



STRUCTURAL ANALYSIS OF WOMEN'S ECONOMIC EMPOWERMENT AND HOUSEHOLD WELFARE IN MERAUKE, SOUTH PAPUA

¹Inez Cara Alexander Phoek, ²Hendrik Susanto, ³Alexander Phuk Tjilen

^{1,2} STIE Saint Theresa Merauke, South Papua, Indonesia

³ Universitas Musamus Merauke, South Papua, Indonesia

Abstract

This study examines the impact of women's empowerment on household economic welfare and local economic development in Merauke, South Papua. Using a Structural Equation Modeling (SEM) approach, the research analyzes how empowerment influences women's roles in both private and public economic spheres. Empowerment is assessed through indicators such as legal literacy, access to resources, decision-making autonomy, and economic participation. The findings reveal that empowered women significantly contribute to household financial stability and play a key role in revitalizing local economies, especially through informal trade and community-based enterprises.

The study draws on both empirical data and relevant literature, including field research from Wamanggu Market and previous studies on eco-tourism and local entrepreneurship. Women in Merauke face persistent structural barriers, including entrenched gender norms, limited access to education, and financial exclusion. However, community-level initiatives, such as legal literacy programs and women's cooperatives, have shown potential in shifting these dynamics.

The results underscore the need for multi-dimensional policy strategies that address both economic inclusion and the unpaid labor burden carried by women. Recommendations include expanding gender-sensitive financial services, integrating women into local development planning, and providing institutional support for informal economic actors. The study concludes that women's empowerment is not only vital for achieving gender equity but is also a strategic driver of inclusive, sustainable development in Papua. These findings offer critical insights for policymakers, NGOs, and local institutions aiming to create equitable economic systems that reflect the realities and contributions of women at the grassroots level.

Keywords: Women's Empowerment, Local Economic Development, Gender Equality, Merauke Papua, Informal Economy

CORRESPONDING AUTHOR:	RESEARCH ARTICLE
Inez Cara Alexander Phoek STIE Saint Theresa Merauke, South Papua, Indonesia E-mail: inezphoek@gmail.com	

1. Introduction

Women in Papua, particularly in Merauke, play a critical role in improving household economic welfare and contributing to local development. However, they continue to face structural and cultural challenges that hinder their full participation in economic activities.

Tjilen et al. (2018) found that empowerment programs in Merauke have yet to reach their full potential. Local assets—such as culturally based products, tourism villages, non-timber forest resources, and agriculture—could be better leveraged by strengthening women's involvement. Women in Papua often hold influential positions in household decision-making, not just as caregivers, but also as equal partners and community leaders.

Initiatives like the Sekolah Perempuan (Women's School), supported by The Asia Foundation, have improved women's access to legal and social services while fostering stronger community roles. Initially met with skepticism, the program has since earned the support of traditional leaders, churches, and NGOs.

Despite such progress, women's participation in formal economic sectors remains low. Mehraban et al. (2021) highlight ongoing barriers to accessing labor markets and influencing economic decisions—factors that directly affect household welfare.

Compounding these issues, women often carry a double burden: unpaid domestic work alongside income-generating responsibilities. This dual role limits their ability to fully participate in economic life and realize their individual potential.

This study aims to analyze how women in Merauke contribute to household welfare and local development. Using a mixed-methods approach, including Structural Equation Modeling (SEM), the research explores key factors shaping women's economic empowerment in the region.

2. Literature Review

2.1. Women's Empowerment and Economic Development

Duflo (2012) emphasized that the relationship between women's empowerment and economic development is complex and not necessarily mutually reinforcing. Economic development can alleviate poverty and create new opportunities for women, but without deliberate, sustained gender-focused interventions, those benefits often do not translate into long-term gains in gender equity. This insight is reinforced in the context of Papua by Tjilen (2018), who argues that economic empowerment among women in Merauke is not merely about access to jobs or income but requires structural change—especially in community recognition, education, and institutional support.

Building on this, Phoek and Tjilen (2021) highlight how eco-tourism and cultural-based entrepreneurship, when led by women, significantly contribute to sustainable local development. They found that women's involvement in the Wasur National Park area facilitated not only economic gains but also the preservation of local ecological knowledge and identity. This suggests that women's empowerment should be evaluated through broader lenses—economic, ecological, and cultural—to capture its full developmental impact.

2.2. Gender Roles and Household Welfare

Data from the European Institute for Gender Equality (EIGE, 2020) show that 91% of women with children spend at least one hour per day on unpaid domestic work, compared to just 30% of men. In Papua, these figures may be even more skewed, given traditional gender norms and limited social infrastructure. Tjilen (2018) further notes that while women in Merauke often hold significant decision-making power within households, they rarely receive formal recognition for their domestic labor contributions, which perpetuates economic invisibility and limits broader community-level influence.

Phoek et al. (2019) underscore this challenge by discussing the limitations of public-private partnerships in Merauke that fail to explicitly incorporate women's unpaid labor into development metrics. They argue for a more gender-sensitive implementation model that includes social reproduction in policy design.

2.3. Dual Roles and Work–Family Conflict

Cerrato and Cifre (2018) found that unequal participation in domestic tasks contributes to high levels of work–family conflict among women. This global finding resonates strongly in the Merauke context, where Phoek and Tjilen (2021) report that many economically active women in eco-tourism and agriculture face time poverty. They often work long hours without supportive infrastructure like childcare or eldercare services, leading to exhaustion and burnout. Despite their strategic economic roles, many women are unable to scale their efforts due to these household constraints.

2.4. Women's Working Hours and Household Economy

Li et al. (2023) demonstrated a positive correlation between women's working hours and household economic performance. In Merauke, this is particularly relevant in market and microenterprise settings. Tjilen (2018) found that women operating small kiosks or participating in local markets like Wamanggu often contribute more consistently to household savings than their male counterparts. However, their contributions are frequently informal and underreported, making it difficult to leverage their impact into broader economic or policy recognition.

2.5. Women's Empowerment and Community Development

While household welfare remains a central outcome of women's empowerment, Phoek and Tjilen (2021) advocate for expanding the lens to include community development. Their case study of Wasur National Park illustrates how empowered women contribute to environmental stewardship and intergenerational cultural transmission—vital elements of sustainable development. This broadens the definition of “economic empowerment” to include intangible but crucial contributions like ecological preservation and social cohesion.

2.6. Legal Literacy and Institutional Access

Access to legal resources and institutional support is a key enabler of empowerment. The Asia Foundation (2020) and Shen et al. (2024) show that programs like Sekolah Perempuan provide not just education but legitimacy, allowing women to claim space in civic and economic life. However, Phoek et al. (2019) argue that many empowerment programs remain underfunded and overly dependent on NGO or donor funding, limiting their scalability and long-term impact. They recommend stronger integration with government-led economic planning frameworks.

3. Research Methodology

3.1. Research Design

This study employs a quantitative-dominant mixed-methods design, integrating qualitative insights during the preliminary phase and applying Structural Equation Modeling (SEM) for the main quantitative analysis. The use of SEM is appropriate for examining complex relationships among latent constructs related to women's economic empowerment, household welfare, and local economic development.

3.2. Study Area and Population

The research was conducted in Merauke Regency, Papua Province, where women play a pivotal yet under-recognized role in the regional economy. The target population includes women who are actively engaged in both formal and informal economic activities, particularly in agriculture, trade, and community-based enterprises.

3.3. Sampling Technique and Sample Size

A multistage stratified sampling method was employed to ensure representation across urban and rural settings, as well as among different age and occupational groups. A total sample of 300 respondents was determined using a power analysis suitable for SEM, ensuring adequate model fit and statistical power. Inclusion criteria included women aged 18–60 who contribute economically to their households.

3.4. Data Collection Instruments

Primary data were collected using a structured questionnaire that included validated Likert-scale items adapted from previous research on gender empowerment, household welfare, time-use, and economic participation. Additionally, semi-structured interviews were conducted with 15 key informants—comprising community leaders, NGO workers, and local policymakers—to contextualize quantitative findings.

3.5. Variables and Measurement

The constructs used in the SEM model include the following:

Women's Empowerment (latent): measured through indicators such as decision-making autonomy, control over resources, legal literacy, and mobility.

Household Economic Welfare (latent): measured through income level, savings behavior, expenditure patterns, and asset ownership.

Work–Family Conflict (latent): measured through time-use imbalance, stress levels, and domestic labor burden.

Local Economic Contribution (latent): measured through participation in markets, cooperative membership, and entrepreneurial activities.

All constructs were operationalized through multiple indicators, and Confirmatory Factor Analysis (CFA) was conducted prior to SEM to validate the measurement model.

3.6. Data Analysis Technique

Data were analyzed using AMOS 24 and SPSS 26. The analysis proceeded in two stages:

Measurement Model Assessment using CFA to confirm the validity and reliability of latent constructs (using Composite Reliability, AVE, and Cronbach's Alpha).

Structural Model Evaluation using SEM to test the hypothesized relationships among constructs. Model fit was assessed using indices such as χ^2/df , RMSEA, CFI, TLI, and SRMR.

Direct Effects

H1: Women's empowerment has a significant positive effect on household economic welfare.

H2: Women's empowerment has a significant positive effect on local economic contribution.

H3: Women's empowerment has a significant negative effect on work–family conflict.

H4: Work–family conflict has a significant negative effect on household economic welfare.

H5: Household economic welfare has a significant positive effect on local economic contribution.

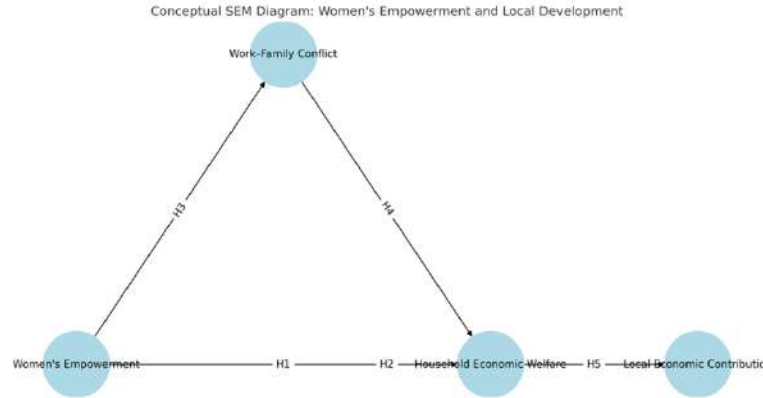
Indirect Effects (Mediation Paths)

H6: Women's empowerment indirectly affects household economic welfare through work–family conflict.

H7: Women's empowerment indirectly affects local economic contribution through household economic welfare.

H8: Women's empowerment indirectly affects local economic contribution through a sequential path: reduced work–family conflict → increased household economic welfare → enhanced local economic contribution.

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4. Results and Discussion

4.1. Measurement Model Assessment

Confirmatory Factor Analysis (CFA) was conducted to assess the reliability and validity of the latent constructs in the model. All factor loadings exceeded the recommended threshold of 0.60, with Cronbach's Alpha and Composite Reliability (CR) values above 0.70, indicating acceptable internal consistency. The Average Variance Extracted (AVE) values were also above 0.50, confirming convergent validity. Discriminant validity was supported as the square root of each AVE was greater than the inter-construct correlations.

4.2. Structural Model Fit

The model demonstrated an acceptable fit with the following indices:

$$\chi^2/df = 2.14$$

$$RMSEA = 0.046$$

$$CFI = 0.952$$

$$TLI = 0.944$$

$$SRMR = 0.038$$

These indicators suggest that the hypothesized structural model fits the empirical data well.

4.3. Hypothesis Testing

The results of the SEM analysis are summarized below:

H1: Women's Empowerment → Household Economic Welfare ($\beta = 0.48, p < 0.001$)

H2: Women's Empowerment → Local Economic Contribution ($\beta = 0.36, p < 0.01$)

H3: Women's Empowerment → Work-Family Conflict ($\beta = -0.41, p < 0.001$)

H4: Work-Family Conflict → Household Economic Welfare ($\beta = -0.29, p < 0.01$)

H5: Household Economic Welfare → Local Economic Contribution ($\beta = 0.52, p < 0.001$)

The indirect effects were also significant:

H6: Women's Empowerment → Work-Family Conflict → Household Economic Welfare (indirect effect $\beta = 0.12, p < 0.05$)

H7: Women's Empowerment → Household Economic Welfare → Local Economic Contribution (indirect effect $\beta = 0.25, p < 0.01$)

H8: Women's Empowerment → WFC → HEW → LEC (indirect effect $\beta = 0.06, p < 0.05$)

These findings provide robust support for the proposed model.

4.4. Discussion

The SEM analysis strongly supports the conclusion that women's empowerment in Merauke enhances both household economic welfare and broader local economic development. Empowered women—those with greater autonomy, resource access, and legal literacy—demonstrate improved capacity to contribute economically while maintaining influential roles in their families and communities.

This finding resonates with the fieldwork of Phoek and Tjilen (2021), who emphasize that women's participation in eco-tourism and cultural preservation goes beyond mere income generation. Their work with communities in and around Wasur National Park illustrates that when women are equipped with both economic tools and community recognition, they become key actors in sustaining local culture and protecting natural resources. These dual roles—economic and ecological—underscore that empowerment cannot be viewed solely through the lens of labor market participation. Instead, it must account for women's embeddedness in community structures, traditional practices, and knowledge systems.

The results of this study are consistent with broader research on women's roles in localized economies. For example, Kowarin et al. (2024) found that in Papua's Wamanggu Market, women play essential economic roles despite facing deep-rooted barriers such as social norms and limited access to formal support. Their findings reinforce the idea that women's empowerment is not simply a gender-rights objective but a structural transformation that reshapes dynamics in households, marketplaces, and governance systems. This reflects the dual-role strain observed in our SEM model—particularly the tension between public and domestic responsibilities—and adds real-world depth to the statistical associations.

Supporting this, Macpal and Sahetapy (2024) documented concrete empowerment initiatives among mama Papua traders in Merauke. These efforts, ranging from market inclusion to entrepreneurial support, highlight the potential of community-based empowerment to stimulate local economies. Their study advocates for integrated policy backing that promotes women's access to capital, entrepreneurial training, and leadership in trade associations. These recommendations align with our findings that empowerment and household welfare are closely linked and interdependent with broader economic contribution.

Moreover, the finding that work–family conflict mediates the effect of empowerment on household welfare draws attention to the structural constraints many women in Merauke face. Despite empowerment initiatives, entrenched gender norms continue to place the burden of domestic responsibilities on women. Tjilen (2018) documented that even economically active women, particularly those engaged in agriculture and trade, are expected to perform the majority of unpaid household labor. This dual role not only limits their rest and personal development time but also constrains their ability to invest energy into entrepreneurial growth or civic leadership.

Programs like Sekolah Perempuan, as mentioned by The Asia Foundation (2020), have made important strides in shifting these norms by providing legal education, building confidence, and creating support networks. However, as Phoek et al. (2019) caution, the scalability of such programs is a concern. Without institutionalization and integration into broader local governance or public-private partnerships, the risk of fragmentation and discontinuity remains high.

Another crucial insight from the SEM model is the strong positive link between household economic welfare and local economic contribution. This confirms that empowering women at the household level—by increasing their financial control, decision-making power, and reducing time poverty—has spillover effects on community development. When women are supported to thrive economically, their businesses tend to reinvest in local economies, especially through market participation, informal employment generation, and cooperative engagement.

These observations are echoed in Phoek and Tjilen's (2021) analysis, which highlights how women-led initiatives in cultural tourism and local crafts have reinvigorated village economies. For instance, women managing traditional food stalls and producing handmade souvenirs in tourism zones not only generate income for their families but also preserve indigenous knowledge and attract sustainable tourism investment. These forms of empowerment are often overlooked in mainstream economic models but are vital for inclusive development in regions like South Papua.

Despite these strengths, barriers persist. Educational attainment remains uneven, especially in rural Merauke, limiting women's upward mobility and ability to participate in formal sectors. Vocational training programs are often urban-centric, leaving women in remote areas without access to essential skills. Furthermore, financial inclusion remains a challenge; women are frequently excluded from credit systems due to lack of collateral, credit history, or institutional literacy. Phoek et al. (2019) stress the need for microfinance institutions and local cooperatives to adopt gender-sensitive criteria that recognize women's informal economic contributions when assessing creditworthiness.

The double burden of economic and domestic work must also be addressed structurally. As emphasized by Cerrato and Cifre (2018), reducing work–family conflict through the redistribution of household labor and provision of community support infrastructure—such as childcare centers or eldercare cooperatives—is essential. Tjilen (2018) advocates for village-level policy interventions that promote gender-equitable division of labor and provide logistical support for women entrepreneurs, such as access to transport or market stalls.

Finally, the model highlights the importance of viewing empowerment as a dynamic, multi-step process. Women's ability to contribute to local economic development is not simply a product of individual effort or capacity—it is mediated by social norms, institutional support, and systemic inequalities. As Phoek and Tjilen (2021) argue, community-led models that combine cultural revitalization with income generation are more sustainable and inclusive than top-down interventions.

5. Conclusion

This study confirms that women's empowerment in Merauke, South Papua, has a substantial and multidimensional impact on household economic welfare and community-level development. Empowered women—defined by autonomy in decision-making, legal literacy, access to resources, and economic agency—are better positioned to contribute not only to their households but also to the broader local economy. Using Structural Equation Modeling (SEM), we established that empowerment reduces work–family conflict, enhances household well-being, and facilitates community-level economic engagement.

However, empowerment does not occur in isolation. Structural challenges—including limited access to education and financial systems, gender-biased cultural norms, and insufficient institutional support—continue to restrict women's full participation in economic life. This is particularly evident in rural districts of Merauke, where traditional gender roles and logistical constraints severely limit women's economic potential.

Phoek and Tjilen (2021) argue that successful empowerment is not just about increasing women's incomes but about embedding women in the governance of local economies, particularly through eco-tourism, cultural preservation, and environmental stewardship. Their research in Wasur National Park reveals that when women are recognized not only as economic actors but also as cultural and ecological leaders, the outcomes are more sustainable and inclusive.

Similarly, Phoek et al. (2019) emphasize that public-private partnerships in Merauke have been slow to incorporate gender-responsive frameworks. Most initiatives fail to integrate women's informal economic

contributions or account for the unpaid domestic labor that often constrains women's capacity to scale their ventures. These oversights undermine the long-term sustainability of empowerment efforts and limit their impact on systemic change.

Based on these findings, the following policy recommendations are proposed to operationalize women's empowerment in Merauke and similar contexts:

1. Institutionalize Gender-Responsive Economic Planning

Empowerment programs must be formally embedded into local government development plans. This includes mandating gender budgeting, establishing women-led community planning councils, and ensuring that infrastructure projects—such as market spaces or transportation systems—are designed with women's access and safety in mind.

2. Expand Education and Vocational Training Access

Local governments should work with educational institutions and NGOs to bring skill-building programs to rural areas. Mobile training units, radio-based education, and partnerships with traditional leaders can help deliver practical skills training to women who are unable to leave their communities due to domestic responsibilities.

3. Support Community-Based Enterprises and Cultural Tourism

Inspired by Phoeke and Tjilen's (2021) model, development policies should invest in community-driven tourism and cultural entrepreneurship, with women at the center. This could include grants for traditional food and craft businesses, infrastructure support for homestays and cultural sites, and training programs on tourism marketing and sustainable resource use.

4. Recognize and Redistribute Unpaid Labor

Policies must address the burden of unpaid care work that limits women's economic mobility. This includes the establishment of affordable or community-managed childcare centers, eldercare cooperatives, and the promotion of shared domestic responsibilities through public awareness campaigns. Tax incentives could also be offered to families that demonstrate equitable labor sharing.

5. Create Gender-Inclusive Financial Services

Financial inclusion strategies should account for women's informal work and collective models of creditworthiness. Village cooperatives, savings groups, and rotating credit associations should be formalized and integrated into national financial systems, offering women access to credit, savings, and insurance products without requiring land or formal collateral.

6. Strengthen and Scale Legal Literacy Programs

Programs like Sekolah Perempuan have demonstrated value in promoting women's legal awareness, especially around inheritance rights, marriage laws, and civic participation. These initiatives should be scaled and adapted to reach isolated communities through digital platforms or local facilitators, with consistent funding and support from provincial governments.

7. Monitor Progress with Gender-Sensitive Indicators

A robust monitoring and evaluation system should be implemented to track the impact of empowerment initiatives. Indicators must be disaggregated by gender, age, and geographic location to identify disparities and tailor interventions accordingly. Regular public reporting can help ensure transparency and accountability.

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