17 Microfinance programs and women's empowerment[1]

New evidence from the rural middle hills of Nepal

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Introduction

Microfinance institutions (MFIs) are hybrid type of financial institutions that pursue "double" bottom lines of social outreach and financial sustainability.[2] They are thought to play a vital role in inclusive economic growth while reducing poverty and inequality in developing economies where access to formal financial services is typically very limited. They serve the low-income households and rural microenterprises, providing a wide range of financial services and products ranging from simple credit facilities to savings, remittance, insurance, and many others (the "minimalist" lending model). Some of them extend their operations by providing clients with skill-based business training as well as consciousness-raising programs (the "plus" lending model) (Khandker 2005). Thus, microfinance programs have become an integral part of development policies by enabling institution building at the grassroots level as well as an effective poverty alleviation tool (Goetz and Gupta 1996; Mazumder, Ullah, and Lu 2015).

Although some microfinance programs serve both males and females, most target only female clients, with an explicit aim of empowering them (Pitt, Khandker, and Cartwright 2006; Pitt and Khandker 1998; Rankin 2001, 2002; Kabeer 2001; Khandker 2005; Setboonsarng and Parpiev 2008; Garikipati 2012; Ganle, Afriyie, and Segbefia 2015). Targeting only female clients is not surprising, as they are the most vulnerable and poorest segments of the society. This is particularly true in many low- and middle-income countries where social norms and religious beliefs have created a large gender gap. Women in these countries are more likely than men to be constrained in their access to credit, as well as restricted in their access to assets, education, and basic health and sanitation facilities. Even within the same market, women entrepreneurs are considerably disadvantaged in terms of less access to credit, equipment, raw materials, and information (King and Mason 2001), and consequently earn less relative to their male counterparts (Torri and Martinez 2011). In addition, women often have limited decision-making and bargaining power within the household and have limited access to assets and land ownership, indicating a significant gender gap between men and women in developing economies.

In such circumstances, providing low-income women with access to affordable microfinance services is often considered to be an effective means of women's socioeconomic empowerment (Khandker 2005). Because women are less likely to misuse loans and are therefore good credit risks, their access to microfinance services could lead to an increase in their business productivity, household income, and, ultimately, improved self-esteem and household welfare (Goetz and Gupta 1996; Garikipati 2008).

Women's empowerment is one of the main issues in the process of development in the world (Sen 1999). This is especially true for developing countries where gender inequality and women's disempowerment are very common and become a key factor operating against sustainable economic development. Access to education, credit, health, and sanitation facilities and participation in household decisions and asset ownership are among the main causes of gender inequality. Moreover, women's disproportionate burden of unpaid work which, together with paid work, contributes to overall economic growth, has serious implications for prevailing gender inequalities (Hirway 2018).

Women's equality and empowerment has, thus, become a core theme of Sustainable Development Goals (SDGs) to be implemented by 2030. Goal 5 of the SDG agenda focuses explicitly on women's issues and suggests a multidimensional approach to gender equality with a range of targets that include ending discrimination, exploitation, and child, early, and forced marriage; recognizing unpaid care and domestic work; promoting women's participation and opportunities for leadership; enabling ownership of land and other property; and providing access to intermediate technology (Stuart and Woodroffe 2016).

There is no universally accepted definition of "empowerment," with the term being used to represent a wide range of concepts across a range of disciplines and to describe a proliferation of outcomes (Torri and Martinez 2011). In the context of microfinance and its impact on women, Mahmud, Shah, and Becker 2012 referred to the term "women's empowerment" as a dynamic process of internal dynamism, which is difficult to examine, despite the visibility of its aggregate effects. Kabeer (1999, 2001) describes empowerment as a process by which those who have been denied the ability to exercise strategic forms of choice, voice, and influence, both within their personal lives and in the wider community, have been able to gain this ability. She further argues that this process is a rudimentary three-dimensional theory of change incorporating three indivisible dimensions of "choices": (1) women's access to *material and human and social resources:* these are the media through which "agency" is exercised. Therefore, women need resources to improve their livelihood, and those resources are acquired from the multitude of relationships in the various domains of the family, market, and community; (2) *agency*: the ability to define a woman's goals and act upon them or the ability to gain control over various aspects of a woman's life. Agency has both positive and negative connotations; and (3) *achievements*: these are the outcomes of choices (see the schematic diagram in Figure 17.1 that shows an overview of the three-dimensional theory of change, which links women's access to resources

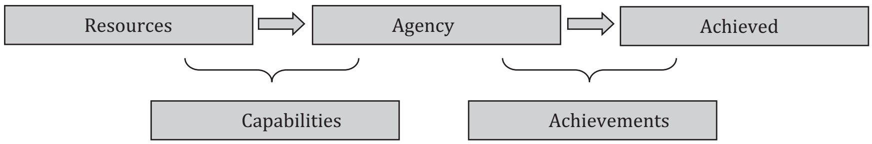

Figure 17.1 Three-dimensional theory of change

Source: Kabeer 1999

to their capacity to exercise strategic forms of agency in order to achieve valued outcomes).

Swain and Wallentin 2009 also provide a similar definition. In their case study of a self-help bank linkage microfinance program in India, they refer to it as a process in which women challenge the prevailing social and religious norms of their society in which they live to improve their well-being effectively. However, as Kabeer 1999 points out, caution is warranted when understanding the differentials of outcomes of choices. As she explained, women's household responsibilities for caring for their children do not necessarily empower women, as women's involvement in such household activities is similar to their male counterpart's responsibilities towards the family, which are recognized by societies as traditional gender roles, something which is especially true for South Asian countries. Women's commitment to such traditional roles within the family can increase their self-esteem, but it does not mean that those women are empowered.

Microfinance, in particular, has often been argued, not without controversy, to be a tool for empowering women (Ashraf, Karlan, and Yin 2010). There is a growing body of literature in economics that investigates the effectiveness of microfinance programs on women's empowerment and household welfare. The evidence, however, is far from conclusive and is heavily polarized. Whereas some studies provide evidence supporting the view that access to microfinance contributes considerably to women's empowerment (Hashemi, Schuler, and Riley 1996; Swain and Wallentin 2009), smooth consumption, and poverty reduction (Khandker, 2005; Berhane and Gardebroek, 2011; Imai et al. 2012; Dupas and Robinson, 2013), others found only modest (Karlan and Zinman, 2011; Agbola, Acupan, and Mahmood 2017) or zero empowering impacts on women's lives (Montgomery, Bhattacharya, and Hulme 1996; Coleman 1999; Kabeer 2001; Setboonsarng and Parpiev 2008). Inconclusive and ambiguous findings may reflect a relationship between microfinance programs and women's empowerment that is complex and always not linear.

The objective of this study was to investigate the link between microfinance lending and socioeconomic empowerment of female entrepreneurs in rural, hill villages in Nepal. The Nepalese case provides a significant exploration of this issue, as there is little evidence concerning the impacts of microfinance programs on women's socioeconomic empowerment and improved gender equality. According to the Asian Development Bank (ADB) 2016, Nepal is one of the world's least developed countries and the second poorest country in the South Asian region after Bangladesh, with nearly 25.2 percent of the population living below the national poverty line. Most of them are women who constitute more than 60 percent of agricultural labor but who have limited access to credit, land, health care, education, nutrition, formal markets, and participation in household decision making (IFAD 2013). This gender discrimination is considerably higher in rural areas that were home to more than 80 percent of the total population in 2015 (World Bank 2017). Moreover, Nepal is heavily vulnerable to climate change and natural disasters. Because there is a general consensus that women tend to suffer disproportionately from adverse shocks linked with various socioeconomic and environment factors (Grimard and Laszlo 2014), such disasters could impose a significant impact on the livelihood of rural women, especially given the prevailing gender inequality. For example, Pradhan et al. 2007 show that the flood-related fatality rate was higher for women and was closely associated with low socioeconomic status. Because of the high rate of poverty, lack of physical collateral, and vulnerability to various socioeconomic and environmental shocks, commercial banks often considered rural female entrepreneurs a financially unviable proposition and as a risk, and they were reluctant to take a chance on them. Thus, many poor Nepalese households remain unbanked (Ferrari, Shrestha, and Jaffrin 2007), with most of them living in rural and hill areas in Nepal. It is in this context that microfinance services are thought to fill this gap by playing a catalytic role in empowering poor and low-income rural Nepali women at the community level. But empirical evidence on the impacts of these programs on women's socioeconomic empowerment has been sparse. This study, therefore, considered the Nepali case to offer more evidence on this issue.

Our empirical analysis is based on data collected from a sample survey carried out in rural, hill villages in the Tanahun district located in the mid-hill region of Nepal. The district has reported a higher incidence of poverty (Pandey 2012). Thus, the selected villages in the Tanahun district provide an ideal focus for our study's research. For the household survey, we used the quasi-experimental pipeline design approach proposed by Coleman 1999 to select treatment and control groups. The principle of this sampling approach is based on identifying member women in the control group who have similar baseline unobservable characteristics as the member women in the treatment group who have already benefitted from microfinance services. Because the control group captures what would have been the outcomes if the microfinance program had not been implemented, the program can be said to have caused any difference in outcomes between the treatment and control groups (White and Sabarwal 2014).

Our results show that women's participation in Nirdhan Bank's microfinance program has had had a significant positive effect on their empowerment with respect to indicators such as control of income, independent savings, decisions over food purchase, asset purchases, and applying for loans. All these indicators are a proxy for women's financial empowerment. On the other hand, concerning the impact of microfinance on women's social empowerment, our results reveal that access to microfinance resulted in significant impact on all indicators for women's social development outcomes except women's household decision making regarding groceries, their children's marriage, and women's role as the household head.

Our study provides some evidence on the empowerment effects of the microfinance operations of a regulated MFI (development bank). In most countries, with the exception of Bangladesh, regulated MFIs exist as member-based cooperatives, nongovernmental organizations (NGOs), or shareholding entities such as banks and nonbank financial institutions (NBFIs), that are subject to prudential regulation and licensed by the Central Bank (D'espallier et al. 2017), thus benefiting from superior governance (Wijesiri 2016). NGO MFIs, on the other hand, are unregulated and they largely depend on donor support and various kinds of subsidized funding, but they are dedicated to service, not profit, and to the good of society (Dichter 1996; D'espallier et al. 2017). Although all MFIs have social and financial goals at their core, irrespective of the type of ownership, there is speculation that shareholding MFIs are more profit oriented, whereas NGOs put much more weight on the social impact (Wijesiri 2016). Many of the earlier empirical studies focus on women entrepreneurs in NGO MFIs, but there has been little research based on shareholding MFIs' involvement in women's empowerment that is known to the author and, thus, little evidence exists of the impacts of such initiatives in promoting women's empowerment. Using a sample from women living in rural, hill villages with low population density and poor infrastructure, where financial inclusion is a great challenge for MFIs, our study provides policymakers and practitioners with a better understanding of how microfinance programs run by a regulated microfinance bank contribute to socioeconomic empowerment of women entrepreneurs, especially those who live in rural, hill villages. Moreover, the microfinance sector in Nepal is largely under-researched despite its importance to the country's economic growth and improved gender equality. Therefore, the findings of this study will help researchers compare findings from other countries with relevant empirical evidence from Nepal.

A brief overview of the Nepalese financial market

Recent developments in the Nepalese financial sector

The Nepalese financial system compromises the banking and nonbanking institutions. Whereas the latter consists of development banks ("B" Class), financial companies ("C" Class), microfinance institutions ("D" Class), NGOs, and cooperatives, the former includes the Nepal Rastra Bank (NRB) and commercial banks ("A" Class). Figure 17.2 presents the growth of the Nepalese financial institutions over the period. From the graph, we can see that there is a downward trend in the growth of "A," "B," "C," and "D" class financial institutions

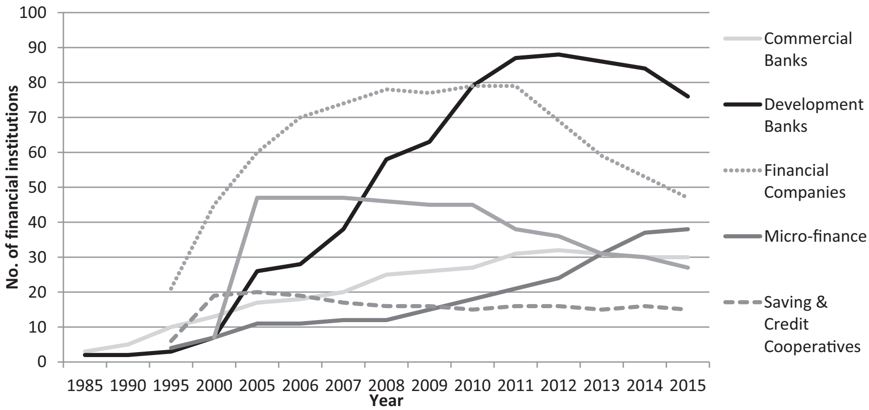

Figure 17.2 Growth of Nepalese financial institutions (1985–2015)

Source: Author's own compilation from various sources

in the past few years. For example, although the total number of "A," "B," "C," and "D" class financial institutions stood at 204 by 2014, the number slightly decreased to 191 by 2015. This could be because of the consolidation process of the Nepalese financial industry through merger and acquisition during this period. Moreover, by 2015, the number of branches of the commercial bank networks has grown to 1,672, followed by 808 development banks, 242 financial companies, and 1,116 MFIs, with 10,160 customers per branch. Credit flows from banks and financial institutions have also grown significantly by 20.5 percent by 2015, which was 18.2 percent in the previous fiscal year (see NRB 2016a, 2016b). Although this indicates a considerable growth in the Nepalese financial market that had been characterized by only two commercial and two development banks before introducing the financial sector reforms in the 1980s (NRB 2008), access to finance has still remained limited, with 18 percent of the adult population completely financially excluded, and 21 percent depended only on informal financial services by 2016 (MAP 2016).

Evolution of the Nepalese microfinance market

The history of the Nepalese microfinance industry can be traced back to the early 1950s when the first small agricultural cooperatives emerged (NRB 2008). Since then the industry has continued to grow with a view to making financial services accessible to the poor, particularly women entrepreneurs, who have often been excluded by the formal credit market. The availability of wholesale funds from microfinance wholesale banks and different programs of international agencies has given momentum to the extension of microfinance services (CMF 2016).

Despite the considerable growth of the microfinance market during the last few decades, with increased financial and nonfinancial resources devoted to financial inclusion and deepening, some geographical regions still have minimal access to financial services (NRB 2016a). Most of these villages are located in remote and hill areas (Pant, Sharma, and Dahal 2008). Moreover, poor infrastructure, limited market access, sparse population, small areas of arable land, and few economic activities have hindered the outreach of microfinance programs in Nepal (Taylor, Hailey, and Parajuli 2015). Thus, a significant portion of the rural people still depend on informal financial markets, which are normally based on small-size, short-term transactions and, particularly, on loan sharks who, quite often, exploited them with exorbitant interest rates over the years. Lack of adequate regulatory, supervisory, and client protection mechanisms has fostered these informal financial activities in Nepal (MAP 2016).

With view to eliminating these financial disparities, NRB currently implements several important policy measures aiming at increasing access to financial services for the poor, such as provision of a special refinance facility at 1 percent interest for microfinance programs to extend loans to agriculture and small business–based income-generating activities in poverty-stricken areas; encouraging the establishment of the MFIs and expanding branches, branchless banking, and mobile banking services in geographical regions with low financial access; increasing the limit of collateral-based micro enterprise credit; encouraging MFIs to go for merger and acquisition; measures to improve financial literacy among the poor; and measures to protect customers' rights. All of these services can be viewed as important policy initiatives.

Microfinance and women's empowerment: a brief review

Most studies to measure the extent to which microfinance services provided by MFIs translate into empowering impacts for rural women entrepreneurs are nonacademic projects that have relied largely on more qualitative case studies (Coleman 1999). Only a few are based on empirical studies with rigorous statistical applications (Kabeer 2001). Moreover, the findings of previous studies have been inconclusive and ambiguous due to differences in sampling locations, time periods, analytical techniques employed, and differences in operating models adopted by different microfinance ownership types, as well as different empowerment domains used in different studies (Kabeer 2001). Lack of a clear definition of "empowerment" and that which is not directly observable can only be approximated using appropriate indicators that can either be context specific or universal (Mahmud, Shah, and Becker 2012). Thus, the way to measure it and the best way to achieve it have created a major debate (Goldman and Little 2015). Moreover, MFIs' capacity to adapt to the varying environments with different cultural practices and women's social positions may also have an impact on these inconclusive outcomes (Singh 2015). Based on a study of Grameen Bank and Bangladesh Rural Advancement Committee (BRAC), and applying an ethnographic study and quantitative survey method, Hashemi, Schuler, and Riley 1996 found that participation in both programs has significantly improved women's mobility, purchasing ability, legal and political awareness, asset ownership, and involvement in household decision making and public campaigns. Although most of these domains are generic to both MFIs, some are positive only with Grameen bank, suggesting that business strategies adopted by different MFIs' can influence on their social impacts. The findings of this study also indicate that the use of a ritualistic and disciplined model in lending mechanisms by both MFIs has stimulated participants' ability to control assets and income while strengthening the level of confidence and self-esteem in the society. Using a quasi-experimental, household data sample collected from five states in India from 2000–2003, Swain and Wallentin 2009 found that women who participated in microfinance programs experienced significant and higher empowerment compared with the control group that consisted of nonparticipating households with similar characteristics. More recently, Weber and Ahmad 2014 investigated the impact of microfinance on empowerment of women in Pakistan. They focused particularly on analyzing the relationship between loan cycle and level of empowerment. Their findings show that women in higher loan cycles experienced a significant increase in empowerment compared to their counterparts in the first loan cycle.

However, other studies provide empirical evidence that microfinance has negative or a mixed impact on women's empowerment. Goetz and Gupta 1996 studied the ability of women to control loans they received from Bangladesh MFIs. Using a 5-point index of managerial control over loans as an empowerment indicator, they found that a preoccupation with credit performance affects the incentives of fieldworkers to dispense and recover credit, in ways which may outweigh concerns to ensure that women develop meaningful control over their investment activities. Using detailed datasets from two Indian villages participating in the Shelf Help Group (SHG) microfinance program in India, Garikipati 2008 investigated the impact of the credit program on core dimensions of household vulnerability and female empowerment. Her findings revealed that loans procured by women are often used to improve assets that are controlled preliminary by their husbands. Women's lack of authority over their families' productive assets adversely affected repayments and, consequently, their degree of empowerment. Her findings also suggested the importance of ownership of productive assets by women for achieving one of the key objectives of microfinance programs vis-à-vis women's empowerment. Ganle, Afriyie, and Segbefia 2015 examined the empowerment effects of the microfinance operation of an NGO-managed microfinance program to the poor women in a rural district of Ghana. They found that some women were empowered along several dimensions as a result of their access to credit, other women had little control over the use of loans and were therefore no better off, and others had been subjected to harassment and were worse off due to their indebtedness and inability to repay the loans on time. They argued that women who became more empowered could be the women who either obtained loans to expand their existing business or those who fully exercised a significant control over proceeds from the loans. On the other hand, the women who became vulnerable and even disempowered could be those who wanted to start up a new business with no proper business plan and those who used loans for direct consumption.

In reviewing the earlier studies, it is evident that different studies used different empowerment indicators in different contextual settings. Moreover, all of the earlier research studies that empirically investigated the microfinance interventions on women's empowerment are single-country studies, with most based on the case studies of larger Bangladeshi MFIs. The findings of the studies that focus on one specific program in a particular location lack internal validity, irrespective of the methodology applied. Furthermore, the microfinance sector in Nepal is largely under-researched relative to microfinance markets in other emerging economies. Our aim, as articulated in this chapter, is to address this void using a quasi-experimental survey design approach to provide policymakers and practitioners with a better understanding of how microfinance contributes to the socioeconomic empowerment of women entrepreneurs in Nepal.

Microfinance program studied, survey design, and description of the variables

Microfinance program studied

We implemented this research in close collaboration with the microfinance programs conducted by Nirdhan Utthan Bank Limited (NUBL). It is one of the largest and best-known microfinance banks providing a range of microfinance services (loans, savings, micro-insurance, and remittance services) to the low-income households and neglected sectors in rural Nepal. As a public limited company, 30 percent of NUBL's equity is held by the general public, with the remainder being held by promoters including Nirdhan NGO, Himalayan Bank, Nabil Bank, Everest Bank, Grameen Trust Bangladesh, and private individuals. Though it has operated as a microfinance development bank since 1999, its roots can be traced back six years earlier to the establishment of its predecessor, Nirdhan, an NGO. The transformation of Nirdhan into a regulated development bank enables it to access a wide range of funding sources, including public deposits, while expanding financial outreach and deepening in different geographical areas in a sustainable way. This is evident by its current operation in all 75 districts in Nepal, though 178 branch offices, that serve more than 295,000 poor entrepreneurs with 12 billion Nepal rupees (Rs.) in outstanding loans by 2017 (NLUBL 2017).

In addition to collateral-based lending to micro-entrepreneurs, NUBL provides loans on a solidarity-group lending model as well as the Self-Reliant Group (SRG) model. The latter has been developed by NUBL with the aim of providing microfinance support for the poor in hill and remote villages. The office bearers of the group (chairperson, treasurer, controllers, and secretary) manage group meetings, collections, and keep financial records. The bank has also developed a day-long module for office bearers of SRGs with the aim of upgrading their leadership capacity and financial literacy (DHC 2017). The bank has also extended its services to provide credit "plus" activities, such as entrepreneurship training and awareness programs, while allocating a share of its profits for the implementation of client protection mechanisms.

The bank uses its own targeting criteria to provide its group-based financial services. Initially it provides loans to groups for a period of 12 months, and the duration is gradually increased in subsequent cycles up to 36 months. The average loan size for a woman in a group is about Rs. 75,000, which is gradually increased in following cycles based on the woman's repayment discipline in previous cycles. Typically, a group consists of 10 women, but this can be as large as 40 in some rural villages. The bank lends to the group without collateral. The members of a group and the group itself are jointly liable for each other's repayments. Members of the group meet once a month for repayment and mandatory savings. Figure 17.3 shows the meeting of a women's reliant group in Bhimad village, Dulegauda.

The bank is also committed to providing training to its staff members. It is compulsory for newly recruited employees to go through training and development interventions for a six-month period to obtain theoretical and practical knowledge of the bank's operations. In addition, the bank organizes training

Figure 17.3 Women attending a group meeting in Bhimad village, Dulegauda, Tanahun District, Nepal

programs, both in-house and outsourced, to promote the continuous learning process of employees. All training programs are designed to enhance professional growth of staff members so as to serve the clients more effectively (Activity Report 2017).

Survey design and description of variables

Survey design

In this research, we followed the quasi-experimental sampling design approach proposed by Coleman 1999 and selected our treatment and control villages accordingly. We carried out our sample survey in the Tanahun district, located in the mid-hill region of Nepal. Our sample strategy consisted of two main steps. First, we spoke with the NUBL officials at its central office in Kathmandu, as well as mangers at its regional office in Tanahun district and its branch office in Dulegauda town, to obtain detailed information regarding microfinance lending models and group formation mechanisms used by them. We obtained a list of treatment and control villages in Tanahun district from the bank. The control group consisted of randomly selected villages, pre-identified by the microfinance bank, which would soon receive microfinance support. Women in these villages had been allowed to self-select into the microfinance programs. These women had been organized into groups but no loans had yet been disbursed to them. The treatment group, on the other hand, consisted of randomly selected villages where the bank has been in operation for at least a five-year period. Based on the eligibility criteria defined by the microfinance bank, both members and nonmembers in both treatment and control villages were surveyed.

In the second step, we randomly drew ten treatment and eight control villages from the list of villages provided by the bank. Care was also taken that the control villages in our sample reflected comparable physical and socioeconomic characteristics (availability of infrastructure facilities, level of economic developments, and social and cultural similarities) as the treatment villages. All study villages were approximately one to two hours' walking distance from the closest paved road. The randomly selected treatment and control villages for our study are indicated in Figure 17.4.

Any impact evaluation method may encounter problems related to internal and external validity. Indeed, our use of this quasi-experimental design to measure the impact of microfinance on women's empowerment is not without problems. First, the relatively small number of villages may not generate enough variation to yield tests with statistical differences, which would lead us to falsely accept the null hypothesis of no impact. Second, because one uses the villages where NUBL has already chosen (i.e., either it is in operation in the treatment villages, having established a relationship with customers, or it plans to be in operation in the control villages but has yet to start a lending relationship with the customers), it might be that these villages are different from other villages

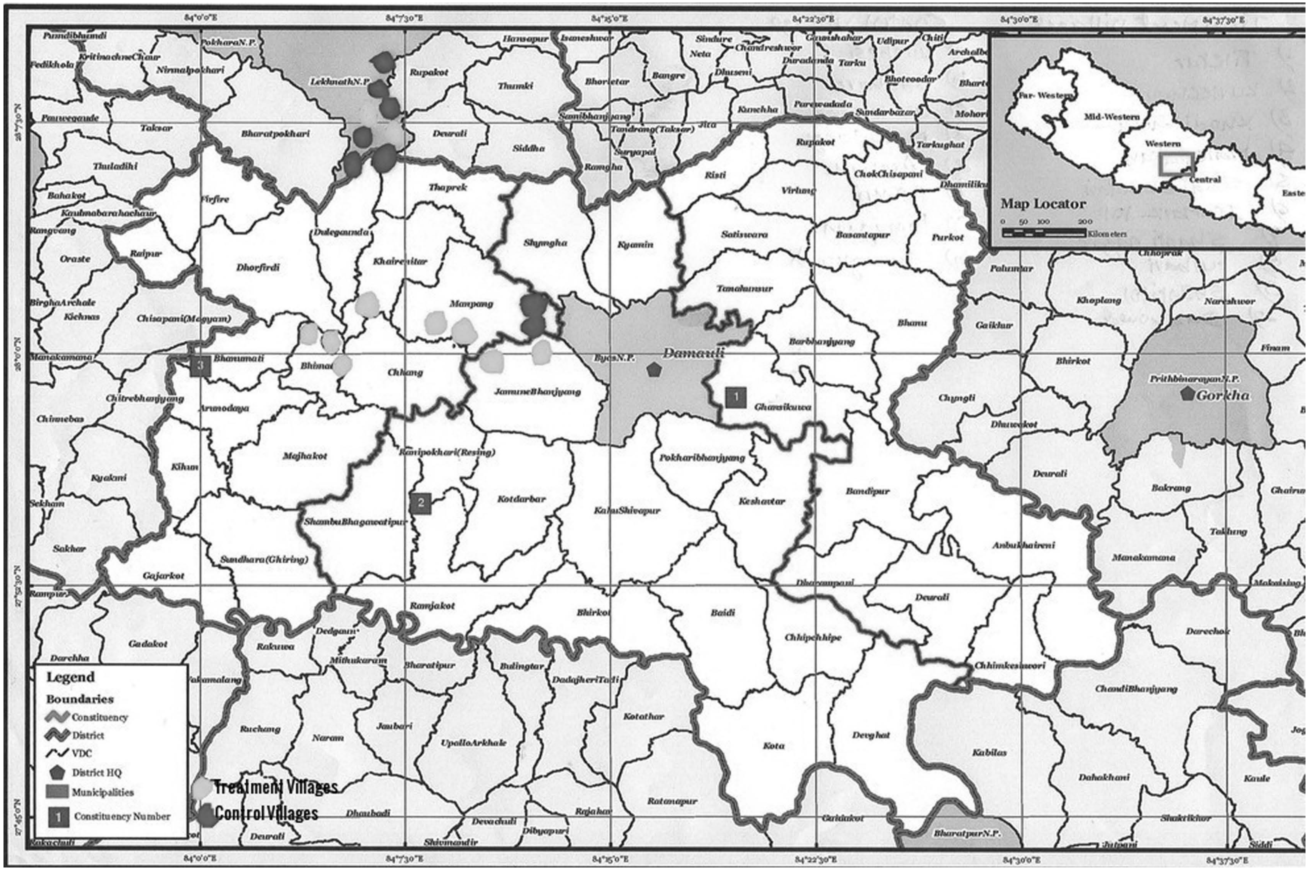

Figure 17.4 Map of the Tanahun District showing the sampling villages

Source: United Nations Office for the Coordination of Humanitarian Affairs (OCHA), Nepal.

in Nepal. For instance, NUBL might have chosen these villages to set up their operations because households in these villages have characteristics that are more suitable to banking. One might argue that microcredit, for instance, would already choose villages that have more empowered women because this would help NUBL's repayment rates and bottom line. This is a possibility. But note that if giving the loan was just a signal to identify the already empowered woman, one should not see a difference between women from the treatment and control villages. If such a difference existed, it would imply that the loan is doing something different to the treated women compared to the already empowered control women: perhaps it might empower them more or signal some other unobserved characteristic. The interpretation would then change: microfinance may then enhance empowerment, but not necessarily of average women. Third, the issue of heterogeneous treatment may arise: the design compares individuals whose treatment (i.e., loan) might have been at different time in the past, with individuals who have yet to have obtain the loan. If time is a factor in determining empowerment and yields as a result women with different levels of empowerment, the comparison with control women may not reveal enough signal to estimate the impact of microfinance.

Our use of a quasi-experimental survey design method suggested by Coleman 1999 has some advantages, as it helps us to correct the bias from unobserved household and village level heterogeneity. Although quasi-experiments generally have lower internal validity than randomized control trials (RCTs), they may tend to yield findings with a higher external validity because the interventions being evaluated in quasi-experiments have been implemented using real-life systems rather than systems designed or modified for the purpose of research. Hence quasi-experiments can be used to obtain cost-efficient consistent and unbiased estimates, though one should beware that the estimation is dependent on some assumptions that may not always hold.

We used a questionnaire survey approach to collect data. Due to budget and time constraints, we limited our sample size to 360 respondents. We conducted our household survey from March–April 2017. From both treatment and control villages, we randomly interviewed ten member women and ten nonmember women. Inclusion of the nonmember women in both village groups (treatment and control) allows for the use of village fixed effects estimation to control for the possibility that the order in which these villages received program support was endogenous (Coleman 1999). The questionnaire used to collect data consisted of four sections. In the first section, we gathered information about village characteristics (distance to nearest city center from the village, road conditions, availability of electricity and public transport). The second section of the questionnaire incorporated questions to capture eligibility and microfinance participation, and the third section included questions regarding basic household characteristics (woman's age, level of education, marital status, occupation, caste, religion, family structure). The last section included the items relevant to empowerment outcomes. After the survey, we had 356 usable questionnaires, of which 196 were from treatment villages and 160 were from control villages.

Description of variables

Women's personal and household characteristic variables

A great number of women in the survey villages were involved in the agricultural sector and small business. Most of the women are married. The summary of the personal and household characteristics of the women in treatment and control villages is presented in Table 17.1. The sample means reveal that between treatment and control groups women's personal and household characteristics are almost the same. For example, the mean age of the women was 37 years and most women believe in Hindu Dharma (mean value = 0.89). Moreover, there was no significant variation in school attendance, family size, and number of children of women belonging to either category.

Women's empowerment indicators

Following Pitt, Khandker, and Cartwright 2006, we treated the empowerment variable as being measured by a set of observed indicators. Pitt, Khandker, and Cartwright 2006 mentioned a number of proxy indicators using a large set of qualitative responses to questions that characterize women's autonomy and gender relations within the household. Selection of appropriate empowerment indicators, however, depends on the study contexts. Thus, following earlier studies (Montgomery, Bhattacharya, and Hulme 1996; Kabeer 2001; Khandker 2005; Swain and Wallentin 2009), we designed our empowerment indicators considering the Nepali social and cultural norms. These included decision-making autonomy, participation in the household, societal and financial decision making, ability to spend money independently, and awareness of their

Table 17.1 Summary statistics of the women's personal and household characteristics

Women's personal and household characteristic variables	*Unit*	*Mean (Std. Dev.) Overall Sample*	*Mean (Std. Dev.) Treatment Group*	*Mean (Std. Dev.) Control Group*
Age	Years	37.48 (9.84)	37.56 (9.77)	37.38 (9.94)
Religion	Hinduism = 1; Others = 0	0.89 (0.31)	0.89 (0.32)	0.89 (0.31)
Ever attended school	Yes = 1; No = 0	1.46 (0.50)	1.38 (0.49)	1.54 (0.5)
Household size	Persons	4.31 (1.11)	4.34 (1.11)	4.27 (1.1)
Number of children	Persons	1.11 (0.95)	1.21 (1.01)	0.97 (0.86)
Proportion of children	Percent	26.77 (21.82)	28.51 (22.06)	24.63 (21.4)

basic rights and law. Note that when it comes to some key household decisions (repairing/construction of houses, children's schooling and marriage, major asset purchases), we considered the women's empowerment in terms of both the husband's and wife's mutual agreement on those decisions. Most of those decisions seem directly linked to major household responsibilities rather than merely women's rights. Although women's increased role in key decision making in the family can lead to hindering the men's participation in household decisions (Mahmud, Shah, and Becker 2012), the ability of a household to make joint decisions could reduce household violence while increasing harmony in the family.

Table 17.2 presents the descriptive statistics of the empowerment variables used in this study. The questionnaire yielded information on potential measures of empowerment in the dimensions of financial and social empowerment. As can be seen in Table 17.2, approximately 40 percent of women reported they had independent income and savings. As for key financial decisions regarding the family's daily consumable food items, asset purchases and asset types, and taking loans, more than 65 percent of respondents tended to discuss these matters with their husbands when making these decisions. It is also clear from

Table 17.2 Descriptive statistics of the empowerment variables

Empowerment Indicator	*Mean (Overall sample)*	*Mean (Treatment group)*	*Mean (Control group)*	*t-Statistics*
Control own income	.4073	.5102	.2812	−4.53
(Yes = 1)	(.4921)	(.5011)	(.4510)	
Independent Savings	.3904	.5204	.2312	−5.90
(Yes = 1)	(.4885)	(.5008)	(.4229)	
Food purchase	.8202	.9387	.6750	−6.44
(Jointly = 2)	(.3845)	(.2403)	(.4698)	
Assets purchase	.66321	.7448	.4937	−4.97
(Jointly = 2)	(.4831)	(.4370)	(.5015)	
Assets type	.6769	.8520	.4625	−8.28
(Jointly = 2)	(.4682)	(.3559)	(.5001)	
Loan decision	.6797	.7295	.6187	−2.21
(Jointly = 2)	(.4672)	(.4453)	(.4872)	
Head of household	.1432	.1632	.1187	−1.2
(Wife = 1)	(.3508)	(.3705)	(.3245)	
Children's marriage decisions	.8848	.8775	08937	.47
(Jointly = 2)	(.3196)	(.3286)	(.3091)	
Groceries decisions	.8258	.8571	.7875	−1.68
(Jointly = 2)	(.3797)	(.3508)	(.4103)	
House repairing decision	.6038	.7295	.45	−5.51
(Jointly = 2)	(.4897)	(.4453)	(.499)	
Awareness of legal rights	.5252	.6938	.3187	−7.57
(Yes = 1)	(.5001)	(.462)	(.4674)	

Table 17.2 that there were significant differences between the treatment and control villages in terms of these key financial empowerment decisions.

As for the social empowerment indicators, most of the households surveyed were headed by men, and more than 75 percent of women reported they made joint household decisions regarding their children's marriages and groceries. Nevertheless, regarding both social empowerment indicators, there were no significant differences between the women in the treatment and control villages. Approximately 70 percent of the women in treatment villages reported they made joint decisions regarding house repairs compared to 45 percent of households in control villages. Furthermore, approximately 70 percent of women in treatment villages reported they had an awareness of women's legal rights as compared to 31 percent of households in control villages. The t-test results confirmed the difference between the women in treatment and control villages in terms of house repair decisions and awareness of women's legal rights.

Even though economic and social empowerment are separately considered by indicators, it is worthwhile to note that the process of empowerment in the "real world" cannot be confined to a particular empowerment dimension because efforts of building women's opportunities and their capacity to take advantage of these opportunities in economic sphere only become empowering when they strengthen their control over their own lives within the family and exercise more influence within their society (see Kabeer 1999, 2001, for more details).

The overall results in Table 17.2 indicate that women in treatment villages were more empowered in all of the financial empowerment indicators. Of the five social empowerment indicators, women in treatment villages seemed to be empowered on only two indicators. Thus, a more robust regression analysis is required to ascertain if the difference between treatment and control households is still significant when considering observable characteristics.

Empirical analysis

We followed Coleman 1999 and estimated the impact using following equation:

$$Y_{ij} = X_{ij} + T_{ij}\gamma + \varepsilon_{ij} \tag{1}$$

Where Y_{ij} is the empowerment outcome for women i in village j on which we want measure microfinance program outcome; X_{ij} is a vector of women and household characteristics; T_{ij} is a dummy variable (equal to 1 if women ij are in a treatment village where the microfinance program is present, and 0 otherwise). This dummy variable is a proxy for the unobservable characteristics that lead a household to self-select into a microfinance program and that might affect outcomes. This dummy variable equals 1 for both treatment members (who have already received microfinance services) and control members (who have not yet received program support); α, β, and γ are the parameters to be estimated, and ε is the error term.

Results

Table 17.3 provides the summary of results obtained from nine ordinary least squares (OLS) models to ascertain the impact of microfinance on women's empowerment outcomes, accounting for differences in observable characteristics. Each column of the table represents a separate model and t-statistics are given in parentheses. The results confirm that the women who were located in the treatment villages appeared to be more empowered, particularly on the financial dimension. Indeed, it can be seen from Table 17.3 that coefficients for treated villages in all empowerment indicators (except head of household, women's autonomy in grocery, and decisions about children's marriages) are positive and statistically significant. For example, women in the treatment villages were 18.67 percent more likely than those in the control villages to respond "yes"' to the question of whether they have their own income and that they can spend it without their husband's permission. The coefficient for treated villages for "head of household" is not significant, although the coefficient has a positive sign. Similarly, women's autonomy in decision making in groceries and children's marriage is also not significant. These results are not surprising because, in traditional Hindu society, the male partner of a couple is considered the "household head" and is involved in a number of major household decisions. All these indicators are proxies for social empowerment (that financial empowerment constructs) that is more heterogeneous and often linked with a number of exogenous factors, such as male partner's age, level of education and his adherence to traditional beliefs towards his wife, level of family income, the worth of dowry brought into the marriage by his wife, and the gender of their children (Ngo and Wahhaj 2012; Weber and Ahmad 2014). In other words, a number of other factors, such as household and village characteristics, cultural and religious norms within the society, and behavioral differences between the respondents and their family members, are critical factors for empowerment, particularly empowerment regarding women's social autonomy and, consequently, measuring it based on the observable indicators may be quite difficult (Swain and Wallentin 2009).

As for the women's personal and household characteristics (control variables), we found positive and statistically significant coefficients for the variables of age and proportion of children in all empowerment indicators except decisions regarding loans, house repairs, and awareness of legal rights. Furthermore, coefficients for school attendance are positive and significant in all empowerment indicators we used except for the head of household. Finally, household size has a negative effect on all empowerment indicators. However, coefficients for household size are significant only in asset purchases, assets types, head of household, house repairs, and awareness of legal rights. Overall, the results of this study suggest that women's participation in the Nirdhan Bank microfinance program had a considerable positive effect on their financial empowerment along the selected empowerment indicators. However, access to microfinance had not resulted in a significant impact on women's social

Table 17.3 The impact of microfinance on the women's empowerment: estimated parameters

Variables	*Empowerment Indicators*										
	Own Income	*Own Savings*	*Food Purchase*	*Assets Purchase*	*Assets Type*	*Loan Decision*	*Head of Household*	*Children marriage*	*Grocery*	*House Repairing*	*Awareness of legal rights*
Program-related variable	.1867★	.2461★	.2263★	.2068★	.3486★	.1032★	.0501	− .0113	.05287	.2636★	.3337★
Treated women	(3.81)	(4.24)	(2.76)	(2.82)	(5.98)	(1.93)	(1.21)	(−.28)	(.84)	(3.18)	(6.49)
Woman's personal and	.0057★	.0053★	.0075★	.0145★	.0104★	− .0028	.0183★	− .0009	.0061★	.0068	− .0016
household characteristics	(1.63)	(1.83)	(2.65)	(3.57)	(2.66)	(−.79)	(4.99)	(−.54)	(3.15)	(1.54)	(−.44)
Age											
School attendance	.2109★	.2114★	.1978★	.1782★	.1634★	.1015★	−.0785	−.0202	.08429	.1230★	.2929★
	(4.41)	(4.28)	(2.96)	(2.6)	(2.66)	(2.33)	(−1.61)	(−.48)	(1.41)	(2.13)	(6.47)
Household size	−.0301	−.0458	−.0145	−.0821★	−.0705★	−.0068	−.1163★	−.0482★	−.0176	−.0808★	−.0587★
	(−.86)	(−1.39)	(−1.38)	(−4.55)	(−3.01)	(−.25)	(−8.66)	(−2.16)	(−.94)	(−4.26)	(−2.6)
Proportion of children	.1761★	.2383★	.1668★	.3846★	.3674★	−.1468	.2825★	.0756	.1075	.0895	.0558
	(1.69)	(1.88)	(2.05)	(2.42)	(3.08)	(−1.42)	(2.90)	(.92)	(1.10)	(.75)	(.55)

★ Significant at 5% level. t-statistics are in parentheses. Standard errors are clustered at the village level. Analysis is based on 356 respondents.

development outcomes in women's household decision making regarding groceries and their children's marriage and women's role as the household head.

Discussion

The objective of this study was to investigate the link between microfinance lending and socioeconomic empowerment of female entrepreneurs in rural, hill villages in Nepal. The Nepalese case is a significant study exploring this issue, as there is little evidence concerning the impacts of microfinance programs on women's socioeconomic empowerment and improved gender equality. We used a quasi-experimental survey approach involving a survey of 356 women entrepreneurs in member and nonmember villages. The overall results of this study suggest that women's participation in the Nirdhan Bank microfinance program has had a significant positive effect on their empowerment along all selected financial empowerment indicators. However, access to microfinance has not resulted in any significant impact on women's social development outcomes in terms of women's household decision making regarding groceries and their children's marriages. Given the women's role in rural economic growth, women's simultaneous empowerment along both social and economic dimensions is crucial to achieve Nepal's sustainable development goals. Therefore, special attention needs to be paid to women's social empowerment, though such an initiative could be costly for microfinance, as it helps them to promote child education (particularly girls' school attendance), improve health and sanitation, and reduce child mortality.

The research findings are potentially of considerable interest to an audience comprising governments, policymakers, aid agencies and NGOs, and academics. The lending model adopted by the bank seems to have the potential to empower women in the given economic empowerment indicators to a certain extent. However, our findings lead us to suggest that bank managers need to further strength the delivery mechanism so as to improve women's empowerment particularly in social sphere. Use of cheaper computers, increased clients/credit officer ratio, and decreased loan losses help the bank to reduce operating costs and subsidy dependency and make a greater social impact. Reduced subsidy dependency by using innovative approaches such as "learning by doing" and relying on saving rather than credit and risk-based allocation of resources could also be useful strategic options for the bank to ensure its sustainability without compromising its social mandate.

Our findings in this research are subject to at least three limitations. First, given the available budget and resources, we limited our sample to only to 356 respondents. Thus, with a small sample size, caution must be applied, as the findings cannot be generalized to a large population in the sampled district. Second, there is no single definition of women's empowerment, and it is often considered as a multidimensional socioeconomic process that helps women to enhance their autonomy and self-reliance. The current investigation, however, was limited by several empowerment dimensions in a cross-sectional design.

Finally, there are several methodological issues. A major factor is that the setting did not allow a regular randomized control trial, with baseline and follow-up datasets on treatment and control households. Rather, we used a similar design to Coleman (1999), and we relied on the strategy that the treatment and control villages were correctly chosen, in conjunction with the NUBL organization. In addition, because of the placement of the NUBL institution in the village, our results are more suggestive of the "intent to treat" (ITT) of the NUBL program, rather than the "average treatment effect" (ATE) that the program might have. Future work will include further consideration of village characteristics and the eligibility criteria that NUBL used to allocate its loans to women, as well as considering the possible heterogeneity of treatment by further analyzing the length and number of loans women in the treatment group may have received. Clearly, more research on this topic needs to be undertaken before the association between microfinance lending and empowerment of rural female entrepreneurs is more clearly understood, though our preliminary results suggest a positive link between microcredit and some measures of women's empowerment.

Notes

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2 Whereas social outreach refers to the MFIs' ability to alleviate poverty and gender inequality, financial sustainability is defined as MFIs' ability to survive without subsidy. The potential trade-off between the two notions may be a strategic choice for the MFIs.

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