



Short Communication

†Role of bank credit on performance of women self-help groups in marine fisheries sector in Orissa

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Abstract

A list of 228 women self-help groups (WSHGs) formed near sea beach, Puri, Orissa undertaking various activities in marine fisheries sector with bank linkage was collected from PENCODE, a non-governmental organization during 2002-03 to 2007-08. The WSHGs were earning their livelihood from making dry fish, preparing fish pickle and engaging in fish trade. A total bank loan of Rs. 82, 38,000 was sanctioned to the groups during 2002-03 to 2007-08. Of this, Rs. 1, 77,000 was availed during 2002-03 and subsequently Rs. 21, 85,000 during 2007-08 registering 12.3 times increase over six years. It was observed that the number of WSHGs linked with different banks increased about 8 times during this period and the overall loan repayment until November, 2008 was more than 50%. The trend in loan sanction and repayment indicates generation of self employment and increase in monthly income of group members. Out of 228 WSHGs, three repaid more than 90% of bank loan. Members of these three WSHGs were interviewed and their monthly per capita consumption expenditure (MPCE) for 12 months from August 08 to July 09 was analyzed. The MPCE of members of WSHGs having bank linkage is significantly higher (mean = Rs. 737) than that of the members of WSHGs without bank linkage (mean = Rs. 499). Through multiple regression analysis, it is found that infrastructure availability has the highest influence on monthly income.

Keywords: Bank credit, women self-help groups, monthly per capita expenditure

Introduction

The poorer the family, the more it depends on the earnings of a woman for survival (World Bank, 1995a). But woman's income depends on her access to employment. Given the inequalities in access to employment, self-employment holds the key for women's income. Self-employment, besides giving higher returns to women, also provides freedom to integrate cash-earning activities into their regular chores (World Bank, 1995b). Micro-credit is a critical input for self-employment. In recent years, through the efforts of non-governmental organizations, the marine wing of the Fisheries Department of Orissa and other departments, many women self-help groups (WSHGs) and cooperatives have been formed and training has been provided to members in the field

of fish processing and marketing. However, only a few WSHGs and cooperatives in fishing communities have been linked to financial institutions (Tietze *et al*, 2007).

PENCODE, a non-governmental organization in Puri is voluntarily working for socio-economic development of fishermen communities in Penthakata village, near Puri sea beach by organizing fisherwomen into several groups and facilitating them institutional finance made available through bank linkage. The group members are able to raise their monthly income by availing bank loan in various group activities such as fish trade, dry fish business and making fish pickle. These activities have opened up new vistas of employment generation for women self-help groups. A study was carried out

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to understand the role of bank credit and to estimate the factors contributing to monthly income of the WSHGs in marine fisheries sector in Orissa.

Material and Methods

Data on 228 WSHGs, each consisting of 10 to 20 members undertaking various activities in marine fisheries sector near sea beach Puri were collected in November 2008 from PENCODE. The data gathered included bank linkages, annual loan sanctioned, group savings and loan repaid for the period from 2002-03 to 2007-08. A total of 33 members of three WSHGs, namely, Rahelu MSS, Maa Jhadeswari MS and Runa Samiti, who repaid more than 90% of bank loan were interviewed and primary data were collected on their monthly income and monthly per capita expenditure (MPCE) for food, clothing, medical treatment, education, fuel, light, durable goods and miscellaneous expenses during the period August 08 - July 09. Eighty four members of seven WSHGs of the neighboring fishermen communities without bank linkage were also interviewed and information on their monthly income and MPCE from August 08 to July 09 were collected. Information on monthly income, loan sanctioned, training acquired, infrastructure developed and marketing facilities were collected from 315 members of 31 WSHGs, who repaid more than 80% of bank loan until November, 2008. The members were given various training such as basic orientation for one day, accounts and book keeping for two or three days and technical training for five days. Accordingly, the scores assigned to them were 1, 2, 3 and 5 respectively. Scores assigned for infrastructure development were: no infrastructure -1, godown-2, pucca platform-3 and cooking facilities-4. Similarly, scores assigned for marketing were: door step-1, local market-2, inside the state-3 and outside the state-4. SPSS was used for multiple regression analysis.

Results and Discussion

Loan sanctioned to WSHGs: Each group opened a savings bank account in a nearby bank. The group members deposited monthly savings in their individual account and the group savings collectively together was deposited in the group account. After

six months of functioning, the group became eligible for receiving loan from the bank. The bank, after gradation of the group, sanctioned loan depending on group savings and financial requirement. Groups were graded based on their homogeneity and cohesiveness, regularity in meeting, record keeping, loan repayment, etc. The bank provided loan in a ratio (savings : credit) ranging from 1:1 to 1:4 depending on the group's corpus fund. It is observed that the loan sanctioned by the banks during 2007-08 (Rs. 21,85,000) showed an increase of 12.3 times over the year 2002-03 (Rs. 1,77,000) (Table 1). The number of WSHGs linked with different banks increased by about 8 times from 2002-03 to 2007-08.

Table 1. Bank loan sanctioned to WSHGs during 2002-03 to 2007-08

| Year | Loan sanctioned (Rs. in lakh) | No. of WSHGs | Average loan per group (Rs.) |
|---------|-------------------------------|--------------|------------------------------|
| 2002-03 | 1.77 | 8 | 22,125 |
| 2003-04 | 7.63 | 25 | 30,520 |
| 2004-05 | 13.79 | 40 | 34,475 |
| 2005-06 | 17.49 | 36 | 48,583 |
| 2006-07 | 19.85 | 58 | 34,224 |
| 2007-08 | 21.85 | 61 | 35,820 |
| Total | 82.38 | 228 | 36,131 |

Repayment by WSHGs: Repayment of bank loan by the WSHGs was more than 50% in case of all 228 WSHGs until November, 2008; 31 WSHGs repaid more than 80% and 3 WSHGs repaid 90% of loan (Fig. 1).

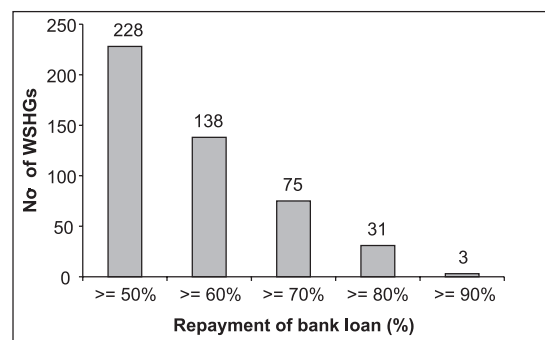


Fig. 1. Status of repayment of bank loan by WSHGs as on November, 2008

Relationship between monthly income and MPCE: Through group activities, monthly income of group members increased gradually resulting in increase in their MPCE (Table 2). Among the

Table 2. Monthly income and MPCE of members of 3 WSHGs who repaid more than 90% of loan (August 08 – July 09)

| Month | WSHG-1 | | WSHG-2 | | WSHG-3 | |
|--------------|---------------------|------------|---------------------|------------|---------------------|------------|
| | Monthly income (Rs) | MPCE (Rs.) | Monthly income (Rs) | MPCE (Rs.) | Monthly income (Rs) | MPCE (Rs.) |
| August 2008 | 1800 | 685.00 | 2200 | 723.00 | 2150 | 727.00 |
| September | 2300 | 724.00 | 2300 | 740.73 | 2200 | 748.30 |
| October | 2400 | 748.08 | 2450 | 761.55 | 2300 | 778.90 |
| November | 2450 | 736.58 | 2250 | 746.55 | 2400 | 769.80 |
| December | 2300 | 750.50 | 2300 | 757.00 | 2200 | 765.80 |
| January 2009 | 2550 | 785.75 | 2350 | 765.82 | 2350 | 771.00 |
| February | 2200 | 755.42 | 2450 | 774.73 | 2200 | 771.30 |
| March | 2350 | 757.92 | 2250 | 781.27 | 2450 | 773.40 |
| April | 2400 | 764.42 | 2550 | 789.00 | 2300 | 781.00 |
| May | 2500 | 763.67 | 2200 | 792.27 | 2500 | 784.90 |
| June | 2250 | 774.08 | 2800 | 804.64 | 2450 | 786.77 |
| July | 2400 | 795.50 | 2900 | 815.36 | 2350 | 800.00 |

members of three WSHGs, who repaid more than 90% of bank loan until November, 08, there is a positive correlation between monthly income and MPCE ($r = 0.691$). It is also found that there is a positive correlation between monthly income and the MPCE of three individual WSHGs ($r_1 = 0.734$, $r_2 = 0.730$ and $r_3 = 0.668$).

Role of bank credit: The descriptive statistics for MPCE of members of three WSHGs who repaid more than 90% of bank loan and that of seven WSHGs without bank linkage is presented in Table 3. By applying t-test (two samples assuming equal variances), it is found that average MPCE of WSHGs who availed bank credit (mean = Rs. 765.30) is significantly higher than that of WSHGs without bank credit (mean = Rs. 541.07) ($t = 24.68$; t critical = 2.31; $p < 0.05$).

Table 3. Average MPCE of WSHGs with bank linkage and without bank linkage during August 08 - July 09 (the values in Rupees)

| Descriptive statistics | WSHGs with bank linkage (3) | WSHGs without bank linkage (7) |
|------------------------|-----------------------------|--------------------------------|
| Mean | 765.30 | 541.07 |
| Standard Deviation | 10.30 | 13.99 |
| Range | 18.10 | 34.63 |
| Minimum | 753.41 | 518.58 |
| Maximum | 771.51 | 553.21 |

Multiple regression analysis: From the account books of 228 WSHGs, it was observed that 31 WSHGs repaid more than 80% of bank loan. Higher repayment indicates that the groups have earned

good income. The descriptive statistics of monthly income of these 31 WSHGs and four independent variables *viz.*, loan sanctioned, training, infrastructure and marketing are presented in Table 4. Multiple regression (Draper and Smith, 1981) was fitted with monthly income as the dependent variable and four independent variables are regressor variables. The analysis showed high correlation between the monthly income and the joint effects of loan sanctioned, training, infrastructure and marketing ($r^2 = 0.91$) which imply that 91% of the total variability in monthly income is explained by four independent variables and the model is a good fit. The fitted linear regression equation is expressed as $Y = 0.822 + 0.025 X_1 + 0.027 X_2 + 0.062 X_3 + 0.040 X_4$ where Y = monthly income; X_1 = loan sanctioned; X_2 = training; X_3 = infrastructure; and X_4 = marketing.

From the regression equation, it is observed that all the independent variables have positive effect on predicted monthly income of the WSHGs (variable Y) and infrastructure availability showed the highest influence on monthly income (regression coefficient = 0.062).

Relationship between monthly income (dependent variable) and independent variables and intercorrelation between independent variables:

In order to understand the relationship of monthly income with each independent variable and inter-correlation between the independent variables, a correlation matrix is presented in Table 5. It is

Table 4. Monthly income (dependent variable) and 4 independent variables (loan sanctioned, training, infrastructure and marketing) for 31 WSHGs

| Variables | Mean | S.D. | C. V. (%) | Range |
|----------------------------|-------|------|-----------|-------|
| Monthly income ('000 Rs.) | 2.13 | .20 | 9.39 | 0.87 |
| Loan sanctioned ('000 Rs.) | 32.61 | 9.54 | 29.25 | 40 |
| Training (scores) | 2.94 | 1.26 | 42.86 | 4 |
| Infrastructure (scores) | 2.39 | 1.12 | 46.86 | 3 |
| Marketing (scores) | 2.71 | 1.10 | 40.59 | 3 |

Table 5. Correlation matrix of monthly income and four independent variables

| Pearson correlation | Monthly income | Loan sanctioned | Training | Infrastructure | Marketing |
|---------------------|----------------|-----------------|----------|----------------|-----------|
| Monthly income | 1.000 | | | | |
| Loan sanctioned | 0.920 | 1.000 | | | |
| Training | 0.615 | 0.538 | 1.000 | | |
| Infrastructure | 0.810 | 0.764 | 0.514 | 1.000 | |
| Marketing | 0.690 | 0.658 | 0.283 | 0.425 | 1.000 |

observed that there is a positive correlation between monthly income and each independent variable *viz.*, loan sanctioned, training, infrastructure and marketing. Monthly income has significant correlation with loan sanctioned followed by infrastructure, marketing and training. Intercorrelation was found between loan sanctioned and training; loan sanctioned and infrastructure; training and infrastructure; loan sanctioned and marketing; training and marketing and infrastructure and marketing.

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