

CONTINUOUS MULTI-PURPOSE HOUSEHOLD SURVEY - 2003

MAIN RESULTS OF THE TIME USE STUDY

1. Introduction

The Central Statistics Office conducted the fourth round of the Continuous Multi-Purpose Household Survey (CMPHS) from January to December 2003, and following a request from the High Level Committee on "Gender-Responsive Budgeting" a time use study (TUS) was incorporated in this round of the CMPHS.

The collaboration and financial support of the Ministry of Women's Rights, Child Development and Family Welfare for this study is gratefully acknowledged. Through UNDP, the office also received technical assistance for the planning and organization of the TUS and for the valuation of unpaid productive work from the TUS data.

This issue of Economic and Social Indicators presents the main findings of the TUS based on responses cumulated over the twelve survey months.

2. Objectives of the Time Use Study (TUS)

The aim of the TUS is to obtain information on the way that individuals spend their time. This information can be used in numerous ways, the main ones being:

- (i) the study of the pattern and distribution of different types of productive and non-productive activities across socio-economic categories, age, sex, etc.
- (ii) the measurement and better understanding of unpaid productive work.

3. Coverage

Each month, a sample of 540 households was surveyed. The selection of these households was done in such a way as to represent all private households in all urban, semi urban and rural areas. Thus, a total of 6,480 households (5,940 in the Island of Mauritius and 540 in the Island of Rodrigues) was covered during the period January to December 2003.

Time use information was collected from all persons aged 10 years and over in the selected households. A 24-hour diary, divided into half-hour slots, was used to record all activities carried out during a specified day.

4. Data collection

Fieldwork was organised in such a way as to cover the same number of households on each day of the survey reference week. However, since 15 households were selected in each

of the regions covered by the CMPHS, two households were interviewed on each day of the week and the fifteenth one on any day of the specified week.

Table 1 shows the number of persons who reported their activities on each day of the reference week. It appears that a large number of the extra interviews were conducted on Friday. Hence, it was necessary to weight the data to give equal importance to all days of the week before analysing the results.

Table 1 - Number of respondents by sex and day of the week - 2003

Day of the week	Number of respondents		
	Male	Female	Both sexes
Monday	1,338	1,389	2,727
Tuesday	1,325	1,366	2,691
Wednesday	1,301	1,326	2,627
Thursday	1,336	1,381	2,717
Friday	1,640	1,692	3,332
Saturday	1,446	1,489	2,935
Sunday	1,434	1,444	2,878
Total	9,820	10,087	19,907

5. Classification of activities

Activities reported were classified according to a new activity classification system developed by the United Nations (UN) Statistical Division. According to this classification, activities are grouped into ten categories, namely:

- (i) work in establishments
- (ii) work in primary production activities (not in establishments)
- (iii) work in non primary production activities (not in establishments)
- (iv) household work
- (v) care of household members
- (vi) community service and help to other households
- (vii) learning
- (viii) social, cultural and recreational activities
- (ix) mass media use and entertainment
- (x) personal care

This classification enables further grouping according to how the activities are treated in the System of National Accounts (SNA) and in the calculation of Gross Domestic Product (GDP).

- Activity categories (i) to (iii) are considered as productive activities, whether paid or unpaid, and are accounted for in the calculation of GDP. They are referred to as **SNA production**.

- Activity categories (iv) to (vi) are also recognised as productive. However, these are not paid for and are not included in the calculation of GDP. They are referred to as **Non SNA production**.
- The remaining four categories are referred to as **Non productive activities**.

In Mauritius, given that unpaid productive activities included in SNA production are marginal, the SNA production can be considered as equivalent to paid productive activities. Therefore, in this publication, SNA production has also been referred to as paid productive activities and non-SNA production as unpaid productive activities.

6. Characteristics of persons covered by the TUS

6.1 Age group and sex

The number of persons who participated in the TUS was 19,907, of whom 9,820 (49%) were males and 10,087 (51%) were females. Some 20% of the respondents were below 20 years while the elderly, i.e. those aged 60 years and over, represented 11% (Table 2).

Table 2 - Household members aged 10 years and over in sampled households by age group and sex - 2003

Age group (years)	Male		Female		Both sexes	
	Number	%	Number	%	Number	%
10 - 19	2,055	20.9	1,988	19.7	4,043	20.3
20 - 39	3,873	39.5	3,949	39.2	7,822	39.3
40 - 59	2,899	29.5	2,896	28.7	5,795	29.1
60 and over	993	10.1	1,254	12.4	2,247	11.3
Total	9,820	100.0	10,087	100.0	19,907	100.0

6.2 Education characteristics

Table 3 - Household members aged 10 years and over in sampled households by education level and sex - 2003

Education level	Male		Female		Both sexes	
	Number	%	Number	%	Number	%
Primary	4,344	44.2	5,045	50.0	9,389	47.2
Standard I - V	1,572	16.0	2,253	22.3	3,825	19.2
Standard VI	2,772	28.2	2,792	27.7	5,564	27.9
Secondary	4,781	48.7	4,610	45.7	9,391	47.2
Form I - IV	2,435	24.8	2,310	22.9	4,745	23.8
Form V	1,985	20.2	1,785	17.7	3,770	18.9
Form VI	361	3.7	515	5.1	876	4.4
Tertiary	695	7.1	432	4.3	1,127	5.7
Total	9,820	100.0	10,087	100.0	19,907	100.0

Table 3 shows the distribution of respondents by education level. It is noted that the proportions having primary level education and secondary level education were similar (47%), and only around 6% had tertiary education. Analysis by sex shows that males had higher qualifications than females, with 7% having tertiary level education, 49% having secondary level education and 44% having primary level education. Among females only 4% had tertiary level education, 46% had secondary level education and 50% had primary level education.

6.3 Activity status

Among the 19,907 persons who were covered by the TUS, 10,088 (51%) had a job, 639 (3%) were unemployed and 9,180 (46%) were inactive. The inactives included mainly students, old and retired persons, persons engaged in household activities and those not able to work because of illness or disabilities.

Table 4 - Household members aged 10 years and over in sampled households by activity status and sex - 2003

Activity status	Male		Female		Both sexes	
	Number	%	Number	%	Number	%
Employed	6,704	68.3	3,384	33.6	10,088	50.7
Unemployed	279	2.8	360	3.6	639	3.2
Inactive	2,838	28.9	6,342	62.8	9,180	46.1
Total	9,821	100.0	10,086	100.0	19,907	100.0

7. Time Use Activities

7.1 Time Use by sex

The average time spent per day by category of activities and sex is shown in Table 5. Time spent per day has been derived by averaging total time spent over all days of the week, including the week-end, by all respondents (working and retired persons, students, housewives, etc.).

Table 5 - Average time (minutes per day) spent by category of activities and sex - 2003

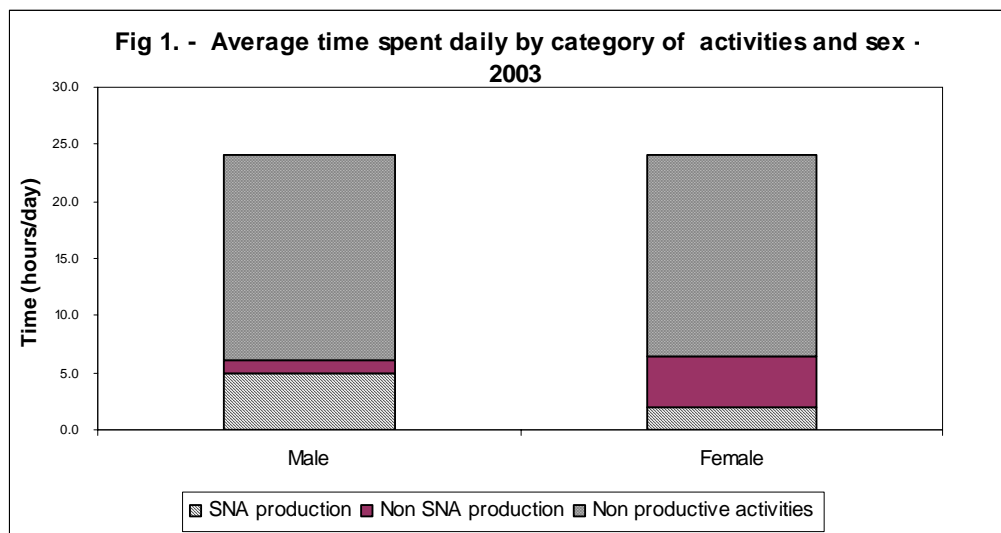
Category of activities	Time spent per person per day (minutes)		
	Male	Female	Both sexes
SNA production	296	116	205
Work in establishments	227	101	163
Work in primary production activities (not in establishments)	19	7	13
Work in non primary production activities (not in establishments)	50	8	29
Non SNA production	73	277	176
Household work	56	229	144
Care of household members	13	44	29
Community service and help to other households	4	4	3
Non productive activities	1,071	1,047	1,059
Learning	67	65	66
Social,cultural and recreational activities	148	105	126
Mass media use and entertainment	161	168	165
Personal care	695	709	702
Total	1,440	1,440	1,440

Table 6 and figure 1 show that nearly three quarters of the average person's day were spent on non productive activities (sleeping, eating and drinking, personal hygiene and care, learning, etc.). Men spent some 0.4 hour more on such activities than women.

Table 6 - Average time (hours per day) spent by category of activities and sex - 2003

Activities	Male		Female		Both sexes	
	No. of hours	%	No. of hours	%	No. of hours	%
SNA production	4.9	20.4	1.9	7.9	3.4	14.2
Non SNA production	1.2	5.0	4.6	19.2	2.9	12.1
Non productive activities	17.9	74.6	17.5	72.9	17.7	73.7
Total	24.0	100.0	24.0	100.0	24.0	100.0

Time spent on productive activities (that is SNA production and non-SNA production) is quite different for males and females. In fact, males spent an average of 4.9 hours on SNA related activities (paid work) and only 1.2 hours on non SNA production (unpaid work) while female spent more time (4.6 hours) on non-SNA production and only 1.9 hours on SNA related activities. Overall, females spent 6.5 hours on (paid and unpaid) work while males spent 6.1 hours.



7.2 Time Use by age group

Table 7 shows disaggregated data by age group and sex. Time spent on non-productive activities was around 22 hours among young people aged less than 20 years (mostly students), approximately 16 hours among persons aged 20 to 59 years and around 20 hours for people aged 60 years and over. Figures for males and females in respect of non productive activities were fairly similar within all the four age groups defined in the table. But, for productive activities, across all the four age groups, males spent more time on SNA related activities while females did more 'non-SNA' work.

Table 7 - Average time (hours/day) spent by category of activities, age group and sex - 2003

Age group (years)	SNA activities			Non SNA production			Non productive activities		
	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes
10 - 19	1.1	0.5	0.8	0.6	1.6	1.1	22.3	21.9	22.1
20 - 39	6.7	2.8	4.7	1.1	5.6	3.4	16.2	15.6	15.9
40 - 59	6.5	2.4	4.5	1.5	5.5	3.5	16.0	16.1	16.0
60 and over	1.5	0.4	0.9	2.0	4.1	3.2	20.5	19.5	19.9
All ages	4.9	1.9	3.4	1.2	4.6	2.9	17.9	17.5	17.7

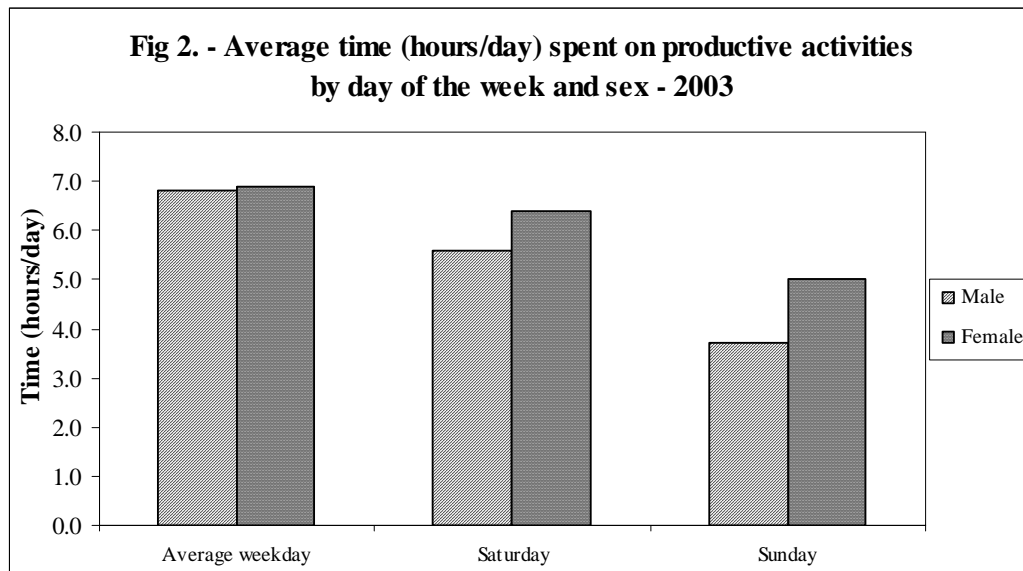
7.3 Time Use by day of the week

Time spent on paid productive activities averaged 4.0 hours during weekdays, 2.7 hours on Saturdays and 1.2 hours on Sundays. On the other hand, time spent on unpaid productive work was almost similar during weekdays and during the week-end. Time spent on non productive activities was higher by 2.5 hours on Sundays than on weekdays as fewer persons worked at their paid jobs on Sundays (Table 8).

Table 8 - Average time (hours/day) spent by category of activities, day of the week and sex - 2003

Day of the week	SNA activities			Non SNA production			Non productive activities		
	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes
Monday	5.7	2.2	3.9	1.1	4.7	2.9	17.2	17.1	17.2
Tuesday	5.6	2.3	3.9	1.1	4.6	2.9	17.4	17.1	17.2
Wednesday	5.7	2.2	3.9	1.1	4.6	2.9	17.2	17.2	17.2
Thursday	5.8	2.6	4.2	1.1	4.4	2.8	17.2	17	17.1
Friday	5.8	2.5	4.1	1	4.4	2.7	17.2	17.1	17.2
Average weekday	5.7	2.4	4.0	1.1	4.5	2.8	17.2	17.1	17.2
Saturday	4.1	1.3	2.7	1.5	5.1	3.3	18.4	17.7	18.0
Sunday	2.0	0.5	1.2	1.7	4.5	3.1	20.4	19.0	19.7

Table 8 also shows that during weekdays, men and women spent approximately the same number of hours (6.8 hours for males and 6.9 hours for females) on productive (paid and unpaid) activities. However, women spent more time on unpaid activities (4.5 hours) while men spent more time on paid work (5.7 hours).



The data also show that there was not much difference in time spent by women on productive (paid and unpaid) activities on Saturdays (6.4 hours) and on weekdays (6.9 hours)

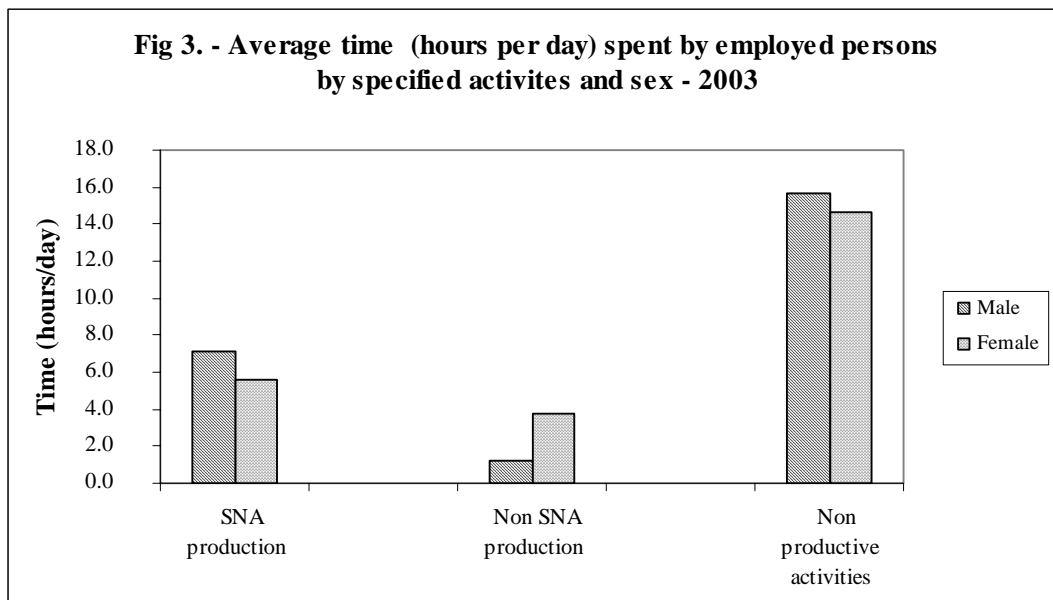
while men devoted 1.2 hours less on such activities on Saturdays. On Sundays, women spent an average of 5 hours working (mainly housework and childcare), while men worked for only 3.7 hours. Hence, men could afford an additional 3.2 hours for non productive activities (rest, socializing, entertainment, etc.) on Sundays compared to weekdays while women had only 1.9 hours more.

7.4 Time Use by activity status

Employed women spent an average of 5.6 hours per day on their income earning activities, compared to 7.1 hours for men. However, they devoted more time (3.8 hours) to unpaid productive work (mainly household chores and childcare) than the employed males who spent only 1.2 hours on such activities. Hence, time devoted to non-productive activities (rest, socializing, entertainment, etc.) by employed women was 1.1 hours less than for their male counterparts (Table 9).

Table 9 - Average time (hours per day) spent by category of activities, activity status and sex - 2003

Activities	Activity status								
	Employed			Unemployed			Inactive		
	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes
SNA production	7.1	5.6	6.6	1.0	0.3	0.6	0.2	0.1	0.1
Non SNA production	1.2	3.8	2.1	1.7	6.0	4.1	1.1	5.0	3.8
Non productive activities	15.7	14.6	15.3	21.3	17.7	19.3	22.7	18.9	20.1
Total	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0



Unemployed and inactive persons are those who reported not having any paid job. Nevertheless some paid productive activities were reported by these two categories of respondents (Table 9).

Unemployed males spent only 1.7 hours per day on unpaid productive work compared to 6.0 hours among unemployed females. Among inactive persons as well, females spent much more time (5.0 hours) on unpaid productive work than the males (1.1 hours).

7.5 Non SNA production

Table 10 below shows the average time spent per day on non-SNA production or unpaid productive work. It is to be noted that unpaid productive work consists mainly of housework (cooking, cleaning, washing & ironing and home maintenance). On average, a person aged 10 years or more spent a little more than two hours per day on housework and about half an hour on care of children.

Females spent nearly four times as much as males on unpaid productive work, 277 minutes compared to 72 minutes. Women spent about three and a half hours per day on housework while men spent only an average of 36 minutes on such activities. On average, women devoted 42 minutes daily to care of children (including teaching) compared to 12 minutes for men. On the other hand, men spent more time on home improvements and maintenance (7 minutes against 1 minute) and on shopping, payment of bills, etc. (20 minutes against 15 minutes).

Table 10 - Average time (minutes/day) spent on non-SNA production by sex - 2003

Activities	Time spent per person per day (minutes)		
	Male	Female	Both sexes
Cooking, serving and washing up	12.3	115.7	64.7
Cleaning and upkeep of dwelling and yard	16.3	59.6	38.0
Washing and ironing	0.9	37.5	19.4
Home improvements and maintenance	6.7	1.4	4.0
Shopping, payment of bills, etc.	19.9	14.9	17.4
Care of children	10.6	39.1	25.0
Teaching children	1.7	2.7	2.2
Care of adults (sick or elderly)	0.5	2.2	1.3
Help to other households	2.5	2.5	2.5
Community services	1.1	1.0	1.1
Total	72.5	276.6	175.6

7.6 Value of non SNA production

The monetary value of non SNA production or unpaid productive work has been estimated by assigning hourly wages to the total number of hours spent on such activities.

There are several ways of estimating the value of unpaid productive work. The following methods have been used:

- the mean (average) wage approach,
- the opportunity cost approach,
- the generalist approach and
- the specialist approach

The *mean wage approach* applies the mean hourly wages in the economy as a whole to time spent on unpaid productive work. In this report, 'wages/salaries' of paid employees, from the 2003 CMPHS has been used. The mean hourly wage worked out to Rs 48.00 for males and Rs 35.90 for females.

Hence, the value of unpaid productive work (not accounted for in GDP) based on the mean wage approach was estimated at around Rs 42,000 million, equivalent to 30% of GDP at basic prices for 2003, which was Rs 137,868 million.

The *opportunity cost approach* uses the economic concept of opportunity cost, that is, it refers to the earnings that a person could have derived from a job commensurate with his qualifications if he had not instead done unpaid labour. This approach therefore applies different rates for the same task done by different persons. For example, time spent on cooking a meal by a university graduate has more value than time spent on the same activity by someone who has attended primary school only.

Based on this approach, the monetary value of unpaid productive work not accounted for in GDP, amounted to Rs 35,200 million, equivalent to 26 % of the GDP estimate at basic prices for 2003.

The *generalist approach* applies to the total amount of unpaid productive work the mean wages of employed persons (housekeepers, cooks and cleaners employed by private households and establishments, nursery workers, etc.) performing similar work. This method evaluates unpaid productive work not accounted for in GDP to Rs 26,000 million, equivalent to 19 % of the GDP estimate at basic prices for 2003.

The *specialist approach* assigns to the different categories of unpaid productive work, wages of employed persons who perform work of a similar nature. For example, cooking and related activities at home have been assigned the average hourly wage rates of paid cooks & waiters; care of children at home has been assigned the wages of nursery workers. The hourly wage rates used in the calculations, for the different types of unpaid productive work, derived from the survey data, are given in table 11.

Table 11 also shows the average amount of time spent in one day by one person on the different categories of unpaid activities.

Table 11 - Average time (minutes per day) spent on unpaid productive activities and wage rates of associated occupations - 2003

Activities	Time spent/person (minutes/day)	Associated occupation(s)	Average hourly wages (Rs)
Cooking, serving and washing up	64.8	Cooks and waiters	31.40
Cleaning, shopping, etc.	54.2	Cleaners and housekeepers	26.30
Washing and ironing	19.4	Launderers and pressers	17.60
Home improvements and maintenance	3.5	Craft workers	34.10
Care of children	27.2	Child care workers	19.90
Care of adults (sick or elderly)	1.5	Institution-based personal care workers	54.40
Teaching children	2.2	Teachers	89.60
Community construction and repairs	0.0	Construction labourers	34.20
Other	2.8	Unskilled workers	23.50
Total	175.6		

Hence, the total value of unpaid productive work was estimated at Rs 29,900 million, equivalent to 22% of the GDP estimate at basic prices for 2003.

Table 12 shows the estimated value of unpaid productive work not accounted for in GDP, based on the four methods of calculation described above.

Table 12 - Value of unpaid productive work not accounted for in national accounts by method of valuation - 2003

Method	Value (Rs million)	% of GDP at basic prices
Mean wage	42,000	27
Opportunity cost	35,200	22
Generalist	26,000	17
Specialist	29,900	19

7.7 Time spent on studies

Table 14 shows the average number of hours spent per week (including Saturday and Sunday) on activities related to studies by persons who were studying at the time of the survey. On average, a student devoted about 41 hours per week to studies, including travelling time.

It is noted that respondents aged 15 to 19 years, who were mostly form IV to form VI students, spent an average of 46 hours per week on their studies, including travelling time. Younger children aged 10 to 11 years, that is those in standard V or standard VI, spent only two hours less, that is, nearly 44 hours per week. If travelling time is excluded, average time devoted to studies would be almost the same (38 hours) for both categories of students.

Time spent on studies among the older students (over 19 years) was only about 27 hours per week as this category of students also included those studying on a part time basis.

Table 14 - Average number of hours spent on studies per week by students in specified age groups - 2003

Activities	Age group (years)					
	10 to 11	12 to 14	15 to 16	17 to 19	20 & over	All ages
Attending school/college,etc.	24.1	21.1	20.4	18.7	9.3	19.9
Attending private tuition	4.3	1.8	4.7	4.7	1.3	3.2
Homework and additional studies	10.2	10.8	13.9	14.9	11.1	11.9
Travel related to studies	4.9	6.0	7.4	7.6	5.0	6.1
Total	43.5	39.7	46.3	45.9	26.7	41.1

7.8 Time spent on sports and leisure

The survey data reveal that males aged 10 years and over spent an average of five hours per day on sports and leisure activities while their female counterparts spent a little less (4.5 hours).

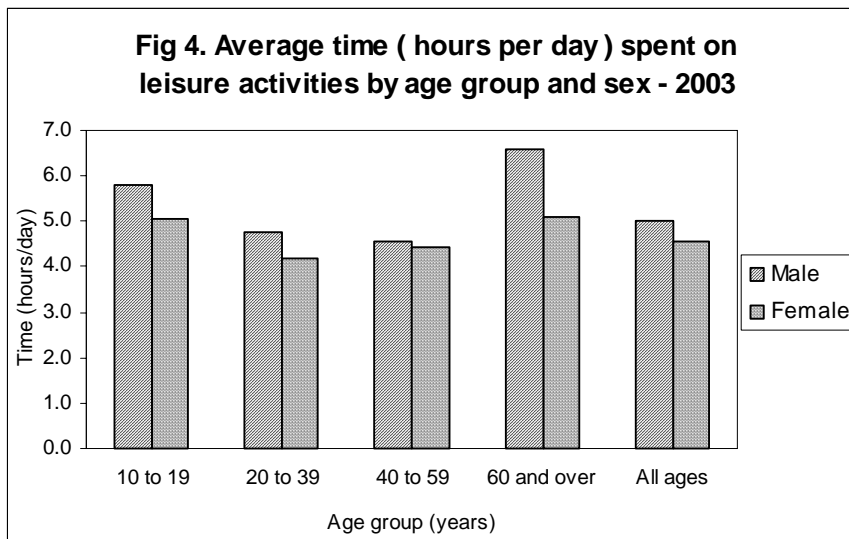
The average time spent per day on sports and leisure activities by males and females of different age groups is shown in table 15 and figure 4. It is noted that across all age groups, females spent less time than males on these activities.

As regards sports and physical exercises, males aged 10 to 19 years spent the largest time (nearly one hour per day), followed by those aged 60 years or more with 32 minutes. Males aged 20 to 39 years spent about 25 minutes and those aged 40 to 59 only 18 minutes.

Among females, those aged 10 to 19 years spent an average of 18 minutes per day on sports and other physical exercises compared to 12 minutes among those aged 60 years or more and about seven minutes in the 20 to 59 years age bracket.

Table 15 - Average time (minutes per day) spent on sports and leisure activities by age group and sex 2003

Activities	Age group (years)									
	10 to 19		20 to 39		40 to 59		60 and over		All ages	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Sports including keep fit activities	52.8	17.9	24.9	7.1	17.9	7.6	31.7	12.2	29.4	10.0
Hobbies and games	23.8	13.7	1.7	1.9	1.8	1.5	1.6	1.5	1.5	4.1
Outings(seaside, cinema, discotheque, etc.)	4.7	3.6	5.5	2.7	3.3	1.9	3.8	2.0	4.5	2.6
Socialising with family and friends	72.3	67.3	83.8	65.7	74.7	69.2	101.1	81.1	80.4	69.0
Participating in social,cultural and religious activities	13.3	11.3	11.7	8.5	16.1	12.5	20.1	12.0	14.2	10.6
Watching TV and video films	148.0	147.8	123.7	130.1	124.2	138.0	177.3	159.6	134.3	139.5
Listening to music	11.0	16.5	12.3	18.0	11.0	19.3	26.5	24.2	13.1	18.9
Reading newspapers, magazines,etc.	12.6	17.4	11.9	9.0	14.3	5.7	21.1	5.7	13.7	9.3
Travelling related to leisure activities	8.6	8.4	10.1	8.1	9.6	9.2	11.1	8.4	9.8	8.5
Total	347.0	304.0	285.6	251.1	272.8	265.0	394.3	306.8	300.9	272.5



The survey data also show that ‘watching television and video films’ is the favourite leisure activity of Mauritians. On average, more than two hours daily are spent in front of the TV by a person aged 10 years or more. Elderly persons spent nearly three hours a day

watching TV. Socialising with family and friends, which includes visiting relatives and friends, chatting with family members in the evenings, etc., is also an important leisure activity. Approximately 1.2 hours was spent per day on such activities.

7.9 Time spent on travelling

Time spent on travelling per day, derived by averaging total time spent over all days of the week by all the respondents was about one hour. Time required to travel to work and back was about half an hour while time spent on travelling for studies or training related to work was ten minutes. A further nine minutes was spent on travel for leisure purposes and around eight minutes for shopping, paying bills and accompanying household members to various places (Table 16).

Table 16 - Average time (minutes per day) spent on travelling by reason for travelling - 2003

Travel related to	Time spent per person per day (minutes)
work	28.0
unpaid productive work	7.6
studies and training	10.0
sports and leisure	9.1
personal care	0.9
Total	55.6

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PORT LOUIS

June 2005

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