Role of rural finance in reduction of poverty in the Agriculture sector: Northern India

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Abstract
India is among the most rapidly developing economies in Asia. It is also among the largest emerging economies because of the high growth rate in GDP that it has experienced in the past two decades. It has significantly high poverty levels with most people living in agrarian, rural communities. Developments in agriculture have enabled the country to overcome high poverty levels and food scarcity. This paper focuses on the use of rural financing in Northern India for poverty alleviation through agriculture. The paper addresses the use of different models of rural financing in India. It shows the significance of cooperative banks and self-help groups in availing credit to rural farmers. The findings highlight weaknesses in the system and show how it has been ineffective in addressing challenges facing farmers in Northern India. It also indicates that many farmers rely on sellers of seeds, equipment, and chemicals for credit in order to meet their needs. This is ineffective because of inaccessibility and high transaction costs.

1. Introduction

India is among the largest countries globally, and it has a myriad of problems affecting the people. Poverty has a significant weight on the country mainly in the rural areas where 77% of the poor Indians live. About three-quarters of India's population live in rural areas and suffer high levels of poverty despite efforts undertaken in the past four decades. India is still having an extremely large number of poor people; progress has been steady, but at a quite slow rate (Prato & Longo, 2012).

Different factors such as the presence of roads, population density, ecological conditions, and irrigation influence the rates of poverty in the country. Other factors affecting the rural poor in India include caste, land ownership, literacy, and gender. The incidence of poverty has been highest among the landless wage earners. Rural female labourers are also more likely to rely on daily wages from manual employment than their male counterparts are. Poverty is deepest among members of secluded tribes and castes in the rural areas. These communities accounted for 80% of the rural poor in 2005, but their proportion of the rural population is lower. The Gini coefficient, which shows variations in economic equality, does not highlight significant variations across regions indicating that they have relatively similar levels (Mudgal, 2006).

One of the main causes of poverty in rural India is lack of access to financial resources and productive assets. In response to the high poverty levels, in India, the government and the private sector have endorsed different efforts to aid the poor. Some of the strategies undertaken improve the gradual commercialization of agriculture. This has played a significant role in increasing outcomes for the rural poor. Rural finance is critical to the enhancement of economic outcomes for individuals in India. This is because it increases their ability to produce agricultural commodities for sale. This research paper focuses on the use of rural financing as a strategy for poverty alleviation in Northern India. It addresses the use of rural financing to aid the agricultural sector in Northern India. The study seeks to determine how access to banking and credit facilities among the rural poor has helped in enhancing the growth of agriculture in Northern India.

2. Access to Natural Resources

Poor rural people mostly rely on natural resource to support their livelihoods. Some of the essential recurrent issues among the rural poor include access and rights to natural resources, market access, and policy processes. Tenure and access to natural resources is governed by power dynamics that result in marginalization of the rural poor communities. The rural poor have limited and insecure access to natural resources because of degradation, competition, land fragmentation, and existing policies (Prato & Longo, 2012). Natural resource management and knowledge on agriculture is necessary in supporting rural livelihoods in the face of changing markets and environments (Brunori et al, 2008). Knowledge and technology in agriculture are often distributed, priced, and used in ways that benefit the non-poor communities as well as irrigated rather than rain-fed farming. This is because of issues such as ease of access, financial capacity, and market potential (Prato & Longo, 2012). Financial and advisory services are provided asymmetrically to the rural poor. Compared to the non-poor, this makes it difficult for them to gain knowledge on how to develop commercial agriculture.

3. Agriculture in Northern India

India has an impressive record of progress over the past four decades because it has been able to keep pace with the rising demand for food. The sector has gained significantly in terms of productivity with the land area under agriculture declining over time. The contribution of agricultural growth to economic performance has been widespread with some of the benefits being the increase in rural incomes and employment levels both directly and indirectly. The sector is the largest component of GDP accounting for 28% and 60% of employment. It is a prime authority of living standards for 70% of the population living in rural areas (Bhandari, 2009). Its high contribution and need for self-sufficiency have increased the priority of agriculture in the successive development plans made by the Indian government.

The country has progressed from the frequent food shortages and drought to become an exporter of agricultural commodities through persistent management of water and land resources for agriculture. Agriculture in India consists of four sub-sectors: livestock farming, agriculture proper, fishing, and forestry. Agriculture proper is the largest sub-sector in India and it has made impressive progress in enhancing its role in the economy. It consists of food crops, oilseed, fibre crops, fruits, and vegetables among others. Diversification in the agricultural sector has resulted in the share of this sub-sector declining considerably from 78% in 1960 to about 70% in the late 90s. The authorities developed strategies to enhance food production in the country with food grain production reaching 195 million tonnes in early 2000s (BCCI, 2008). This enabled the development of a stock of about 35 million tonnes of food grain to cope with difficulties or deficiencies.

The key strategies employed in addressing the production of agricultural commodities in India have been public sector efforts. It focuses on the concentration of public sector efforts and resources in regions that have high production potential. In order to harness the productivity of these areas, the authorities have developed strategies for increasing cropping intensity as well as average yields. The areas considered for these strategies were those favoured by agro-climate resources. Areas where irrigation facilities could be developed rapidly or already existed were also considered. The essential elements of this strategy were the expansion of irrigation coverage; increased provision of essential inputs such as high yield crop varieties, fertilizers, and crop protection chemicals; expansion of institutional support services; and favourable price policies (Littlefield, Brigit, & Porteous, 2006). These strategies succeeded because of replicable production technologies known as the Green Revolution. Most agricultural development programs focused on high potential areas such as Uttar Pradesh, Haryana, Punjab, Tamil Nadu, and Andhra Pradesh. These states account for 50% of the net irrigated area in India. In contrast, output and productivity growth have progressed modestly in Eastern and Central India. This was mainly slow in rain-fed areas that account for over 60% of the cropped areas that harbor a large majority of the rural poor. One adverse impact of the strategies pursued in the Green Revolution was the intensification of developmental disparities across regions. Most of the areas in the Northern region of the country such as West Uttar Pradesh, Haryana, and Punjab are irrigated. The main crops in these areas are wheat and rice, which have been experiencing plateauing productions because of exhaustion of traditional sources of productivity. The agricultural production growth rate declined from 3.2% per year between 1980 and 1996 to 1.8.5 between 1997 and 2001(Chand, 2004). These issues have highlighted the need for advanced methods and strategies for enhancing the productivity of agriculture in northern India. The government and private sector have focused on the provision of rural financing as a way of enabling farmers to increase their agricultural productivity. Rural financing has played a key role in enhancing agricultural productivity in Northern India. Most of the strategies employed here in financing rely on informal networks and connections among the individuals.

Pressure from rising populations has squeezed agricultural land for pastures and crop farming. The sector is also facing significant pressure from market liberalization, and the National Agriculture Policy was developed in 2000 to address the central challenges. The policy envisioned technology-led and demand-driven growth to play a critical role in achieving the targeted growth rates of above 4% per annum. The targets of the policy could not be achieved because of slow reforms implementation in the sector and persistent drought in different parts. Growth in the sector was merely 0.7% in 2005 because of deficient rainfall, but it increased to 2.3% in 2006 (Government of India, 2006). Despite the improvement, the growth rate was significantly lower than the targeted level of 4%. Growth in the sector has followed dissimilar paths and growth rates in the different regions. Most of the states in Northern India have alluvial soils except hill states. They have similar patterns of low rainfall because of the semi-arid climate. Because of the climatic conditions, most agriculture in the region is irrigated. Rice and wheat are the key crops in the region, but in the hill states, maize, fruits, and vegetables also dominate (Fulton, Klein, Lerman et al., 2009).

There are significant differences in the rate of development as well as sources of growth in the various regions. In the northern region, intensive grain production is the specialty including the state of Punjab. Wheat is the most important crop in this region in terms of value and area. Wheat and rice together account for 62% of the cropped area in Northern India, and 56% of the value of crop output. In contrast to other areas where more than 60% is rain-fed, almost three-quarters of the land are irrigated in Northern India. The use of fertilizer in this region is higher than the national level and slightly lower than the Southern region (GOI, 2007). The share of agriculture in GDP, in Northern India, is higher than in other regions making it highly critical to the people's economic well-being.

4. Rural Finance in Agriculture

Most people in India live in rural communities segregated into agrarian structures. Agriculture is the vertical backbone of the country because of its contribution to GDP and employment. The contributory share of the sector in the national GDP declined significantly to about 18% in 2012, but it provides employment to about 605 of the population. The reduction in contribution of agriculture in the national economy has not reduced its ability to benefit the rural communities. Inadequate financing is the main challenge that reduces the ability of people to utilize agricultural resources effectively (Gupta, 2012).

The most efficient way of availing financing to rural communities is through micro-finance institutions. This is mainly provided through self-help groups that are developed to aid the members in accessing credit and pooling their resources. Credit and savings service delivery between banks and their clients favour women in spite of the challenges they present in terms of the burden and the need for flexibility in the instalments. Microfinance services are provided to small entrepreneurs and businesses that have a difficult time accessing banking services. This is because of the high transaction costs, inflexible repayment systems, and other terms. The most important aspect of Microfinance is poverty alleviation and empowerment of the community. The system of micro financing is a form of macro economy that enables the modern economy to avail credit to the disadvantaged.

Rural financing is provided through cooperatives and self-help groups. This strategy is highly beneficial to individuals associated with non-market enterprises or household businesses. Whether such institutions are governmental or NGOs, the self-help group can make them profitable by availing resources. People from rural areas in India have shown significant interest in modern methods of farming. They also seek other areas of investment such as the stock market or chit funds. Self-help groups and micro financing in combination with rural banking, cooperatives, entrepreneur agencies, and small-scale investments present a safe place for people to invest. Microfinance is not limited to loans and deposits because it has wide socioeconomic impacts on health, education, and poverty alleviation. Self-help group consists of groups of individuals that take up different economic activities in combination. The activities taken up by these groups include poultry farming, food processing, and vegetable selling among others in the agricultural supply chain.

According to Mansuri (2010), self-help groups provide one of the most effective ways of poverty alleviation in poor nations. In India, the IRDP (Integrated Rural development program) targeted the poorest and the poor by enabling them to acquire productive assets through bank loans and government subsidies. Drawbacks in the implementation phase of the program prevented it from achieving the required goals. Other strategies such as training rural youth for self-employment also failed because of shortcomings in delivery as well as delivery of the project. Current annual demand for credit in India by the poor is estimated to be between Rs 15,000 and Rs 45,000 crore according to the World Bank (2007).

The poor were ignored by banking institutions because of the high risk involved and the high transaction costs as well as lack of collateral securities. The inability of prior strategies to reach the needy through financing resulted in evolution of self-help groups as a way of reaching them. The SHG-bank linkages model is considered as a core development strategy by NABARD. These groups have a high recovery rate and enable the banks and financial institutions to avail credit to the poor.

India has earned its place in global Microfinance through bank linkage with self-help groups. The two main models used for availing rural financing in India include the Microfinance institution (MFI) model and the SHG-Bank Linkage program. These models offer significant potential for addressing poverty because they rely on the creation of social capital by providing access to financial services through linkages with mainstream banks. Microfinance in India is termed as provision of credit, thrift, and other financial services and products in small amounts to the poor. The focus of these products and services is to enhance income and living standards of communities. This indicates (see below table 1), that the national disbursement of credit to the agricultural sector has surpassed targets since 2007.

Year	Target (Rs crore)	Achievement (Rs crore)
2007-08	2,25,000	2,54,658
2008-09	2,80,000	3,01,908
2009-10	3,25,000	3,84,514
2010-11	3,75,000	4,59,341
2011-12	4,45,000	2,62,129*

Table 1. Depicts the surpassed targets n Agriculture Sector since 2007-2012.
Source: Ministry of Finance, GOI, Annual Report (2012). The 2011-12 figure with a * was provisional as at October 2011.

Research by NABARD in the 1980s revealed that India had a wide network of rural bank branches consisting of commercial banks, RRB, and PACS (Primary Agricultural Cooperative Credit Societies). These institutions were geared to reach the poor, but the banking system was not suited. Some of the problems with lending practices at the time were the absence of an integrated savings component and refusal by the beneficiaries to distinguish between bank credit and state subsidy support. Early strategies such as the Rural Banks Act of 1976 and the committee on rural credit played a critical role in enhancing access to financing. These and other evaluations suggested the set up of a cooperative rehabilitation and development fund and a mutual assistance fund at the state level. The agricultural sector in India was addressed by structural reforms in credit. Some of the reforms included deregulation of interest rates for RRBs and cooperatives and liberalization of bank for loans larger than Rs 200,000. These strategies enabled individuals to access credit easily for use in development of their agricultural activities.

The existing agricultural credit system is well equipped to handle the needs of food grain producers. Recent changes in the sector have resulted in falling share of agriculture, in the total credit, but this is caused by the fall in agricultural value added, as a proportion of GDP. This situation is highly relevant in northern India, which has been facing declining and plateauing growth in many areas. The share of food grain production as a share of total agricultural produce has fallen significantly. The fundamental problem in rural development in agriculture has been the reliance on borrowers on informal lenders. The share of informal moneylenders in agricultural credit declined significantly with the nationalization of banks and spreading of rural bank branches in 1969. Agricultural credit extension in India is actualized through the wide network of rural financing institutions. Scheduled commercial and rural cooperative banks increased significantly in the late 1990s and 2000 in order to give the institutions a sound business footing in rural areas. The performance (Table 2) of agricultural credit in the Northern India region has been significantly high in recent years. The ratio of agricultural credit to the net domestic product was 1.0%, which was lower than the Western region. The region-based share of agriculture and related sector credit disbursement was 19.9% in the study period, which was higher than the rest of the country.

The credit architecture in the country mainly consists of commercial banks, cooperatives, and RRBs. These financial institutions have a strong presence in most parts of Northern India such as Uttar Pradesh, Punjab, and Haryana. Another critical aspect to access by these institutions is agency banking. The process of institutionalization of agency-wide share of rural credit has been increasing in recent times. Institutional agencies for banks like ICICI and HDFC have increased. Their share in the borrowings of cultivator households has played a significant role in their economic advancement, in rural areas (Development Alternatives, Inc, 20005). This share increased from 66.3% in the early 90s to over 70% in 2005. The share of non-institutional agencies also increased to reach 38.9% in 2005. This was a result of the involvement of dealers of different agricultural inputs in financing cultivators. This was also caused by the diminished interest of commercial banks in rural finance after the financial reforms of 1991. The irony of the situation is that states with high levels of commercialization had a higher share of non-institutional finance. In Uttar Pradesh and Haryana, a significant amount of financing came from dealers in certain inputs such as agrochemicals, seeds, and equipment. These individuals provide informal credit to farmers in the area based on social networks (Satyasai & Viswanathan, 2008). According to NABARD (2008), commercial banks accounted for 66.7% of the credit to agricultural activities in 2007-2008. The cooperatives system, which is hyped as the central credit channel for farmers, grew relatively slowly compared to the other channels between 2003 and 2008.

The state of agriculture in Northern India grew consistently during the Green Revolution with increased use of modern technology such as fertilizers, pesticides, and irrigation. This enabled the farmers to increase their output through productivity growth as well as increase in cultivated area. Financing played a critical role especially PACS and cooperative banks that enabled farmers to pool together their production and resources. Despite the declining role of cooperatives in the sector, they have played a significant role in aiding growth of agriculture in the region. Climate change has been a critical factor in reduction of farm productivity in Northern India (Zwerdling, 2009; Hance, 2009). Cooperatives that finance irrigation projects have enabled farmers to respond to the changes. Water has become increasingly scarce in the region because of competition and intensive use, and the reliance of regional agriculture on irrigation makes it vulnerable to this challenge (Fulton, Klein, Lerman, et al, 2009).

Farmers in Northern India are mainly members of cooperatives involved in the sale, storage, and processing of grains. This is meant to enhance their negotiating power in the market. Weaknesses in these cooperatives have reduced their capacity to negotiate and provide favourable conditions for farmers in the region. The low productivity and effectiveness of the cooperatives has also reduced their effectiveness in providing financing and other resources to farmers. This resulted in the farmers turning to other options for financing such as commercial banks, self-help groups, and non-institutional lenders. The government has undertaken strategies such as capital infusion and balance sheet cleansing to revitalize the cooperative system.

The total support released to states in 2008 reached Rs 3,659.05 crore. The pace of revival for cooperatives to serve their members and increase their confidence has failed to take off because of institutional constraints. According to a report by the EPWRF (2007), financial revival may not necessary translate to improvements in the operation of cooperatives. A key weakness in the cooperative system is that marketing and credit schemes are not integrated. They are separate and have significant weaknesses in the viability of PACS because they provide a one-stop solution to farmers.

The KCC (Kisan Credit Card) scheme introduced in August 1998 was meant to facilitate flexible, easy, and timely credit delivery to farmers. The scheme provides loans for purchase of crops as well as personal consumption and term loans. The scheme has taken root in Northern India where most of the residents are smallholder farmers. According to the BCCI (2008), more than 100.04 lakh cards have been issued in Northern India with cooperative banks accounting for almost 50%.

These credit card facilities increased farmers' accessibility to financing by simplifying delivery procedures and flexibility in usage. Another aspect that has aided access to financing for farmers in the region is the farm credit package. This scheme was initiated in 2004 to double credit flow to agriculture from Rs 800,000 crore in 2004 a period of three years.

Issuer	**Amount in Rupees**	**Percentage (%)**
Cooperative banks	4.07 crore	40.3%
Commercial banks	4.79 crore	44.6%
RRBs	1.52 crore	15.1%
Total	10.38 crore	100%

Table 2. Shows the distribution of Kisan Credit Card loans given to farmers in 2011.
Source: GOI, Ministry of Finance Annual Report (2012)

The target of the strategy was achieved in two years because of concerted efforts and measures such as revision of scales, coverage of new farmers, and new credit cards. The effectiveness of this strategy was limited because of sub-sectoral bias towards farm mechanization. This played a significant part in addressing the labour challenges facing farmers, but it was limited in addressing land development, irrigation, and agro-processing. This resulted in a sudden increase in agricultural productivity followed by a plateauing of production levels and revenues (Satyasai, 2008).

The self-help group-bank linkages model was initiated to supplement the efforts of the formal banking system in providing credit to rural farmers. NABARD started the program using 500 groups, and expanded it to accommodate 2,584,729 groups in 2008. Micro-finance institutions emerged to fill the gap arising from poor network of banks in rural areas. This model of financing has been lowly integrated in Northern India because of the reduced bank network in the region. SHG Linkage is concentrated in southern states where it has played a key role in enhancing agriculture-based enterprises such as agro-processing. This mean the SHG-Bank Linkage model has not had significant success in Northern India in alleviating poverty. The imbalances in outreach from this model have made it ineffective in achieving the expected results in Northern India in terms of providing financing and support to farmers. This indicates the weaknesses in efforts developed by the government as well as banking institutions in availing credit in northern India. This loophole in capacity of commercial and cooperative banks caused many farmers to rely on non-institutional sources such as vendors. This is limited because it is given based on goodwill and social capital accumulated by the farmer.

5. Conclusion

The Northern states of India are the most agriculturally productive parts of the country. They account for a large proportion of output of wheat and rice, as well as approximately 50% of irrigated land area in India. This region was the centre of the green Revolution where agricultural productivity was enhanced using high yield seeds, mechanization, irrigation, and use of agrochemicals. This enabled many of the residents to gain a viable means of earning a living through agriculture. The trends in the sector and climate change have resulted in plateauing of production in the region, and the need for more financing in order to sustain production. The formal strategies adopted by the government as well as private institutions in addressing poverty in the region and lack of adequate financing have been ineffective because of sectoral constraints. Strategies such as the SHG-Bank Linkages have not been adopted significantly, in Northern India. This is in spite of its significance, in agriculture. The amount of loans advanced by commercial and cooperative banks in the region is also relatively low compared to other regions such as Southern India.

The findings of this survey show that rural financing through formal strategies has been ineffective in addressing the situation in Northern India. The number of people with access to rural financing through banks is low, and the most widely undertaken strategy is cooperative societies. These have been undertaken as a way of increasing the negotiating power of farmers in marketing their produce. Cooperative societies such as the PACS are ineffective in providing accessibility to financing because they do not integrate credit and marketing. Separate associations undertake the two functions and members do not benefit adequately from their involvement. Efforts of alleviation poverty through agriculture in northern India have to refocus on value addition. The sectoral bias in Northern India, as in many other parts, has been towards mechanization. The formulation of strategies for rural financing is necessary to enhance other aspects of agricultural productivity such as land development, agro-processing, and irrigation. This would provide a platform for enhancing poverty alleviation in the region through value adding business and aspects that will increase productivity in spite of the current situation.

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