# A Socio- economic Analysis on the Gender Wage Gap among Agricultural Laborers in Rural Sri Lanka

## Upali Pannilage*

*Senior Lecturer, Department of Sociology, University of Ruhuna, Matara, Sri Lanka*

*Email: -pannila@hotmail.com*

## Abstract

This study has examined the salience of a gender wage gap in a developing country context, through an empirical study of differentials in wages across women and men in the informal agricultural sector of dry zone of Southern Sri Lanka. The study also explores the possible gap, root causes and relative impacts of the pay gap on labour household during three year period of 2011- 2013. An interview assisted questionnaire survey was conducted to collect primary data from a sample of 102 daily labours. Three broad areas were examined using various methodological approaches to analyse the data: gender differences in daily wages, possible explanations for the gender wage gap, and impact of gender wage gap on the standard of living in labour households. The study found that there is a considerable gender wage gap in the Southern Sri Lanka. Differences in the gap are visible across study locations and the gap has narrowed in the recent past. Social factors such as the undervaluation of women's work are the main explanatory factors of gender wage gap. One third of income poverty of a labour household can be explained through gender wage gap and it has negative effect on living standards of the people.

*Keywords:* Gender wage gap; Informal sector; Poverty; Sri Lanka; Women.

## 1. Introduction

Gender is meaning to socio-cultural relationships between men and women. There are influxes of studies on gender which have concentrated on the women, women subordination, women marginalization etc. In this context, one of the key areas which need more studies is the wage gap among the men and women in the society. The gender wage gap (GWG) refers to the percentage gap between the male average wages and female average wages [1]. Gender related pay discrimination, on the other hand, is the differences in pay between women and men who exert the same level of human capital doing the same job [2].

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* Corresponding author.

Gender pay inequity has economic, social and political consequences for individuals, businesses and governments. The GWG, therefore, poses crucial concerns for the viability and replacement of future communities and workforces. While feminist studies have made attention to the relationship between gender inequalities and development, over the last two decades the gender specific impact of alternative development strategies including structural adjustment policies and globalisation has become the most debatable issues in policymaking arenas and in the social sciences [3].   With this crucial concern, in recent years, numerous empirical studies have been conducted to analyse the magnitude of the earnings gap between women and men. Findings of these studies have suggested a declining trend in gender wage discrimination since the 1960s in industrial countries, as a result of factors such as progress in women's education, increased job experiences and the introduction of non-discrimination regulations [4]. In contrast, there has been a growing debate regarding the extent to which women workers have benefited from recent trends in the global economy. In developing countries, agriculture is typically the largest employer and most of the work force is rural.  And in these countries, wage differences between males and females are commonly seen in agriculture and in the rural sector [5, 6, 7].  In addition to the general trend of global low-skilled labour market formation, the informal labour market in the agricultural sector of Southern rural Sri Lanka has prevailed with a number of extraordinary characteristics. Despite the fact that the majority of rural people in the country make their livelihood from working in land-based primary food production activities, landlessness or the small size of arable land is one of the common features in the sector. The small profit margins in the sector encourage producers to use more family labour and labour saving technologies in their production process. The seasonality of the crops and crop failure due to external shocks such as drought and flood, further deteriorate the economic situation of the sector. The combined effects of these different characteristics are the genesis and cause for growth in the reserve labour force, particularly for women, in the rural agricultural sector.  While the expanding stream of studies on gender aspects of the labour market is available in social science literature, scant attention has been given to the empirical analysis of male and female earning differences in informal work. Even less literature can be found on the empirical analysis of the so-called 'informal labour market in domestic-agricultural sector'.  There has been limited research into the GWG in the southern dry zone in Sri Lanka in the context of the informal labour market in the domestic agricultural sector. With the poor being mostly women, pay equity is now seen more broadly as part of the overall political struggle to address poverty and promote economic and social rights to ensure a 'living wage'.   In this context the present study was formulated with the main objective of to gain a better understanding of the possible GWG, relevant explanations and its socio-economic impact on informal labour's households in the domestic agricultural sector of the southern dry zone in Sri Lanka. More specifically, the study attempts: (a) to verify the hypothesis of the existence of a GWG in the informal labour market for the domestic agricultural sector and (b) to explain possible wage differences between men and women in the study location.

## 2. Recent studies and their explanations on existence of gender wage gap

Global Wage Report 2014/15 of the  International  Labour Office [8] has mentioned that much research has attempted to interpret the gender wage gap, and the factors that have been advanced by researchers include: (1) an undervaluation of women's work; (2) workplace characteristics (e.g. how substitutable workers are for each other, the value of face time, etc.); (3) sex segregation channeling women into low value added jobs; (4) the

overall wage structure in a country – which may be shaped by wage setting mechanisms that may have been designed with a focus on workers in male dominated sectors); (5) the view of women as economic dependents; and (6) the likelihood that women are in unorganized sectors or not represented in unions [9, 10,11, 12, 13].

Meantime, as explained by many scholars [eg.14, 15], the wage rates for women and men differ because of pure discrimination. However, studies conducted in recent years to analyse the size of an earnings gap between women and men show that the gap results not only from pure discrimination but also from non-discriminatory factors. These include shorter work experience of females due to different family duties [16]; differences in unobservable characteristics like preferences and skills [17]; differences in personal factors like education, tenure, age, and work experience [18,19]; weaknesses of government labour regulations and economic reforms such as globalisation [20] . The review of recent studies supports the following observations.

(1) The GWG is a global phenomenon. It still exists in different magnitudes in almost all societies in both the developed as well as developing countries and across all sectors such as agriculture, industry or services, in all enterprises managed by the private sector or public sector and in formal or informal institutions. For example, a report from the authors in [21] provides a summary of results from studies carried out for 19 developed countries and 41 developing countries, proving that there are GWGs in all these countries. The extent of the gender pay gap have highlighted the resilience of the problem of disparity between women and men's pay, with women on average in Europe currently earning approximately 17.1 per cent less per hour than men [22].

(2) The GWG has shown a declining trend in most industrial countries over the past few decades. For example, an analysis by authors in [4] indicated a decrease in the gender wage differential from about 65 per cent in the 1960s to 30 per cent in the 1990s in favour of men.

(3) A range of social, historical and labour market factors have contributed to the GWG across the societies.

## 3. Gender wage gap in the informal sector

The terms 'informal', 'parallel', 'black', 'underground', 'fragmented', 'unorganized', 'segmented', and 'curb' markets have all been used interchangeably in literature to describe various forms of economic activity lying outside the officially regulated or monitored realm [23].The informal economy lacks formal regulations and laws, is perceived as more flexible than the formal economy, interacts with the formal economy, and is highly fragmented (functioning only in certain specific areas), relies predominantly on social/family networks, and has a low entry threshold [24] .

In this manner, all activity that lies beyond the area of official regulation or control is considered to be informal. Researchers in [25] , using Ukrainian data, highlights that women tend to receive on average 67 per cent of the earning rate of men in the informal sector.

Authors in [24] report that, in the Netherlands men earn on average 50 per cent more per hour than women do. Similar findings are shown for Latin America, where women earn on average 52 per cent of men's earning rates

and this gap is larger than in the formal sector where they earn 64 per cent [26]. A study in Bangladesh highlighted that "women are paid less than men throughout the wage distribution and the gap is higher at the lower end of the distribution. Discrimination against women is the primary determinant of the wage gap and women could still be underpaid due to a 'taste for discrimination' among employers" [27].

## 4. Methodology followed in the study

The present study includes both primary and secondary data. Secondary data has been utilized to place the study in a theoretical background while the available knowledge on the subject has been reviewed through previous studies.  Primary data were collected from a sample survey of informal labour-employed households in the agricultural sector using a structured questionnaire.

### 4.1. Study sample

The population of the study is the southern dry zone in Sri Lanka. The study selected two districts from the Southern area- Hambantota and Monaragala. Hambantota consists of 11 Divisional Secretariat Divisions (DSs) with 576  Grama Niladhari (GN) Divisions while the Monaragala district has 11 DSs, covering 319 GNs. Since the study is almost entirely focused on daily pay-labourers who are employed in the domestic informal agricultural sector, randomisation is difficult and therefore, a choice-based sampling method was used in selecting the location in the sample. Further, the study covers four major sectors, where mostly used the daily pay labourers, as paddy sector, highland crop sector where mostly low-country vegetables are grown, such as tomato, ladyfingers, brinjal, cucumber etc, chena cultivation (maize) and perennial crop (banana) sector. The respondents were selected from a list of daily pay labours in all sectors stated above.

Along with the pre-investigation and focus group discussion with the government officials and field officers, eight GNs from four DSs in two districts were identified for the field research. The selection-bias problem in the sample was minimised with the qualitative data collected from the case studies and focus group discussions held during the field survey. Table 1 presents the summary of locations and distribution of the sample.

**Table 1:** Study Locations and Distribution of the Sample

| District | Divisional Secretariat | Village (GN) | No. of Respondents | Total |
|---|---|---|---|---|
| Hambantota | Hambantota | Bandagiriya | 11 | 20 |
| | | Thammannawa | 09 | |
| | Sooriyaweva | Habarathwela | 13 | 27 |
| | | Megahajadura | 14 | |
| | Tissamaharama | Anjaligama | 15 | 29 |
| | | Ranakeliya | 14 | |
| Monaragala | Madulla | Alayaya | 13 | 26 |
| | | Ritigahawatta | 13 | |
| Total | | | | 102 |

The study considered a person meeting all three of the following conditions to be informally employed:

- A paid employee, both male and women, who works based on an oral contract only without being declared to the relevant authorities.
- An employee who works at least more than 8 days per month and is considered as a daily pay labourer.
- The labour employee whose age is over 18 years.

Only a member per household was interviewed for the study. However, the data refers to the non-institutionalised population and covers all persons in the households to calculate some specific variables such as income and expenditure, number of dependents and family size.

## 5. Data Analysis and Discussion

### 5.1. Measuring the gender pay gap

The GWG is measured using the following formula:

$$GPG = 1 - \sum_{i=1}^{n}\left[\frac{FW_i}{MW_i}\right]\Big/n$$

Where, 'FW' and 'MW' are the female and male daily wages respectively and 'n' is the number of observations in the sample. The equation calculates the average ratio of female to male daily wages in the same occupation (or across occupation) by an agricultural sector. Using this methodology a gap of 0 represents complete wage equality between male and female wages. As the gap increases between 0 and 1, this indicates less female wages relative to male wages.

For example, a (0.15) 15 per cent gender wage gap means that female wage is only 85 per cent of their male counterpart's wage.

### 5.2. Explaining gender wage inequity

There are a large number of factors explaining the GWG in the relevant literature. These factors can be categorised into three main areas: individual characteristics, labour market characteristics and social factors. Individual factors, which lead to wage differences between males and females, largely relate to the productivity of the labour. These include age, length of work experience, the level of education, skill, occupational status and sector of employment. The labour market factors include the level of competition in the market, job segregation, institutional norms, nature of the job (part-time, casual or full time) the level of labour policy and regulations, and economic policies in the country. Meanwhile, social factors comprise of factors such as motherhood, family responsibilities, free individual choice, undervaluation of the job women do, and grouping. The study tested all the above mentioned factors for explaining the GWG in the domestic agricultural informal labour market and the highlighted relevant factors were analysed in more depth. The differences are also visible in the daily wage

rate in the case of both men and women between the two districts. For example, on average, the wage per day for men is SLRs. 875 but it varies between SLRs. 600 and SLRs. 900 while the daily wage of women is SLRs. 611 and varies between SLRs. 400 and SLRs. 700 for the sample. On average, the daily wage rate for both cases is remarkably high in Hambantota DS compared with the sample average.

In contrast, the daily wage rate of both men and women is relatively lower in Madulla compared with the sample average. From the economic perspective, the monthly mean income per household, which can be treated as an approximation of the poverty level of the respondent's household, is estimated based on the responses gained at SLRs. 16,000 for the entire sample and varies between SLRs. 7, 500 and SLRs. 29,000. The monthly mean income of labour's households in Hambantota DS is SLRs. 17,000, while it is SLRs. 16,500 in Sooriyaweva, SLRs. 15,600 in Tissamaharama and SLRs. 14,850 in Madulla. This means that all the households in the sample are below the poverty line as the estimated poverty line of the sample is SLRs. 17,200. Nearly a half of the family's income in the respondents' households came from a single source of labour hiring.

Reflecting this lower level of income, the majority of the households (57 per cent) in the sample are recipients of government subsidy due to low income. Parallel to this lower level of monthly income, the mean value of family expenditure is also exhibiting the same trend for both districts in the surveyed period. However, a different pattern was observed in terms of the source of family expenditure between the two districts. For example, the mean monthly food expenditure to total expenditure ratio is around 51 per cent in the households in Hambantota while that the ratio is slightly higher, 58 per cent, for households in Monaragala district, meaning that food availability of labour families in Hambantota is 16 per cent higher than that of families in Monaragala. In contrast, the expenditure share on children's education (average-8 per cent) is nearly 15 per cent (1/7x100) higher in respondent families of Hambantota compared with that of the sample average (7 per cent), and 42 per cent (=3/7x100) lower in families in Moneragala (4 per cent). The mean monthly health expenditure to total expenditure ratio in both districts stood at sample average (8 per cent). The monthly mean Debt Repayment Ratio in both cases remains at the same level, around 10 per cent.This study attempts to verify the hypothesis of the existence of a GWG and if any, to have a closer look at the size of the GWG and observe its recent trend. The formula

$$GPG = 1 - \sum_{i=1}^{n} \left[ \frac{FW_i}{MW_i} \right] \Big/ n$$

was used to measure the GWG with a gap of zero (0) representing complete wage equality between male and female and as the gap increases between 0 and 1 the less female wages are relative to that of their male counterparts. During the sample survey, respondents were asked to state the changing pattern of the daily wages and to describe its determinants.

They viewed that the wage has been increased annually in favour of male labour. Among others, changing the prizes of other inputs are the major determinants to claim the higher wage rate. Table 2 indicates the estimated GWG for four selected locations during the three years of 2011 to 2013.

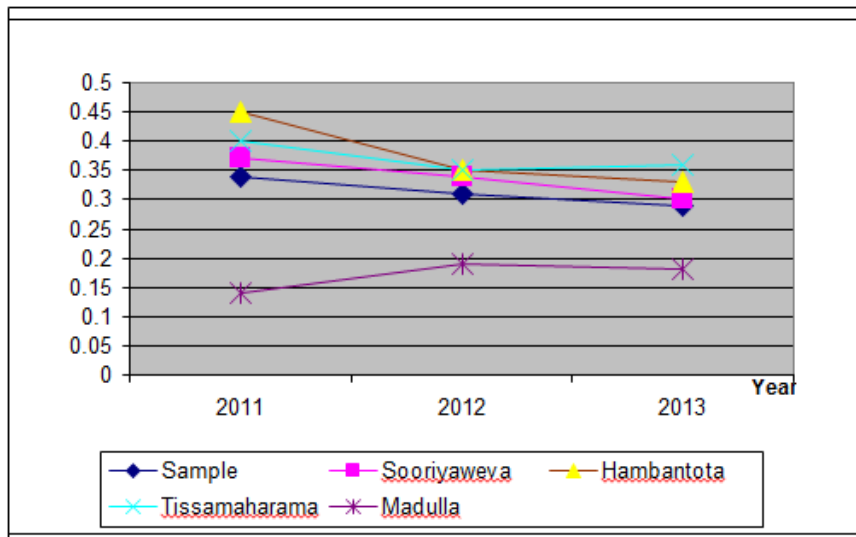**Table 2:** Gender Pay Gap and its Trends in Location Wise (2011-2013)

| Location | 2013 | 2012 | 2011 |
|----------|------|------|------|
| Sample | 0.29 | 0.31 | 0.34 |
| Hambantota | 0.30 | 0.34 | 0.37 |
| Sooriyaweva | 0.33 | 0.35 | 0.45 |
| Tissamaharama | 0.36 | 0.35 | 0.4 |
| Madulla | 0.18 | 0.19 | 0.14 |

Source: Sample Survey Data

The study results support the large amount of empirical evidence available that a strong GWG exists in the informal labour market. The data in table 2 shows that the pay gap between men and women in the sample has averaged at 31 per cent in recent years. This means that the males' daily wage is 31 per cent more than their female counterparts, or alternatively, that a females' daily wage is only 69 per cent of their male counterparts.

There are also noticeable differences in GWG across the study locations. For example, the estimated GWG for Thissamaharama is highest at 36 per cent, followed by Sooriyaweva at 33 per cent, Hambantota at 30 per cent, and with Madulla DS having the lowest GWG at 18 per cent during the survey period.

The results in the figure 1 illustrate the declining trend of GWG in the three locations in Hambantota district from 2011 to 2013. By contrast, there is an increasing trend in the GWG of Madulla in Monaragala district during the same time period.



**Figure 1:** Location Wise Trend of the Gender Wage Gap- (2011-2013)

Source: Sample Survey Data

### 5.3. Impact of GWG on livelihood of the labour household

Two alternative methods were used to analyse the impact of GWG on the livelihoods of labour households. First alternative used is the poverty related indexes. There, Poverty Head-count Ratio and Poverty–gap Ratio were used in order to assess the impact of GWG on the income poverty of labourers' households in the sample. In the second method, two interrelated indexes were used: Household Goods Possession Score (HGPS) and conditions of the labourers' dwelling houses measure the welfare effect or dynamic impact of GWG.

### 5.4. Poverty impact of gender wage gap

Poverty Head-count Ratio indicates the number of people or number of units of a household below the poverty line. Meanwhile, the Poverty-gap Ratio indicates the difference between household income per capita and the poverty line. This ratio can yield three ranges of values: greater than zero, zero, or less than zero with positive or equal to zero indicating a poverty condition. The Poverty- gap ratio refers to the difference between poor people's income and the poverty line, adding these differences and dividing by the maximum that it can assume, that is:

$$I = \sum \frac{g(i)}{gz}$$

Where;

$I$ = Poverty Gap

$g(i) = z-y(i)$ is the difference between the poverty line and the income of the poor.

g    is the number of poor

z    is the poverty line.

Income of the household is estimated using only the interviewee's declaration. During the survey, respondents were given a blank income sheet indicating eight possible income sources.

Then, the income estimate was done adding together all the family members' incomes per month. In the analysis, the 'with and without approach' was used. First, the current position of poverty was estimated (with GWG). Next, the expected poverty indicator (without GWG) was calculated.

In this step, compensate each female labour by an equal amount of GWG to give them an equal wage to their male counterpart. The difference between the two is the impact of income poverty of GWG.

To estimate the potential indexes of poverty, it is necessary to know the values of two basic variables: household per capita income and the poverty line.

The average monthly income per household in the sample is SLRs 15,900, ranging between SLRs. 17,000 in Hambantota DS to SLRs. 14,800 in Madulla DS. The official poverty threshold in Sri Lanka is more debatable.

Therefore, the relatively crude internationally accepted definition to poverty line was used, as income $1.25 per day per person.

While the exchange rate was prevailing as $1 = SLRs. 125 in the survey period and the average family size of a household in the sample is four, the calculated poverty line for a household in the sample is SLRs. 17,200. The estimated results for these two ratios have been given in table 03.

**Table 3:** Impact of Gender Pay Gap on Income Poverty of Labour Households

| Divisional Secretariat | Poverty Head-count Ratio | | Poverty-gap Ratio | |
|---|---|---|---|---|
| | With GWG | Without GWG | With GWG | Without GWG |
| Hambantotoa | 0.55 | 0.25 | 0.00 | -0.10 |
| Sooriyaweva | 0.50 | 0.19 | 0.01 | -0.11 |
| Tissamaharama | 0.72 | 0.34 | 0.04 | -0.10 |
| Madulla | 0.81 | 0.73 | 0.06 | 0.04 |
| Total | 0.59 | 0.39 | 0.11 | -0.27 |

Source: Sample Survey Data

Accordingly, approximately 59 per cent of families in the sample are living under the poverty line. In Madulla, the Poverty Head–count ratio is 81 per cent, meaning that 22 per cent is higher than the sample average. Meanwhile, the Poverty Head-count ratio in the Tissamaharama (72 per cent) is also higher than the sample average. However, this ratio decreases to 55 per cent in Hambantota and drops further to 50 per cent in the Sooriyaweva. Alternatively, the Poverty-gap Ratio for the sample is 11 per cent, which means that households in the sample are living at the point where more than 10 per cent is below the poverty line.

The expected poverty indicators were calculated by compensating the female with the rupee amount of GWG in order to identify the poverty incidence of GWG with the assumption that other things are remaining constant. The results of such an exercise are indicated in columns two and four in table three. As given in column two of the table, the expected Poverty Head-count ratio (without GWG) for the sample has declined by 33 per cent (= 20 points) from 59 per cent to 39 per cent. This means that one third of the sample households would have the capability to surpass the poverty line as a pure impact of equalising the wage between male and female labourers, given that other factors that are affecting poverty remain constant. In other words, for the sample as a whole, the poverty (income) impact of GWG is 33 per cent household wise under the assumption that all other factors are remaining constant. However, differences are visible in the degree of the poverty impact of the GWG across different locations. For example, the poverty impact of GWG in Madulla is relatively lower than other sub-samples from the Hambantota district. On the other hand, the minus sign of the poverty gap ratio after compensating the GWG means that all poor households in the sub-samples, except Madulla, can move above the poverty line.

## 6. Key findings of the study

### 6.1. There is a considerable GWG in the Southern Dry Zone of Sri Lanka

The calculated GWG index indicated a higher level of GWG (31 per cent) in the informal agricultural sector of the study area. In other words, the calculated GWG index shows that a male's daily wage is 31 per cent higher than their female counterparts, or alternatively, the female wage are only 69 per cent of their male counterparts. This finding supports the GWG estimated decades ago by the authors in [28] in El Salvador and Costa Rica where GWG is 30.4 per cent and a study conducted by researchers in [29] suggested that male earnings are 65 per cent higher than that of females.

### 6.2. There are no clear trends on increasing or decreasing GWG in the Dry Zone of Southern Sri Lanka

In line with global findings, the GWG in the southern dry zone of Sri Lanka is also narrowing over time. For example, the study found that the GWG in the study area has narrowed from 34 per cent in 2011 to 29 per cent in 2013. However, the trend is not clear and constant. For example, the GWG ratio in Madulla has increased from 14 per cent in 2011 to 18 per cent in 2013.

### 6.3. Differences in the magnitude and trend of GWG are visible across locations

The study found that in Madulla DS, the GWG was only 18 per cent in 2013. However, there is a trend of it increasing. The value of the GWGs for the rest of the sample has polarised around the sample average. In 2013, the GWG was remarkably higher in the Tissamaharama (36 per cent) and Sooriyawewa (33 per cent) compared with that of the sample average (31 per cent). In contrast, in Madulla the GWG ratio stood at 18 per cent, which is only two-third of the sample average.

## 7. Conclusion

The study focused closely on three aspects of gender pay inequality including: (1) measuring the potential GWG, (2) explaining the root causes for it, and (3) assessing the relative impact of the issue on the living standard of labour households. Analysis of the relevant data suggests the existence of a strong GWG in the sector while the gap has not narrowed over time.

The study further found that the usual personal related variables including age, level of education and length of experience do not appear as significant variables in explaining the trend in gender pay inequality. However, it was observed that the behavioural factor of women labourers such as preference for part-time work and flexible workplace, lack of bargaining power; informal labour market characteristics such as sex segregation in work, less competition due to excess labour supply and the seasonality of demand, different methods of labour supply ; social factors such as the undervaluation of women's work and family responsibilities are associating with the wage difference between males and females in the sector. The study also concluded that consistent GWG has a negative impact on the standard of living of a labourer's household.

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