

Measurement of Empowerment in the Schedule Tribe Women out of the SHG Members: Study on Paschim Medinipur District and Jhargram District in West Bengal, India

Purna Jana

Research Scholar

Department of Economics, Vidyasagar University, India
purnajana42@gmail.com

Ramesh Chandra Das

Professor of Economics

Department of Economics, Vidyasagar University, India
rameshdas22@mail.vidyasagar.ac.in

Abstract

To fulfil the developmental objectives, a nation should make the women fully empowered in all the aspects. The United Nation's sustainable development goal, Agenda 5, focuses upon gender equality in terms of increasing all sorts of empowerment to the women section of the society. Out of the general women empowerment the empowerment of the scheduled tribe women is seriously lacking in many countries and the states and districts thereunder. In India, the empowerment of the women is mostly encouraged through the involvement in the Self-help Groups (SHGs). The present study undertakes two sample districts, widely tribal populated, Paschim Medinipur and Jhargram in the state of West Bengal in India to examine whether the tribal women in the districts are empowered in three aspects, social, financial and political domains using primary data. It measures empowerment by means of grand dimension index using the data on age, education, income, whether memberships with SHGs, etc. For 300 SHG and 200 non-SHG members in the two districts separately, and then compares the results across the SHG members in the two districts in one hand, and SHG and non-SHG members within a single district on the other. The primary results show that about 31 % of the SHG members are empowered in the Paschim Medinipur District and about 20 % in the case of Jhargram District. On the other hand, only 7 % and 2.5% of the non-SHG members are having high magnitudes of empowerment in the Paschim Medinipur and Jhargram respectively.

Keywords: *Women Empowerment; Grand Dimension Index, Economic Development, Self-Help Group, ANOVA, regression*

1. Introduction

“Nothing, arguably, is as important today in the political economy of development as an adequate recognition of political, economic, and social participation and leadership of women” -Amartya Sen (1999). The two main goals of development policy are to empower women and lessen gender inequality. The empowerment of women is a specific goal of the third Millennium Development Goal (MDG3), which was adopted as part of the United Nations Millennium Declaration in 2000. Researches show that they also help to boost efficiency and productivity (UN 2000, UN 2012). Rural women empowerment is required to improve the rural economic development in India, in particular and the other economies in general. Most of the rural women in India remain bound to devote themselves to their household activities. In many cases there is no scope of income for them outside home. So, Government of India has taken

some projects such as Mahila E-haat, Beti Bachao-Beti Padhao, One stop Centre Scheme, working women Hostels, Swadher Greh, Support to Training and Employment Programmer for Women (STEP) and Nari Shakti Puruskars to develop socio-economic structure through the improvement of the status of the rural women. Among the rural women, the section belonging to the already marginalized tribal groups face double edged exploitation because of being a member of a tribal community who inhabit in the periphery of a land, and being a woman in a patriarchal society. These poverty-stricken women do not get enough support from the male members of their families and are usually exploited as house maids, cheap labours, beggars, among others. Women in the tribal community work very hard and are known to be income generators and curators of the family. Tribal women live in underprivileged conditions of unawareness and poverty, completely unaware of their possible and independence, leading to unhealthy and unproductive lives where sometimes they become victims of sexual exploitation in the very existence. Self Help Groups (SHGs) are highly relevant to make the people of below poverty line hopeful and self-reliant. SHGs enable them to increase their incomes, improve their standard of living and status in the society. It acts as a method for bringing this section of society to the main stream. SHGs manage very poor people who do not have access to financial system in the organized sector. The importance of women empowerment in the tribal communities in India bears special emphasis as the marginalized section of the society becomes one of the important parts of the society and their low level of development reflects the low development in the overall economy. India has a sizable number of tribal populations whose upliftment through empowerment, especially to the women section, may lead the country to a good developmental state. Here is a scenario of the existence of the tribal population in India, state of West Bengal and two districts under the state, namely Paschim Medinipur and Jhargram, as the primary focus of the study hinges with the two districts having a good number of tribal populations. According to the last Census of India conducted in 2011, out of the total population in the country, about 8.6% are Scheduled Tribes (ST) which is around 10.4 crores in total. On the other hand, with respect to the state of West Bengal, 5.8% of the total population is ST community leading to the total count in the state around 53 lacs. The figures for the Paschim Medinipur district are 14.88% and 18.75 lacs and for the Jhargram district, they are 29% and 3.3 lacs respectively. Most of the tribal people of West Bengal therefore live in these districts which is around 50% of the total tribal people in the state. Further to mention that Paschim Medinipur District is significantly well developed compared to Jhargram District. For example if we compare the literacy rate of two districts found from the source of census 2011, Paschim Medinipur District is 78% and corresponding Jhargram is 63% and also banks deposit 2020(PNB) is Paschim Medinipur district is 20057.07 lac and corresponding Jhargram is 3795.72 lac, the naturally there may be some situation that the Non-SHG members in the Paschim Medinipur District may be more powerful, Women in this District more empower camper to the Jhargram District. So, the inclination of towards taking membership in any SHG in Paschim Medinipur District is best only upon the lower income people of the district. Where in Jhargram District is actually little backward in terms of income. So, there is natural question that those who is the member of SHG they will be more powerful women or highly empower women. Their livelihood is poor, decision-making power is poor, also participation of society is poor. So, they are having the status of backward classes as popularly cited in many studies and reports. Having such deficiencies in several social indicators their empowerment is supposed to be low. Under the backdrops the present study aims to measure the magnitudes of the women empowerment in three major heads of decision making such as in health & education related issues, savings & investment, and civil society & political participation, for the scheduled tribe women in Paschim Medinipur district and Jhargram district out of the members or non-members of SHGs.

2. Review of Literature

Although the field of the study is broad from the perspectives of different social science disciplines there are a very limited number of studies in the heads of measuring women empowerment in the tribal class in the state and district levels therein. The study thus presents some of the related studies available in the extant literature concerning women empowerment in general and tribal women empowerment in particular to justify its relevance in the research domain. Kaushal and Goutam (2007) found that women's participation in SHGs of Bargarh District of Odisha had enabled them to discover their inner strength and gain self-confidence, social and economic empowerment, and capacity building. Krishnan et al (2008), in their study on the empowerment of underprivileged women through self-help groups, found that women had joined SHGs because they could get hassle-free and timely loans to meet emergency needs with thriftiness, which helped them to upgrade the economic and social status of the group members in Orissa. Mansuri (2010) studied that micro financing programmer of NABARD through SHG was working very effectively, but a major challenge for this programmer was the viability of non-farm economic activities. Sathiyabama (2011) studies the demographic status of animators of SHGs, to ascertain the role of animators in SHGs, to evaluate the usability of training programs provided to the animators in running the SHGs, to examine the decision-making pattern of animators of the SHGs and to evaluate the problems faced by the motivators of the SHGs in the study area, Mayladuthurai block in Nagapattinam district, Tamil Nadu. Singh et al. (2012) focused on various factors regarding women entrepreneur's issues, challenges, and future perspectives in India and gave an overview of the working of SHGs in Himachal Pradesh. Bhattacharya and Banerjee (2012) tried to concentrate on the latent nature of empowerment that was represented in their competence enhancement. They viewed the empowerment process in terms of repressive power, opposing power, and creative power. Therefore, at the individual level, the degree of conscious involvement in the decision-making to safeguard and improve her well-being would be a clear indicator of empowerment in the study area in West Bengal. Sundaram (2012) in his paper analyzed that an SHG of Vellore District, Tamil Nadu, plays a vital role in the lives of poor people by improving their standard of living, increasing family income to alleviate poverty, and igniting rural development. Manjunatha (2013) examined the relationship between Self Help Groups and the socio-economic development of the rural community in general and women in particular of Karnataka state and also suggested suitable measures for the effective improvement of the functioning of SHGs in improving the socio-economic conditions of the rural people. Patil and Sunil (2013) study the importance of SHG for rural women in selected villages of Kolhapur district. She suggested that government banks and financial institutions should come forward to offer loans for rural women SHGs. Borah (2014) finds that the women SHGs in both rural and urban areas are very active in providing income-generating activities in the Barhampur Development Block in Nagaon District. It is also found that the majority of women SHGs have taken loans for various economic activities, such as cattie framing, poultry farming, fishery, textiles and handloom works, weaving and embroidery, food processing, agriculture, etc. Deshmukh (2014) observed that the women had fewer roles in decision-making and control over economic resources in agrarian communities where the majority of women were uneducated or just have formal education. Rath (2014) found that women's participation in SHG have resulted in empowerment in all aspects in Odisha. Sharma and Ansali (2014) investigated that SHG groups are providing socio-economic benefits for beneficiaries, particularly for Dharpur tribal women. Samal (2015) analyzed the link between the socioeconomic empowerment of women through SHG membership in the Jajpur district of Odisha and found a positive relationship between empowerment and SHG participation. Das

and Baishya (2015) study that Microfinance have played vital role in women empowerment as well as socio-economic development of women in Rani Block of Kamrup District of Assam. The study of Singh (2017) on the women's SHGs in the Drang block of the Mandi district in Himachal Pradesh concludes that while SHGs women in achieving economic independence, there are other areas, such as skill development, community development initiatives, and decision-making capacity, where women have made less progress and need to pay more attention to be able to contribute to development. Pathania and Rao (2018) have found that after tribal women improved their socio-economic condition after joining SHG in Paderu and Pedabayalu Mandals of Visakhapatnam district of Andhra Pradesh. Mazumder et al (2018) observed that the SHG can climb easily upon the performance ladder with younger and educated members, greater percentage of members above the poverty level, better utilization of credit received of Paschim Medinipur and Bankura Districts of West Bengal. Rai and Shara (2019) define SHG as the mechanism for providing monetary facilities to help the poor vital role to play for developing the socio-economic condition in West Bengal. Bisai and Mazumder (2019) analyze the intensity of poverty and inequality among the rural households of some of the backward regions of West Bengal. They indicate that the incidence of poverty remains less among the SHG members in comparison with the non-SHG households in both drought-prone and non-drought-prone areas of rural West Bengal. There are a few studies in India which have attempted to focus upon the women empowerment in the tribal community such as Royet al. (2016) study on the economic and social empowerment of tribal women in Rajasthan's Durgapur District and come to the conclusion that microfinance had a significant impact on the advancement of tribal women. Murari (2014) has studied impact of SHGs on income and employment of tribal women in Pachamali Hills and Kollimalai Hills in Tamil Nadu and he got that SHG had a significant impact on tribal women.

2.1. Research Gaps

We have seen in the review of extant literature that many works have been done on woman empowerment in the state of West Bengal; most of the works are related to the non-scheduled tribal women section of the society. The studies grossly neglected the issues of measurement of empowerment of the tribal women in the state of West Bengal. The present study tries to fill the gaps in the literature by means of considering measurement of empowerment in two sample districts of West Bengal, Paschim Medinipur and Jhargram.

3. Objectives

The basic objective of this study is to develop Women Empowerment Index for those schedule tribe women who are engaged in Self-Help Groups and non-Self-Help Groups on the basis of three domains, social, economic and political, involving separate indicators within each of them. Out of the three domains, the social domain includes health and education, economic domain includes control over saving, investment and household expenditure, and finally the political domain includes women civil society participation and women political participation.

4. Research Questions

The basic research questions are as follows-

1. What are the magnitudes of empowerment in both the SHG and non-SHG tribal women in Paschim Medinipur and Jhargram districts?
2. Are the tribal women under the SHGs in both the districts empowered socially, economically and politically?
3. Are the tribal women under the non-SHGs in Paschim Medinipur and Jhargram districts empowered socially, economically and politically?
4. What are the differences between status of empowerment among the SHG and non-SHG tribal members in a given district with respect to social, economic and political domains?
5. What are the impacts of different indicators upon the magnitudes of empowerment of tribal women in SHG as well as non-SHG in the two districts?

5. Major Hypotheses

For Objective 1, the hypotheses are-

H0: The women in the SHG in the two districts are not empowered

H1: The women in the SHG in the two districts are empowered

For Objective 2, the hypotheses are-

H0: The women in the non-SHG in the two districts are not empowered

H1: The women in the non-SHG in the two districts are empowered

For Objective 3, the hypotheses are-

H0: Average values of WEI in SHG = Average values of WEI in Non-SHG in two districts

H1: Average values of WEI in SHG \neq Average values of WEI in Non-SHG in two districts

$$\left(t = \frac{\text{Mean}_{SHG} - \text{Mean}_{Non-SHG}}{\sqrt{\frac{\text{Var}}{n_1} + \frac{\text{Var}}{n_2}}}\right)$$

For Objective 4, the hypotheses are to be framed after specifying the model. We have mentioned that in case of SHG members the indicators are Social, Economic and Political. So, the econometric model for the SHG members may be written as-

$$Y = \alpha + \beta_1 \text{Age} + \beta_2 \text{Education} + \beta_3 \text{Income} + \beta_4 \text{Participation of SHG} + u$$

Thus, the hypotheses for the objective are-

H0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$

H1: All the β_s are not simultaneously = 0

For non-SHG members, we drop the indicator, year of participation, from the list of the independent variables. So, the econometric model may be written for the non-SHG members in the two districts as-

$$Y = \alpha + \beta_1 \text{Age} + \beta_2 \text{Education} + \beta_3 \text{Income} + u$$

H0: $\beta_1 = \beta_2 = \beta_3 = 0$

H1: All the β_s are not simultaneously = 0

6. Data and Methodology

For the estimation and analysis of women empowerment for the schedule tribe women engaged in SHG and non-SHG groups of Paschim Medinipur and Jhargram districts the present study uses primary data. Primary data have been collected using survey questionnaires in the sample

districts. The household survey is based on interview method with a structured questionnaire. Also, structured interview has been prepared to take interview of the SHG and non-SHG members in this region. We have determined the major domains through which the power of women is achieved in the rural region. Then, relying on the adequacy of women agency in specific domains, Composite Index in the name of Grand Dimension Index has been constructed. The present study also constructed an index on the basis of 300 women who belongs to SHG and 200 women who belong to non-SHG form Paschim Medinipur and Jhargram respectively. Based on the analysis, we will compare the differences of empowerment among SHG and non SHG tribal women, and comparison between the two districts.

6.1. Women Empowerment Index (WEI)

UNDP has used the Dimension Index (DI) for the calculation of Human Development Index, Gender Development Index etc. (UNDP, 2010, 2019) for the broad spectrum uses and the researchers are following the methodology till date. We have also followed the similar measurement method for our purpose. Based on the selected dimensions, we have calculated the three DI for each of the nine indicators which are given below.

Social domain (S_i)

- Availability of sanitation and safe drinking water (S_{11})
- Ability to making any health-related decision (S_{12})
- Knowledge about family planning (S_{13})
- Educational attainment (S_{14})

Economic domain (E_i)

- Control over saving and investment (E_{11})
- Control over household expenditure (E_{12})
- Increasing financial independency (E_{13})

Political domain (P_i)

- Women civil society participation domain (P_{11})
- Woman political participation domain (P_{12})

In this sector-specific analysis, it is imperative to contextualize the domain of empowerment at this beginning. We propose three domains through which women's empowerment at the individual level can be assessed. We classify these as the 'social domain', 'economic domain', and political domain. To measure the impact of the domain we propose a few factors under each domain that would be quantifiable to assess the level of empowerment at the individual level. We have taken the case of social domain for health and education, in the case of economic domain, control over saving and investment, and control over household expenditure, and political domain for women's civil society participation and open political participation.

The weights attached for each indicator are equal and sum up to unity. The indicators are supposed to be binary while '1' would stand for empowered and '0' for disempowered. The aggregate empowerment score would lie between '0' and '1'. Following the method of WEAI (Alkire et al., 2012), we attached 0.8 as the benchmark level for attaining an adequacy empowerment level.

6.2. Individual Group dimension Index (IGDI)

$$IGDI = \sum_{ij}^{300,200} D_{ij} w_{ij}$$

where 'D' is dimension index, 'W' is weightes of all indicators, (UNDP) 'i' stands for the dimension index for each of the three heads, social, economic, political, and 'j' stands for number of individuals from 1 to 300 for the SHG members and 1 to 200 for the Non SHG members.

6.3. Individual Women Empowerment Index (IWEI)

We can measure the Individual Women Empowerment Index (IWEI), I have followed the simple average of j number of dimension written as-

$$IWEI = \frac{1}{n} \sum GDI_j (\text{where, } j = \text{Social, Economic \& Political dimensions}) \text{ Or, } IWEI = \frac{1}{3} [GDI_{\text{social dimension}} + GDI_{\text{Economic dimension}} + GDI_{\text{Political dimension}}]$$

Thus, based on above method, IWEI for each woman involved with the SHG can be assessed separately. The individual empowerment scores above 0.8 might be considered as adequate empowerment (Alkire-Foster Methodology, 2011),

6.4. t- Test for assessing the significant difference between SHG and non-SHG members t-Test for Equal Variance

As the population standard deviation is unknown, the data is assumed to be normally distributed and the sample size is large enough, the two-sample t-Test can be applied to analyse the data.

The test statistics is as follows.

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{s_p^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

$$\text{Where, } s_p^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}$$

t-Test for Unequal Variance

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

6.5. Ordinary Least Squares (OLS) regression method

To identify the determinants of women empowerment of the sample districts of West Bengal, a simple Ordinary Least Squares (OLS) model has been used. Here, the OLS regression method expresses the relationship or association of factors related to women empowerment in all sample districts in West Bengal.

The model is expressed in the following way

$$WEI = \beta_0 + \beta_i X_i + u$$

Where, WEI means woman empowerment index

β_i refers to the regression coefficient in the model

X_i consists of several factors affecting the women's empowerment index in the districts

u_i represents the error term in the model

X_i is a set of independent variables where we considered the variables related to Age group, Education level, Monthly family income and Participation in SHGs in the year (SHGs and non-SHG).

7. Results and Analysis

We collected the data through the field survey from two districts. We analyze the data in different ways

Table 1: Descriptive sample ANOVA of the SHG members in Paschim Medinipur District

Variables		n	%	Mean	Variance	F-stat	Prob
Age	21-30 years	75	25.0	0.60	0.04	0.85	0.47
	31-40 years	119	40.0	0.59	0.05		
	41-50 years	72	24.0	0.61	0.04		
	50 years and older	34	11.3	0.54	0.05		
Education level	Under Primary	109	36.6	0.56	0.05	3.26	0.01
	Primary	97	32.3	0.59	0.04		
	Upper Primary	52	17.3	0.62	0.05		
	Secondary	35	11.6	0.66	0.04		
	Higher Secondary	7	2.3	0.79	0.00		
Monthly Income (Rs)	Below3000	161	54.0	0.57	0.05	17.79	0.00
	3000-4500	127	42.3	0.42	0.00		
	4500-6000	7	2.3	0.49	0.15		
	6000 and above	5	1.6	0.48	0.10		
Participation in SHG (year)	1-5 years	110	36.6	0.58	0.05	5.39	0.01
	6 -10 years	136	45.6	0.62	0.04		
	10 years and above	54	18.0	0.69	0.02		

Notes: Test is based on 5% level of significance. Under Primary education level means 'Below Class 1', Primary means Class (i-iv), Upper Primary =Class (iv-viii), Secondary=Class (viii-x), Higher Secondary=(xi-xii), Mean & Variance are reported to mention the values of the WEI. Source: Authors' calculations

From Table 1, the ANOVA results show that the F-statistic is 0.85 and the corresponding probability value is 0.47 for age which leads the null hypothesis (i.e. Age is not a significant factor of women empowerment) to be accepted and alternative hypothesis is rejected. Thus, there is no significant relation between age and WEI. On the other hand, there are significant relations between WEI and different education levels, monthly income, and participations to the SHGs as the probability values in all the three cases are lesser than 0.05. Education, income and SHG participations have positive impacts upon women empowerment in the tribal classes in the Paschim Medinipur District.

Table 2: Descriptive sample ANOVA of the SHG members in Jhargram District

Variables		n	%	Mean	Variance	F-stat	Prob
Age	21-30 years	75	25.0	0.58	0.06	0.43	0.73
	31-40 years	145	48.3	0.55	0.07		
	41-50 years	65	21.7	0.57	0.07		
	50 years and older	15	5.0	0.52	0.06		
Education level	Under Primary	102	34.0	0.55	0.07	0.49	0.75
	Primary	141	47.0	0.58	0.06		
	Upper Primary	48	16.0	0.53	0.07		
	Secondary	8	2.7	0.57	0.11		
	Higher Secondary	1	0.3	0.64	NA		
Monthly Income(Rs)	Below3000	238	79.3	0.54	0.06	5.90	0.00
	3000-4500	50	16.7	0.55	0.05		
	4500-6000	5	1.7	0.70	0.03		

Variables		n	%	Mean	Variance	F-stat	Prob
	6000 and above	7	2.3	0.91	0.01		
Participation in SHGs (year)	1-5 years	105	35.0	0.47	0.06	16.78	0.00
	6 -10 years	122	40.7	0.56	0.06		
	10 years and above	73	24.3	0.69	0.05		

Notes: Test is based on 5% level of significance. Other notes are same as Table 1

Source: Authors' calculations

From Table 2, the ANOVA results show that the F-statistic is 0.43 and the corresponding probability value is 0.73 for age. Thus, there is no significant relation between age and WEI. The same result holds for different education levels. On the other hand, there are significant relations between WEI and monthly income and participations to the SHGs as the probability values in all the two cases are lesser than 0.05. Education, income and SHG participations have positive impacts upon women empowerment in the tribal classes in the Jhargram District.

Table 3 and Table 4 show the results of the ANOVA analysis of the non-SHG members in Paschim Medinipur District and Jhargram District respectively. By default, the table does not include the information on the year of participation in SHGs.

Table 3: Descriptive sample ANOVA of non-SHG members in Paschim Medinipur District

Variables		n	%	Mean	Variance	F-stat	Prob
Age	Below 20 years	35	17.5	0.67	0.05	1.15	0.33
	21-30 years	66	33.0	0.69	0.05		
	31-40 years	46	23.0	0.64	0.04		
	41-50 years	33	16.5	0.71	0.04		
	50 years and older	20	10.0	0.76	0.07		
Education level	Under Primary	65	32.5	0.69	0.06	2.87	0.02
	Primary	43	21.5	0.63	0.06		
	Upper Primary	44	22.0	0.70	0.04		
	Secondary	36	18.0	0.80	0.05		
	Higher Secondary	12	6.0	0.72	0.04		
Monthly Income (Rs)	Below3000	106	53.0	0.68	0.07	4.75	0.00
	3000-4500	85	42.5	0.65	0.06		
	4500-6000	7	3.5	0.98	0.00		
	6000 and above	2	1.0	0.94	0.01		

Notes: Test is based on 5% level of significance. Other notes are same as Table 1

Source: Authors' calculations

The results show that the F-statistic is 1.15 and the corresponding probability value is 0.33 for age. Thus, there is no significant relation between age and WEI. On the other hand, there are significant relations between WEI and different education levels and monthly income, SHGs as the probability values in all the two cases are lesser than 0.05. Education and income have positive impacts upon women empowerment in the tribal classes in the Paschim Medinipur District.

Table 4: Descriptive sample ANOVA of non-SHG members in Jhargram District

Variables		n	%	Mean	Variance	F-stat	Prob
Age	Below20 years	34	17.5	0.41	0.05	0.75	0.56
	21-30 years	66	33.0	0.41	0.05		
	31-40 years	59	23.0	0.36	0.05		
	41-50 years	25	16.5	0.40	0.04		
	50 years and older	16	10.0	0.44	0.03		
Education level	Under Primary	62	32.5	0.39	0.05	5.11	0.00
	Primary	92	21.5	0.41	0.04		
	Upper Primary	33	22.0	0.41	0.04		
	Secondary	9	18.0	0.52	0.02		
	Higher Secondary	4	6.0	0.84	0.01		
Monthly Income(Rs)	Below3000	131	53.0	0.35	0.04	19.61	0.00
	3000-4500	49	42.5	0.41	0.05		
	4500-6000	11	3.5	0.64	0.00		
	6000 and above	9	1.0	0.77	0.01		

Notes: Test is based on 5% level of significant. Other notes are same as Table 1

Source: Authors' calculations

From Table 4, the ANOVA results show that the F-statistic is 0.75 and the corresponding probability value is 0.56 for age which leads the null hypothesis (i.e. Age is not a significant factor of women empowerment) to be accepted and alternative hypothesis is rejected. Thus, there is no significant relation between age and WEI. On the other hand, there are significant relations between WEI and different education levels and monthly income, SHGs as the probability values in all the two cases are lesser than 0.05. Education and income have positive impacts upon women empowerment in the tribal classes in the Jhargram District.

We now proceed for examining objective number 1 as mentioned. And this result we have calculated according to the methodology described earlier.

Figure 1 & 2: Empowerment of tribe women of two districts out of SHGs (in %) in three separate indicators

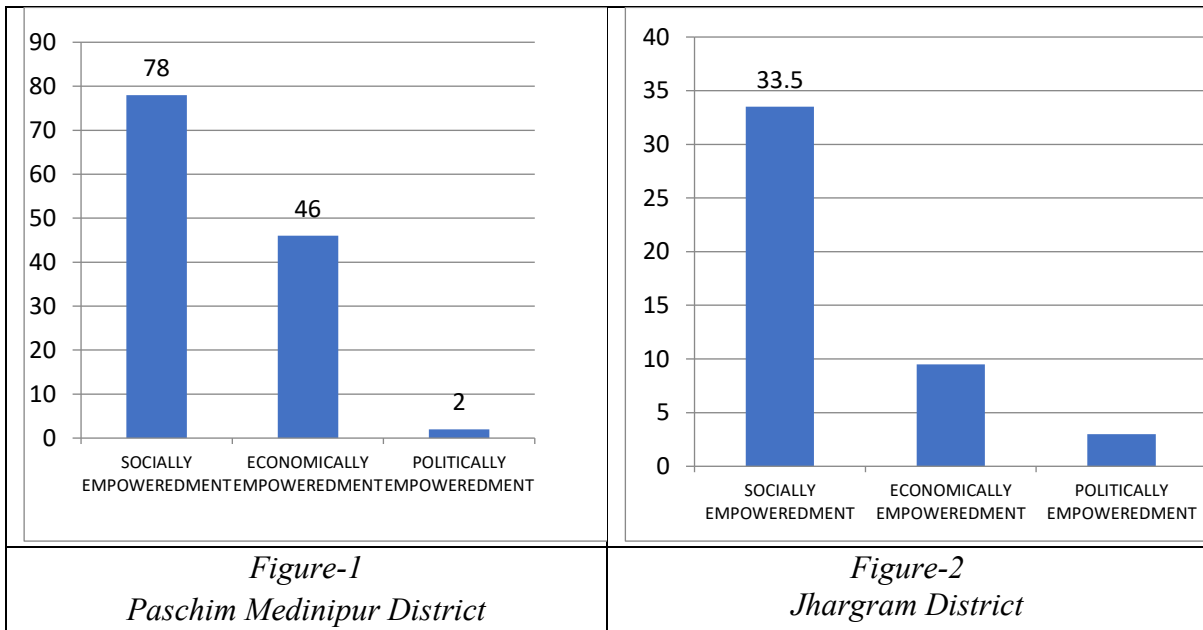


Figure 3 & 4: Empowerment of tribe women of two districts out of non-SHG (in %) in three separate indicators

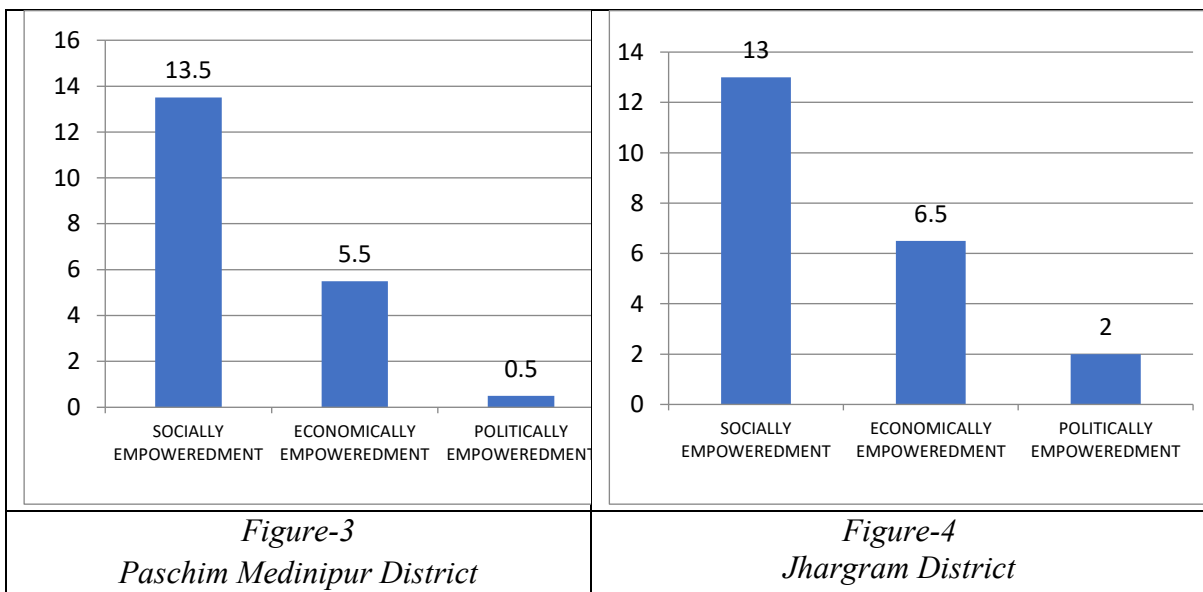
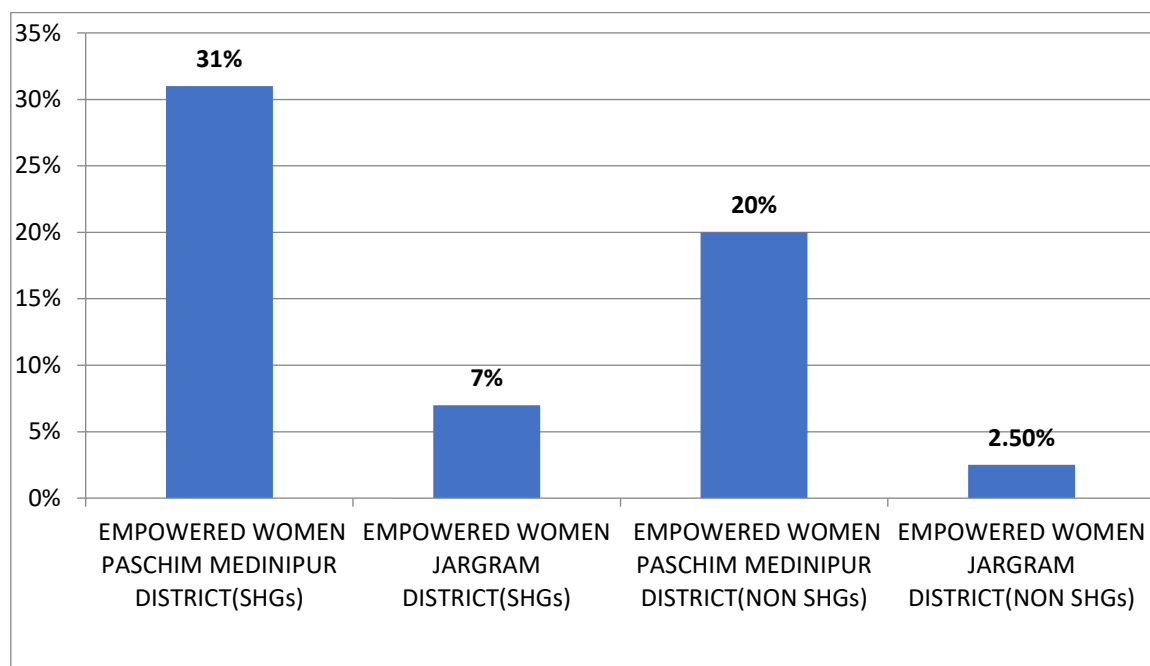


Figure 5: Empowerment of tribe women of two districts (SHGs & Non SHGs in %)*Figure-5*

The constructed index was applied to 300 members of SHG and 200 women of non-SHG from Paschim Medinipur District of West Bengal. We get 78% of women are socially empowered, 46% of women are economically empowered and 2% of women are politically empowered (in which figure-1, they are presented, mention). In these women, 31% of women are empowered basic on this indicator out of 300 women they belong to SHG in Paschim Medinipur district (figure-5). Again among 200 non-SHG women, socially empowered 13.5% of women, economically empowered 5.5% of women, and politically empowered 1% women (figure-3). Among them, 7% of women are empowered (figure-5). Also was applied to 300 members of SHG and 200 women of non-SG from the Jhargram district of West Bengal. We get 33.5% of women are socially empowered, 9.5% of women are economically empowered and 3% of women are politically empowered (figure-2). In these women, 7% of women are empowered based on this indicator out of 300 women they belong to SHG in Jhargram district (figure-5). Again among 200 non-SG women, socially empowered 13% women, economically empowered 6.5% women, and politically empowered 2% women. Among them, 2.5% of women are empowered (figure-5).

We now proceed for examining objective number 3 as mentioned. The corresponding hypotheses of the objective lead us to test for mean difference of the WEIs using the t test formula as given earlier. The results of the mean difference test are given in Table 5.

Table 5: Comparison between SHG members and non-SHG members of Paschim Medinipur District

Variables		SHG members in Paschim Medinipur District				Non-SHG member in Paschim Medinipur District				t-values
		n	%	Mean	Variance	n	%	Mean	Variance	
Age	21-30 years	75	25	0.6	0.04	66	33	0.69	0.05	-3.77
	31-40 years	119	40	0.59	0.05	46	23	0.64	0.04	-2.34
	41-50 years	72	24	0.61	0.04	33	16.5	0.71	0.04	-4.04
	50 years and older	34	11.3	0.54	0.05	20	10	0.76	0.07	-5.26
Education level	Under Primary	109	36.6	0.56	0.05	65	32.5	0.69	0.06	-5.82
	Primary	97	32.3	0.59	0.04	43	21.5	0.63	0.06	-1.84
	Upper Primary	52	17.3	0.62	0.05	44	22	0.7	0.04	-2.51
	Secondary	35	11.6	0.66	0.04	36	18	0.8	0.05	-3.98
	Higher Secondary	7	2.3	0.79	0.00	12	6	0.72	0.04	21.00
Monthly Income (Rs)	Below3000	161	54	0.57	0.05	106	53	0.68	0.07	-6.02
	3000-4500	127	42.3	0.42	0.00	85	42.5	0.65	0.06	-3.25
	4500-6000	7	2.3	0.49	0.15	7	3.5	0.98	0.00	-3.35
	6000 and above	5	1.6	0.48	0.10	2	1.0	0.94	0.01	-3.14

Notes: Test is based on 5% level of significance. Other notes are same as Table 1

Source: Authors' calculations

From Table 5, the results show that the all mean difference are significant except educational level in the primary level, that the non-SHG members mean empowerment value is grater then the SHG member in Paschim Medinipur District. Non-SHG members are more empowered in the statistical sense compared to the SHG members in the District of Paschim Medinipur across all the three sub-indicators of the empowerment the study observes that in many of the cases the SHG members are highly empowered compared to the non-SHG members.

Table 6: Comparison between SHG members and non-SHG members of Jhargram District

Variables		SHG members in Jhargram District				Non-SHG member in Jhargram District				t-values
		n	%	Mean	Variance	n	%	Mean	Variance	
Age	21-30 years	75	25	0.58	0.06	66	33	0.41	0.05	5.85
	31-40 years	145	48	0.55	0.07	59	23	0.36	0.05	8.32
	41-50 years	65	22	0.57	0.07	25	16.5	0.4	0.04	4.93
	50 years and older	15	5	0.52	0.06	16	10	0.44	0.03	1.22
Education level	Under Primary	102	34	0.55	0.07	62	32.5	0.39	0.05	5.92
	Primary	141	47	0.58	0.06	92	21.5	0.41	0.04	8.07
	Upper Primary	48	16	0.53	0.07	33	22	0.41	0.04	3.04

Variables		SHG members in Jhargram District				Non-SHG member in Jhargram District				t-values
		n	%	Mean	Variance	n	%	Mean	Variance	
	Secondary	8	2.7	0.57	0.11	9	18	0.52	0.02	0.41
	Higher Secondary	1	0.3	0.64	-	4	6	0.84	0.01	-
Monthly Income (Rs)	Below 3000	238	79	0.54	0.06	131	53	0.35	0.04	11.74
	3000-4500	50	17	0.55	0.05	49	42.5	0.41	0.05	4.28
	4500-6000	5	1.7	0.7	0.03	11	3.5	0.64	0	0.77
	6000 and above	7	2.3	0.91	0.01	9	1	0.77	0.01	3.59

Notes: Test is based on 5% level of significant. Other notes are same as Table 1

Source: Authors' calculations

The above table reveal that the SHG members are more empowered in the statistical sense compared to the non-SHG members in the District of Jhargram across all the three sub-indicators of the empowerment the study observes that in many of the cases the SHG members are highly empowered compared to the non-SHG members.

Table 7: Regression result for SHG members and non-SHG members of Paschim Medinipur District (dependent variable: WEI)

Independent Variables	SHG members in Paschim Medinipur District			Non-SHG member in Paschim Medinipur District		
	Coefficients	t Stat	P-value	Coefficients	t Stat	P-value
Intercept	0.2	3.77	0.00	0.37	5.75	0.00
Age	0.02	1.95	0.05	0.03	2.02	0.04
Education	0.03	2.71	0.01	0.06	4.42	0.00
Family income	0.05	2.94	0.00	0.07	2.83	0.01

Notes: Test is based on 5% level of significant.

Source: Authors' calculation

From Table 7, the regression results for SHG and non-SHG members in Paschim Medinipur District reveal that age, education, and family income all have positive and statistically significant associations with the dependent variable for both groups. For SHG members, age has a modest effect ($\beta = 0.02$, $p = 0.05$), education has a moderate positive impact ($\beta = 0.03$, $p = 0.01$), and family income exerts a strong effect ($\beta = 0.05$, $p < 0.01$). For non-SHG members, these effects are slightly stronger: age ($\beta = 0.03$, $p = 0.04$), education ($\beta = 0.06$, $p < 0.001$), and family income ($\beta = 0.07$, $p = 0.01$). The intercept for non-SHG members (0.37) is higher than that for SHG members (0.2), indicating a higher baseline outcome when controlling for the predictors. Overall, while SHG participation might provide a baseline advantage, the stronger effects of education and income among non-SHG members suggest these factors are especially influential for those outside SHGs, highlighting the importance of broader socioeconomic support and educational initiatives.

Table 8: Regression result for SHG member and non-SHG members of Jhargram District
(dependent variable: WEI)

Independent Variables	SHG members in Jhargram District			Non-SHG members in Jhargram District		
	Coefficients	t Stat	P-value	Coefficients	t Stat	P-value
Intercept	0.34	5.14	0.00	0.41	9.96	0.00
Age	-0.02	-1.25	0.21	-0.01	-1.01	0.31
Education	-0.02	-1.09	0.28	0.02	0.97	0.33
Family income	0.09	4.08	0.00	-0.02	-1.26	0.21

Notes: Test is based on 5% level of significant.

Source: Authors' calculation

From Table 8, in Jhargram District, for SHG members, the regression analysis shows that the intercept (0.34, $p < 0.01$) indicates a baseline outcome when age, education, and income are zero. Among SHG members, age and education have negative but statistically insignificant coefficients ($\beta = -0.02$, $p = 0.21$; $\beta = -0.02$, $p = 0.28$), suggesting no meaningful relationship with the outcome. However, family income has a strong and significant positive impact ($\beta = 0.09$, $p < 0.01$), indicating higher income levels are associated with better outcomes for SHG members. For non-SHG members, the intercept (0.41, $p < 0.01$) is slightly higher, and while age and education also have negative but insignificant coefficients ($\beta = -0.01$, $p = 0.31$; $\beta = 0.02$, $p = 0.33$), family income unexpectedly shows a negative but insignificant effect ($\beta = -0.02$, $p = 0.21$). These results suggest that, in Jhargram, family income is a crucial positive factor for SHG members, whereas for non-SHG members, its effect is not statistically meaningful, and neither age nor education appears to significantly influence the outcome in either group.

8. Discussion

The constructed index was applied to 300 SHG members and 200 non-SHG women in Paschim Medinipur District, West Bengal. It was found that 78% of SHG women were socially empowered, 46% economically empowered, and only 2% politically empowered (Figure-1). Among them, 31% of the women were overall empowered based on these indicators (Figure-5). For the non-SHG group, only 13.5% were socially empowered, 5.5% economically empowered, and 1% politically empowered (Figure-3), with an overall empowerment rate of 7% (Figure-5). In Jhargram District, 300 SHG members and 200 non-SHG women were similarly studied, revealing that 33.5% were socially empowered, 9.5% economically empowered, and 3% politically empowered (Figure-2), with 7% overall empowerment (Figure-5). Non-SHG women showed 13% social, 6.5% economic, and 2% political empowerment, with an overall empowerment rate of 2.5% (Figure-5). Regression analysis indicates that, in Paschim Medinipur, WEI is significantly influenced by education, family income, and SHG participation, aligning with Banks (2015) and Ridgeway (2011), who found that education and socio-economic factors are key to empowerment. Among non-SHG women, education and income were significant, echoing findings by Sadker and Zittleman (2009) on gendered access to resources. In Jhargram, SHG participation and income significantly impacted WEI, while age and education levels were less influential. This mirrors DePalma and Atkinson's (2009) assertion that community engagement, rather than demographics, shapes empowerment outcomes. The contrasting coefficients—positive for age and education in Paschim Medinipur

and negative in Jhargram—can be attributed to the relatively advanced socio-economic status of Paschim Medinipur compared to Jhargram, as highlighted in the introduction. This suggests that more socio-economically advantaged women may opt out of SHGs, while less privileged women actively participate to empower themselves. Comparing SHG and non-SHG groups, Paschim Medinipur's non-SHG women showed higher empowerment in some areas, suggesting alternative empowerment avenues outside SHGs, similar to findings by Cochran-Smith (2000) on diverse pathways to empowerment. However, Jhargram's SHG women consistently outperformed non-SHG counterparts, reinforcing the effectiveness of SHG models in less developed areas, a trend supported by UNESCO (2024) and the World Health Organization (2013). Across both districts, family income emerged as a strong positive determinant of WEI, consistent with Kosciw et al. (2018) and the OECD (2024), while the mixed effects of education and age call for further research into context-specific factors. Overall, the study highlights the nuanced interplay of socio-economic, educational, and participatory factors in shaping women's empowerment across diverse contexts in West Bengal.

9. Conclusion

The thrust of this study explores the status of WEI across the district of found Paschim Medinipur and Jhargram districts on SHG and non-SHG Members with the help of primary data, we can see that 31% of women empowered basic of this indicator out of 300 women belong SHG in Paschim Medinipur district. Again 7% of women had empowered among 200 non-SHG women in Paschim Medinipur district. Other hand, 20% of women are empowered with basic indicators out of 300 women belonging to SHG in the Jhargram district. Again 2.5% of women are empowered among 200 non-SHG women in the Jhargram district. It was found that women empowerment among the two districts of SHG and non-SG members was relatively better in Paschim Medinipur district. From ANOVA results we find that there are statistically significant differences in different education levels, different monthly income, and participation of SHG in the year. It is found that SHGs made women empowered socially, economically, and politically. This is because SHGs enable them to make decisions independently. The foregoing discussion reveals that SHGs have been an effective tool for overall women empowerment in rural areas. It positively influences women's socioeconomic and political affairs. Based on research findings we came up with certain recommendations for the agencies working for women's empowerment. Economic independence and weariness are necessary, though it is not are sufficient conditions for empowerment of women.

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