

EMPOWERING WOMEN THROUGH ENTREPRENEURSHIP : AN EMPIRICAL INVESTIGATION

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Abstract

The empowerment of women is a very important element of sustainable economic growth in any nation. A woman is said to be empowered, if her access to the different constituents of development, viz., health, education, earnings, opportunities, rights, freedom, social recognition, political participation and ability to protest are improved. Women's participation in entrepreneurial activities may play powerful role in their empowerment. Increase in women's income level through participation in entrepreneurial activities may leads to better economic security and they get a space in their household decision making process and thus in the society. The present study thus makes an attempt to find out the interrelation between women's entrepreneurship development and their empowerment with reference to two districts of West Bengal. The study hypothesizes that entrepreneurship enables women empowerment. For the construction of women empowerment indices fuzzy set theory has been used. The study observes that self entrepreneurship has positive and significant effect on women's mobility, economic security, participation in household decisions, contribution in household expenses, ability to protest and thus in overall women empowerment, but it has not that kind of effect on women's relative freedom and political and legal awareness. The study concludes that entrepreneurship induces financial aspect of empowerment whereas the social aspect of empowerment is still in dark irrespective of an effect of self entrepreneurship.

Keywords: *Entrepreneurship, Bank credit and Women empowerment.*

1. Introduction

1.1 The Problem

The empowerment of women is a vital element of sustainable economic growth in any country. There is a common assumption that majority of women in India are economically non-productive as they are not involved in the economic activities that are financially remunerative. But this assumption becomes gradually vague now-a-days. As woman gets education, she begins to think of herself as an independent person, she becomes aware of her own identity, prestige,

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potentiality, decision making capabilities, relative freedom and ability to protest within and outside the households. Since many years back in India, women are coming forward with creative and innovative ideas to start the small and medium sized enterprises. In some of the North-eastern states like Meghalaya, having a patriarchal society, women are showing exemplary capabilities about entrepreneurship capabilities. Entrepreneurship happens to be one of the best ways towards self sufficiency and poverty alleviation for women in a country where employment is not guaranteed. Involvement of women in entrepreneurial activities ensures effective utilization of labour, generation of income, improvement in quality of life and hence their effective empowerment. Entrepreneurship development of women and their involvement in income generating activities are a basic feasible solution for empowering women. Empowering women through education, ideas, consciousness, mobilization and participatory approach can enable them to take their own decisions, make them self-reliant and self-confident.

Both the Central and State Governments in India have introduced several programmes to save the women from their social exploitation. Swarna Joyanti Gramin Swarajgar Yojana (SGSY) is one of the important instruments introduced by the Central Government in India to empower the weaker section especially women through their entrepreneurship development. To be empowered, it is imperative that women mobilise and organise themselves. When groups of women do this process together, they reinforce each other. Thus, the strength of the collectiveness has a great role. Together, they are able to identify their own problems and priorities. They can frame strategies to be used to struggle for change whether it is for resources or for changes in gender relations at home or in the society (Vasanthakumari, 2012).

1.2. Women entrepreneurship

Entrepreneurship refers to the act of setting up a new business or reviving an existing business so as to take advantages from new opportunities. Thus, entrepreneurs contribute towards the economy by creating new wealth and new jobs and by inventing new products and services. It is in reality an attitude to create something new and an activity which creates value in the entire social eco-system (Sreenivasa, Behara and Niranjana, 2012). A woman entrepreneur is an adult who owns and runs an enterprise often at personal financial risk. The ILO defines the women's enterprise as a small unit where one or more of the women entrepreneurs have not less than 50 per cent financial holdings. The concept of women entrepreneurship is becoming a global phenomenon playing a vital role in the business world. In India, women have made a comparatively late entry into the business scenario mainly due to the orthodox and traditional socio-cultural environment (Nayyar *et al.*, 2007). Although women faces various problems in the process of establishing, developing and running their enterprises, nevertheless their scope of development is very high in India, especially in rural areas. When an enterprise is established and controlled by a woman, it not only boosts economic growth, but also has many desirable outcomes.

There are various hindrances in the success of women entrepreneurs like finance, marketing work place facilities, social constrains etc.. It is perhaps for these reasons that government bodies, banks, NGOs, social scientists, researchers and international agencies have started showing interest in the issues related to entrepreneurship among women in India. Growth of women entrepreneurs can be a vehicle of their socio-economic empowerment. Rana and Masood (2011) point out that during the last two decades Indian women have entered into the field of entrepreneurship in increasing numbers. With the emergence and growth of their businesses, they have contributed to the Indian economy and society; these women entrepreneurs have entered many industries and sectors. Many of the earlier obstacles to their success have been removed, yet some still remain. Further, there has been much progress in the training and development of women entrepreneurs within public policy and academic programs. Women entrepreneurs can play powerful role in confidence building and creating awareness in other women to promote self-reliance.

I.3 Women empowerment

According to UNDP (1995), women empowerment may be defined as the expansion of choice for women and an increase in the women's ability for exercising those choices in the household. Hashemi *et al.* (1996), in a pioneering study, advocate eight indicators of women empowerment, *viz.*, mobility, economic security, ability to make small purchase, ability to make large purchase, involvement in major decisions, relative freedom from domination by the family, political and legal awareness, and participation in public protests and campaigning. Thus, women empowerment may be viewed in terms of their financial or economic empowerment and social empowerment. Social empowerment should ensure their psychological upliftment and empowerment.

Kabeer (1999) points out three important dimensions of women's empowerment, namely, resource dimension, agency dimension and achievement dimension. The core elements of women empowerment as defined by Kabeer (1999) are agency (the ability to define her goal), awareness of gender power structure, self esteem and self confidence. Malhotra *et al.* (2002) use some key words to define women empowerment: 'options', 'choice', 'control' and 'power'. Therefore, a woman is said to be empowered, if her access to the constituents of development, *viz.*, health, education, earnings, opportunities, rights, freedom, political participation and ability to protest are improved.

Garikipati, Supriya (2008) operationalizes from her survey the following empowerment measures:

- ownership of household assets and incomes,
- control over minor finances,

- control over major finances,
- say in household decisions,
- work time allocation, and
- division of domestic chores.

A woman is considered 'empowered' if she has a positive score on three or more of the above indicators.

Increase in women's income level leads to better economic security. With increase in the income level, they get a space in the decision making process within the household. Thus, access to bank credit through increasing women's income also leads to empowerment. Micro-finance with Self Help Groups (SHGs) plays an effective role for promoting women empowerment in this context. It is not only an efficient tool to fight poverty, but also regarded as a primary step of empowering the marginalized sections of the population in general and the women in particular. Impact evaluation studies routinely find that lending to women benefits their households. However, a number of them also finds that this may not empower the women concerned. This seemingly paradoxical conclusion is confirmed by another study by Garikipati (2009) with respect to a lending program in rural India. It is observed that loan procured by women is often diverted to enhancing household assets and incomes. This combined with woman's lack of co-ownership of family's productive assets results in her disempowerment. A factor, named 'household vulnerability', thus emerges to be critically significant.

2. Literature review

Ghosh (1998) points out that empowerment provides legitimacy and social justice for human development. Empowerment of women means creating economic independence, self reliance, political, social and legal awareness, self confidence and positive attitude among women. It enables women to face any situation and participate in the nation's development activities. The development of women entrepreneurs is seen as an appropriate way to assault poverty at the grass-root level by generating employment and income.

Tripathy (2005) observes that education has a stake on women's involvement in the decision making process of the family and it is the women entrepreneurs who participate comparatively to a greater extent than the non-entrepreneurs and housewives in such decision-making process. Further, so far as equity in the food consumption pattern and asset ownership in the family is concerned, entrepreneurs are better placed compared to the non-entrepreneurs and housewives. However, the extent of gender inequality in the workload burden is seen to have been prominent among the working women than housewives. Thus, empowerment of rural women achieved through enterprises indirectly imposes a burden on women in the form of loss of their leisure. He suggests that there is a need for expansion of educational facilities, both formal and informal for women in the rural areas to improve their involvement in the

decision making process. Promotion for more and more enterprises among rural women through policy initiatives could help in their empowerment.

Kantor (2005) investigates into the determinants of a two dimensional concept of enterprise success for women in Ahmadabad (India) by analyzing data from a study of home based garment producers. Growing economic success for these garment producers decreased empowerment outcomes, which suggests that evaluating both economic and empowerment outcomes and their interactions is important in understanding the process of achieving success. Improving the economic outcomes of women's enterprises via better training and access to markets, credit and capital equipment does not necessarily facilitate women's empowerment. He focuses on improving women's status within their home, so that they may contribute to and benefit from the decisions made about how to use their resources.

Tietze *et al.* (2007) highlight the livelihood and enterprise development opportunities for women in coastal fishing communities in India. They observe that through actively promoting self-help groups and cooperatives among women in the coastal fishing communities and through linkage of these associations with financial institutions, investment and working capital needs of their members can be met. They also opine that to make the best use of capital inputs, SHGs and their federations need vocational and enterprise development training from the NGOs and from the fisheries training and research institutions. They further observe that they also need assistance for establishing links to new market outlets for their products, both domestically and for export. The state-level workshops in Orissa and Maharashtra made specific recommendations as to what kind of assistance was needed so that poverty in coastal fishing communities could be reduced and livelihood could be improved and diversified through enterprise development, and finance and training support.

Adhikari (2010) analyzes the level of economic and social empowerment of women in the family and society after undertaking an enterprise. Enterprise has been a major agent in changing the women's role from traditional work to modern work. He found that the socio-economic condition of women has changed and women's access to and control over the resources has increased. As a result, the empowerment level in decision making improved with an increase in the expenses on their own needs, their children's needs and the family need. According to him, effort to empower women through self reliance, entrepreneurship skill and management awareness training require to be continued.

Vasanthakumari (2012) opines that the position of women can be improved only by providing employment opportunities. Microcredit based enterprises have importance in this context. The successful functioning of these enterprises provides economic independence to women. Organizing women through SHGs and equip them to undertake income generating activities through the formation of enterprises have created an economic revolution in the country.

James (2012) has looked into causes why women start enterprises and why their performance differs from that of men. According to him, the concerned theorists have taken a broader view of enterprise success by combining economic and empowerment outcomes, recognizing the diverse role self employment plays for women. The relevance of power issues to success and the need for cultural sensitivity in evaluating women's opportunities to achieve positive enterprise outcomes are highlighted with the help of the example of women involvement in the enterprise sector in South Asia.

Bank credit has a greater role in women empowerment through promotion of entrepreneurship in the backward areas. The earlier studies (few are mentioned above) did not put a specific emphasis on such role. There is also no prominent work which has been done on the role of bank finance in women empowerment through promoting entrepreneurship in West Bengal. A few such studies have been conducted in this regard in other states of India. The regional problems and prospects relating to women entrepreneurship as well as women empowerment are not clearly discussed or demonstrated in the earlier studies because of their broad based nature. The broad based study can not identify the specific problems they have to face while working at a regional level and necessary efforts are needed to overcome such problems of a particular region. The present study thus makes an attempt to find out the interrelation between women's entrepreneurship development and their empowerment with reference to two districts of West Bengal.

Under this background, the questions that are emerged: What is the nature of women entrepreneurship? Are women engaged in entrepreneurship more empowered than those not engaged in entrepreneurship? Is there any significant relation between women entrepreneurship and women empowerment?

In order to explain the above research questions, age, education level of the respondents and their participation in the awareness programmes have been taken into account because of their possible empowering effect. It is hypothesized that more advancement in the education level as well as ageing (up to a certain level of one's physical capability) ensures and ultimately enhances a woman's physical and mental capabilities related to empowerment. A woman becomes more and more enrich through participation in different awareness programmes which lead her to be more and more empowered in consequence. Bank credit is expected to help to achieve financial empowerment which in turn helps to achieve social empowerment. The basic reason behind financial empowerment in most of the cases is related to formation of an independent self-run enterprise. The study thus analyses the effect of women entrepreneurship on their empowerment. So, actually, there are five hypotheses to be proved or otherwise. The principal hypothesis obviously is: *Entrepreneurship enables women empowerment*. But, there are four others, which are mentioned as follows:

- i. Bank credit enables women empowerment,*
- ii. More education helps to achieve more empowerment,*
- iii. Participation in awareness programmes helps to empower women, and*
- iv. Age can ensure empowerment more and more.*

3. Methodology

3.1 The sample respondents and districts

Primary data have been collected from the households which have been selected on the basis of multi-stage stratified random sampling. Districts constitute the first stage unit while blocks the second stage and villages the third stage. In the fourth stage, which is also the last stage, sample households have been selected from each of the sample villages.

Districts of West Bengal have different socio-economic characteristics. On the basis of a number of socio-economic variables, namely, food grain productivity, urbanization rate, literacy rate, road density, per-capita district income, growth rate of employment and rural poverty ratio, the districts could be ranked in terms of overall development. On the basis of this ranking, the districts are classified into two strata, namely 'relatively developed' and 'relatively backward'. West Bengal as a state and the two districts under study have been purposively chosen mainly due to the matter of convenience in collection of data for the present study. However, the two districts being selected have another major basic criterion of selection so as to make the ultimate comparison; Paschim Medinipur, having negative group index, has been drawn from the 'relatively backward' strata and Purba Medinipur, having positive group index, has been drawn from the 'relatively developed' strata. Paschim Medinipur has 29 and Purba Medinipur has 25 blocks. Five blocks have been randomly chosen from each district. Ghatal, Jamboni, Binpur I, Pingla and Garhbeta I are the five sample blocks of Paschim Medinipur district, whereas Moyna, Contai III, Bhagawanpur, Panskura II and Nandakumar are those from Purba Medinipur district.

From the 10 blocks spread in the two districts, 2 villages from each block were identified. 6 households have been selected randomly from each village. On the basis of one woman from each household, thus, a total 120 women has been selected for the detailed survey.

3.2 The Questionnaire and scoring

In this study, primary data relating to the socio-economic conditions of the respondents, their experience in opening a savings account and obtaining loan from the bank, utilization of loan, setup of enterprise, ownership of enterprise, nature of enterprise, income generation and repayment behavior, etc. have been collected from the households with the help of a primary questionnaire. A survey has also been conducted using another set of questionnaire among the

respondents to assess the impact of entrepreneurship on their overall empowerment. Beyond the purview of the questionnaire, detailed discussions took place also to know how they carry out different lending programmes to assist the women for developing their entrepreneurship. The whole survey was conducted in the year, 2010-11.

Scoring of different subjective statements has been undertaken in the following three broad segments:

a) Education level: Education level of the respondent women has been classified into four categories - 0 point is given to the respondents who are illiterate, 1 point is given to those having passed up to matriculation level, for those having post matriculation to graduation 2 point is given and 3 point is assigned to the respondents having qualification above graduation.

b) Participation in the awareness programmes: Scoring in respect of participation of the respondents in the awareness programme has been done as follows: 1 point has been given to the respective respondent for one participation in the awareness programmes subject to a maximum of 3 points.

c) Women empowerment and its indicators: Women empowerment is judged by seven specified indicators in our study. The present study differs from Hashemi *et al.* (1996) in some respect. Two indicators, namely, 'ability to make small purchases' and 'ability to make large purchases' have been ignored in this study because the ability to make small and large purchase is no longer a relevant measurement for empowerment as it depends more on availability of cash than on permission from any male head of the family or from one's husband. Another important relevant indicator namely, 'contribution towards household expenses' has been considered in this study as such contribution enhances her importance in the household. Hashemi *et al.* (1996) applied different cut-off scores or threshold limits for signaling empowerment of a respondent for different specific indicators. But in the present study, no such arbitrary score has been assumed to be a score for declaring a respondent as empowered for each indicator of empowerment.

The seven indicators of the study on women empowerment and the respective criteria as set are given as follows:

Mobility

1. Does she visit markets (alone)?
2. Does she visit bank and other offices (alone)?
3. Does she go outside the village (alone)?

1 point has been assigned for every 'yes', plus an additional point if the respondent goes alone.

Economic security

1. Has she owned any residence or land?
2. Has she owned any productive asset?
3. Has she made any cash savings?
4. Has she been employed in any permanent Govt. or non-Govt. job?

1 point has been assigned for every 'yes'.

Contribution towards household expenses

1. Has she any contribution from her own earnings towards educational expenses of the children?
2. Has she any contribution from her own earnings towards family health expenses?
3. Has she any contribution from her own earnings towards other family expenses?

1 point has been assigned for every "yes".

Participation in major household decisions

1. Does she participate in the decisions regarding children's education?
2. Does she participate in the decisions regarding daughter's marriage?
3. Does she participate in the decisions regarding purchase of assets?
4. Does she participate in the decisions regarding family savings?

Among the four above decisions in the household, the first two decisions are relatively more important than the last two. Therefore, relatively more weight has been assigned to first two decisions than the last two. 2 point is given for a positive response against questions 1 and 2 above, and 1 point is given for similar response against questions 3 and 4. Further, it is generally true that if any woman contributes some money from her own earnings for implementing such decisions, she may acquire relatively more privilege to exert her opinion in the concerned decision making process. Hence, an additional point is given if the respondent contributes some money from her own earnings for implementing such decisions.

Relative Freedom

1. Does she purchase small items for herself without permission of her family?
2. Can she speak with the outsiders freely?
3. Has she free access to any kind of phone?

According to relative importance of these questions, points have been assigned like: 3 points for question 1, 2 points for questions 2, and 1 point for question 3 in case of positive responses against the respective question.

Political and legal awareness

1. Does she know the name of the Panchayat Pradhan, *i.e.*, the head of the lowest tier of the local government?
2. Does she know the name of the Chief Minister of the State?
3. Does she know the primary procedure for opening of a bank account?
4. Is she aware about the objective of the Swarnajayanti Gram Swarajgar Yojna (SGSY), National Rural Employment Guarantee Act (NREGA) schemes or any other Govt. scheme?

1 point is given for every 'yes'.

Ability to Protest

1. Does she protest against physical or mental torture in her household?
2. Does she ever participate in any public protest?

1 point is given for every 'yes'.

d) Overall women empowerment: The score of each indicator has been calculated by the sum of all individual scores on specific questions relating to the respective indicator. For measurement of overall empowerment index, 'Totally Fuzzy Analysis' has been applied.

Fuzzy set as developed by Zadeh (1965) allows the treatment of multidimensional and vague concepts, such as, human well-being, standard of living, quality of life and poverty. Women empowerment is also a multidimensional and vague concept. Fuzzy set allows for multi-dimensions to be used in measuring the status of empowerment of a women respondent. For the construction of women empowerment indices via using fuzzy theory, membership function of a given set associated to each respondent and indicator need to be formulated. The value of membership function will provide a degree of 'effective achievement' in women empowerment relative to a given indicator. Thus, the women empowerment index constitutes the accumulation of degree of effective achievement in each dimension. There are several definitions for the membership function in the literature. The present study has followed the "Totally Fuzzy Analysis" (TFA) as defined originally by Cerioli and Zani (1990) for the formulation of membership function.

Assumed, $i \in [1, n]$ respondent, $j \in [1, M]$ are indicators of women empowerment. Considered $X_j = \{X_{j/i=1,2,3,\dots,m}\}$ vectors of indicators respectively of women empowerment.

The variable, X_j^i is the values taken by indicators j for the i th respondent. For the formulation of membership function in respect of degree of effective achievement for each indicator, let us assume that u_j^i provides the degrees of effective achievement of the i th respondent relative to the indicator j . When ranking values of j by increasing order (*i.e.*, higher the value of a given indicator, higher is the degree of effective achievement in women empowerment), function u_j^i is defined as follows:

$\mu_j^{(i)} =$	1	If, $X_j^{\max} \leq X_j^i$
	$X_j^i - X_j^{\min} / X_j^{\max} - X_j^{\min}$	If, $X_j^{\min} \leq X_j^i \leq X_j^{\max}$
	0	If, $X_j^i \leq X_j^{\min}$

where, X_j^{\min} and X_j^{\max} are the lower and upper bound of the system. It is to be noted that the functions are increasingly linearly between zero and one according to the degree of effective achievement. If it is closer to one, it is an indication of high degree of achievements in women empowerment and if it is closer to zero, it is an indication of low degree of achievement in women empowerment. The higher degree of achievement means higher degree of women empowerment and vice versa.

In order to obtain the overall women empowerment index for each respondent, different degrees of effective achievement obtained for each respondent and indicator need to be summarized. Following Cerioli and Zani (1990), composite index is defined by taking the weighted arithmetic mean of the membership functions, obtained from the respective indicators. Mathematically, it is represented as:

$$\mu_{F1}(i) = \sum_{j=1}^M w_j \mu_j(i) \dots\dots\dots (2)$$

where w_j is the weight attributed to the respective indicators (j), and where weight must be positive and its sum must be equal to one.

That is, $w_j \geq 0$ and $\sum_{j=1}^M w_j = 1 \dots\dots\dots (3)$

The weights of each indicator are calculated by the following way:

$$w_j = \log(1/\bar{\mu}_j) / \sum_{j=1}^M \log(1/\bar{\mu}_j) \dots\dots\dots (4)$$

Where, $\bar{\mu}_j = 1/N \sum_{j=1}^N \mu_j(i) \dots\dots\dots (5)$

The weight w_j is inverse functions of the mean effective achievement level relative to the indicator j . Since women empowerment does not vary in a linear way, the logarithmic curve function has been used into the weighting system. In this way a more important weight has been given to the indicators those are more widespread among the respondents. The value of women empowerment index lies between zero and one. Where one indicates absolutely high empowerment, zero indicates absolutely low empowerment.

4. Results

4.1 Findings relating to Profile of the Sample Respondents

The profile of the sample respondents is exhibited in Table 1. 120 women respondents (corresponding to one hundred twenty households) were interviewed comprising of 68 women having involved in self entrepreneurship (56.67 per cent) and 52 women who are not having a self entrepreneurship (43.33 per cent).

Age wise classification shows that 63 per cent of the women respondents belongs to the age

Table 1: Profile of the Respondents: age and education

Respondents	Number	Age (Years)			Educational Qualification			
		18-35	36-50	Above 50	Illiterate	Up to Matriculation	Post Matriculation to Graduate	Above Graduation
Paschim Medinipur	58	39	06	12	04	25	22	07
Purba Medinipur	62	37	15	11	01	17	37	07
Total	120	76	21	23	05	42	59	14

Note: Figures in parenthesis indicate the percentage share.

Sources: *Field Survey, 2015-2016.*

group of '18 to 35 years', 18 per cent falls in the age group of '36 to 50 years' and 19 per cent lies in the age group of 'above 50 years'. Qualification wise, the profile shows that the education group, 'post matriculation to graduation' (49 per cent) constitutes the major chunk of the sample, followed by the group, 'up to matriculation' (35 per cent).

Caste-wise classification indicates that 59 per cent of the respondents belongs to general caste, followed by SC (32 per cent) and ST (9 per cent). Economic status-wise classification reveals that 57 per cent of the total respondents of Paschim Medinipur belongs to the BPL category, whereas 43 per cent of the total respondents belongs to the same category in Purba Medinipur.

Table 2 presents the number of sample respondents in respect of their possession of any bank

Table 2: Profile of the Respondents: possession of bank account

Districts	No Account	A/c.s with the RRBs		A/c.s with the Nationalised Banks	
		Savings A/c.	Loan A/c.	Savings A/c.	Loan A/c.
Paschim Medinipur	07	33	21	18	10
Purba Medinipur	05	33	30	24	18
Total	12	66	51	42	28

Sources: Field Survey, 2015-2016

account. Analysis of the profile reveals that 90 per cent of the respondents have a savings bank account or a loan account, whereas 10 per cent of the total respondents are still out of formal coverage. Thus, 65.83 per cent of the respondents has access to bank credit whereas the rest does not have such access. Of them, who have access to bank credit, 42.5 per cent of the total respondents have access to such credit from the RRBs, whereas 23 per cent of the total respondents have access of such credit from the nationalized banks.

In order to assess the effect of entrepreneurship on women empowerment, bank credit has been taken into consideration because it is an important instrument to setup an enterprise. For this purpose, the sample has been split into two groups, the first group comprising of 79 respondent women who have availed bank credit either from any RRB or from any nationalized bank and the second group comprising of 41 respondent women who have not yet obtained any bank credit. This is expected to explore the possible relation between bank finance and women empowerment.

Table 3: Descriptive statistics (original scores)

Indicators of empowerment / Control variables	Mean	Max	Min	SD
Mobility	4.04	6	1	1.87
Economic security	2.60	4	0	1.25
Contribution to household expenditure	2.12	3	0	1.15
Participation in household decisions	5.40	10	0	2.87
Relative freedom	2.91	6	0	1.47
Political and legal awareness	2.15	4	0	1.29
Ability to protest	0.87	2	0	0.74
Overall Score	2.87	4.57	0.43	0.90
Age (Years)	35.71	67	19	12.85
Education (Year of schooling)	1.68	3	0	0.73
Participation in Awareness Programme (Number)	1.43	3	0	1.07
Bank Credit (Rs. in 10,000)	6.34	56.00	0	10.85

4.2 Findings relating to Women Empowerment and other variables

Table 3 represents the descriptive statistics of the original scores of the different variables included to study women empowerment and finally the score of overall empowerment itself. The table also presents the summary statistics of the other independent variables including the control variables.

Table 4: Distribution of women by nature of entrepreneurship

Different Sectors	Number of Women	Percentage
Agri- allied	14	20.6
Manufacturing	17	25.0
Retail Trade and Commerce	33	48.5
Transport	01	1.5
Other Services	03	4.4
Total	68	100.0

Source : Calculated by author

Notes:

1. Agri-allied activities include paddy processing, dairy, guttery, poultry, piggery, purchasing tractor, power tiller and hiring outside.
2. Manufacturing activities include zori works, shal leaf plates, bidi making, soft toys making, food processing like jam and jelly making, hosiery product, tailoring, owning almirah factory, etc.
3. Retail trade and commerce include stationery and confectionery, grocery, tea and pan stall, vegetables selling, owning clothes stores, etc.
4. Transport includes hiring out maruti van.
5. Others include owning beauty parlour, type and DTP centres.

4.3 Findings relating to nature of Entrepreneurship

The nature of entrepreneurship of women is presented in Table 4. Out of 120 women respondents 68 women have entrepreneurship. About 48.5 percent of women entrepreneurs is engaged in Retail Trade and Commerce while 25 percent engaged in Manufacturing and 20.6 percent in agri-allied activities.

4.4 Estimation of Women Empowerment: Multiple Regression Results:

Multiple linear regressions are applied then to estimate women empowerment. Separate regression equations have been run taking separate indicators of empowerment as the dependent variable. Accordingly, eight regression models, *i.e.*, seven models for seven indicators and additional one for overall score, have been run. Thus, eight models have been specified as mobility (MOB), economic security (EcoSec), contribution towards household expenses (CHHE), participation in household decisions (HHD), relative freedom (RF), political and legal awareness (LPA) and ability to protest within and outside the household (PR). In each

model, four independent variables, namely credit (CRDT), age (AGE), participation in awareness programme (PAP) and education level (EDU) and setup of self-enterprise (SE) have been used. The results of the eight regression equations, *i.e.*, eight regression models are

Table 5: Models of Regression

	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII	Model VIII
	Mob	EcoSec	CHHE	HHD	RF	LPA	PR	Overall
Constant	3.923***	1.492***	-.445	2.296**	-1.633***	.546	-.499*	.0472
CRDT	.0335***	.0345***	.0178**	.052**	.00516	.0358***	-.00386	.00397***
AGE	-.0614***	.0037	.0238***	.0187	.0962***	.00105	.0267***	.00584***
PAP	.0768	.302***	.179**	.765***	.058	.0833	-.0961	.0215*
EDU	1.009***	.013	.459***	-.0628	.638***	.671***	.245**	.101***
SE	.513*	.540**	1.014***	1.978***	-.146	.165	.285*	.116***
R ²	.640	.330	.571	.400	.617	.358	.211	.613
Adj. R ²	.624	.301	.553	.374	.601	.330	.177	.597
F	40.556***	11.245***	30.391***	15.194***	36.800***	12.730***	6.113***	36.187***

Source : Calculated by author presented in Table 7.

Women's involvement in self entrepreneurship is an important causal factor effecting all the components (dependent variables in the regression model) except relative freedom and legal and political awareness. Women's involvement in self entrepreneurship positively affects political and legal awareness, but the relationship is not statistically significant. Relative freedom is still restricted irrespective of their involvement in entrepreneurship.

Credit is also important causal factor along with women entrepreneurship of empowerment except the 'relative freedom' and 'ability to protest'. In fact, 'relative freedom' and 'ability to protest' depend much more upon 'age' and 'education level'. This finding is in conformity with the earlier research findings (Garikipati, 2008) in the context of Mahaboobnagar, another drought-prone backward district of India in the State of Andhra Pradesh. Education level, in fact, raises all these indicators of empowerment significantly except 'economic security' and 'participation in household decisions'. Entrepreneurship of women (*i.e.*, SE) able to increases their empowerment in respect of al factors except 'relative freedom' and 'political and legal awareness'. Thus, it can be concluded that credit and entrepreneurship induce financial aspect of empowerment whereas education level enhances the social aspect of empowerment. Here comes to the role of the awareness programmes too. Surprisingly, the awareness programmes have failed to induce the respondents in respect of their psychological upliftment and empowerment in the field of 'relative freedom', 'political and legal awareness', and 'ability to protest'.

5. Conclusion

The empowerment of women is a very important element of sustainable economic development of a country. A woman is said to be empowered, if her ability to define her goal, awareness of gender power structure, self esteem, self respect and self confidence is improved. In this respect woman entrepreneurship has a greater role. Women's participation in entrepreneurial activities may play a powerful role in their empowerment. Increase in women's income level through participation in entrepreneurial activities may leads to better economic security and they get a space in their household decision making process and thus in the society. The present study thus makes an attempt to find out the interrelation between women's entrepreneurship development and their empowerment with reference to two districts of West Bengal. Women empowerment index has been measured by seven specified indicators by applying totally fuzzy analysis in this study. The principal hypothesis of this study is that entrepreneurship enables women empowerment. In order to assess the effect of entrepreneurship on women empowerment, bank credit, education level, age of the respondent and participation in awareness programme have been taken into consideration because their possible impact on women empowerment. The study observes that self entrepreneurship has positive and significant effect on women's mobility, economic security, participation in household decisions, contribution in household expenses, ability to protest and thus in overall women empowerment, but it has not that kind of effect on women's relative freedom and political and legal awareness. The study directs towards the women's relative freedom and political and legal awareness being still confined irrespective of an effect of self entrepreneurship. They are confined too irrespective of availing bank credit. Education level is found to induce the social aspect of empowerment. But, awareness programmes, for which huge public money is spent, are found to be deficient in achieving the objective of psychological empowerment of women.

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