CHAPTER V

IMPACT OF WOMEN WORKERS EARNINGS ON HOUSEHOLD’S INCOME, SAVINGS AND INTENSITY OF POVERTY

In this chapter, an attempt has been made to analyze the impact of women workers earning on the family income, savings and intensity of poverty. Further it examines the factors influencing magnitude of women workers in the study area. The analysis of the present chapter has been classified under the heads namely

i) Impact of women workers earning on income and savings of the household

ii) Intensity of poverty among the household’s women workers and

iii) Factors influencing the magnitude of women workers.

5.1 Impact of women workers Earnings on Income and earnings of the Household

In this section, an attempt has been made to analyze the impact of women workers earning on household’s income and savings.

The classification of women workers in terms of their contribution to their family income is presented in Table 5.1.
TABLE 5.1
CLASSIFICATION OF WOMEN WORKERS BASED ON THE CONTRIBUTION TO THEIR FAMILY INCOME

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Percentage Contribution to the total Income of the Family</th>
<th>Number of Contributors</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Upto 25</td>
<td>15</td>
<td>5.00</td>
</tr>
<tr>
<td>2.</td>
<td>25 to 50</td>
<td>23</td>
<td>7.67</td>
</tr>
<tr>
<td>3.</td>
<td>50 to 75</td>
<td>49</td>
<td>16.33</td>
</tr>
<tr>
<td>4.</td>
<td>75 to 100</td>
<td>213</td>
<td>71.00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>300</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Source: Computed from Survey Data.

According to Table 5.1 a majority of the workers (71.00 per cent out of 300) contributed 50 to 75 per cent of their monthly earnings. 49(16.33 per cent) have offered between 50 to 75 per cent, 23(7.67 per cent) between 25 to 50 per cent and 15(5.00 per cent) shared only 10 per cent of the monthly earnings of the family.

It is inferred from the analysis that the majority of the working workers in the unorganized sector came from socially as well as economically backward families and they supplemented the family earnings to a great extent. The impoverished economic conditions force workers to take up jobs at an early age for contributing to the family income.
5.1.2 Average Annual income of the Households Before and After the Contribution of Women workers

The average annual income of the households before and after the contribution of women workers is presented in Table 5.2.

**TABLE 5.2**

**AVERAGE ANNUAL INCOME OF THE HOUSEHOLDS BEFORE AND AFTER THE CONTRIBUTION OF WOMEN WORKERS**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Particulars</th>
<th>Average Annual Income (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Before the contribution of women workers</td>
<td>16752.47 (76.41)</td>
</tr>
<tr>
<td>2.</td>
<td>Contribution of women workers</td>
<td>5172.63 (23.59)</td>
</tr>
<tr>
<td>3.</td>
<td>After the contribution of women workers</td>
<td>21925.10 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data.

It is inferred from Table 5.2 that the average income of the households without the contribution of women workers is Rs.16752.47 (76.41 per cent). Taking the contribution of women workers into consideration, the average income of the households is raised to Rs.21,925.10. Further, it is revealed that out of the average income of the household after the contribution of women workers, the average income of women workers contributed 23.59 per cent. It indicates that nearly one fifth of the household income is contributed by women workers. Here, it is very difficult to maintain the family in the prevailing standard of living.
without contribution of women worker. The additional sources of income to the households may be explored.

5.1.3 Income Distribution of Households before and after the contribution of women workers

Table 5.3 clearly exhibits the income-wise distribution of households before and after the contribution of women workers.

**TABLE 5.3**

INCOME DISTRIBUTION OF HOUSEHOLDS BEFORE AND AFTER THE CONTRIBUTION OF WOMEN WORKERS

<table>
<thead>
<tr>
<th>Annual Income (Rs.)</th>
<th>Before the contribution</th>
<th>After the contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below Rs.16,501</td>
<td>115 (38.33)</td>
<td>35 (11.67)</td>
</tr>
<tr>
<td>Rs.16,501-20000</td>
<td>120 (40.00)</td>
<td>39 (13.00)</td>
</tr>
<tr>
<td>Rs.21000 -30000</td>
<td>49 (16.33)</td>
<td>58 (19.33)</td>
</tr>
<tr>
<td>Rs.31000 and above</td>
<td>16 (5.34)</td>
<td>168 (56.0)</td>
</tr>
<tr>
<td>Total</td>
<td>300 (100.00)</td>
<td>300 (100.00)</td>
</tr>
</tbody>
</table>

Source: Primary Data.

In Table 5.3 it is shown that in the case of annual households income of Rs.16,501 to 20000 there were 120(40.00 per cent) households before the
contribution of women workers which declined to 39(13.00 per cent) after the
collection of women workers. The number of families having household
income below Rs.16,501 decreased from 115 to 35 after the contribution of
women workers.

In the range of annual income between Rs.21,000 to 30,000 there were 49
households before contribution from the women workers, but this has increased to
58 after contribution, the percentage of households changed from 16.33 to 19.33.
It infers that household income of 11 respondents crossed Rs.21,000 to 30,000
after the contribution of women workers.

Out of 300 households, 168 have an annual income of Rs.31,000 and above
after the contribution of women workers, which has increased to 122 in terms of
percentage. The increase is from 5.34 to 56. It indicates that the income of 122
households has crossed Rs.31,000 after the contribution of women workers.

Further it is inferred that the employment of women workers has helped
tremendously to enhance the financial position of the households, so that some
families have crossed the poverty line. This cannot be the argument for the
continuance of women worker.

In the lowest range of income below Rs.16501 (poverty line) per annum,
there were 115(38.33 per cent) households before the contribution of women

workers, but they declined to 35 (11.67 per cent) after their contribution. It indicates that out of 115 households who were below the poverty line before the contribution of women workers, about 80 (115-35) have crossed the poverty line due to the wage earnings of women workers. This comes to 26.67 per cent of the total 300 households.

Though the wage earnings of the workers have helped about 80 households to cross the poverty line, it cannot be a sound argument for justifying the employment of women workers.

Further, it implies that if the income from women worker was excluded from the household income, the percentage of households below the poverty line rose from 11.67 per cent to 38.33 per cent. Thus, more than one-fourth of the households seem to have crossed the poverty line by supplementing their income through the women worker.

A comparison of the percentage of the total income of the households after the contribution of women workers clearly indicates a positive input on the annual income of the households of the women workers.
Figure 5.1
Income Distribution of Households Before and After the Contribution of Women Workers

<table>
<thead>
<tr>
<th>Category</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below Rs.16501</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16501-20000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21000-30000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31000 and above</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No. of Respondents
5.1.4 Percentage share of Women Workers Contribution to the Family Income

This section attempts to examine whether the contribution of women worker to the family budget is substantial or not and also to find out whether the families of the working women can maintain themselves without the contribution of the women workers to the family budget. Hence, it is necessary to test the validly of the hypothesis. For this, the proportional analysis under ‘z’ test is used, since n > 30. The framework of the analysis is as follows.

Null hypothesis  \( H_0 = P_1 = P_2 \)

Alter nature hypothesis \( H_1 = P_1 = P_2 \)

\[
Z = \frac{P_1 - P_2}{\sqrt{\frac{P_1 q_1}{n_1} + \frac{P_2 q_2}{n_2}}}
\]

Where

\( P_1 \) = proportion of adult’s contribution

\( P_2 \) = proportion of workers’s contribution

\( q_1 = 1 - p_1 \)

\( q_2 = 1 - p_2 \)

\( n_1 \) = number of observation of first sample

\( n_2 \) = number of observation of second sample and

\( n_1 = n_2 = 300 \)
Results and Discussion

The ‘Z’ test results are tabulated in Table 5.4. It is inferred that the calculated value of ‘Z’ is 18.72 which is greater than the table value of ‘Z’ (=2.58) at 1 per cent level of significance. Thus it may be inferred that there is a significant difference between the proportional average contribution of the parents/spouses and the women to the family income.

**TABLE 5.4**

PERCENTAGE CONTRIBUTION TO THE FAMILY INCOME

<table>
<thead>
<tr>
<th>Sources of variation</th>
<th>Calculated value of ‘Z’</th>
<th>Table value of ‘Z’ at 5 per cent level</th>
<th>Table value of ‘Z’ at 1 per cent level</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.P.S.C – P.W.C</td>
<td>18.72*</td>
<td>1.96</td>
<td>2.58</td>
</tr>
</tbody>
</table>

Source: computed from survey data.
Note: P.P.S.C. - Proportion of Parents/Spouses
P.W.C. - Proportion of Women’s Contribution
* Significant at 1 per cent level.

Hence, one can accept the established null hypothesis that income has increased more after the contribution of women workers. Hence, it is concluded that the contribution of the women’s earnings plays a significant role in the family budget and it has substantially increased the income of the families and the

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*Z* test is used to test whether an observed value of correlation differs significantly from hypothetical value or whether 1200 sample values of regression coefficient differ significantly.
families may not maintain their present standard without the contribution of the working women.

5.1.5 Extent of Inequality in the Distribution of Income Before and After the Contribution of Women workers

In this section an attempt has been made to analyze and compare the inequality of income distribution before and after the contribution of women workers. There are various methods available for measuring inequalities in income distribution. In this study the Lorenz Curve and Gini Coefficient Ratio are used to test the inequality of income before and after the contribution of women workers.

Lorenz Curve

The Lorenz Curve expresses graphically the size of distribution of income described in percentages. It is obtained by plotting the cumulative percentage of households from the poorest to the richest along the horizontal axis the vertical axis. The straight line connecting the two corners of the figure is known as the line of equal distribution. The Lorenz Curve would coincide with the line of equal distribution when there is perfect equality of income, whereas for perfect inequality of income, the curve would coincide with horizontal axis and the right hand vertical axis of the graph. The greater its concavity, the greater is the
inequality of income and vice versa. Hence, this technique reveals that a higher genie ratio denotes a higher inequality of income and vice versa.

The decile distribution of the income of households before and after the contribution of women workers is presented in Table 5.5.

**TABLE 5.5**

DECILE DISTRIBUTION OF THE INCOME OF THE HOUSEHOLDS OF WOMEN WORKERS BEFORE AND AFTER THEIR CONTRIBUTION

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Decile Group</th>
<th>Before contribution</th>
<th>After the contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Percentage share in total income</td>
<td>Cumulative percentage share in income</td>
</tr>
<tr>
<td>1.</td>
<td>0 – 10</td>
<td>3.76</td>
<td>3.76</td>
</tr>
<tr>
<td>2.</td>
<td>10 – 20</td>
<td>4.86</td>
<td>8.62</td>
</tr>
<tr>
<td>3.</td>
<td>20 – 30</td>
<td>1.50</td>
<td>10.12</td>
</tr>
<tr>
<td>4.</td>
<td>30 – 40</td>
<td>4.96</td>
<td>15.08</td>
</tr>
<tr>
<td>5.</td>
<td>40 – 50</td>
<td>8.54</td>
<td>23.62</td>
</tr>
<tr>
<td>6.</td>
<td>50 – 60</td>
<td>6.54</td>
<td>30.16</td>
</tr>
<tr>
<td>7.</td>
<td>60 – 70</td>
<td>8.29</td>
<td>38.45</td>
</tr>
<tr>
<td>8.</td>
<td>70 – 80</td>
<td>18.71</td>
<td>57.16</td>
</tr>
<tr>
<td>9.</td>
<td>80 – 90</td>
<td>17.58</td>
<td>74.72</td>
</tr>
<tr>
<td>10.</td>
<td>90 – 100</td>
<td>25.28</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Computed from Survey data.
From Table 5.5, it is clear that the decile distribution of household’s income before and after the contribution of women workers shows that there has been a steady increase in the percentage share in household income before the contribution of women workers and the variation found between the first decide and tenth decide is 21.52 per cent. In the case of after the contribution of women workers, a small fluctuation was found in the percentage share in total income from 4.21 per cent to 20.58 per cent. The variation between the first and tenth decide is 16.37 per cent. Therefore the disparity in the distribution of income is higher before the contribution than after the contribution.

Lorenz Curve has also been drawn by using data available in Table to examine the extent of inequality in the distribution of household’s income before and after the contribution of women workers.

Lorenz Curve (Figure 5.1) indicates that the degree of inequality in the distribution of household’s income is higher in the case before women worker’s contribution than after their contribution.

The figure shows that the concavity is less after the contribution of women workers than before their contribution. This means that there is a significant reduction in the inequality of income of the households due to the contribution of women workers.
Figure 5.2
Lorenz Curve

Cumulative Percentage Share in Income

Decile Group
**Gini Co-efficient**

Gini Co-efficient is another simple and useful device to measure the concentration of income distribution. It is used because of its relation with Lorenz Curve. Gini Co-efficient is equal to the ratio of the area circumscribed by the Lorenz Curve and the diagonal line of equal distribution to the total area of the triangle below the diagonal.

**Results and Discussion**

The Concentration of income ratio before and after contribution of women worker is shown in Table 5.6.

**TABLE 5.6**

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Particulars</th>
<th>Gini co-efficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Before women worker’s contribution</td>
<td>0.3233</td>
</tr>
<tr>
<td>2.</td>
<td>After women worker’s contribution</td>
<td>0.2362</td>
</tr>
</tbody>
</table>

Source: Computed from survey data.

From the analysis of Gini Co-efficient, it is observed that the concentration ratio had declined from 0.3233 before women worker’s contribution to 0.2362 after the contribution of women workers. This means that there is a significant reduction in the inequality of income of the households due to the income
received by women workers. This further leads to the conclusion that there is a significant increase in the income after the contribution of women workers.

Thus, from the analysis of Gini co-efficient of concentration ratio of income, the benefit from women workers has a positive impact in reducing the inequality in the distribution of income among the households of women workers.

5.1.6 Average Annual Savings of the Households before and after the Contribution of women workers.

The impact of women workers’ earnings on the savings of the household is given in table 5.7.

<p>| TABLE 5.7 |
| AVERAGE ANNUAL SAVINGS OF THE HOUSEHOLDS BEFORE AND AFTER THE CONTRIBUTION OF WOMEN WORKERS |</p>
<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Category</th>
<th>Average Annual Savings</th>
<th>Increase in Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Before the contribution</td>
<td>1,161.45</td>
<td>--</td>
</tr>
<tr>
<td>2.</td>
<td>After the contribution</td>
<td>1,692.16</td>
<td>45.69</td>
</tr>
</tbody>
</table>

Source: Computed from Survey Data.

From Table 5.7 it is understood that before the contribution of women workers the average annual savings of the households was Rs.1161.45 and after their contribution it is Rs.1692.16. There is an increase of 45.69 per cent in the average of annual savings after the contribution of women workers when
compared with the savings before their contribution. Thus, the input of women workers’ earnings on the savings of their households is very significant.

5.1.7 Impact of women worker on Savings of Households

In this section an attempt has been made to examine whether the employment of women workers has any impact on the household savings. This is done by calculating the household income before and after the contribution of women workers. For this, the following form of a simple linear function was estimated by the method of least squares.

\[ Y = a + b X \] ------ (5.2)

where

\[ Y = \text{savings (in Rs.)} \]
\[ X = \text{household income (in Rs.)} \]
\[ a = \text{constant or intercept} \]
\[ b = \text{marginal propensity to save scope} \]

The estimated results are given in Table 5.8.
TABLE 5.8
ESTIMATED RESULTS OF SIMPLE LINEAR REGRESSION FOR SAVINGS

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Category</th>
<th>Regression co – efficient</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>1.</td>
<td>Before the contribution of women workers</td>
<td>2567.72</td>
<td>0.41618 (3.1672)</td>
</tr>
<tr>
<td>2.</td>
<td>After the contribution of women workers</td>
<td>3676.63</td>
<td>0.5316* (4.7241)</td>
</tr>
</tbody>
</table>

Figures in brackets indicate the t-values
*indicates the regression co-efficient are statistically significant at 5 per cent level.

The marginal propensity to save is given by ‘b’ co-efficient of ‘X’ in absolute figures. The marginal propensity to save before contribution of women workers is 0.4161, whereas after their contribution it is 0.5316. Thus, marginal propensity to save after contribution of women workers is greater than before their contribution to the family income.

5.1.6 Association between Employment of Women workers and their Earnings

In this section the association between employment of women workers and their earnings is tested with the chi-square ($\chi^2$)
The framework of analysis of chi-square test is as follows

\[
\text{chi-square (} \chi^2 \text{)} = \sum \frac{(O - E)^2}{E}
\]

Where

\( O \) = Observed value

\( E \) – Expected value

\[
E = \frac{\text{Row total} \times \text{Column total}}{\text{Grand total}}
\]

Degrees of Freedom = \((r - 1) (c - 1)\)

\( r \) = number of rows

\( c \) = number of column

The Age of Women workers is Associated with the Earnings of Women workers

The main objective of this part of analysis is to find whether the age of the workers is associated with their earnings or not. For this, a null hypothesis has been established that there is no association between age and earnings of the women workers. The Chi-square test was used and the result is given in Table 5.9.
TABLE 5.9

THE AGE OF WOMEN WORKERS AND THEIR EARNINGS

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Calculated value of Chi-square</th>
<th>Table Value of Chi-square at 5 per cent level D.F. = 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of the women workers and their earnings</td>
<td>16.24</td>
<td>3.841</td>
</tr>
</tbody>
</table>

Source: Computed from Survey data.

From Table 5.9 it is observed that calculated value of chi-square is 16.24 which is greater than the table value of chi-square value 3.841 at 5 per cent level of significance. Hence, the null hypothesis has been rejected. It may be concluded that earnings of women workers are associated with their age.

The Size of the Family is Associated with the Earnings of Women workers

Similar technique chi-square test is adopted to find whether the size of the family is associated with the earnings of women workers. For this, a null hypothesis has been formulated that there is no association between size of family and earnings of women workers.
TABLE 5.10

THE SIZE OF THE FAMILY IS ASSOCIATED WITH THE EARNINGS
OF WOMEN WORKERS

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Calculated value of Chi-square</th>
<th>Table Value of Chi-square at 5 per cent level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of the family and earnings of women workers</td>
<td>65.21</td>
<td>3.841</td>
</tr>
</tbody>
</table>

Source: Computed from Survey data.

It is observed from Table 5.10 that the calculated value of chi-square is 65.21 which is greater than the table value of chi-square 3.851 at 5 per cent level of significance. Hence, the null hypothesis is rejected. It is concluded that the size of the family is associated with the earnings of the women workers.

Income of Parents is Associated with the Earnings of Women workers

The results of the chi-square test which are used to test the null hypothesis that income of parents is not associated with the earnings of women workers are presented in Table 5.11.
TABLE 5.11

INCOME OF PARENTS AND EARNINGS OF WOMEN WORKERS

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Calculated value of Chi-square</th>
<th>Table Value of Chi-square at 5 per cent level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income of the parents and earnings of women workers</td>
<td>18.24</td>
<td>3.841</td>
</tr>
</tbody>
</table>

Source: Computed from Survey data.

It is observed from Table 5.11 that the calculated value of chi-square is 18.24 which is greater than the table value of chi-square (3.841) at 5 per cent level of significance. Hence, a null hypothesis is rejected. This implies that the income of parents is associated with the earnings of women workers.

5.2 Analysis of the Intensity of Poverty of the Households of the Working Women Before and After the Contribution of Women Workers

In this section, an attempt has been made to measure and compare the intensity of poverty of the households of the working women before and after the contribution of women workers. Sen’s index of poverty is used to measure the intensity of poverty. Table 5.12 shows Sen’s index of poverty with its components, namely,
a) The head-count ratio \((H) = q/n\)

where, \(q\) = number of women workers below poverty line,
\(n\) = total sample women workers.

b) The income-gap ratio \((y) = y/z\)

where, \(y\) = Annual income of the women workers,
\(z\) = Poverty cut-off line – income below poverty line.

c) Gini co-efficient of concentration in respect of households falling below the poverty line before and after the contribution of women workers.

**TABLE 5.12**

**DISTRIBUTION OF HEAD-COUNT RATIO, INCOME GAP RATIO, GINI COEFFICIENT OF CONCENTRATION AMONG THE POOR AND SEN’S POVERTY INDEX FOR BOTH BEFORE AND AFTER CONTRIBUTION OF WOMEN WORKERS**

<table>
<thead>
<tr>
<th></th>
<th>Head Count Ratio (H)</th>
<th>Income Gap Ratio (I)</th>
<th>Gini Coefficient of Concentration (G)</th>
<th>Sen’s index of poverty (P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before women workers’ contribution</td>
<td>0.4626</td>
<td>0.3341</td>
<td>0.2969</td>
<td>0.2115</td>
</tr>
<tr>
<td>After women workers’ contribution</td>
<td>0.1935</td>
<td>0.2621</td>
<td>0.1621</td>
<td>0.0961</td>
</tr>
<tr>
<td>Percentage change</td>
<td>-24.35</td>
<td>-13.15</td>
<td>-16.21</td>
<td>-15.21</td>
</tr>
</tbody>
</table>

Source: Computed from survey data.
Table 5.12 reveals the change in the percentage of the values of the different components of the index of poverty, namely, the Head Count Ratio (H), the Income Gap Ratio (I), Gini co-efficient (G) and Sen’s Index of poverty (P) between the two periods.

It is inferred from Table 5.12 that the Head-count Ratio that is the percentage of people living below the poverty line had decreased by -24.35 per cent due to the contribution of women worker.

The analysis of the income Gap Ratio shows that it is reduced by 13.15 per cent. Gini coefficient of concentration has also marked a decreasing rate. The concentration ratio decreased by 16.21 per cent. This means that there is a reduction in the inequality of the distribution of income among the households of women workers to the extent of 16.21 per cent.

Sen’s Index of poverty has shown that there is a considerable reduction in the intensity of poverty among the people living below the poverty line. The intensity of poverty has been reduced by 15.21 per cent due to the contribution of women workers.
5.3 Factors Influencing the Magnitude of Women Workers in Match Industries

An attempt is made to study the influence of various factors on the employment of women workers in terms of number of hours employed per annum. For this multiple linear regression model was used. In this model, employment in hours of work done by women workers per annum is the dependent variable and it is related to a set of independent variables, such as family size \((x_1)\) household income in rupees per annum \((x_2)\) and the women’s wage earnings in rupees per annum \((x_3)\).

The form of the model is,

\[
Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + u \quad \text{........................................... (5.3)}
\]

where,

\[
y = \text{Employment of women in hours of work per annum}
\]
\[
X_1 = \text{Family size (in numbers)}
\]
\[
X_2 = \text{Household income (in Rs.)}
\]
\[
X_3 = \text{Wage earnings (in Rs.)}
\]
\[
\beta_0, \beta_1, \beta_2, \ldots \text{ are the parameters to be estimated}.
\]

The above model was estimated by the method of least squares.
Estimated Regression Results for Women Workers Households

The results of the estimated multiple regression model of 300 women workers households are depicted in Table 5.13.

### TABLE 5.13

**ESTIMATED REGRESSION RESULTS FOR WOMEN WORKERS HOUSEHOLD**

\[ Y = a_0 + a_1 X_1 + a_2 X_2 + a_3 X_3 + u \]

<table>
<thead>
<tr>
<th>Explanatory</th>
<th>Regression Coefficients</th>
<th>‘t’ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>976.9621</td>
<td>18.719</td>
</tr>
<tr>
<td>Family Size ( (x_1) )</td>
<td>269.7131*</td>
<td>30.034</td>
</tr>
<tr>
<td>Household Income ( (x_2) )</td>
<td>-0.0037*</td>
<td>-2.834</td>
</tr>
<tr>
<td>Women Wage Earnings ( (x_3) )</td>
<td>0.0451*</td>
<td>5.910</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.9310</td>
<td>-</td>
</tr>
<tr>
<td>F – Value</td>
<td>3451.0821</td>
<td>-</td>
</tr>
<tr>
<td>No. of observations</td>
<td>300</td>
<td>-</td>
</tr>
</tbody>
</table>

* Significant at 5 per cent level.

The estimated results presented in Table 5.13 related to all the women workers under the study have a high explanatory power as is evident from the very high values of co-efficient of determination \( R^2 = 0.9310 \).

The results show that all the three variables, namely size of the family, household income and women workers wage earnings are the major determinants
of women workers’ employment in terms of hours of work done per annum. The co-efficient of these variables is highly significant at 5 per cent levels as their ‘t’ values are 30.034, -2.834 and 5.910 respectively. Since the size of the family has a positive and significant influence on the employment of women workers, the hypothesis that higher the family size, higher will be employment of women, lower the family size, less will be employment of women has been proved to be correct. The estimated value of the regression co-efficient for women’s wage earnings has a positive and significant influence on the employment of working women. Hence, the hypothesis that higher the women’s wags earnings, the higher will be their working hours and vice versa has been proved to be correct.

The negative sign of the co-efficient of the variable household income implies that there is inverse relationship between the household income and employment of women workers. Hence, the hypothesis that “lower the household income, the higher will be the employment of women, higher the household income, the lower will be the employment of women” is strongly supported. This implies that when the income of the household is higher there would be lesser tendency in the family to send the women to work.
5.4. Summary

The findings of the analysis of the present chapter are summarized as follows.

Majority of the women workers (71 per cent) have contributed their earnings to the family to a great extent in the study area. The annual income of the households after the contribution of women workers has been increased remarkably. The percentage share of worker’s contribution was found to be statistically significant. The extent of inequality was reduced after the contribution of women workers in their family as indicated by Lorenz curve and Gini coefficient. The average annual savings of the household have been increased significantly. The chi-square results revealed that age, size of family and income of parents are associated with the earnings of women workers. The intensity of poverty has also been reduced after the contribution of women workers. Regarding the magnitude of employment, wage earnings of the women had a positive effect on employment. It is revealed that the higher the earnings the higher will be their working hours and vice versa.