Balancing Care, Urban Constraints, and Time Poverty by Women Micro-Entrepreneurs in the Global South

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Abstract

Urbanisation in the Global South has created new opportunities for women's micro-entrepreneurship. However, unpaid care and infrastructural constraints are intensifying their time poverty, which confines their enterprises to the home-based or neighbourhood and limits their growth potential. This research examines how urban mobility and land-use constraints, combined with unpaid care responsibilities, influence women's time allocation and entrepreneurial engagement in Bangladesh. A mixed-methods design combines questionnaire surveys with women micro-entrepreneurs, daily time-use diaries, and semi-structured interviews with entrepreneurs, planners, and policymakers. Quantitative analysis employs regression models to examine the relationships between unpaid care, transportation access, and business outcomes, while qualitative insights reveal the lived trade-offs between caregiving, commuting, and entrepreneurship. Findings reveal that heavy unpaid care burdens significantly contribute to time poverty, often pushing women into home-based enterprises. Deficiencies in transport infrastructure, spatial separation of housing, markets, and childcare services, as well as unsafe commuting conditions, further restrict women's economic participation. The research recommends gender-responsive, safer, and more affordable public transport and land-use planning in the Global South, including the integration of childcare near housing and markets, to promote inclusive and sustainable entrepreneurial outcomes in urban areas. The novelty of this research lies in developing a conceptual model that elucidates the causal and resolution linkages between time poverty and the economic outcomes of urban women entrepreneurs in the Global South.

Keywords: Women, Micro-entrepreneur, Care Work, Time Poverty, Urban Constraints

1. Introduction

Urbanisation is occurring rapidly in the Global South. It is reshaping economic and social structures across there. The facilities of urbanisation are creating various economic opportunities. In Bangladesh, urban areas have expanded rapidly over the past five decades. The urban population has risen from 23 million in 1990 to over 68 million in 2022 (World Bank, 2023). This demographic transformation in urban areas has been accompanied by structural economic change, including the growth of services, informal employment, and micro-entrepreneurship. For many urban women, especially those excluded from formal employment, micro-entrepreneurship (i.e. tailoring, food vending, and handicrafts) offers a pathway to income generation, household contribution, and empowerment (Begum et al, 2025).

Women's entrepreneurial engagement is often significantly constrained by urban physical problems. Moreover, social structure affects their economic participation. Specifically, time poverty is a condition in which the competing demands of unpaid care work, domestic responsibilities, and economic activities limit productive opportunities (Blackden & Wodon, 2006). Research shows that, in Bangladesh, women spend an average of 5.89 hours per day on unpaid household and caregiving tasks, compared to 1.1 hours for men (BBS, 2021). This gendered imbalance in time allocation restricts women's ability to scale up their enterprises and broaden their economic activities. Additionally, urban constraints restrict their engagement in the broader economy.

Time poverty of women is rarely acknowledged in policy and practice, as unpaid care performed outside of the market is not included in gross national product calculations (Rodgers, 2024). Besides, urban physical infrastructural inadequacies, such as transportation and

childcare, play a central role in shaping the dynamics of time poverty among women. Women's access to safe, reliable, and affordable transportation influences their engagement beyond home-based activities, such as accessing markets, suppliers, training, or customer networks (Levy, 2013). However, in many cities of the Global South, transport systems are characterised by congestion, inadequate infrastructure, unsafe conditions, and poor integration with land-use planning (World Bank, 2022). These deficiencies interact with unpaid care responsibilities to exacerbate women's time poverty for economic participation. For instance, women often combine market trips with caregiving responsibilities, such as accompanying children to school or shopping. These responsibilities became more challenging due to unreliable transportation (Uteng & Turner, 2019).

The intersection of unpaid care burdens and urban constraints, such as transportation, is critical for understanding women's economic participation in urban Bangladesh. While research on women's entrepreneurship has examined issues such as access to credit, digital platforms, and training (Ahmetaj et al, 2023; Ubfal, 2024), less attention has been paid to how transport and time poverty jointly shape women's opportunities in micro-enterprises. Similarly, urban and transport planning studies in Bangladesh have focused on congestion, environmental impacts, or infrastructure deficits (Jahangir et al., 2024). However, there is rarely a thorough examination of gendered time use, micro entrepreneurship, and urban constraints. This research addresses this gap by analysing how urban constraints, particularly transportation and land-use constraints, intersect with unpaid care responsibilities to influence women's time allocation for micro-entrepreneurship in urban Bangladesh. The research questions are:

1) How do unpaid care responsibilities affect women's ability to engage and grow in micro-entrepreneurship?
2) Which transport and land-use constraints exacerbate women's time poverty?
3) What urban planning and policy measures can reduce these barriers and foster inclusive economic participation?

The significance of this research lies in its theoretical and policy contributions.

1. Theoretically, it integrates concepts from gendered time-use studies, urban mobility research, and entrepreneurship studies to build a framework for analysing women's economic participation in cities of the Global South.
2. It provides evidence-based recommendations for gender-responsive transport and land-use planning, including safe public transport, integrated childcare facilities, women-friendly markets, and improved neighbourhood accessibility.

These insights are particularly timely for Bangladesh and comparable contexts, where inclusive urban development and sustainable transport are crucial to achieving the Sustainable Development Goals (SDGs), specifically SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), and SDG 11 (Sustainable Cities and Communities).

The research contributes to broader debates on inequality, inclusive growth, and urban sustainability. By focusing on the urban women micro-entrepreneurs, it highlights how the overlooked domains of unpaid care and transport planning are central to building equitable and resilient urban futures in the Global South.

2. Literature review and conceptual understandings

The research conceptualizes time poverty of urban women entrepreneurs from two dimensions: i) social (i.e. unpaid care work, child care burdens of mothers) (Folbre, 2006; ILO, 2018; Sen, 1999; Bittman, 2005; Begum et al., 2025; Kabeer, 2012; Makola, 2022; Ubfal, 2024) and ii) physical infrastructural (i.e., market, transport, and child care) (like Vasudevan, 2023; Tas & Ahmed, 2023; Alarcon-Garcia et al., 2025; Nasrin, 2024; Jahangir et al., 2024; Tacoli, 2012; Uteng & Turner, 2019; Levy, 2013; ICRW, 2019).

2.1. Unpaid care and gender in the Global South

The concept of care work is central to understanding gendered inequalities in economic participation. Feminist economists argue that the unequal distribution of unpaid care responsibilities between men and women creates structural inequalities in labour market participation and entrepreneurial activities (Folbre, 2006). In developing countries, women's contributions to unpaid care work consistently exceed those of men. For instance, the International Labour Organisation (ILO, 2018) reports that globally, women perform 76 per cent of total unpaid care work, which is more severe in South Asia. This disproportionate allocation constrains women's ability to engage in productive activities such as employment or entrepreneurship.

Time-use analysis offers a crucial lens for connecting gender, care work, and economic development. However, while a growing body of literature exists on women's time use in Bangladesh, few studies directly connect unpaid care responsibilities with entrepreneurial outcomes in urban contexts. Sen (1999) and Folbre (2006) argue that conventional economic measures undervalue unpaid care work, obscuring the constraints it imposes on women's market participation. Building on this, Bittman (2005) demonstrates how unequal care responsibilities directly influence time allocation and restrict economic opportunities.

2.2. Women's entrepreneurship and time poverty in the Global South

Micro-entrepreneurship has become an important livelihood strategy for women in the Global South. It is offering flexibility to balance domestic and market responsibilities (Chant & Sweetman, 2012). In Bangladesh, women's micro-enterprises are concentrated in sectors such as tailoring, food processing, and handicrafts, often operating from home or in local markets (Begum et al., 2025). Studies show that women-owned microenterprises are often smaller, generate lower profits, and experience constrained growth because women allocate time to unpaid care work rather than their businesses (Oladipo, Platt, & Shim, 2023).

Kabeer (2012) argues that while credit and training can support women's labour market participation and enterprise development, their impact is constrained by structural barriers such as unpaid care responsibilities, norms, and household roles. Income poverty and time poverty are mutually reinforcing (Rodgers, 2024). Without addressing these care burdens, interventions may not fully enable women to scale up their economic activities. Ubfal (2024) notes that while women have increasing access to finance and training, household responsibilities remain a primary barrier to scaling up businesses. Similarly, Makola (2022) demonstrates that motherhood and domestic duties reduce women's labour market engagement and entrepreneurial activity. This analysis underlines the need to integrate time-use perspectives into analyses of entrepreneurship in the Global South.

2.3. Transport, mobility, and gender

Transport is a key mediator of women's economic opportunities. Safe, affordable, and reliable transport enables women to access markets, training, suppliers, and networks (Levy, 2013; ICRW, 2019). However, in many cities of the Global South, transport systems are not designed with gender considerations, leading to safety concerns, affordability barriers, and service gaps that affect women's commuting (Uteng & Turner, 2019). Women's mobility patterns differ from those of men due to the "trip chaining" associated with care responsibilities, which involves combining trips for childcare, household shopping, and other tasks (ITDP, 2018). Poor transport services exacerbate time burdens, as women spend more time commuting and balancing care-related travel. For instance, studies in India and Kenya show that unreliable transport limits women's ability to access economic opportunities and continues informal, home-based enterprises (Tacoli, 2012).

This research draws on feminist economics and transport equity debates to explain how structural inequalities reproduce women's time poverty in urban contexts. Urban transport scholarship emphasises mobility as a social justice concern, where access to safe and affordable transport is essential for inclusion (Levy, 2013; Uteng & Turner, 2019). In the Global South, these inequities converge as unpaid care, poor transport infrastructure, and unsafe commuting reinforce women's spatial confinement and constrain entrepreneurial engagement.

In Bangladesh, transport challenges are acute. Dhaka is one of the most congested cities in the world, plagued by chronic safety issues and limited public transportation options for women (Jahangir et al., 2024). Women entrepreneurs in Dhaka identify unsafe, unreliable, and unaffordable transport as a significant constraint to expanding their businesses, limiting mobility, market access and working hours (Nasrin, 2024). This evidence suggests that urban mobility is not only a logistical issue but also a structural determinant of gendered economic inequality.

2.4. Land-use, urban infrastructure, and gendered constraints

Urban land-use and infrastructure significantly influence the spatial accessibility of services, including markets, schools, and childcare, which in turn impact women's ability to engage in entrepreneurship (Alarcon-Garcia et al., 2025). Inadequate infrastructure, such as childcare facilities, can intensify women's domestic workload, thereby reinforcing time poverty (Tas & Ahmed, 2023). In South Asian cities, urban planning is often gender-neutral, neglecting the specific needs of women related to care and mobility (Vasudevan, 2023). This has led to urban spaces where housing, markets, and services are poorly integrated, thus forcing women to spend more time travelling between dispersed locations. In Dhaka, for example, deficiencies in childcare centres near residential or market areas increase the care burden and limit women's business participation (Tas & Ahmed, 2021). Thus, urban planning and land-use policies directly intersect with gendered time use. Without integrating gender perspectives into planning, improvements in infrastructure or transport may not enhance the economic participation of women.

2.5. Research gaps

Available literature highlights three key gaps:

- Limited integration of time-use and transport studies: While there is research on women's unpaid care and on urban transport, few studies explicitly examine how mobility constraints amplify time poverty and restrict entrepreneurship.
- Underexplored Global South urban contexts: Gendered mobility studies draw a limited focus on South Asia, particularly Bangladesh.
- Lack of policy-oriented frameworks: Existing scholarship very often identifies barriers without proposing gender-responsive urban planning and transport interventions that address time poverty.

This research aims to bridge these gaps by combining time-use analysis with perspectives on care work, transport, and land use, focusing on women's micro-entrepreneurship in Bangladesh as a case study for the Global South.

2.6. Integrated conceptual framework

Micro-enterprises are often small-scale, low-capital, and localised. These represent an important pathway for women's economic empowerment in Bangladesh (Begum et al., 2025). However, entrepreneurial engagement depends not only on access to finance or skills but also on the availability of time and mobility. The framework treats women's entrepreneurial outcomes (business scale, income, growth potential, and sustainability) as the dependent variable, influenced by care responsibilities, mobility conditions, and access to infrastructure

in urban areas. Understanding the intersection of gendered time use, urban mobility, and women's economic participation requires an integrated framework. This research combines insights from time poverty theory, gender and transport studies, and urban planning perspectives to analyse how women's entrepreneurial activities are shaped in the Global South.

Time poverty arises when unpaid care and domestic responsibilities consume a disproportionate share of women's daily hours, thereby reducing their discretionary time for paid work or entrepreneurship (Blackden & Wodon, 2006). The framework positions unpaid care as the baseline constraint limiting women's availability for micro-entrepreneurship.

Transport access mediates whether women can translate available time into economic opportunities. Poor public transport services, safety concerns, and long commuting times not only increase the effective cost of mobility but also intensify time poverty (Uteng & Turner, 2019). Women commonly engage in trip-chaining—linking care, household, and income-generating tasks in a single trip, which makes them uniquely vulnerable to poorly designed transport and urban infrastructure (ITDP, 2018). In the framework, transport is a critical enabling or disabling factor. Spatial separation of housing, markets, childcare, and essential services adds to women's time burdens. The lack of nearby childcare facilities results in additional domestic tasks and increased travel, thereby reducing time for entrepreneurship (Tas & Ahmed, 2023). Thus, land-use planning and infrastructure provision are positioned as structural determinants that shape women's time allocation. Policies that strengthen physical and social infrastructure, thereby reducing the time required for unpaid household work, have demonstrable effects on decreasing time poverty (Rodgers, 2024). This integrated conceptual framework provides the foundation for constructing a conceptual model of causal-resolution linkages between time poverty and the economic outcomes of urban women entrepreneurs in the Global South.

3. Methodology

The research employs a systematic methodology to examine the dynamics of time poverty and the economic outcomes of women micro-entrepreneurs in urban Bangladesh, focusing on urban constraints, particularly transport and land-use constraints, as well as unpaid care responsibilities.

3.1. Research design

This research adopts a mixed-methods design, integrating quantitative and qualitative approaches to capture the complexity of women's time use, mobility patterns, and entrepreneurial activities in urban Bangladesh. Mixed methods are particularly suitable for gender and transportation research, as they allow for both the measurement of time-use patterns and the in-depth exploration of lived experiences (Creswell & Clark, 2017). The quantitative data provide generalizable patterns, while qualitative data offer contextualised explanations.

3.2. Data collection and sampling

The research has collected empirical data from three approaches: quantitative questionnaire survey, time-use diaries, and qualitative interviews. Data collection was conducted in August and October 2025, utilising a combination of face-to-face interviews, mobile phone surveys, and online platforms to ensure the inclusion of diverse participants.

A quantitative and structured 10-minute questionnaire survey, with limited qualitative questions, was conducted among 120 urban women micro-entrepreneurs in Bangladesh. Respondents were selected through a combination of purposive and snowball sampling, targeting women engaged in micro-entrepreneurship activities. The survey collected data on:

- Socio-demographic characteristics (age, education, household composition).
- Type and scale of enterprise (location, capital, revenue).

- Daily time allocation between unpaid care, business, and other activities.
- Transport use (modes, costs, time, safety perceptions).
- Constraints and coping strategies.

A sub-sample of 10 participants maintained 7-day time-use diaries. These diaries captured detailed activity-travel patterns of 20 hours in a typical day (recorded manually in each hour from 5 am to 1 am). These include time spent on caregiving, domestic chores, commuting, and entrepreneurial tasks. Time-use diaries provide more accurate insights into "time poverty" than retrospective surveys alone (Bittman, 2005).

Semi-structured interviews were conducted with 12 women entrepreneurs, selected to reflect diverse enterprise types and household structures. Interviews explored the following issues:

- Experiences of balancing care and enterprise.
- Mobility challenges and safety concerns.
- Decision-making about business location and expansion.
- Perceptions of urban infrastructure and support systems.

Additionally, eight key informant semi-structured interviews were conducted with urban planners, policymakers, community leaders, and NGO representatives to gain insight into institutional perspectives. This also facilitated reflections on transport and care burdens, allowing for a comparison of shared and divergent experiences.

3.3. Data analysis

Both quantitative and qualitative data analysis were conducted.

Quantitative data analysis: The questionnaire survey and time-use diary data were analysed using MS Excel. Descriptive statistics were summarised for time-use patterns, transport access, and business outcomes. Regression models were used to examine the relationships between unpaid care hours, mobility constraints, and entrepreneurial performance (e.g., hours devoted to the enterprise, economic outcomes).

Qualitative data analysis: The descriptive answers and interviews were transcribed and coded for a thematic analysis. Thematic coding was focused on categories such as care responsibilities, mobility barriers, coping strategies, and policy needs. Narrative analysis highlighted the lived experiences, particularly trade-offs between caregiving, commuting, and enterprise. The codes and themes for the thematic analysis are listed in the Appendix. The coding framework structure below enabled moving from a systematic and rigorous analysis.

Qualitative data → codes (e.g., "unsafe buses," "childcare absent," "fragmented workday")→ themes (care, mobility, land-use, coping outcomes, aspirations)→ interpretation.

Findings from both analyses are integrated through triangulation, combining quantitative patterns with qualitative explanations. For example, regression results linking child care times with reduced business hours are contextualised by interview narratives about childcare demands and family support.

3.4. Ethical considerations

Participation was voluntary, with informed consent. Confidentiality was ensured through the anonymised handling of data. Given the sensitivity of discussing household responsibilities, interviews were conducted in safe, women-friendly spaces and/or via mobile devices to ensure confidentiality and privacy. Participants had the right to withdraw at any stage.

3.5. Limitations

The research acknowledges the limitations. First, the purposive sampling of micro-entrepreneurs may limit representativeness, though it ensures depth of insights. Second, self-reported time-use diaries may be subject to reporting bias, which was mitigated through careful

training of participants. Third, the findings are context-specific to Bangladesh, though the conceptual framework is designed to be transferable to other Global South contexts. Fourth, some cultural and religious norms that might discourage women's engagement in economic activities are beyond the scope of the research. Fifth, some significant physical urban infrastructure [like water, fuel (Rodgers, 2024), electricity, and sanitation], has contributions to women's time poverty, which was beyond the scope to avoid overwhelmingness.

4. Findings and discussions

The research focuses on the time poverty of women micro-entrepreneurs due to unpaid family care and transportation constraints. Most of the survey participants were young (55 per cent), between 25 and 30 years old, and had a graduate degree or higher (45 per cent). Most of their families (48 per cent) had a total of 4 members, including children under 12, and elderly members (76 per cent). Most of them (approximately 87 per cent) have home-based enterprises and operate online (like e-commerce or F-commerce).

4.1. Time-use patterns of women micro-entrepreneurs

The questionnaire survey and time-use diaries reveal the daily time allocation of urban women micro-entrepreneurs on typical days in Bangladesh. The survey reveals that the average time spent on unpaid household chores, such as cooking, is 4.18 hours per day. In contrast, care work, including caring for children (such as running to school, feeding, supervision, and tutoring), the elderly, or other family members, averages 2.4 hours per day. 52.6 per cent of women believed that unpaid care responsibilities are imposed on them, and this reduces their time for scaling up their enterprises.

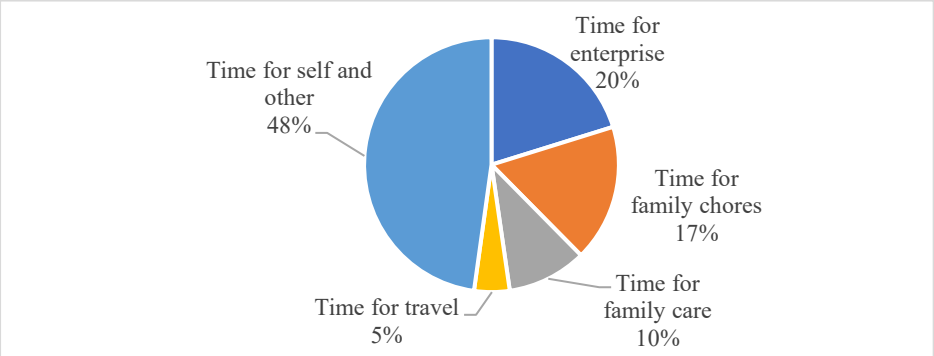


Fig. 1: Time allocations of women entrepreneurs in percentage
Source: Prepared by Authors (2025)

The time spent on micro-enterprise activities averages only 4.8 hours per day, significantly lower than the unpaid family work, which is 6.6 hours per day (comprising both household chores and care work). Many women noted that their working day is "fragmented," with enterprise activities interrupted by childcare, cooking, and other domestic duties. Fig. 1 represents the survey findings, which show that family care and household chores account for the majority of the daytime (a total of 27 per cent).

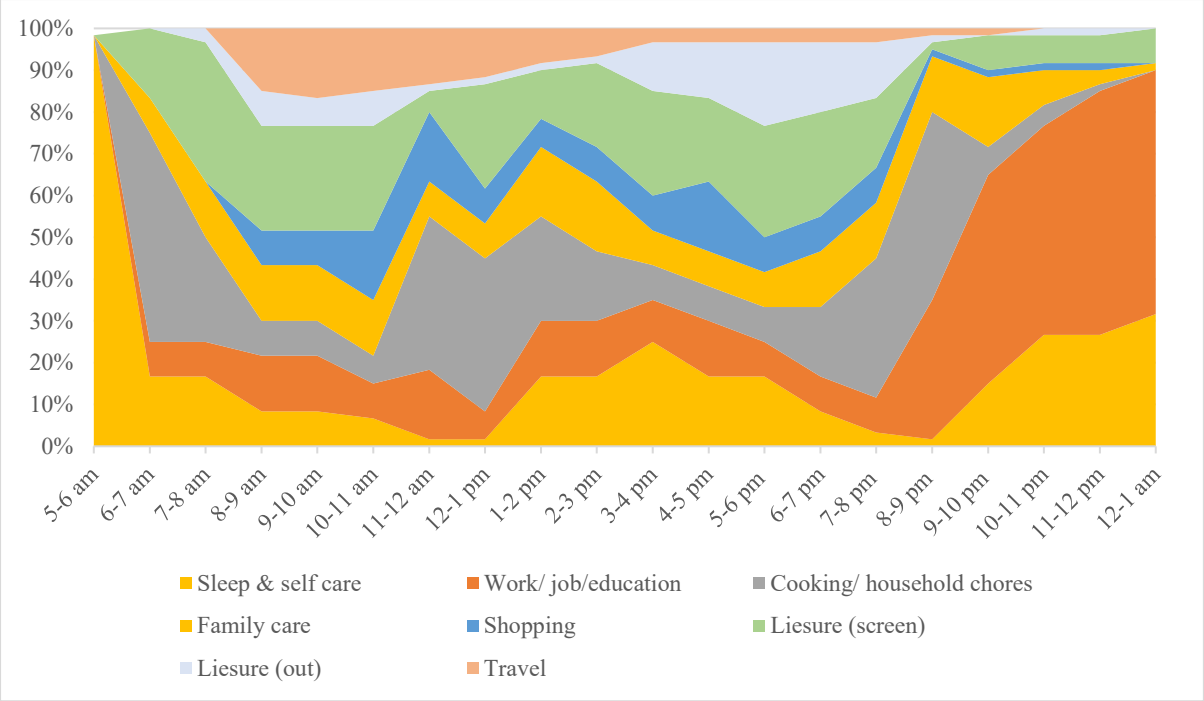


Fig. 2: Time-use diary of micro-entrepreneurs (uses the mean data)
Source: Prepared by Authors (2025)

Fig. 2 illustrates the findings from the time-use diary of micro-entrepreneurs over a typical 20-hour period (5:00 a.m. to 1:00 a.m.). This clearly indicates that a substantial amount of time is devoted to family care and household chores. They spent most of their worktime at night, irregularly, and fragmented, which is an adaptive strategy of women entrepreneurs. This suggests that most micro-entrepreneurs operate their enterprises online to facilitate contact with suppliers and customers. They utilise the nighttime when the household responsibilities are reduced. One tailor recounted, "[..]*I do stitchwork after my children sleep. Sometimes for the whole night, but there is no other way.*[..]" Such strategies illustrate resilience, but also highlight how women often sacrifice rest and personal well-being to maintain their income.

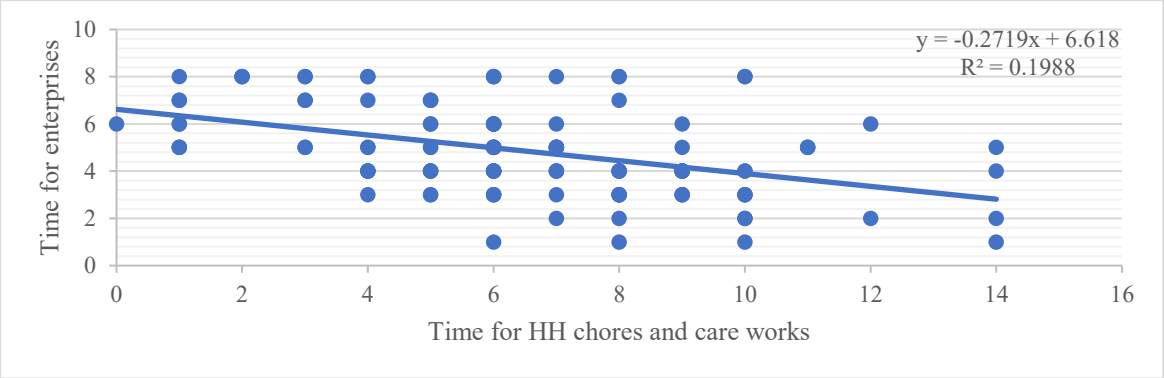


Fig. 3: Work hours for enterprises by unpaid care hours
Source: Prepared by Authors (2025)

Linear regression analysis reveals that work hours decrease due to increased unpaid care hours (Fig. 3). The coefficient of -0.45 indicates highly statistically significant P-values. One micro-entrepreneur mentions that "*Actually, I cannot increase business time. I have many responsibilities at home. I cook, care for babies, and take care of my elderly mother-in-law. All tasks made my life hectic*." This illustrates how care responsibilities compress the working hours and reduce competitive opportunities. Several women also noted that elderly female relatives, or the elder child, sometimes assist with childcare, but this support is irregular and

dependent on household dynamics. These findings are consistent with national statistics (BBS, 2021) and global evidence that women's entrepreneurial activities are constrained by unpaid care burdens (ILO, 2018).

The AVOVA shows that family care hours differ significantly between home-based and shop-based entrepreneurs. Home-based enterprise owners spend far more time on family chores and care work. The difference is extremely strong and statistically significant [F-value (565.39) is much greater than Fcrit → significant, $P < 0.001$]. Logistic regression shows that shop owners have about 62.5% higher odds of working longer hours compared to home-based enterprise owners (as indicated by the coefficient for enterprise type: 0.485; significant P-value = 0.0029; Odds Ratio = 1.625).

There is no significant correlation between household size and working hours (coefficient is -0.011 with an insignificant P-value of 0.88). Household size does not influence housing hours, as some respondents mentioned that their household members assist with household chores. One participant mentions, "[..]*I have no problem with time. I have in-laws. They are helpful for family work, but not for my enterprise*[..]".

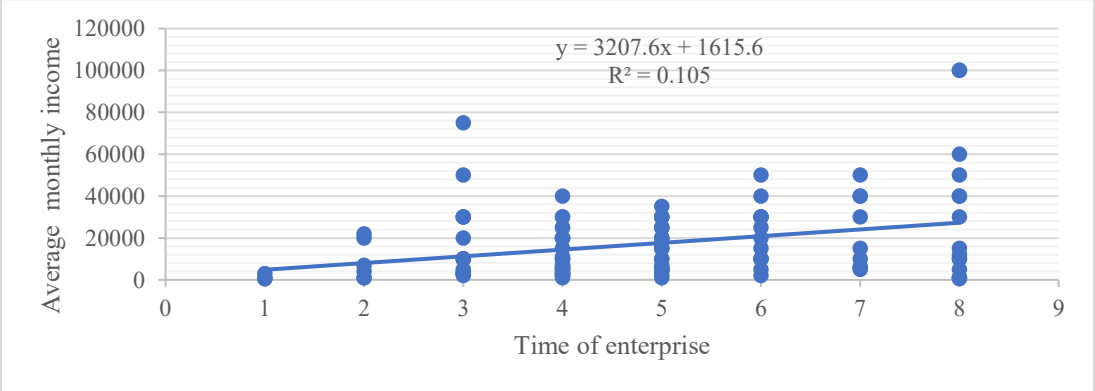


Fig. 4: Relations of monthly income with work hours
Source: Prepared by Authors (2025)

The research revealed a strong positive correlation between the time of enterprise and the average income of women micro-entrepreneurs (Fig. 4). The correlation coefficient is 0.324, and the P-value is 0.0006. Moreover, lower income due to a lack of entrepreneurial time reduces the sustainability of women's enterprises. One participant mentions, "[..]*I might increase my income by working more hours. However, my family is my priority. I want to work on my free time with my family responsibilities*.[..]" Though working longer can increase the average income, economic outcome is sometimes restricted by the preference of the women entrepreneurs, not the time restrictions always.

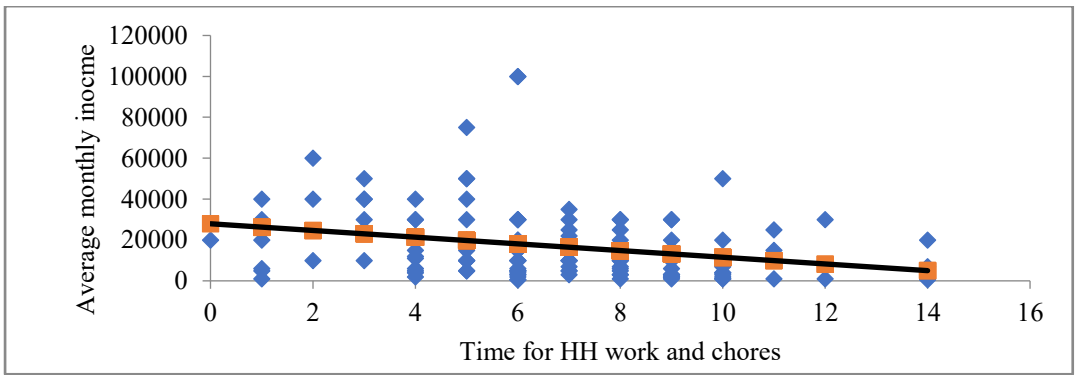


Fig. 5: Relation of care works and monthly income
Source: Prepared by Authors (2025)

The research has also found that the economic benefits of women entrepreneurs are constrained by their caregiving responsibilities (Fig. 5). Their average monthly income is negatively and significantly correlated (R value = -0.273, p-value = 0.003) with the time spent on household chores and care work. One respondent mentioned "[..] *The children and family members of working women are often deprived. Since my mother gave the financial support after my father's death, she could not find enough time to give us.* [..]"

4.2. Transport barriers and mobility constraints

Transport emerged as a critical constraint for women's entrepreneurship. The time-use diary of micro-entrepreneurs (Fig. 2) indicates that the average commuting time is 1.1 hours, with minimal time spent on personal activities. The commuting time might fluctuate due to the waiting time at school between dropping off their children and picking them up. This survey found that over 83.5 per cent of respondents reported avoiding public buses due to overcrowding, safety risks, harassment, and a lack of time for family responsibilities. Women instead relied heavily on rickshaws (49.6 per cent) or walking (10.7 per cent) and online marketing (18.2 per cent), modes that are more expensive or time-consuming. This research showed that women often combined trips (trip chaining) with caregiving tasks, such as escorting children to school and shopping, which require multiple modes of transportation and longer travel times.

Safety concerns were particularly salient. Nearly 20 per cent of respondents reported experiencing harassment during business travel in the past years, consistent with prior studies on gendered transport insecurity in Dhaka (Nasrin, 2024; Jahangir et al., 2024). Women reported restricting business activities to local neighbourhoods or online only to avoid long commutes, even when more profitable markets were available in other parts of the city. One entrepreneur explained, "[..]*I no longer take the bus. Men harass women there. It is safer to work from home, even if I earn less*. [..]" Moreover, many of them (6 per cent) take assistance from their family members for the marketing (both material collection and deliveries) for their enterprises, instead of travelling themselves.

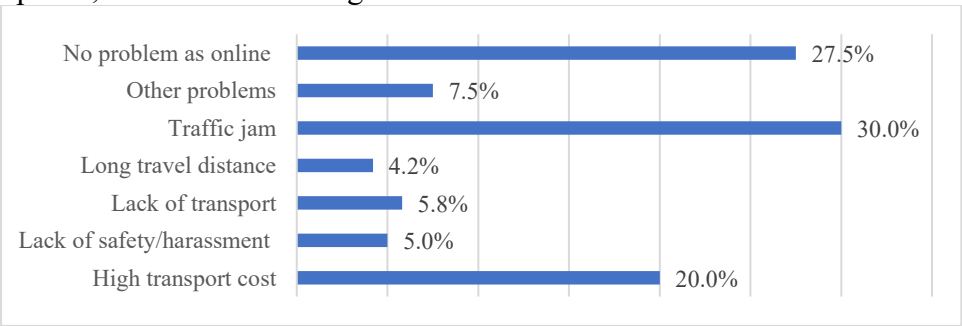


Fig. 6: Major problems of transport of micro entrepreneurs.
Source: Prepared by Authors (2025)

Traffic jams are a major transportation problem for women entrepreneurs (30 per cent). Moreover, high transport costs (20 per cent), lack of transport modes (5.8 per cent), long distances (4.2 per cent), and other problems (7.5 per cent) cause most women to rely on online systems for material collections for enterprises (27.5 per cent). Safety concerns also significantly affect the possibility of home-based businesses for women, allowing them to avoid commuting for enterprise purposes (5 per cent). One participant mentioned that "[..]*If I had much time and good transport, I would expand my business. I dreamed of my own boutique store. But I failed.* [..]" These findings align with global literature emphasising the gendered nature of mobility constraints in the Global South (Uteng & Turner, 2019). Poor transport systems not only consume women's time but also shape the spatial boundaries within which micro-enterprises operate.

A higher monthly income significantly increases the probability that an enterprise is market-based rather than home-based (coefficient 0.000044; the Odds Ratio of 1.000044 indicates a significant relationship, as indicated by the P-value of 0.0015). Moreover, the variables travel time and travel cost to market have negative coefficients (Coefficient of –1.320, significant P-value of 0.0039 and Odds Ratio of 0.267), suggesting a slight tendency that longer travel times or higher travel costs lower the likelihood of being market-based. However, these effects are not statistically significant due to the time for travel to market (Coefficient = –0.0184, P-value = 0.937, Odds Ratio = 0.982) not having a significant impact on whether an enterprise is home-based or shop-based. Moreover, travel costs do not significantly influence whether the enterprise is home-based or shop-based (Coefficient –0.0037, P-value = 0.168 and Odds Ratio = 0.996).

Regression analysis shows that enterprise hours (coefficient -0.16 and P-value 0.08) have an insignificant relation with the regular travel time of the micro-entrepreneurs. This research suggests that transportation problems restrict women's regular and business trips, and the time of irregular travel has less influence on their business outcomes. Therefore, many women entrepreneurs rely on online-based supply chain systems and collect their materials from various sources. They deliver their products through courier services (approximately 98 per cent), although many problems were mentioned by the respondents, including delivery quality, delays, and costs, especially for international deliveries.

4.3 . Land-use, infrastructure, and spatial mismatches

The micro-entrepreneurs were asked about the challenges they face in their micro-business, such as economic, social, and infrastructural challenges. Lack of time due to care work, transport problems, and limited access to markets were highlighted as important factors, alongside lack of capital, safety concerns, and inadequate childcare facilities. The participants provided rank values (1-5) for the problem factors related to the time poverty of the enterprise. The weighted values are aggregated and presented in Fig. 7 as percentages.

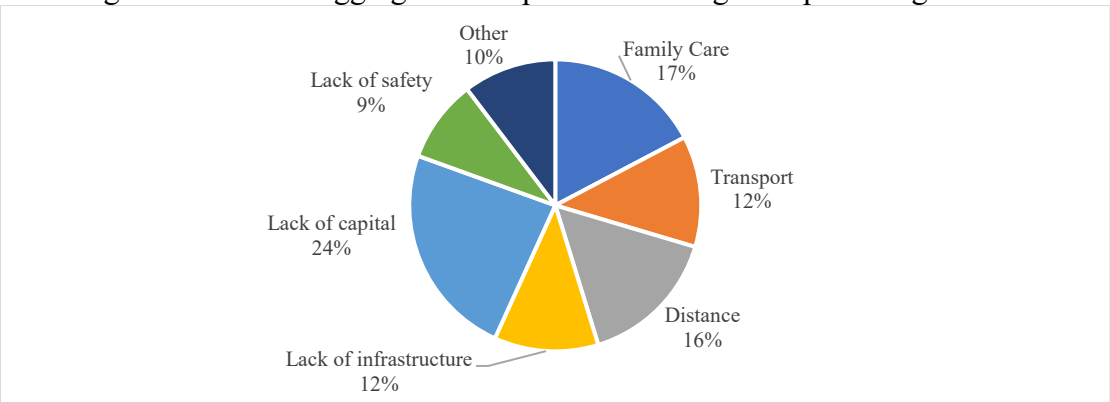


Fig. 7: Percentage of the factors of business constraints
Source: Prepared by Authors (2025)

The research highlights how urban land-use and infrastructure deficits exacerbate women's time poverty. The percentages of the significant constraints on running a micro-business are presented in Fig. 7. Transport problems (12 per cent) become critical, as markets (16 per cent) are often located far from residential areas, requiring lengthy and costly travel. Childcare facilities are scarce in urban areas in this country. More than 12 per cent of respondents reported a lack of access to infrastructure, as well as childcare centres within a 30-minute radius of their homes. Time-use diaries also indicate that women with young children are heavily devoted to childcare. The research also highlighted some other infrastructural and service-related problems, such as a lack of a good road network, electricity cut-offs, and inadequate digital access with slow speeds.

The regression analyses provide strong evidence that time poverty and mobility constraints significantly shape women's micro-entrepreneurship outcomes in urban Bangladesh. Women with heavier care responsibilities are more likely to operate a home-based business. The research found that access to a child care facility increases available business time. However, the location of the enterprise became insignificant in terms of commuting time, which might indicate that factors such as market-based enterprises, trip chaining, or other variables may influence travel requirements. One respondent mentioned, "[..]*I have no problem with travel. I make limited creative crafts at home. All are sold quickly on my online page*.[..]"

These patterns correspond with prior evidence that spatial segregation in Dhaka, where housing, markets, and services are poorly integrated, significantly increases women's mobility costs, care burdens, and time poverty (Shamma, 2021). In effect, urban planning decisions reproduce gendered inequalities by failing to integrate social infrastructure with economic spaces.

4.4. Intersection of care burdens and mobility

A predicted enterprise location line obtained through regression analysis indicates that increased unpaid care hours increase the likelihood of a home-based enterprise. Qualitative interviews also illustrate the lived experience of trade-offs between care responsibilities and entrepreneurship. One participant noted, *"*[..]*I start work after cooking and sending the children to school. By the time I reach the market, it is already late, so I lose customers.*[..]*"* Another explained, *"*[..]*I do not want to travel outside. My children are very young. Therefore, I have chosen to start an online business. This is easier for me. Alhamdulillah, I am happy with what I earn.*[..]*"*

Such narratives demonstrate how care and mobility constraints intersect, reinforcing each other to confine women's enterprises to home or neighbourhood-based activities. The findings confirm that time poverty is not only a personal burden but also a structural barrier to women's entrepreneurship, mediated by transport systems and land-use planning. While home-based enterprises offer flexibility, they often generate lower incomes (logistic regression shows a highly significant coefficient of 0.000044, P = 0.0015 and an Odds Ratio of 1.000044). Additionally, they limit growth potential, as noted in other contexts in the Global South (Tacoli, 2012; Oladipo et al., 2023).

5. Policy implications

The findings demonstrate that women's micro-entrepreneurship in Bangladesh is shaped not only by access to finance and skills, but also by structural constraints, including time poverty, transport barriers, and land-use deficits. Therefore, it is necessary to address these issues in order to develop an integrated policy approach that links gender, mobility, and urban development. This research determines the aggregated weighted values (shown in Fig. 6) of the suggested policies and the support needed for women-owned micro-enterprises, based on their ranking values from 1 to 5.

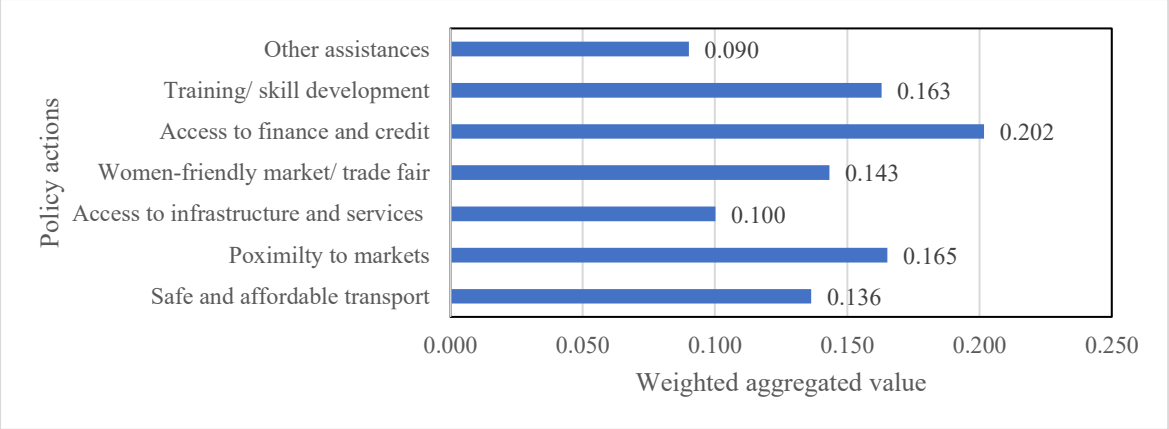


Fig. 6: Importance of policy and support needed in percentage for micro-entrepreneurs
Source: Prepared by Authors (2025)

5.1. Gender-responsive transport planning

Women's unwillingness to travel and reliance on walking, rickshaws, and informal transport modes reflects both safety concerns and service inadequacies in urban public transport in Bangladesh. Transport policies must explicitly integrate gender considerations. Women require safe, affordable, and reliable mobility options, as this is crucial for the business development of micro-entrepreneurs. This includes expanding women-friendly bus services and regulating harassment. Moreover, improving last-mile connectivity to expand rickshaw, electric three-wheeler, and shared mobility networks, while ensuring safety and pricing fairness, could enhance the convenience of travel for women entrepreneurs. It needs to ensure adequate street lighting in transit areas. One respondent mentioned, "[..]*The women-only compartment in the Dhaka Metrorail service is very comfortable. I believe that if the women-only seats on buses are strictly enforced, travel will be safer and more comfortable for me*.[..]" The measures not only improve women's mobility but also contribute to broader urban efficiency by easing congestion and diversifying transport options (Uteng & Turner, 2019).

5.2. Integration of urban services and social infrastructure

The lack of availability and proximity of urban services, as well as their disruptions, creates hurdles for women entrepreneurs. Lake of childcare emerged as a major contributor to women's time poverty, though many participants mentioned their unwillingness to send their kids to childcare. Without access to affordable and quality childcare, women are often forced to either combine caregiving with micro-enterprise or restrict themselves to home-based work. Local governments, NGOs, and private sector actors can collaborate to establish low-cost childcare centres close to economic hubs. Community-based care models, such as those found in low-income neighbourhoods, can pool resources to run shared childcare services through women's cooperatives. Locating childcare centres near markets or business hubs can significantly reduce women's time burdens. One participant highlighted, "[..]*Children take a lot of daily hours. If the schools could arrange some after-school services or child care facilities, similar to those found in foreign countries, I would find much more time*.[..]" NGO stakeholder interviewed mentioned that "[..]*Mothers could engage in a job or business if their child care responsibilities are shared by family or government. The government could construct childcare centres in neighbourhoods*.[..]" A requirement for women-friendly toilets in the market was mentioned by the respondents. Evidence from Latin America shows that proximity-based childcare can significantly increase women's labour force participation (ILO, 2018). Applying these models in Bangladesh would reduce unpaid care burdens and expand women's time for entrepreneurship.

5.3. Inclusive land-use and urban planning

Urban planning in developing countries has neglected the intersection between economic spaces and social services. Poor integration between residential areas, markets, and public facilities increases women's commuting demands. To address these structural barriers, the suggested planning policies are those that bring markets, workplaces, and services closer to residential areas. To design women-friendly infrastructure in marketplaces with facilities such as childcare rooms, sanitation, and secure storage to accommodate women vendors. Such measures would reduce spatial mismatches, enabling women to manage care and economic activities more effectively. Ensuring that residential, commercial, and service areas are better integrated would reduce travel time and expand women's entrepreneurial opportunities (Alarcon-Garcia et al., 2025). One planner interviewed mentioned about Dhaka that "[..]*City structure plans have inclusive strategies to include the special needs of women. If the plan is implemented effectively, the city will be more inclusive and beneficial for women. Small cities also need to prepare gender-sensitive planning.* [..]"

5.4. Conceptual outcome of the research

The structural nature of time poverty requires multi-sectoral interventions. The research demonstrates that women's micro-entrepreneurship in Bangladesh is constrained not only by financial or skill limitations but also by structural time poverty, reinforced by transport and land-use systems. These findings extend existing scholarship by linking unpaid care with mobility and entrepreneurship in the Global South. They underscore the importance of embedding gender perspectives into transport and urban planning to build inclusive and sustainable cities. These identified the measures that align with the Sustainable Development Goals (SDGs), particularly SDG 5 (Gender Equality) and SDG 11 (Sustainable Cities and Communities).

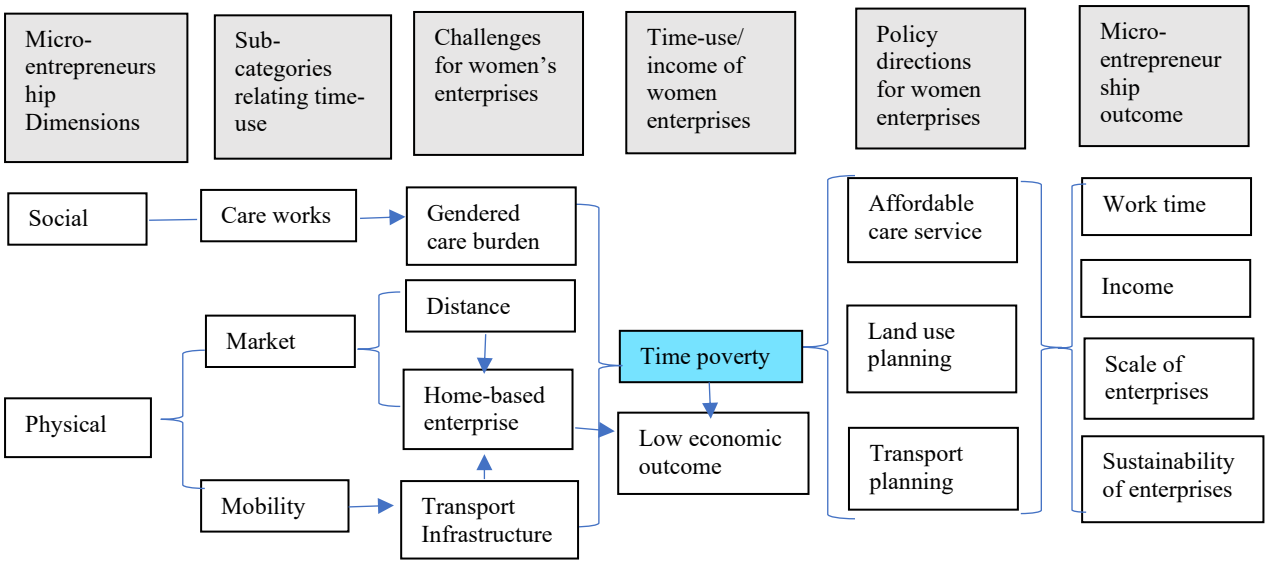


Fig. 7: Conceptual model of time poverty and micro-entrepreneurship outcome
Source: Prepared by Authors (2025)

The conceptual framework in Fig. 7 illustrates how gendered structural factors combine to shape women's micro-entrepreneurship outcomes in urban Bangladesh and the wider Global South. This explains the following relations.

- Dimensions of women micro-enterprises'- Social and physical
- Social dimension originates the unpaid care responsibilities → reduces women's discretionary time.
- Physical dimension creates two-fold situations of necessities- market and mobility

- Home-based enterprises adapt market distances →lower economic outcome of enterprises
- Transport deficiencies (safety, accessibility) → intensify time poverty and limit market access.
- Land-use and infrastructure gaps → exacerbate unpaid care burdens and spatial barriers.
- All circumstances of physical and social dimensions → intensify time poverty → intensify income poverty
- Intensified time poverty provided the policy guidance →Generates micro-entrepreneurship outcomes for women.

This framework emphasises that enhancing women's entrepreneurship necessitates not only financial support but also gender-responsive transportation and land-use planning, alongside policies that acknowledge and redistribute unpaid care work. While based in Bangladesh, this framework reflects broader conditions in the Global South: weak transport systems, inadequate urban infrastructure, and entrenched gender norms. By situating women's micro-entrepreneurship within these intersecting constraints, the framework provides a transferable lens for analysing urban gender inequalities across developing cities.

5.5. Comparative insights: Bangladesh and the Global South

Although this research focuses on Bangladesh, the policy lessons resonate widely across the Global South, where women face similar intersections of unpaid care burdens, unsafe or unreliable transport, and inadequate urban infrastructure. Time poverty is a universal but under-recognised barrier to women's economic participation. In Nairobi, women entrepreneurs often limit their businesses to local markets due to safety risks, long travel times, and transportation insecurity, which restricts their economic opportunities (ICRW, 2019). Transport and land-use policies are not gender-neutral. Inequality is explicit in urban designs that fail to consider women's needs. In Delhi, trip chaining and lack of childcare near workplaces reinforced women's time poverty (Vasudevan, 2023). Such cross-country parallels suggest that the challenges identified are not unique to Bangladesh, but rather symptomatic of broader structural inequalities in urban development. Integrated solutions linking mobility and care infrastructure are essential for achieving gender-inclusive urban development. By addressing these dimensions, cities in Africa, South Asia, and Latin America can foster more equitable participation in urban economies, contributing to both gender equality and sustainable growth.

6. Conclusions

This research has examined how time poverty, shaped by unpaid care responsibilities, transport barriers, and land-use constraints, affects women's micro-entrepreneurship in urban Bangladesh. Through a mixed-methods approach, the research demonstrates that women's entrepreneurial activities are deeply embedded within the social and physical structures of urban life. The findings highlight three interrelated dynamics:

- Unpaid care responsibilities absorb a disproportionate share of women's daily time, reducing availability for enterprise activities.
- Transport deficiencies, including safety concerns and unreliable services, restrict women's mobility and confine them to their homes.
- Spatial mismatches in urban planning, particularly the lack of childcare, markets and some other near residential areas, intensify women's time poverty and inconvenience.

These factors reveal that women's micro-entrepreneurship in urban Bangladesh is constrained by structural barriers that extend beyond individual capacity or motivation. The research contributes to scholarship by bridging gendered time-use analysis with transport and land-use research in the Global South. It offers a conceptual model of causal-resolution interrelations, aimed at enhancing the economic outcomes of women's enterprises, which can be applied across developing urban contexts. Policy recommendations emphasise gender-

responsive transport planning, integration of childcare into economic spaces, and inclusive land-use reforms. These measures are crucial not only for Bangladesh but also for cities across Africa, Asia, and Latin America where similar constraints persist.

Future research should expand on these findings through longitudinal and econometric studies. These could track how changes in transport or childcare infrastructure affect women's time allocation and business outcomes (i.e. income). Comparative studies across different cities in the Global South would also strengthen the evidence base for gender-responsive urban planning.

It could be concluded that addressing women's time poverty is both a matter of gender equality and urban sustainability. By reducing unpaid care burdens through improving mobility and inclusive planning, cities can unlock women's entrepreneurial potential. This could contribute to inclusive economic growth and the realisation of the Sustainable Development Goals.

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Data availability

The empirical data could be provided upon request.

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Appendix

Theme 1: Unpaid care and domestic responsibilities

- Codes:
    - Daily household chores (cooking, cleaning, laundry)
    - Childcare (school runs, feeding, supervision)
    - Elderly care responsibilities
    - Expensive household support
    - Business help

Theme 2: Transport and mobility constraints

- Codes:
    - Commuting times
    - Transport costs
    - Safety and harassment concerns in public transport
    - Dispersion of market locations
    - Reliance on online sourcing
    - Dependence on walking or rickshaws
    - Trip chaining (combining errands, care tasks, and market visits)

Theme 3: Land-use and urban infrastructure deficits

- Codes:
    - Lack of childcare near markets/workplaces
    - Expensive childcare
    - Distance between housing and business hubs
    - Poor access to markets/suppliers
    - Inadequate basic services (water, sanitation, electricity etc.)

Theme 4: Coping strategies and adaptations

- Codes:
    - Reliance on home-based businesses
    - Accompanying kids during working hours
    - Flexible working hours (night-time or fragmented work)
    - Informal childcare arrangements (neighbors, relatives, older children)
    - Reducing enterprise scale to balance care duties
    - Accompanying kids during working hours

Theme 5: Business outcomes and constraints

- Codes:
    - Limited working hours (time poverty)
    - Difficulty scaling enterprises
    - Low income
    - Lack of growth of enterprises
    - Lack of sustainability of enterprises
    - Preference for low-risk, local enterprises

Theme 6: Aspirations and policy needs

- Codes:
    - Gender responsive land use
    - Gender-sensitive transport planning
    - Need for safer, affordable transport
    - Desire for childcare support near markets
    - Aspirations for business growth if time/mobility barriers are reduced