ADDIS ABABA UNIVERSITY

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CENTER FOR RURAL AND LIVELIHOOD DEVELOPMENT

THE CONTRIBUTION OF WOMEN ENTREPRENEURSHIP DEVELOPMENT PROJECT TO WOMEN INCOME AND EMPOWERMENT IN THE VICINITY OF BAHIR DAR, AMHARA REGION, ETHIOPIA

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The Contribution of Women Entrepreneurship Development Project to Women Income and Empowerment in the vicinity of Bahir Dar, Amhara, Ethiopia.

A Research Submitted to College of Development Studies, Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Masters of Art Rural and Livelihood Development

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APPROVAL SHEET

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I hereby certify that I have read and evaluated this research entitled "**The Contribution of Women Entrepreneurship Development Project to Women Income and Empowerment in the vicinity of Bahir Dar, Amhara Region***"* and have been prepared under my guidance by '**Loza kibret**. I recommend that it be submitted as fulfilling the senior Essay/thesis requirement.

Bamlaku Alamirew (Ph.D) _____ May. 18, 2023

Advisor Signature Date

As a member of the Board of Examiners of the Open Defense Examination, I certify that I have read and evaluated the research prepared by "**Loza Kibret**" and examined the candidate. I recommend that the research be accepted as it fulfills the requirements for the award of the M***asters of Art Degree in Rural and Livelihood Development****.*

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STATEMENT OF THE AUTHOR

By my signature below, I state and confirm that this research was done by the plan of my study; I have followed all ethical and technical principles of research in doing it. Any academic matter that is included in the research has been given recognition through citation.

This research is submitted in partial fulfillment of the requirements for MSc degree of Masters of Art in Rural and Livelihood Development at the Addis Ababa University.

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ABBREVIATIONS AND ACRONYMS

ACSI:	Amhara Credit and Saving Institutions
ATT:	Average Treatment effect on Treated
CAWTATR:	Center of Arab Women for Training and Research
CEI:	Cumulative Empowerment Index
ETB:	Ethiopian Birr
GDP:	Gross Domestic Product
IDA:	International Development Association
IFC:	International Finance Corporation
IFTS:	International Forum of Teaching and Studies
ILO:	International Labor Organization
IMF:	International Monetary Fund
MENA:	Middle East and North Africa
MFI:	Microfinance Institutions
NGO:	Non-Governmental Organization
OECD:	Organization for Economic Co-operation and Development
PSM:	Propensity Score Matching
SME:	Small and Medium Enterprises
UNDP:	United Nation Development Program
WEDP:	Women Entrepreneurship Development Project

TABLE OF CONTENTS

List of Contents **Pages**

LIST OF TABLES

Tables **Page**

LIST OF FIGURES

Figure **Page**

LIST OF TABLES IN THE APPENDIX

Tables **Page**

The Contribution of Women Entrepreneurship Development Project to Women Income and Empowerment in the vicinity of Bahir Dar, Amhara, Ethiopia.

By Loza Kibret

ABSTRACT

This study aims to assess the contribution of the Women Entrepreneurship Development Project to women income and empowerment through access to credit lines in Bahir-Dar area in Amhara Region. In this study, both primary and secondary data collection methods were used as a source of data collection methods. In these studies, stratified random sampling techniques were followed to select the entrepreneur women's those are project beneficiary and non-beneficiary living in the study area. The research used descriptive statistics, Logit model and Propensity Score Matching to achieve the objectives of the study. Propensity Score Matching (PSM) technique were employed to single out the contribution of the project from other potential confounding factors. Multiple linear regression model result shows that, among hypothesized explanatory variables, marital status, education and access to finance significantly affect women's economic empowerments. In addition to this the study identified that age of women, women's level of education, Access to finance, business training and access to infrastructures were positively and significantly influencing the participation in women's entrepreneurial development project, while Marital status was negatively and significantly influencing the participation in women's entrepreneurial development project. The estimated average treatment effect (ATT) showed that project participation has significant effect on income of the household with significant t-statistic (1.98) at 5 percent significance level ($p < 0.05$). The research revealed that participation in the women entrepreneurship development project leads to increased income. Women entrepreneurs who have accessed training and finance from the project have registered more income than their non-client counterparts. To make more women entrepreneurs benefit from these interventions, the project needs to scale up its operations to more regions and towns.

Keywords: Women's Entrepreneurship Development Project, Logit Model, Propensity Score Matching, Income

CHAPTER ONE
INTRODUCTION

1.1. Background of the Study

The word empowerment has originated in modern times by American Social Scientist called Julian Rapparot in 1981. Empowerment is the degree of autonomy and self-determination in people and communities. It's indicated that empowerment is the process of providing opportunities for the societies that are marginalized from most of the economic activities and access to opportunities which includes encouraging and developing the skills for self-sufficiency.

While women handle a large part of the world's work, they receive a very small part of the reward of the work, in terms of money which they can control and social position, and as to Harper (1996), women empowerment differs from one country to another and between different income groups within each country. However, women's economic, social and political position is generally worse in poor countries as compared to the rich. According to the World Bank (2001), gender inequalities in developing societies inhibit economic growth and national development.

The concept of empowerment is now widely used in a number of disciplines to characterize states and now a day empowerment concept raised in different disciplines based on the above definition to show up the characteristics of individual and communities. It's broadly defined as power (control over one's own life and over resources and agency (capability to originated and direct actions for given purpose).

On the other hand, the World Bank (2017) defined empowerment as power control over one's own life and over resources as well as capability to originate and direct actions for the given purpose World Bank (2017).

Kabeer (2012) characterizes women empowerment as: "the processes through which women gained the capacity for exercising strategic forms of agency in relation to their own lives as well as in relation to the larger structures of constraint that positioned them as subordinate to men". Besides, it includes access to the opportunities that allow them fully to realize their capacities. Women's empowerment as an economic, political, and socio-cultural process challenges the system of sexual stratification that has resulted in women's subordination and marginalization in

order to improve women's quality of life. In fact, women empowerment creating different opportunity following this opportunity they get access to the overall economic development activity of the country. Therefore, empowerment is the increase in the ability of women to make choices and the expansion of their capabilities to realize their gendered interest, Kabeer, N. (2009).

Financial confidence or access to finance is one of the main factors that could increase women's economic empowerment. This study mainly focuses on the potential entrepreneur women that might have benefited from Women Entrepreneurship Development Project (WEDP) to generate income and empower their economic status in the household. Rural women had less access to loan from micro finance or any financial institutions for that matter due to several factors. In developing countries like Ethiopia, women have been excluded from most of the economic activities of the society for a long time even in the modern generation. This has contributed to the fact that woman are vulnerable to poverty and lack of opportunities to improve standards of living in the household. The contribution of women in the society is vital that it is important to bring women with equal opportunity and access in the society. Women, especially the illiterate and rural women in the developing countries including Ethiopia, tend to be seriously affected by the waves of ignorance and poverty. In some communities in the world, women are regarded as home keepers alone, Malhotra, A, et.al (2002).

To address the above constraints, different development programs have been implemented in the country that encourages women to be a part of the economic activities. Ethiopia Women Entrepreneurship Development Project is one of the programs that designed to provide access to finance and sustainable opportunities, and means of income for a potential female entrepreneur through technical training and access to loan from Micro Finance Institutions (MFIs), Mayoux, L. (2005). Entrepreneurship is the main aspect of women's means of income and economic development. Economic development cannot be achieved without the active participation of women in all aspects of life. Facilitating credit service for potential entrepreneur women could be an option to bring them self-sufficiency and beyond. Increasing women's access to credit services will enable them to make a greater contribution to household incomes, The World Bank. (2019).

Investing in women is one of the most effective means of increasing equality and promoting inclusive and sustainable economic growth, United Nations. (2015). Investment in women specific programmers can achieve significant effects for development since women generally spend more of their income on the health, education and well-being of their families and communities than men do ILO, (2016).

In an attempt to give power (like economic, social and political position) to the individual members of the society, the introduction of microfinance in Ethiopia has been gradual with its initiation attributed to the proclamation in 1996, WABEKON (2006). It also states that prior to the issuing of the proclamation, only a few NGOs and the Development Bank of Ethiopia offered limited and isolated microfinance services on an ad-hoc basis. As per National Bank of Ethiopia annual report of 2021-2022, there are 43 microfinance institutions registered under the National Bank of Ethiopia regulation. They also mobilized about 501million Birr (58 million USD) savings. The clients served by the microfinance institutions in Ethiopia are mainly the rural people. In addition to that about 38 percent of the clients of microfinance service in Ethiopia are female category.

1.2. Women Entrepreneurship Development Project in Ethiopia

The Government of Ethiopia with the partnership of the World Bank, Governments of Canada and the United Kingdom has introduced Women Entrepreneurship Development Project (WEDP) in 2012 with the aim of empowering potential women by providing micro and small enterprise credit facility. In addition to the credit line, to sustain the economic empowerment, WEDP also provided different skill training opportunities for the women clients. The project was established with the USD 50 million the World Bank, International Development Association (IDA) lending operation.

In January 2014, the project provided the first loan disbursement through twelve micro finance institutions in six targeted cities (Adama, Addis Ababa, Bahir-Dar, Dilla, Hawassa, Mekele) in the country. By the end of the fiscal year of 2014, the project provided a credit line to 1,863 women entrepreneur and 3,083 women had participated in entrepreneurship trainings.

By the end of 2017, the project expanding in four additional cities and the number of cities increased to ten, WEDP program adopting new technologies and innovations and consolidating

its interventions. The loan was also disbursed from the revolving fund and MFI's internal funds. Around 36,000 women have registered to be a part of the project by December 2019. Number of clients who are benefited from the WEDP loan reaches to 13,870 and total number of entrepreneur women has participated in entrepreneurial training in all 10 implementing cities are 20,744. The demand for loans and training has increase for women entrepreneurs from across various sectors including trade, services, manufacturing, construction and agriculture; continue to register for the project. WEDP has been widely recognized for its achievements in creating a means of income and empowering women entrepreneurs and for raising their profile throughout Ethiopia's financial system, WEDP (2020).

One of the bottlenecks to access a credit (loan) from financial institutions' is the requirement of sufficient collateral that must be equivalent to the requested loan amount. In addition to collateral there are other critical requirements including tax records, credit history, financial statements and legal status. In doing so, WEDP introduced a new technology that could address the collateral constraint by closing the information gap among MFIs.

The technology called psychometric test was developed by the Lenddo Entrepreneurial Financial Lab (Lenddo EFL). The approach does not rely on traditional financial statements, business plans, high-value physical assets or borrowing histories. As an alternative of collateral, the credit worthiness of the client is calculated based on a psychometric tool that evaluates the entrepreneur's attributes, including impulsiveness, confidence, delayed gratification and conscientiousness.

Amhara Credit and Savings Institution (ACSI) were selected to pilot the psychometric testing, as it has the capacity with over 1 million active borrowers and 440 branches. In 2015, psychometric testing was piloted in Bahir-Dar city in two ACSI's branches with 420 interested clients, the pilot expands in 12 branches with 2,496 clients, WEDP (2020).

Against the abovementioned issues, this study will analyze the contribution of the Women Entrepreneurship Development Project on the access to credit to enhance rural women through the program in Amhara region in terms of household income, increase in social mobility, and decision-making power. WEDP is a 50 million IDA investment lending operation designed to address the key constraints for growth-oriented women entrepreneurs in Ethiopia.

1.3. Statement of the Problem

Rural women provide the majority of the agricultural labor in the communities. However, no one does seem to recognize their efforts and contributions. Access to and control over resources as well as participation in community matters is largely taken over by their husbands or fathers. To tackle these challenges, projects such as WEDP have been implemented in the country. However, the extent to which these interventions have brought about desirable changes in enhancing woman empowerment in rural Ethiopia has remained unnoticed. An effort of financial institutions in extending credit to rural women in Ethiopia is limited and remains a significant problem. Ethiopia's small business owners – and female entrepreneurs in particular – continue to face obstacles that limit their capacity for growth. Ethiopia ranks 159 in the World Bank's 2020 Doing Business rankings, and 168 in the Starting a Business category. Unlocking this unmet need will help unleash the potential of rural women thereby help them becomes powered whose ramifications go beyond to community and country level development.

Ethiopia ratio of private-sector credit to GDP stands at just above 12%, well below the 22% average of Africa's largest 20 economies. The situation is particularly acute for women entrepreneurs and even more critical for aspiring women entrepreneurs in rural Ethiopia. On average, male owned firms in Ethiopia have twice the level of invested capital as female-owned firms; the capitalization of male-owned firms is about 30 percent higher on average (World Bank, 2019). The growth potential of female-owned MSEs is further limited by gender-based constraints in areas such as access to finance, sector choice and business education. In this regard, it is important to look at the contribution of development projects/programs such as women entrepreneurship program on women's income and women empowerment. This could help to design effective policies that would help to improve the economic conditions of women, which again would help to fight poverty and break it cycle.

Studies so far have indicated that entrepreneurship has a potential to improve rural women income and economic conditions. However, there are at least two gaps in the existing literature. There are 1) studies so far have used only one dimension of economic empowerment (mainly saving and income) to estimate the impact of women entrepreneurship on women economic empowerment.

Further significantly, in Bahir Dar area entrepreneurs' women's, where this study will conduct, an in-depth comparative examination studies were inadequate on factors that challenge women entrepreneurs' who were participation in small business and the impact of project on benefited women's. Therefore, this study will motivated to choose the study area due to the better communication with the implementer of the program which makes data collection activities more easier and to reveal the weightiness of the problem and to fill the gaps by analyzing of rural household's whether credit access in the study area has producing positive impact on their income and livelihood or not.

1.4. Research Questions

The following questions were addressed in the research:

1. What major factors influence women's income in the study area?
2. What are the key factors affecting women's entrepreneurial development project participation in the study area?
3. To what extent women are empowered in the study area due to the project?
4. Does Women's entrepreneurship development program improve household income?

1.5. Objective of the Research

1.5.1. General Objective

The main objective of the study aims to assess the contribution of the Women Entrepreneurship Development Project for entrepreneur women income and economic empowerment in study area.

1.6. Significance of the Study

This study might help the rural women, implementing agency, local government, and development participant, in particular, and the importance of entrepreneur woman income to the overall economic development through its impacts. The role of such projects is irreplaceable in addressing the problems of rural women, so the results of this study help to identify and find solutions to the problems that prevent these women from benefiting from the project and to become empowered. Project bodies can also use the opportunities and challenges identified in the study as inputs during project implementation. The results of this study will help the local government to understand the problems of the women in their area and the situation to increase

their benefits. Besides, the findings and insights of this research might help financial institutions, donors that target to create means of income for rural women empowerment as overall rural development programs.

1.7. The Scope of the Study

The study areas were limited to the vicinity of Bahir Dari city in Amhara region. The study will cover the women who got credit access and benefited from the Women Entrepreneurship Development Program and who didn't and the extent of access to finance and impacts. The reason limited the scope of the study is due to the limitation of time and resources.

1.8. Organization of the Paper

The second chapter focuses on review of related conceptual as well as empirical literature pertinent to the objectives of the study. While chapter three exclusively deals with the description of the study area and research methodology. The fourth chapter identifies the major factors affecting the project's participation and the impact of women's entrepreneurial development project on household income. The final chapter expresses summary, conclusion and recommendation originated from the study.

CHAPTER TWO
LITERATURE REVIEW

2.1. The Concept of Entrepreneurship

The British Entrepreneur handbook refers entrepreneurship as the concept of developing and managing a business venture in order to gain profit by taking several risks in the corporate world. Simply put, entrepreneurship is the willingness to start a new business. Entrepreneurship has played a vital role in the economic development of expanding global marketplace, the Great British Entrepreneur's Handbook (2014). The majority of people may think that the term entrepreneurship has one single meaning. However, as mentioned earlier, the term is quite elastic and has a wide range of different meanings. The two most popular kinds of entrepreneurship are entrepreneurship of start-ups and entrepreneurship of small businesses Acs, Z.J (2010).

As indicated in the above paragraph the concept of entrepreneurship is broad to define on the single term. Entrepreneurship is one of the important economy's components for the world. The role and importance of the entrepreneurial sector in the economies cannot be overestimated. Entrepreneurship can act as a platform for social and economic development in the country (Ilia, 2016). The definition of entrepreneurship ranges from individual-level decisions on activities such as self-employment, new firm creation, opportunity perception and identification of new market opportunities. Then, the individual and firm-level 'entrepreneurial orientation', the experimenter and maker of connections, a specialized individual in Judgmental decision making and an innovator Ermal (2018)

ILO (2006) defines as follows, Entrepreneurs are essentially ideas people, who seize an opportunity to generate value or well-being in society by providing for unmet needs with a new product or service, or by carrying an existing activity in a novel or more efficient way. They look for what is changing, what is needed and what is missing and then undertake (entrepreneur) the task of achieving their vision, marshaling resource, demonstrating ingenuity in the face of obstacles and assuming responsibility for any risks along the way. While definitions of entrepreneurship typically focus on the launching and running of businesses, due to the high risks involved in launching a start-up, a significant proportion of start-up businesses have to close due to "lack of funding, bad business decisions, government policies, an economic crisis, lack of market demand, or a combination of all of these Ermal, (2018).

Entrepreneurs have a role on the country economic development in terms of capital formation, improvement in per capita income, employment opportunity, and economic independence and so on. In this case the entrepreneur contributes to the development by putting their capital, labor and technology.

2.2. Women Entrepreneurship

According to OECD, women entrepreneurs may be defined as the women or a group of women who initiate, organize and operate a business enterprise. Women are expected to innovate, imitate or adopt an economic activity to be called women entrepreneurs OECD (2004).

The emergence of entrepreneurs in a society depends to a great extent on the economic, social, religious, cultural and psychological factors prevailing in the society. Women are now more cognizant about their existence, roles and rights, De Bruin, A, et.al (2009). International Journal of Gender and Entrepreneurship, 1(1), 8-24. Women entrepreneurs are those who explore new paths of economic involvement and contribution. Women entrepreneurs have been making a significant impact in all segments of the economy. Coleman, S. (2009).

Many studies indicate that men start businesses primarily for growth opportunities and profit potential, women most often found businesses in order to meet personal goals, such as gaining feelings of achievement and accomplishment, Gatewood, E. J. (2005).

Women are one of the most relevant untapped resources for entrepreneurship. Very little is known about the economic relevance of women's entrepreneurship, about the policy instruments that are effective in raising entrepreneurship rates among women, and about the economy-wide effects of higher participation of women in entrepreneurial activity, Marlow, S., & McAdam, M. (2013).

2.3. Women Empowerment

According to Matthew Borode, (2011) the term "women empowerment" is a crucial topic, it appears throughout the literature. In defining the term empowerment, Karl (1995) explains what the power implies as: having control or gaining further control; having a say and being listened to; being able to define and create from a woman's perspective; being able to influence social

choices and decisions affecting the whole society and being recognized and respected as equal citizens and human beings with a contribution to make.

He also briefly explained Women's empowerment as the process of improving the human capital among women for effective participation in sustainable development activities. This will help the women to become decision makers of development and play a big role in the household.

Given that women were almost more than half of the world's population, their capacity building is crucial for holistic development. Women's empowerment could also be said to compromise building their capacity or making the best of the lives of women for governance and socioeconomic advancement. It is necessary to provide an opportunity of access to functional literacy, information, credit facility; natural resources, productive skills and capital facilities to create women empowerment, Matthew (2016).

According to Wieringa (1994) and Kulkarni (2011) and Kabeer (2009), women feels more empowered firstly, when they have access to resources, such as education, increased income, and improved health and secondly, when a favorable change occurs in the social context in terms of giving women more social freedom, decision making power and consequently a high self-esteem.

In assessing empowerment, according to Kabeer (2009) it is required to consider changes in three interrelated dimensions which comprise of choice: resources, agency and achievements. Empowerment according to Kabeer has to be understood from these three analytical stances. Resources should be interpreted as material (land, equipment, and working capital), human (knowledge, skills, creativity, etc.) and social (claims, obligations and expectations through relationships) variables. These resources are distributed through institutional constellations as family norms, patron-client relationships, public sector welfare etc. and it is therefore important to acknowledge the terms on which people gain access to resources when considering if empowerment is taking place. The self-help groups offer credit to members, which according to the definition of resources could be seen as either is having access to material or to social resources. However, mere access does not tell us on what terms the resources are gained. A case in which a woman is applying for capital on the wishes of her husband and not from her own "free will" could not be seen as empowering, because empowerment entails a change in the conditions on which resources are obtained as much as an increase in access to resources. In this

case the woman is possibly further constrained by not having the responsibility for the loan she officially has signed up for.

2.4. Linkage between Access to Finance, Entrepreneurship and Women Empowerment

Women empowerments frequently define as women gaining more power and control over their life. For instance, Narayan (2002) defines empowerment, gaining power and control over decisions and resources that determine the quality of one's life. These kinds of definition always remind that women are disadvantaged compared to men, which is apparent in different economic, socio-cultural and political spheres. According to United Nations Population Fund, an empowered women has a sense of self-worth, she can determine her own choice and has access to opportunities and resources providing her with a range of options she can pursue. She has control over her own life, both within and outside the home and she has the ability to influence the direction of social change to create a more just social and economic order, both nationally and internationally. Many world country experiences showed this women role within the community as well as within system could be institutionalized through legislative and economic system. Women need to empower in order to narrow the gender gap and to create an equal playing field between women and men before gender equality can be reached and maintained.

Ensuring women economic empowerment related directly with achieving sustainable development, as definition of sustainable development articulated "development which meets the need of the present without compromising the ability of future generation to meet their own needs" so that this need encompassed need of both women and men. Intergenerational equity cannot be achieved without addressing the gender relations which underline prevailing inequity. Nor can inter-generational equity be obtained or responsibility to pass on a more equitable world to future generations is met if inequalities continue to be perpetuated.

Economic development is the major pillars of sustainable development with the rest of social and environmental development, so that it is important not to conceptualize women's empowerment and gender equality as a question of social development alone, but as a cross-cutting issue in economic and socio-cultural development.

Empowerment of women would acquire them opportunities and choice in several ways across social, legal and economic domains. However, because of the traditional role of women as

family caretakers and providers of household work, but to ensure wellbeing of the family giving attention on expanding women's economic opportunities in terms of both labor market access and productivity, UN (2010).

Within recent time entrepreneurship has been recognized especially women's entrepreneurship get attention as untouched source of economic growth. Women entrepreneurs would bring several advantages from the beginning they create new job for themselves and others in addition to this they would entrepreneur women serve society in many ways and always have a solution with different ways out to address business challenges. However, they still represent a minority of all entrepreneurs, previously entrepreneur women were excluded and didn't consider in the whole society. Despite the growing interest and despite the fact that the number of women entrepreneurs has accelerated radically in recent years, Weiler & Bernasek (2001) the gender gap in entrepreneurs is still very big. This is clearly evident in the global entrepreneurship monitor (GEM) reports on women and entrepreneurship, Allen, Elam, Langowitz & Dean, (2007) that examined the rates of entrepreneurship in over 40 countries and showed that in all these countries the rates of women's entrepreneurship were lower than men.

Gender equality and empowerment of women has numerous advantages, Pendse N.G, Reeta Thakur (2007) identifies it is a key element to achieve progress and effect of women work participation on economy. Chansoriya (2011) reviewed socio-cultural context of women entrepreneurship with discussion and comparisons of women entrepreneurs from fifties to the 21st century indicating that each culture evolves a social design with social structure where society defines role for women in occupational and work setting. Not only women but also any entrepreneur needs external support as at time they are not aware of their own strengths and resources available, but due to different factors this support should more the women's, Snyder, Margaret (2003) describes women entrepreneurship in Uganda most women business owners were either housewives or fresh graduates with no previous experience of running business.

Microfinance, as one of the emerging interventions, is aimed at ending world poverty, Brau & Woller (2004). Microfinance, ensuring access to the very basic small financial services to the poor and deprived sections that have no access to such services for lack of collateral to offer, is believed to be an effective initiative to address the issues of 'feminization of poverty, Chant (2014). Microfinance is basically an alternative source of finance meant for the poor, especially

women, who otherwise rely on informal sources of finance, Khandker (2000).

More appropriately, microfinance is a wide range of financial services such as credit, savings, insurance, transfer services, and other financial products of very small denomination targeted at low-income people. In specific terminology, it includes a composition of micro-credit, micro-savings, micro-insurance, as well the services of remittance of funds, Khandelwal (2007).

Women's are largely credit constrained owing to the male dominated and male-controlled type of societies, Madichie & Nkamnehe (2010), and microfinance is one of the effective solutions to mitigate the miseries of such sections of women, Khandker (2000). Women are more likely to form groups and inclined to access social capital that often proves advantageous for microfinance providers in terms of reduction in per client delivery charges and transaction costs. It has been found that groups in the form of SHGs have been largely and dominantly formed by women, Batra & Sumanjeet (2012). In fact, empirical evidence reports that 97% of SHGs created mainly comprise female members, Shree & Jayakumar (2015). An exclusive focus on women in microfinance is also supported by the fact that for women, particularly the members of SHGs, it has been found that economic factors have a twofold impact on their empowerment. The entrepreneurs who use microfinance were found akin to those entrepreneurs who do not rely on microfinance, and it was found that most of the microfinance clients rely on informal sources of finance for further improvement of their businesses, Samson et al. (2013). Access to credit was found constructive for the productivity of business ventures run by women microfinance beneficiaries in Ghana, who were mobilized in accordance with social intermediation services that focus on groups, Nukpezah & Blankson (2017). In the country of Vietnam, micro-credit has been an effective intervention, especially to women in rural areas who are involved in necessity-driven entrepreneurship, which was found to be the only option left for their survival and to supplement the family income. Further, women more often start various micro-entrepreneurial businesses, such as producing home-based herbal products, fish and poultry, confectionery, and so on, in which they generally employ between zero and five employees, Nguyen et al.. (2014).

Another study found that the integrated package of microfinance was the most effective in fostering women micro-credit recipients to sustain their micro-enterprises. As such, women are

slightly more in number in investing micro-loans in family businesses rather than establishing their own micro-enterprises, Raven & Le (2015). Ironically, analysis of 45 countries revealed a negative effect of microfinance on necessity-driven entrepreneurship and the results are unclear about opportunity-based entrepreneurship, Lahimer et al., (2013). In the African context, microfinance services certainly assist women clients in starting new ventures and expand existing enterprises, Rena (2008).

Hunt and Kasynathan (2002) describe that access to finance for women have positive impact on economic growth by improving women income generating activities. While the empowering potential of microfinance programs remains strong, the evidence of challenges, ineffectiveness and limitations of the potential is equally compelling. Although finance has the ability to empower women, the connection is not straightforward or easy to make. Just handing money to women and giving them access to financial assets and resources creates a new set of challenges for women, if they are not equipped with the necessary entrepreneurship skills.

Tehra (2014), noted that access to finance resulted in women empowerment, income generating activities and poverty alleviation. An important factor for developing status of women is economic independence of women, microfinance is not only important for providing the loan but also helpful in skill development and education of women which is entrepreneurship capabilities.

In Yemen, it was found that a majority of the women clients of microfinance were at the start-up stage of entrepreneurship, who had established micro-entrepreneurial activities mostly in retail businesses and services, followed by manufacturing, wholesaling, and home-based enterprises. Women have been confronted with many barriers such as difficulty in obtaining loans and lack of training while attempting to start a new business. In addition, insufficient loans and high interest rates have been the major obstacles stopping women from further growing their enterprises, Ahmad (2012). Ironically, an USA-based (United States of America) study found that all types of entrepreneurs, irrespective of their gender, rely on small loans during the initial years of the business; thus, it gives an indication that microloans, or in other words, micro-credit is very useful for first-generation small/micro entrepreneurs, irrespective of the region, Kariv & Coleman (2015).

Evidence from Guatemala reports a very important finding: women's engagement in small enterprises for a longer period of time ultimately and definitely lead to employment generation. It was suggested, therefore, that though small enterprises are being created by concerned women mostly during childbearing years, with gradual improvement in employment generation, lending schemes still need to favors women who usually contribute to the household welfare as well as the children's wellbeing, Kevane & Wydick (2001). In other developing contexts such as Pakistan, microfinance has been significantly promoting entrepreneurship among women as a majority of them utilized microfinance loans for business purposes, either by establishing a new business activity or investing these loans in already established businesses. However, lack of training was found even among those microfinance clients, who were in the intervention for more than three years, Mahmood (2011).

Women's empowerment through entrepreneurship in the context of access to finance brings to light the significance of gender relations in rural development circles more prominently than ever before. Role of women in the development of today's growing world can never be forgotten. The research evaluated the contribution of WEDP on access to finance and the means of income on indicators of women entrepreneurship in Amhara region.

2.5. Empirical Review

Many evaluations have shown that microfinance services have a positive impact on women entrepreneurship and thereby empowerment and some of these works are reviews as follows, Kabeer (2001) used the index/indicator approach to examine the impact of microfinance accessibility on women empowerment in Tanzania and established that women's accessibility to microfinance services had significant effects on eight different dimensions of women's empowerment of which the paramount was economic empowerment. The study also revealed that women's accessibility to microfinance was significant determinant of the magnitude of economic contributions reported by women; of the likelihood of an increase in asset holdings in their own names; of an increase in their exercise of purchasing power.

Women-led social enterprises are an increasingly strong presence in Indonesia's entrepreneurial ecosystem and financial institutions are beginning to realize the potential of investing in women. However, are specific barriers and challenges that limit the growth potential of women-led social enterprises such as a lack of information on certain sectors such as agriculture, fisheries

and forestry and in the “missing middle”.

A 2016 survey by the International Finance Corporation (IFC) verifies this pattern in that most women entrepreneurs finance their businesses through profits, personal savings, or borrowing from friends or family members. In order to meet demand for financing with financial products designed for them, women’s needs and preferences must be understood and actively addressed. This means gendered tailoring from design to marketing to delivery and beyond. By and large, Indonesia’s women entrepreneurs are discouraged from approaching commercial banks. Depending on the sector and the institution, there are often particular requirements that women are often unable to meet. For example, in the fisheries sector, if women lack collateral, a formal fisheries identification card, or must include a man’s name on their loan application, they may decide that formal financing is not for them. The resulting mistrust or perceived irrelevance of financial institutions makes the case that it is just as important for financiers to convince women as it is for women to convince financiers: in order to increase utilization of financial products by women entrepreneurs, they must be “won over”, UNDP (2016).

A thorough understanding of women entrepreneurs’ needs and goals and thoughtful design to create financial products that are appealing and appropriate is required. Just as important is gender sensitivity in the delivery of these products. Women’s constraints and reservations must be taken into account, especially given their tendency to take the relationship with their creditors very seriously: a negative “customer service” experience would damage the viability of the financial service. Given the time and effort that women put into their relationship with their financial service providers coupled with the widely cited time constraint due to household responsibilities, it is important to convince them that it is worth their while. The problems women face in access to finance must be understood in the context of problems in access to finance for the developing world as a whole, UNDP (2016).

About 60 percent of the developing world’s population is not served by formal lenders, according to one study.21 MENA lags other regions in economic and financial inclusion, has the second least developed capital markets of all regions, and has relatively limited external financing options.22 National credit information systems are still developing, and rarely include non-bank microfinance providers. Lenders rely on collateral that is expensive to register and

may not be readily enforceable. On average, only 18 percent of adults have an account with a formal financial institution compared to a global average of 50 percent. Only 5 percent of adults in the Arab World have received a loan in the last year, IMF (2019).

International Finance Corporation (IFC) report showed, women typically run small and informal firms in lower value-added sectors, which offer smaller returns to creditors, thus impeding their access to finance.25 though microcredit can be useful in expanding financing options for the poor, especially women; it is not enough to meet the needs of SMEs, IFC (2011). Women entrepreneurs expanding their businesses have financing needs that exceed micro-credit ceilings. One of the chief complaints of women entrepreneurs in the MENA region has been the inability to secure the formal financing necessary to grow their businesses. In a 2007 report by IFC and the Center of Arab Women for Training and Research (CAWTAR) surveying over 1200 women entrepreneurs in five Arab countries (Bahrain, Jordan, Lebanon, Tunisia, and UAE), an overwhelming majority of women planning to grow their businesses were unsuccessful in obtaining finance from formal institutions, IFC (2011).

The studies conduct within Ethiopia shows that microfinance impacts entrepreneurship to a certain extent, and as such, concerning the growth of micro-enterprises, the absence of the financial literacy program has been found to be one of the major obstacles, Gobezie (2008). The usefulness of training programs would be clear from another study in the same context, where women attributed huge importance to entrepreneurial training programs to help with the business they managed, whether the loans for used for starting a new enterprise or for investing in an earlier.

The role of women in entrepreneurship in economic development is settled matter. This is shown, among others, by their participation in formal and informal sector business the world over. World Bank group studies showed different constraints affect business of women mainly include access to financing, information, productive resources and markets; levels of skills and knowledge, relevance of education and experience, World Bank (2018).

The enterprise survey data by, World Bank (2007) confirms that women entrepreneurs are a minority compared with their male counterparts. However, there is large variation across countries including only manufacturing enterprises with at least 10 employees, women own

fewer than 10 percent of firms in Kenya, Morocco, Nigeria, Senegal and Tanzania but up to 40 percent or more on Botswana, Cameron, Cape Verde and Mozambique. These percentages are very similar if one looks at a sub sample of enterprises decreases in Cameron and Egypt and particularly in Mozambique and Cape Verde but remains very similar in all the other countries. If it is reasonable to assume that a majority stakeholder also runs the business, these percentages can be interpreted as approximately reflecting the share of female owners who manage their own enterprise.

There exist palpable evidence and implications of entrepreneurial financing on national output influence in Nigeria, although there exists a selective influence as only the financial institutions have displayed significance to the current output promotion trend in the nation's output showing that the Microfinance credits and Deposit Money Bank loans have actually achieved their expected aim at stimulating output, therefore it can be concluded that the nation has progressed on one hand and digressed on the other towards entrepreneurial financing in the nation, but there is still an existence of ambiguity in access of entrepreneurs to credit facilities, Fionu, Ebele P. and Akinpelumi, Omotayo F (2017).

2.6. Conceptual Framework

According to the research literature review mentioned above, a variety of factors influence women's income and economic empowerment; these factors also indirectly influence women's involvement in projects to foster entrepreneurship. The framework demonstrated the connection between several factors and the effects of the initiative on women's economic empowerment. The central thesis of all academics concentrated on the beneficial effects of financial institutions (microfinance institutions) and had a strong connection to women's economic empowerment.

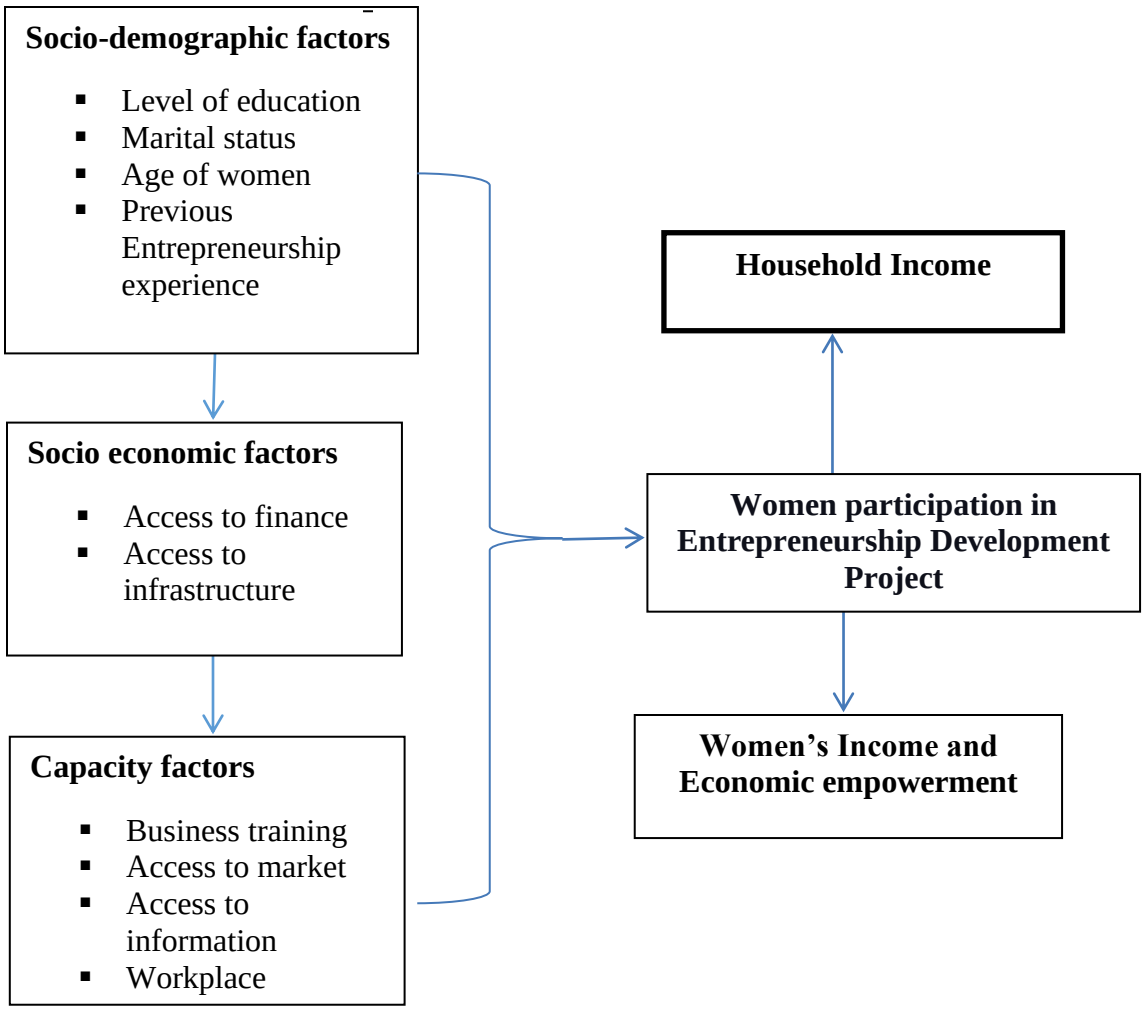

Figure 2.1:Conceptual framework of the study

Sources: Own Construction from Literature

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter explains the methodologies that were used for the analytical work. These are including design, strategy, methods, approaches, sampling methods, data collection methods, types of data collection methods, types of data analysis methods, and the software based on the problem and objective of the study.

3.1. Research Design

Program that guides the researcher in every stage of the studies (data collecting, analyzing and interpreting) is research design. Mtonga (2014) cited Carriger, (2000) define research design as the strategy, the plan, and structure of conducting a research project. Based on the objective and problem of the study, this research employed descriptive and analytical cross sectional study design. This help to analyze the collected data across a sample population. Sampled households were randomly selected from the perspective total number of project beneficiaries in the intended area. The quantitative research design presented the findings of the research in terms of numbering and statistical conclusion.

3.2. Types and Sources of Data

The studies used both primary and secondary data sources. Primary data was collected directly from the respondents who were selected from beneficiaries and non-beneficiaries of the project in each selected area. Quantitative data was done by administering structured questionnaires and for the secondary data collection source, the study used publications that related to the project journal articles and websites.

3.3. Sampling Size Determination

In these studies, two stage sampling procedure was followed to select the respondent women. In the first stage, three project areas within Bahirdar Zuria were selected randomly from total 17 number of beneficiary's kebele of the study area. By this random sampling project Kebeles had equal chance. After randomly selected the study had project beneficiaries' women entrepreneurial and non-project women entrepreneurial who are living selected Kebele. So, in the second stage, the research used stratified sampling techniques. There for in the three randomly selected Kebeles, women were stratified into two strata (project beneficiaries' women. Entrepreneurial and non-project beneficiary's women entrepreneurial). To end with, the

researcher selected respondent those are beneficiaries or non-beneficiaries women sampling random technique from each stratum.

As described above, the entrepreneurial women were divided into two groups. The first group was supported by the project and engaged in work, and the second group was the women who started working with their own initial capital and they are on the way of getting support from the project by taking required training in the study area. Sample size was determined by using the simple formula developed by Yemane (1967). At precision level of 95 % with the margin error of 7% (in the social science survey researchers use an acceptable 'margin of error' falls between 4% and 8%. Following this, to identify respective samples for each stratum in the area, sample proportion to the population were employed.

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

Where n=the required sample size

N=population size

e= is the level of precision

According to the calculation mentioned above, 100 of the 300 female entrepreneurs working in the project area and legally issued a business license were taken for the sample study. In the same way, 150 of the 1400 female entrepreneurs who are currently actively working under the project were taken as a sample for the study.

Treatment group sample - n =1400/1+1400*$(0.08)^2$ =140 (accounting for 7% contingency, the final sample became 150) r

Control group sample - n =300/1+300*$(0.08)^2$=103

	Population	Final sample size
Treatment	1400	150
Control	300	100
Total		250

3.4. Data Collection Procedure

In order to meet the objectives of this particular study, two different sources of data were employed. These are: entrepreneurial women both project beneficiaries and non-project beneficiaries who are on the waiting list to get the project credit access, and secondary data. First of all, survey techniques were employed for the purpose of data collection. Questionnaire guides were used tools of data collection. A questionnaire holding close ended questions was designed to collect quantitative data. Quantitative data collection instrument was developed in relation to the research objectives of this particular study. Hence, close ended questionnaires in the form of yes/no, agree/disagree, multiple choice and a scale were used for quantitative data analysis.

Semi structured questionnaire: Provided that some open-ended questions are placed in the questionnaire, it is intended to be filled by the data collectors. After the researcher adjusted the potential respondents in terms of their stratum (project benefited), the Amharic version questionnaires were distributed to them and assistance was given to the study respondents based on their request.

The structured questionnaire had two main parts, the first one focused on the household demographic characteristics and financial condition. The second section focused on five major measurement of cumulative empowerment index, which are the contribution to the household income, ownership and access of the household asset, household decision making, perception on gender awareness and coping capacity to household shock.

Document review: Various relevant documents from the administration and other pertinent empirical information related to the issue under consideration were also being reviewed as one source of data.

3.5. Methods of Data Analysis and Interpretation

In this stage, the collected data throughout the whole study would be analyzed and presented in quantitative methods and it would be described and interpreted to pull together the conclusion and recommendation of the study. The findings of the questionnaires were presented in the descriptive statistics method to understand the relationship between variables and summarize the data. Multiple regression models to explain relationship between the factors and women

economic empowerment. Propensity Score Matching (PSM) technique were employed to single out the contribution of the project from other potential confounding factors.

3.5.1. Econometric Model

The multiple regression method was used to measure determinants women's income and economic empowerment in the study area. In simple linear regression we study the relationship between a dependent variable and a single independent variable. But it is rarely the case that economic relationships involve just two variables. Rather a dependent variable (Y) can depend on a whole series of explanatory variables or regressors. Multiple linear regression models for the relationship between women economic empowerment and independent variable is shown as:

$$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_{11} X_{11} + U_i \_\_\_\_\_ (1)$$

Equation (1) is a multiple linear regression model with explanatory variables.

Where X_i are explanatory variables,

Y_i is the dependent variable,

$\beta_j (j = 0,1,2,....(k+1))$ are unknown parameters and

u_i is the disturbance term.

The disturbance term is of similar nature to that in simple regression, reflecting:

- The basic random nature of human responses
- Errors of aggregation
- Errors of measurement
- Errors in specification of the mathematical form of the model and any other (minor) factors, other than x_i that might influence Y.

Assumptions of Multiple Regression Model

In order to specify our multiple linear regression models and proceed with our analysis with regard to this model, some assumptions are compulsory. But these assumptions are the same as in the single explanatory variable model developed earlier except the assumption of no perfect multi-collinearity. These assumptions are:

1. Randomness of the error term: The variable u is a real random variable.

2. Zero mean of the error term: $E(u_i) = 0$

3. Homo-scedasticity: The variance of each u_i is the same for all the x_i values.

   i.e. $E(u_i^2) = \sigma_u^2$ (constant)

4. Normality of u: The values of each u_i are normally distributed.

   i.e. $U_i \sim N(0, \sigma^2)$

5. No auto or serial correlation: The values of u_i (corresponding to Xi) are independent from the values of any other u_i (corresponding to X_j) for i≠ j.

   i.e., $E(u_i u_j) = 0$ for $x_i \neq j$

6. Independence of u_i and X_i: Every disturbance term u_i is independent of the explanatory variables. i.e. $E(u_i X_{1i}) = E(u_i X_{2i}) = 0$

   This condition is automatically fulfilled if we assume that the values of the X's are a set of fixed numbers in all (hypothetical) samples.

7. No perfect multicollinearity: the explanatory variables are not perfectly linearly correlated.

In addition to the regression model, to evaluate program outcome propensity score matching technique usually applied with the aim of compare outcome between with and without treatment. Propensity score match technique useful to reduce bias in estimation of treatment effects with observational data in the seminal work by Rosenbaum and Rubin (1983) and has become a popular method to measure the impact of the program intervention, Becker and Ichino (2002).

The entrepreneur women were then divided into two groups, those who are benefited from project and those who don't get benefit, and was ranked according to their propensity score. After that the women's were matched with comparable women's from the other group. The difference between the entrepreneurial women targeted for the purpose of the study is that they are supported and not supported by the project, but most of them are engaged in the same fields of business, are close to each other in terms of capital and are in the same situation in their living standards. In this way households in the treatment group matched and were compared with households from the control group who have similar characteristics in every aspect except that

they do not get benefit from the project. In equation form, our goal is to estimate the causal treatment effect following, Andersson (2012).

$$ti = Yi1 - Yi0 \qquad (1)$$

Where

Yi1 and Yi0 is the outcome treatment and without treatment group respectively for household i.

Consider D= {0, 1} to be a binary indicator where 1 equals being assigned into treatment and 0 means not being assigned treatment. The Average Treatment Effects (ATE) was estimated through:

$$ATE = \left[\frac{Yi}{di} = 1\right] - E[Yi|di = 0] \qquad (2)$$

ATE is hence the average difference between the treated entrepreneurial women (in our context treated women are women who are get benefit from the project) and the non-treated entrepreneurial women.

A preferred parameter to use instead of ATE is the Average Treatment Effect on the Treated (ATT), defined by:

$$ATT = [Y1|D = 1] - E[Y0|D = 1] \qquad (3)$$

Where $[Y1|D = 1]$ is never observed. Replacing $[Y^0|D=1]$ by the expected value of $[Y^0|D=0]$, which is observable in ATE, would not give an accurate estimate as long as Y^0 for the treated and comparison group systematically differs. The true parameter was only identified if:

$$[Y0|D = 1] - E\,[Y0|D = 0] = 0 \qquad (4)$$

As discussed above, this is not very likely to hold in non-experimental studies. Instead, we rely on a matching approach to derive a counterfactual that enables us to match treated women's with non-treated women's with as similar characteristics as possible in order to reduce the bias from self-selection. The matching was made based on an index, the propensity score, summarizing the pre-treatment characteristics of each women. The propensity score is the probability of assignment into treatment, (X), conditional on a set of pre-treatment characteristics, X, so that

$$(X) = Pr[D = 1|X] = E[D|X] \qquad (5)$$

The propensity score was estimated using any discrete choice model using observable characteristics to reduce the bias that is attributable to unobservable factors. The extent to which the bias reduces depends on the quality of the conditioning variables, Becker and Ichino (2002). In addition previous studies have shown that matching methods provide reliable estimates of impact provided that (1) the same data source is used for participants and non-participants (in

this context women's that benefit from the project and that do not benefit); (2) treated and controls have access to the same markets; and (3) the data include meaningful variables capable of identifying program participation and outcomes, Heckman et al., (1997).

3.6. Descriptions of Variables

The factors that influence the income and empowerment of female entrepreneurs have been discovered. The variable that is hypothesized to affect women's income is described in this section.

3.6.1. Dependent Variables

To identify the determinants of project participation, the dependent variable is dichotomous and it takes '1' if the household is Women Entrepreneurship Development Project beneficiary and '0', otherwise.

To identify the determinants of women income and empowerment, a cumulative empowerment index (CEI) was constructed. The index is constructed based on six key indicators of women economic empowerment and other several attributes based on works of Parveen and Leonhauser (2004).

These are the following:

i. *Contribution to household income*: this refers to women's contribution in percent involvement in selected subsistence productive activities rewarded in cash or kind for the household income.
ii. *Access to resources*: this refers to the right, scope, power and permission to use and/ or get benefits from selected resources. These are divided in to two 1) household resources- equal consumption of nutritious food, handling and spending money, selling of agricultural products and utilization of credit money of they receive; and 2) social resources: education/ training and credit. Access to resources indicator is computed using 6 measurements.
iii. *Ownership of assets*: This refers to the ability of women to control her own current assets (both productive and non-productive) and enjoy benefits accruing from them.
iv. *Participation in household decision-making*: it includes five dimensions of women participation in formulating and executing decisions regarding financial, education, reproductive health and family business.

v. *Perception on gender awareness*: this refers to women's ability to express their opinion against gender inequality and women discrimination in the society. Twelve relevant attributes of gender issues are differentiated- under-value, education, economic opportunity, inheritance property rights, early marriage, divorce rights, son preference, attitude towards female child, feeding priority, wage differentiation, political awareness and violence against women, UNDP (2018). Accordingly, statements were forwarded to women and four-point scales were used. The responses were expressed in terms of 'strongly agree', 'agree', 'disagree', 'strongly disagree' with a score of values 4,3,2,1 respectively for positive statements and the reverse for negative statements.

vi. *Coping capacity to household shocks*. This deals with women's ability to withstand sudden risks, crisis and periodic stress (both natural and idiosyncratic shocks) in the household. In this regard, seven major risk aspects were analyzed; natural calamities, financial constraints, indebtedness, input/ food unavailability, chronic illnesses, conflict, unexpected death of husband and children.

3.6.2. Independent Variables

Women age: age is given in years. Age is considered to be important since a woman may increase her performance (e.g. knowledge of business) as she gets older. Peter and Munyithya (2015) assert that skills of a person improve with age. According to Soomro et al. (2019), so that these studies hypothesize there are positive and significant linkages between age and business performance of entrepreneurs in the MSE sector of developing countries.

Women education level: this is measured the level of schooling from church education to college education. That is the category schooling level attained by the sampled women's up to the time of the studies. Previous studies indicated that the possibility to use new financial approach increased along with the education level. Therefore, firm owned and managed by entrepreneurs with higher educational experience increases in success than counterparts, Mozummdar, et, al, (2020).

Marital status: In Ethiopia its common that married women and women headed household has double responsibility within household mainly within domestic task like feeding and clothing children and preparing meal for whole members of households. So having these responsibilities

affects her performance of business. Different studies reported that there is a negative relationship between being married and business performance. Research has been done by Jaiwasal & Patel (2012) has discovered a correlation between marital status and entrepreneurial behavior. They have explained that single people have more tendencies to show their entrepreneurial behavior than the married one. Single people are more enthusiastic and motivated for the entrepreneurship, but married persons are very cautious and controlled for the entrepreneurship.

Access to Finance: Access to finance is an important source of investment. Therefore, it is hypothesized that access to finance/credit determines women to participate in different income generating activities and income positively. Women entrepreneurs perform better in their business when they have financial accessibility, George (2018).

Previous entrepreneurial experience: having previous experience has positive impact on the participation, John-Akamelu (2019) argued that previous experience equips owner and/or managers with knowledge and skills required to identify and exploit opportunities, assess market trends and intuitively make decisions pertaining to customer needs as well as competitors moves.

Access to Infrastructure: physical infrastructure includes electricity, roads, water, telephone and postal service which all are necessary for the evolution of business. Good infrastructure enhances positive impacts to the women's entrepreneurship development project participation while poor infrastructure attributes a negative impact on the women's entrepreneurship development project participation, Danga, et, al, (2019).

Access of market: it is important to know the distance between the sample women's their production selling place. This shows access to the market to buy input and to sell output. Firms can have forward linkage with customers or other sellers and backward linkage with their raw material supplier to get the needed materials to produce goods or services, Meressa (2020). Therefore, expected that women can access to market and empowerment of business have positive relationship.

Access to information: Now day information is essential in every aspect of business as well as any life activities. Enterprises that have access to information grow faster than their counterparts

because using information can improve and strengthen customer relationships, enhance firm image, enhance market linkage, and enable them to compete with other firms, Giday (2017).

Workplace: workplace in which entrepreneur women are to display and sell their products is very essential for successfulness of their business, Merissa (2020), conclude that business operating in premises allocated by government agencies had better chance of success compared to those set up in privately rented premises.

Business training: lack of training could have an effect in women entrepreneurs to explore the personal entrepreneurial competence that might help them improve their business success, Gizaw, et, al, (2019). Therefore, women entrepreneurs perform better in their business and they become more empowered when they access business training, Mandaw (2016)

3.6.3. Outcome Variable

Annual income is the amount of income (ETB) that the sampled household has earned in the last 12 months prior to the date of interview. All independent variable described above and others final outcome is achieved increasing income of women's as well as boosting asset owned by women's.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1. Descriptive Method

This section presents descriptive statistics of Dependent and independent variables, mean comparison of continuous independent variables among project beneficiary and non-beneficiary groups, the existence of significant differences between project beneficiary and non-beneficiary groups regarding discrete independent variables by economic model (Propensity score matching).

4.2. Women's Empowerment

In the study, descriptive statistics were used to express the respondents' empowerment status. To measure the overall empowerment status of the total respondents, analyzed the result against five major measurements of Cumulative Empowerment Index variables, which are the participation of the women contribution to the household income per month, ownership and access of household asset, household decision making, perception on gender awareness and coping capacity to household shock. Based on the above measurement, out of the whole respondent 51.6% was empowered and 48.4% not empowered.

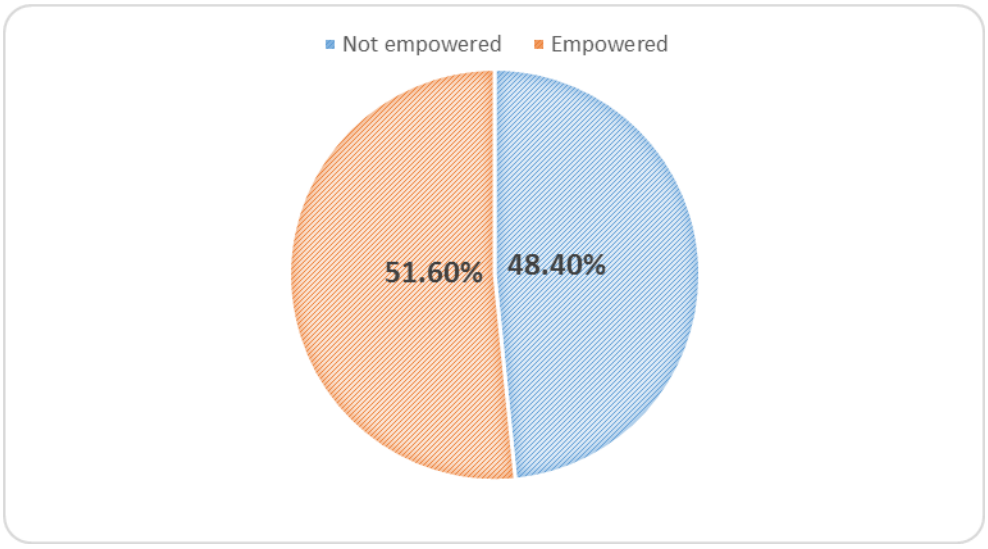

Figure 4.1: Overall Empowerment Status

Source: Own computation result (2022)

The figure 4.2 shows that, from the total respondent 34.4 percent does not influence the person who makes the decisions if decisions are not normally solely or jointly made by the respondent herself, 34 percent of the whole respondent influence the person who makes decision to some extent, if decisions are not normally solely or jointly made by the respondent herself and 31.6 percent of the whole respondent influence the person who makes decision to a great extent if decisions are not normally solely or jointly made by the respondent herself.

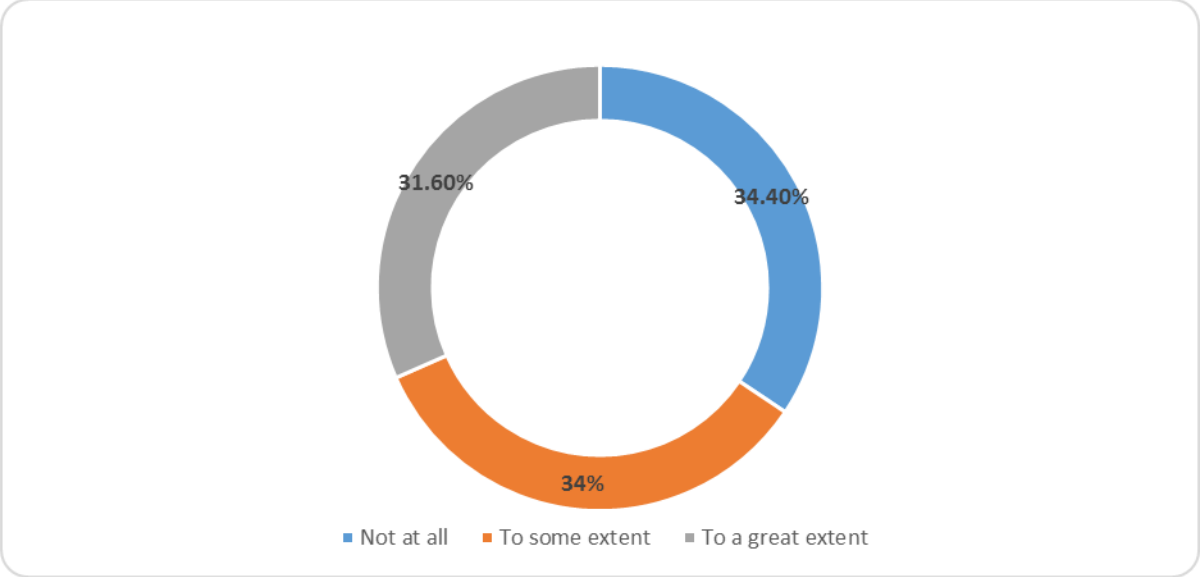

Figure 4.2: Level of Decision Making

Source: Own computation result (2022)

According to the data in Figure 4.3, 41% of non-participants claimed their membership status affected their decision-making more than others (34% said it did not at all). The same table shows that, for non-participants, 40% reported that membership status influence decision making status to some extent. This is followed by those who said not at all (34.7%). From the non-member respondent 34 percent does not influence the person who makes the decisions and from the member respondent 34.7 percent does not influence the person who makes the decisions if decisions are not normally solely or jointly made by the respondent herself.

Level of Decision-making based on membership status

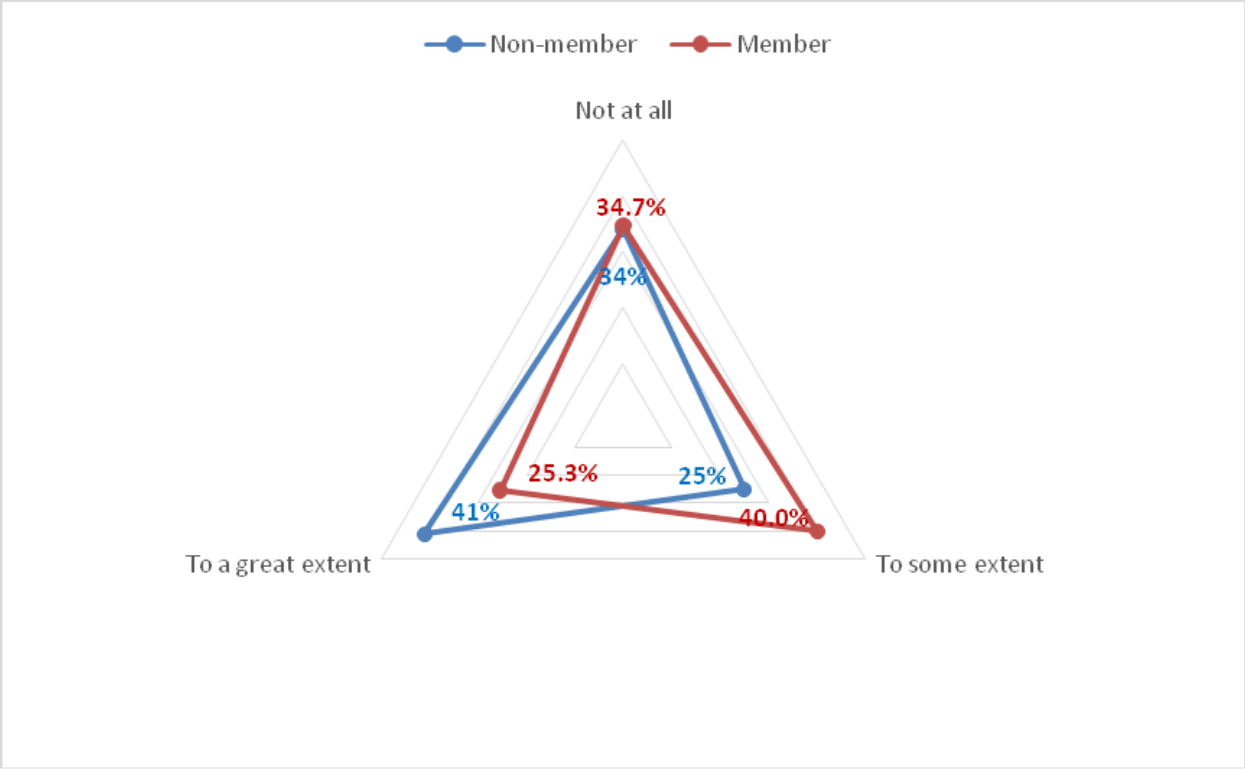

Figure 4.3: Level of Decision-Making based on membership status

Source: Own computation result (2022)

4.3. Descriptive Statistics of Independent Variables for Multiple Linear Regression Model

This section presents descriptive statistics of independent variables, mean comparison of continuous independent variables among project beneficiary and non-beneficiary groups, the existence of significant differences between project beneficiary and non-beneficiary groups regarding discrete independent variables.

Age of the women (AGE): The overall mean age of the sampled women was about 34 years. The mean age of the project beneficiary and non-beneficiary Women is about 37 and 29 years with standard deviation of 8.537 and 7.203, respectively. This shows that older women are more experienced, more decisive and critical in calculating risks. It is likely that women with longer experience were ready to take appropriate measures for participating in women entrepreneurial development project. The mean comparison test result (t = -8.0689) shows that, there is

significant mean difference between project beneficiary and non-beneficiary with respect to age of women at 1% significance level.

Women's level of Education (Educ): The survey results revealed that from the total sampled respondents, 10 percent were illiterate, 4 percent attend adult illiteracy program,6.4 percent complete grade four,8 percent complete grade eight, 23.2 percent complete grade 10, 14.8 percent complete grade twelve and the remaining 33.6 percent were graduated from college and universities.

Table 4.1: Descriptive Statistics for Education

variable	Category	Non-Beneficiary	beneficiary	Total
Education	Illiterate	10(10)	15(10)	25(10)
	Church/Mosque education	0(0)	0(0)	0(0)
	Adult literacy	1(1)	9(6)	10(4)
	Elementary	8(8)	8(5.33)	16(6.4)
	Junior complete	11(11)	9(6)	20(8)
	10 complete	24(24)	34(22.67)	58(23.2)
	12 complete	11(11)	26(17.33)	37(14.8)
	College graduate & above	35(35)	49(32.67)	84(33.6)

Numbers in parentheses indicate percentages.

Source: Own computation result (2022)

Marital status (Mar_Stat): From the total sample households, 64.4 percent were married and the remaining 35.6 percent were others (single, divorced and widowed). The result of chi square (chi2(3) = 16.398) shows that there is significant difference between project beneficiary and non-beneficiary with respect to marital status at 1% significance level.

Access to Finance (Finance): Many households in the study area reported having received credit services for different purposes. From the total sample households, 73.6 percent were received credit and the remaining 26.4 percent were not received credit. The result of chi square (chi2(1) = 96.84) shows that there is significant difference between project beneficiary and non-beneficiary with respect to Access to finance at 1% significance level. This shows that those

households who get credit Access might have developed experiences on how to use loan purposefully and how to make money easily from the available resources.

Table 4.2: Descriptive statistics for Dummy Independent Variables

variable	Category	Non-Beneficiary	Beneficiary	Total	Chi2
Marital Status	otherwise	46(18.4)	43(17.2)	89(35.6)	16.398***
	Married	54(21.6)	107(42.8)	181(64.4)	
Access to Finance	No	60(24)	6(2.4)	66(26.4)	96.84***
	Yes	40(16)	144(57.6)	184(73.6)	
Business training	No	88(35.2)	53(21.2)	141(56.4)	67.67***
	Yes	12(4.8)	97(38.8)	109(43.6)	
Infrastructure	No	3(1.2)	2(0.8)	5(2)	0.8503
	Yes	97(38.8)	148(59.2)	245(98)	

Note: *** represent significant at 1%. Numbers in parentheses indicate percentages.

Source: Own computation result (2022)

Business training (Busi_Train): Out of the total sampled women's 109(43.6) women's had access to Business training. From the project beneficiary women 97(38.8%) received business training and the remaining 53(21.2%) not received the business training. While from non-beneficiary women 12(4.8%) received business training. The result of chi square (chi2(1) = 67.67) shows that there is significant difference between project beneficiary and non- beneficiary with respect to business training at 1% significance level.

Infrastructure: Regarding to the problem of infrastructure 5 (2%) of respondents answered that infrastructure is the most significant problem in women entrepreneurial development project participation and 245(98%) response revealed that infrastructure is the most significant opportunity in women's entrepreneurial development project participation.

4.4. Econometric Results

4.4.1. Determinants of Women's Economic Empowerment

The major objective of this section is to identify the determinants of women's empowerments with regards to the program intervention. The econometrics model that was used in the study is multiple linear regression models. Since the model has qualitative variable the general model for multiple linear regression analysis was used to check the effects of many qualitative or

quantitative independent variables on single response. Before running multiple linear regression models, goodness of fit tests of competing mode (Multiple linear regression) was performed using Akaike's Information Criterion and Bayesian Information Criterion value. Given the two models, the one with the smaller Akaike information criterion (AIC) and the Bayesian information criterion (BIC) fits the data better than the one with the smaller AIC and BIC StataCorp (2013). On the basis of AIC and Akaike's Information Criterion, the multiple linear regression models were found to be relevant model.

In addition, multi-collinearity test was carried out. The assumption here is independent variables are not correlated with one another. The severity of the problem of multi-collinearity across the continuous independent variables can be examined in terms of the variance inflation factors (VIF) and multicollinearity problem between dummy independent variable can be examined by pearson correlation coefficient. According to Gujarati (2003), variables are considered as highly collinear if the variance inflation factor is greater than 10 and pearson correlation coefficient is less than 0.8 for dummy independent variables. In this research, the result of variance inflation factor for each explanatory variable included in the regression model is very low (less than 3), suggesting that there is no severe multi-collinearity problem in the estimated model.

The Multiple linear regression model result shows that, among seven hypothesized explanatory variables were three variables named marital status, education level and access to finance significantly affect women's economic empowerments.

Marital status: Marital status is one of the key factors affecting women's economic empowerment at 1% significance level. The value of regression coefficient shows that when marital status changes from married to single, divorced and widowed women's income and empowerment increase by 1.226, 1.495, and 0.964 respectively. This implies that being unmarried has a positive effect on women's economic empowerments. The possible justification is that the married women's have more responsibilities in home management.

Education: Education is one of the significant factors that supposed to determine women's empowerment at 5% significance level. The value of junior complete coefficient (-0.5045), tells us when women's education changes to junior complete women's economic empowerment decreases by .5045 unit. The value of twelve complete coefficient (-0.4080), tells us when

women's education changes to twelve complete women's empowerment decreases by 0.4080 unit. The value of college graduate and above coefficient (-0.4450), tells us when women's education changes to college graduate and above women's economic empowerment decreases by .5045 unit. Generally, education has a negative impact on empowerment level of women. The probable justification could be because of preference of not involved in the business or working for somebody else and pressures from the society.

Access to Finance: Access to finance was statistically significant at 5 % and positively related to the women's economic empowerment. The result shows that when women's status of access to finance changed to get the opportunity of the access of finance women's empowerment increases by 0.372 units. This implies that enterprises with a problem of access to finance grow lesser than finance unconstrained enterprises. However, majority of the enterprises face various challenges in securing debt finance. Poor lending procedure and lack of collateral were found as principal reasons for not acquiring credit access.

Table 4.3: Determinants of Women Empowerment

Source	SS	df	MS	Number of obs	=	250
				F(16, 233)	=	10.31
Model	110.182532	16	6.88640828	Prob > F	=	0.0000
Residual	155.584394	233	.667744179	R-squared	=	0.4146
				Adj R-squared	=	0.3744
Total	265.766926	249	1.06733705	Root MSE	=	.81716

overallscore	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Status	-.0039432	.167165	-0.02	0.981	-.3332912	.3254048
Marital						
Single	1.226128	.141393	8.67	0.000	.9475557	1.5047
Divorced	1.495293	.1811844	8.25	0.000	1.138324	1.852263
Widowed	.9642015	.2512799	3.84	0.000	.4691305	1.459273
Education						
Adult literacy	-.1390265	.319706	-0.43	0.664	-.7689105	.4908576
Elementary	-.1806452	.2687241	-0.67	0.502	-.7100848	.3487944
Junior complete	-.5045478	.2485825	-2.03	0.044	-.9943045	-.0147911
10 complete	-.2442128	.2040312	-1.20	0.233	-.6461946	.157769
12 complete	-.4080962	.220739	-1.85	0.066	-.8429955	.0268032
college graduate and above	-.4450777	.199206	-2.23	0.026	-.8375529	-.0526024
training2	-.0376394	.1482283	-0.25	0.800	-.3296784	.2543996
Infrastructure	-.2852275	.383179	-0.74	0.457	-1.040166	.4697109
Finance	.3720012	.1576283	2.36	0.019	.0614424	.6825601
Info	.1501588	.1218583	1.23	0.219	-.0899261	.3902437
individual	-.0047623	.1130906	-0.04	0.966	-.2275731	.2180485
Training	.1094451	.1474633	0.74	0.459	-.1810866	.3999769
_cons	-.2042195	.4342444	-0.47	0.639	-1.059767	.6513278

Source: Own computation result based on my survey data (2022)

4.4.2. The impact of Women Entrepreneurship Development Project on Household Income

The other objective of this study is to assess the impact of being beneficiary from Women Entrepreneurship Development Project on household income. In order to address this objective, the PSM method was used. The estimation process was done using psmatch2 in STATA 13. In PSM estimation, the following steps were performed. The first step in PSM estimation is choosing binary outcome models in estimating the probability of participation in women entrepreneurship project. The dependent variable in the impact assessment analysis takes the value of 1 if household was participant and 0, otherwise.

A binary discrete choice regression model (logit or probit) can be used for estimation of the propensity score. Both logit and probit regression models were compared. Given the two models, the one with the smaller AIC and BIC fits the data better. Therefore, logit model was preferred over probit model in estimating the propensity score.

Table 4.4 illustrates that the binary logit regression estimates for participation in women entrepreneurship development project. There are multiple factors that affect the participation of households in women entrepreneurship development project. Based on the collected data and using the appropriate econometrics model (logit) the following analysis was drawn in the selected areas of the study and have been discussed on the significant explanatory variables below.

Age of women (Age): Age of women was positively and significantly affect women entrepreneurial development project participation at 1% significance level. The marginal effect result reveals that, as age of women increase by one unit, the women entrepreneurial development project participation increases by 3.18%. The probable justification is that the older the women, the more prone to take risks, they could also be less active and could not be capable of increasing project participation.

Marital status (mar_stat): it is negatively related with women's entrepreneurial development project participation and statistically significant at 1 % significance level. The result shows that if women is married the probability of being beneficiary of women entrepreneurial development project decreases by 9.94%.

Education (EDUC): Education level of the women, which is one of the important indicators of human capital, has a positive and significant effect on the women's entrepreneurial development project participation at 10% level of significance, implying that, women's who are better in educational attainment were found to be more likely to be participated in women's entrepreneurial development project participation than illiterate women. The probable justification is that educated person gain better skill; experience, knowledge and this again help them to engage in women's entrepreneurial development project. Each additional year of education of the women increases the probability of project participation by 24.01%.

Access to Finance: Access to finance was statistically significant at 1 % and positively related to the women's entrepreneurial development project participation. The result shows that the probability of women's being participant in women's entrepreneurial development project increases by 77.7% if women's are getting access to finance.

Table 4.4: The Logit Regression Estimate of Project Participation

Independent Variable	**Coeff.**	**Std. Err.**	**dy/dx (Marginal Effect)**
Age	0.1570731	0.00774	0.031856***
Mar_stat	-0.4900274	0.0521	-0.0993824*
Educ	0.2408678	0.0251	0.0488504*
exp	-0.134682	0.09755	-0.0274441
Work_place	0.2795818	0.10401	0.0559995
Info	-0.5664878	0.11459	-0.1185657
Market	0.8268192	0.11414	0.1761719
Finance	4.157248	0.07473	0.7774215***
Busi_Train	3.619042	0.07945	0.6076517***
Infrastructure	2.617098	0.2494	0.5644406**
_cons	-12.6601***	2.897428	
LR chi2(10) = 205.21			
Pseudo R2 = 0.6098			
Log pseudo likelihood = -65.6459			
Number of obs = 250			

Note: ***, ** and * represent level of significance at 1%, 5% and 10%, respectively

Source: Own computation result based on my survey data (2022)

Business Training (Busi_train): it is positively related to women's entrepreneurial development project participation. This variable is significant at the 1% probability level. The marginal effect result implies that as women's participate on Business training, the probability of household being participant in women's entrepreneurial development project increase by 60.7%. The result shows that farmers who have opportunity to participate on Business training are more likely to be participant in women's entrepreneurial development project.

Infrastructure: as prior expectation, women's entrepreneurial development project participation was positively and significantly affected by infrastructure at less than 1% per cent significance level. Keeping all other variables held constant, a unit change in infrastructural facilities would increase women's entrepreneurial development project participation by 56.44 percent. Poor infrastructure makes local goods and services more expensive than corresponding goods and services provided by foreign or domestic competitors outside of problem-stricken area. Poor infrastructure was the key factor responsible for the poor quality of goods and services in the study area, as the problem rendered local products less competitive crippling the probability of project participation.

The second step in PSM estimation is to ensure that propensity scores are balanced across beneficiary and non-beneficiary groups. As the propensity score is probability, it has to be in the interval [0, 1]. In setting the common support conditions, the minima and maxima comparison was made. As shown in Table 4.5, the estimated propensity scores vary between 0.043 and 0.999 with a mean of 0.864 for beneficiary women's and between .0016 and 0.985 with a mean of 0.204 for non-beneficiary women. Then, the common support would lie between 0.0016 and 0.9996.

Table 4.5: Distribution of Estimated Propensity Scores

Groups	Observation	Mean	Std. Dev.	Min	Max
Total Sample households	250	0.600	.3981923	.0015996	.9996748
Beneficiary	150	.8637796	.2053748	.0430396	.9996748
Non- beneficiary	100	.2043307	.2678704	.0015996	.9852816

Source: Own computation result based on survey data (2022)

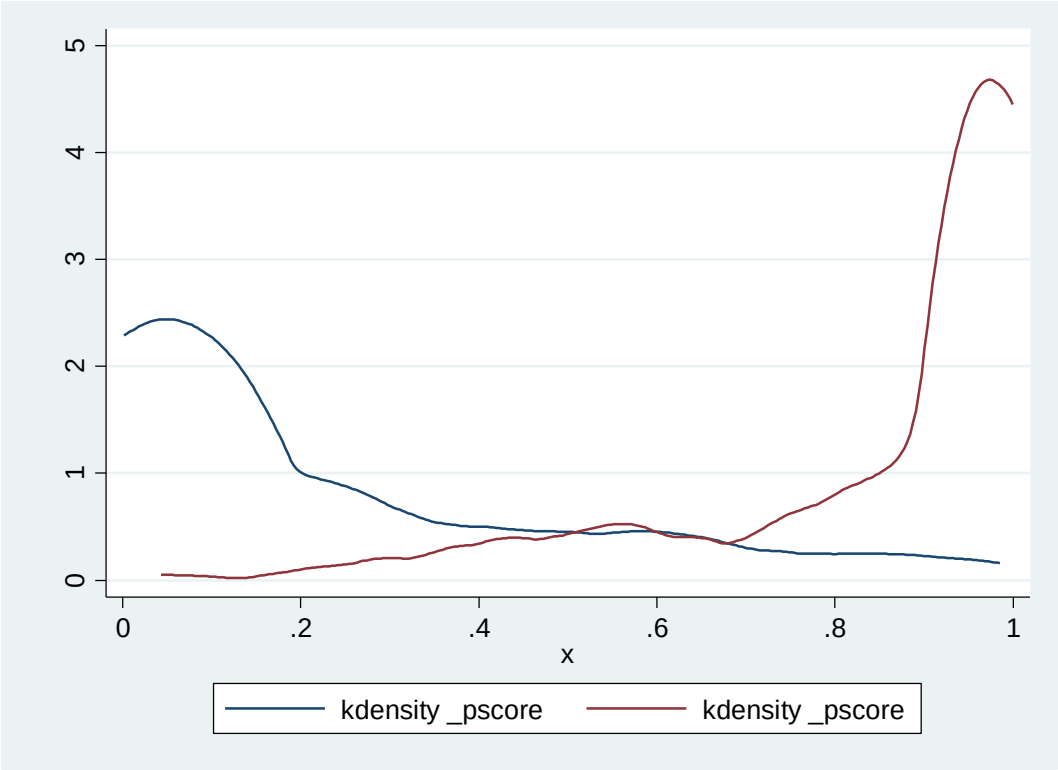

Figure 4.4: Graph of Common Support Region

Source: Own computation result (2022)

Having completed the estimation of propensity scores and the common support region the next step is seeking an appropriate matching estimator. Alternative matching estimators (algorithms) were searched in matching the project beneficiary and non-beneficiary households in the common support region. Caliper or Radius matching with radius caliper (0.25) was chosen since it balances all of the explanatory variables (i.e. results in insignificant mean differences between the two groups), bearing a low Pseudo R2 value and results in a large matched sample size (Jafer, 2014).

Table 4.6: Performance of Different Matching Algorithms

Matching Estimator		Matching performance criteria			
		Balancing test*	Pseudo R2	Mean standard bias	Matched sample size
Nearest neighbor	neighbor(1)	7	0.6098	19.2	145
	neighbor(2)	8	0.6098	14.0	145
	neighbor(3)	8	0.6098	17.7	145
	neighbor(4)	7	0.6098	15.8	145
	neighbor(5)	8	0.6098	18.0	145
Kernel	bwidth(0.1)	7	0.6098	19.2	145
	bwidth(0.25)	7	0.6098	19.2	145
	bwidth(0.5)	7	0.6098	19.2	145
Caliper or Radius	radius caliper (0.1)	7	0.6098	14.8	145
	radius caliper (0.25)	**9**	**0.6098**	**12.5**	**145**
	radius caliper (0.5)	8	06098	17.7	145

* The balancing test indicated that number of independent variables with no statistically significant mean difference between the matched groups of households.

Source: Own computation result based on my survey data (2022)

As indicated earlier, the main purpose of the propensity score match estimation is not to obtain a exact prediction of selection into treatment, but rather to indicate the balance distributions of relevant variables in both treatment and control groups. In other words, if we match subjects on the propensity scores, the distribution of covariates is similar across treatment groups and in the matched sample. Clearly, results in Table 4.6 show that after matching, the differences are no longer statistically significant, suggesting that matching helps reduce the bias associated with observable characteristics.

Table 4.7: Balancing Test For The Impact of Women's Entrepreneurial Development Project on House Hold Income.

Variable	Unmatched / Matched	Mean Treated	Mean Control	%bias	%reduct |bias|	t-test t	t-test p>|t|	V(T)/ V(C)
Age	U	37.067	28.7	105.9		8.07	0.000	1.40*
	M	34.223	34.702	-6.1	94.3	-0.44	0.660	0.97
Mar_stat	U	1.5133	1.63	-13.5		-1.04	0.301	1.26
	M	1.5638	1.4064	18.2	-34.9	1.28	0.201	1.42
Educ	U	5.98	6.01	-1.4		-0.11	0.915	1.05
	M	5.9574	5.9119	2.1	-51.7	0.15	0.884	0.94
exp	U	.42667	.4	5.4		0.42	0.677	.
	M	.41489	.43543	-4.2	23.0	-0.28	0.777	.
Work_place	U	.5	.26	50.8		3.89	0.000	.
	M	.41489	.38733	5.8	88.5	0.38	0.702	.
Info	U	.39333	.29	21.8		1.68	0.094	.
	M	.30851	.26762	8.6	60.4	0.62	0.538	.
Market	U	.74667	.56	39.8		3.13	0.002	.
	M	.75532	.76122	-1.3	96.8	-0.09	0.925	.
Finance	U	.96	.4	149.4		12.52	0.000	.
	M	.93617	.95933	-6.2	95.9	-0.71	0.478	.
Busi_Train	U	.64667	.12	128.4		9.59	0.000	.
	M	.43617	.18596	61.0	52.5	3.83	0.000	.
Infrastructure	U	.98667	.97	11.4		0.92	0.358	.
	M	.97872	.99624	-12.0	-5.1	-1.08	0.283	.

Source: Own computation result based on survey data (2022)

The final step in the PSM process is to estimate treatment effects on the outcome variable in the matched sample through a t-statistic. The estimation result presented in Table 4.7 provides supportive evidence of statistically significant effect of the women's entrepreneurial development project on household income. After controlling for pre-participation differences, it has been found that, on average, participating in women's entrepreneurial development project have increased household income by 43197.23 ETB during the survey year. The estimated average treatment effect (ATT) showed that project participation has significant effect on income of the household with significant t-statistic (1.98) at 5 percent significance level ($p < 0.05$).

Table 4.8: The impact of the Project on household Income

Variable	Sample	Beneficiary	Non beneficiary	Difference	S.E.	T-stat
Annual Income (ETB)	Unmatched	114351.4	48021.12	66330.28	11489.34	5.77
	ATT	112007.55	68810.32	43197.23	21800.06	1.98**

Source: Own computation result (2022)

The sensitivity test is the final step used to investigate whether the causal effect estimated from the PSM is susceptible to the influence of unobserved covariates. The legitimacy of propensity score analysis is based on the assumption of strongly ignorable treatment assignment that assumes all relevant covariates are employed in the treatment assignment and the bias due to the unmeasured covariates is ignorable. The result shows that sensitivity analysis impact result estimates are insensitive to unobserved selection bias. It shows that, for outcome variables estimated at various levels of critical values of gamma, the p-critical values are significant which further indicate that we have considered important covariates that affected both participation and outcome variables. We could not get the critical value gamma where the estimated ATT is questioned even if we have set largely up to 10. Thus, we can conclude that our impact estimates (ATT) are insensitive to unobserved selection bias and are a pure effect of participation of women in entrepreneurial development project.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary and Conclusion

The study assessed the contribution of the Women Entrepreneurship Development Project to women income and economic empowerment. More specifically, the study assessed the impact of credit lines and training on project participants in Bahir-Dar city, Amhara Region. Based on the objective and problem of the study, the research employed quasi-experimental research design with quantitative research approach. The study used stratified random sampling technique to select beneficiary and non-beneficiary women entrepreneurs in the study area. Descriptive statistics, Multiple-linear regression, Logit, and Propensity Score Matching methods were used to achieve the objectives of the study.

Multiple linear regression model result shows that, among hypothesized explanatory variables, marital status, education and access to finance significantly affect women's income and economic empowerments. In addition to this, the study identified that age of women, women's level of education, access to finance, business training and access to infrastructures were positively and significantly influencing the participation in women's entrepreneurial development project, while Marital status was negatively and significantly influencing the participation in women entrepreneurship development project.

After controlling for pre-participation differences, it has been found that, on average, participating in women's entrepreneurial development project have increased household income by 43,197.23 ETB during the survey year. The estimated average treatment effect (ATT) showed that project participation has significant effect on income of the household with significant t-statistic (-1.98) at 5 percent significance level ($p < 0.05$).

The study concluded that women's in the study area are more likely to participate in women entrepreneurship development project when they have higher age, better level of education, higher income and better access to infrastructures. Moreover, being a beneficiary from women's entrepreneurial development project has positive impact on household income and women's empowerment.

5.2. Recommendations

Based on the findings of this study the following actions are recommended.

- The research revealed that participation in the women entrepreneurship development project leads to increased income. Women entrepreneurs who have accessed training and finance from the project have registered more income than their non-client counterparts. To make more women entrepreneurs benefit from these interventions, the project is currently working only in certain town so that to increase the number of beneficiaries, the project needs to scale up its operations to more regions and in addition to the existing 14 cities.

- Since business and technical training is a key factor for enhancing women's entrepreneurial development, and in line with this research's finding on the positive contribution of training to women's income and economic empowerment, it is suggested that the federal and regional governments need to increase the scope and scale of their training program.

- The research found out that enrollment (or participation) in the Women Entrepreneurship Development Project has positively increased women's access to finance. To enable more women benefit from the liquidity facility of the project, Government counterparts, particularly one stop shops, need to launch awareness creation campaigns to register more women to the program.

- Marital status of women is negatively correlated with women's participation in the women entrepreneurship development project, i.e., married women are less likely to join the project than their unmarried counterparts. To address this challenge, the project needs to cater services which are tailored to married couples, for instance providing couples training. Moreover, the project must expand its business development service from focusing only on classroom training to other activities such as mentoring, coaching, business to business matching etc.

- Age of women was positively and significantly affect women entrepreneurial development project participation at 1% significance level. The marginal effect result reveals that, as age of women increase by one unit, the women entrepreneurial

development project participation increases by 3.18%. This would mean that young women are less likely to join the program as compared to their older counterparts. This may be because the project targets relatively matured businesses which are owned by relatively older counterparts, leaving out young women in the start up phase. To bring more young women to the program, the project should target startup businesses which have a large population of young entrepreneurs.

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Appendix I: Entrepreneur Questionnaire

General Instruction: The following questions are regarding your personal information and experience throughout your engagement in Income generating activities (Entrepreneurship skill). Please indicate your answer by putting right mark (i.e √) in the boxes and write the required information in non-optional items in the space provided.

1. Age _____

2. Marital status of women

1) Marriage 2) Single 3) Divorced 4) widowed

3. Educational Status

1) Illiterate

2) Church mosque education

3) Adult literacy

4) Elementary

5) Junior complete

6) 10 complete

7) 12 complete

8) College graduate and above

9) Others

4. Membership status of women in project

1) Member of project 0) non-member

4.1. If answer for Q, 4 is "1" For how long (in years) have you been a member of this project?

_____

5. In which type of business are you engaged currently?

1) Farming

2) Civil servant

3) Housewife

4) Daily labor

5) Hand craft

6) Trader

7) Traditional healer

8) Others

6. Have you had the same work experience before? 1) Yes 2) No

7. Do you have your own workplace? 1) Yes 0) No

7.1. If Q. 7 is yes how acquired this working place_____

8. Did you get business related information 1) Yes 2) No

8.1. If yes, what is the source of information?

1) Radio 2) Television 3) Newspaper
4) Mobile
5) Others specify _ _____

9. Did you have access to the market in the nearest area? 1) Yes 2) No
10. Did you access finance institutions? 1) Yes 2) No
11. Did you access better business training? 1) Yes 2) No
12. Did you access infrastructure like (road, transport, telecommunication, water, electricity)?
1) Yes 2) No
13. Did you get business training since you began this business? 1) Yes 2) No
14. (For non-project respondents) what was your source of credit prior to beginning this business?
1) MFI
2) Private money lender
3) Relative/friend
4) Ekub/Idir
5) Others
15. Why do you like this source of loan?
1). Low interest rate than other informal sources of credit
2). Steady source of working capital
3). Group solidarity and/or group dynamics
4). Easier guarantees than other loan alternatives
16. Where do you save your money?
1). Save in MFI
2). Save in Bank
3). Never saved
4) Belong to friend/relative
17. How much money you have in your saving currently_____
18. How much property do you currently have in this business (in birr_____
19. What are the limitations of the project?
1). High interest rate
2) Too small loan size
3). Repayment policy
4). Problematic groups dynamic
5). Do not know
20. Would you please tell me additional challenges you encountered throughout your current business and problems you confronted within the expansion of your work?

_____

_____

_____

_____

21. What do you think is the possible strategies to improve the existing condition of the problem you mentioned? Or just to make it better?

_____

_____

Appendix II: Questions related with Measurement of Cumulative Empowerment Index

Section 1: Contribution to household income

1. Given the total income of your household, what is the percentage of your own contribution? _____
2. Here are 10 coins; the coins together represent all the resources your household needs, such as food and money. From what you get, either crop or cash, how many coins represent your contribution? Number coins_____

Section 2: Ownership and access of household asset

	How many (items) does your household own now?	**If the household own this item now, ask: who would you say can decide whether to use, sell or replace if the need arises?**
	Number items	1. Respondent herself 2. Husband 3. Respondent and husband jointly 4. Another household member 5. Respondent and another household member jointly 6. Someone outside the household 7. NA
Cattle		
Sheep		
Goats		
poultry		
Energy saving stove		

Section 3: Household decision making

	In your household, who normally makes most of the decisions about the activities listed below	**If decisions are not normally solely or jointly made by the respondent herself, to what extent do you think you can influence the person who makes the decisions to change their decision?**
	1. Respondent herself (skip to next)	1. Not at all 2. To some

	2. Husband 3. Respondent and husband jointly (skip to next) 4. Another household member 5. Respondent and another household member jointly (skip to next) 6. Someone outside the household 7. Household is not involved in this activity (skip to next)	extent 3. To large extent 4. NA
How much of the crops harvested should be kept for consumption in the household		
How to spend the money made from the sale of crops [or main household income-generating activity]		
How to spend the money made from [other income-generating activity where the woman is mainly contributing]		
What food to buy and consume		
Purchase of furniture for the house		
Purchase and sale of cattle, oxen and other large livestock		
Purchase and sale of sheep and goats		
Purchase of plots of land		
Purchase of large cooking utensils (e.g. large saucepan)		
Whether the household should take out a small loan, from what source, and how much to borrow		
How to invest the money borrowed		
What to give relatives when they marry or have a celebration		
The education of your children		
How many children to have		
Transfer of property to a relative or any other person		
Approve a marriage		
Housework and care of the person		

Section 4: Perception on gender awareness

To what extent do you think other women in your community agree with the following statements?	**1 = Disagree** **2 = Partly disagree** **3 = Partly agree** **4 = Strongly agree**
Women are just capable as men of contributing to household income	
A man's job is to earn money; a woman's job is to look after home and family	
Women are able to be good leaders as well as men	

Section 5: Coping capacity to household shock

1. In the last 12 months, has your household been affected by
    a. Business went bankrupt
    b. Unemployment/inability to work because of an illness or another reason
    c. Bad harvest due to floods
    d. Bad harvest due to drought
    e. Losses of harvest due to plant illness, insect, animal invasion, etc.
    f. Damage to house or equipment
    g. Theft of other goods
    h. Sickness or theft of animals
    i. Death of a member of the household
    j. Illness or injury of a member of the (small) household
    k. Conflict, disagreement or legal suit
    l. Other (to specify)
2. How many months have passed since this event happened last time?
3. What was the impact of this event on the economic situation of the (small) household?
4. How did the household react to the event (list up top 3 reaction
    a. Sale of livestock
    b. Sale of grain stock
    c. Sale of tools or reduction in the enterprise inventor
    d. Sale of the other property
    e. Sent children to live with friends/relative

f. Took away children from school
g. Engaged with other revenue-generating activities
h. Borrowed money from family, friends, employer, etc..
i. Took a loan from financial institutions
j. Took a loan with saving and credit group in the village
k. Received assistance from the family and friends
l. Received assistance from a NGO or the government
m. Reduced food consumption
n. Reduced non-food consumption
o. Emigration of some family member to work
p. Made purchase on credit
q. Delayed reimbursement obligations
r. Advance sale of harvest
s. Resorted to household saving
t. Didn't do anything
u. Other specify

5. Did the household recover economically from this event?
6. If yes, how many months did it take to recover from this event ongoing or number of months?

Appendix III: Questionnaires for Amhara Saving and Credit Institution

Part I: Demographic information

Age___ Sex_____ Job Title _____Years of Service_____

Part II: Questions related to the research objectives

1. Would you please tell me the initiator of women's empowerment/socio economic development in the context of your woreda?
2. What is the rationale behind the empowerment of these women in your woreda?
3. What do you think is the role of the woreda administration in relation to the socio-economic development/empowerment processes of women?
4. Who are the major stakeholders involved in women's socio-economic development/empowerment in the woreda level?
5. How many women have been benefited from the loan you are rendering so far?
6. How do you rate their level of loan repayment? Is it good or what?
7. Would you please tell me their level saving, especially in comparison with the saving they had immediately after the commencement of their work/job?
8. Do you think that they are economically empowered or in the process of empowerment?
9. How do you rate their social empowerment/development? Especially after joining your MFI (WEDP project)?
10. Do you have a monitoring and evaluation system for the development program under consideration? Yes_____ No_____

10.1 If yes, would you please tell me your mechanism of evaluation?

11. How do you evaluate the performance MFI (WEDP project) in empowering socio-economic aspect of women Global in your locality? i.e. Does it meet what it intends to accomplish?
12. What do you think are the challenges encountered throughout your work i.e., in the expansion of micro and small-scale enterprises and participation of women in your locality?
    A. Challenges from your office
    B. Challenges from women

13. What strategies were used as a solution for the challenges?
14. What challenges have remained unsolved? Why?
15. What is your organization's future plan to solve the recurrent problems related to your locality's women socio-economic empowerment processes?
16. What additional remedies can you suggest that facilitate effective implementation of the socio-economic development of women through your MFI?

Thank You!!

Appendix III: Stata Output

Appendix Table 1: Multicollinearity test (correlation)

	Age	Mar_stat	Educ	exp	Work_p~e	Info	Market	Finance	Busi_T~n	Infras~e
Age	1.0000									
Mar_stat	0.2628	1.0000								
Educ	-0.2768	-0.2055	1.0000							
exp	0.1455	-0.0116	0.0968	1.0000						
Work_place	0.2850	-0.0520	-0.0308	0.0824	1.0000					
Info	0.1022	-0.0412	0.2387	0.2276	0.1783	1.0000				
Market	0.0275	0.0775	-0.0105	0.0192	0.1411	0.0333	1.0000			
Finance	0.3014	0.0413	-0.0441	-0.0100	0.1417	0.0424	0.1808	1.0000		
Busi_Train	0.3002	-0.0559	-0.0377	0.0107	0.1474	0.2978	0.0129	0.2521	1.0000	
Infrastruc~e	-0.1157	-0.1050	0.0259	-0.1113	0.0012	-0.0742	0.0219	0.1089	-0.1049	1.0000

Source: Own computation result based on survey data (2022)

Appendix Table 2: Logit model Post estimation test for goodness of fit

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	250	-168.2529	-65.64594	11	153.2919	192.0279

Note: N=Obs used in calculating BIC; see [R] BIC note

Source: Own computation result based on survey data (2022).

Appendix Table 3: Probit model Post estimation test for goodness of fit

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
.	250	-168.2529	-65.69511	11	153.3902	192.1263

Note: N=Obs used in calculating BIC; see [R] BIC note

Source: Own computation result based on survey data (2022).

Appendix Table 4: Marginal effects after logit

Marginal effects after logit
y = Pr(Part) (predict)
= .71723272

variable	dy/dx	Std. Err.	z	P>|z|	[95% C.I.]		X
Age	.031856	.00774	4.11	0.000	.016682	.04703	33.72
Mar_stat	-.0993824	.0521	-1.91	0.056	-.201488	.002723	1.56
Educ	.0488504	.0251	1.95	0.052	-.000343	.098044	5.992
exp*	-.0274441	.09755	-0.28	0.778	-.218647	.163759	.416
Work_p~e*	.0559995	.10401	0.54	0.590	-.147854	.259853	.404
Info*	-.1185657	.11459	-1.03	0.301	-.343154	.106022	.352
Market*	.1761719	.11414	1.54	0.123	-.047547	.39989	.672
Finance*	.7774215	.07473	10.40	0.000	.630947	.923896	.736
Busi_T~n*	.6076517	.07945	7.65	0.000	.451927	.763376	.436
Infras~e*	.5644406	.2494	2.26	0.024	.075616	1.05327	.98

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Source: Own computation result based on survey data (2022)