002).

3.6.4.2 Testing Matching Quality

The fourth step in PSM is assessing the quality of matching. Several indicators are used to check whether the matching procedure balances the distribution of covariates between treated and control groups:

Standardized Bias (SB): Assesses the distance in marginal distributions of covariates before and after matching.

T-test: Compares covariate means between treated and control groups, aiming for no significant differences post-matching.

Joint Significance and Pseudo-R2: Indicates how well regressors explain the probability of treatment participation; should be low after matching.

Stratification Test: Divides observations into strata based on propensity scores to ensure no significant differences in means between treated and control groups.

4. Chapter Four: Analysis and Interpretations of Data

4.1. Introduction

This chapter describes the results and discussions of the study, focusing on the determinants that influence households to join formal employment in Entoto Park and the empirical assessment of the impact of this employment on women's empowerment indicators, such as decision-making and financial adequacy, using survey data from the field. Women's decision-making and financial adequacy within the household were used as indicators to measure the impact of job creation in Entoto Park.

The chapter is divided into four major sections. The first section presents the characteristics of the sample households using descriptive statistics. Based on the concepts drawn from the conceptual framework, descriptive statistics, such as the t-test, were employed for analysis. The second part involves econometric analysis, primarily using logit regression and propensity score matching models. The logit regression model was utilized to identify the factors that determine women's participation in formal employment in Entoto Park and to calculate the propensity scores based on these observable characteristics. The third section assesses the impact of Entoto Park employment on women's decision-making and financial adequacy within households using the PSM model. This section also includes the estimation of the propensity score, the common support region, matching algorithms, balancing tests and treatment effect results. Finally, the fourth section provides conclusions based on the main findings and implications of the chapter.

4.2. Descriptive Statistics

The table compares various variables between two groups of women: those whose livelihoods depend on wood collection (G1, the control group) and those who are formally employed at Entoto Park (G2, the treatment group). The analysis reveals significant differences and their possible implications.

Firstly, the age difference, with a mean difference of -2.631, indicates that women in the formal employment group are slightly older than those in the wood collection group. This suggests that older women might be more inclined to seek or be offered formal employment, potentially due to their greater experience or the necessity for a more stable income as they age.

In terms of marital status, there is no significant difference between the two groups, with a mean difference of 0.100. This implies that marital status does not significantly impact whether women are engaged in wood collection or formal employment.

Education status shows a substantial difference, with a mean difference of -1.433***. Women in formal employment have a higher average education level compared to those relying on wood collection. This underscores the crucial role of education in accessing formal employment opportunities and highlights the need for educational interventions to improve women's employment prospects.

Regarding health status, there is no significant difference between the two groups, with a mean difference of -0.008. This suggests that health does not significantly affect whether women are involved in formal employment or wood collection.

Credit access shows a slight, though not statistically significant, difference, with a mean difference of -0.074. Women in formal employment have marginally better access to credit than those in the wood collection group. This improved access to credit for formally employed women may indicate better financial stability or inclusion in financial systems.

Financial adequacy presents a substantial difference, with a mean difference of -0.471***. Women in formal employment report significantly higher financial adequacy, underscoring the positive impact of formal employment on financial security and stability for women.

The distance from the park shows a significant mean difference of 2.213***. Women engaged in wood collection live, on average, further from the park compared to those in formal employment. This indicates that proximity to the park increases the likelihood of securing formal employment, possibly due to easier access to job opportunities.

Training is another area with a significant difference, with a mean difference of -0.472***. Women in formal employment are much more likely to have received training compared to those in wood collection. This highlights the importance of training programs in enabling women to transition from informal to formal employment, emphasizing the need for more training opportunities to improve employability.

Finally, asset management capabilities show a significant mean difference of -0.410***. Women in formal employment have better asset management capabilities than those in wood collection. This suggests that formal employment may provide more opportunities and resources for women to manage and accumulate assets, contributing to their overall economic empowerment.

Overall, the analysis reveals significant differences in education, financial adequacy, distance from the park, training, and asset management between the two groups. Women in formal employment at Entoto Park generally exhibit better socioeconomic indicators compared to those whose livelihoods depend on wood collection. This suggests that formal employment can substantially improve women's economic empowerment, financial stability, and overall quality of life**.**

Table 4.1 t-test result of explanatory variables

Variables	G1(wood c~r)	Mean1	G2(formal~s)	Mean2	MeanDiff
Age	100	44.490	215	47.121	-2.631**
Marital_~s	100	2.370	215	2.270	0.100
Educatio~s	100	4.530	215	5.963	-1.433***
Health_s~s	100	0.880	215	0.888	-0.008
credit_a~s	100	0.200	215	0.274	-0.074
financia~g	100	0.250	215	0.721	-0.471***
d_frompa~s	100	5.505	215	3.292	2.213***
training	100	0.100	215	0.572	-0.472***
Assets_m~e	100	0.390	215	0.800	-0.410***

Source: own survey (2024)

4.3. Econometric analysis and Discussion

4.3.1. Logistic regression

The logistic regression model, based on a sample size of 315 observations, demonstrates good model fitness. The model's LR chi-squared value is 145.92 with a p-value of 0.0000, indicating that the model is statistically significant. The log likelihood of the model is -123.8975, and the Pseudo R-squared value is 0.3706, suggesting that approximately 37.06% of the variance in the

dependent variable is explained by the model. This indicates a substantial level of explanatory power, confirming the model's adequacy in fitting the data**.**

```
Logistic regression                                     Number of obs =    315
                                                        LR chi2(9)    = 145.92
                                                        Prob > chi2   = 0.0000
Log likelihood = -123.8975                              Pseudo R2     = 0.3706
```

beneficiereis_parks	Coefficient	Std. err.	Z	P>z	[95% conf.	interval]
Age	.0540288	.0203049	2.66	0.008	.014232	.0938256
Marital_status	.047923	.235037	0.20	0.838	-.412741	.5085871
Education_years	.1808244	.0565275	3.20	0.001	.0700326	.2916162
Health_status	.2442574	.5104331	0.48	0.632	-.756173	1.244688
credit_access	-.7114025	.4069196	-1.75	0.080	-1.50895	.0861452
financial_saving	1.354926	.3487866	3.88	0.000	.6713172	2.038536
d_fromparks_mkms	-.1770502	.0542158	-3.27	0.001	-.2833112	-.0707893
Training	1.902102	.398073	4.78	0.000	1.121893	2.68231
Assets_mobile	.9931606	.3371483	2.95	0.003	.3323621	1.653959
_cons	-3.933091	1.318332	-2.98	0.003	-6.516975	-1.349207

Table 4.2 logistic regression result Source: own survey (2024)

Based on the logistic regression results, several variables significantly affect the likelihood of women joining the formal employment at Entoto Park. Age is significant and positively affects the likelihood of joining Entoto Park staff, which may be due to incentives provided for older women by stakeholders. This suggests that older women are more likely to seek and obtain formal employment at the park.

Education years are also significant and positively associated with the likelihood of joining Entoto Park staff. Each additional year of education increases the probability of employment at the park, indicating that more educated women are more likely to be employed formally. This might reflect the park's preference for educated staff or the higher employability of educated women.

Financial saving is another significant positive factor. Women with higher financial savings are more likely to join the park's formal employment. This could be because financial stability enables women to take up formal employment opportunities or because those with savings have better access to resources that help them secure jobs.

Distance from the park in kilometers (d_fromparks_mkms) has a significant negative impact on the likelihood of joining the park staff. The farther a woman lives from the park, the less likely she is to be employed there. This is likely due to the increased difficulty and cost of commuting longer distances.

Training is a highly significant and positive predictor. Women who have received training are much more likely to join the formal employment at Entoto Park. Training likely equips women with the necessary skills and qualifications that make them attractive candidates for employment.

Lastly, owning mobile assets (Assets mobile) is significant and positively affects the likelihood of employment at the park. This suggests that women who own mobile assets, such as mobile phones, might have better access to information about job opportunities and more means to apply for these jobs, enhancing their chances of being employed.

In summary, the significant variables influencing the likelihood of women joining Entoto Park staff include age, education years, financial saving, distance from the park, training, and ownership of mobile assets. Each of these factors plays a crucial role in determining women's employment at the park, highlighting the importance of incentives for older women, education, financial stability, proximity, training, and access to information and communication technology.

4.3.2. Model specification Test

The model specification test was conducted to evaluate the adequacy of the logistic regression model used to determine the factors influencing women's likelihood of joining formal employment at Entoto Park. The variables used in the test include the predicted values (_hat) and their squares (_hatsq).

The coefficient for _hat is 0.9317, with a standard error of 0.1174. The z-value is 7.94, and the p-value is 0.000, indicating that the predicted values are highly significant. This suggests that the logistic regression model provides a good fit for the data.

The coefficient for _hatsq is 0.0809, with a standard error of 0.0608. The z-value is 1.33, and the p-value is 0.183. This indicates that the squared predicted values are not statistically significant, implying that there is no evidence of misspecification in the model.

The constant term (_cons) has a coefficient of -0.1467, with a standard error of 0.2010. The z-value is -0.73, and the p-value is 0.466, showing that the constant term is not statistically significant.

Overall, the significant _hat and the non-significant _hatsq suggest that the model is well-specified. The linear prediction fits the data well without needing higher-order terms, indicating that the chosen model adequately captures the relationship between the predictors and the likelihood of women joining formal employment at Entoto Park.

logistic regression	**Number of obs = 315**
	LR chi2(2) = 147.68
	Prob > chi2 = 0.0000
Log likelihood = -123.01525	**Pseudo R2 = 0.3751**

beneficiereis_parks	Coefficient	Std. err.	Z	P>z	[95% conf.	interval]
_hat	.9316888	.1174042	7.94	0.000	.7015807	1.161797
_hatsq	.0808814	.06079	1.33	0.183	-.0382647	.2000275
_cons	-.1466876	.2010342	-0.73	0.466	-.5407075	.2473322

Table 4.3 Link test result Source: own survey (2024)

4.3.3. Variance inflation matrix

The Variance Inflation Factor (VIF) analysis was conducted to assess the presence of multicollinearity among the independent variables in the logistic regression model. Multicollinearity occurs when two or more predictors in a model are highly correlated, potentially distorting the statistical analysis results. The VIF values for the variables are as follows: Education_years (1.45), Age (1.39), financial_saving (1.37), Assets_mobile (1.24), training (1.20), d_fromparks_mkms (1.18), Marital_status (1.11), credit_access (1.10), and Health_status (1.01). The mean VIF is 1.23.

All VIF values are below 2, indicating a low level of multicollinearity among the independent variables. This suggests that the predictors in the model do not exhibit strong correlations with each other, and the regression coefficients are reliable. Typically, VIF values greater than 10 would indicate significant multicollinearity requiring further investigation or corrective action. Since the VIF values here are well below this threshold, multicollinearity is not a concern for this model.

Variable	VIF	1/VIF
Education_~s	1.45	0.688217
Age	1.39	0.719064
financial_~g	1.37	0.728057
Assets_mob~e	1.24	0.806597
Training	1.20	0.832949
d_frompark~s	1.18	0.849863
Marital_st~s	1.11	0.904448

credit_acc~s	1.10	0.908193
Health_sta~s	1.01	0.986436
Mean VIF	1.23	

Table 4.4. Variance inflation matrixes Source: own survey (2024)

4.3.4. Evaluating comparability between beneficiaries (formal employer) and non-beneficiaries (wood worker)

The idea of applying the Propensity Score Matching (PSM) model involves matching a treated group with a control group that is observationally comparable by determining their propensity scores. The average difference in outcomes between these two groups is then attributed to the impact of the program. There are several necessary steps required when implementing propensity score matching, and this study has followed and checked all these steps.

First, the distribution of the propensity score for each woman included in the Entoto Park employment and the non-participation groups was computed using the participation model. This step is crucial to identify the existence of a common support, ensuring that there is sufficient overlap in the propensity scores of both groups. This overlap is necessary for making valid comparisons and accurately estimating the treatment effects.

By ensuring that all steps in the PSM process were meticulously followed, this study aimed to produce robust and reliable results in evaluating the impact of formal employment at Entoto Park on women's empowerment indicators such as decision-making and financial adequacy.

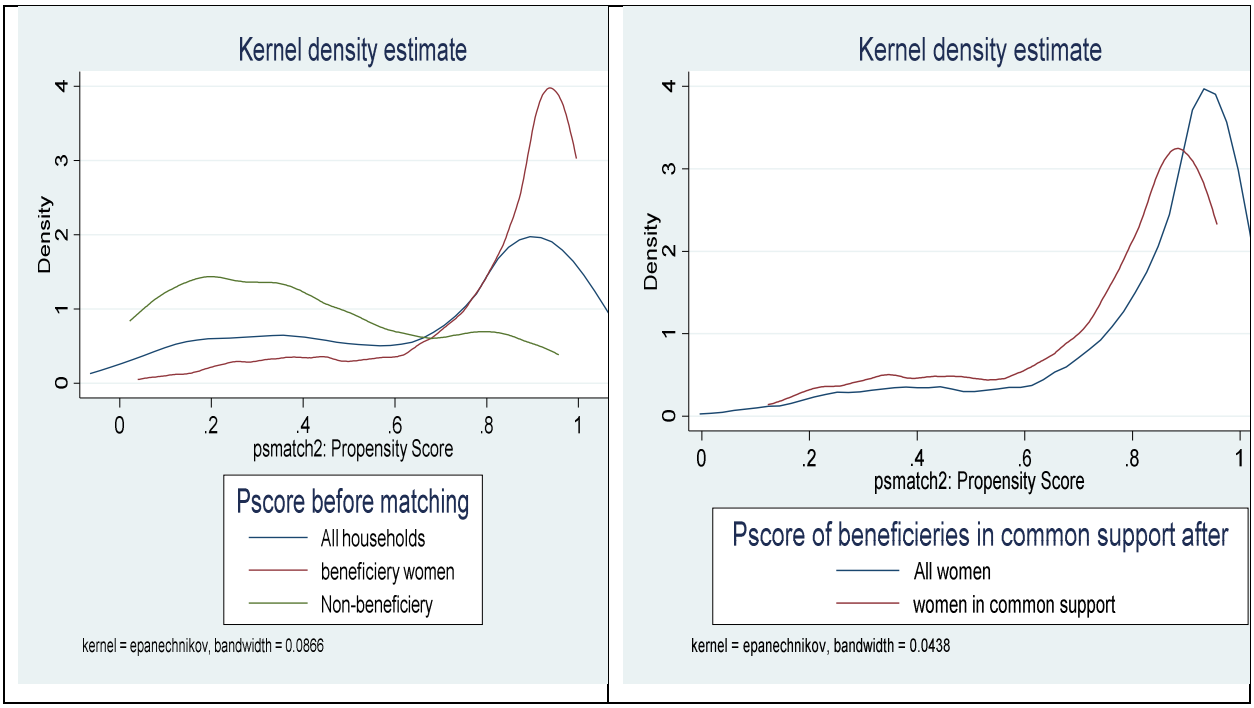

Figure 4.1. Kernel density pscore before and after matching. Source: own survey (2024)

4.3.4.1. Common support

The common support region in the context of propensity score matching was determined by examining the range of propensity scores observed in both the treated and control groups. For the treated group, propensity scores ranged from a minimum of 0.0395252 to a maximum of 0.995448. Similarly, the control group exhibited propensity scores ranging from 0.021737 to 0.9572284.

By taking the maximum of the minimum propensity score in each group and the minimum of the maximum propensity score in each group, the common support region was identified. In this case, the common support region for propensity scores lies between 0.0395252 (minimum propensity score in the treated group) and 0.9572284 (maximum propensity score in the control group).

This common support region ensures that there is sufficient overlap in propensity scores between the treated and control groups, allowing for valid comparisons and accurate estimation of treatment effects in propensity score matching analyses.

Table 4.5. common support region

	Obs	Mean	Std.dev	Min	Max
Treated	215	.8161504	.2134804	.0395252	.995448
Control	100	3952766	.269111	.021737	.9572284
All	315	.6825397	.3039685	.021737	.995448

Source: own survey (2024)

Figure below illustrates the distribution of propensity scores and the common support region. The bottom halves of the histogram display the propensity score distribution of Entoto Park employment non-participant households, while the upper halves show the propensity score distribution of Entoto Park employment participant households. In the figure, the green-colored bars (treated on support) and the red-colored bars (untreated on support) represent observations in Entoto Park employment participant group and non-participant group, respectively, that have suitable comparisons. Conversely, the orange-colored bars (treated off support) and the blue-colored bars (untreated off support) indicate observations in the Entoto Park employment participant group and non-participant group, respectively, that do not have suitable comparisons.

The distribution depicted in Figure ensures sufficient overlap in the range of propensity scores across the Entoto Park employment participant group and non-participant group, defining the "area of common support." This overlap is crucial for making reasonable matching and valid comparisons between the treated and control groups. Additionally, the satisfaction of the balancing property implies that the propensity scores matching estimators meet the assumptions of conditional independence and overlap, which helps minimize bias in the estimated outcomes.

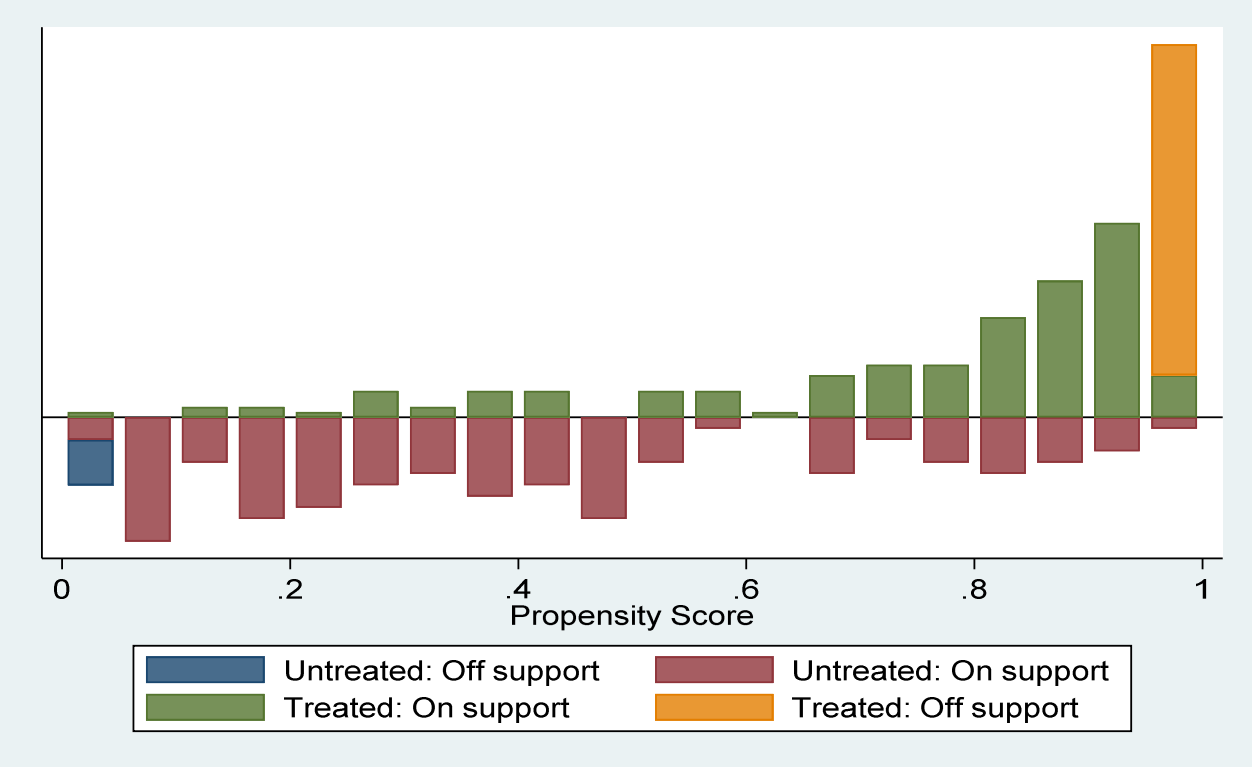

Figure 4.2. psgraph. Source: own survey (2024)

4.3.5. Matching Algorithm

Below are the estimated results of tests of matching quality based on the abovementioned performance criteria. Kernel matching with a bandwidth of 0.25 is the best estimator for the data at hand. The table provides insights into the performance of the propensity score model before and after matching. Initially, the Ps R2 (Pseudo R-squared) value indicates the goodness of fit of the propensity score model. A higher Ps R2 value suggests a poorer fit due to more residual variation. In the unmatched sample, the Ps R2 is relatively high at 0.373, indicating room for improvement in model fit. However, after matching, the Ps R2 significantly decreases to 0.027, signaling a substantial improvement in model fit post-matching.

Moving on, the LR chi2 (Likelihood Ratio chi-square) statistic evaluates the overall model fit and significance. A higher LR chi2 value indicates a better model fit. Initially, in the unmatched sample, the LR chi2 is 146.90 with a p-value of 0.000, indicating a highly significant model fit. This signifies a substantial difference between the treated and control groups before matching. However, after matching, the LR chi2 decreases to 11.42 with a p-value of 0.248, indicating a less

significant model fit post-matching. This reduction in chi-square and significance level is expected after matching as it aims to create more balanced groups.

Furthermore, the MeanBias and MedBias metrics reflect the average and median differences, respectively, between the treated and control groups. Before matching, the MeanBias is 53.1 and MedBias is 40.0, indicating substantial differences between the groups. Post-matching, these values reduce significantly to 12.3 (MeanBias) and 10.9 (MedBias), demonstrating a considerable reduction in bias and improved balance between the groups.

Table 4.6 matching algorithm tests

Sample	Ps R2	LR chi2	p>chi2	MeanBias	MedBias
Unmatched	0.373	146.90	0.000	53.1	40.0
Matched	0.027	11.42	0.248	12.3	10.9

Source: own survey (2024)

4.3.6. Testing Balance of Covariates

The table presents a comparison between unmatched and matched samples across various variables. The "Mean" column represents the mean values for each variable in both the treated (Entoto park employees) and control (non-employees) groups before and after matching. The "%bias" column indicates the percentage difference between the treated and control groups before matching. The t-test assesses the statistical significance of these differences, with the "t" value indicating the magnitude of the difference and the "p>|t|" value showing the level of significance. The "V(T)/V(C)" column displays the variance ratio between the treated and control groups, highlighting balance achieved after matching.

For example, in the "Age" variable, before matching (U for Unmatched, M for Matched), the mean age for the treated group was 47.121, while for the control group, it was 44.49. This resulted in a 26.2% bias between the groups. After matching, the mean ages became 45.662 for the treated and 46.91 for the control group, reducing the bias to -12.4%. The t-test value decreased from 2.16 to –1.09 after matching, indicating a reduction in the magnitude of difference between the groups. The variance ratio (V(T)/V(C)) was 1.02 after matching, signifying improved balance.

Similar comparisons are made for variables such as Marital Status, Education Years, Health Status, Credit Access, Financial Saving, Distance from Parks, and Assets Mobile. After matching, every covariates mean between the two groups in the matched sampled has been reduced and pseudo-R2 should be relatively low (Caliendo and Kopeinig, 2005). The major aim of propensity score estimation is to balance the distributions of relevant variables in both groups. Below from table 4.6 before matching Age, Education Years, Financial Saving, Distance from Parks, and Training were significantly different for the two groups of respondents. But after matching these significant variables were insignificant which indicates that the differences in covariates mean between the treated and untreated groups was eliminated and now the covariates between the groups are balanced. The goal of matching is to reduce bias and achieve balance between the treated and control groups, as evidenced by the decreases in %bias and t-test values, and the variance ratios falling within acceptable ranges after matching. These results indicate that the propensity score matching technique effectively addressed the initial differences between the groups, making them more comparable for accurate analysis and interpretation of the impact of Entoto park employment on various variables.

Table 4.7 test of balancing covariates

Unmatched		Mean	%reduct	t-test	V(T)/
Variable Matched		Treated Control	%bias bias	t p>t	V(C)
Age	U	47.121 44.49	26.2	2.16 0.032	1.02
	M	45.662 46.91	-12.4 52.6	-1.09 0.278	0.95
Marital_status	U	2.2698 2.37	-13.4	-1.11 0.270	1.01
	M	2.2649 2.3049	-5.3 60.1	-0.48 0.631	1.07
Education_years	U	5.9628 4.53	40.0	3.33 0.001	0.93
	M	5.702 5.3127	10.9 72.8	1.00 0.319	1.24
Health_status	U	.88837 .88	2.6	0.22 0.829	.
	M	.88742 .90598	-5.8 -121.7	-0.53 0.598	.
credit_access	U	.27442 .2	17.5	1.42 0.157	.

	M	.29139 .21506	18.0 -2.6	1.53 0.128	.
financial_saving	U	.72093 .25	106.4	8.74 0.000	.
	M	.60265 .58246	4.6 95.7	0.36 0.722	.
d_fromparks_mkms	U	3.2921 5.505	-64.7	-5.67 0.000	0.53*
	M	3.6252 3.8721	-7.2 88.8	-0.77 0.440	1.10
Training	U	.57209 .1	115.0	8.79 0.000	.
	M	.4106 .32229	21.5 81.3	1.59 0.112	.
Assets_mobile	U	.8 .39	91.6	7.86 0.000	.
	M	.7351 .6245	24.7 73.0	2.07 0.040	.
* if variance ratio outside		[0.76; 1.31] for	U	and [0.73; 1.38]	for M

Source: own survey (2024)

4.3.7. Impact of Entoto park employment creation on women empowerment indicator of decision making

As the PSM result indicates, participation in employment at Entoto parks increases the women's empowerment indicator of decision-making by 66%, at a one percent significance level. The implication of this PSM result, indicating a 66% increase in the women's empowerment indicator of decision-making due to participation in employment at Entoto parks, with a one percent significance level, is highly significant and impactful. It suggests that women who are employed in Entoto parks experience a substantial improvement in their decision-making abilities compared to those who are not employed there. Formal employment among women has been consistently shown to positively impact their decision-making power within households. This result aligns with previous studies, particularly those focusing on younger and educated women, as noted by (Thapa Karki, 2018). Additionally, data from the Indian Human Development Survey (IHDS-II, 2011–12) analyzed by (Bhattacharjee, 2024) highlight those women engaged in the labor market exhibit increased relative power in making decisions alone or jointly with their husbands.

Table 4.8 treatment effect on treated decision making

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
desicion_makin~t	Unmatched	.83255814	.215	.61755814	.037535672	16.45***
	ATT	.844370861	.180874869	.663495992	.065021175	10.20***

Source: own survey (2024)

4.3.8. Impact of Entoto park employment creation on women empowerment indicator of financial adequacy

Participation in employment at Entoto parks is associated with a remarkable 79% increase in the women's empowerment indicator of financial adequacy, as revealed by the PSM analysis conducted at a one percent significance level. This finding carries significant implications, suggesting that employment opportunities provided by Entoto parks play a pivotal role in enhancing women's financial empowerment. The substantial increase in the financial adequacy indicator can be attributed to several factors. Firstly, employment at Entoto parks likely offers stable income and economic stability, enabling women to meet their financial needs and contribute to household finances. Secondly, access to employment opportunities may also lead to skill development and capacity building, empowering women to make informed financial decisions and investments. Additionally, the sense of financial independence gained through employment can boost confidence and autonomy among women, further contributing to their overall financial well-being. Overall, the substantial 79% increase underscores the positive impact of Entoto parks' employment initiatives in fostering women's financial empowerment and economic independence.

The significant 79% increase in the women's financial empowerment indicator due to participation in employment at Entoto Parks aligns with existing literature on women's empowerment and financial inclusion. Employment opportunities at Entoto Parks likely contribute to this increase by providing stable income, fostering skill development, and enhancing financial independence, which are crucial factors in improving women's financial well-being and autonomy (Choi, 2022) The positive impact of such initiatives on women's economic independence is reinforced by findings that financial inclusion positively affects women's empowerment, emphasizing the

importance of employment in enhancing women's financial adequacy and overall empowerment (Guillamón, 2024).

Table 4.9 treatment effect on treated -financial adequcy

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
financial_autn~t	Unmatched	.855813953	.135	.720813953	.035191695	20.48***
	ATT	.887417219	.096993894	.790423324	.056655132	13.95***

Source: own survey (2024)

4.3.9. Impact of Entoto park employment creation on women empowerment overall index

The Average Treatment Effect on the Treated (ATT) analysis reveals a substantial and statistically significant impact of participation in the Entoto Park project on women's empowerment. Specifically, the proportion of women experiencing empowerment among project participants is notably higher at 86.59% compared to just 13.89% among non-participants, showcasing a substantial absolute difference of 72.70%. The high T-statistic of 18.53*** further underlines the robustness and significance of this difference, indicating that it is highly unlikely to be due to random chance. These findings strongly suggest that the Entoto Park project has been successful in promoting women's empowerment among those who participate, highlighting the effectiveness of such interventions in fostering positive socio-economic outcomes and emphasizing the importance of targeted programs for enhancing women's empowerment in communities.

The impact of formal participation in park and green space management projects on overall empowerment, particularly among women, is evident in various studies. Research conducted in Korea highlights the positive perception of migrant women towards participating in park management, emphasizing a significant correlation between place-keeping and empowerment, particularly in terms of role and expression (Choi, 2022). Additionally, a study in an island community in the Philippines showcases how women's active involvement in mangrove propagation and park tourism projects led to increased empowerment, economic opportunities, and community development (Myrna, 2022). Furthermore, a study focusing on urban green spaces emphasizes the importance of gender-specific design elements in parks to optimize women's visual

experiences, indicating that gender influences the perception of environmental landscapes and amenities (Ma, 2023).

Table 4.10. Treated effect of on treated on overall women empowerment index

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
women_empowere~l	Unmatched	.844186047	.175	.669186047	.02568393	26.05***
	ATT	.86589404	.138934382	.726959658	.039225289	18.53***

Source: own survey (2024)

5. Chapter Five: Major findings, conclusions and recommendations

5.1. Conclusion

Entoto Park, as a significant tourist destination and employment hub, plays a crucial role in the socio-economic landscape of its region. Despite its importance, there has been a notable absence of empirical evidence analyzing the park's impact on women's empowerment. To bridge this gap, this research employed the impact evaluation technique of Propensity Score Matching (PSM), which allows for a rigorous assessment of causal effects.

The initial logit model used in this research analysis identified several key variables influencing the likelihood of women joining Entoto Park's staff. These variables included age, education years, financial saving habits, distance from the park, training opportunities, and ownership of mobile assets. The significance of each of these factors underscores the multifaceted nature of women's employment decisions and highlights the importance of holistic interventions and support mechanisms.

Further analysis using PSM involved conducting balancing tests to ensure the comparability of treated and control groups across relevant variables. The balancing test is a crucial step in impact evaluation as it helps ascertain the effectiveness of the matching process in creating similar groups with respect to observed characteristics. This results from the balancing test indicated a high degree of similarity between the treated (women employed at Entoto Park) and control (women not employed at the park) groups, suggesting that the propensity score matching technique successfully achieved balance across key factors.

Moreover, the impact assessment using PSM revealed a positive impact of Entoto Park on women's empowerment indicators, particularly in terms of decision-making abilities and financial adequacy. This finding underscores the park's broader societal impact beyond economic contributions. It suggests that by providing employment opportunities and fostering an environment conducive to women's empowerment, Entoto Park significantly contributes to enhancing the well-being and agency of women in its vicinity.

5.2. Recommendation

Based on the above findings, several recommendations can be made, to Addis Ababa city administration public recreational areas and park corporation, to further enhance the positive impact of Entoto Park on women's empowerment and overall community development:

1. **Targeted Support Programs:** Develop targeted support programs aimed at older women, emphasizing incentives and opportunities for their active participation in the park's workforce. These programs can include skills training, flexible work arrangements, and tailored financial incentives to encourage employment among older women.
2. **Education and Training Initiatives:** Invest in education and training initiatives that enhance women's qualifications and skills, thereby increasing their employability within the park. This could involve partnerships with educational institutions or vocational training centers to offer relevant courses and certifications.
3. **Financial Inclusion Strategies:** Implement financial inclusion strategies that promote saving habits among women employees. This can include access to microfinance services, financial literacy programs, and opportunities for women to invest in income-generating activities or assets.
4. **Proximity and Accessibility Improvements:** Improve infrastructure and transportation options to reduce the distance barrier for women living farther from the park. Enhancing accessibility can facilitate their participation in employment opportunities and reduce logistical challenges.
5. **Technology and Communication Access:** Ensure access to information and communication technology (ICT) tools and platforms for women workers. This can enhance their connectivity, knowledge-sharing, and access to market information, thereby empowering them in decision-making processes.

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Appendix

Appendix I: mfx

```
Marginal effects after logit
      y  = Pr(beneficiereis_parks) (predict)
         =  .77682067
------------------------------------------------------------------------------
variable |      dy/dx    Std. err.      z    P>|z|  [    95% C.I.   ]      X
---------+--------------------------------------------------------------------
     Age |    .009367      .00347    2.70   0.007   .002565  .016169   46.2857
Marita~s |   .0083084      .04074    0.20   0.838   -.07155  .088167   2.30159
Educat~s |   .0313496      .00994    3.15   0.002   .011871  .050828   5.50794
Health~s*|   .0445342      .09759    0.46   0.648  -.146732    .2358   .885714
credit~s*|  -.1348837      .08276   -1.63   0.103  -.297093  .027326   .250794
financ~g*|   .2454221      .06488    3.78   0.000   .118251  .372593   .571429
d_from~s |  -.0306953      .00965   -3.18   0.001  -.049612 -.011778    3.9946
training*|   .3033925      .05368    5.65   0.000   .198186  .408599   .422222
Assets~e*|   .1869929      .06885    2.72   0.007   .052047  .321938   .669841
------------------------------------------------------------------------------
(*) dy/dx is for discrete change of dummy variable from 0 to 1
```

Appendix II: Correlation of explanatory variable

c□rr beneficiereis_parks Age Marital_status Educati□n_years Health_status credit_access financial_saving d_fr□mparks_mkms training Asset

> s_m□bile

(obs=315)

	benefi~s	Age	Marita~s	Educat~s	Health~s	credit~s	financ~g	d_from~s	training	Assets~e
beneficier~s	1.0000									
Age	0.1211	1.0000								
Marital_st~s	-0.0624	0.1627	1.0000							
Education_~s	0.1850	-0.4657	-0.2440	1.0000						
Health_sta~s	0.0122	-0.0441	-0.0552	0.0257	1.0000					
credit_acc~s	0.0799	0.0582	0.0213	0.0973	-0.0454	1.0000				
financial_~g	0.4430	0.1665	-0.1396	0.1025	-0.0691	0.2495	1.0000			
d_frompark~s	-0.3054	-0.0725	0.0717	0.0590	-0.0071	-0.1680	-0.3361	1.0000		
training	0.4449	0.0343	-0.0010	0.1238	0.0040	0.0540	0.2728	-0.1132	1.0000	
Assets_mob~e	0.4058	0.0852	-0.0148	0.1308	0.0236	0.1414	0.2787	-0.1979	0.3541	1.0000

Appendix III: Description of the estimated propensity score
in region of common support

Estimated propensity score.

	Percentiles	Smallest		
1%	.056666	.0395268		
5%	.1193353	.0443542		
10%	.2109499	.0458995	Obs	311
25%	.4383562	.056666	Sum of wgt.	311
50%	.8281082		Mean	.6909197
		Largest	Std. dev.	.2967164
75%	.9429531	.9910963		
90%	.9756013	.9931608	Variance	.0880406
95%	.9841264	.9954212	Skewness	-.7729342
99%	.9910963	.9954405	Kurtosis	2.156035

****

Step 1: Identification of the optimal number of blocks

Use option detail if you want more detailed output.

****

Distribution of treated and controls across blocks.

Blocks of the pscore for treatment beneficier eis_parks	beneficiereis_parks wood coll formally	Total
1	26	5	31

```
         2 |        26         13 |        39
         3 |        20         15 |        35
         4 |        11         29 |        40
         5 |        13        153 |       166
-----------+----------------------+----------
     Total |        96        215 |       311
```

Test that the mean propensity score is not different for treated and controls.

Questionnaire

ST. MARY UNIVERSITY

SCHOOL OF GRADUATE STUDIES

M.A PROGRAM OF PROJECT MANAGEMENT

Dear Participant,

I am a postgraduate student of Project Management at St. Mary's University. Currently, I am undertaking research entitled **"Assessing the impact of the Entoto park project on the Economic Empowerment of women in the surrounding community"**. You are one of the respondents selected to participate in this study. Please assist me in giving correct and complete information to present a representative finding on the subject. Your participation is entirely voluntary, and your identity is completely anonymous. I confirm that the information that you share with me will be kept confidential and only used for academic purposes. Therefore, I kindly request you to answer the questions freely and openly to share your competence and knowledge with me. I thank you very much for your willingness to spare approximately 20 minutes of your valuable time to participate in this study. Your contribution is greatly appreciated.

Note: Economic empowerment is a process by which women are able to participate in productive activities, earn incomes and decide what to do with their incomes. Women's economic empowerment is a process that increases women's power over economic decisions that influence their lives and priorities.

General Instructions

- No need for writing your name
- Please select the appropriate option by indicating the corresponding number or providing a brief response where applicable.
- If a question does not apply to you or is not relevant to your situation, you may skip that question and move on to the next relevant question.
- Feel free to provide additional details, examples, or suggestions where prompted to do so.

	Section I: Demographic characteristics		
	Questions	Option of answer	
1.	Sex of the household head	1. Male 2. Female	
2.	Age of the Household head	[_____]	
3.	Age of the respondent women		
4.	Marital status	1=Single 2=Married 3=Divorced 4=Widowed 5=Separated	
5.	How many years did you take formal education?	[_____]	
6.	What is your education level?	0=illiterate 1=Read and write 2=Primary school 3=Secondary school 4=Tertiary school 5=degree and above	
7.	How many persons attended formal education in the household?	[_____]	
8.	Household size	Male [_____] Female [_____] total [____]	
9.	Health status of the household (Whether the household has any permanent disability)	1 if healthy, 0 otherwise	
	Section II: Institutional Characteristics		
10.	Did you obtain credit?	Yes ☐ No ☐ →	Go to quo.11
11.	Amount of credit received	[_____]	
12.	For how many years did you receive credit?	[_____]	
13.	If you have not received credit, what are the reasons?	1=Fear of risk 2=Not qualified 3=Reason not known 4=Religion 5=Credit not available 6= Others	
14.	Are you a member of your community's EQUB and Edir?	1=Yes 2=No	
15.	Do you own financial saving?	Yes ☐ → No ☐	Go to 14
16.	Where did you have saved?(Multiple response is possible)	1=In own house 2=In the bank 3=In micro-finance	
17.	Did you obtain Gift/remittance in the last 12 months	Yes ☐ → No ☐	Please go to quo.18
18.	If Yes amount of Gift/remittance in birr	[_____]	
19.	Did you get a pension payment	Yes ☐ → No ☐	Please go to quo.20

20.	If yes amount of pension payment per month in birr	[_____]	
21.	What is the distance from your home to the park	_____in kms	
22.	Are you get training related to financial inclusion?	Yes ☐ No ☐	
23.	.Are you currently employed by the park? (Yes/No)	Yes ☐ → No ☐	Please go to quo.24
24.	If yes, what is your job in the park?		
25.	If yes, what is your monthly income from your park-related employment?		
26.	If no, how do you currently sustain your livelihood?		
27.	. If no, what is your monthly income from your current livelihood activity?		
28.	How long have you been in your current employment/livelihood activity?		
29.	What was your previous livelihood activity before the park was established?		
30.	Do you have mobile	Yes ☐ No ☐	
	Section 3: Women's Empowerment		
	14. ***Decision-making power in the household:***	Assign a score of 1 if the woman makes the decision, 0.5 if the decision is made jointly, and 0 if someone else makes the decision.	
	a. Who makes decisions about household b. Who makes decisions about your children's education and health? c. Who makes decisions about your own health and well-being		
	. ***Financial autonomy:***	Assign a score of 1 if the woman has her own source of income and controls the money she earns, 0.5 if she contributes to household expenses, and 0 if she has no financial autonomy.	