

Time Use by Unemployed Female Heads of Households in Urban Tanzania

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Abstract

A time-use study was conducted on unemployed female heads of households in two urban centres in Tanzania in 1992. Diary keeping was the main data collection method, complemented by the observation method. Each urban female head of a household in the sample was given a watch and provided with a diary. The watch facilitated in recording the correct times in the diary. The times recorded in the diary were that of waking up, going to sleep in the night, the beginning and ending of every activity she performed during the day. A research assistant visited her daily, in addition to assisting her with diary keeping, the assistant made observations on the activity being performed and tools used in performing it. Data was collected for fourteen consecutive days. The study revealed that the female heads of households were awake for an average of sixteen hours daily, and that they generally spent more time in informal economic activities than in domestic ones. They spent very little time on personal hygiene and hardly any on recreation. Widows spent the longest time in informal economic activities. The women did not use appropriate tools to save time, for example, to brew local beer, cook food, make cakes and prepare meals—they used firewood and charcoal.

1. Introduction

Time use data is necessary for measuring the real work burden and leisure of different groups of people in a population. Noting the difficulties of collecting time-use data, Acharya (1982) warns that the data should be taken as the best approximation.

Time use is an important factor in studying problems of female heads of households and understanding the state of their welfare. Time use studies enable us to understand the amount of time female heads of households spend on various

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activities such as economic, domestic, child-care, recreation, sleep, etc. Such studies consider the question of whether each activity is worth the time spent on it, and if not, what should be done to reduce the time. The introduction of ways of time saving is important for increasing productivity, and hence improving the female-headed households' welfare.

Globally, it has been recognised that female heads of households are on the increase (Folbre, 1991; Bruce and Dwyer, 1988; Buvinic *et. al.*, 1978). Some of the reasons that attribute to the increase in female headship are frequent marriage break-ups, out of wedlock pregnancies, and widowhood. A review compiled by Gupta (1989) from 45 studies conducted in various countries indicated that more often than not, female-headed households were concentrated in the poorest socio-economic strata. A study conducted in 1995 and 1996 in Njombe district, Tanzania, showed that female-headed households were among the disadvantaged small holder farmers (Temu and Due, 2000).

Female heads of households have a burden of being economically and socially responsible for their households. Their access to income earning opportunities in the formal sector is highly limited, partially due to the low educational level of the majority of them (Bureau of Statistics, 1989, 1991). Thus most of the women who find themselves heading households in urban areas find no option of economic survival except joining the informal sector where they face stiff competition and problems such as lack of capital, education, technical skill, and appropriate technology.

Involvement of urban residents (particularly women) in the informal sector is considered as a survival strategy (Tripp, 1988). For the unemployed urban female heads of households, it is the only survival strategy. Realizing the importance of the informal economic sector in Tanzania, Malyamkono and Bagachwa (1990) called it "the second economy in Tanzania". So far, two big surveys have been conducted on the informal sector in Tanzania. The nationally representative one was conducted in 1991 and in 1995. Another one was conducted in Dar es Salaam city. The percentage of women in the informal sector was 36% in 1991 (URT, 1991) and 42% in Dar es Salaam in 1995 (URT, 1995).

Theoretically, the activities of unemployed female heads of households should be: participation in the informal sector for survival, child care, household chores, leisure, recreation, social and cultural activities. On the contrary, male heads of households in urban areas are involved in economic activities, socialization, leisure and recreation. Child care and household chores are performed by their wives.

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Female heads of households in urban areas have double disadvantages, i.e., most of them do not have adult men in their households to share the economic burden; and they do not have "wives" to perform the child care and household chores. Hence, the female heads of households' time-use is a crucial factor to the welfare of their households.

Acharya (1982) and Andorka (1987) state that time-use data may be collected by recall, observation or diary keeping. Studies on time-use by men and women have been conducted in several countries. Using members of 192 households in 8 villages in Nepal, Acharya and Bennet (1981) found out that women worked for longer hours than men (10.8 vs 7.5 hours), and that female children worked for longer hours than male children (7.3 vs 4.8 hours). Farouk (1980) had similar findings when he studied time-use of men and women in 700 households in Bangladesh. He found out that male heads of households worked for about 10 hours a day while their wives worked for 10 to 11 hours. Similarly, using data from the Ghana Living Standards Survey, Lloyd and Brandon (1991) found out that women worked on average for longer hours than men. This was true for both male and female-headed households. It can be concluded that in rural areas of developing countries, women work for longer hours than men.

Appropriate technology is important in reducing time to be spent on an activity. A research conducted in Venezuela by Hill and Hurtado (1989) showed that when Machiguenga women used wooden tools to dig and peel sweet maniac, they spent two to three times as much time as they spent when they used machetes and knives.

The Canadian general social survey on time-use conducted in 1992 showed that in "dual career" families, women's time on housework increased when their husbands spent more time in paid work, but the same was not true for men (McFarlane et al, 2000). Nationally representative time-use diary data collected in Britain in 1975, 1987, and 1997 revealed that although over that interval of time the participation of men in domestic work increased, women still performed the bulk of domestic work (Sullivan, 2000).

In Tanzania, the Danish Development Agency (DANIDA) conducted a survey on time-use of women in four villages in Iringa region in connection with undertaking a project for supplying piped water in the villages. DANIDA and the United Republic of Tanzania (URT) government wanted to see how bringing water to the villages would reduce time spent on fetching it. They concluded that on average, women in those villages were awake for 14 hours each day (URT and DANIDA, 1983). Omari (1991) states that his studies have indicated that women in the rural setting work for 14 hours daily.

In this study, we adopted an index similar to the third index stated by Andorka (1987), i.e., we calculated the average duration of each type of activity for those who actually participated in it during the fourteen days' period. The formula employed in this index was:

Let $i = i^{\text{th}}$ data collection day,
 $i = 1, 2, 3, \dots, 14.$
 $y_{ijk} =$ time spent on activity k by the j^{th} woman on the i^{th} day;
 $j = 1, 2, 3, \dots, 36.$

Note: if on the i^{th} day, the j^{th} unemployed female head of household did not perform activity k , $y_{ijk} = 0.$

$\sum_{j=1}^{36} y_{ijk} =$ total time spent on activity k by all the unemployed female heads of households on the i^{th} day.

Then

$y_{\cdot k} = \sum_{i=1}^{14} \sum_{j=1}^{36} y_{ijk} =$ total time spent on activity k by all the women during the 14 data collection days.

Let $n_{ik} =$ number of unemployed female heads of households who participated in activity k on the i^{th} day.

$N_{\cdot k} = \sum_{i=1}^{14} n_{ik} =$ total number of incidences when activity k was performed.

Then

$\bar{y}_k = \frac{y_{\cdot k}}{N_{\cdot k}} =$ is the average duration of activity k for those who participated in it. The standard deviation and error are found accordingly.

Finally, we calculated the average duration of each activity for those who participated in it during the 14 days period according to major economic activities of the unemployed female heads of households and their marital statuses. In these cases, the formula for calculating the average duration of each activity was adjusted accordingly.

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For example, in the analysis of the widows, $j = 1, 2, 3, \dots, 12$; because in the sample there were 12 unemployed female heads of households who were widows. Thus y_{ijk} will represent the total time spent on activity k by all the widowed unemployed female heads of households during the 14 data collection days. N_k will be the total number of incidences of widows performing activity k . Hence \bar{y}_k will be the average duration of activity k for the widows who participated in it.

Similarly, in the analysis by major economic activities or the other marital statuses, the maximum value of j is the number of the unemployed female heads of households whose major economic activity is the one being discussed or those in the marital status being addressed, respectively.

3. Results

The analysis showed that the unemployed female heads of households engaged themselves in informal economic activities, house cleaning, cooking, fetching water, shopping and other domestic activities. They also had time to eat, rest and perform personal hygiene such as having a bath and dressing up.

Table 1 presents a time-use pattern of the unemployed female heads of households.

Table 1: Time use pattern of the female heads of households

Type of activity	Time (hours) spent on the activity:			N.k
	Mean	std dev	std Error	
Informal economic Domestic:	6.02	2.77	0.14	410
House cleaning	0.73	0.30	0.02	311
Cooking	3.12	0.83	0.05	229
Fetching water & Shopping	0.88	0.39	0.02	361
Other domestic Activities	1.04	0.60	0.40	187
Subtotal: work burden	11.79	1.52	0.04	
Eating	0.81	0.34	0.02	157
Personal hygiene	0.44	0.21	0.02	180
Rest	1.10	0.62	0.05	231

Source: Katapa (1993)

Durations of activities stated in Table 1 are also presented as a pie chart in Figure 1.

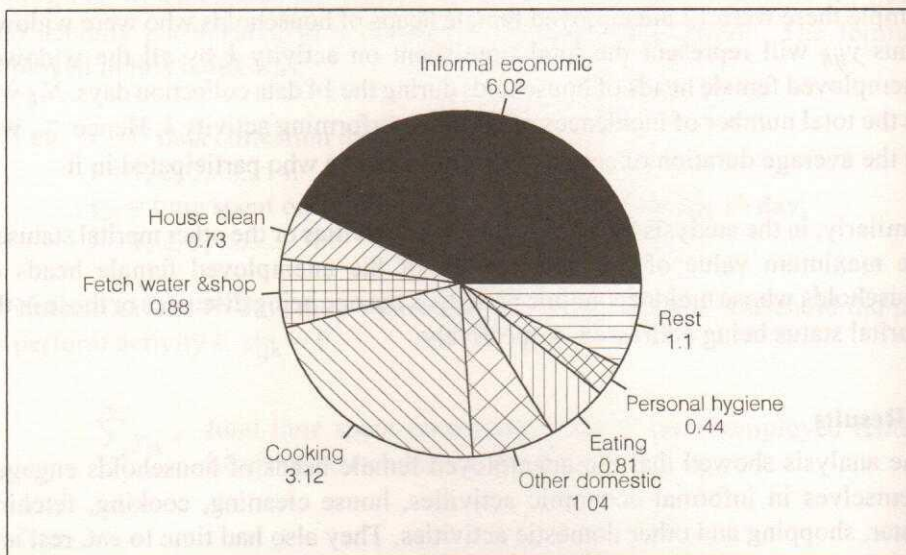


Figure 1: Time use pattern of the female heads of Households (Hours per

From Table 1 and Figure 1 we see that informal economic activities occupy more time than any other activity. The mean wake up time of the female heads of households was 5.45 a.m., and the mean time of going to sleep was 9.45 p.m. Thus in general, the unemployed female heads of households were awake for an average of 16 hours.

3.1 Economic and domestic activities

The major informal economic activities in which the unemployed female heads of households were engaged in were: brewing and selling local beer, buying goods on wholesale basis and selling them in retail, cooking and selling food in open space or make-shift houses, preparing and selling rice cakes, pan-cakes and doughnuts.

The number of unemployed female heads of households in the sample is also presented for each major informal economic activity. Seven were local beer brewers and sellers; six were wholesale and retail sellers; six were doughnuts, rice and pan-cakes makers and sellers and four were engaged in cooking and selling food in open space or make-shift houses. In Tanzania women who cook and sell food in open spaces or make-shift houses are called *Mama ntilie*. The remaining thirteen unemployed female heads of households were scattered in different activities such

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as weaving and selling mats, selling charcoal, processing and selling fish, selling soup of bones (*makongoro*) at drinking places, selling ice cream, embroidery and other petty businesses. In the analysis, activities of these thirteen women were grouped together and called "other economic activities".

Durations of activities by major economic activities of the unemployed female heads of households are presented in Table 2.

Table 2: Time use patterns by major economic activities

Activity	Major economic activities of the female heads of households:				
	Brew & sell Beer	Wholesale & retail	Rice & pan cakes	Cook & sell food	Other
	Mean	Mean	Mean	Mean	Mean
Informal economic					
Brew & sell beer	6.31				
Wholesale & retail		6.74			
Rice & pan-cakes			6.30		
Cook & sell food				7.38	
Other economic	0.85	0.61	0.31		5.43
Domestic:					
Cooking	3.15	3.66	3.16	2.08	3.18
Fetch water & shop	0.85	0.90	0.85	1.16	0.87
Other domestic	0.91	0.90	0.70	0.95	0.79
Subtotal:					
Work burden	12.06	12.81	11.32	11.57	10.27
Eating	0.80	0.83	0.80	0.73	0.67
Personal hygiene	0.44	0.40	0.50	0.47	0.40
Rest	0.86	0.74	1.56	1.11	1.08
Mean wake up time	5:50am	6:00am	4:45am	5:45am	6:00am
Mean bed time	9:50pm	9:10pm	9:36pm	9:52pm	9:45pm
Mean time awake	16hrs	15hrs & 10min	16hrs & 51min	16hrs & 7min	15hrs & 45 min

Source: Katapa (1993)

In the bar chart in Figure 2, for each major economic activity, a comparison is made on time spent on economic and domestic activities. Included in domestic activities are: house cleaning, cooking, fetching water, and shopping.

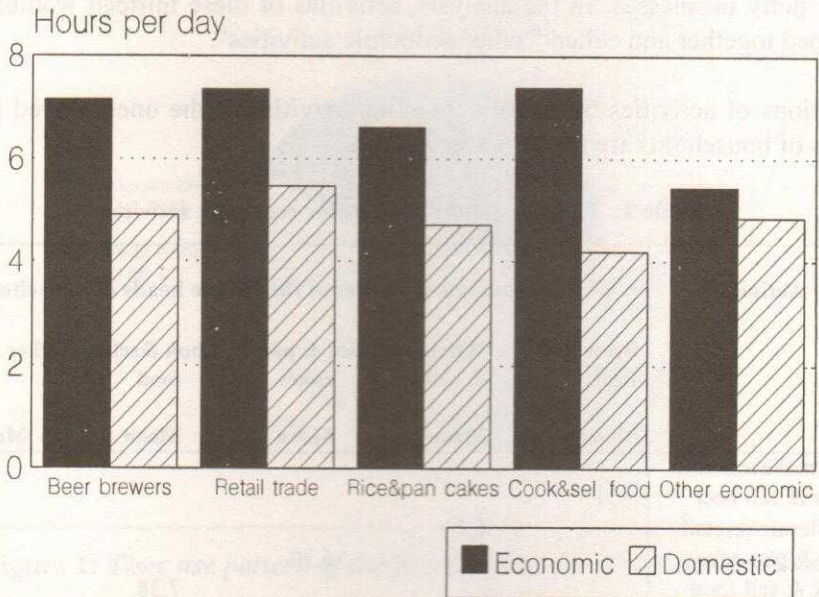


Figure 2: Time use pattern by major economic activities: A comparison of time spent on economic and domestic activities

It can be seen from Figure 2 that they spent more time in economic activities than in the domestic ones.

Finally, time-use analysis was performed according to marital status of the unemployed female heads of households. In the sample, there were 12 widows, 11 divorced/separated, and 8 never-married unemployed female heads of households. The marital statuses of the remaining 5 unemployed female heads of households were not stated, hence they were excluded from this analysis.

Durations of activities of the female heads of households according to marital status are presented in Table 3.

A comparison of time spent on economic and domestic activities in the three marital statuses is presented in a bar chart in Figure 3. Figure 3 clearly shows that widows spent the longest time in informal economic activities.

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Table 3: Time-use patterns by marital status

Activity	Never married		Divorced/separated		Widowed	
	Mean	std-dev	Mean	std-dev	Mean	std-dev
Informal economic	6.0	2.16	5.01	2.37	6.48	2.60
Domestic:						
House cleaning	0.61	0.26	0.76	0.30	0.81	0.27
Cooking	2.77	0.82	3.29	0.80	3.27	0.67
Fetching water & Shopping	0.83	0.38	0.96	0.39	0.77	0.37
Other domestic	1.07	0.78	1.04	0.51	1.02	0.44
Total work burden	11.28		11.06		12.35	
Eating	0.87	0.33	0.66	0.25	0.84	0.32
Personal hygiene	0.44	0.24	0.41	0.12	0.44	0.19
Rest	1.19	0.69	1.01	0.51	1.13	0.49

Source: Katapa (1993)



Figure 3: Time use patterns by marital status A comparison of time spent on economic and domestic activities

3.2 Child care and social services

It was not easy to get times spent on child care. Only one female head of a household had an infant. She performed many activities while carrying the baby on her back. This might have slowed her speed of performing other activities. There were others with young children/grand-children who stated that while they were performing informal economic or domestic activities, the children were cared for by their older siblings (or nieces). This may be a good arrangement but there might be negative effects on the older children such as school absenteeism, or poor performance in school. We were informed that in terms of illnesses on the children, the women left everything they were doing and took the children to hospitals. At the time of this study public hospitals were offering free services.

Once social obligations occurred, female heads of households attended them. The social obligations included attending funeral services and mourning sessions, visiting the sick in hospitals or at their homes, and attending weddings in their neighbourhoods or at their relatives' homes. These social obligations occurred once in a while, and they did not occur to every female head of a household.

Participation of the female heads of households in general social activities such as visiting friends or being visited by friends for a chat, or in order to pass time, was quite rare. None of the female heads of households reported having attended a development meeting in her locality. Also not reported in the female heads of households diaries were times spent on reading newspapers or listening to radios or attending any sort of a literacy/educational class. Only one woman reported having attended a meeting at her childrens' school. She did this because she was summoned by the headteacher of the school.

4. Discussion

This study has shade some light on activities of unemployed female heads of households in urban Tanzania. It has also provided ideas on how they use their time.

It has been found out that unemployed female heads of households in urban Tanzania are awake for about 16 hours everyday. Analysis has shown that informal economic activities occupy slightly more of their time than the domestic ones. It should, however, be pointed out that there is a big variation (large standard deviation) in times spent on different informal economic activities. Out of all the activities they perform, personal hygiene takes the least time; and they hardly spend any time on other forms of recreation.

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Most of the female heads of households go to markets daily to buy grocery, firewood and charcoal. One could save time by going to the market once in a week to buy enough grocery, firewood and charcoal to last for the whole week. When we discussed this possibility with some of the female heads of households, we were informed that they bought those necessities on a daily basis because they got money on a daily basis. The money they used to buy the basic daily necessities was the profit they realized from their informal economic activities.

The hazards of the economic activities the unemployed female heads of households are involved in are numerous. As this study was primarily concerned with time-use, it is enough to point out that the hazards and risks discussed in Omari (1991) also apply to the female heads of households who participated in this study.

4.1 Sequence of activities

The sequence in which activities are done by one woman differs from that of another. Hence the activities as presented in Tables 1 to 3 are not in a sequence of performance.

Analysis of data according to major informal economic activities of the unemployed female heads of households showed that the female heads of households whose major activities were to make and sell rice cakes and/or pan-cakes, were the earliest to wake up. This is because rice cakes and pan-cakes are usually eaten at breakfast in most urban households. It was also observed that female heads of households who were engaged in cooking and selling food in open spaces or make-shift houses (*Mama ntilie*) did not have secondary economic activities.

Finally, analysis of time-use data according to marital status of the female heads of households showed that widows spent the longest time in informal economic activities, while the divorced/separated spent the least time. Cross-classification of age and marital status showed that most of the oldest unemployed female heads of households were widows. Hence, it can be conveniently stated that the widows, who make up the largest proportion of the oldest female heads of households, spend the longest time in informal economic activities. However, spending the longest time in informal economic activities does not necessarily mean having the maximum output. May be, due to their old age, their speed is lower than that of younger women. Another explanation could be due to differences in types of tools used. In this study, it was found out that female heads of households performing a specific informal economic activity used similar tools.

Judging from the presented Tables 1-3, it is my opinion that female heads of

households do not have enough time to include many forms of socialization in their time budgets. It is also suspected that female heads of households do not have enough "free" time to spend with their children.

4.2 Tools used in informal economic activities

The effect of tools on durations of activities is important. In Venezuela, Hill and Hurtado (1989) showed that when Machiguenga women used wooden tools to dig and peel sweet maniac, they spent two to three times as much time as they spent when they used machetes and knives. In this study, we found that female heads of households engaged in a specific informal economic activity used the same tools. For example, the tools used by a local beer brewer in Mbeya town were the same as the ones used by a local beer brewer in Dar es Salaam city. In many cases, the female heads of households engaged in wholesale-retail trade in Mbeya town hired carts to transfer their goods from the wholesale place to their retail markets, their Dar es Salaam city counterparts did exactly the same thing.

In many cases, tools used in informal economic activities were not appropriate. For example, brewing beer requires a lot of water. Women involved in beer brewing carried plastic or tin buckets of water on their heads. They had to make at least ten trips in order to have enough water for brewing beer. They would have saved a lot of time if they had used carts. Carts are available for hiring in all the four research areas. Maybe the women cannot afford the cost of hiring carts.

Women involved in brewing and selling beer, cooking and selling food, processing and selling fish, used a lot of firewood and charcoal in processing or cooking their goods. Most of these preparations took place in open space. When necessary, they used large charcoal stoves in order to hasten processing/cooking, also adding firewood to the charcoal stoves. Introduction of improved large charcoal stoves would save some processing/cooking time. It would also assist in environmental conservation because less firewood and charcoal would be needed.

In order to make rice flour for preparing rice cakes, female heads of households in Dar es Salaam pounded rice in a mortar. When advised to take the rice to the grinding/milling machine in order to save processing time, they showed concern for the cost of grinding, and the distance they would have to walk to and from the grinding/ milling machine.

4.3 Limitations

It has been pointed out in the discussion that in this study, it was quite difficult to quantify time spent on child care.

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This study considered time-use patterns only. Labour intensity and work efficiency are other aspects worth looking at. For example, in brewing and selling local beer, time spent on the activity was taken to be the sum of the times spent on preparing raw materials, brewing beer, selling it and cleaning the tools. It is common knowledge that actual beer brewing is labour intensive and sweating (even during the coldest day in the mountainous town of Mbeya) is always an outcome. On the other hand selling beer does not require much labour.

The sample size of 36 female heads of households is quite small for a quantitative research: this was due to limited funding. However, random sampling was a useful tool in overcoming part of this shortcoming. Also, Acharya (1982) acknowledges the difficulties involved in collecting time-use data, and recommends that the results should be taken as the best approximation.

5. Conclusion

This study was concerned with exploring time-use patterns of unemployed female heads of households in urban Tanzania.

The study found out that urban female heads of households were awake for an average of sixteen hours a day, they spent very little time on personal hygiene, and hardly any on recreation. Most of their time was spent on informal economic activities and household chores. Economic activities took more of their time than household chores. The times spent on economic activities and household chores could be reduced by use of appropriate technology. An example is that of using a cart for carrying water for beer brewing and domestic use: a cart carries six buckets of water at once. Also, women who cook and sell food in the open can use large improved charcoal stoves instead of firewood. This has a double advantage of time saving and environmental conservation.

The objectives of the study were met since we were able to find out the time-use of urban female heads of households. Also, the relationship between time spent on economic activities and other activities was established.

Data for this study was collected during the dry season. It would be ideal to conduct the same study during the rainy season so as to find out whether time-use patterns change with seasons.

One possible extension to this study is to compare time-use patterns of unemployed female and male heads of households in urban Tanzania. In this way, it will be possible to see the gender effect on time-use patterns of unemployed heads of households in urban Tanzania.

Another possible extension to this study is that of comparing time-use patterns of unemployed female heads of households in urban and rural Tanzania. In this way, it will be possible to see differences in time-use patterns between urban and rural female heads of households.

The other possible extension to this study is that of comparing time-use patterns of unemployed female heads of households to that of unemployed women in male headed households.

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