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Economics of Household Division of Laboour: An Investigation In Rural Villlages of Bengal

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ABSTRACT

The unequal gender division of labour, social boundaries of class system in rural society and patriarchal norms gives rural women a disadvantageous position in particular, in terms of excessive burden of labour time in unpaid work while placing them in the lower strata in the process of household decision making. In addition, women's economic subordination increases their vulnerability to spousal decision making and often leads to hostile environments in which women are refrained from exercising their rights. The present study while adopting the rural agricultural household as the unit of analysis explores the gender division of labour among the rural households, subjecting its contents to theories of household rural economics along with existing traditional norms of social structure of gender roles. The data set of 250 households encompassing various socio-economic parameters were enumerated and analyzed in the process. Comprehensive picture of the subsistence sector is drawn which is generally ignored in conventional statistics. This paper highlights the results of multiple regressions and identified factors that influence the hours spent by married women in paid activities. This involves an in depth study of various dimensions of rural household behaviour and time expended by women in activities pre-designated under System of National Account (SNA).

KEY WORDS: Gender Division of labour, Paid & Unpaid Activities, Time Allocation.

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1.1. DIVISION OF LABOUR: AN INTRODUCTION

Historically, paid work has been a responsibility assigned to men, while women have been relegated to performing unpaid work that provides support for paid work activities. Universally, women continue to take most unpaid work responsibilities and therefore, their contribution to the economy goes mostly unrecognized. The unequal gender division of labour, social boundaries of class system in rural society and patriarchal norms gives rural women a disadvantageous position in particular, in terms of excessive burden of labour time in unpaid work while placing them in the lower strata in the process of household decision making. In addition, women's economic subordination increases their vulnerability to spousal decision making and often leads to hostile environments in which women are refrained from exercising their rights.

The vicious cycle of inequality generated by the socially imposed obligation to perform domestic work, particularly care activities, largely explains women's absence from politics and decision-making in general. Gender division of labour that assigns male to participate in work in the public domain, however, restricts women's sphere in the private domain. Economic contribution implies economically productive participation of physical or mental activity leading to production of goods and services either for consumption or for sale or for exchange. Production traditionally refers to all the activities that contribute to a country's GNP- in other words, that are bought and sold in the market place. Reproduction, on the other hand, refers to those activities that add to, and take care of, society's human resources. These include bearing and rearing of children. Human beings have to be born, brought up, cared for and taught a variety of norm, values and skills before they become the 'factors of production'. In most cultures, women have the main responsibility for the reproduction of 'labour' on a daily and generational basis but reproductive work has typically been excluded from economic analysis. There is a tendency to view it as a 'natural aspect of women's roles and as not being work because it is unpaid. Beyond the visible economy, however, there is a less visible, informal economy where goods and services are still marketed but go uncounted by official statistics.

In the 1960s, Becker[1] and other human capital theorists developed the 'New Household Economics,' which for the first time applied market concepts and models to household production and time allocation analysis. These new tools were used to explain the sexual division of labour, market behaviour of household members, and male-female differences within these[2]. Ester Boserup[3], in her classic book, 'Women's Role in Economic Development', pointed out that 'the subsistence activities usually omitted in the statistics of production and income is largely women's work. In the 1970s and 1980s, these concepts were applied to further analysis of labour market discrimination and to bargaining models of the household which allowed for dimensions of power and conflict in decision making. Meanwhile, the 1960s debate on the remuneration of domestic labour and the

United Nations conferences during the Decade for Women (1976-1985) popularised the concept of social reproduction. All of these factors contributed to recognition of the pivotal role of women's work in the 'reproductive sector'.

The present study based on primary observations from agricultural households to draw inferences on inter-linkages between paid-unpaid activities and public-private domain conflicts. The sample was restricted to married or cohabiting couples, because of the need to study the relationship between paid, unpaid work and family welfare. Since prime age women in particular are confronted with choices concerning family life and paid work, the study further restricted its analysis to couples where both husband and wife are engaged and performing some agricultural activities within or outside home domain to sustain their household. The amount of time spent per week in paid activities or unpaid household work activities or activities like care for elderly, educational activities, organizational participation, personal care of self, social activities, etc., was determined on the basis of a survey schedule.

An examination of the interaction between market and non-market activities in the economy, particularly in the allocation of time spent between productive and reproductive work, is crucial for a comprehensive assessment of gender inequalities in the labour market. This paper explores the critical issues and ongoing debates regarding unpaid work as well as related empirical evidence.

1.2. CONCEPTUAL FRAMEWORK OF THE STUDY: LITERATURE REVIEW

Household production of non-marketed goods and services is a family necessity. Historically, family production was generally performed by females. However, family production does not generate any direct monetary income, thereby giving no economic independence to female family members. This is especially true in developing countries[4 5]. Given that more working hours devoted to family production implies less working hours available for market work, female time allocation for market work, family production and leisure certainly constrains female participation in paid employment. Therefore, female non-market production is a very important dimension of females' relative economic position.

The determinants of women's time devoted to non-market production always greatly interest labour economists. Nevertheless, besides data-availability problems, not many studies have examined women's time allocation for non-market work in developing countries except Evenson's study on Philippines; Khandker's [6] study on Bangladesh; Malathy's [7] study on India; Floro's[8] study on Philippines. Malathy's (1994) study on urban Indian women shows that a woman's time for home production tends to fall when her wage increases. On the other hand, a husband's wage affects a

woman's home-production time positively, suggesting a substitutability of spouses' roles in all activities. An increase in family assets reduces women's time allocation for home production. The reason for this may be that some home produced goods and services can be bought if a family can afford them. An increase in a household's assets leads to an increase in time spent teaching children at the expense of other non-market activity. Moreover, higher female education reduces the amount of time spent in all non-market activity except child education. This indicates that a mother will devote more time to her children's education as family income and her education increases. As a result, women may have to reduce any existing leisure time[9]. Other studies have also found that non-economic factors have a direct impact on women's time for non-market production.

The female participation in trade and commerce is generally high in South East Asia and low in South Asia[10]. It was observed that the proportion of women engaged as agricultural wage labourers was 44 percent in India, 40 percent in Srilanka, 39 percent in Malaysia and 35 percent in Thailand. Many Latin American countries across the world have higher proportions of women in non-agricultural occupations and therefore few women in agriculture [11].

The division of the total household labour force into paid and unpaid workers categories hierarchies within the household that are reflected in the lower social status of women both within the household as well as in the labour market. The unpaid work performance of women which remains invisible in conventional statistics has subsequent implications for employment and welfare policies, which tend to neglect women's needs and time use analysis can be used to make the invisible work of women visible [12].

1.3 MATERIALS AND METHODS

1.3.1 *STUDY OBJECTIVES*

The objectives of the present study are to learn how women in rural India currently spend their time doing various household work activities and how they are restricted to unpaid labour market. How women household work-time is influenced by the time they spend in paid and unpaid work and other associated factors, as well as how their unpaid work is influenced by paid work and other related factors. The study further explores gender division of work within the household ultimately allocates family labour between paid and unpaid activities.

1.3.2 *METHODOLOGY OF THE STUDY*

The present study documents the gender dimensions of work in rural West Bengal through an empirical survey of rural households. Since conventional survey methodologies are unable to measure and value invisible women's work, the alternative methodology of time use surveys is adopted. This also entails fundamental alterations in the definitions of women's work.

In order to deepen the understanding of women's work within rural households in West Bengal, the present study sought to extend the time use methodology to identify the determinants of gender work profiles and the exercise of autonomy by women workers and to uncover the underlying gender division of labour within rural families. A stratified four-stage sampling design was adopted for the study, with districts as the first units, blocks as the second stage units, villages as the third stage units and households as the fourth and ultimate survey units. The study thus covered three sample villages located in Jalpaiguri district in northern West Bengal, which were chosen on the basis of

(a) *agrarian characteristics*, where a vast proportion of the rural workforce drew its livelihoods from agriculture

(b) *rural location*, with the sample villages being selected from areas in the interior located at least 50 km away from urbanised settlements

(c) *gender work profiles*, with a significant proportion of rural women being engaged in agricultural activities.

A random sample of 250 rural households was surveyed for whom agriculture was the principal source of livelihood. A structured interview schedule was considered to collect relevant information on work choices from the respondents. More than 96 percent of the rural community residing in the village is comprised small and marginal farmers. Parameters like age, level of literacy, family size, occupation, agricultural activities, and domestic activities etc. defining the socio-economic indicators are taken into consideration. Secondary data sources were used to supplement the analysis.

The sub-sample was restricted to married or cohabiting couples, because of the need to study the relationship between paid, unpaid work and family welfare. Since primarily confront prime age women choices concerning family life and paid work. The analysis was further restricted where both husband and wife were engaged activities within or outside home domain to sustain their families. The quantities of time spent per week in household work activities, unpaid work, paid work, educational activities, organizational participation, personal care of, social activities, etc. were determined on the basis of the survey schedule. Time allocated per activity was ascertained on daily basis and then converted into a weekly format.

Twenty seven predetermined categories o f time use were listed in the questionnaire according to the activity classification of Central Statistical Organization (1998-99). These included 6 principal paid SNA activities and 17 unpaid SNA and Extended –SNA activities and four Non-SNA or leisure activities, Time use surveys in India were first conducted on an experimental basis by

the Central Statistical Organization [CSO] in 1998-99 in six selected states, under a new activity classification where 154 activities were identified and categorized into three groups covering

a) Activities under the narrow definition of economic work, which are included under the System of National Accounts [SNA]

b) Non-market activities extending beyond the narrow definition of remunerative work that support home consumption, which have been included since 1993 in the Extended System of National Accounts [XNA],

c) All other activities excluded under SNA and XNA definitions that lead neither to production or household consumption, but are needed for reproduction of labour power by the household are known as Non-SNA activities or leisure activities[13].

The present study thus seeks to quantify the allocations of labour time by rural households between different forms of economic and non-economic activity and to determine the underlying gender divisions of labour, following the methodology of Indian time use studies. Use of labour time as a numéraire attribute is particularly useful when workers are known to perform a combination of wage-work and unremunerated home-based and household work, since the alternative valuation of work solely by means of the earnings derived would render the latter forms of activity invisible even if these involved significant outlays of labour time.

1.4 PRIMARY FINDINGS: TIME ALLOCATIONS IN PAID AND UNPAID WORK IN WEST BENGAL AND STUDY VILLAGES

A time allocation survey conducted on a large sample of 500 households drawn from 10 West Bengal districts and comprising 2663 household members examined the impact of post-reform economic scenarios on the activity patterns and coping strategies of poor families in both rural and urban areas in the state [14]. Since the survey was also designed to capture the regional dimensions of women's work, it included time use studies on the nine forms of activity included under standard national accounts systems (SNA) that normally draw remuneration and are therefore listed as economic activities, as well as five other home-based activities that extend beyond SNA definitions for which no direct economic returns are obtained. The study revealed average daily time commitments ranging between 6-7.5 hours in urban households and 8-10 hours in rural households to the performance of extended household activities such as cooking, cleaning, fetching water and fuel-gathering, and caring for children as well as for the old and infirm, mostly representing time commitments that are made by women.

Similarly for the present study it has been observed that women spent their time in those unpaid activities that not only required more time but needed more physical strength i.e., some of the

most vital and arduous tasks in an agrarian economy like fetching water, livestock management, poultry rearing, making dung-cakes, etc., that required bending for hours. Again, women who were not engaged actively in production activity as paid labour, spent more time in unpaid work than women engaged in production activity. The differences in time spent in paid work among them are significantly higher in the paid labour group than unpaid labour such as house-wives or family helpers who spent more time in unpaid activities but nevertheless, both the groups spent a very high proportion of their total time in performing domestic activities. Thus, irrespective of her engagement in paid or unpaid activity, the hours spent in household chores are not reduced along with her familial responsibilities that are assigned by the society. The economic roles of a woman as a producer and as a consumer are combined in unpaid labour at home. Society assigns her the role of wife and mother and in doing so reduces the feminine productive function to that of providing services to the household itself. Women in rural agricultural households are largely involved in non-market, subsistence economic activities which, while not recognized as work having direct exchange value, nonetheless provide the basic survival strategies of particularly poor households. Traditional division of labour most often situates women in roles based on providing emotional support and maintenance, while men are primarily responsible for economic support and contact with the world outside the home. Women's participation is in activities such as cooking, care of children and food processing, all of which are outside the cash economy and concentrated around the household. Thus the time spent by women in household activities is also responsible for determining the time expenditure pattern of women. Before dwelling on the factors that impact women's participation in paid activities, focus is drawn on the differences in time expenditure pattern between the men and women of the respondent households to validate the above.

The data on the daily time dedicated to paid-unpaid work confirm a strong gender difference: on an average working day, men dedicate 4.14 hours to 8.38 hours in paid work while women dedicate 3.14 to 4.17 hours to it. Table 1 brings focus on activities performed autonomously by rural men and women and also to other activities where the household effort is jointly shared by both.

Table1: Mean Workload for Spouses: Gender Division of Labour within Rural Families

Sl. No.	Paid, Unpaid and Leisure Activities	Jalpaiguri District	
		Daily hours contributed by Men	Daily hours contributed by Women
A.	**Paid Activities**		
1.	Land preparation	5	3.39
2.	Market sales & purchases (for primary activities)	0.70	0
3.	Dwelling construction	1.23	0.10
4.	Common Infrastructure	1.26	0.41
5.	Making handicrafts	0.14	0.23
6.	Market purchase & sales (for secondary activities)	0.05	0.04
	Total working hours per day on paid activity	**8.38**	**4.17**
B.	**Unpaid Activities**		
1.	Crop Husbandry	0.92	0.07
2.	Post-harvest activities	0.17	1.18
3.	Crop protection	0.72	0.02
4.	Kitchen gardening	0.08	0.24
5.	Livestock tending	0.10	0.72
6.	Livestock grazing	0.14	0.13
7.	Making dung cakes	0	0.81
8.	Poultry rearing	0	0.22
9.	Water & fuel collection	0.02	0.41
10.	Processing & storage	0.37	0.10
11.	Well/ Irrigation construction	0.26	1.06
12.	Cooking and cleaning	0	3.03
13.	Childcare	0.20	1.48
14.	Care of Elderly	0	0.75
15.	Community work	0.20	0.15
16.	Education & tutoring	0.08	0.15
17.	Training programmes	0.02	0.08
	Total working hours per day on unpaid activity	**3.28**	**10.6**
C.	**Leisure Activities**		
1.	Leisure	0.36	0.36
2.	Personal care	0	0.37
3.	Social conversation	0.22	0.60
4.	Rest and Relaxation	6.00	5.88
	Total working hours per day on leisure activities	**6.58**	**7.21**

Source: *Compiled from Primary Survey*

Identification of gender structures within such rural activities also uncovers the prevailing gender division of labour among households in rural Bengal. As this structural schema indicates, six principal paid activities and seventeen unpaid activities involve work-sharing between rural men and women. Four unpaid household activities are carried out autonomously by women, in which women make autonomous time allocations. As the average daily time contributions in the table show, in most shared paid and unpaid activities, except land preparation, kitchen gardening and the building of common village infrastructure, the roles of rural women are subsidiary to those of men. In land preparation and infrastructural activities, rural women and men make nearly matching contributions, and in kitchen gardening, women take the lead. Among paid and unpaid activities, the only ones in which men share significantly are community work and crop protection

Rural men do not profess to participate in social conversation which they deem to be akin to gossip. Daily opportunities for them to socialize occur in the midst of work, and are therefore not recorded separately. However, for rural women who have to work, a long hour within the home, the hour or so that they spare each day to meet peers and friends is their only social outlet.

Since this study concentrates on the time allocation patterns of paid and unpaid labour in rural households of India, the average or the mean working hours devoted to paid and unpaid and leisure activities by women's are taken for analysis. Mean hours and standard deviation (S.D.) has been calculated to capture the distribution of time of rural women since S.D is least affected by sample fluctuations in Japlaiguri District whereas except leisure activities variation are observed among paid and unpaid activities' of women in the District.

Most of the women chosen were either from marginal and small land-holding families and a few among them were middle or large holding families. The mean age of the sample population was about 30 years and most of them were either illiterate or functionally literate. The women, in general, were found to be working on an average of 35 hours per week in the household activities like cooking, cleaning and care of elderly or children, while paid women workers spent marginally less hours in household activity than the unpaid women workers of the households. The most time-consuming household task is cleaning-cooking, i.e. food preparation and household management. This activity accounted for about 28 to 30 hours on an average per week and farm women allocated about 7-10 hours per week to physical and non physical care of family members including children (Table-1). The data presented in the table 1 showed that the average number of hours per day allocated to work by women is higher than men's. This heavier workload is basically due to the accumulation of paid and unpaid activities, that is, to the fact that women are submitted to a double shift of work.

Table 2: Decomposition of Average Work Time by Women in Jalpaiguri District

Activity/ Weekly Hours	Jalpaiguri	
Time Spent (hours)	**Mean**	**S.D**
Paid Activity	24.51	24.43
Unpaid Activity	58.29	26.62
Leisure Activity	42.50	8.89

***Source**: Compiled from Primary Survey*

Thus rural women are subject to much more conventional gender relations due to the overwhelming conservative and traditional nature of rural society or inherent rural gender structures. Even though men are becoming more involved in unpaid activities like childcare and housework, table 2 indicates that women's spent weekly a higher proportion of their total time in unpaid activities i.e., household labour time and leisure time. It is commonly known that employed women spend less time in paid labour than employed men. The imperatives of household labour may lead

married women (but not men) to withdraw from the labour market completely or to reduce their attachment to it significantly, but wives' commitment to market labour does not alter the number of household tasks or a significant redistribution between men and women. In the agricultural economy, rural women again contribute to the management of the production system through their participation in post-harvest and processing activities. However, their involvement in such managerial functions generally limits the participation of rural women in direct market-related activity. Here, the economic functions that are carried out almost entirely by men give them a disproportionate say in the economic decisions taken by the rural household. While labour available for performing paid (market) work seems to be directly related to the time use in reproductive and domestic (non-market) activities among women on average, this is not necessarily the case for men. Regardless of their position in the life course, time use data shows that men's weekly hours of unpaid work tend to be a fixed quantity. Hence a reduction in men's paid work hours generally results in greater leisure time, so that men literally can choose between (paid) work and leisure. For women, however, it is more likely to be a choice between paid and unpaid work.

1.5 ANALYTICAL FRAMEWORK AND PREDICTOR VARIABLES FOR THE STUDY

A woman is considered economically active or taken as a paid labour when she is engaged in the activity that generates income for herself i.e., if she is engaged in any of the following activities: farming such as transplanting, harvesting; animal husbandry such as shed cleaning, fodder collection, livestock management; post harvest activities such as threshing, drying, parboiling; foodstuff production, handicraft production, or trade activities (the same activities may be considered for subsistence production) for herself or for her family and sells some of the products of such work. If these activities are done by women only as to maintain her household without receiving any kind of cash, then this time has been taken as unpaid labour time and counted as time spent under unpaid activities. Thus time spent by women on paid activities are determined by both socio-economic factors and restrictions imposed by the family such as number of children, landholding pattern of household, income of the household or the extent of involvement of their husband in paid activities. Here in this model it is assumed that hours spent on such paid activities for cash is dependent on the mentioned explanatory variables in table 3. The explanatory variables are defined with the expected sign in table 3.

Table 3: Description of Explanatory variables included in the Model

Sl No	*Explanatory Variables*	*Description of the variable*	*Hypothesized relationship with the hours spent in paid activities*
1.	Age (AGE)	Reported age of the respondent	Positive
2.	Education (EDU)	Number of schooling years completed by the respondent	Positive
3.	Monthly Income(INC)	Total income of the household	Negative
4.	Household Size (HH SIZE)	Total members in a household	Negative
5.	Land Holding (LNDHLD)	Ownership land holding of the household	Ambiguous
6.	Weekly Hours Spent in Unpaid Activities (HSUPA)	Time spent by the respondent in post harvest activities, livestock management fuel and fodder collection etc.	Negative
7.	Weekly Hours Spent in Household Activities (HSLA)	Time spent by the respondent in Cooking, Cleaning, Childcare etc.	Negative
8.	No of Children(NO.CHL)	Total members in household under 12 years old	Negative

In order to explain the impact of socio-economic and demographic control variables on the time spent on paid activities a multiple regression analysis has been undertaken in the study. Again, to examine the statistical relationship among the exogenous variables, a correlation matrix between the variables have been constructed in table 4 to explain their interconnectedness and it has been found that the association between the control variables are least; though they have small negative or positive correlation, their individual impact on the dependent variable or a particular variable is not large enough to outweigh the effects of other variables, thus ruling out multicollinearity.

Table 4: Correlation Matrix among the Independent Variables

	LNDHLD	**HSLA**	**INC**	**HH.SIZE**	**AGE**	**HSUPA**	**EDU**	**NO.CHL**
LNDHLD	1							
HSLA	0.037178	1						
INC	-0.00955	0.042208	1					
HH.SIZE	-0.00596	0.067956	0.465726	1				
AGE	-0.07568	-0.01304	-0.17554	0.055349	1			
HSUPA	-0.00746	0.088864	0.320673	0.086906	-0.0687	1		
EDU	0.030812	0.050827	0.238784	0.138148	0.047882	0.122407	1	
NO.CHL	-0.02085	-0.0835	0.043338	0.467449	-0.01709	0.016983	0.056844	1

***Source**: Calculated from field survey*

1.6 MODEL SPECIFICATION, RESULTS AND DISCUSSION

However, it should be noted that it is often uncertain whether a socioeconomic variable should be treated as dependent or independent variable. Furthermore, 'independent' variables may be dependent on deeper 'causal' variables. For example, a wife may work outside the home for cash

income because her husband compels her to do so as he wants to use the extra income for himself. In such a case, the wife has no independent choice and may not be empowered to any significant extent by her outside paid work. This result is at odds with the view of some economists[15] who treat the earning of income outside the home by wives as a variable leading to their empowerment. We argue here that the causal significance of such a variable depends on the cultural context in which it is embedded, and seems to be different in an Indian context from a Western one. Differences may also occur between rural and urban areas and may also change with the 'evolution' of societies. The interrelationships between variables of this type are complex. Nevertheless, the present analysis provides strong evidence that the applicability of bargaining theories of labour time of the family varies considerably with socio-cultural context.

Considering households where both women and men are economically active multiple regression analysis has been undertaken to determine whether certain predictor variables could explain variation in time spent in paid work. Econometric application of ordinary least squares method has been undertaken for this analysis. More specifically, the model that has been estimated takes the form:

$$\mathbf{HSPPA=\beta_1+\beta_2 AGE+ \beta_3 EDU + \beta_4 INCOME + \beta_5 HH.SIZE+ \beta_6 LNDHLD+ \beta_7 HSUPA + \beta_8 HSLA+ \beta_7 NO.CHL + \mu}$$

where,

HSPPA= Weekly hours spent in paid activities

AGE= Age of women

EDUCATION= Education as per number of schooling years (women)

INCOME= Total income of the household

HH SIZE= No of total family members in a household

LNDHLDG= Ownership land holding of household

HSUPA= Weekly hours spent in unpaid activities

HSLA= Weekly hours spent in leisure activities

NO.CHL= No of children in the household

u = Error term

Regression analysis is used to determine whether above certain variables could explain variation in time spent in paid work. The ordinary least square method contained in Eviews is used for this analysis. The results of the regression analysis for the dependent variable 'time used in paid work by rural women' are presented in Table 5. The effect of independent variables on the time expenditure pattern of paid activities is depicted in the OLS model to predict the labour time allocation pattern among the rural households in Jalpaiguri district of West Bengal. The value of R^2

indicates that about 78 percent of the total variation is explained by the explanatory variables. Except education and time spent in unpaid activities all the other explanatory variables such as, age of the respondent, landholding pattern of household, monthly income, number of children in the family, household size and hours spent in leisure activities are the significant factors in determining the hours spent on paid activities either at less than 1 percent or at less than 5 percent level or at less than 10 percent level respectively with positive and negative values of coefficient as shown in Table 5.

Table 5: Impact of Socio-Economic Factors on Paid Activities: Multiple Regression Results

Explanatory variable	Coefficient	Std.Error	t-Statistic	Prob.
C	44.5096	8.9750	4.959	0.000013*
AGE	0.9880	0.4076	2.424	0.019847**
EDU	-0.1743	0.3062	-0.569	0.572212
INC	-1.6106	0.3136	-5.136	0.000007*
HH_SIZE	0.2851	0.0932	3.060	0.003888*
LND_HLD	-0.0926	0.0333	-2.779	0.008195*
HSUPA	-0.0782	0.1731	-0.452	0.653835
HSLA	0.4374	0.2583	1.693	0.098035***
NO_CHL	-0.0875	0.0398	-2.196	0.033819**

Adjusted R-squared	0.738	S.D. dependent var	20.43626
R-squared	0.781	Mean depndnt var	24.51333
S.E. of residual	2.1751	F-statistic(8,141)	18.2459
Sum squared residual	193.9742	Prob (F-statistic)	0.000000
First-order auto-correlation coefficient	0.179	D- W stat	1.637

Significant at 1% level, ** Significant at 5% level, *** Significant at 10% level

The results of the multiple regression implies that if the age of the woman is increased by 1 percent then the probability that she would spend more time in paid activities will increase by 0.9880. The positive value of the coefficient shows that increase in age is associated with increase in participation in paid activities. It also implies that greater number of older women participates in paid jobs than younger ones and that; even in households where women are reluctant to participate they will eventually do as they get older for survival of the household. The seniority in age or in generational status would give a woman a higher symbolic rank in relation to men in the family but generally male superiority in the rural family is supported by tradition and man's right to property, prevalent in a patriarchal society.

Except education and household size the other variables have the expected signs. Education is increasingly becoming a major factor enabling women to break down barriers to some socialization factors giving rise to the division of household labour. The more educated a woman is, the more likely it is she is going to venture into spheres traditionally considered male areas. These factors have important implications for women's empowerment and their ability to contribute to the overall development of not only the household, but also the nation. Education is providing women not merely a source of income; it is a source of power and sense of independence. Once education

and economic freedom come together, they activated one of the basic wishes of an individual i.e., wish for recognition or equal status in the society. The level of a woman's education may work in two ways to affect the allocation of her time between the market and the home. For example, if education increases her productivity at home-work then she would prefer to stay at home but if the opportunity cost of staying at home is greater for an educated woman, then she would prefer to work in the market[16]. But the higher level of education of married women indicates that they do not belong to poor households. They come from families that at least hope that their women will get either better jobs or otherwise no job. Women with a lower level of education or no education have work aspirations simply to get paid merely to survive and be independent. Here in Jalpaiguri district education is not a significant factor for determining the time spent in paid activities by women though the negative coefficient for education in both the districts supports that more educated women are less involved in paid activities. This result may vary or be positive if we take into account the urban scenario where higher the education level, higher the scope for absorption in labour market.

Usually, as women actively participate in paid activities, the total income of the household will increase, but the estimated coefficient for income is negative it is the most significant variable in determining the hours spent on paid activities by the village women. It is significant at 1 percent level and there can be two implications for the inverse relationship between income and HSPPA: first, as household income increases people's desire for leisure increases as income effect on paid activity is negative i.e. backward bending supply curve effect on female labour namely as wages increases workers prefer more leisure and less participation in the paid market is strong. Second, implying that in rural economies, participation in paid activities are mostly by relatively poorer women whose earnings supplement family income for basic sustenance or households with relatively stable income are reluctant to send their female member for agricultural activities as most of the paid activities in agriculture are field activities. Workers from affluent family or asset rich family are not interested in participating in paid activities of the village economy. Here cultural factors and social norms also act as obstacles that hinder women to participate in the labour market.

Similarly, more household members in a nuclear family connotes more assigned household work for women which increases in a joint family with too many household members, reducing the magnitude of time spent in paid activities. Conceptually, two alternative hypotheses may be postulated about the impact of household size on the mother's work. One is that in larger households, there is a surplus of labour supply within the households and the likelihood of labour force participation of women becomes low with preference to work outside preserved for the males. The other equally compelling argument explaining the mechanics of larger households is that they have more mouths to feed, so women have to be economically active. The first postulate is hypothesized

by the initially where size of household is negatively related with the time spent in paid activities by women whereas the result for this study is showing a positive impact on hours spent by women supporting the second postulate that women has to take on more responsibilities to sustain the extended family size in a situation where size of household is large enough to sustain her family. In both the cases, however, this factor is significant in determining the influence of size of household on hours spent in paid activities by women.

Land holding is an important resource as well as an asset for rural economies. The size of land holding determines the economic status of a farmer, thus, an asset less household is economically deprived and more vulnerable than a resourceful household. Indian economy is predominantly agricultural in nature where the size of land is an important indicator of socio-economic status in rural area. Thus, more involvement in paid activities is expected to be found in those households where land is less accessible. Women labour and work role varied considerably according to geographical area, the nature of crops grown and also according to class and caste. Most of the field tasks of upper class farm women owning households are performed by hired female labourers from marginal or small holding families.

Another important factor that determines how much time women are willing to spend on income generating activities is solely determined by their unpaid domestic activities within the household. Though the results of multiple regressions are not confirming this factor as a significant predictor for hours spent in paid activities but the negative coefficient of this control variable implies inverse relationship with time spent in paid activities. If they are engaged in paid activities, then it is only but natural that a significant number of their work hours will be concentrated on assigned paid activities, while adjustments are made in work hours required for the fulfilment of unpaid or non-remunerated work. Non-engagement in paid activities would subsequently ensure longer hours of work in unpaid activities. The regression result is depicting that the hours spent in unpaid activities has an inverse relationship with the hours spent in paid activities.

The econometric study also show time spent for leisure activities is a significant factor in determining the time spent for paid activities or market activities by women. The negative association of leisure time with the time spent on paid activities indicates that women have less free time when they get involved in paid activities. That is, time spent in one sphere means less time spent in another. If commitments to paid labour call for more-time participation, that time must come at the expense of free time. The more hours a woman works for pay, the less free time she has.

The regression results indicated further that the presence of infants in the household has a strong significant negative influence on women's paid activity or decreases maternal labour force participation. It can be stated that the presence of pre-school children (0-6 years of age) reduces time

for paid activities but in addition, it can be stated that though younger school children (4-8 years of age) significantly reduces time for paid activities where the presence of older children (9-16 years of age) instead significantly increases time for paid activities and leisure time for the female. Though it is not evident from the result but it has been seen in the study villages that, with the increase in the number of children especially girl child, the women or the mother get the opportunity to devote more time on paid activities by giving partial responsibility to her daughters.

Thus out of eight variables posited as explanatory variables determinant on hours spent in paid activities by women (HSPPA) under study, only six variables which were found to be significant were accepted and rest of the variables such as hours spent on unpaid activities and education of women which showed non-significant relationship are rejected but it is however noteworthy that the two variables which are rejected are found to have strong negative coefficient in the results indicating their association ship with the regressand.

1.7 LIMITATIONS OF THE STUDY

There are supply side determinants too such as institutional supports, labour market conditions, minimum wage laws etc., which may have significant effects on determining hours spent in paid activities by women in the selected study region which the study failed to incorporate in this regression analysis.

1.8 CONCLUSION FROM THE STUDY

The purpose of this paper was to investigate the determinants of women's involvement in paid, unpaid and household work within married cohabitating couple households to capture the labour time allocations and invisible work of women in household chores. This study demonstrates that rural women use more time for unpaid work (some of which presumably is farm work) than urban women. The household work time of rural women is not directionally influenced by their paid work. Nor rural women reduce unpaid work in response to paid work. They do not reduce their household work time in response to paid work. It therefore appears that, for rural women, choosing to spend time in paid work is balanced by unpaid work load, but choosing to spend time in household work may be an addition to the total work load. Thus women are generally less able than men to participate in economic opportunities because they face a work burden that men do not.

The study established that division of labour within a rural household generates a hierarchy of paid and unpaid work, pushing rural women into subordinate social and economic positions by making their work invisible. The Time Use methodology proved particularly effective in capturing the working roles of rural women and making their dual labour contributions to economic and subsidiary household activities strongly visible. Alternative methodologies based solely on the

quantification of rural women's earnings would have been unable to perceive these roles, and would have therefore relegated rural women to the subordinate position of unpaid domestic workers in which they are bracketed by dominant gender ideologies.

Future research on time-allocation studies should investigate how the women's participation in paid activities are restricted by their household work and unpaid non productive activities and how does they are suffering from lower status in labour market by doing unskilled, low paid activities. The importance of unpaid and paid work in the household work regression equations emphasizes the interdependence of the household and market sphere. A subject for further investigation is whether household production is reduced by substituting market equivalents or by changing the goals and/or standards of family members, or some of both. The trade-offs between paid, unpaid work would affect the farm family's decision to concentrate efforts in household production, off-farm employment, or farm production. Measures of family awareness of the trade-offs would contribute to decision-making theory. The results of this study have implications for organizations and governmental agencies that plan programs for rural women.

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