Measuring and Valuing Unpaid Care and Domestic Work in Ethiopia

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Abstract

Scholars worldwide argue that a substantial portion of human needs are met by the fruits of unpaid labor. Despite this, unpaid domestic and care activities are not taken into account in conventional national accounts, including Ethiopia. This study aims to measure and value Unpaid Care and Domestic Work (UCDW) in Ethiopia and to reveal its significant, yet hidden, economic contribution. Following the National Time Transfer Accounts (NTTA) procedure, the study integrates non-market activities such as caregiving and domestic work, also the time spent on these activities and assigns monetary value based on appropriate wage assigning them a monetary value based on appropriate wage rates to address the invisibility of unpaid labor. The study used two datasets: the Ethiopian Time Use Survey (ETUS 2013) to quantify time use and the Ethiopian Urban Employment Unemployment Survey (2022) to establish valuation wage rates. In line with the NTTA framework, the study used the replacement cost approach to measure the monetary value of unpaid work. The result reveals a stark gender-based division of labor. Men work more hours in productive activities (39 hours on average) compared to women (30 hours). Women disproportionately shoulder the burden of unpaid work, averaging 41 hours per week compared to just 21 hours for men. The total estimated annual wage value of unpaid domestic work, care, and community services in Ethiopia amounts to ETB 1,039.23 billion, representing 16.8% of the 2022 GDP. This finding indicated the hidden economic value of unpaid work, highlighting key aspects of economic productivity, social welfare, and family cohesion, and its foundational role in the survival of both households and broader economic systems. Recognizing unpaid work

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as a legitimate economic activity offers an opportunity for Ethiopia to address long-standing gaps in social protection, labor policy, and economic planning.

Introduction

Scholars across the globe argue that a substantial share of human needs is satisfied by the fruits of unpaid labor (Swiebel, 1999). Activities such as caring for the household, community, children, and the sick and elderly people are essential for maintaining healthy, productive households and functioning economies (Oxfam Policy Brief, 2020). The term unpaid care and domestic work (UCDW)-defined as all non-market activities performed without monetary compensation for the benefit of one's household or others (Swiebel, 1999)-remains largely unaccounted for and invisible in economic measurements, significantly undermining the true value of an economy (UN, 2013). According to Oxfam, UCDW contribute an estimated $10.8 trillion annually, or about 13%, to global GDP. Neglecting the contribution of UCDW and its unequal distribution has hindered progress toward gender equality worldwide (Oxfam Policy Brief, 2020). For instance, 606 million women of their working age in the world are unable to engage in paid work because of their unpaid care responsibilities (Promundo, 2019) and up to 26% of annual growth could be added to the economy if these women were able to participate in the System National Account (SNA) activities (McKinsey, 2015).

Unpaid work is disproportionately performed by women, significantly restricting their access to education, employment, political participation, and leisure (UN, 2023). According to the International Labor Organization (ILO), women perform three times more unpaid care work than men, a burden that perpetuates gender inequalities across societies (Charmes, 2019). The ILO report revealed that approximately 76% of total UCDW is carried out by women and girls, who spend about 40% more time on these tasks than men (Addati et al., 2018; WOW, 2020). The gender inequality in paid and unpaid activity is even more pronounced in Africa, where women perform, on average, almost 4 times as much UCDW as men (UN, 2023). This imbalance, rooted in social norms, also limits women's opportunities to access green work (Martin, 2010). Persistent challenges, including limited infrastructure investment in the care economy, discrimination against women and girls, weak political will and accountability hindered the achievement of

inclusive and sustainable development in Africa (Oxfam Policy Brief, 2020; African Union, 2018; Muriithi et al., 2017)). Moreover, poverty, social norms about paid and unpaid work classification undermined the progress towards gender equality(Martin, 2010).

The disproportionate burden of unpaid work on women in sub-Saharan Africa is well documented. For example, 68% of the care activities in the region are carried out by women aged 15-54 without any monetary compensation (Addati et al., 2018). In Kenya, women spend an average of 20% more time on these tasks than men (Oxfam, 2019). In Tanzania, women dedicate five times as many hours to domestic work compared to men (African Union, 2018). In Uganda, women spend an average of 32 hours per week on UCDW, while men only spend about 2 hours (Oxfam International, 2018). In rural Zimbabwe, women spend more than four times as many hours per day as men on UCDW(Rost & Koissy-Kpein, 2017). Additionally, in Ethiopia, women are twice as likely as men to spend time collecting water and firewood (Robles, 2013).

Recently, the importance of measuring and valuing UCDW has received attention in Ethiopia under the national Gender Equality Strategy (2021-2025) and the National Development Planning Framework. The plan aims specifically to promote gender equality in paid and unpaid care work in line with the Sustainable Development Goals (SDGs), acknowledging that women disproportionately shoulder the burden of unpaid domestic and care responsibilities (MoWSA, 2022). Its objective is to narrow the economic opportunities and resources ownership gap between men and women, as indicated by the national Gender Development Index (EGDI) of 0.14, which reveals an 86% gap to be addressed to achieve full parity (MoWSA, 2022).

Although unpaid work is essential for survival and contributes significantly to economic and nutritional well-being, its economic value is often overlooked in traditional measurements. Recently, scholars around the world have been estimating the value of UCDW in different parts of the world, indicating that women bear a significant burden of unpaid work. For instance, UCDW in South Korea is estimated to contribute between 20% and 59% of GDP, based on replacement and opportunity cost approaches, respectively. Women's contribution accounts for approximately 72% of this value (J. Y. Suh, 2021).

While Gunewardena & Ashvin, (2017) estimated about 10-42% of GDP's contribution in Sri Lanka. Similarly, UCDW produced 22.3% of GDP in 2019, with women's contribution being 17.6% of GDP in Mali(UN Women, 2023). The total market value of unpaid housework and caregiving services was equivalent to between 10% and 16% of Bhutan's GDP in 2017 (J. Suh et al., 2020), 32% of GDP contribution in Uruguay, and 20% in Colombia (Urdinola & Tovar, 2019). Additionally, Muriithi et al., (2017) found that the average value of unpaid work in Kenya was 6,000 Kenyan Shillings per woman, compared to 5,000 Kenyan Shillings per man.

In Ethiopia, the significance of UCDW is increasingly recognized within gender and social protection policies. For example, the National Action Plan for Gender Equality (2006–2010) (MoLSA, 2012) and the Ten-Year Development Plan (2021–2030) (MoWSA, 2022) integrate a 3R (Recognize, Reduce, and Redistribute) or 5R (Recognize, Reduce, Redistribute, Reward and Represent) approach. These strategies advocate for: recognizing and producing evidence of UCDW, reducing household burdens through labor-saving technologies, and redistributing labor responsibilities among household members. The expanded 5R framework further calls for rewarding unpaid care and domestic workers, ensuring their representation in policy-making (Ziade, 2023).

Despite these progressive policy commitments and foundational efforts like the 2013 Time Use Survey, a critical implementation gap remains: there is still a lack of evidence quantifying the contribution of UCDW to the Ethiopian economy. Creating robust evidence is essential to effectively advocate for the recognition and valuation of UCDW. Therefore, this study aims to measure and Value Unpaid Care and Domestic Work in Ethiopia to fill the evidence gap. Measuring and valuing UCDW enables recognition of its economic worth and social contribution. Specifically, the study has three related objectives: to quantify the time spent on UCDW, to assess gender and age disparities in its distribution, and to estimate its economic value as a percentage of GDP.

Theoretical and conceptual framework of unpaid care and domestic work

Theoretical framework

Conventional economic models traditionally overlook the importance of UCDW in sustaining human welfare and economic systems. By excluding these activities from standard economic measurements, mainstream economics has rendered the labor—predominantly performed by women—statistically invisible. In response, feminist economics has emerged as a critical theoretical lens that challenges these conventional paradigms. The theory this study consulted provides the most relevant framework for understanding the value of UCDW.

The role of women in Ethiopia is complex, with so many social and patriarchal dynamics at play. The complexity can be explained through feminist economics theory, which accounts for how conventional measures of the economy undermine the role of women in the economy. Feminist economics argues for the primary importance of unpaid work in sustaining the activities of the paid economy (Margaret, 1995). The theory advocates for the recognition of UCDW and women's contribution to the economy, asserting that failure to recognize its value not only exacerbates poverty and conflict within the household but also undermines gender equality and social capital development (Sweetman, 2008). The theory posits that a combination of natural differences (such as potential for motherhood), social norms, and institutions, causes women and men to contribute differently to society (Tamilina & Tamilina, 2014). By using paid work, pricing, buying, and selling as a sole measure of welfare, conventional economics wrongly portrays men as the chief or sole breadwinner. This gap between real and perceived contributions perpetuates inequality between women and men, because it fundamentally weakens women's bargaining power in marriage and the family (Sweetman, 2008). According to Margaret (1995), the policy of equal pay for the same job might not be sufficient, since the precondition for a woman to acquire the skill is primarily challenged by unpaid work. Thus, the feminist economics theories acknowledge the valuation of UCDW as a strategic approach to recognize the women's economic contribution, reduce their time burden, and redistribute the tasks to empower them.

The application of NTTA framework holds particular significance in Ethiopia, where the government does not include UCDW within GDP production boundaries. Ethiopian women, as women worldwide, disproportionately shoulder the burden of unpaid labor, contributing to household well-being and social functioning in ways that remain largely

unrecognized in formal economic statistics. By valuing unpaid labor through NTTA principles, our analysis highlights the critical economic contributions of UCDW and quantifies the gender disparities in its distribution.

Conceptual Framework

Gross Domestic Product (GDP) calculation is based on the System of National Accounts (SNA) framework, which is an internationally agreed-upon standard for measuring market-oriented economic activity. The non-SNA activities that fall outside the SNA production boundary are excluded from GDP calculations even if they contribute to overall economic and social well-being of the society. At its backdrop, the analysis of UCDW draws upon two complementary frameworks: National Transfer Accounts (NTA), which is associated with SNA and National Time Transfer Accounts (NTTA) linked with non-SNA.

The NTA framework focuses on measuring the economic flows of goods, services, and transfers between individuals and across generations (e.g., age) within market boundaries (Lee & Mason, 2011). This framework highlights how production, consumption, and intergenerational transfers operate over the lifecycle. However, the NTA framework for measuring UCDW has a significant limitation: NTA disaggregates national accounts by age, not by gender. Furthermore, it only incorporates resource transfers that fall within the SNA production boundary, thereby excluding the vast portion of the gendered economy comprised of unpaid, non-market work (Donehower, 2018) .

National Time Transfer Accounts (NTTA) extends the NTA framework by integrating non-market activities such as caregiving and domestic work. NTTA quantifies the time spent on these activities and assigns monetary value based on appropriate wage rates, thereby addressing the invisibility of unpaid labor. For instance, the time a woman spends cooking, cleaning, or providing childcare at home is valued using wage rates for domestic workers or caregivers, translating these non-market contributions into economic terms. This approach enables a comprehensive understanding of economic contributions that are overlooked in market-based accounting.

Data and Methodology

Data

The study used two data sets collected by the Ethiopian Statistical Service(ESS) to count and value Unpaid Care and Domestic Work (UCDW), which are the Ethiopian Time Use Survey (ETUS) and the Ethiopian Urban Employment Unemployment Survey. The rationality for using this data set is described as follows:

The 2013 ETUS was used in this study based on the premise that it still reflects the current reality of the country, as the gender norms are often deeply rooted and change very slowly to reach a desired level (Marcus & Somji, 2024). This is evidenced by Ethiopia's specific challenges: it struggles with ingrained gender norms, and recent data from the World Economic Forum shows that globally, such norms remain constant and or change minimally worldwide (WEF, 2023). For example, Ethiopia's 2024 Global Gender Gap Index score of 0.709 (ranked 79th out of 146 countries) shows negligible improvement from its 2020 score of 0.71 in (UN Women, 2024). Additionally, the Ethiopian Gender Inequality Index (GII) was 0.502 (ranked 121st out of 189) (Marcus & Somji, 2024) and the gender pay gap remained at 44% (MoWSA, 2022). Given the World Economic Forum's (2023) estimate that, at current progress, it will take 169 years to close the global gender gap. Therefore, ETUS 2013 remains a valid dataset for measuring the value of unpaid work in the current economic path.

The study also drew on the urban employment and unemployment survey from 2022 to measure and value the time spent on unpaid work. Although there is a nine-year gap between ETUS 2013 and the 2022 employment survey, it proved useful for three major reasons. First, the pattern of gender norms, culture, and gender inequality in terms of payment and access remains a priority issue in Ethiopia (MoWSA, 2022; WEF, 2023: UN Women, 2024). Second, despite rising per capita incomes and economic growth in Ethiopia, there are no government initiatives aimed at labor market improvements; for instance, minimum wage remained unchanged from 2011 to 2023 (DTDA, 2025). Third, the Time Use Survey (TUS) offers valuable insights into unpaid care and domestic work, while the Urban Employment and Unemployment Survey (UEUS) offers a more up-to-date perspective on employment dynamics.

Furthermore, the study used an urban employment and unemployment survey to measure the value of UCDW. The study compares the average wages for each category of jobs from the 2021 national labor force survey and the 2022 urban employment and unemployment survey conducted at the national level. Although the national labor force survey covers both urban and rural areas, the average wage for domestic workers, housekeepers/cleaners, and other related work remains consistent with that of the urban employment unemployment survey (DTDA, 2025). For instance, the average wage of a domestic worker and housekeeper/cleaner in rural areas was Ethiopian Birr(ETB) 1252 and 1,108, respectively, while in urban areas it was ETB 1554 and 1152, respectively (Ethiopian Statistics Service, 2021). Similarly, the average wage of a domestic worker and a housekeeper/cleaner in the urban employment survey was ETB 1,669.5 and 1,508.8, respectively (Ethiopian Statistical Service, 2022). The variation in wage rate between the two surveys was insignificant and consistent (DTDA, 2025). Therefore, the study used an urban employment and unemployment survey to evaluate the value of UCDW at the national level, as this survey provides a more up-to-date perspective on the employment dynamics in the country.

Data Description

The ETUS, a nationally representative survey conducted in 2013 among 20,122 households (14,009 from rural areas and 6113 from urban areas), asked participants to record the time spent on UCDW. Employing a harmonized time use method, the data were collected using the day reconstruction method, in which respondents were asked to reconstruct the day they had just spent. All activities performed within 24 hours, from 4:00 a.m. on the day before the survey to 4:00 a.m. on the day of the survey, were collected. The survey collected time-use information from a total of 52,262 individuals aged 10 years and older. However, with reference to the Ethiopian code of conduct regarding legal working age, we restrict our analysis to age 15 and above. Therefore, the study was based on diary information from 44,468 people. The survey was collected based on the International Classification of Activities for Time Use Statistics (ICATUS). It initially classified activity into four major categories, namely SNA, non-SNA, learning, and other nonproductive activities. As indicated, this study focuses on productive activities, specifically activities related to extended system national accounts. The 2013

time use survey collects information on 15 subcategories of unpaid work divided into three major groups: domestic activity, care activity, and volunteering and community service related.

For valuation purposes, the study used the latest Ethiopian Urban Employment Unemployment Survey, which was collected in 2022. The data contains the monthly wage paid to casual employees and persons in the public and private sectors. The surveys obtained economic activity data from 28,795 households across the country. In accordance with international standards, the survey categorizes economic activities into 9 divisions, 53 subdivisions, 99 groups, and 429 specific engagements. Thus, the data allow us to value the unpaid work performed at home/within the household enterprise using the official wage/salary. The only weakness of the data is the mismatch between the survey period of the ETUS (2013) and the employment survey (2022). However, the data from ETUS 2013 remains a valuable resource and the only available dataset to estimate UCDW. Although the socioeconomic and cultural dynamics of the intervening years warrant consideration, time use patterns in Ethiopia are deeply influenced by socioeconomic and cultural norms that tend to evolve only gradually. This means that the 2013 time use patterns are still broadly relevant in 2022, even if the claim does not dismiss the need for new time use surveys.

Methodology

The critical steps in counting the time spent on UCDW involve the identification of activities that satisfy certain criteria. Activities classified as productive, yet to be measured in conventional measurements, must satisfy the criteria of delegation or third-party. The 'third party' criterion states that the activity performed by a family member could have been performed by someone else at a market wage. The activity can be delegated to another person and yield the same desired results (United Nations, 2016: Charmes, 2019; Urdinola & Tovar, 2019). We therefore broadly classify UCDW into three main categories: domestic work, care activity, and unpaid community service. Specifically, domestic work includes: food management, cleaning and upkeep of dwellings and surroundings, do-it-yourself decoration, maintenance and small repairs, care of textiles and footwear, shopping, travel related to provision of unpaid domestic services, firewood collection,

fetching water. Childcare, Adult care, and travel related to unpaid caregiving services to household members identified as care activities, while unpaid help to other households, community-organized services, organized unpaid volunteer services, involvement in civic and related responsibilities and travel related to community service and help to other households identified as unpaid community services. At this stage, the time spent on each activity is calculated by gender and age using the time use survey.

The next step within the NTTA framework is placing the monetary value on time unit spent on a particular unpaid activity. Two well-known methods of valuation have been identified in the literature to date: the Replacement Cost and the Opportunity Cost approach. The Replacement Cost approach, which is used to determine the time spent on UCDW, can be valued at the hourly earnings of individuals who are engaged in similar activities in the market sector. Within the Replacement Cost approach, there are two well-known methods: Specialist Replacement Cost and Generalist Replacement Cost. In the specialist variant, the replacement costs of unpaid activities are imputed based on the hourly earnings of people employed in matched occupations. In the generalist variant, on the other hand, the wage rate of a general housekeeper is used as a basis. The opportunity cost approach assumes that the time spent on paid and unpaid work is a trade-off; time dedicated to one type of work comes at the expense of the other. A teacher's hourly wage at the place of instruction can be taken as the value of preparing meals at home (Mason et al., 2009; UN, 2017; UN, 2016; Urdinola & Tovar, 2019; Vargha et al., 2017).

The reason why generalist replacement approach appears to be the most appropriate for valuation for two reasons: (i) the working conditions for many UCDW activities are similar, if not the same, to those of a hired producer of own-use services; and (ii) a general house maid is more likely to perform the majority of the tasks that are routinely carried out in a household. Therefore, we employ the Generalist replacement cost approach, and follow (J. Suh et al., 2020) to compute the monetary value of unpaid work performed by individuals aged 15 years and older.

The wage of a domestic housemaid was applied as a replacement for valuing unpaid work in a generalist replacement approach, while in the case of opportunity cost, the actual wage of the person performing the unpaid activity was adopted.

The mathematical equation of the generalist replacement cost approach is presented as follows:

$$Yi = (Tu * Wr)$$

While Y_i represents the value of unpaid work, T_u represents the time spent on unpaid work, and W_r represents the hourly wage rate earned by the person (Domestic worker) in paid activity. The calculation moves from the individual's value to the national aggregate value.

The monetary value of unpaid work performed by individuals aged 15 and older was computed as follows:

$$Yi = \sum_{i=1}^{k} Tui * Wr$$

Where Yi = total value of unpaid work performed by the individual, T_{ui} = the time spent on each unpaid activity, and k = the number of unpaid work activities performed by the individual.

To estimate the aggregate value of unpaid activity using the replacement cost approach, the individual values must be summed and scaled up using sampling weights:

$$Yi = \sum_{i=1}^{N} \sum_{i=1}^{k} Tui * Wr * Pi$$

Where, Pi = sampling weight, N = sample size, k = number of unpaid work performed by the individual

Limitations of the Study

Using the Time Use Survey (TUS) data from 2013 for valuation is a potential limitation, as it may not accurately reflect the current distribution or intensity of UCDW due to changes in population structure, urbanization, and gender roles between 2013 and 2022. However, the 2013 Ethiopian TUS data remains a valuable resource and the only dataset available to estimate UCDW. While the socioeconomic and cultural dynamics of the intervening years warrant consideration, time use patterns in Ethiopia are deeply

influenced by norms that generally evolve gradually, meaning the 2013 patterns are still broadly relevant to the 2022 context.

In the same line, a minor limitation in the estimation of the valuation of unpaid care and domestic work (UCDW) is the use of 2022 wage rates to value time use data from 2013. Ideally, wage rates adjusted to 2013, accounting for inflation and productivity growth, would have ensured greater temporal consistency. However, disaggregated and reliable 2013 wage data, particularly for sectors analogous to UCDW, was limited. The use of 2022 wage rates, therefore, reflects current labor market conditions and economic realities, which are more applicable to ongoing policy and advocacy efforts.

Furthermore, the valuation utilizes 2022 EUES wage data, which were collected exclusively from urban areas. This introduces a potential bias, as urban data may not fully reflect wage disparities between urban and rural regions. Rural areas often experience different economic conditions, employment structures, and cost of living standards, frequently resulting in lower wage rates compared to urban centers. While urban wage data inform market dynamics, their application to a national analysis of UCDW requires caution to avoid overestimating or underestimating their value in diverse rural contexts. Recognizing these geographic and economic differences is essential to ensure that the analysis fairly represents the diverse realities of UCDW in Ethiopia.

Result and discussion

Allocation of Time for Productive/paid Activities and Unpaid Care and Domestic Work

The allocation of time between productive activities and Unpaid Care and Domestic Work (UCDW) is a critical reflection of gender roles, social expectations, and access to resources. Table 1 provides a detailed breakdown of hours worked by gender in different age groups, marital status, regions, and places of residence. The data underscore significant gender-based disparities in labor allocation, as well as differences influenced by geographic and demographic factors. These patterns have substantial implications for socioeconomic development, affecting productivity, equity, and overall well-being.

Table 1: Hours worked on productive activities and UCDW, community service in seven days by gender, age group, region, and place of residence

Background characteristics		Hours worked for productive activities per 7 days		Total Unpaid Work per 7 days		Sample(n)
		Male	Female	Male	Female	
Age group	15-17	34	26	17	30	4,438
	18-60	40	30	22	43	36,384
	61+	35	24	20	26	3,646
Marital Status	Never Married	38	31	17	29	11,601
	Married	40	29	23	47	26,985
	Divorced	38	34	29	33	1,990
	Widowed	32	29	22	29	3,163
	Separated	40	32	25	40	636
	Live Together	42	29	18	45	93
Region	Tigray	38	30	19	34	4,585
	Afar	53	40	17	46	2,299
	Amhara	40	28	25	40	7,486
	Oromia	37	28	20	42	8,361
	Somali	49	38	17	47	2,972
	Benishangul-Gumuz	34	27	21	38	2,402
	SNNPR	37	30	20	42	6,747
	Gambella	38	32	15	35	1,725
	Harari	45	39	13	34	1,556
	Addis Ababa	52	50	14	36	4,287
	Dire Dawa	49	42	15	38	2,048
Place of residence	Urban	48	38	15	33	13,284
	Rural	37	28	23	43	31,184
	Total	39	30	21	41	44,468

The data reveal a stark gendered division of labor. Men dedicate more hours to productive activities (39 hours per week on average) compared to women (30 hours). Conversely, women disproportionately shoulder the burden of UCDW, averaging 41 hours weekly—nearly double the 21 hours contributed by men. This unequal distribution of work reinforces traditional gender roles, where men are primarily involved in income-generating activities while women take on the bulk of caregiving and household responsibilities. Such disparities limit women's ability to fully participate in formal economic opportunities, creating long-term gender inequities in income and career advancement. These findings align with similar studies. For instance, Kenyan women spend an average of 20% more time on these tasks than men (Oxfam, 2019). In Tanzania, women dedicate five times as many hours to domestic work compared to men (African Union, 2018). In Uganda, women spend an average of 32 hours per week on UCDW, while men only spend about 2 hours (Oxfam International, 2018). Women in their 30s and 40s spent an average of 35 hours per week on UCDW, compared to men who spent only 17 hours. These data highlight that women are net providers of time transfers throughout their lives, with working-age women contributing the most in net terms, while men remain net beneficiaries for the majority of their lives. Similarly, a study by UN Women, (2023) in Mali found that women contribute nearly 80% of unpaid work, four times more than men, producing an average 21.6 hours of unpaid work per week, compared to only 5.7 hours for men.

Across age groups, individuals aged 18 to 60 years are the most engaged in both productive activities and UCDW. Men in this group work an average of 40 hours in productive activities and 22 hours in UCDW, while women work 30 and 43 hours, respectively. Adolescents (15–17) contribute fewer hours overall, with male adolescents spending 34 hours on productive activities and 17 hours on UCDW, compared to female adolescents' 26 and 30 hours. Among older adults (61+), the gap narrows slightly; men work 35 hours in productive activities and 20 hours in UCDW, while women work 24 and 26 hours, respectively. These patterns suggest that the middle-aged group bears the greatest dual burden of economic productivity and caregiving responsibilities. The study in Mali by UN Women (2023) found that women in their 30s shoulder the greatest burden

of domestic work and caregiving, spending an average of 33 hours per week on these tasks, compared to only 6 hours per week for men in the same age group.

An analysis of hours worked for productive activities and UCDW reveals pronounced differences by sex and marital status. Across all marital categories, men consistently report more hours in productive activities compared to women, with those living together showing the highest disparity (42 hours for men versus 29 for women). On the contrary, women overwhelmingly take on a greater share of unpaid care and domestic work in all groups. Married women exhibit the highest burden, dedicating 47 hours weekly to these tasks, nearly twice the 23 hours reported by married men.

Regional disparities in work hours are pronounced, reflecting differences in economic structures, cultural practices, and access to services. Addis Ababa records the highest hours worked for productive / paid activities, with men working 52 hours and women 50 hours, indicative of the city's formal/informal employment opportunities. On the contrary, rural regions such as Afar and Somalia exhibit higher averages for UCDW, with women spending 46 and 47 hours, respectively. These elevated domestic workloads may stem from limited access to infrastructure and social services, requiring manual effort for essential tasks like fetching water and cooking.

The place of residence also plays an important role in determining time allocation. Urban residents, both men and women, dedicate more hours to productive activities (48 and 38 hours, respectively) than their rural counterparts (37 and 28 hours). Conversely, rural residents, particularly women, dedicate far more time to UCDW (43 hours compared to 33 hours for urban women). The rural-urban gap in UCDW is largely attributable to disparities in infrastructure availability, such as access to running water, electricity, and childcare facilities, which ease the burden of domestic work in urban areas. On the other hand, underdevelopment of the labor market could be a factor in the low level of paid/productive activities in rural areas.

The interplay of gender and residence exacerbates labor inequalities. Rural women face dual disadvantage: they spend fewest hours in productive activities (28 hours) while shouldering on the heaviest burden of UCDW (43 hours). These dynamics limit the opportunities of rural women to engage in paid work, perpetuating cycles of poverty and

dependence. Urban women, although working fewer hours in UCDW, still perform more domestic work (33 hours) than urban men (15 hours), pointing to persistent gender-based disparities even in more developed settings.

In general, the data reveal significant disparities in the allocation of time for productive activities and UCDW across sex, age, region, and residence. These inequalities hinder economic growth and perpetuate social inequalities, particularly among women and rural populations.

Participation in Domestic Work, Unpaid Care, and Community Services

Participation in domestic work, unpaid care, and community services varies significantly across sex and place of residence, reflecting deeply ingrained gender roles, access to resources, and socioeconomic conditions. Table 2 shows these disparities and the statistical significance of the differences in time allocation. This discussion explores the patterns evident in the data, their structural drivers, and the implications for socioeconomic development, highlighting how these roles limit individual agency, economic growth, and gender equity, emphasizing the critical need for targeted interventions.

The data indicates a significant gender disparity in domestic work. Women consistently work more hours weekly across all categories of domestic tasks, such as food management (131.3 hours vs. 7.6 hours for men), cleaning (18.5 vs. 2.1), and textile care (12.4 vs. 2.3). This division reflects traditional gender roles that disproportionately assign domestic responsibilities to women. Men's participation is more pronounced in less frequent, mobility-based tasks such as firewood collection (9.6 hours) and travel for unpaid domestic services (17.5 hours), which are often perceived as physically demanding. The stark differences emphasize the unequal burden of domestic labor, which limits women's ability to engage in formal employment or other productive activities.

The rural-urban divide in the participation further shapes domestic work. Rural residents spend more time weekly on tasks such as fetching water (18.1 hours) and collecting firewood (17.3 hours) compared to urban dwellers (4.3 and 3.0 hours, respectively). These tasks are more time-intensive in rural areas due to limited access to basic infrastructure

such as running water and electricity. Urban residents, however, spend more time on activities such as cleaning (14.8 hours) and washing textiles (14.4 hours), reflecting differences in lifestyle and domestic expectations. The higher burden of basic subsistence tasks in rural areas restricts economic opportunities, particularly for women.

Unpaid care work also shows striking gender disparities. Women dedicate much more time to childcare (71.6 hours) than men (7.7 hours), while adult care also shows a notable gap—1.2 hours for women compared to 0.6 hours for men. These patterns reflect societal expectations that position caregiving as a predominantly female responsibility. Travel related to unpaid caregiving is slightly higher for men (1.3 hours) than for women (0.8 hours), which may indicate that caregiving tasks requiring mobility are often assigned to men. The imbalance in unpaid care work reinforces women's time poverty and limits their ability to pursue education, skills development, or economic opportunities.

Table 2: Weekly hours spent on domestic work, unpaid care, and community services by sex and place of residence

	Gender		Place of Residence		
	Male	Female	Urban	Rural	Total
Domestic work					
— Food management	7.6	131.3	63.0	73.8	71.3
— Cleaning and upkeep of dwellings and surroundings	2.1	18.5	14.8	9.3	10.6
— Do-it-yourself decoration, maintenance and small repairs	0.8	2.6	2.9	1.4	1.7
— Care of textiles and footwear	2.3	12.4	14.4	5.4	7.5
— Shopping	5.3	9.6	5.4	8.2	7.5
— Travel related to provision of unpaid domestic services	17.5	18.7	7.7	21.3	18.1
— Fire wood Collection	9.6	18.1	3.0	17.3	14.0
— Fetching Water	5.0	24.3	4.3	18.1	14.9
Unpaid care					

— Travel for unpaid caregiving for household members	1.3	0.8	1.1	1.0	1.1
— Childcare	7.7	71.6	31.4	43.4	40.6
— Adult care	0.6	1.2	0.7	1.0	0.9
Community service					
— Unpaid help to other households	9.1	4.4	3.4	7.7	6.7
— Community-organized services	8.4	3.2	1.4	7.0	5.7
— Organized unpaid volunteer services	1.8	0.5	0.2	1.4	1.1
— Attendance in meetings	5.1	1.2	2.7	3.2	3.1
— Involvement in civic and related responsibilities	0.7	0.2	0.2	0.5	0.4
— Travel related to community service and help to other households	7.1	3.4	2.5	6.0	5.2
Sample(n)	21,340	23,128	13,284	31,184	44,468

Care responsibilities also differ by place of residence. Rural residents spend more time childcare (43.4 hours) than urban residents (31.4 hours), likely due to larger family sizes and fewer childcare facilities in rural areas. Conversely, urban residents report slightly higher time spent on travel related to unpaid caregiving (1.1 hours vs. 1.0 hours), which may reflect commuting to caregiving activities in urban settings. These differences demonstrate the critical role of infrastructure and service availability on how time is allocated for unpaid care work. Limited access to formal childcare in rural areas increases the burden of care, particularly for rural women.

Men are more actively involved in community service than women, as seen in unpaid help to other households (9.1 hours vs. 4.4 hours), community-organized services (8.4 vs. 3.2), and attendance in meetings (5.1 vs. 1.2). These trends may reflect cultural and social norms that prioritize men's participation in public and civic activities, while women are limited to domestic and caregiving roles. Women's limited participation in community services may also be due to their time constraints due to domestic and care

responsibilities. This exclusion hinders women's opportunities to contribute to community decision-making and leadership roles.

Rural residents report a higher participation in community services, such as unpaid help to other households (7.7 hours vs. 3.4 hours for urban residents) and community-organized services (7.0 hours 1.4 hours). These differences may be attributed to stronger communal bonds and greater reliance on informal support networks in rural areas. However, urban residents spend more time on civic and related responsibilities (2.7 hours versus 0.2 hours for rural residents), reflecting the structured nature of civic engagement in urban settings. These trends indicate the varying nature of community engagement based on geographic context.

The disparities in participation in domestic work, unpaid care, and community services have significant implications for socioeconomic development. The disproportionate burden placed on women and rural residents limits their ability to participate in productive economic activities, reinforcing both gender and spatial inequities. Women's time poverty, in particular, restricts their educational and professional growth, perpetuating cycles of inequality. Furthermore, the reliance on unpaid labour in rural areas slows progress in achieving gender equity and economic modernization. Addressing these disparities requires investments in infrastructure, access to services, and policies that promote shared responsibility within households.

The data from the national survey reveal profound differences in participation in domestic work, unpaid care, and community services across sexes and residence, reflecting entrenched inequalities in the use of time. Women and rural residents bear a disproportionate burden, limiting their opportunities for socioeconomic advancement. Fostering gender and geographic equity in labour distribution is not only a matter of fairness but also a necessity for sustainable socioeconomic growth.

Estimation of the Monetary Value of Unpaid Work

Estimation of the Monetary Value of Unpaid Work Based on Replacement Cost Method

Table 3 presents the annual estimated wage value (in ETB) of unpaid domestic work, care, and community services and their corresponding percentage share of GDP for population aged 15 and older in Ethiopia. These estimates, derived using the replacement cost method, are broken down by sex, age group, region, and residence (based on TUS 2013 and EUES 2022 data).

Table 1: Annual value of unpaid work (ETB) and GDP share by demographic group (Replacement Cost Method)

		Male	Female	Total	Percentage share of GDP
Age group	15-17	23,448,141,421	36,016,982,388	59,465,123,808	**1.0%**
	18-60	393,038,088,645	519,395,883,986	912,433,972,631	**14.8%**
	61+	33,437,098,624	33,891,585,372	67,328,683,996	**1.1%**
Residence	Urban	86,220,436,125	128,402,233,154	214,622,669,279	**3.5%**
	Rural	363,702,892,564	460,902,218,592	824,605,111,156	**13.3%**
Region	Tigray	21,373,438,886	36,103,000,770	57,476,439,656	**0.9%**
	Afar	6,382,737,624	9,958,497,881	16,341,235,505	**0.3%**
	Amhara	145,351,122,584	152,717,372,409	298,068,494,993	**4.8%**
	Oromia	156,537,773,080	216,518,365,456	373,056,138,536	**6.0%**
	Somali	5,732,619,372	13,268,446,901	19,001,066,272	**0.3%**
	Benishangul-Gumuz	4,384,817,888	6,711,985,265	11,096,803,153	**0.2%**
	SNNPR	87,325,792,268	120,395,595,206	207,721,387,474	**3.4%**
	Gambella	1,552,703,533	2,613,111,873	4,165,815,406	**0.1%**
	Harari	1,347,790,618	1,723,680,271	3,071,470,889	**0.0%**
	Addis Ababa	18,034,365,637	26,262,357,593	44,296,723,229	**0.7%**
	Dire Dawa	1,900,167,199	3,032,038,123	4,932,205,322	**0.1%**
Total		449,923,328,689	589,304,451,746	1,039,227,780,436	**16.8%**

		7.3%	**9.5%**	**16.8%**
Note:	GDP 2022 in USD			118,970,000,000
	Average exchange rate in 2022 (1USD to ETB) [6]			51.9425
	2022 GDP in ETB			6,179,599,225,000

The total estimated annual wage value of unpaid domestic work, care, and community services in Ethiopia, calculated using the replacement cost method, amounts to ETB 1,039.23 billion, representing 16.8% of the GDP in 2022. This substantial figure highlights the hidden economic importance of unpaid work, particularly in the context of Ethiopia's labour force and gender dynamics. It underscores how unpaid work, often overlooked in official economic statistics, constitutes a significant portion of a country's productive activities and GDP.

Breaking this total by gender reveals a stark contrast: women contribute ETB 589.30 billion (9.5% of the GDP), while men contribute ETB 449.92 billion (7.3% of the GDP). This demonstrates the disproportionate burden of unpaid labour borne by women, reflecting societal norms and cultural practices where domestic work and caregiving are largely viewed as female responsibilities. Such a disparity calls for targeted interventions to address gender-based labour inequities and to ensure the recognition of women's contributions to economic and social well-being.

Age-based analysis shows that the largest share of unpaid work is contributed by individuals aged 18-60, with a combined value of ETB 912.43 billion, or 14.8% of GDP. This group represents the economically active population, which balances paid employment with unpaid responsibilities. By contrast, contributions from individuals aged 15-17 and 61+ are much smaller, at ETB 59.46 billion (1.0% of GDP) and ETB 67.33 billion (1.1% of GDP), respectively. These figures emphasize the dual pressures faced by the working-age population and highlight the unpaid work contributions of adolescents and the elderly, which are often undervalued.

[6] https://www.exchangerates.org.uk/USD-ETB-spot-exchange-rates-history-2022.html

A breakdown by place of residence shows a significant rural-urban divide in the contribution of unpaid work. Rural areas account for ETB 824.61 billion (13.3% of GDP), compared to ETB 214.62 billion (3.5% of GDP) from urban areas. This reflects the prevalence of subsistence farming and domestic activities in rural Ethiopia, where formal employment opportunities are limited and unpaid work is a critical part of livelihoods. In contrast, the higher per capita valuation in urban areas stems from differences in wage rates and task valuation.

Regionally, Oromia emerges as the largest contributor, with unpaid work valued at ETB 373.06 billion (6.0% of GDP), followed by Amhara (ETB 298.07 billion, 4.8% of GDP) and SNNPR (ETB 207.72 billion, 3.4% of GDP). These regions have large populations and significant rural areas, where unpaid work is integral to daily life. On the contrary, smaller regions such as Harari (ETB 3.07 billion) and Gambella (ETB 4.17 billion) contribute minimally, reflecting their smaller populations and lower levels of domestic activity. The regional disparity underscores the importance of tailoring policies to local contexts.

The table further shows the breakdown of unpaid work by activity type. Domestic work represents the largest share, contributing ETB 417.99 billion (6.8% of GDP). This includes tasks like cooking, cleaning and household maintenance. Unpaid care, such as childcare and eldercare, contributes ETB 83.76 billion (1.4% of GDP), while community services add another ETB 98.78 billion (1.6% of GDP). Although domestic activities dominate unpaid work, caregiving and community service also have significant economic value, warranting their inclusion in national accounting systems. International comparisons highlight similar patterns. Studies applying replacement cost approach conducted in various countries found unpaid care and domestic work (UCDW) to represent substantial portions of GDP—22% in South Korea and 10% in Bhutan (Suh, 2021), 20% in Colombia, in 32% Uruguay (Urdinola and Tovar, 2019), 10.3% in Sri Lanka (Gunewardena and Ashvin, 2017), and 22.3% in Mali (UN estimates).

The data highlight a pressing need for policies that recognize and address the economic contributions of unpaid work, particularly by women. The high contribution of unpaid work to GDP (16.8%) points to systemic gender inequalities in the distribution of labour, where women have a disproportionate share of unpaid responsibilities.

In the context of Ethiopia, where unpaid work sustains a large portion of rural households and supports social cohesion, recognizing its value is critical. The replacement cost method provides a robust estimate, aligning with labour market realities and existing wage structures. Nevertheless, complementing it with Opportunity Cost Method analyses would capture the broader implications of forgone economic opportunities. This dual approach would offer a more nuanced understanding of the contribution of unpaid work to GDP and its role in shaping Ethiopia's economic and social policies.

Conclusions

The primary objective of this study was to quantify the time spent on Unpaid Care and Domestic Work (UCDW) in Ethiopian households and evaluate its potential contribution to Ethiopia's Gross Domestic Product (GDP) if it were compensated as paid labor. Based on the results and discussions presented in the preceding sections, the following key conclusions were drawn.

1 The burden of UCDW is disproportionately carried by women, reinforcing systemic gender inequalities: The study underscores the stark gender divide in time use, where women spend an average of 41 hours per week on UCDW, compared to just 21 hours for men. This unequal distribution of responsibilities limits women's participation in productive economic activities, which average only 30 hours a week, compared to 39 hours for men. By confining women to unpaid caregiving roles, traditional gender norms perpetuate their economic marginalization, restricting their access to labour markets, income-generating opportunities, and decision-making roles.

2 UCDW represents a significant, yet overlooked, pillar of the Ethiopian economy: This study has measured the economic contribution of UCDW, revealing its substantial value, 16.8% of Ethiopia's 2022 GDP. The finding challenges conventional economic frameworks that exclude unpaid labour from GDP measurements, perpetuating its invisibility in national policy discourse. The hidden economic value of UCDW highlights key aspects of economic productivity, social welfare, and family cohesion, highlighting its foundational role in the maintenance of both households and broader economic systems. Recognizing UCDW as a legitimate economic activity offers a critical opportunity for

Ethiopia to address long-standing gaps in social protection, labor policy, and economic planning.

3 Recognizing and addressing the economic and social dimensions of UCDW is essential to building an inclusive and sustainable economy: This study provides evidence to guide policymakers, development practitioners, and advocates in addressing the systemic undervaluation of UCDW. Recognizing its profound economic and social dimensions is the first step toward transformative actions. With its emphasis on both economic and social implications, this report lays the foundation for transformative actions to build an economy that values all contributions, ensuring that no one, especially women, is left behind.

There are several policy and programmatic efforts that the government and development actors can do to address the imbalance in the UCDW distribution. To address the unequal distribution of unpaid care and domestic work (UCDW), the government and development actors must adopt a coordinated approach. First, UCDW must be formally recognized in national policies and statistics to highlight its social and economic value. Alongside recognition, efforts to reduce the burden are essential; this involves investments in time- and labor-saving technologies such as improved water access, clean energy, and efficient stoves. Expanding affordable and accessible childcare services is also critical, as it enables women's greater participation in paid work or education. Equally important is the redistribution of responsibilities between men and women, which can be supported through public awareness campaigns, education, and community engagement.

Finally, the introduction of gender-responsive labor policies such as parental leave, flexible work options, and social protection that formally values care work can help ensure that caregivers, particularly women, are not disadvantaged in the labor market. Together, these measures form a comprehensive strategy for balancing care responsibilities and promoting gender equity.

Ethical Considerations

The current research was carried out according to the ethical consideration of the Network of Ethiopian Women's Associations (NEWA). The ethical clearance number is NEWA/469/24.

Informed Consent

No/Not Applicable

Conflict of Interest

The authors declare that they have no competing interests as defined by Discover, or other interests that might be perceived to influence the results and/or discussion reported in this paper.

Data Availability Statements

The data that support the findings of this study are available from Ethiopian statistical Service (ESS). Restrictions apply to the public availability of these data, as they were used under a specific license for the current study. The data are, however, available from the authors upon reasonable request and with the permission of Ethiopian statistical Service (ESS).

Clinical trial number

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