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INVISIBLE WORKERS: ECONOMIC VALUE OF UNPAID FEMALE FAMILY HELPER'S WORK

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ABSTRACT: This paper attempts to measure the economic value of unpaid work of women in the context of Pakistan and estimate their percentage share in household income. Primary data has been collected from a sample of 200 respondents through time use survey. The study used specialist cost approach for measuring the economic value and percentage proportion of household income that comes from the work of unpaid female family helpers (UPFFHs). Results shows that UPFFHs have different share in household income according to the category of system of national account (SNA) activities. Females involved in category 'services' has the highest share (22.77 percent) in household income. Percentage shares of females involved in categories 'employment' (12.49 percent) and 'primary production activities' (13.05 percent) are also worth mentioning. The study concludes that the income contribution of UPFFHs' is not negligible to be all ignored. Therefore, policy makers must recognize the importance of UPFFHs in household economy. The term used for UPFFHs is discriminatory, the prefix 'unpaid' should be replaced with some decent alternative.

Key words: Unpaid family helpers; unpaid work; economic value; time use survey; specific cost approach

I. INTRODUCTION

Women's recognition as productive members of the household is an issue of particular importance in developing countries, where participation of women in economic activities, both paid and unpaid is least acknowledged (Sinha 2011). Historically, economists and other analysts consider only paid market employment which bring money or other valuable items as work (Beneria 1999). With time new types of workers have been recognized who do not receive direct payment in form of money or any type of kind behaviour such as unpaid family helper[4] (UPFH) or contributing family worker (Akhtar 2011). An activity is considered as work if a third person could get paid for doing that activity (Miranda 2011). According to Chen Martha et al. (2005) and Bhaduri (2018) self-employed and UPFHs are at the highest risk of encountering poverty, and unpaid work is predominantly performed by women. International labour organization (ILO) defines the sum of UPFHs and own account workers as vulnerable employees; 'who have inadequate earnings, low productivity and difficult conditions of work' (Nalishebo 2013, ILO 2010).

Now the unpaid work of family helpers is a worldwide phenomenon. However, the type of these workers and nature of their work varies from region to region in accordance with the current stage of development of each country (Willis 2011). Countries at initial stages of development with more agriculture based economy have traditional types of UPFHs. These include women helping their husbands on farm in agricultural activities, in fishing, in business related to the production of eatables and textiles (Willis 2011, Philipps 2008). In contrast to agricultural based economy, the industrial countries at later stages of development have newer types of UPFHs which include political wife and executive spouse (Philipps 2008).

In the context of Asian developing countries, where economy is mainly based on agriculture, the market production and home production units are largely overlapped (Willis 2011, Frances Lund and Srinivas 2000); many market activities are performed at homes by spouse, children or parents of the employee or even sometime by family members who accompany the employee in fields (Chen 2001, Sinha 2011, Willis 2011). Therefore, women's productive activity remains unrecognized, invisible and unpaid. In developing countries a large share of economically active population especially women is involved in unpaid works (Frances Lund and Srinivas 2000) due to insufficient employment opportunities (Bhaduri 2018) and poor labour laws (Sinha 2011).

World Economic Forum ranked Pakistan second-worst in equal economic participation and opportunity for male and female (WEF 2018). According to the Pakistan labour force survey (LSF) annual report 2017-18, 21.4 percent of workers are UPFHs and half of them are women. Pakistan labour force survey statistics of previous years shows that female employment rate has increased significantly in Pakistan to 22 percent in 2017-18 from 13.5 percent in 1996-97. However, looking at percentage distribution by employment

status it is obvious that the major rise is in percentage share of UPFHs. The share of unpaid female family helpers[5] (UPFFH) reached 11.4 percent in 2017-18 from 7.3 percent in 1996-97 (FBS 1997, 2018).

This study considers that UPFHs invest a large portion of their time on family business but remain unpaid (Bhaduri 2018). Socially they are not even considered as workers and are deprived of all the privileges a paid worker enjoys (Beneria 1992). Unpaid helpers do not have the opportunities to get into paid employment, as they are likely to lack specialized skills and specific level of education. Also, they are likely to face restriction on moving and working outside their homes (Bhaduri 2018). The issue of unpaid work needs to be thoroughly investigated. If a person is categorized under one of the status of employment and work performed by him/her is included in gross domestic product calculation, then his/her contribution in the economy or household income also needs to be recognized.

This paper makes two major contributions to the literature. In the first this study documents the economic value of the work of unpaid female family helpers (UPFFHs). Second, it determines the contribution of UPFFHs in household income, thus provides an estimate of women's contribution to the household economy through their unpaid work. Section 2 discusses the macro and micro level factors that are responsible for certain types of works to be unpaid. Section 3 introduces the two methods we have used to estimate the economic value of the work of unpaid female family helpers. Section 4 calculate the economic value of unpaid work and estimates the determinants of unpaid work. Section 5 summarize the findings and discusses the implications for policy.

II. CONCEPTUAL FRAMEWORK

International agreements like Millennium Development Goals (MDGs) (Elson 2005) and Sustainable Development Goals (SDGs) have been designed to achieve a minimum standard for population of world nations (Rai, Brown, and Ruwanpura 2019). As the 'Goal 8' of SDGs is about promoting inclusive and sustainable economic growth, employment and decent work for all, including women and young people, it directly addresses the issue of UPFHs (UN 2015, Rai, Brown, and Ruwanpura 2019). According to International Labour Organization (ILO), almost half of the developing world workers especially women with fewer job opportunities are trapped in vulnerable jobs (Efroymson 2010).

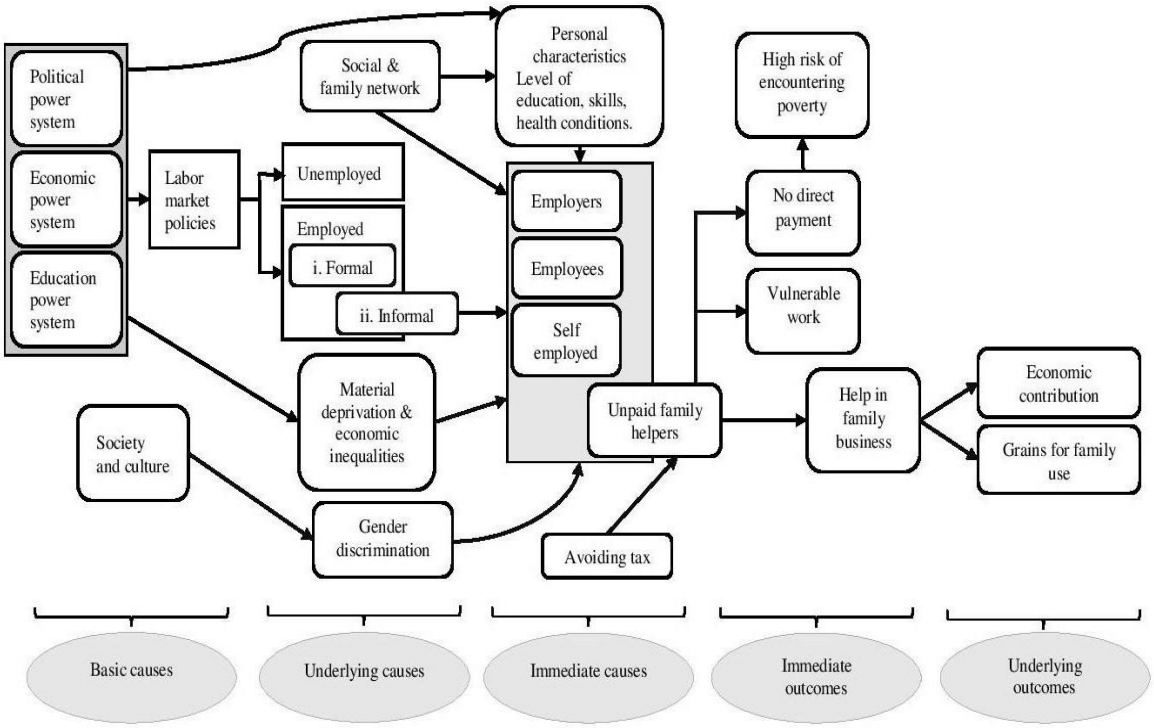

Figure 1 Source: Invisible Workers: Economic Value of Unpaid Female Family Helper's Work

Fig 1 shows the conceptual framework of economic value of UPFHs work. It portrays that the increasing trend of vulnerable employment needs to be seen in institutional context (Benach, Muntaner, and Santana 2007). World nations are signatory of international agreements while at the same time they want to maximize their profit so as to maintain their hegemony in power relation. All the major institutions of a society such as political, economic, and education systems support one another in maintaining the profit maximization and consequently increasing inequalities for poor following the philosophy of dependency theories (Willis 2011). Here political system is understood in a broad sense that includes all the actors that are meaningful for understanding the social context of a country such as political parties, trade unions, employer associations, and civil society organizations (Benach, Muntaner, and Santana 2007).

Formal capitalist firms and trade unions support such policies that indirectly involve informal labour and promote privatization of economic system in order to reduce their cost of labour by bringing in sub-contracting work that is available at cheap rates (structuralism) (Chen Martha et al. 2005, Benach, Muntaner, and Santana 2007, Chen 2012, Wilson 2011). Formal market demands labour with certain specific skills and training; which poor people are incapable of demonstrating (Bhaduri 2018). Consequently, the disadvantaged group is systematically driven out of the formal market and pushed into the informal market. The formal market exploits these workers with low wages and bad working conditions (dualists). On the other hand, there are micro-entrepreneurs who avoid taxes and regulations by splitting their profits between family members (legalists) (Chen Martha et al. 2005, Wilson 2011).

The conceptual framework also shows that micro level factors are also potential cause for few types of works to be unpaid. One of the micro level factor is social and family network that has made a divide between work done within home and outside home on the basis of gender; females are confined within the boundaries of home and males are supposed to work outside home (Bhaduri 2018, Primeau 1992). The second type of micro level factors include a nexus of: gender, class, material deprivations and economic inequalities; on which people are exploited and discriminated, as they are controlled by the powerful (Benach, Muntaner, and Santana 2007). The third type of micro level factors are personal characteristics of people including the level of education they have, level of skills they have, and their health condition (Frances Lund and Srinivas 2000), which may be linked to under valuing of some workers. Hence, this indicates that it is not any inherent trait that make some work paid, underpaid and unpaid (Swiebel 1999).

All of these institutional and micro level factors led towards undervaluing specific types of work usually performed by women. The status of UPFHs has been categorized below all other statuses of informal employment (employer, employees, self-employed and UPFHs) with high risk of encountering poverty (Chen Martha et al. 2005, Nalishebo 2013). Poverty and vulnerability are negative and immediate outcomes of unpaid employment, however unpaid work also have positive underlying outcomes as they contribute to the economic growth (Papanek 1979). Therefore, there must be basic infrastructure and social service for informal economy to operate (Benach, Muntaner, and Santana 2007).

Keeping in view this complex interplay of various factors given rise to few important queries. The first question that arise pertains to the income earned by UPFHs - what is the amount earned by UPFHs? Secondly, whether the amount earned by UPFHs has a significantstanding in their household per annum income.

III. METHODOLOGY

The present study is mainly based on primary data collected by the researcher through time use survey. However, the data sets produced by Time Use Survey of Pakistan 2007, Labour Force Surveys (1996-2017), and Pakistan Social and Living Standard Measurement Survey (2012- 2013) have also been used as secondary data to compare and strengthen the findings of current study.

The study was conducted in the district Lahore of Punjab province of Pakistan. All UPFFHs living in district Lahore are included in sampling frame for this study. The units of sampling for present research are individuals; specifically, individuals aged 15+ years and helping in household income generation without getting paid and living in the locale of the study (district Lahore). In the current research stratified random sampling has been employed for the selection of sample. The target population is divided into four strata on the basis of their geographical distance from the city of Lahore; starting with an area located in the periphery of Lahore city and ending with a community located at about a distance of 7 kilometres from the city of Lahore. The sampling frames for each of the four strata has been developed. Fiftyrespondents from

each of the four communities have been selected by employing simple random sampling technique that sums up to a total of 200 respondents.

The time use survey has been used as the major data collection technique for present research; and for this reason a structured questionnaire of four sections have been developed. The sections of questionnaire are; i) demographic profile, ii) household roster, iii) family assets, durables and sources of income, and iv) time use diary. The time use survey conducted by researchers for the purpose of present study is named as 'unpaid family helpers' survey'.

Method One: Economic Value of Unpaid Work

Economic value is generally measured in relative units of currency. Literature shows that economic valuation of unpaid work can be done through two types of methods; one is 'direct' or 'output' method and other is 'indirect' or 'input' method. Output method is based on measuring the output produced by directly observing their value or price[6] and their quantity. Input method is based on valuing output produced in term of its cost of inputs and it requires information about the time spent on unpaid work (Vaus, Gray, and Stanton 2003, UNECE 2017, Hirway 2008). For the present study, the input methods have been adopted where time- based values obtained from the time use study are converted into a monetary equivalent.

Time use survey contain a range of information on demographic, household characteristics, human capital, and detailed information about time use for a complete day using time use diary. All the activities reported by 200 respondents on time use diary are categorized into ten broad categories:

(1) Employment for establishments, for example, help a family member who is employed in a factory and bring his work to home.
(2) Primary production activities, for example, help family members in growing maize or other vegetables on a household plot or collecting fuel and water.
(3) Services, for example, help a family member in selling fruit and vegetables at the side of a road, or doing hairdressing at home.
(4) Household maintenance, for example, cooking and cleaning.
(5) Care provision, for example, caring for children, the sick, or elderly in the household.
(6) Community service, for example, attending a political meeting or helping other households.
(7) Learning, for example, attending school or doing homework.
(8) Social and cultural activities, for example, socializing with family or friends.
(9) Mass media use, for example, watching television or listening to the radio.
(10) Personal care, for example, sleeping, eating and drinking, dressing, and washing (FBS 2009).

These ten categories are then grouped into three broad groups of national account system given by Pan American Health Organization (PAHO 2010), the groups are as follows:

(1) The activities in categories i - iii fall in the system of national account (SNA) activities; SNA activities are the activities whose production is included in GDP calculation.
(2) The activities in categories iv - vi fall in extended system of national account (extended SNA) activities; extended SNA activities are those activities who have production but their production is not included in GDP calculation.
(3) The remaining four categories fall in non-system of national account (non-SNA) activities; non-SNA activities are regarded as non-productive actives (PAHO 2010).

For the purpose of present study, the SNA activities group and its categories are of specific importance. Time use diary divides 24 hours of a day into 48 slots each of 30 minutes. Information on different dimensions for each slot has been collected such as what was the activity, when it started, when it ended, anything else done at the same time, where the activity took place and if someone else took part in activity. For a single time slot of time use diary if a person has reported two or more activities we consider them as an overlapped activity (Vaus, Gray, and Stanton 2003). In such a case, we inquire from the respondent which one is the major time consuming activity and consider it as primary activity and other activity is considered as secondary activity (Gianna Claudia Giannelli, Lucia Mangiavacchi, and Piccoli 2012, Vaus, Gray, and Stanton 2003). This ranking is often context specific without any universal rules. Hence, calculating the exact time for overlapped activities is a difficult task. While allocating time to primary and secondary activities an 80:20 proportion has been used; 80 percent time is allotted to primary activity and 20 percent time to secondary activity. After collecting the field data activities reported have been categorized and coded according to the activity and coding list prepared by Pakistan time use survey 2007 (FBS 2009).

Time use surveys estimate the number of hours spent on unpaid work, next we have to convert these hours into a monetary value and for this reason we have to assign an hourly wage to time spent. Many approaches are used to assign value to unpaid work. Four major approaches are:

i) mean wage approach, ii) opportunity cost approach, iii) generalist approach, and iv) specialist approach (Hirway 2008, Vaus, Gray, and Stanton 2003, UNECE 2017, PAHO 2010, Gianna Claudia Giannelli, Lucia Mangiavacchi, and Piccoli 2012). For the present study, specialist approach has been used which 'assigns different wages to different activities, regardless of who performs them. In each case, the paid worker whose functions and circumstances most closely match the unpaid work concerned is chosen' (PAHO 2010, UNECE 2017).

According to Pan American Health Organization after calculating the time spent on unpaid work on daily basis and per hour specialist cost of each unpaid work; the economic value of unpaid work can be estimated by using the following formula:

$$VUW = \Sigma g \, \Sigma a \, [Pg \times DUWHag \times Cag] \qquad (i)$$

Where VUW is the estimate of the value of unpaid work;

- Pg is the number of people in each group (g) of the sample;
- DUWHag is the daily average of unpaid working hours in the activity (a) by people in the group (g); and
- Cag is the wage per hour of the activity (a) carried out by people in the group (g) (PAHO 2010).

Considering three major categories of SNA activities _ employment, primary production activities and services the above equation can be restated as:

$$VUW = [Pg1 \times AUWHag1 \times Cag1 + Pg2 \times AUWHag2 \times Cag2 + Pg3 \times AUWHag3 \times Cag3] \qquad (ii)$$

- Where g1 is group of people involved in employment;
- g2 is group of people involved in primary production activities;
- g3 is group of people involved in services

After calculating the value of unpaid work the percentage share of UPFHs in total per year income of the household has been estimated by using this formula:

$$PSUW = AVUW \div AHI \times 100 \qquad (iii)$$

- Where PSUW is the percentage share of UPFFHs in household income;
- AVUW is the average income from unpaid work;
- AHI is the average household income per year.

Method Two: Determinants of UPFHs' Contribution to Household Income

Subsequently multiple simple linear regression has been used to find the determinants of UPFHs' contribution to household income. This analysis has helped us to find therelationship between different dependent and independent variables.

The function is

$$PERSHA = \beta 0 + f(X1.....Xn) + \varepsilon \qquad (iv)$$

Where PERSHA is the percentage share of UPFFHs in household income. β0 is the constant and X1.....Xn are the independent variables. Independent variables are divided on three levels; individual (age, education, marital status), family (household headship, type of family, number of household members, number of household earners, livestock ownership, land ownership) and community (area).

The above explained methods may be insufficient for at least three reasons. First, context specific time calculation of overlapped activities makes it difficult to compare the results with other studies conducted in a different context. Second, there may be some undocumented SNA activities performed by the interviewed unpaid female family helpers, which would attenuate our results. Finally, there is no such tool to measure the extent to which the work of a paid worker matches the unpaid work while using specialist

cost approach; hence unpaid workers work would be wrongly considered equivalent to paid workers consequently increasing or decreasing the value of unpaid work.

IV. RESULTS AND FINDINGS

Table 1 shows the percentage distribution of the sampled UPFFHs by the type of SNA activities. There is great variation in the type of activities adopted by UPFFHs. However, participation rate in few activities is far higher than other activities. For example, a huge number of UPFFHs are involved in making of textile and other related crafts at domestic level (35 percent) which is sold by their male household heads. Thus, women's productive activity goes unrewarded which could otherwise help in economic empowerment of women. Similarly, a large number of young girls are used to accompany their mother, mother-in-law and grandmother to work in employer's home, land or factory (24 percent); this trend is more common in unmarried girls. By contrast, the level of participation in processing and preserving food items is relatively low (only 1 percent) — this indicates that people living near metropolitan areas are less involved in processing and preserving grains for selling (Table 1).

Table 1 Percentage distribution of the sampled UPFFH by the type of activities (SNA only). Source: Invisible Workers: Economic Value of Unpaid Female Family Helper's Work

Type of activities	**(N)**	**(%)**
Employment	**63**	**32**
Home-based work for an establishment	47	24
Domestic and personal services produced by domestic work	4	2
Employment in establishment	12	6
Primary production activities	**36**	**18**
Crop farming and market gardening: planting, weeding, harvesting, picking, etc.	36	18
Services	**101**	**50**
Food processing and preservation activities: grain processing, butchering, preserving, curing	2	1
Preparing food and beverage preparation, baking, and confectionery	10	5
Making and selling textile and related craft: weaving, knitting, sewing, embroidery	71	35
Leather and related craft: weaving, knitting, sewing, shoemaking, products of wood	13	7
Services provision such as computer services, repair of vehicles, baby-sitting, and massages	3	2
Services for income and other production of goods not elsewhere classified	2	1
Total	**200**	**100**

Table 2 provides information on the mean time (Hours: Minutes) spent on unpaid activities, mean per hour cost of those activities and calculate their economic values. In the second column from the left, Pg shows the number of people involved in each category and sub-categories of SNA activities. The number of people involved in all the categories sums up to 229 people which is a troubling figure as the number of respondents involved in present research are only 200. Here we need to understand that respondents may involve in more than one type of SNA activities on daily basis for example respondents involved in crop farming may also be involved in tending animals and collecting fuel; while measuring the number of people involved in different categories such respondents are counted twice or thrice according to the number of SNA activities in which they are involved.

In third column from the left, DUWHag shows the mean time spent by respondent in different categories of SNA activities on daily basis. Time use diary produced data of time use in form of minutes which are then converted into hours:minutes format by using excel date system of converting minutes into hours. The distribution of time across different SNA activities gives a first general picture of the daily share of time spent in unpaid economic activities. Data shows that on average UPFFHs spend more than 4 hours 30 minutes of their daily time in unpaid economic activities which is almost 18.75 percent time of a complete day but fall out of the definition of paid employees. One could ask why the time invested on tending animals and collecting fuel, fire wood or dung is lesser compared to the time invested on other activities. The answer is related to how data on time use is collected. The time use data is recorded taking into account that one could undertake two different activities at the same time. This, for instance, means that while a women is farming crops she could also be looking after the animals. In this case, the primary activity is farming crops, while the secondary activity is looking after the animals. In the present study, primary and secondary activities are given 80 and 20 percent time respectively and this could have considerablyreduced the time devoted to tending animals and collecting fuel, fire wood or dung.

Table 2 Mean time (Hours: Minutes) spent and mean per hour cost of each activity group. Source: Invisible Workers: Economic Value of Unpaid Female Family Helper's Work

	(Pg)	(DUWHag)	(Cag) (PKRs)	(VUW)
Type of activities				
Employment	**66**	**5:57**	**23.99**	**9085.86**
Home-based work for an establishment	47	6:24	19.82	5967.8
Domestic and personal services produced by domestic work	5	5:12	23.00	598
Employment in establishment	14	4:41	38.36	2520.05
Primary production activities	**59**	**4:33**	**28.11**	**6282.86**
Crop farming and market gardening: planting, weeding, harvesting, picking, etc.	36	6:43	21.63	5234.46
Tending animals and fish farming	15	1:13	48.00	878.4
Collecting fuel, firewood or dung	8	1:03	20.00	170
Services	**104**	**5:42**	**39.24**	**23218.52**

Food processing and preservation activities: grain processing, butchering, preserving, curing	2	3:15	30.00	195
Preparing food and beverage preparation, baking, and confectionery	10	4:46	49.90	2380.23
Making and selling textile and related craft: weaving, knitting, sewing, embroidery	73	5:48	40.34	17082.07
Leather and related craft: weaving, knitting, sewing, shoemaking, products of wood	13	6:57	31.08	2812.47
Services provision such as computer services, repair of vehicles, baby- sitting, and massages	3	4:30	30.00	405
Services for income and other production of goods not elsewhere classified	3	4:10	27.50	343.75

Number of people in each group = (Pg),
Daily average working hours for each group = (DUWHag),

Average per hour wage of each group = PKR (Cag),
Value of Unpaid Work = (VUW)

VUW = Σg Σa [Pg x DUWHag x Cag]

In fourth column from left, Cag shows mean wages for all SNA activities calculated on an hourly scale in Pakistani rupees (PKRs). These wages are calculated by observing the specialist cost approach which disaggregates the data via categories and sub-categories of activities; rather than generalizing them on the basis of employment status where all the types of UPFHs are treated the same way. The respondents were asked about the amount each household has to pay for hiring a labour in place of UPFFH (respondent) in situations they were not available to work. All the sub-categories include a variety of activities with a variety of wage rates that are aggregated by taking their mean for each category and its sub-categories (PAHO 2010).

In last column from left, VUW shows the value of unpaid work of all the 200 respondents for all the activities in which they are involved, this value is calculated by using the formula (i) VUW = Σg Σa [Pg x DUWHag x Cag] as mentioned above for valuing unpaid work. The

value of few types of unpaid works are reinforcing their own importance such as the prominent value 17082.07 PKRs of sub-category 'making and selling textile and related craft' is worth considering. Other prominent values of unpaid work are 5967.8 PKRs and 5234.46 PKRs which are of sub-categories 'home-based work for an establishment' and 'crop farming and market gardening' respectively. The computed values of UPFFH's work highly depend on the number of respondents involved in certain type of work.

Percentage Share of UPFHs in Household income

By measuring the value of unpaid work merely we cannot assume its importance for the family. In order to estimate the importance of UPFFHs work we have to deal with household level data for calculating the

percentage share of UPFFHs in household income. Percentage share of UPFFHs in household income can be measured by using this formula (iii)……PSUW = AVUW ÷ AHI × 100 as mentioned above.

Few activities like collecting fuel, firewood, dung and travel related to primary production activities are dropped for making final estimations. Although these activities have been added in SNA activities but to date no statistical agency has included them in the calculation of gross domestic product (GDP) (PAHO 2010). Tending animals and fish farming mostly occur in combination with some other income generating activity; in order to make calculation on family level we have to deal with only one major type of income generating activity (primary activity) for each respondent. Hence, all the secondary activities have been dropped while calculating percentage share of unpaid work in annual household income.

Table 3 calculates the percentage share of UPFFHs' in household income. In second column from left, AHI shows annual average income of households calculated from data collected through household roster, family assets, durables and sources of income in unpaid family helpers' survey. In third column from left, AVUW shows annual value of unpaid work calculated by converting per day value of unpaid work in per year value for all the 200 respondents and afterwards taking its average. In last column from left, PSUW shows percentage share of UPFFHs' in their household income.

Table 3: Percentage share of UPFHs in household income

Source: Invisible Workers: Economic Value of Unpaid Female Family Helper's Work

Type of activities	**(AHI)**	**(AVUW)**	**(PSUW)**
Employment	**495238**	**52128**	**12.49**
Home-based work for an establishment	444127	46345	12.22
Domestic and personal services produced by domestic work	421500	61817	14.80
Employment in establishment	720000	71548	12.78
Primary production activities	**556505**	**60517**	**13.05**
Crop farming and market gardening: planting, weeding, harvesting, picking, etc.	556505	60517	13.05
Services	**483711**	**85362**	**22.77**
Food processing and preservation activities: grain processing, butchering, preserving, curing	348000	55542	16.86
Preparing food and beverage preparation, baking, and confectionery	603740	86878	18.47
Making and selling textile and related craft: weaving, knitting, sewing, embroidery	476950	89199	24.33
Leather and related craft: weaving, knitting, sewing, shoemaking, products of wood	485692	78965	20.65
Services provision such as computer services, repair of vehicles, baby-sitting, and massages	368000	52620	14.26

Services for income and other production of goods not elsewhere classified	420000	62095	21.35

Average household income per year = (AHI)
Average value ofunpaid work per years = (AVUW)
Share ofUPFFHs in household income (%) = (PSUW)

Last column from left shows that UPFFHs involved in category services has the highest share (22.77 percent) in household income. Within the category services, the respondents of sub- categories making and selling textile and related craft (24.33 percent) and leather and related craft (20.65 percent) has the highest percentage share in household income (PSUW). High share of UPFFHs involved in sub-category leather and related craft with low participationrate (7 percent in table 1) is worth considering. It depicts that percentage share of UPFFHs in annual household income is independent of the respondent's number involved in certain type of work.

Determinants of Unpaid Work Share in Household Income

We assume that numerous individual, family and geographical variables may affect the contribution of UPFFHs to the family income. Multiple linear regression model has been used to identify these variables. The dependent variable is percentage contribution of UPFFHs in household income which is from 0 percent to 100 percent. R2 value for model PERSHA (50 percent) shows that 50 percent of the total variation in dependent variable can be explained by independent variables. In **table 4** ANOVA test of model PERSHA indicates that model is statistically significant that predicts the outcome variable significantly at 1 percent level of significance.

Table 4 ANOVA table of model PERSHA.

Source: Invisible Workers: Economic Value of Unpaid Female Family Helper's Work

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	11270.389	11	1024.581	16.816	.000
Residual	11454.594	188	60.929		
Total	22724.982	199			

Table 5 shows the determinants of UPFFHs share in household income, six out of ten independent variables have a significant effect on dependent variable. The relationship between financial contribution of UPFFHs in household income and having no education or having education below matriculation level is significantly positive. Education is the basic element in determining the employment status of population. As the level of education increases people start moving towards paid employment. In the first case a higher education may not leave time to help in unpaid family works. In the second case, higher education may increase the chance of getting in paid employment and decrease the need of unpaid work. A similar trend has been observed in Pakistan social and living standard measurement survey data of Punjab province; percentage of UPFFHs decreases with the increase in the level of education they attain (Online resource 3) (GOP 2013).

Interestingly, we can see a significant positive association of UPFFHs contribution in household income with nuclear family type. It shows that in nuclear families UPFFHs have more share in household income as compare to joint families. The possible explanation is that in joint families there are more people to earn consequently total income of the household remains high which lowers the proportion of UPFFHs contribution in household income. On the other hand, nuclear families left with less working members to share the load of family business (Kousar 2010).

Table 5 Multiple linear regression model: The determinants of UPFFHs share in household income.

Source: Invisible Workers: Economic Value of Unpaid Female Family Helper's Work

	Model PERSHA (financial share of UPFFHs)
	B
(Constant)	31.728*
Age AGE (Years)	-.032
Under matric UNDMAT(Yes = 1)	2.819**
Matric & above MATABV(Yes =1)	1.159
Marital Status MS (Married = 1)	1.520
Type of household headship THH (Male headed household = 1)	-1.051
Type of family TOF (Nuclear family = 1)	3.737*
Household size TNHM (Number)	-.886*
Number of earners TNHE (Number)	-3.424*
Livestock NOL (Number)	-1.720*
Land ownership LAND (have land = 1)	-3.024
Household location AREA (Near to large city = 1)	-7.316*

*Significant at q percent or less level of confidence.

**Significant at 5 percent or less level of confidence.

Financial contribution of UPFFHs in household income is inversely related to the number of household members; as the number of household members increases the share of UPFFHs in household income decreases; following the same reason as of type of family (Kousar 2010). The relationship between the financial contribution of UPFFHs in household income and total number of earners in the household is significantly negative. The logic behind the relation is obvious, as the number of earners per household increases bulk of the work load in family business is shared by those earners. Consequently, the share of UPFFHs in household income decreases. The relationship between the financial contribution of UPFFHs in household income and total number of livestock owned by the sampled households is negative.

The significantly negative relationship between percentage contribution of UPFFHs in household income and location of their house establishes that in households located near large cities UPFFHs have fewer shares in household income. One possible reason behind the relation is that males of households located near large cities usually work as employees in adjacent city and also do some side business on part time basis with the help of their family members.

V. SUMMARY AND POLICY CONCLUSION

The issue of unpaid work has been in discussion globally since long. It affects all the workers but female unpaid helpers are more disadvantaged. The paper assigns an approximate economic value to different forms of unpaid work in Pakistan in recent period. It also explores the role of different variables in determining the incidences of increase or decrease in share of UPFFHs in household income.

Broad results thus suggest that the percentage contribution of UPFFHs in household income is significant. The women involved in category 'services' have the highest share of about 22.8 percent in their household income as compared to the women involved in categories 'employment for establishment' and 'primary production' having a share of about 12.5 percent and 13.1 percent respectively in their household income. Category 'service' contain activities such as preparing food items, making textile crafts, leather crafts and personal care services; in developing Asian countries activities of making food, textile crafts and leather crafts which are performed within the premises of home are mostly considered as female's work. Therefore, female's involvement in such type of activities is highest regardless of the purpose of work whether performed for domestic use or market use. However, taking and selling these items in market is considered as male's work and money does to them. On the other hand, category 'employment for establishment'

involved activities like assisting some family member in his/her job, performing work brought by a family member from his/her job to home; and category 'primary production activities' involve activities such as crop farming, tending animals and collecting fuel. Activities which are performed outside the premises of home or brought in from outside the home are mostly considered as male's work. Therefore, female's involvement in such type of activities is relatively low. Decreasing the years of formal schooling increases the percentage share of UPFFHs in household income, so relatively high female literacy is an important policy option for promoting decent work.

This research starts with a simple question, what is the value of work performed by UPFFHs'? While connecting the dots of results estimated by this research we can conclude the study by emphasizing on importance of UPFFHs' work in household economy. The income contribution of UPFFHs' is not insignificant to be ignored. Therefore, policy makers must recognize the importance of UPFFHs' in household economy and their work must be accounted independently for GDP calculation just as foreign remittances are recognized in GDP. The term used for UPFFHs' is discriminatory in itself, the prefix 'unpaid' used for such workers should be replaced with some decent alternative. NGOs with the help of local government should introduce different types of support programs in these communities such as loan scheme, community development programs and technical trainings. These community development programs will eventually uplift the economic condition of local community, so they would be motivated to engage women in better work options. Considering the skills of UPFFHs' women should be provided proper work options in their own villages. Providing proper work would bring UPFFHs' out of vulnerable unpaid work and engage them in decent work.

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