Microcredit and Its Impact on Women's Empowerment: Some Evidence from Moshi, Tanzania

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Abstract: In Tanzania patriarchy prevails and women continue to be relatively disadvantaged compared to men. As a result women position is low, are poorer, have low education and lack self-esteem. Microcredit has shown to be an effective tool for combating these diseases of the poor, but unlike other developing countries its potential has not been fully explored in Tanzania. This population based cross sectional study explores the impact of microcredit programs participation on women's empowerment. Logistic regression was done to examine association between participation and indicators of women empowerment. Crude and adjusted odds ratios, P-values and 95% CI were computed to show the association. A total of 900 non elderly women were enrolled, participation was found to be significantly associated with age (p<0.001), level of income (p<0.001) and number of living children (p<0.002). Majority of the study participants had primary education (85.1%) and unemployed (92.1%). Low income earners were 40.2%, program participants were 38% mostly in middle level income group (57.7%). Logistic regression to 18 empowerment indicators revealed a significant association at 5% level between program participation and empowerment. We demonstrated a positive association and concluded the strategy travels well and can empower women in Tanzania. However, efforts are needed to make the programs reach the most disadvantaged.

Keywords: Microcredit, Microfinance, Women Empowerment

1. Background

Women empowerment has long been a goal for growth and development with equity [1]. However, women continue to be powerless due a number of reasons including 'patriarchy' [2]. The system continues to permeate throughout their lives especially in the developing world [3]. In Tanzania patriarchy prevails and women continue to be comparatively disadvantaged compared to men in regard to survival, health, literacy, and productivity. As a result women position is low compared to men and they are poorer, have low education and lack self-esteem [4]. Furthermore, women are not expected to influence decision-making processes at community and national level. Men are considered as heads of households, limiting women voices from influencing allocation of domestic and national resources. In additional women's legal and human rights are constrained by inadequate legal literacy among women. Customary laws and practices remain discriminatory against women on issues of property inheritance particularly on land, and violence against women seems to be institutionalized [4]. Although women are largely responsible for expressive roles in their families such as reproduction and production, poor women in Tanzania have limited opportunity to make simple decisions in their life about what they do, let alone issues that pertain to family matters. Sustainable Development Goal number five

underscores the need to address gender inequality and promotion of empowerment as a critical foundation for human development [1].

2. Literature Review

The word empowerment is easy to 'intuit' but complex to define, it is used to represent a wide range of concepts and to describe a proliferation of outcomes with no consensus on its definition or on the domains that compose the construct [5]. Examples of empowerment definitions include; a capacity to mobilize resources to produce beneficial changes [6], control over and the ability to manage productive resources [7], the capacity to increase one's self-reliance and intellectual strengths[8,9] and Increasing capacity to individuals and groups to make purposeful choices and their capacity to transform these choices into desired actions and outcomes' [10]. Others view empowerment as a process whereby women are able to organize themselves to increase self-reliance, asserts their individual right to make choices which will assist in challenging and eliminating their subordination [11]. While discussing empowerment, three dimensions of power have been suggested; Power to, power from and power over [12, 13]. 'Power to' is closely related to the power of decision making, 'Power from' is seen as the capacity to affect the outcome of decisions and Power over, shifts from interpersonal to the institutional basis of power where by one group manages to suppress certain conflicts by denying their validity.

Recently a significant development has been mushrooming of community based organizations and initiatives at the local level for the poor. These self-help programs inform of saving and credit known as microcredit have succeeded in changing the lives of poor women enhancing their incomes and generating other positive externalities such as increased self-esteem. Participation in microcredit programs is hypothesized to contribute towards 'Power to' in two fronts [14]. First, through independent income and contributions, when a woman earns and contributes to the household income it is supposed to give them greater power within the household. Second, in the process of taking loans and using it in income-earning activities, women have to come out of the narrow confines of household precincts and mingle with the wider world.

This exposure to the outside world and in particular the formation of networks with other women in the community is expected to give them the self-confidence and courage they need in order to exercise more power both within the household and the larger community. Microcredit has become a mantra and is promoted as panacea for all illness of the poor including powerlessness [15]. Yet while several authors [16-19] have shown evidence of associations between microcredit and empowerment others [20, 21] have documented instances in which programs may adversely affect women's empowerment.

Unlike other developing countries like Bangladesh and Pakistan were the potential of microcredit has been fully explored, only few attempts have been made in Tanzania. This study aims to explore association between participation in microcredit program and women empowerment to gain a broader understanding of its effects on poor women in Tanzania. In our previous study we described the characteristics and types of services received by MFI clients in Moshi [22].

3. Material and Methods

3.1. Study Design and Site

This was a cross-sectional study conducted between October and December 2011, in Moshi Urban district, Kilimanjaro in northern Tanzania. Moshi is one among the seven districts in Kilimanjaro region, with approximately 33,910 households and a population of 200,000 out of which about 40% live below poverty line (i.e. living below $ 1or 1,500 Tsh a day). The district is sub- divided into 15 wards of which five are regarded as urban and ten as peri-urban wards. The study was conducted in the peri-urban where more than 50 microfinance institutions (MFI) are operating. Despite of being an urban district, combining the peri urban and urban settings, Moshi provides a geographic and socioeconomic diversity required for generalization to other districts of Tanzania.

3.2. Study Population

The population for this study included women aged 18 – 60 years who were residents of Moshi urban irrespective of their microcredit programs membership status. We selected this group because more than 90% of clients in microcredit schemes are women. We excluded women who were not permanent residents of Moshi urban and those who did not give consent.

3.3. Sample Size and Sampling Procedure

Sample size estimation and sampling procedure for this study have been presented elsewhere [22]. It was estimated using computer software EpiCalc 2000 accounting for the national financial accessibility which covers about 40% (Fin Scope Survey, 2009) with 5% significance level and 80% power, the minimum sample size was estimated to be 900 women. Selection of study participant's involved the use multistage random sampling technique. The first stage randomly selected five out of ten peri-urban wards. Thereafter random selection of three streets from each of the five wards was conducted giving a total of 15 streets. All women meeting the eligibility criteria at households of the selected streets were invited to participate.

3.4. Description of the Intervention

Different MFI organizations provide small loans to impoverished women in Moshi but are organized in a similar manner. Clients organize themselves into loan groups of up to 10 people consisting of mostly women. They meet

monthly in the presence loan officer from MFI in order to make payments and other business. The loan size received vary widely in amount of loans received from as little as 5,000 to 1 million Tanzanian shillings (TSH), which is equivalent to 3 to 670 USD repaid over 6 months at a monthly rate of between 10-18%.

3.5. Measures: Outcome Variable

Empowerment indicators

Empowerment is measured by 18 indicators (table 1) that are grouped into five dimensions; control over financial resources, involvement in major household decisions, ability to make independent purchases, mobility and awareness of legal affairs. Outcome based method is used to assess the women empowerment, the method measures direct rather than proxy indicators of empowerment which are developed based on the responses to the questionnaire administered to women. The questions attempt to elicit information on five dimensions of women's behavior and knowledge which includes: control over financial resources, mobility, and ability to make independent purchases, involvement in major household decision-making and legal awareness with each dimension containing between 3-5 questions. No weights are assigned to different empowerment components involved in each indicator.

Table 1. Empowerment indicators and categories.

	Indicators	Category
1.	Use of family resources	
2.	Own source from extra work	
3.	Husband decision on your loan	Control over financial resources
4.	Information to your husband on your loan	
1.	Choice of School	
2.	Children treatment	
3.	Own treatment	Decision Making
4.	Family planning methods	
5.	Number of children to have	
1.	House renovation	
2.	Purchase of own clothes	Purchase making ability
3.	Purchase of furniture	
1.	Visiting own relatives	
2.	Visiting friends	Mobility
3.	Visiting husbands relatives	
1.	Beating/hitting habits	
2.	Knowledge on laws in domestic abuse	
3.	Dowry payments	Legal awareness
4	Afraid to disagree with husband/cohabitant	

3.6. Measures: Covariates

Microcredit participation

Two groups of women are compared –one group consisting of women who have borrowed money from the MFI here referred as clients and the other group with similar socio-economic background to women in the first group but who have not taken any loan from MFI (non-clients).

Women characteristics

Participants were asked about their age, marital status, education, number of living children in the house hold and monthly household income and education to mirror woman's specific variable

3.7. Data Collection Methods and Tools

Face to face interviews were conducted with the consenting women. A questionnaire was used to collect information on social-demographic characteristics, socio-economic status, and on MFIs participations status. Detailed information about microcredit programs were obtained on: type of MFI women enrolled, financial and non-financial services received, amount of money borrowed, payment schedule, and conditions attached to the credit. Information on perceived advantages and challenges in using such programs were collected and published [22]. Questions on key variables were the same as those used in the Tanzania Demographic and Health Survey which is a validated tool. Pre-testing of the data collection tool was conducted in wards which were not part of the study sites but with comparable characteristics.

3.8. Data Management and Analysis

Questionnaires were checked for completeness and consistency on daily basis during data collection period. Data were entered, cleaned, and analyzed using Statistical Package for Social Sciences Version 22 (IBM corp, NY). Frequency and Proportions were used to summarize category data whilst median and range were used to summarize continuous data, chi-square tests was used for bivariate comparison between category variable. Logistic regression analysis was used to determine independent predictors of participation and various aspects of women empowerment. The ρ- value was two tailed, and value of less than 0.05 indicated the statistical significance of the findings

3.9. Ethical Considerations

Ethical approval was obtained from the Kilimanjaro

Christian Medical University College Research and Ethical Review Committee, (ethical clearance No. 303) as well as from south east region ethical committee of Oslo Norway, (REK No. 2011/1358). Informed written consent was obtained from each participant, and to ensure confidentiality unique identification were assigned instead of names

4. Results

4.1. Baseline Characteristics of the Participants

Out of 1100 women approached, 900 gave written consent and participated in the study giving a response rate of 81%. The median age of the 900 participants was 36 years, ranging from 18 – 60 years. Among them, 766 (85.1%) had primary education, 644 (71.7%), were married or cohabiting,

829(92%) had no formal employment, 296(40.2%) were low income earners (below \$1 per day), 540(63%) lived in households with 3-5 members and 455 (52.0%) had more than 2 living children. A total of 346(38%) were clients (participants of MFI). Program participation was found to be significantly associated with age ($p<0.001$), level of income ($p<0.001$) and number of living children ($p<0.002$). MFI participation is also found to increase with age and number of living children. Furthermore program participation is found to be high (57.7%) in middle level income group (Tsh. 45,000/=-150,000/=per month or 1-3 US dollar per day) compared to low income group (32.8%) who earned less than Tsh. 45,000/= per month or 1 USD per day. Table 2 depicts these findings.

Table 2. *Socio-demographic characteristics of women by participation status in microcredit programmes (n=900).*

Characteristics	Total	Participation status in microcredit programs n (%)		P-value
		Clients (n=346)	Non clients (n=554)	
Age (years) (n=886):				
≤ 19	31	2 (6.5)	29 (93.5)	
20 – 29	223	60 (26.9)	163 (73.1)	
30 – 39	303	115 (38.0)	188 (62.0)	<0.001
40 – 49	223	113 (50.7)	110 (49.3)	
50 - 59	106	53 (50.0)	53 (50.0)	
Education level:				
Never attended	29	7 (24.1)	22 (75.9)	
Primary level	766	294 (38.4)	472 (61.6)	0.084
Secondary level	92	38 (41.3)	54 (58.7)	
Above/higher level	13	7 (53.8)	6 (46.2)	
Marital status (898):				
Married/cohabiting	644	246 (38.2)	398 (61.8)	
Separated/widow/divorced	167	73 (43.7)	94 (56.3)	0.097
Single	87	26 (29.9)	61 (70.1)	
Employment status:				
Employed	71	26 (36.6)	45 (63.4)	
Unemployed	829	320 (38.6)	509 (61.4)	0.742
Religion (n=889):				
Christian	532	210 (39.5)	322 (60.5)	
Moslem	357	134 (37.5)	223 (62.5)	0.561
Level of monthly ncome (n=737):				
< 45,000	296	97 (32.8)	199 (67.2)	
45,000 - 150,000	298	172 (57.7)	126 (42.3)	<0.001
>150,000	143	61 (42.7)	82 (57.3)	
Number of living children (n=875):				
0	19	4 (21.1)	15 (78.9)	
1 - 2	401	134 (33.4)	267 (66.6)	
3 - 4	299	129 (43.1)	170 (56.9)	0.002
More than 5	156	69 (44.2)	87 (55.8)	
Number of members of household (n=887):				
1 – 2 people	85	27 (31.8)	58 (68.2)	
3 – 5 people	540	206 (38.1)	334 (61.9)	0.091
More than 5	232	110 (42.0)	152 (52.0)	

*1 USD=1,500 TZS

4.2. Empowerment and Program Participation

Indicators of empowerment and its relation to program participation are presented in table 3.
Control over financial resources
Compared to non-clients, MFI clients were significantly empowered in the use of family resources (37.4% vs. 23.0%. $p<0.001$) and took extra work to increase income (45.1% vs.

38.1%, $p <0.001$).
Decision making power
All women were empowered with regards to decision making irrespective of the IMF program participation status. Clients in MFI programs were significantly empowered in decision making regarding: choice of school (30.9% vs. 21.5%, $p<0.001$); children's treatment (44.5% vs. 37.9%,

p<0.001); own treatment (48.9% vs. 45.5%, p<0.001), family planning method (40.3% vs33.2%, p<0.001) and number of children (34.9% vs. 27.2%, p<0.001) compared to non-clients

Purchasing ability

Compared to non-clients, clients in MFI were significantly empowered to do house renovation (17.6% vs. 12.6%, p<0.001), purchase of clothing (38.4% vs. 32.7%, p<0.001) and purchase of furniture (25.1% vs. 18.1%, p<0.001).

Mobility

Clients were significantly empowered to visit own relatives (41.0% vs. 23, 3%, p<0.001); visit friends (44.0% vs25.3%, p<0.001) and visit husband's relatives (51.5%vs36.4%, p<0.001) compared to non-clients.

Legal awareness

Clients in MFI programs were significantly empowered on awareness regarding dowry payments (81.3% vs. 72.8% p=0.011) and not afraid to disagree with their partners (59.4% vs. 44.7%, p<0.001)

4.3. Empowerment and Its Relationship to Socio Demographic Characteristics

Table 4 shows association between indicators of empowerment and socio-demographic characteristics. Only women's level of monthly income and MFI participation status were significantly associated with all (five) indicators of empowerment.

Control over financial resources were significantly associated with women level of income and MFI program participation status (p=0.015 and p <0.001). More than half of women with monthly income between 45,000- 150000 TZS had control over financial resources compared to those with monthly income less than 45,000 TZS and more than 150,000 TZS i.e. 52.7% vs. 41.2% and 43.3% respectively. Significant proportion of MFI program clients had control over financial resources compared to non-clients i.e. 54.9% vs. 33.6% respectively (p <0.001).

Decision making ability was significantly associated with women's level of income, number of living children and MFI program participation status (p<0.001, P=0.027 and p <0.001). Slightly more than one third of participants with monthly income between 45,000-150,000 TZS had more decision making ability compared to those who had monthly income less than 45,000 TZS or more than 150,000 TZS respectively (39.6% vs. 23.3% and 26 .6%). Those with no living children in the family had less decision making ability comparing to those with children. High proportion of clients in MFI program had more decision making ability compared to non-clients i.e. 42.5% vs. 19.1% respectively.

Table 3. Indicators of women empowerment according to participation in microcredit programmes (900).

Indicators	Empowered n (%)	Participation status in programs%		P-value
		Clients (n=346)	Non Clients (n=554)	
Control over financial resources:				
Use of family resources (n=855)	245 (28.7)	37.4	23.0	<0.001
Extra work to increase income (n=851)	384 (45.1)	45.1	38.1	<0.001
Husband decision on your loan (n=679)	679 (100)	100	100	NC
Inform husband on your loan (n=680)	680 (100)	100	100	NC
Decision making:				
Choice of school (n=857)	265 (30.9)	30.9	21.5	<0.001
Children treatment (n=852)	379 (44.5)	44.5	37.9	<0.001
Own treatment (n=850)	416 (48.9)	48.9	45.5	<0.01
Family planning methods (n=854)	344 (40.3)	40.3	33.2	<0.001
Number of children (n=856)	299 (34.9)	34.9	27.2	<0.001
Purchase making ability:				
House renovation (n=833)	147 (17.6)	17.6	12.6	<0.001
Purchase of clothing (n=848)	326 (38.4)	38.4	32.7	<0.001
Purchase of furniture (n=849)	213 (25.1)	25.1	18.1	<0.001
Mobility:				
Visit own relatives (n=857)	259 (30.2)	41.0	23.3	<0.001
Visit your friends (n=856)	279 (32.6)	44.0	25.3	<0.001
Visit husband relatives (n=856)	362 (42.3)	51.5	36.4	<0.001
Legal awareness:				
Beating/hitting habit (n=835)	761 (91.1)	90.6	91.5	0.646
Knowledge on laws (n=837)	382 (45.6)	44.0	46.7	0.433
Dowry payments (n=629)	482 (76.6)	81.3	72.8	0.011
Afraid to disagree (n=753)	382 (50.7)	59.4	44.7	<0.001

Purchase making ability was significantly associated with age, level monthly income and MFI program participation status (p=0.018, p=0.002 and p<0.001) purchasing ability was increasing with increasing women's age. Slight high proportion of women with monthly income between 45,000-150,000 TZS had better purchasing making ability compared to those with monthly income less than 45,000 TZS and more

than 150,000 TZS i.e. 15.4% vs. 6.4% and 11.9% respectively. High proportion (17.3%) of MFI clients had purchase making ability compared to non-clients (5.4%).

Women's mobility was significantly associated with levels of monthly income, number of living children and MFI participation status (p<0.001, p=0.009, and p<0.001). Slightly less than one third of participants with monthly

between less than 45,000 TZS and more than 150,000 TZS respectively were more mobile compared to those who had monthly income less than 45,000 TZS and more than 150,000 TZS respectively (31.2% vs. 16.9% and 27.3%). The proportion of women who are mobile increased with the number of living children in the family. The double proportion of clients in MFI were mobile compared to none clients i.e. 33.8% vs. 15.5 respectively.

Legal awareness was statistically significantly associated with women level of education, level of monthly income and participation status in MFI programs (p=0.008, p=0.035 and p<0.001). Proportion of women with legal awareness was an increasing with level of awareness was an increasing education. High proportion of women with monthly income between 45-150,000 TZS had legal awareness compared to those with monthly income of less than 45,000 TZS and more than 150,000 TZS i.e. 41.3% vs. 31.1% and 36.4% respectively almost half of MFI clients had legal awareness compared to non-clients i.e 49.4% vs. 27.1% respectively.

Table 4. *Relationship between indicators of empowerment and socio-demographic characteristics of women (n=900).*

Characteristics	Control over financial resources%	Decision making%	Purchase making ability%	Mobility%	Legal awareness%	Total
Age (years) (n=886):						
≤ 19	29.0	9.7	6.5	9.7	29.0	31
20 – 29	43.9	30.0	7.6	22.0	32.7	223
30 – 39	43.9	30.7	8.6	22.8	38.0	303
40 – 49	43.5	29.1	12.5	25.1	39.0	223
50 - 59	30.2	17.9	14.2	21.7	31.1	106
	NS	NS	P=0.018	NS	NS	
Education level:						
Never attended	37.9	31.0	10.3	20.7	20.7	29
Primary level	41.4	27.9	9.5	22.1	35.0	766
Secondary level	45.7	26.1	10.9	26.1	43.5	92
Above/higher level	46.2	46.2	30.8	30.8	53.8	13
	NS	NS	NS	NS	P=0.008	
Employment status:						
Employed	47.9	25.4	11.3	26.8	42.3	71
Unemployed	41.3	28.3	9.9	22.2	35.1	829
	NS	NS	NS	NS	NS	
Level of income (n=737):						
< 45,000	41.2	23.3	6.4	16.9	31.1	296
45,000 - 150,000	52.7	39.6	15.4	31.2	41.3	298
>150,000	43.4	26.6	11.9	27.3	36.4	143
	P=0.015	P<0.001	P=0.002	P<0.001	P=0.035	
Number of living children (n=875):						
0	15.8	0.0	5.3	10.5	36.8	19
1 - 2	41.9	27.7	9.2	20.7	36.2	401
3 - 4	44.1	31.4	9.4	22.1	35.1	299
More than 5	42.3	26.9	13.5	30.8	346	156
	NS	P=0.027	NS	P=0.009	NS	
Participation status in MFI:						
Participating	54.9	42.5	17.3	33.8	49.4	346
Not participating	33.6	19.1	5.4	15.5	27.1	554
	P<0.001	P<0.001	P<0.001	P<0.001	P<0.001	
Total	41.8	28.1	10.0	22.6	35.7	900

P-value based on Chi-square test

5. Discussions

Results from studies on impact of MFI programs are subject to much controversial producing ambivalence results as shown elsewhere, in financial standing; gender equality; and on participant's well-being [23-28]. These contradictions are likely to be attributed to heterogeneity in outcome measures and heterogeneity of components of individual programs [29]. Using the outcome based method which measure empowerment impact with direct indicators rather than process based method that used proxy indicators we explored empowerment and its association to women participation in microcredit programs in Moshi urban,

Tanzania. Consistency with other studies we have also demonstrated that microcredit program participation in Moshi is significantly associated with all forms of empowerment manifested in various dimensions [16-19]. Specifically we found that program participation was significantly associated with control over financial resources, mobility, decision making, legal /laws awareness and purchasing ability. Participation in the microcredit programs in Moshi was thus associated with economic empowerment, personal empowerment and social empowerment and thus an effective instrument in promoting women's empowerment. Clients had more control in their finances, had more power in making decisions, were more aware of laws that result into subordination and deprivation, and were significantly mobile.

Levels of monthly income and MFI participation were the only socio-demographic characteristics significantly associated to all five categories of indicators used to measure empowerment.

The significant association found between microcredit and empowerment underscores the viability of this strategy in empowering women across different socio economical context. However, the study also revealed that enrolment of most disadvantaged, those with no education and earning less than a dollar per day was found to be less likely since two thirds in those groups were non clients. Clients -participants in microcredit programs- were only 38% among the study population. Furthermore, most of the clients were in middle level income group (57.7%) earning (Tsh. 45,000/=-150,000/=per month or 1-3 US dollar per day) compared to low income group (32.8%) who earned less than Tsh. 45,000/= per month or 1 USD per day underscoring the inability of MFI in Moshi to reach the poorest of the poor in our community. This can be attributed to Self-selection bias between borrowers and non-borrowers to the programs because borrowers are women who are already relatively more enterprising and likely to join the programs.

5.1. Strength of the Study

a   It is a population based study that included a large number of participants.
b   The study used data from existing programs, capturing comprehensive information related to participation and its impact which were not influenced by research settings

5.2. Limitation of the Study

a   As a cross-sectional study design it is likely to favor selection bias because of non-random placement of participants [30].
b   The issue of reliable indicators, the problem of developing reliable and valid empowerment indicators for impact assessment has been echoed elsewhere; [31]. Difficult arises because of the context specific nature of empowerment as behaviors and attitudes that suggest empowerment in one context may have no significance in another.
c   We did not consider time period in the microcredit programs because as the longer a woman has participated in the MFI programs, the loan amount grows and the probability of being empowered is hypothesized to increase.

6. Conclusion

Microcredit is not a panacea and a cure of all diseases of the poor but has shown to be a viable strategy in empowering women in Moshi. Our results favor the wide belief in the literature that participation in microcredit programs helps to empower women. However, despite the optimistic findings we also observed that the majority of the beneficiaries to the programs in Moshi were not the most disadvantaged and the poorest of the poor. Contrary, access to the programs was found to be more to women with primary education, who are perceived to be better off than those with no education and those with medium income.

7. Recommendations

Microcredit programs hierarchy in Moshi needs a more focused strategy to facilitate increased access to the most disadvantaged and poorest in our society. The poorest women may not be able to fully benefit from the programs if the programs do not explicitly target them.

Author's Contributions

CM designed the study, participated in data collection, analysis and interpretation, write-up, drafted the manuscript, and critically revised the manuscript. DJ participated in data analysis and interpretation, SM participated in critical revision of the manuscript and supervised the data collection. BSP participated in critical revision of the manuscript, acquisition of funding and general supervision of the research group. All authors reviewed and approved the final manuscript.

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