

Chapter 8

Summary and Conclusions

Until recently, the women have not been considered as an equal partner in the process of development. The traditional gender norms and culture that define the division of labor and responsibilities within the households and the society also prevented the women to be treated equally with men, although receiving equal treatment by them is their basic human right. The traditional development approach related the women's right with their 'welfare' and designed the development programmes accordingly. The women's right as free and active agents in the development process is hardly addressed in the 'welfare-oriented' approaches.

The women's disproportionate share in resources and responsibilities, which prevented them to be an active agent in the development process, also got reflected through the agendas drawn for the movements by the women. The shortcoming of the traditional development programme and the recognition of personhood of the women in the agendas of their movements motivated many scholars and the policy-makers to search for a new development paradigm that would integrate the women in the development process. In this context, the micro-credit programme was thought to be a practical and suitable instrument.

The micro-credit programme targets the women mainly because of their higher credit deficiency compared to the men, higher participation in the informal sector and a tendency to deal with small businesses. An important argument in favour of targeting the women under the micro-credit programme is that it offers better scope for social interaction by the women which enable them to access new information (attainment of efficiency). This, in turn, may change their aspirations and the world view. Another argument behind targeting the women is that it might help utilization of their untapped human resources by involving them in the development process (establishment of equity). Further, the anti-poverty perspective of development encouraged the micro-finance institutions to target the women as they over-represent the poorest of the poor. From the lenders' perspective, it is argued that the women are more likely to adopt conservative investment strategies and repay their loans on a regular basis. Moreover, aiming resources to the women instead of men, may deliver stronger development impacts as reflected through enhanced family consumption, better schooling and healthcare for the children and so on (Armendariz and Murdugh, 2005).

It is well-known that the government-sponsored micro-credit programme in India was initiated on 1st April, 1999 under the banner of the Swarnajayanti Gram Swarojgar Yojana (SGSY) although many of its provisions were initiated during 1980's. The main objectives of this programme were to remove the financial constraints of the poor, especially the women, so that they can start their own businesses and become self-employed. In addition to this, the Government also took other initiatives to build up capacity and skills of the women required to run the micro-enterprises and generate income. Therefore, the SGSY sought to ensure attainment of both gender justice (equity) and efficiency. As the SGSY offered the women to access various economic and social opportunities, it was expected to improve their quality of life by enhancing their freedom to make choices. It has also been observed that the women's active participation in the micro-credit programme would empower them by raising their financial contribution to the family, which, in turn, would change the power relations within the households and the society. Therefore, the term 'empowerment' offers a framework that facilitates the struggle for social justice and the women's equality through a transformation of economic, social and political structures.

However, the definition of empowerment varies in accordance with the perspective adopted to define it. For instance, in some definitions of empowerment, emphasis has been placed on people's development through a rebalancing of the power structure within the society by making the state's action more accountable (World Bank, 2001; Friedmann, 1992, cited in Oakley, 2001). These definitions are silent on the household's power imbalance, especially between the family members. The issue of power relation among members within the households has been incorporated in some definitions of empowerment by considering dimensions such as control over resources, ability to make choices, agency, well-being and so on (Goetz and Sengupta, 1996; Kabeer, 1999; Sen, 1985; Rahman, 1986). Thus, these definitions entail a process of change that seeks to attain improvement in status of the women through rebalancing of the power relations within the family and the society. In this study, we conceptualized the empowerment as one's expansion of agency as reflected through the freedom to make choices of what she/he values and which ensure greater control over their own lives and to bring the desired outcomes.

The fact that delivering credit to the women would empower them (as they would be in a position to exert autonomous control over the resources) has been justified both from the empirical as well as theoretical standpoints. Empirically, it has been shown that access to resources in the hands of women has greater impacts on own and family welfare (Pitt and Khandker, 1998; Hashemi *et. al*, 1996; Rahman, 1986, cited in Kabeer, 1999).

The theoretical foundation of above approach may be traced in both the unitary and the bargaining models of households. The unitary model posits that the access to resources like credit by the women is likely to enhance overall resource availability to the households and enable them to make various strategic life choices which would otherwise be prevented due to credit constraints (Armendariz and Murdugh, 2005). On the other hand, the bargaining model hypothesizes that the members of a household may have a greater share of resources by improving their bargaining power which may be achieved through better access to resources, income, inherited assets, exogenous policies like employment laws, social norms and perceptions etc. (Adam *et al.*, 2003, Agarwal, 1994). However, both these models view that the women's access to resources is most likely to enhance their own and/or families' welfare.

Nevertheless, it needs to be admitted that the available evidences regarding observance of above impacts of micro-finance has not been universal. In one hand, there are studies to show that the women's participation in the micro-credit programme ensured their access to resources which led to attainment of higher household income, higher consumption level, greater autonomy in matters of household decision making, increased asset holding in their names, enhanced purchasing power, higher level of physical mobility, better legal and political awareness, better healthcare and schooling of children and so on (Hashemi *et al.*, 1996; Pitt and Khandker, 1998; Rahman, 1986). On the other hand, some studies have highlighted the negative effects of the women's participation in such a programme. In particular, it has been found that many women transferred their loans, in part or whole, to their spouses (Goetz and Sengupta, 1996; White, 1991; Kabeer, 2001; Rahman, 1986; Montgomery, 1996). Moreover, the women are compelled to invest capital in traditional activities by accepting the gender norms that delineate the division of labor and responsibilities between the men and women in the society.

It appears from above discussion that it is difficult to form any conclusive opinion as regards the relation between the women's participation in the micro-credit programme and its empowering effects as may be revealed by their enhanced freedom to make choices, ability to make financial contribution to the families and to achieve valuable functionings. The actual result one would obtain regarding the empowerment effects of the micro-credit programme depends largely on the dimensions chosen to measure empowerment. It is indeed a challenging task to choose appropriate dimensions that would help to assess the empowerment benefits of the micro-credit programme. Given the dimension-specific nature of the empowerment result, a better understanding about the relationship between

participation in the micro-credit programme and its empowering effects can be made only when the issue is analysed with the help of micro data.

As against above background, this study aimed to measure the effects of participation in the micro-credit programme on the empowerment of women with special reference to West Bengal. Specifically our objectives have been: (a) To understand the physical and financial outreach (progress) of the micro-credit programme (SGSY) in India and her major states (including West Bengal) since its inception in 1999; (b) To examine the women's status in terms 'asset' and 'agency' indicators; (c) To examine the socio-economic background of the women participants in the micro-credit programme, and identifying the factors responsible for their participation in such a programme; (d) To understand the impact of the micro-credit on participating households' incomes; (e) To assess the role of micro-credit in enhancing the women's agency as understood from their levels of autonomy in matters like decision making, physical mobility, use of money, children's education, health care, and household savings. In this context, we also seek to examine the effect of duration of membership and training of the participating women on their agency; and (f) To understand the effect of the women's agency in the domains of education and health of the children.

This study is based on both the secondary and primary data. In our analysis of secondary data, we focused on the progress of the SGSY programme in the states with special reference to the women's participation in the SGSY programme. To assess physical and financial progress of the SGSY, we used data collected from various issues of the Annual Reports, Ministry of Rural Development, Government of India and its related sites. An assessment about the poor people's participation in the SGSY was attempted by using the data on Poverty Estimates for 2009-10 as available from the website of the Planning Commission, Government of India. We considered 20 major states of India in your discussion based on the secondary data and it covered the period of 1999-2000 to 2010-11. Further, to understand the women's status in terms various asset and agency indicators in the states, we used data available from the reports of the National Family and Health Survey 3 (NFHS-3) for the year 2005-06, which are published by the International Institute for Population Studies, Mumbai.

For collection of primary data, we followed a multi-stage sampling procedure. In the first stage, we selected the undivided Midnapore district. This district was bifurcated as East Midnapore and West Midnapore districts on 1st January, 2002. Both these districts have high concentration of total SHGs as well as women SHGs. Selection of such districts enabled us to understand, *inter alia*, the impact of the micro-credit programme on the households' access

to credit, generation of income and also on the empowerment of the women. In the second stage, we selected six blocks from the sample districts from the lists of 'high', 'medium' and 'low' performing blocks in respect of the SGSY programme. The performance status of the blocks was measured by the percentage of the SHGs in the block that received the project loan. On this basis, Daspur-II and Contai III blocks appeared to be high performing blocks whereas Debra and Nandigram II were the medium performing blocks. Midnapore Sadar and Kolaghat blocks belonged to the category of low performing blocks. In the next stage, applying the same principle, three Gram Panchayats (GPs) (the lower level administrative units in the three-tier panchayat system) was chosen from each block. Thus, we selected a total of 18 GPs. These are Kusumpur, Kumirda, Kanaidighi, Boyel-I, Khodambari-II, Amdabad-II, Gopalnagar, Bhogpur, Kola-II, Kankabati, Panchkhuri-I, Pathra, Khanamohan, Jalimanda, Swarnpur Lowada, Chaipat, Nischintapur, and Khukhudaha. At the final stage of sampling, we selected the respondents for the 'treatment' and 'comparison or control' groups from these gram panchayats from whom data were collected to examine the issue of impact of the SGSY or micro-credit programme on the empowerment of the women. The respondents for the treatment group were selected on the basis of their membership duration in the SGSY programme. Thus, some respondents were selected from the group of 'old' clients (whose membership duration is more than five years) and some from the 'new' clients (whose membership duration is less than five years) at the time of survey. The sizes of old and new clients and the size of the comparison or control group members were not fixed because of non-availability of sufficient number of members in these categories. Our final sample constituted of a total of 258 members representing the 'treatment group' and 197 members for the 'control group'. A structured questionnaire was canvassed to collect information from the sampled respondents. The questionnaire was designed specifically to collect information that would throw light on issues such as the households' as well as the women's access to credit from the SHG and non-SHG sources, effect of SHG credit on income, the women's agency in different domains and also the role of women's agency on their children's well-being.

The field survey was conducted during the period of January to June 2010 and the field information collected pertains to the period of July 2009 to June 2010.

At the stage of data analysis, we started with tabular presentation of data and subsequently applied suitable statistical/econometric tools wherever necessary in order to rigorously test our hypotheses. In our analysis of secondary data, we computed values of simple correlation coefficients to understand the relationship between the poverty status of

the states and the progress of SHGs. In this part our study, we also computed the growth rates of funds to assess the financial progress of the SGSY during our study period. Further, we computed the state-level indices for some assets and agency indicators to obtain a comparative view of the women's status in the states.

One important econometric methodology applied in course of analysis of primary data is the logit regression that helped to identify some important determinants of the women's participation in the micro-credit programme in our study areas. Further, to understand the level of the women's agency, we computed the 'Relative Autonomy Index (RAI)' drawing upon the 'Self-Determination Theory (SDT)'. According to the SDT, a person is autonomous when her/his behavior is experienced as willingly enacted and when she/he fully endorses the actions in which she/he is engaged and/or the values expressed by her/him. According to this approach, therefore, people are most autonomous when they engage in actions in accordance with their authentic interests or integrated values and desires (Ryan and Deci, 1985, 2000; Ryan, 1995). Under the SDT, the RAI in each domain is constructed by considering different external and internal regulations which are present in the individuals' actions though in varying degrees. To determine the autonomy, we classified each regulation into four categories (not at all true, not very true, somewhat true and completely true). The respondents were asked to rate each of four possible regulations by using a four point scale. The RAI has been computed by aggregating the four responses into a weighted index.

We also applied the technique of the 'Propensity Score Matching' (PSM) following Rosenbaum and Rubin (1983, 1985), Dehejia and Wahba (1998) and Heckman *et al.* (1997, 1998) to address the problem of counterfactual that arises due to differences in observables between the members of the treatment and the control groups considered to assess the impact of the micro-credit programme. Following the PSM method, propensity score was calculated for each individual woman with the help of the regressors used in the logit model which represent pre-participation conditions. Each probability value represents the probability that the corresponding individual woman would be a member of the treatment group. Here the region of 'common support' is determined by ranking all observations according to their propensity scores. Observations, whose probabilities fell within the common support region, have been considered to measure the 'Average Treatment Effect of the Treated' (ATT). Here the ATT has been measured by following the nearest neighbor, the kernel, the radius and the stratification matching methods.

In the following, we highlight some important findings emerging from our study.

❖ Findings Based on Analysis of Secondary Data

Physical and Financial Progress of SGSY

The Government of India has made elaborate arrangements for effective implementation of the micro-credit programme in almost all the states. These arrangements include provision of credit, subsidy and revolving fund, creation of infrastructural facilities and providing training to the beneficiaries. These arrangements are expected to encourage the women to join the programme. We observed that till 31st March, 2011, 39.25 lakh SHGs have been formed under the SGSY in India, out of which 74 percent are controlled by the women. It is also encouraging to see that more than 50 percent of the SHGs are controlled by the women in 16 out of 20 major states considered by us. We assessed the acceptability of this programme by considering data on number of rural women per SHG. In this context, our finding is that, among all states, Andhra Pradesh, Assam, Tamil Nadu, Orissa and West Bengal have been more successful in mobilizing a greater proportion of the women under the SHGs.

Our analysis of the available information about the maturity of the SHGs (measured in terms incidences of Grade I, Grade II and project loan receiving SHGs) showed that about 67 per cent of the SHGs received cash credit from the banks while only one-third of the them have been fortunate to obtain project loan to start their self-employment ventures. The concentration of matured SHGs was found to be high in Andhra Pradesh, Haryana and Himachal Pradesh. Thus, it is clear that in vast majority of the states, the SHGs are yet to become matured and, hence, the aim to involve the women in income-earning activities could not be materialized unless the SHGs become matured. In this context, some recent studies highlighted the factors like inability of the groups to fulfill the criteria to be graded high up, reluctance on the part of the bankers to undertake grading exercises, inadequate availability of funds for the matured SHGs etc. (Thekkekara, 2008; Ghate, 2008; NCEAR, 2007) limiting the number of matured groups.

However, the SHG programme as a whole has not been totally unacceptable to the poor people that include the women. This becomes clear from the fact that the concentrations of both total SHGs as well as women SHGs have been higher in the states that have higher concentration of the poor people. This conclusion gets reinforced from the fact that the rank correlation between the states' share in credit given under the SHGs and the incidence of rural poverty is positive and statistically significant, both for 1999-2000 and 2009-2010.

However, it needs mention here that per capita disbursement of credit seems to be higher for the states that have lower concentration of the poor.

As regards financial outreach of the SGSY programme, we observed a general improvement in this regard in India, which is revealed by the growth rates of both available and utilized funds under this programme for the period of 1999-2000 to 2010-11. Further analysis of various components of utilized funds provided us some useful insights about the success of the SGSY programme. The utilized fund comprised of the revolving fund (R.F.), subsidy, infrastructure funding, training expenses etc. We observed general improvement in expenditure under all these heads over the period 1999-2000 to 2010-11. However, among these components, subsidy turned out to be the most important under the SGSY in India with the share of expenses for infrastructure development to total expenditure coming next.

When we considered the trends of total credit, total subsidy and per capita investment under the SGSY programme, a clear upward trend was visible for each of these during the period 1999-2000 to 2010-11. This may be interpreted as an evidence of better accessibility of financial benefits by the participants of the SGSY or micro-credit programme. However, it also needs mention that the growth rate of disbursed credit has been higher compared to the growth rate of per capita investment. This might have happened due to admission of new members under the SGSY programme rather than improving credit accessibility for the old members. Moreover, the average credit-subsidy ratio is found to be 2.26 for the period 1999-2000 to 2010-11, which is lower than the targeted ratio of 3.0. This low credit-subsidy ratio might perhaps be due to the intention of the group members to receive more subsidy rather than credit. The propensity among the group members to receive less credit may also be explained in terms of the weaker social bondage (social capital) among the group members that limited their demand for credit under the joint liability system. In this context, we may also mention that some other studies held reluctance on the part of the bank officials to extend credit to the programme beneficiaries as responsible which they do to maintain the sustainability of the financial institutions rather than fulfilling their social obligations.

Status of Women in India

To understand the women's status in India, we constructed five 'asset' indices (which are literacy index, employment index, women's relative income index, exposure to media index and access to credit index) and five 'agency' indices (which are household decision making index, physical mobility index, control over income index, gender role attitude index

and domestic violence index) using the state-level secondary data. Further, a composite 'asset' index and a composite 'agency' index have been constructed using the above-mentioned indices. Our main objective here has been to see the inter-state disparity in the women's status and its relationship with the incidence of poverty in the states. On the basis of this exercise, it may be concluded that a large number of women in different states have suffered from both the resource and agency constraints and there is presence of inter-state disparity with regard to the values of the indices. However, the level of disparity has been greater with regard to the 'asset' indicators as compared to the 'agency' indicators. At present, there are seven states in India, where the women's status in terms of composite 'asset' index is very high (value of the index being greater than 0.5). These states are Tamil Nadu, Andhra Pradesh, Kerala, Maharashtra, Karnataka, Uttaranchal and Gujarat, in descending order of the women's status in terms of value of asset index. The states that reported very low status (value of the index being less than 0.3) of women in terms of 'asset' index are Bihar, Jharkhand, Uttar Pradesh, Rajasthan, Madhya Pradesh, Haryana and West Bengal. On the basis of the values of the composite 'agency' index, we can say that the women's agency was relatively high (value of the composite index being more than 0.5) in eight states, which are Himachal Pradesh, Gujarat, Jharkhand, Jammu and Kashmir, Maharashtra, Assam, Karnataka and Haryana. Two states, namely, Rajasthan and Madhya Pradesh, reported very low status in this regard. It is also found that the women from relatively poorer states (measured in terms of concentration of BPL population) have weaker resource base and low ability to exert their agency. The same result has been obtained when individual agency indices and asset indices, including the micro-credit index, are considered.

❖ Findings Based on Analysis of Primary Data

Determinants of Women's Participation in Micro-credit Programme

In the existing literature on the empowering effect of the micro-credit programme, it is stated that the realization of promised benefits of participation in the micro-credit programme by the participants depend largely on their own characteristics as well as the attitudes of other stakeholders involved in this programme. The interdependence among different stakeholders of the micro-credit programme brings forth a lot of complexities in the analysis of the benefits received from participation in the micro-credit programme, accountability of the stakeholders and their responsiveness. The primary data collected from

455 women covering both the treatment and control groups from six selected blocks in erstwhile Midnapore district of West Bengal as also from the authorities of our selected gram panchayats and the resource persons helped us to comprehend this complex relation.

The SGSY, which is a government sponsored micro-credit programme in India, offered the women an opportunity to get involved in income-earning activities by creating suitable environment for participation by them. Many past scholars have argued that some person specific characteristics as also their households' characteristics affect their decision to participate in the micro-credit programme. To analyze the factors affecting the women's participation in the micro-credit programme in our study areas, we estimated some logit regression models where the dependent variable assumed value '1' if the respondent participated in the micro-credit programme and '0' if she didn't. The socio-economic characteristics of the respondents and their family, namely, caste, age, education of the respondents, marital status, amount of agricultural land possessed by the respondents' households, poverty status of the households, and value of non-land assets are used as explanatory variables in this analysis. In addition to these socio-economic factors, two additional variables, namely presence of children less than 5 year old and education of the head of the family, were also considered. Our main finding from the logit regression exercise is that the women who are aged, educated, married and belonged to general caste category, BPL category, and have large families are more likely to participate in the micro-credit programme. Moreover, the women from the households that have better educated head and possessed higher amount of agricultural land and non-land asset are more likely to participate in the micro-credit programme. The presence of minor children lowers the probability of the women's participation in the micro-credit programme. Except caste, amount of agricultural land and family size, all the factors turned out to be statistically significant. So our broad conclusion is that the probability of participation in the micro-credit programme in our study areas increases if the women are better educated, married, and aged, which is corroborated by the studies such as Hashemi *et al.* (1996) and Sharma (2008) although Puroshotham's (2009) study reported an opposite finding as regards the impact of education on the probability of participation in such a programme. A similar result regarding the higher participation in the micro-credit programme by the women from better off families was also reported by Coleman (2002) and Sharma (2008) in their studies on Thailand and Himachal Pradesh (India) respectively.

Women's Involvement in Various SHG Activities

We extended our analysis to examine the women participants' pro-active form of participation in the micro-credit programme in our survey areas. An examination of the sampled women's participation in various SHG activities offered some insights in this regard. Some indicators of their pro-active form of participation are their involvement in financial transactions, participation in SHG meetings at the GP, participation in training programmes, involvement in book-keeping works, participation in other developmental works etc. We found that a majority of the SHG participants (78 percent) took part in financial transactions, while the attendance in SHG meetings by them has been rather moderate (40 percent only). In both the activities, the attendance rate is slightly higher among the members who also held the post of office-bearers. With regard to participation in skill development training programmes, the situation has been highly unsatisfactory. The participation rate here is as low as 19 percent though the corresponding figure for basic orientation programme is 45 percent. Moreover, only 39 percent of the women took part in book-keeping work. Our investigation in participation of the SHG members in other developmental works revealed that about 32 percent of them took part in preparation of the mid-day meal and 14 percent in supervisory works of the NREGS. Overall, it can be said that the participants' involvement in different activities in our study areas has been at best moderate, except the work relating to financial transactions. This might be due to their lack of awareness about the benefits that might accrue from these projects.

Why the rate of participation has been low in training programme and moderate in other SHG activities in our study areas is an issue that has been probed further. Our inquiry about this aspect revealed that only eight out of 18 GPs selected for our study convened the SHG meetings and organized training programmes. Apart from this administrative failure to organize the meetings, the women's lack of awareness and necessary cooperation from the family, high distance of the GP, burden of family work, political bias etc. also contributed to unsatisfactory conduct of the SHG activities.

Access to Credit and Income

To understand the extent of sample households' dependence on the SGSY credit, we collected detailed information on their loans drawn from various sources during the five year period preceding our survey. There are two broad sources of credit, namely, the SHG credit

and the non-SHG credit. While the SHG credit is further divided into SHG bank credit and SHG inter-group credit, the non-SHG credit is divided into non-SHG institutional loan and non-SHG non-institutional loan.

A glance into the percentage of households that received credit from different sources shows that though an overwhelming majority of the households of the member-participants received the SHG bank loan and SHG internal group loan (nearly 74 percent and 63 percent respectively), but a sizable proportion of them also depended on the informal sources of credit (the percentages of such households is 49 percent). However, this percentage goes up in the case of the non-participating households (73 percent). The percentage of households of the member-participants depending on the non-SHG institutional loan is found to be three times higher than that of the households of the members of the control group. Thus, it is thus clear that although a greater proportion of the households of the treatment group members obtained formal credit compared to the members from the control group, the dependence on the informal credit continued to be quite high for the former. The main reason behind such a picture is that as a good proportion of the SHG groups failed to get elevated to the higher 'grade', they did not succeed in obtaining the whole of the SHG credit due to them. Thus, the average size of the SHG loan turned out to be quite low in our study areas.

We examined the types of investments of credit obtained by the participants under the SGSY programme. In this context, our finding is that out of a total of 189 women who received the SHG loans, nearly one-half of them (52 percent) invested the loan money in their own businesses or in joint businesses with other members of the group or jointly with other family members. On the other hand, nearly 25 percent of the women transferred their loan money to businesses run by their husbands or other family members. We also observed a general tendency among the women investors in our study areas to invest their loan amounts in traditional activities like agriculture, poultry farming, goatery etc. (54 percent of women did so). Our finding here is similar to some other studies conducted in Bangladesh (Rahman, 1986; White, 1991; Goetz and Sengupta, 1996). The women's limited control over the usage of loans as well as their tendency to invest borrowed funds in traditional and low-earning activities have serious implications for income generation through participation in the SHG programme.

As regards contribution of the SHG income, we observed that nearly 54 percent of the participant-women who invested their loans in own or joint businesses, generated negligible amount of income (less than Rs. 500 per month). It is also found that the contribution of the SHG income to total household income has been barely 10 percent for 45 percent of them.

However, in the upper spectrum, we found 20 per cent of the SHG loan investors whose contribution to the total family income exceeded 50 percent. On the basis of these observations, it may be concluded that the SHG loans in our study areas have at best contributed marginally to the family incomes of the participants of the SHG programme.

Effect of Participation on Women's Agency

To measure the empowering effects of the women's participation in the micro-credit programme, we collected data covering seven different domains, namely, savings, use of money, physical mobility, household decision making, health, children's education and contribution to family income. The first six domains reflect the agency status of the women whereas their contribution to family income represents the ability status, which also determines their agency. Further, to examine the level of agency of the women of both the treatment and the control groups, we classified them into three categories based on the values of their 'Relative Autonomy Indices' (RAI) considering all domains. Our finding here is that the autonomy status when considered for different domains varied widely among the women of both the treatment and the control groups. By and large, the majority of the members of the control group belonged to the category representing 'low level of autonomy' while majority of the members of the treatment group belonged to the category representing 'high level of autonomy'. This finding is found to be consistent with the magnitude of the 'average treatment effects of the treated' (ATTs) in all domains irrespective of the matching method considered. Further, the ATTs of participation in the micro-credit programme turned out to be positive and statistically significant in almost all domains except in health domain. The maximum values of the ATTs have been recorded in the 'physical mobility domain' under all matching methods as compared to that of other domains considered by us. It is also found that, in our study areas, the financial contribution to the families by the members of the treatment group has been expectedly higher than the contributions of the members from the control group. This, however, is not to deny the fact that absolute contribution to family support by the participants of the SHG programme has been quite low for the reasons mentioned above.

Effect of Women's Financial Contribution on Their Agency

We observed that the women's capacity to generate income through participation in the SHGs has not been impressive and their degree of involvement in various SHG activities has been at best moderate. In this context, it is imperative to examine to what extent their participation in the SHG programme transformed their agency. Here we measured the effects of the women's financial contribution for family support on their agency in several domains by applying the propensity score matching (PSM) method. Our results showed that the ATTs out of the women's financial contribution are positive but insignificant in almost in all domains under all matching methods except in savings domain where the ATTs under 'kernel' and 'stratification' matching methods turned out to be statistically significant. These findings do not appear to be unusual in a situation where the women's capacity to generate income through the SHGs has been limited. Had the programme enabled the women to generate sufficient income through participation in the SHGs, one would have observed a result of strong empowering effect of the micro-credit or SHG programme.

Effect of Participation Duration on Women's Agency

What other things may improve the agency effects of the micro-credit programme in our study areas have also been looked into. In this respect, we found that duration of participation in the SHG programme is associated with opportunities like training, skill improvement etc. In this study, we used participation duration as a proxy for the women's higher access to programme benefits. To understand the effect of participation duration, we divided the members of the treatment group into two sub-groups consisting of the 'old' and 'new' members. To measure the ATTs following long-term exposure to the credit programme on autonomy of the women in different domains, the outcomes (i.e., RAIs) of old members were matched with the outcomes (RAIs) of the members of the control group. On the other hand, outcomes (RAIs) of the new members were matched with the outcomes (RAIs) of the members of the control group to measure the effects of short-term exposure to the credit programme. Our main finding from this exercise is that the old members enjoyed more freedom as compared to the new members in almost all the domains except in health domain. On this basis, we may conclude that it is not the women's financial contribution *per se* but their long-term exposure to the credit programme itself that produced the empowering effect, if any, in our study areas. This conclusion is different from the conclusion of a study in

Bangladesh where the women's financial contribution had greater empowering effect compared to the duration of participation (see Hashesmi *et al.*, 1996).

Effect of Training on Women's Agency

To understand the effect of access to training opportunity on the women's agency, we compared categories of participants who received such training and who didn't. The ATTs of training, measured by applying the PSM technique, are found to be positive in almost in all the domains and under all matching methods but the differences are statistically significant in three domains only, which are money use, physical mobility and education. On the whole, it may be said that access to training, especially the one for skill development, is likely to enhance their awareness and confidence levels which, in turn, contribute to enhance their agency in some domains.

Women's Agency and Functioning Achievements

Our field data also enabled us to examine the effect of empowerment on their function achievements. We specifically considered two functioning achievements, namely, schooling of children and medical treatment received by the ailing children. Here two separate logit regression models have been estimated corresponding to two functioning achievements. In the first model, the dependent variable measured the schooling of the children and it assumed value '1' for students belonging to the age group of 5-15 years who are enrolled in schools and '0' otherwise. The explanatory variables chosen are sex of the children, caste, education of the respondents, monthly per capita income, participation status of the respondents, respondents' values of RAI in education domain, presence of in-laws and a region dummy. Our estimated logit regression model revealed that the probability of children to continue their studies is high if they are girls, if their mothers participated in the micro-credit programme and enjoyed more autonomy to take decisions, if the monthly per capita incomes of the households are high, and if they belonged to the eastern part of our study areas (which is East Midnapore district). On the other hand, such a probability goes down if there are in-laws in the families of the respondents. All these variables, except caste, monthly per capita income and women's financial contribution to family support, turned out to be statistically significant.

In the second model, the dependent variable is assigned value '1' for the children of less than 15 years who received some medical treatment and '0' for those who did not receive the same. We considered all the explanatory variables mentioned previously except caste and women's financial contribution to family support. Our estimation results showed that the probability to receive medical treatment by the ailing children increases when the children are males, their mothers are educated, participated in the micro-credit programme, enjoyed freedom to take decisions with regard to children's health, belonged to families with higher monthly per capita incomes, the in-laws are present, and they belonged to the East Midnapore district. However, among all these variables, we have statistical significance for the estimated coefficients of two variables only, which are sex and women's autonomy in health domain. On the basis of above results, we may conclude that the women's greater freedom to make decisions in education and health domains may in general be helpful to attain some positive results with regard to their children's' well-being (functionings) but that does not necessary ensure establishment of gender equality in this regard.

❖ Policy implications

On the basis of above findings, we may suggest the following policies.

- (1) From our analysis of state-level secondary data, we observed the predominance of the women SHGs in terms of participation in the micro-credit programme, though an insignificant proportion of them have been successful to receive the Grade II status and project loans. Thus, steps should be taken to complete the grading process for the SHGs which will enable them to establish better access to the institutional credit. In this respect, there is a need to build awareness among the group members through organization of camps and door to door campaign and also involving women in other developmental works. It is also necessary to allot funds to the implementing agents (i.e., the resource persons) for nurturing the groups formed under the SGSY.
- (2) As the women's asset and agency endowments are positively related to their economic status, steps should be contemplated to improve the women's economic status. This may be possible by improving their skills by organising skill development programmes on a regular and sustained basis, and strengthening the market infrastructure so that they can start their own businesses. With such efforts, the women are likely to improve their bargaining position and the power to take decisions independently.

- (3) An important implication of our study on determinants of participation in the SHG programme is that the probability of participation in such a programme improves, among other things, with improvement in educational level as well as non-land asset base of the women. So efforts should be made to improve the education and skill levels of the females (through adoption of programmes more in the line of adult literacy campaign) and their families should be provided with financial benefits to improve their asset ownership position. With such efforts the poor women who have so far remained outside the SHG movement are likely to join it.
- (4) Raising the level of awareness of the participants with regard to various works of the SHGs (e.g., attending the meetings organised by the GPs, attending the training programmes, transaction with banks, book-keeping and so on) is necessary. To motivate them in these works, higher amount credit may be disbursed to those groups whose members regularly attended the SHG meetings and received training. Organization of the SHG meeting in lean season and at the sub-cluster level could also motivate the women to attend the meetings. It is also important that the district and block level authorities undertake frequent visits to make the GP authorities more responsive to their duties, especially in the matter of organization of meetings. Further, the curricula for the trainings should be so devised that they help to develop the activities relevant to the local area. In this context, a sustained campaign like 'training for all' and involving the NGOs to impart trainings might be beneficial.
- (5) As more than one-half of the households participating in the micro-credit programme continue to depend on the informal sources of credit, it is necessary to increase the pace of grading of the SHGs so that they can avail of higher quantity of formal loan. Steps should also be taken to simplify the loan disbursement procedure and timely release of successive installments of credit to the groups who are regular in the matter of repayment of the loan. Moreover, the financial institutions may consider implementation of the 'micro-bank policy' at the village/GP level to offer the loans quickly.
- (6) An important problem faced by the SHGs is that very few of them had land under group ownership, which prevented them to build 'activity clusters' as a result of which they failed to make joint investment. This also closed the opportunity to access funds available from the Government for infrastructure development and purchase of machinery. Under the circumstance, it is necessary to explore possibility of allotting

some vested lands to the micro-credit groups so that they can form the 'activity clusters' and avail of funds they are entitled to.

- (7) If possible, the micro-credit groups may be encouraged to specialize in activities relevant to their local areas. This might help to mobilize the funds available for infrastructure development (building cold storage, go downs, etc.). This, in turn, would help to improve storage and marketing of the products of the SHGs. The responsibility for building of infrastructure and its maintenance might be looked after jointly by the members of the SHGs and the GP functionaries.