

Research Article

# Determinants of Women's Participation in Leadership Positions in Wombera Civil Service Metekel Zone of Benishangul Gumuz, Ethiopia

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## Abstract

The women's movement over the last century has fostered unprecedented participation of women in various sectors of public life, including leadership roles and policy discussions. Women continue to face numerous barriers that hinder their ability to ascend to leadership roles, including systemic biases, cultural norms, and organizational practices that favor male leadership. This study aims to analyse the factors affecting women's participation in leadership positions in wombera civil service. Primary and secondary sources of data were used to collect quantitative and qualitative data from 218 samples of respondents through survey questionnaires, Focus group discussions, and key informant interviews. An econometrics model (binary logistic regression) was used to analyse factors affecting women's participation in leadership positions in the civil service. The results of this Binary logistic model showed that variables like the education level of the household, family size, and working experience were positively influenced, whereas the age of the household was negatively influenced by women's participation in leadership positions in civil service. So, policy and development interventions should focus on factors that help women's participation in leadership positions, and governments should provide psychological counseling, allocate resources, and develop policies to improve their situation, emphasizing the need for local, regional, and federal government support to improve women's participation in leadership positions.

## Keywords

Civil Service, Ethiopia, Women's Participation, Leadership Positions

## 1. Introduction

Ethiopia is among the nations that have made worldwide statements confirming the lawful rights and equality of men and women [1, 2]. The Constitution incorporates this commitment in Article 9(4), stating that "All international agreements ratified by Ethiopia are an integral part of the law of the land" [3, 4]. According to [5] the Ethiopian government has demonstrated a strong commitment to addressing gen-

der-based disparities across various sectors. By implementing diverse policy initiatives and establishing specialized ministerial offices, it has actively participated in international, national, and regional efforts to promote gender equality" [6-8].

"In the Benishangul-Gumuz Regional State, significant strides have been made to enhance women's participation in

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political leadership. Various initiatives are aimed at ensuring that women occupy a substantial percentage of leadership positions at both local and regional levels, reflecting a broader commitment to gender equality" [9-11]. According to [12], these efforts are crucial for promoting inclusive governance. However, traditional norms and cultural barriers continue to hinder women's political participation. Many women face societal attitudes that limit their ability to engage in political processes, highlighting the need for targeted interventions to challenge these entrenched views [13-15].

To the best of the researcher's knowledge, no research has been conducted on civil service in Wombera Woreda, highlighting a significant gap in understanding women's leadership and the gender disparity. Hence, this study aimed to examine the factors influencing women's participation in leadership roles in wombera civil service.

## 2. Research Methodology

### 2.1. Description of the Study Area

The study was conducted in Wombera Woreda, part of the Benishangul-Gumuz region in northwestern Ethiopia, bordered by Amhara, Oromia, and Sudan. This area is known for its diverse ethnic groups and rich cultural heritage. The climate features distinct seasonal variations, with hot months from February to May and cold months from June to January. The rainy season runs from May to October, peaking from June to August, significantly affecting agriculture and livelihoods. Understanding Wombera Woreda is crucial for assessing factors influencing women's participation in leadership. The region's cultural, social, and economic dynamics may create both opportunities and barriers for women in leadership roles. This study aims to provide insights relevant to local contexts and contribute to broader discussions on gender equality and women's empowerment in leadership throughout Ethiopia and similar regions.

### 2.2. Research Design, Data Sources, Data Types, and Methods of Data Collection

A cross-sectional study was performed, primarily for the purpose of obtaining information from respondents in Wombera civil service. The study obtained both quantitative and qualitative data from primary and secondary sources through structured interviews, focus group discussions, and key informant interviews. Qualitative data were obtained through focus group discussions, key informant interviews, and secondary data were obtained from published and unpublished sources and from district offices.

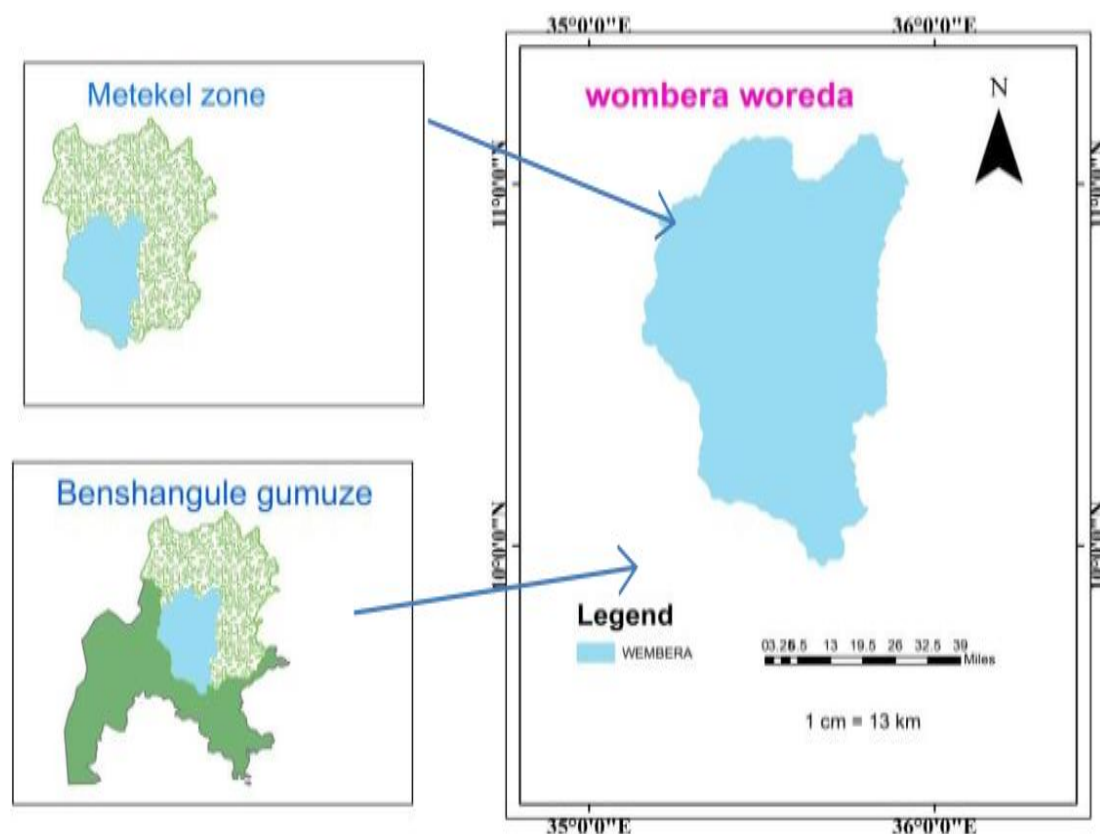


Figure 1. Map of the study area.

## 2.3. Sample Size Determination

The sample size should be determined by using a statistical formula from 22 sectors. To determine the sample size use Yaman's 1967 was used to determine the sample size, which is reliable when the population size is known.

$$n = \frac{N}{1 + N(e^2)} = \frac{480}{1 + 480(0.05^2)} = 218$$

## 2.4. Methods of Data Analysis

Achieving the aims of this study required econometric data analysis models, which were completed using STATA version 18.0, SPSS version 25.0, and Excel software to input and analyze the data collected from the sample respondents.

### *Econometric Analysis*

#### *Model specifications*

In this study, a binary logistic regression model was used to factor affecting women's participation in the study area. The main point is that since the dependent variable is binary (1= participate; 0 = did not participate), we want a model that is built for binary outcomes. When using a model specifically designed for binary outcomes, it had two options: the logit model or the probit model. Both will constrain our predicted probabilities to logically exist between 0 and 1. The main distinction between the two is their different distributional assumptions - the logit model uses a logistic distribution, the probit model uses a normal distribution. Overall, logit and probit models perform similarly; they will typically yield very similar results. Logit model because of how straightforward

the mathematics is, and more importantly, because the data set contains a mix of continuous and categorical predictor variables. The logistic regression formula, which estimates the probability of an event occurring, is expressed as:

$$(p) = \beta_0 + \beta_1 X_1 + \dots + \beta_i X_i + \epsilon_i$$

Where

Logit(P)= factor affecting women participation

$\beta_0$ = constant coefficients

$\beta_i$ = coefficients of independent  $X_i$  variables

$X_i$  factors or independent variables

$\epsilon_i$  = error term/disturbance term

## 3. Results and Discussion

### 3.1. Descriptive Analysis

All relevant information that was collected through questionnaires was analysed, and a detailed description and explanation of each part of the information from the different respondents were presented. The table below shows that on women's participation in leadership, out of 218 respondents, 116 women (53.21%) hold leadership participate, while 102 women (46.79%) do not participate in the study area. This indicates that a slight majority of women are engaged in leadership positions, reflecting a positive trend in women's involvement.

**Table 1.** Women participants and non-participants in leadership.

|                                     | Items | Frequency | Percentage |
|-------------------------------------|-------|-----------|------------|
| Women's participation in leadership | Yes   | 116       | 53.21      |
|                                     | No    | 102       | 46.79      |

Source: Own computation from survey result, 2025

## 3.2. Econometric Analysis

### *Factors Affecting Women's Participation in Leadership Positions in the Wombera Civil Service*

Data analysis for this study, utilizing a logit model to analyze factors affecting women's participation in leadership positions in Wombera civil service, included several important data tests. First, a Variance Inflating Factor (VIF) was calculated to avoid inaccurate results due to multicollinearity (high correlation between independent variables). The VIF

mean of 1.28 was sufficiently below the critical value of 10, meaning multicollinearity was not a critical concern.

Second, the Hosmer-Lemeshow test was used to test the model's goodness of fit; this test checks that the logit model sufficiently represents the data. The Hosmer-Lemeshow test resulted in a p-value greater than 0.05, and the LR chi2 statistic calculation (53.83 with P=0.0000) was statistically significant, meaning the logit model is a good fit to the data. The analysis was followed by the estimation of marginal effects to explain how each of the independent variables influenced the probability of women's participation in leadership positions.

**Table 2.** Logit estimate for determinants of women's participation in leadership positions.

| Variables                 | Coef.    | St.Err.              | p-value | Dy/dx  |
|---------------------------|----------|----------------------|---------|--------|
| Martal status             | 0.245    | 0.381                | 0.52    | 0.061  |
| Age household             | -0.151** | 0.063                | 0.016   | -0.038 |
| Education level household | 0.447*   | 0.261                | 0.087   | 0.111  |
| Family size               | 0.374*** | 0.138                | 0.007   | 0.093  |
| Work Experience           | 0.363*   | 0.212                | 0.087   | 0.090  |
| Access to training        | 0.453    | 0.394                | 0.251   | 0.113  |
| Access self-confident     | 0.25     | 0.361                | 0.488   | 0.062  |
| Religion                  | 0.053    | 0.228                | 0.814   | 0.013  |
| Constant                  | 2.776    | 2.875                | 0.334   |        |
| Mean dependent var        | 0.532    | SD dependent var     | 0.500   |        |
| Pseudo r-squared          | 0.179    | Number of obs        | 218     |        |
| Chi-square                | 53.833   | Prob > chi2          | 0.000   |        |
| Akaike crit. (AIC)        | 267.480  | Bayesian crit. (BIC) | 301.32  |        |

Note: \*\*, and \* indicate statistical significance at 5 and 10% respectively.

Source: Own computation from survey result, 2025

**Age of household:** The age of the household head negatively and significantly influences the women's participation in leadership positions, with a coefficient of -0.151 at the 5% significance level. As the marginal effect indicates that as the age of the household head increases, the probability of women's participation in a leadership position decreases by approximately 3.8% for each additional year. This suggests that older household heads may perpetuate traditional views that limit women's opportunities for leadership, highlighting the need for initiatives that promote gender equality and empower women, particularly in households led by older individuals; younger women may face challenges in balancing career ambitions with familial obligations, particularly if they are caring for children or elderly relatives.

**Education level:** The education level of women positively and significantly influences their participation in leadership positions within the civil service at a 10% level. Generally, higher levels of education are associated with increased qualifications and greater confidence in pursuing leadership roles. As the marginal effect indicates that as the education level of women increases by one year, the probability of women's participation in leadership positions increases by approximately 11.1%. However, women with lower educational attainment may face barriers such as limited job opportunities and a lack of access to networks that can facilitate career advancement. Additionally, societal perceptions often undervalue the capabilities of women with less formal edu-

cation, leading to biases in hiring and promotion processes. Furthermore, educational disparities can perpetuate cycles of inequality, as women with lower education levels may also have fewer resources to invest in their professional development. To enhance women's representation in leadership, it is crucial to promote educational opportunities and support continuous learning initiatives, ensuring that women from all educational backgrounds can compete effectively for leadership roles in the civil service.

**Family size:** Family size can significantly and positively impact women's participation in leadership positions within the civil service at 1% level. Women from larger families may face increased responsibilities related to caregiving and household management, which can limit their availability for demanding leadership roles. The time and energy required to care for multiple children or dependents can create obstacles to pursuing professional development opportunities, networking, or even working long hours typically associated with leadership positions. As the marginal effect indicate that as the family size of women increases by one member, the probability of women's participation in leadership positions increases by approximately 9.3%. Additionally, societal expectations often place the burden of family care primarily on women, further exacerbating the challenges they face in balancing work and family life. This dynamic can lead to a perception that women with larger families are less committed to their careers, potentially affecting their chances for promotion.

To support women's advancement in leadership, it is essential to implement family-friendly policies and practices that acknowledge diverse family structures and provide the necessary resources for women to thrive professionally while managing family responsibilities.

**Working experience:** The Working experience of women positively and significantly influences their participation in leadership positions within the civil service at a 10% level. Working experience, often measured in years, plays a crucial role in women's participation in leadership positions within the civil service. Generally, greater work experience correlates with increased expertise, confidence, and understanding of organizational dynamics, all of which are essential for effective leadership. As the marginal effect indicate that as the working experience of women increases by one year, the probability of women's participation in leadership positions increases by approximately 9.0%. Additionally, the accumulation of relevant experience is often accompanied by networking opportunities and mentorship, which are vital for career advancement. To foster women's leadership in the civil service, it is important to recognize the different paths women may take in their careers and to create supportive mechanisms that acknowledge diverse experiences, including those gained outside of traditional work environments.

## 4. Conclusions and Policy Implications

The main objective of this study is to assess the factors affecting women's participation in leadership positions in civil service. The results of this Binary logistic model showed that variables like the education level of the household, family size, and working experience were positively affected by women's participation in leadership positions within the civil service in the study area, whereas the age of the household was negatively affect women's participation in leadership positions within the civil service in the study area. The findings indicate that the education level of household heads positively influences women's participation in civil service leadership. To enhance this participation, the Wombera Woreda Education Office should implement targeted educational initiatives, including adult education programs for literacy and vocational skills, scholarships for women students, and awareness campaigns promoting girls' education. Additionally, establishing mentorship programs connecting young women with successful female leaders and engaging community leaders to support women's education will help address cultural barriers and promote gender equality in leadership roles. These comprehensive efforts aim to empower women and improve their representation in leadership positions. This finding showed that the probability of women participation in leadership positions within the civil service was positively and significantly influenced by the working experience. As women gain experience, they not only sharpen their skills and boost their

confidence, but also grow their professional networks, which make them stronger and more visible candidates for leadership roles. To build on this, organizations should implement mentorship and training programs focused on career development and support a workplace culture that values women's contributions, ultimately fostering greater gender equality in leadership.

## Abbreviations

|       |                                             |
|-------|---------------------------------------------|
| Edu   | Education Level                             |
| Fsize | Family Size                                 |
| GIS   | Geographic Information System               |
| SPSS  | Statistical Package for the Social Sciences |

## Author Contributions

Urji Argeta is the sole author. The author read and approved the final manuscript.

## Conflicts of Interest

The authors declare no conflicts of interest.

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