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Chapter 9

Domestic Work Time in Sierra Leone

Quentin Wodon and Yvonne Ying

Introduction

There is ample evidence that women allocate substantial time to domestic chores in Sub-Saharan Africa, and that this burden limits their economic opportunities. The constraints on time use imposed on women, not only by domestic work but also by work in the fields, were already recognized in the 1960s. Data from that period from two villages in the Central African Republic showed that men worked 5.5 hours/day, versus 8 hours/day for women (Berio 1983). Studies based on data from the 1980s and 1990s confirm large differences in time burdens according to gender (Blackden and Bhanu 1999; Ilahi 2000). For example, women have been shown to spend about three times more time in transport activities than men in Ghana, Tanzania, and Zambia (Malmberg-Calvo 1994). In Uganda, time savings from better access to water and wood were estimated at 900 hours/year, mostly to the benefit of women (Barwell 1996). More recent work using new data on Benin, Ghana, Madagascar, Mauritius, and South Africa (Charmes 2006), as well as on Guinea (Bardasi and Wodon 2006a, 2009, 2010) and Malawi (Wodon and Beegle 2006), have provided additional evidence that women have to work more than men in Sub-Saharan Africa (see also Ilahi and Grimard 2000 for Pakistan, and World Bank 2001 for a broader discussion of related gender issues).

As discussed by Blackden and Wodon (2006), existing patterns of time use have potentially important consequences for households. One key issue is that the “household time overhead” (a concept introduced by Harvey and Taylor 2000) or the number of hours that household members, especially women, must allocate to basic chores, is high. Taking care of children and possibly the elderly,

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preparing meals, washing clothes, cleaning the dwelling, and fetching water and wood may together represent a full-time occupation for several household members. When households do not have access to basic infrastructure services, such as electricity, piped water, and sanitation facilities, the time necessary for performing domestic chores is typically much higher than when such access is available. In turn, because the time spent on domestic chores is not easily dispensable, and because domestic chores are performed mainly by women, many women have limited opportunity to engage in productive activities. This may limit their income and decision power within the household. Scarcity of time also means that women have limited opportunities to further their education and training. It could thus be argued that "time poverty," especially among women, is one of the determinants of consumption poverty.

To make the argument clearer, assume that one estimated the labor market value of the time available to various household members or the value of the time savings that could be obtained from policies such as those facilitating access to infrastructure services. The value of these time savings could then be taken into account to assess how additional labor market earnings generated through additional time allocated to work in the labor market could help in reducing monetary or consumption-based poverty. This has been done, for example, by Bardasi and Wodon (2006b) using Guinea data, with the authors finding that, if all household members were indeed to work a certain given amount of time, monetary poverty could be reduced substantially. From a policy point of view, this implies that investments aiming to reduce household time overhead, especially through access to better infrastructure services, would be critical for poverty reduction.

The numerous steps and implicit assumptions needed for full proof of the above argument—that changes in time use resulting from better access to infrastructure might have a positive impact on income generation and poverty reduction—will not be fully explicated in this chapter. Because of limitations in data on time use in the Sierra Leone survey (the time spent working in the labor market by household members cannot be measured properly), we will not make here an explicit and quantified link between so-called time poverty and consumption-based poverty. The objective of this study, more limited in scope, is to provide a descriptive analysis of domestic work time in Sierra Leone. The results should still be interesting because such analysis has not been done before in Sierra Leone, simply because this is the first survey in the country for which time use information is available. The 2003–04 Sierra Leone Integrated Household Survey is used in the next section to provide basic statistics on the time allocated to domestic work according to gender, age, urban/rural location status, household consumption status, access to infrastructure, employment, and migration. Following that is a regression analysis examining the determinants or correlates of domestic time use.

Many empirical results obtained in this study confirm conventional wisdom: Women are found to work more than men on domestic tasks and the domestic workload of children is also high. Access to water and electricity is associated with a reduction in domestic work time by about 10 hours per week.¹ At the same time, it is also found that those who already work in the labor market also spend quite some time on domestic work. Said differently, the hypothesis of a clean division of labor between those who work in the labor market and those who work at home is not necessarily warranted. This means that when assessing the potential monetary benefits from basic infrastructure services in reducing the household time overhead, it should not be assumed too quickly that new household members will be able to enter the labor market thanks to the reduction in domestic work time. Also, if those who are already working in the labor market are performing a non-negligible share of the domestic work, and if there are limited opportunities for those individuals to earn more in the labor market by working more hours there, then the potential for higher earnings for the household thanks to domestic work time savings may be limited. Still, even if a substantial share of the time savings generated by access to basic infrastructure were not to be transformed into additional earnings for the beneficiary households through an increase in their labor supply and related earnings, there should be no doubt that household members would be better off from a time use point of view if they had access to better infrastructure services, simply because they would be able to allocate part of their time to alternative and rewarding endeavors.

Basic Statistics

The Sierra Leone Integrated Household Survey questionnaire distinguishes between a range of domestic chores or time use patterns, for cooking, washing motor vehicles, sweeping, disposing of garbage, ironing clothes, shopping, taking care of children, running errands, fetching wood, and fetching water. Table 9.1 provides estimates of the average number of hours per week allocated to domestic activities, as well as the shares of total domestic work accounted for by these activities. This is shown separately for urban and rural areas by gender and by age group, as well as for the overall population in both urban and rural areas.

A first expected, yet important, result is that women spend significantly more time on domestic work than men, with the total amount of time allocated to domestic work being very high for women. Female adults spend a total of 46.40 hours per week on domestic work in rural areas, and 34.64 hours in urban areas. This compares to 23.36 and 12.26 hours, respectively, for adult males. Thus, urban women aged 15 and older spend about 2.8 times more time than

Table 9.1 Domestic Work According to Gender and Age Group in Sierra Leone, 2003–04

	Age 6–14 (hours)			Age 15+ (hours)			Age 6–14 (share of total, %)			Age 15+ (share of total, %)		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
<i>Urban</i>												
Cooking	0.63	1.55	1.08	0.47	6.88	3.84	5.12	10.43	7.99	3.84	19.86	15.99
Washing car	0.08	0.05	0.06	0.09	0.14	0.12	0.64	0.33	0.47	0.77	0.41	0.50
Sweeping	2.04	2.50	2.27	0.91	1.92	1.44	16.64	16.83	16.74	7.39	5.54	5.99
Disposing of garbage	1.81	2.25	2.03	0.72	1.33	1.04	14.78	15.13	14.97	5.89	3.84	4.33
Ironing clothes	1.29	1.18	1.23	1.94	1.68	1.80	10.49	7.92	9.10	15.81	4.84	7.49
Shopping	0.37	0.45	0.41	1.51	3.48	2.54	3.05	3.03	3.04	12.30	10.04	10.58
Taking care of children	0.50	1.07	0.78	1.85	12.82	7.62	4.04	7.18	5.73	15.09	37.01	31.72
Running errands	1.33	1.30	1.32	2.90	3.35	3.13	10.86	8.77	9.73	23.61	9.66	13.03
Fetching wood	1.80	1.70	1.75	0.75	1.20	0.99	14.66	11.47	12.93	6.12	3.48	4.12
Fetching water	2.42	2.81	2.61	1.12	1.84	1.50	19.73	18.91	19.29	9.17	5.32	6.25
Total domestic work	12.27	14.87	13.55	12.26	34.64	24.04	100	100	100	100	100	100
<i>Rural</i>												
Cooking	1.01	1.92	1.45	0.81	8.99	5.29	5.76	9.18	7.55	3.45	19.37	14.71
Washing car	0.03	0.08	0.05	0.05	0.13	0.10	0.16	0.36	0.26	0.22	0.28	0.27
Sweeping	2.73	3.20	2.96	1.46	3.25	2.44	15.55	15.31	15.43	6.27	7.00	6.78
Disposing of garbage	2.46	2.89	2.66	1.53	2.71	2.18	13.96	13.85	13.90	6.53	5.85	6.05
Ironing clothes	0.77	0.71	0.74	1.55	0.96	1.22	4.37	3.42	3.87	6.63	2.06	3.40
Shopping	0.55	0.78	0.66	3.23	4.35	3.84	3.13	3.72	3.44	13.81	9.38	10.68
Taking care of children	1.05	1.49	1.26	3.55	12.72	8.58	5.94	7.13	6.57	15.21	27.42	23.84
Running errands	1.90	2.07	1.98	6.67	5.97	6.29	10.79	9.90	10.32	28.54	12.87	17.46
Fetching wood	3.64	3.81	3.72	2.59	3.71	3.21	20.68	18.27	19.42	11.10	8.00	8.91
Fetching water	3.46	3.93	3.69	1.93	3.60	2.85	19.68	18.86	19.25	8.25	7.77	7.91
Total domestic work	17.59	20.86	19.16	23.36	46.40	36.00	100	100	100	100	100	100

Source: Authors' estimation based on 2003–04 Sierra Leone Integrated Household Survey (IHS).

urban men on domestic work, while for rural areas the adult female-to-male domestic work ratio is around two. In other words, for women, the burden of domestic work essentially represents a full-time occupation, especially in rural areas. These high levels of domestic work are in part a result of taking child care into account (this is often not the case in time-use data for other countries; see, for example, the empirical papers gathered in Blackden and Wodon 2006).

Large differences are also observed in terms of the composition of domestic work. Female individuals aged 15 and older spend most of their domestic work time taking care of children and cooking. On average, in both urban and rural areas, women spend about 13 hours per week (37 percent of urban women's total domestic work time and 27 percent of rural women's) on childcare, and 7 to 9 hours per week (around 20 percent of the total domestic work time) on cooking. For adult male individuals, by contrast, running errands is the most time-consuming domestic task, at about 3 hours per week (24 percent of the total domestic work time) in urban areas, and 7 hours per week (29 percent of the total domestic work time) in rural areas. Taking care of children is another largest domestic task for men in terms of number of hours spent on the task, with both urban and rural men using up to 15 percent of their domestic work time (2 hours in urban areas and 4 hours in rural areas) on childcare.

For rural children (individuals aged 6–14), the heaviest time burden is for fetching wood and water. In rural areas, boys and girls spend 7 to 8 hours per week on average for these tasks. This work is also a heavy burden for urban children, who use more than 4 hours for fetching wood and water. As is the case for adults, total domestic work time for children is higher in rural than urban areas. The total time allocated by children to domestic work reaches about 19 hours in rural areas and 14 hours in urban areas, and in both urban and rural areas there is a slightly larger burden for girls than for boys (the difference is between 2 and 3 hours of extra work for girls). It is likely that the relatively high burden of domestic work for children takes away time from leisure and education, especially when children must spend long hours fetching wood and water. Disposal of garbage is another task to which children must allocate substantial time (about 2 to 3 hours in both urban and rural areas).

In tables 9.2 to 9.7, data on domestic work time are presented according to access to basic infrastructure (specifically, access to water and electricity), consumption level, employment, migration, and household structure. Table 9.2 gives the average number of hours per week spent on domestic work according to whether households have access to water (a household is said not to have access to water if the main source of drinking water is a well without pump, a river, a lake, a spring, a pond, or rainwater) and electricity (households are considered as having access to electric power if their main source of lighting is electric). One could consider the distance to access water as another way to measure access (instead of considering a dichotomic variable here), but we do not have

Table 9.2 Domestic Work According to Access to Water and Electricity in Sierra Leone, 2003–04

	Men				Women			
	No water & electricity	Have water or electricity	Have water & electricity	Total	No water & electricity	Have water or electricity	Have water & electricity	Total
<i>Urban, age 6–14</i>								
Cooking	0.89	0.69	0.34	0.63	2.75	1.31	0.55	1.55
Washing car	0.07	0.11	0.05	0.08	0.06	0.06	0.02	0.05
Sweeping	3.15	2.03	1.11	2.04	4.10	2.19	1.15	2.50
Disposing of garbage	2.67	1.83	1.06	1.81	3.73	1.81	1.18	2.25
Ironing clothes	2.14	0.97	0.90	1.29	2.12	0.86	0.54	1.18
Shopping	0.35	0.18	0.60	0.37	0.52	0.44	0.40	0.45
Taking care of children	0.96	0.46	0.14	0.50	2.06	0.63	0.51	1.07
Running errands	1.74	0.96	1.38	1.33	2.24	0.81	0.90	1.30
Fetching wood	3.05	1.97	0.55	1.80	3.16	1.65	0.21	1.70
Fetching water	4.04	2.50	0.97	2.42	4.84	2.55	0.95	2.81
Total domestic work	19.07	11.70	7.10	12.27	25.57	12.32	6.40	14.87
<i>Urban, age 15+</i>								
Cooking	0.70	0.51	0.31	0.47	7.86	7.18	5.95	6.88
Washing car	0.15	0.04	0.10	0.09	0.20	0.25	0.01	0.14
Sweeping	1.81	1.01	0.30	0.91	3.24	2.06	0.89	1.92
Disposing of garbage	1.48	0.83	0.19	0.72	2.83	1.31	0.32	1.33
Ironing clothes	3.22	1.73	1.35	1.94	2.86	1.64	0.90	1.68
Shopping	3.39	1.24	0.62	1.51	5.22	2.72	2.96	3.48
Taking care of children	3.03	2.11	0.96	1.85	9.94	14.85	13.01	12.82
Running errands	6.24	2.39	1.34	2.90	6.62	2.68	1.69	3.35
Fetching wood	1.54	0.96	0.12	0.75	2.57	1.37	0.12	1.20

Fetching water	2.08	1.26	0.46	1.12	3.55	2.04	0.50	1.84
Total domestic work	23.64	12.09	5.74	12.26	44.87	36.10	26.34	34.64
Rural, age 6-14								
Cooking	1.11	0.84	0.06	1.01	2.13	1.48	0.09	1.92
Washing car	0.02	0.04	0.00	0.03	0.06	0.11	0.00	0.08
Sweeping	2.81	2.72	0.47	2.73	3.28	3.09	1.14	3.19
Disposing of garbage	2.50	2.50	0.31	2.46	3.02	2.65	0.86	2.88
Ironing clothes	0.70	0.99	0.28	0.77	0.74	0.61	0.28	0.70
Shopping	0.57	0.54	0.00	0.55	0.79	0.77	0.31	0.78
Taking care of children	1.11	0.97	0.00	1.05	1.70	0.99	0.56	1.49
Running errands	2.11	1.36	1.80	1.90	2.37	1.28	1.51	2.07
Fetching wood	3.56	4.13	0.20	3.64	3.94	3.73	0.02	3.80
Fetching water	3.61	3.33	0.17	3.46	4.11	3.71	0.10	3.93
Total domestic work	18.10	17.40	3.30	17.59	22.15	18.43	4.89	20.82
Rural, age 15+								
Cooking	0.79	0.92	0.45	0.81	9.23	8.67	6.87	9.02
Washing car	0.04	0.05	0.41	0.05	0.11	0.09	1.30	0.13
Sweeping	1.64	1.18	0.33	1.47	3.45	3.01	0.64	3.26
Disposing of garbage	1.71	1.22	0.25	1.53	2.96	2.32	0.41	2.72
Ironing clothes	1.49	1.79	0.58	1.54	0.89	1.15	0.59	0.95
Shopping	3.63	2.55	0.74	3.24	4.29	4.54	4.71	4.37
Taking care of children	4.03	2.76	0.41	3.57	13.88	10.28	8.81	12.77
Running errands	7.56	5.18	0.89	6.69	6.64	4.70	1.93	5.99
Fetching wood	2.68	2.62	0.49	2.59	3.83	3.68	0.53	3.70
Fetching water	2.14	1.56	0.27	1.92	3.93	3.02	0.70	3.60
Total domestic work	25.71	19.81	4.81	23.41	49.20	41.46	26.50	46.50

Source: Authors' estimation based on 2003-04 Sierra Leone IHS.

Table 9.3 Domestic Work According to Per Capita Consumption Status in Sierra Leone, 2003–04

	Men				Women			
	Low 1/3 p.c. cons.	Middle 1/3 p.c. cons.	High 1/3 p.c. cons.	Total	Low 1/3 p.c. cons.	Middle 1/3 p.c. cons.	High 1/3 p.c. cons.	Total
<i>Urban, age 6–14</i>								
Cooking	0.61	0.66	0.60	0.63	1.72	2.10	0.65	1.55
Washing car	0.07	0.02	0.16	0.08	0.05	0.05	0.05	0.05
Sweeping	2.58	1.53	1.96	2.04	3.12	2.16	2.12	2.50
Disposing of garbage	2.28	1.45	1.64	1.81	2.83	1.93	1.89	2.25
Ironing clothes	1.70	0.84	1.29	1.29	1.88	0.73	0.82	1.18
Shopping	0.27	0.14	0.81	0.37	0.53	0.34	0.48	0.45
Taking care of children	0.68	0.39	0.38	0.50	1.64	0.83	0.61	1.07
Running errands	1.18	1.21	1.69	1.33	1.65	1.11	1.10	1.30
Fetching wood	2.42	1.16	1.76	1.80	2.53	1.01	1.48	1.70
Fetching water	3.24	2.06	1.76	2.42	4.01	2.32	1.85	2.81
Total domestic work	15.05	9.46	12.06	12.27	19.96	12.58	11.03	14.87
<i>Urban, age 15+</i>								
Cooking	0.48	0.51	0.43	0.47	6.76	7.56	6.38	6.88
Washing car	0.05	0.06	0.15	0.09	0.27	0.10	0.06	0.14
Sweeping	1.20	0.98	0.63	0.91	2.47	1.89	1.44	1.92
Disposing of garbage	0.99	0.78	0.48	0.72	1.93	1.21	0.88	1.33
Ironing clothes	1.82	1.89	2.06	1.94	1.95	1.53	1.56	1.68
Shopping	1.92	1.86	0.90	1.51	3.44	3.59	3.41	3.48
Taking care of children	2.05	2.30	1.31	1.85	10.91	15.47	12.18	12.82
Running errands	3.64	3.04	2.24	2.90	3.99	3.74	2.40	3.35
Fetching wood	1.23	0.81	0.35	0.75	2.09	1.02	0.56	1.20

Fetching water	1.58	1.19	0.74	1.12	2.55	1.97	1.08	1.84
Total domestic work	14.96	13.41	9.30	12.26	36.37	38.07	29.95	34.64
Rural, age 6–14								
Cooking	1.18	0.52	1.35	1.01	2.25	1.81	1.70	1.92
Washing car	0.00	0.06	0.02	0.03	0.03	0.07	0.12	0.08
Sweeping	2.77	2.40	3.04	2.73	2.87	3.08	3.60	3.20
Disposing of garbage	2.68	2.12	2.57	2.46	2.64	2.85	3.15	2.89
Ironing clothes	0.91	0.66	0.72	0.77	0.80	0.79	0.56	0.71
Shopping	0.94	0.42	0.27	0.55	1.21	0.65	0.49	0.78
Taking care of children	1.58	0.82	0.70	1.05	1.88	1.64	0.98	1.49
Running errands	2.63	1.45	1.58	1.90	2.97	1.61	1.64	2.07
Fetching wood	3.49	3.47	3.97	3.64	3.54	3.47	4.37	3.81
Fetching water	3.64	3.19	3.55	3.46	3.93	3.71	4.14	3.93
Total domestic work	19.82	15.13	17.79	17.59	22.14	19.70	20.75	20.86
Rural, age 15+								
Cooking	0.83	0.89	0.72	0.81	8.85	8.15	9.98	8.99
Washing car	0.04	0.03	0.08	0.05	0.05	0.20	0.15	0.13
Sweeping	1.62	1.32	1.46	1.46	3.28	3.24	3.23	3.25
Disposing of garbage	1.78	1.36	1.46	1.53	2.87	2.55	2.73	2.71
Ironing clothes	1.44	1.62	1.58	1.55	0.85	0.88	1.13	0.96
Shopping	3.46	3.46	2.82	3.23	3.97	4.19	4.90	4.35
Taking care of children	4.02	3.77	2.97	3.55	13.00	13.11	12.06	12.72
Running errands	7.26	6.89	5.97	6.67	6.09	5.93	5.90	5.97
Fetching wood	2.76	2.61	2.44	2.59	3.79	3.50	3.85	3.71
Fetching water	2.28	1.82	1.72	1.93	3.88	3.34	3.60	3.60
Total domestic work	25.51	23.78	21.21	23.36	46.63	45.09	47.52	46.40

Source: Authors' estimation based on 2003–04 Sierra Leone IHS.
p.c. cons. = per capita consumption.

Table 9.4 Domestic Work According to Employment Status in Sierra Leone, 2003–04

	Men				Women			
	Inactive	Not worked in past 12 months	Worked in past 12 months	Total	Inactive	Not worked in past 12 months	Worked in past 12 months	Total
<i>Urban, age 6–14</i>								
Cooking	0.70	0.00	1.17	0.63	1.49	0.00	6.54	1.55
Washing car	0.09	0.00	0.00	0.08	0.06	0.00	0.00	0.05
Sweeping	2.29	0.02	3.14	2.04	2.64	0.04	5.16	2.50
Disposing of garbage	2.06	0.01	1.45	1.81	2.36	0.02	4.96	2.25
Ironing clothes	1.44	0.00	2.08	1.29	1.32	0.00	0.72	1.18
Shopping	0.43	0.00	0.24	0.37	0.47	0.00	1.06	0.45
Taking care of children	0.56	0.00	0.61	0.50	1.18	0.00	1.11	1.07
Running errands	1.50	0.01	1.58	1.33	1.34	0.00	3.48	1.30
Fetching wood	2.00	0.00	3.95	1.80	1.85	0.03	2.52	1.70
Fetching water	2.71	0.01	4.07	2.42	3.05	0.06	4.08	2.81
Total domestic work	13.80	0.06	18.28	12.27	15.76	0.15	29.63	14.87
<i>Urban, age 15+</i>								
Cooking	0.48	1.50	0.45	0.47	4.91	10.05	8.81	6.88
Washing car	0.07	0.00	0.12	0.09	0.05	0.00	0.23	0.14
Sweeping	1.29	1.81	0.49	0.91	1.76	3.26	2.08	1.92
Disposing of garbage	0.98	1.15	0.45	0.72	1.04	2.54	1.61	1.33
Ironing clothes	2.21	4.65	1.63	1.94	1.48	1.33	1.87	1.68
Shopping	0.61	1.67	2.44	1.51	2.18	4.63	4.75	3.48
Taking care of children	1.11	0.97	2.63	1.85	10.49	12.92	15.14	12.82
Running errands	1.79	3.65	4.04	2.90	1.94	6.39	4.72	3.35
Fetching wood	0.91	1.74	0.57	0.75	0.87	2.87	1.53	1.20

Fetching water	1.54	2.39	0.68	1.12	1.49	3.53	2.19	1.84
Total domestic work	11.00	19.53	13.50	12.26	26.21	47.52	42.92	34.64
Rural, age 6–14								
Cooking	1.13	0.02	1.36	1.01	2.01	0.04	3.48	1.92
Washing car	0.04	0.00	0.00	0.03	0.08	0.02	0.09	0.08
Sweeping	3.03	0.07	3.81	2.73	3.50	0.05	5.09	3.20
Disposing of garbage	2.70	0.07	3.52	2.46	3.16	0.07	4.58	2.89
Ironing clothes	0.91	0.02	0.74	0.77	0.81	0.00	0.99	0.71
Shopping	0.57	0.02	0.98	0.55	0.78	0.02	1.63	0.78
Taking care of children	0.99	0.00	2.45	1.05	1.53	0.01	2.89	1.49
Running errands	2.19	0.02	2.17	1.90	2.35	0.04	2.77	2.07
Fetching wood	4.03	0.11	5.05	3.64	4.22	0.10	5.72	3.81
Fetching water	3.86	0.11	4.68	3.46	4.37	0.09	5.88	3.93
Total domestic work	19.45	0.45	24.76	17.59	22.82	0.43	33.11	20.86
Rural, age 15+								
Cooking	0.91	1.26	0.77	0.81	3.86	9.60	10.14	8.99
Washing car	0.12	0.11	0.03	0.05	0.13	0.00	0.13	0.13
Sweeping	2.22	2.69	1.19	1.46	2.37	5.37	3.43	3.25
Disposing of garbage	2.05	2.79	1.33	1.53	1.90	5.68	2.87	2.71
Ironing clothes	2.02	0.90	1.39	1.55	1.14	1.38	0.91	0.96
Shopping	0.95	1.16	4.04	3.23	1.60	3.49	4.98	4.35
Taking care of children	1.90	1.02	4.16	3.55	7.92	11.01	13.82	12.72
Running errands	2.24	4.01	8.24	6.67	2.26	3.71	6.83	5.97
Fetching wood	3.58	2.70	2.25	2.59	2.45	6.65	3.97	3.71
Fetching water	3.03	2.94	1.53	1.93	2.57	6.78	3.81	3.60
Total domestic work	19.03	19.55	24.92	23.36	26.20	53.67	50.90	46.40

Source: Authors' estimation based on 2003–04 Sierra Leone IHS.

Table 9.5 Domestic Work According to Migration Status in Sierra Leone, 2003–04

	Men				Women			
	Never migrated, migrated before 1991 & missing	Migrated between 1991 and 1999	Migrated after 1999	Total	Never migrated, migrated before 1991 & missing	Migrated between 1991 and 1999	Migrated after 1999	Total
<i>Urban, age 15+</i>								
Cooking	0.47	0.57	0.45	0.47	6.76	6.07	8.02	6.88
Washing car	0.08	0.05	0.20	0.09	0.15	0.03	0.15	0.14
Sweeping	0.87	0.30	1.33	0.91	1.80	0.95	3.09	1.92
Disposing of garbage	0.72	0.15	0.97	0.72	1.17	0.50	2.77	1.33
Ironing clothes	1.85	0.70	2.95	1.94	1.59	0.44	2.79	1.68
Shopping	1.29	1.14	3.05	1.51	3.36	1.83	4.89	3.48
Taking care of children	1.84	0.78	2.33	1.85	13.36	7.03	11.46	12.82
Running errands	2.52	2.86	5.32	2.90	2.88	3.63	6.42	3.35
Fetching wood	0.72	0.45	1.07	0.75	1.07	0.60	2.35	1.20
Fetching water	1.08	0.54	1.61	1.12	1.65	1.13	3.46	1.84
Total domestic work	11.44	7.55	19.28	12.26	33.78	22.21	45.38	34.64

Rural, age 15+

Cooking	0.88	0.20	0.77	0.81	8.66	8.83	10.14	8.99
Washing car	0.06	0.01	0.05	0.05	0.13	0.00	0.17	0.13
Sweeping	1.41	0.77	1.83	1.46	3.27	1.96	3.65	3.25
Disposing of garbage	1.39	0.79	2.16	1.53	2.62	1.58	3.44	2.71
Ironing clothes	1.42	0.62	2.22	1.55	0.82	0.70	1.52	0.96
Shopping	3.06	2.51	3.95	3.23	4.16	2.26	5.77	4.35
Taking care of children	3.55	2.99	3.74	3.55	12.46	13.14	13.46	12.72
Running errands	6.44	6.79	7.30	6.67	6.26	3.53	5.89	5.97
Fetching wood	2.45	1.45	3.36	2.59	3.77	2.27	4.04	3.71
Fetching water	1.91	0.89	2.30	1.93	3.57	2.46	4.14	3.60
Total domestic work	22.58	17.02	27.67	23.36	45.73	36.73	52.22	46.40

Source: Authors' estimation.

Table 9.6 Domestic Work According to Household Composition in Sierra Leone, 2003–04

	Urban men		Urban women		Rural men		Rural women	
	Mixed household	All-male household	Mixed household	All-female household	Mixed household	All-male household	Mixed household	All-female household
Cooking	0.43	1.68	6.94	4.28	0.80	2.54	8.99	8.72
Washing car	0.09	0.17	0.15	0.00	0.05	0.27	0.13	0.00
Sweeping	0.90	1.00	1.92	2.02	1.46	1.31	3.25	3.16
Disposing of garbage	0.72	0.75	1.32	1.63	1.53	1.27	2.72	2.39
Ironing clothes	1.97	0.98	1.67	2.05	1.55	0.88	0.96	0.32
Shopping	1.48	2.19	3.49	2.82	3.23	1.69	4.37	2.76
Taking care of children	1.85	2.00	12.95	7.45	3.57	0.00	12.71	13.86
Running errands	2.90	2.66	3.35	2.96	6.68	3.29	5.98	5.11
Fetching wood	0.78	0.03	1.21	0.76	2.60	0.90	3.72	2.66
Fetching water	1.14	0.75	1.84	1.95	1.93	1.60	3.60	3.61
Total domestic work	12.26	12.21	34.84	25.94	23.41	13.76	46.45	42.58

Source: Authors' estimation based on 2003–04 Sierra Leone IHS.

Table 9.7 Determinants of the Number of Hours Spent on Domestic Work per Week in Sierra Leone, 2003–04

	Urban men		Urban women		Rural men		Rural women	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Per capita expenditure	0.223	0.485	0.865	0.787	-2.240***	0.590	-0.818	0.678
Household with water	-7.168***	0.645	-5.992***	0.945	-3.709***	0.640	-5.978***	0.740
Household with electricity	-5.822***	0.719	-5.580***	1.086	-7.454***	1.931	-4.272*	2.377
Worked in last 12 months	0.732	1.002	1.514	1.212	6.016***	1.036	10.597***	1.221
Did not work in last 12 months	-13.06***	1.279	-13.746***	1.888	-18.489***	1.133	-18.663***	1.321
Migrated in 1999 or later	2.534**	1.084	1.527	1.651	5.042***	0.947	6.009***	1.085
Migrated between 1991 & 1999	-6.224***	1.671	-14.315***	2.402	-7.361***	1.540	-11.207***	1.641
All-male household	2.055	1.966			-10.080*	5.671		
All-female household			-3.871	2.626			0.285	3.248
Age of the individual	0.190**	0.093	1.314***	0.143	0.274***	0.096	0.921***	0.115
Age squared	-0.003***	0.001	-0.017***	0.002	-0.004***	0.001	-0.014***	0.001
Primary education	1.056	0.882	-0.859	1.212	1.811**	0.843	1.783*	1.065
Secondary education	-0.801	0.928	-1.358	1.294	-2.378*	1.264	0.310	2.104
Vocational education	0.686	2.208	1.985	3.452	-0.357	3.679	14.718***	5.366
Tertiary education	-1.366	2.484	1.439	5.893	-4.549	4.410		
Koranic education	0.678	13.936	-16.565	28.653	-7.314	9.553	-15.875	34.784
Monogamous household	-0.116	1.332	19.224***	1.638	-3.419**	1.430	15.506***	1.533
Polygamous household	-0.190	1.939	15.737***	2.124	1.001	1.691	13.952***	1.566

continued

Table 9.7 Determinants of the Number of Hours Spent on Domestic Work per Week in Sierra Leone, 2003–04 *continued*

	Urban men		Urban women		Rural men		Rural women	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Divorced individual	-3.419	2.656	11.533***	2.501	-4.379	2.846	2.801	2.469
Widowed individual	-4.463	3.693	12.418***	2.545	-1.368	3.454	6.810***	2.219
Individual in informal union	-6.427**	2.751	34.086***	4.031	-5.596	7.711	46.865***	7.604
Christian individual	0.883	2.596	3.692	3.843	7.875***	2.180	10.485***	2.325
Muslim individual	0.017	2.585	2.688	3.814	7.945***	2.107	8.494***	2.230
Number of infants (age 0–5)	2.139***	0.720	5.631***	1.069	-0.220	0.523	1.734***	0.632
Number of infants squared	-0.543**	0.234	-1.014***	0.341	0.168	0.112	-0.081	0.138
Number of children (age 6–14)	0.231	0.534	0.677	0.783	-0.878**	0.427	-1.884***	0.499
Number of children squared	0.000	0.093	-0.085	0.133	0.044	0.058	0.233***	0.069
Number of adults (age 15–60)	-0.177	0.343	-0.692	0.515	-1.004**	0.467	-2.015***	0.556
Number of adults squared	-0.014	0.024	-0.010	0.036	0.083**	0.041	0.121**	0.049
Number of seniors (age 60+)	1.133**	0.552	-1.872**	0.764	-1.871***	0.479	-0.542	0.567
Constant	17.240***	3.152	8.334*	4.619	15.963***	2.727	14.510***	3.058
Adj. R-square	0.1673		0.3314		0.1699		0.3677	

Source: Authors' estimation based on 2003–04 Sierra Leone IHS.

Notes: The time poverty line is a relative time poverty line, i.e., two times the median of total domestic work hours (20 hours per week). *** at 1% significant level; ** at 5% significant level; * at 10% significant level.

good data on the distance in time separating households from an improved water source when they do not have access to water, and the simple fact of not having access, apart from the distance, is also a key determinant of time use.

As expected, the average number hours spent on domestic work is lower for households with access to water or electricity or both, because, in such cases, the time necessary to fetch wood or water is reduced substantially or even eliminated altogether. For example, urban boys (girls) aged 6 to 14 living in households with no water and electricity have to spend 19 hours (26 hours) on domestic work per week, as opposed to 15 hours for boys and girls in households with access to either water or electricity, and only 7 hours (6 hours) for boys (girls) in households with access to both water and electricity. Urban adult males show a similar pattern: they must spend 24 hours on domestic work if they have no access to water and electricity, 12 hours if they have access to water or electricity, and 6 hours if they have access to both. For female adults as well, the gains are largest when the household has access to both water and electricity (reduction in domestic working time of 19 hours in urban areas and 23 hours in rural areas), but access to only one of the two services already is beneficial.

Table 9.3 presents the average number of hours per week spent on domestic work, according to per capita household total consumption. Rural and urban areas are considered separately for defining the category of the household as belonging to low, middle, or high consumption groups; this means that a household in the top group in rural areas may well have a level of consumption comparable to a household in the middle group in urban areas. The patterns of domestic work according to consumption levels appear to be different in urban versus rural areas. In urban areas, the average number of hours allocated to domestic work decreases with the consumption level among girls and male adults, that is, the higher the consumption of the household, the lower the number of hours spent by its members on domestic work. For example, urban girls in the low consumption group spend 20 hours per week on domestic work, while in the middle consumption group, they spend 13 hours, and in the high consumption group, they spend only 11 hours on domestic work. Urban men in the low consumption group allocate 15 hours per week to domestic work, and this decreases to 13 hours and 9 hours, respectively, in the middle and high consumption groups. However, this decrease is not obvious among urban boys and female adults. For urban boys, those in middle consumption group spend less time on domestic work than those in both low and high consumption groups. For urban women, those in the middle consumption group have the highest number of hours of domestic work.

In rural areas, the patterns for domestic work according to consumption levels look different in two respects. First, the differences in number of hours allocated to domestic work are smaller between the various consumption groups. Second, except for adult men, individuals (that is, women, girls, and boys) in the

middle consumption group spend less time on domestic work than individuals in the high consumption group, although again the differences are relatively small. The fact that differences by consumption group are larger in urban areas than in rural areas could be because of the correlation between consumption and housing infrastructure. In urban areas, the correlation is stronger than in rural areas simply because access rates are much lower in rural areas. Another potential explanation could be that, in urban areas, hiring domestic workers is easier and more common than in rural areas, hence richer households can more easily reduce their domestic work time by employing servants at home.

In table 9.4, domestic work time statistics are presented according to the employment status of the individual, by distinguishing individuals who are inactive from those who are in the labor force but have not worked in the past 12 months and those who have worked in the past 12 months. The results show that, among several gender-age groups, those who worked in the labor market over the past 12 months spend *more* time on domestic work than those who did not work. For rural men, the domestic work time is 25 hours for those engaged in the labor market, versus 20 hours for those not engaged in the labor market. As for those who are inactive (not in the labor force), the amount of domestic work is also below that observed for those who did work over the past 12 months. It is also noteworthy that children who declared themselves not working over the past 12 months are also protected from domestic work. While there may be data issues in all these results, and while a close investigation of the relationship between domestic and labor market work is warranted, the results do suggest that rural male adults who are most dynamic and find work in the labor market also tend to shoulder a large share of the domestic work burden.

In table 9.5, domestic work time data are presented according to the migration status of the household. The specific social context of Sierra Leone during and after the civil war (1991–99) provides an opportunity to use the migration status of the household as a proxy for its dynamism, in a similar way to what was done for employment. The civil war, which started in 1991, forced many households to migrate, as the activities of a major rebel force, the Revolutionary United Front of Sierra Leone, led many rural households to move to cities, especially to the capital, Freetown. The war ended in 1999, after which some households moved back to their place of origin or migrated to new places in search of better jobs. In table 9.5, individuals are classified according to whether they belong to a household that migrated between 1991 and 1999, migrated after 1999, or never migrated (this group also includes households for which data on migration are missing). Given that the migration decision is rarely taken by children, and that most children were not alive yet before 1991 (and many were not born between 1991 and 1999), the estimates are presented only for adult men and women.

It turns out that in both rural and urban areas, and among both adult men and women, those who belong to households who moved after 1999 have the highest number of hours allocated to domestic work, while those who moved between 1991 and 1999 tend to have the lowest number of hours for domestic work. For example, in rural areas, among men, the average number of hours allocated to domestic work per week is 28 for those who migrated after 1999, and 17 for those who migrated between 1991 and 1999; among women, the average number of hours for domestic work is 52 for those who migrated after 1999, and 37 for those who migrated between 1991 and 1999. We provide these statistics because the decision to migrate is a major event for households, and the regression analysis in the next section shows that this decision correlates with domestic time worked. However, this correlation is difficult to interpret, because the links between this decision and time use may be complex; thus, in the next section, we will simply treat this variable as a control.

Finally, table 9.6 provides the time use statistics according to the structure of the household, namely, whether household members are of mixed genders or not. This is a way to look at how personal preferences affect domestic work. We compare the number of hours per week spent on domestic work for all-male households, all-female households, and mixed households. The results, presented in table 9.6, show that men in all-male households spend less time on domestic work than men in mixed households. This difference is especially large among rural men. In rural areas, men in all-male households allocate 14 hours per week to domestic work, while men in mixed households allocate 23 hours to such work. In all-male households, the time allocated to cooking increases significantly as compared to mixed households, but time for most other activities decreases. In all-female households, women spend much more time on domestic work than men in all-male households, but less time than women in mixed households. In urban areas, women in all-female households spend 26 hours per week on domestic work, while women in mixed households spend 35 hours; in rural areas, women in all-female households allocate 43 hours per week to domestic work while women in mixed households allocate 46 hours. The presence of children must always be considered as part of the demographic variables affecting time use, suggesting the need for regression analysis.

It should be noted that the Sierra Leone questionnaire has a fairly extensive list of domestic activities, including time spent supervising children. This detailed time use module, together with very low levels of access to basic infrastructure, tends to result in a high number of hours spent on domestic work. How do the domestic time use data presented for Sierra Leone compare to those in other low-income countries? In Sierra Leone, the average time spent on domestic work by women aged 15 years and older is 15 hours per week in urban areas and 46 hours in rural areas. This compares to about 23 hours nationally in Guinea (Bardasi and Wodon 2006a, 2006b) and 24 hours in Malawi (Wodon

and Beegle 2006). In a review of UN surveys on time use, Charmes (2006) estimates that the domestic time work for women reached 24.4 hours per week in Benin, 46.2 hours in Madagascar, 45.9 hours in Mauritius, and 40.0 hours in South Africa. Thus, Sierra Leone's estimates of domestic time use are on the high side, but they are not outside the interval observed for other countries, since it is not that uncommon to find in other countries that women spend between 40 and 50 hours per week on domestic work alone.

Regression Analysis

The profile of time use according to individual and household characteristics presented in the previous section is useful, but it does not provide a precise idea of the correlates or determinants of domestic work. For example, as mentioned in the discussion of the relationship between domestic work and consumption level, the fact that there is a negative correlation in urban areas between consumption and domestic work time may not be directly related to the economic status of the household, but, instead, to the fact that richer households have access to better infrastructure services. For assessment of the links between individual and household characteristics and domestic work while controlling for the potential effect of other characteristics, regression analysis is needed.

In table 9.7, regressions for the determinants or correlates of domestic work are presented separately for urban men, urban women, rural men, and rural women. The dependent variable is the individual's total domestic work time per week. The independent variables include household per capita consumption, access to water and electricity, employment status in the labor market, migration status, and the gender type of the household. In addition, we also control for age, gender, education level, marital status, and religion, as well as for geographic location, household size, and household composition.

In most cases, the level of per capita consumption of the household does not have a statistically significant impact on domestic work time, except for rural men, where higher consumption is associated with lower workload. By contrast, access to water and electricity decreases domestic work time for both men and women in both rural and urban areas. The reduction in work time varies between 4 and 7 hours each for access to water and electricity, with time savings of a similar order of magnitude for men and women, as well as in urban and rural areas (yet, time savings for urban men in fetching water are larger than for rural men).

In terms of household structure, the impact of being in an all-male or all-female household is not statistically significant. Except for the case of rural men, individuals in households with a larger number of infants (aged 0 to 5) allocate more time to domestic work, probably in part because they need to take care of

those infants. By contrast, the number of children aged 6 to 14 does not affect domestic work time for adults in a significant way in urban areas; and in rural areas, a higher number of children actually reduces the amount of domestic work performed by adults, presumably because the children play a larger part in the domestic work there. The same phenomenon is observed for the number of adults, which does not have a statistically significant impact on domestic work in urban areas, but does reduce the time allocated to domestic tasks in rural areas. The impact of the number of seniors is not stable across the four samples according to location and gender.

Finally, individual level characteristics also play a role in determining the amount of domestic work performed by the individual. First, the time spent on domestic work increases with age. Second, in most cases, education is not correlated in a statistically significant way with domestic work. Third, this is not the case for employment. In urban areas, there are no statistically significant differences in domestic work between those who have worked during the past 12 months in the labor market and those who are inactive (the reference category); but those who have not worked during the past 12 months also spend significantly less time (13 to 14 hours) on domestic work than either the inactive or those who have worked in the labor market. In rural areas, those who have worked over the past 12 months in the labor market have the highest burden of domestic work, followed by the inactive and those who have not worked during the past 12 months.

The migration variables (defined at the household level) show a similar pattern, with those who migrated after 1999 allocating the most time to domestic work, followed by those who never migrated, while those who migrated between 1991 and 1999 allocate the least time to domestic tasks (as mentioned earlier, this relationship is not necessarily easy to interpret, and additional work would be needed to better understand the transmission channel that could be at work here).

For women, being in a domestic union (as opposed to being single) leads to an increase in domestic work, which is especially large when the women are in an informal union. In rural areas, women of Christian or Muslim faith work more on domestic tasks than the excluded category (animists, agnostics, and so on).

It is important to note that the results presented in table 9.7 are indicative only. One issue is that of causality, which cannot be claimed with the limited analysis used in this study and in the absence of panel data, for example, to better measure the impact of access to basic infrastructure. Another issue is the possibility of the presence of non-linear relationships between the explanatory variables and the time use outcomes. This is not likely to be too serious a problem here, given that most of the explanatory variables are dichotomic and that we have allowed for non-linearity in the effect of demographic variables;

however, further tests could be performed. Still another potential issue is related to the type of econometric methods of investigation used. We have not compared the results of log linear regressions with those that could be obtained with matching methods, for example. In work by Bardasi and Wodon (2009) using data on Guinea, the results obtained with both matching methods and linear regressions were broadly similar.

Conclusions

Who bears the burden of domestic work in Sierra Leone? To a large extent, the results provided in this chapter confirm conventional wisdom: Women are found to work much more than men on domestic tasks, especially in rural areas. The workload of a rural adult female individual reaches more than 46 hours per week, a level that would be considered as a full-time occupation in many countries. A second finding is that, for many children, the burden of domestic work is high as well, reaching more than 20 hours per week on average in some cases. A third finding that was expected is the fact that access to basic infrastructure services (water and electricity) makes a large difference in the amount of time spent on domestic work. According to regression results, an adult individual living in a household with access to both water and electricity may expect his or her domestic work time to be reduced by 10 hours per week in both urban and rural areas.

The analysis in this study is descriptive, but it does have bearings for policy, although care must be taken before putting forth policy recommendations. For example, children in Sierra Leone today work a substantial number of hours, and incentives for parents to reduce this workload could lead to better education outcomes. Among incentives that have proven successful in increasing school attendance and reducing domestic work in many countries, for example, are conditional cash transfers. Yet, as suggested by Ravallion and Wodon (2000), while such transfers can indeed lead to more schooling, they may have only a limited effect on child labor if what gives is the child's leisure time.

Yet, some findings were perhaps less expected. Conventional wisdom on the division of labor within the household suggests that those who work in the labor market spend less time on domestic work than those who do not work in the labor market. The results presented in this study suggest a more nuanced outcome: some of those who work in the labor market may actually spend more time on domestic work than those who do not work in the labor market. In a country such as Sierra Leone, where jobs are mostly in the informal sector, which gives flexibility in terms of working hours outside of the home, this result perhaps could be explained by the dynamism of individuals who work in the labor market, that is, individuals who may also be ready to pitch in more at

home. Other individuals might be less willing to put in a lot of effort, whether at home or outside it. This is, of course, speculative; it could also be argued that reducing the domestic work burden of women might potentially enable women to get better jobs in the labor market, instead of simply working longer hours in their current occupation. This could then have a much larger beneficial impact on household income and consumption. Still, while a much more detailed analysis would be required to understand the implications of this finding for the relationship between time poverty and income or consumption poverty, the results do suggest that care must be taken in discussing the potential reduction in monetary poverty that could be achieved by freeing time previously allocated to domestic chores through access to infrastructure services.

Note

1. Although causality cannot be claimed with the limited analysis used in this study, and other econometric methods of investigation could be used, the correlation is strong and access is likely to be exogenous.

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