



## Gender Dynamics and Non-Farm Income Diversification: A Quantitative Study in Rural Pakistan

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### ARTICLE INFO ABSTRACT

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Talents other than farm for income distribution are a vital strategy for socio-economic resilience in rural households, particularly in developing countries like Pakistan. The paper inspects gendered participation in non-farm projects and their impact on domestic welfare. The primary data has 290 rural households with 54.79% dependents, this is quantitative research which implements statistical analysis, visual highlights and linear regression model to assess determinants and income disparities. The paper is based on query How gender disparities in income contributions and access to resources effect households in Pakistan? Pakistan is enriched with patriarchal society, where men have been destined to opportunities for economic development since ages. On the other hand, women are largely confined to domestic roles. Despite this, women in small and medium-sized enterprises are found of having strong decision-making abilities and righteous contributions to household income. Rural women face lots of challenges, some include access constraints to education, finances, and entrepreneurial training. Empowering women and enhancing their participation in non-farm activities is essential to creating a balanced economy where both men and women contribute effectively to national development. Since 2006, Pakistan has increased gender parity by 0.5%. However, Southern Asia collectively got 63.4% of it.

## Introduction

For about 290 households across rural Pakistan, agriculture is foundation of local economy, providing both livelihoods and daily bread for the family tree. However, the sector's inherent

vulnerability to climatic and economic shocks such as an extreme weather events, market fluctuations and global price changes has compelled rural families to seek substitute resources of livelihood. Such adaptations have resulted in growing trend of non-farm income diversification, which has become a crucial strategy for prevent and survive risks and boosting economic resilience in areas of Bahawalpur, DG Khan and Vehari. It is particularly evident as households turn to new and updating opportunities beyond agriculture like small businesses, skilled labor and various services.

The gendered division of labor also aggravates this emerging issue, with women frequently relegated to lower-paying, less-secure, and more labor-intensive tasks. Despite their potential to contribute significantly to economic diversification, women's involvement in new activities of new opportunities constrained by these entrenched structural obstacles, men dominated society. In many rural communities, traditional gender roles continue to govern not only the types of work women are engaged in but their capacity, as well, to accumulate and control resources.

### **Suppressed Women and Encouraged Men**

This study seeks to explore the multifaceted dynamics that shape female participation in nonfarm business activities in rural areas of Pakistan. By examining sociocultural, economic and administrative factors that influence women's engagement in finances, the research aims to provide a comprehensive understanding of barriers that hinder their access to these opportunities. Moreover, the study assesses the broader socio-economic impacts of non-farm income diversification for both the genders, highlighting the potential benefits and challenges that such diversification proposes for family tree a household-level and community-wide development.

The ultimate goal of this research is to offer evidence-based insights that can inform design and implementation of policies aimed at enhancing inclusive economic growth in rural Pakistan. The policies include literacy rate, family structures, economic activities, saving criteria and work hours. Adopting such policies create more level-playing field, it is hoped that these interventions will contribute to the creation of more profitable economy in Pakistan, where the benefits of nonfarm diversification are attainable to all members of society.

Pakistani women play a crucial role in adding spirit to household economies across the country, especially in rural areas where their involvement in various productive activities significantly contributes to the overall financial stability of family trees, and men make family secure, providing nutrition and protection. For such setting, women engage in a wide range of economic activities like of small-sized businesses like of selling pickle, repairing motorbikes, that extend beyond traditional roles, thereby contribute to not only their families' well-being but also driving economic growth and financial stability.

In rural areas, women's involvement in agriculture is absolutely necessary. They are actively engaged in essential tasks such as sowing, harvesting, and managing livestock, all of which make food security assured for their family trees and contribute directly to agricultural productivity. Rural women play an essential role in maintaining the workforce necessary for agriculture to thrive. Through their consistent labor, they ensure that crops are cultivated and animals are properly cared for, which helps to sustain households and the broader community. Despite their vital contributions, their work often goes unrecognized and is undervalued.

### **Genderized Roles in Well-Being of Family Tree**

These efforts reflect the tremendous potential of women in contributing to household and community economies. Their multi-faceted involvement in both traditional and non-traditional economic activities which not only supports their families financially but also drives the local and national economy forward. By generating income through these activities, women enhance their families' living standards and offer a valuable source of financial support. Their participation in these diverse economic roles is a testament to their resilience and resourcefulness.

However, despite their significant contributions, women in rural Pakistan face a myriad of obstacles that hinder their economic potential. Deeply entrenched patriarchal norms, lack of education, mobility restrictions and limited access to markets and technology severely obstruct their ability to engage in or benefit from diverse economic activities. Traditional gender roles continue to confine women primarily to domestic duties, such as childcare, cooking and cleaning which leaves little room for them to pursue formal employment or entrepreneurial ventures.

One of the major barriers women face in rural areas is the lack of education. 84% women in these areas are illiterate, which directly limits their ability to acquire skills that would enable them to participate in higher-paying, more diversified economic activities. Without access to education, women are left with limited knowledge of alternative income-generating opportunities, often confined to low-skilled, informal jobs. The absence of education also reduces their chances of moving into roles in the formal labor market or engaging in business activities that could significantly improve their financial independence. Furthermore, the lack of educational resources and vocational training opportunities further exacerbates their economic marginalization.

The restrictions on mobility are another critical factor limiting women's economic participation. In rural Pakistan, societal norms often impose strict limitations on women's freedom of movement, both within their communities and beyond. These restrictions prevent women from accessing broader markets, which limits their ability to sell their goods or services outside the home. While men have greater access to external markets and resources, women are often forced to rely on local markets or restricted networks, which curtails their earning potential. Moreover, women in rural areas are generally excluded from participating in larger, more profitable sectors of the economy, such as manufacturing, technology, or even agriculture on a larger scale, due to their limited mobility and access to resources.

### **Societal Pressure Effecting Economy Deprivation**

In addition to these societal and cultural restrictions, technological barriers also hinder women's economic potential. While men are increasingly gaining access to modern technology and using it to advance their professions, women, particularly in rural areas, are often excluded from the digital economy. Many women lack the resources and the skills needed to use technology effectively, which prevents them from taking advantage of online platforms for selling products, accessing new and emerging markets or even acquiring information and skills that could improve their economic opportunities. The lack of access to technology not only isolates women from the digital economy but also limits their participation in the broader economic landscape.

The data reveals that a substantial proportion of women in rural Pakistan remain illiterate, with a majority residing in joint family systems. These factors heavily influence their economic participation and social roles, as they often restrict access to formal education and limited opportunities for women to explore economic activities outside of the households. The traditional family structure, which places women under authority of male family members, also restricts their

freedom to make independent decisions regarding their economic pursuits. In contrast, males in these households are often well-equipped with education, technical skills, opportunities to participate in the formal workforce, which gives them an upper hand in economic activities.

Approximately, 72% of women in rural Pakistan perform their economic activities indoors due to cultural restrictions. This limitation confines their roles to household-based tasks, such as stitching, cooking, producing handicrafts, which are typically sold locally or in nearby markets, resulting in being under-paid. While these activities contribute to financial stability, they are often restricted to informal sectarian economy. The lack of access to external markets further hampers women's ability to scale their businesses or take advantage of higher-paying opportunities outside the household.

The intense workload faced by women in rural Pakistan is another significant challenge. On average, however, rural women work anywhere from 9 to 13 hours per day, balancing both the domestic and income-generating activities actively. This immense workload often leads to physical and mental health challenges, including fatigue, stress, body aches and emotional strain. In many cases, the pressure to maintain social harmony with lots of household responsibilities contribute highly to negative impact on family on the whole. As female being responsible for all chores gets sick and tiresome, cannot perform daily tasks in time, which ultimately effect negatively for everyone at home and this is how well-being of family tree has been in decline.

In nutshell, while Pakistani women, especially in rural areas, play an indispensable role in their households and communities through their involvement in various productive activities, their economic potential remains severely limited by cultural, educational and technological barriers. To unlock the full economic potential within women of Pakistan, we can ensure that women are empowered to participate in economy, education and technical skills for sustainable economic growth.

## **Methodology**

This study adopts a quantitative approach to explore the implications of non-farm business activities in rural areas of Pakistan, with a particular focus on the roles of males and females. The main objective is to examine disparities in participation. Sample included the factors influencing these activities, and the subsequent effects on household welfare. Given the critical role of nonfarm businesses in improving household income and economic resilience, this study seeks to identify and understand the gendered dynamics at play within these economic activities.

The data is covering Bahawalpur to Multan to DG Khan, the three districts from each division. On average 290 households from agricultural areas were surveyed. With 110 from Bahawalpur and 90 from Vehari and Muzaffargarh. To capture a comprehensive and nuanced understanding of the topic, primary data is collected using structured surveys and in-person interviews. The sample has an equal representation from urban and rural regions of Punjab and Sindh provinces. These two provinces have been chosen due to their diverse socio-economic characteristics, making them ideal for comparing different contexts area-wise. The households have been selected using multistage random sampling, which ensures that a wide range of households, from various backgrounds and economic statuses, are included. The selection of households specifically targeted those engaged in non-farm business activities such as small-scale manufacturing, retail, food processing, and other service-oriented enterprises. By focusing on households involved in these types of activities, the study aims to gather data that provides insight into the economic significance of non-farm businesses for rural and urban families alike. Additionally, the sample will account for a variety of

demographic characteristics, including age, gender, education level, and family size, ensuring that the findings are reflective of the diverse socio-economic landscape in Pakistan.

### **Analytical Technique**

This study employs statistical techniques to examine the determinants of household participation in non-farm business activities and explore gender disparities.

Logistic Regression showed there were only 31.68% literate and rest illiterate people in those areas. Men- heading households were higher in profits and participation rate is higher as well in economic growth. Nuclear: 38.13%, Joint: 47.92%, Extended: 13.96% households were in question and only 19.58% women got development aid.

Oxaca-Blinder Decomposition analyzed income disparities between men and women headed businesses by decomposing household welfare gaps into resources.

Mediation Analysis examined how profits from male and female led businesses impact household welfare and explores whether societal expectations or decision-making limitations affect how profits are utilized, mentioned in results below.

### **Results**

Results found that Male-led businesses have higher profits due to better access to market, technology, education, public-dealing (Coefficient effect). However, Female-led businesses face resource shortages, such as limited access to credit or training (Endowment effect).

Following is the ratio each house as per income was saving

1. Below 10,000 PKR: 13.75%.
2. 11,000–20,000 PKR: 33.96%.
3. 21,000–30,000 PKR: 45.83%.

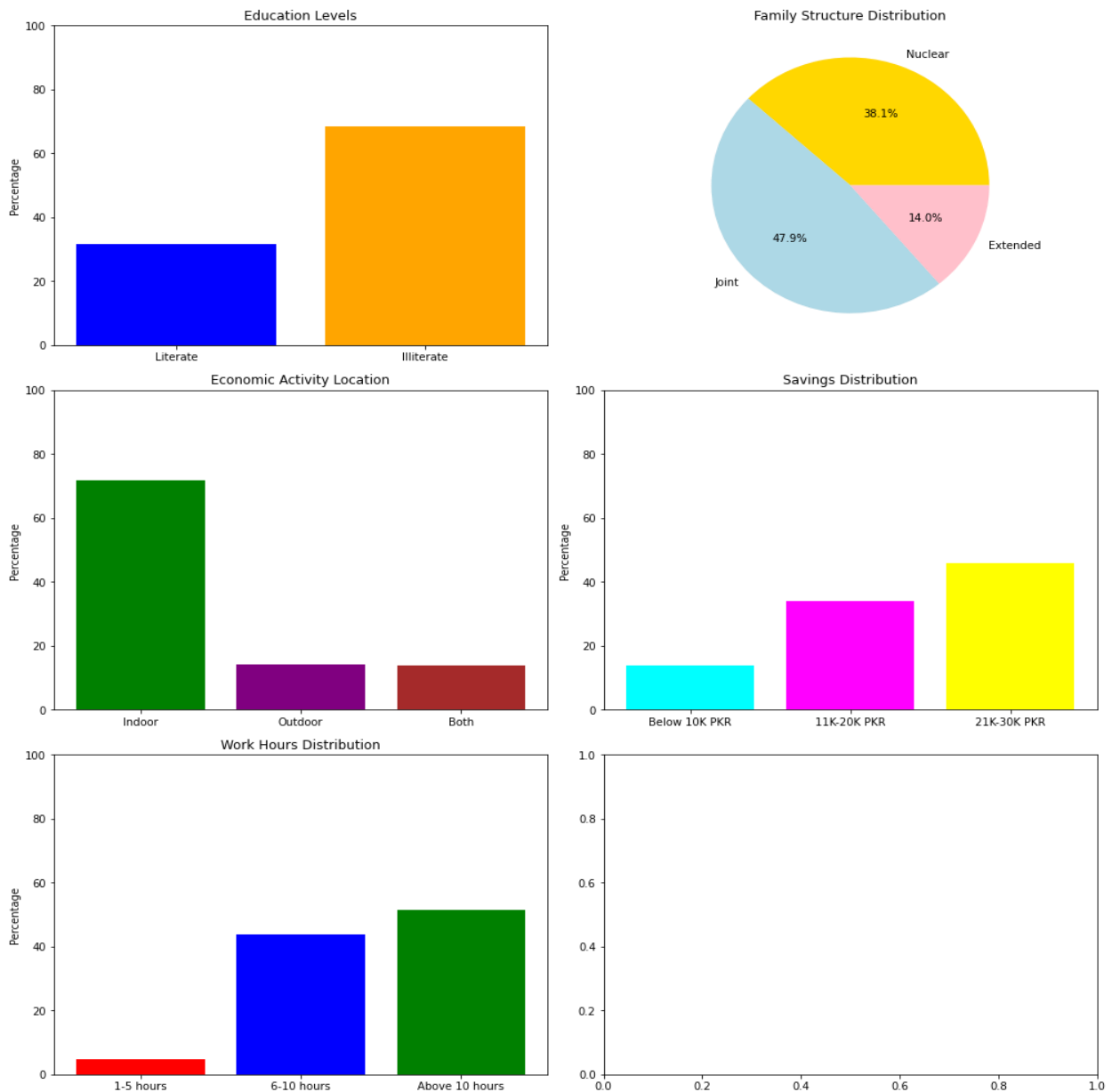
The analysis of non-farm business participation in rural areas of Pakistan reveals significant disparities in gender roles, income outcomes and socio-economic determinants. These patterns, shaped by various factors such as access to resources, education and dynamics of social and cultural aspects. By exploring gendered participation, determinants of involvement, income disparity, this study highlights barriers that limit women's full economic participation and proposes pathways for promoting more inclusive and equitable growth in non-farm businesses.

### **Gendered Participation in Non-Farm Business Activities**

A clear pattern of gendered participation emerges from above graph, with substantial differences in the roles of each gender. Male-headed households predominantly engage in higher-income non-farm enterprises, such as retail businesses, manufacturing, and trade, while female-headed households are more likely to be involved in low-profit, home-based activities, such as handicrafts, sewing, and food processing. These findings indicate that male-led businesses are typically more capital-intensive and have access to better markets, while female-led businesses are often confined to smaller, informal enterprises.

Following graphs show exactly how Education-level, Family structure, Economic Activity location, Savings distribution and Work hours vary.

**Visualizations Based on Data**



**Income Disparities in Male- and Female-Managed Businesses**

Income disparities between male- and female-managed businesses are stark, as revealed by the Oaxaca-Blinder decomposition method. This technique was employed to understand the differences in profits generated by male- and female-managed enterprises. The results show that male-led businesses generate significantly higher profits compared to those led by women. The analysis identifies the primary drivers of these income disparities, focusing on both the endowment effect and the coefficient effect.

The endowment effect emphasizes the role of access to resources in shaping business outcomes. Male-managed businesses benefit from greater access to capital, land, and technology, which allow them to scale their operations and generate higher revenues. In contrast, female-led businesses are constrained by limited access to these resources, which hinders their ability to grow and compete

in more lucrative markets. For instance, women often have less access to credit due to gender biases in financial institutions and lack collateral, such as land or property. This limited access to resources results in smaller-scale businesses that are less profitable.

The coefficient effect highlights the role of gender biases in business operations. Even when women manage businesses with similar resources to men, they often experience lower returns on those resources. These gender biases manifest in various ways, such as discrimination in the labor market, reduced bargaining power, and limited access to high-value markets. Women are also more likely to face social and cultural barriers that restrict their mobility, limiting their ability to expand their businesses beyond the local community or access larger markets. These structural inequities exacerbate the income gap between male- and female-managed businesses.

Despite these disparities, it is important to note that female-led enterprises still play a critical role in supporting household welfare, even if the profits are lower. The coefficient effect suggests that when women run businesses, they often face more challenges but manage to sustain their operations through resilience and creativity.

### **Mediation Analysis: Profits and Household Welfare**

The relationship between gender and household welfare is complex, and mediation analysis provides valuable insights into the indirect effects of profits on household outcomes. The study finds that profits from non-farm businesses mediate the relationship between gender and household welfare, but the nature of this mediation varies depending on whether the business is male- or female-led.

Male-led businesses contribute significantly to household welfare due to their higher profitability. These businesses generate surplus income, which can be reinvested into the household for education, healthcare, or other income-generating activities. The higher profitability of male-led businesses also provides greater financial security and opportunities for upward mobility. As a result, male-headed households are better able to weather economic shocks and improve their overall living standards.

On the other hand, female-led enterprises, despite generating lower profits, play a crucial role in enhancing household resilience and reducing poverty. For many female-headed households, the additional income from small-scale businesses helps meet basic needs, such as food, clothing, and healthcare. These businesses often serve as a safety net, providing essential income during difficult times. While the income from female-led businesses may not be as high, the consistent contribution of supplementary income helps reduce the vulnerability of households, particularly in rural areas where economic opportunities are restricted.

### **Discussion**

The findings of this study provide valuable insights into the dynamics of non-farm business activities in Pakistan, with a particular focus on gender disparities. These insights shed light on the challenges faced by women in engaging in non-farm business activities, the role of socioeconomic factors in shaping business outcomes, and the stark differences in rural households in terms of access to resources and opportunities. By examining gendered patterns, determinants of participation, and the role of profits in household welfare, the study uncovers critical barriers to inclusive economic growth and suggests policy measures to address these issues.

### **Gender Disparities in Non-Farm Business Activities**

One of the most striking findings of this study is the significant gender gap that exists in nonfarm business activities in Pakistan. Male-headed households predominantly manage higher income non-farm enterprises, whereas female-headed households tend to be involved in lower profit activities such as handicrafts, small-scale food production, and other home-based businesses. This disparity in business performance is largely driven by unequal access to resources, education, and market opportunities. The Oaxaca-Blinder decomposition analysis reveals that male-led businesses generate significantly higher profits than female-led ones. The primary factors contributing to this gap are the differences in resource access, such as capital, technology, and market connections, which favor male entrepreneurs. The study highlights that males typically have better access to financial resources, enabling them to invest in larger-scale, more profitable ventures.

Cultural and socio-economic norms, particularly in rural areas, further exacerbate these inequalities. In rural Pakistan, women are often constrained by traditional gender roles that limit their ability to engage in economic activities outside the home. Women are typically confined to home-based businesses, which, while important for household income, tend to be low-profit and more labor-intensive. These businesses often focus on domestic tasks like stitching, embroidery, and food production, which have limited potential for expansion or higher earnings. In contrast, male-headed households in rural areas tend to have more freedom to engage in business ventures that are more profitable and scalable.

### **The Role of Education and Access to Credit**

The role of education and access to credit emerges as critical in influencing participation in nonfarm business activities. The study finds that education is a significant determinant of business participation for both men and women, but its impact is particularly pronounced for women. Households where women have higher levels of education are more likely to engage in non-farm business activities. This is because education equips women with the necessary skills and knowledge to run a business, make informed decisions, and access broader market opportunities. However, despite the importance of education, there remains a significant gap in the literacy rates between men and women, especially in rural areas, which restricts women's ability to fully participate in higher-value non-farm activities.

### **The Role of Profits in Household Welfare**

The mediation analysis conducted in this study provides insights into the role of profits in enhancing household welfare. The analysis reveals that profits from non-farm businesses mediate the relationship between gender and household welfare, but the impact of profits varies between male- and female-managed enterprises. Male-led businesses tend to generate higher profits, which directly contribute to improved household welfare. These businesses provide surplus income that can be reinvested into the household for education, healthcare, and other necessities, thereby improving the living standards of family members. The higher profitability of male-led businesses also enhances financial security, providing households with greater resilience in the face of economic shocks.

In contrast, female-led businesses, although generating lower profits, play a crucial role in enhancing household resilience and reducing poverty. For many women, non-farm businesses are not just a source of income but a means of survival. These businesses contribute essential income that helps meet the basic needs of the family, such as food, clothing, and healthcare. While the profits from female-led businesses are lower, they are often critical in preventing households from

falling deeper into poverty. The study underscores the importance of these businesses in improving the resilience of female-headed households and enhancing their ability to cope with economic challenges.

### **Policy Implications and Recommendations**

The findings of this study highlight the need for targeted policy interventions to address the structural barriers that limit women's participation and profitability in non-farm businesses. Policies aimed at improving women's access to education, credit, and markets can play a transformative role in empowering women and promoting economic inclusion. Education programs that focus on skill development, entrepreneurship, and financial literacy can help women build the capacity to manage and scale their businesses. Moreover, providing women with better access to credit through gender-sensitive financial services can help bridge the resource gap and enable them to invest in higher-profit ventures.

Finally, addressing the cultural and socio-economic norms that limit women's mobility and decision-making power is essential for fostering greater gender equality in non-farm business activities. Promoting gender-sensitive policies that challenge traditional gender roles and empower women to engage in economic activities outside the home can help create a more inclusive and equitable economy.

### **Conclusion**

This analysis highlights the complex and gendered nature of non-farm business participation in Pakistan. While non-farm businesses offer valuable opportunities for income generation and household welfare, gender disparities persist, with men benefiting from greater access to resources, markets, and education. Women, particularly in rural areas, face significant barriers to full participation in non-farm activities, including limited access to education, capital, and networks. Despite these challenges, female-led businesses continue to play an essential role in household resilience and poverty reduction.

The study's findings emphasize the need for targeted interventions to bridge gender and geographic disparities in non-farm business participation. Policies that address resource access, reduce gender biases, and promote education and skills development for women can help unlock the full potential of non-farm businesses, leading to more inclusive and equitable economic growth in Pakistan.

Male-headed households tend to manage higher-income non-farm enterprises, benefiting from better market integration and more significant financial resources. This access enables men to scale their businesses and maximize profits. In contrast, female-headed households, particularly in rural areas, engage primarily in low-profit, home-based businesses, such as handicrafts, stitching, and food processing. These businesses, while essential for household survival, often lack the potential for significant growth due to limited access to capital, technology, and market opportunities. Despite these limitations, female-led businesses are crucial for supporting household resilience, poverty reduction, and ensuring economic survival in resource-constrained environments.

The findings also highlight the role of profits in improving household welfare. Male-led businesses generate significantly higher profits, contributing to greater financial security and enhanced living standards. On the other hand, female-led businesses, despite their lower profitability, play a vital role in enhancing household resilience and reducing poverty. These businesses provide essential income that helps meet the basic needs of families, particularly in rural areas where access to other forms of income is limited.

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