Transforming Rural Agricultural Cooperative Banks with Microfinance Model

A Ubiquitous way of Banking Resurgence

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Acknowledgement

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Executive Summary

The cooperative societies, which have adopted the microfinance model for providing credit to rural people, have proved themselves as successful ventures. In a bid to reengineer the cooperative-microfinance model, as a successful one, this research is motivated to identify the characteristics of the adept financial products as expected by the members of cooperative banks.

The strategic agenda for this research is to establish a new financial product that is feasible to curtail the loan recovery time and to provide sustainable development for the cooperative banks using microfinance schemes. The value agenda for this research is directed towards the identification of the characteristics of innovative financial products. The policy agenda is to suggest the criteria for developing new products that can be integrated with a cooperative mission and national mission.

The research is motivated to find out the answers to the following queries:

1. Is it possible to integrate the cooperative banking models with three-level stakeholders such as cooperative society members, self-help groups and policymakers?
2. What type of financial products can a cooperative bank offer to the agriculturists under the new model?
3. Will the new financial product solve the problem of cash crunch in the cooperative banks?

The research was organised in three stages. In the first stage, a pilot study was organised to integrate the cooperative model with the microfinance model. Primary agricultural cooperative members having linkage with the small banking finance (microfinance institutions) were interviewed. There are 302 respondents. Then a case study has been organised in a cooperative bank, where the credit system has been integrated with the microfinance model.

In the second stage, new product development research was conducted. The second stage research design was established based upon the new product development research conducted in Poland for microfinance that links the cooperative model and MFIs.

In the third stage, the 'supra-market group' was identified to validate the results of the first stage and to establish product protocol. The research design has been established by

considering the customer-centric approach used by MFIs research in Egypt, which is based on the conceptual value that "poor to be served". Even though the research tools and designs are based on different countries, the research sample has been selected only from India.

Innovative financial products like micro-ventures are essential for the upliftment of agricultural society. This can be effectively done by implementing the microfinance model in the cooperative system. To implement the microfinance model in cooperative societies, we must integrate the services of self-help groups. As stakeholders aim for the value for credit, the beneficiaries are not only able to redeem the debt but also able to earn for their livelihood. Thus, the cash crunch problems in the cooperative system can be overcome by the microfinance model and enable them to have flawless credit. It is the pathway to satisfy the national goal of financial inclusion and sustainable growth in agriculture. The cooperative model that integrates microfinance is also used for cross subsidising the transaction cost incurred in the agriculture loans. Hence, we conclude that the integration of the microfinance model with the credit delivery system is a ubiquitous way of economic resurgence in rural economics.

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Abstract

Indian rural economic development depends on the rural credit distribution system. The Primary Agricultural cooperative banks are taking the responsibility of providing equilibrium level of credit to rural mass. There are 92,432 primary agricultural cooperative banks in India and they are located in 90% of villages in India (GOI, 2017; Yashoda,2017). However, in India, during the five years between 2014 and 2019, Primary Agricultural cooperative banks faced cash crunch crisis and financial woes, while redeeming the agricultural loan. On the other hand, microfinance organizations are also facing the problem of huge interest rate. The cooperative societies, which are following the microfinance model for providing credits to rural people, have proved themselves as successful ventures. In a bid to bring the cooperative-microfinance model, a successful one, this research is motivated to identify the characteristics of the financial products as expected by the members of co-operative banks.

The research is motivated to find out the answers to following quires.

1. Is it possible to integrate the co-operative banking models with three-level stake holders such as cooperative society members, Self-help groups and the policymakers?
2. What type of financial product - a cooperative bank can offer to the agriculturists under the new model?
3. Does the new financial product will solve the problem of cash crunch in the cooperative banks?

Key words: MFIs, Discrete choice Model, SHG, Micro-venture, Supply Chain

Chapter - 1

Introduction and Methodology

1.1 Motivation and Scope of the study

Cooperative society's model of providing financing is a unique one, as it serves its members in a service motive. There are 92,432 primary agricultural cooperative banks in India and it covers 90% villages in India (GOI, 2017; Yashoda,2017). However, the conservative method of loan recovery system in the co-operative model created flaws in creating financial infusions in few co-operative societies in India. In the year 2017, Kolhapur District Central Cooperative (KDCC) Bank in Kolhapur in India faced the cash crunch and unable to give crop loan of Rs 10,000 to the farmers for the Kharif season (Times of India, 2017). In the district cooperative banks in Aurangabad, Jalna, Parbhani and Hingoli the cooperative society sanctioned only Rs 660 crores as loans to its members in agriculture as against the target of Rs 4,643 crore (Asian Age, 2017). In the state of Punjab, there is an increase of 300 percent in the number of loan defaulters in all cooperative societies during 2017. The agricultural Cooperative societies in the state of Punjab receives gains from the loans distributed to the farmers and by selling the fertilizers, pesticides, seeds and other grocery items to the farmers. However, due to the decrease in the loan recovery process, cooperative societies are unable to pay salary to their employees (The Tribune, 2017). A 60-year-old farmer was reported to have committed suicide allegedly because of harassment by cooperative bank official for not paying the loan in Punjab (Deccan Chronicle, 2015). The loan outstanding on direct agricultural credit is given to farmers by the Primary Agricultural cooperative banks are also increasing in India. On June 26, 2020 Banking Regulation (Amendment) Ordinance, 2020 was promulgated amending the Banking Regulation Act, 1949, bringing additional areas of functioning of cooperative banks under the regulatory purview of the Reserve Bank. The provisions amended include Section 3, Section 45 and Section 56 of the principal Act. On September 29, 2020 the Banking Regulation (Amendment) Act, 2020, which replaced the Ordinance, was notified by the Government of India and all the provisions of the amended Act came into force for Urban Co-operative Banks with effect from 29 June 2020. The exhibit-1

shows the outstanding loan given by the cooperative societies to agriculture in India as of March -2016.

Exhibit-1.1: Direct Agricultural Amount outstanding on March 2016 in Cooperative banks
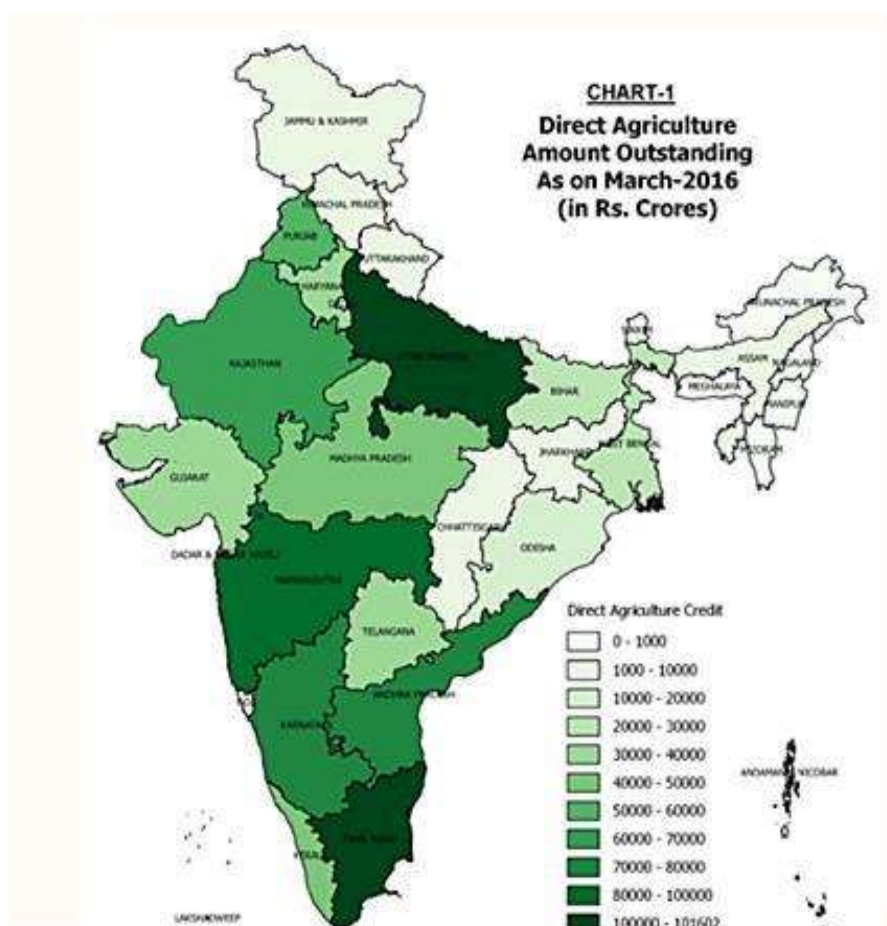
Source: RBI Report on Trend and Progress of Banking in India,2017

The exhibit-2 shows the growth of outstanding credit of the Primary Agricultural cooperative banks from 2010 to 2016.

Exhibit-1. 2: Growth of Outstanding Credits of PACS
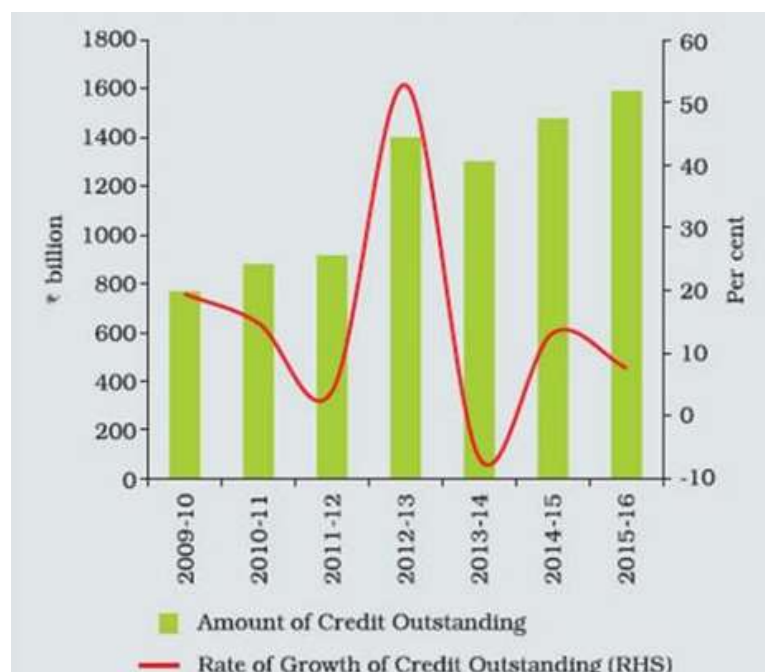
Source: RBI Report on Trend and Progress of Banking in India,2017

The table -1 shows the number of loans borrowed by the small and medium members of Primary agricultural cooperative societies and amount outstanding on March 2016

Table-1.1: Loans Borrowed and Outstanding on March 2016 in PACS

Amount outstanding range	Number of accounts (in lakh)				Amount outstanding (in ₹ crore)			
	Allied Activity	Crop Loan	Investment Loan	Grand Total	Allied Activity	Crop Loan	Investment Loan	Grand Total
Up to 1 Lakh	16	221	51	288	5110	95675	19955	120741
More than 1.0 Lakh and up to 1.5 Lakh	1	35	7	42	1062	40412	7799	49274
More than 1.5 Lakh and up to 2.0 Lakh	0	13	3	17	718	22963	5671	29353
More than 2.0 Lakh	1	29	10	40	5916	110398	42106	158420
Grand Total	19	298	70	387	12807	269449	75532	357788

Source: RBI Report on Trend and Progress of Banking in India,2017

The table -1.2: Loans outstanding in the state agricultural cooperative societies on March 2020.

Sr. No.	Name of the State Co-operative Banks	Investments	Loans Outstanding (Amount in Rs. Lakh)		
			Total No. of Accounts	Total Amount	Total Agri. Loans o/s
1	CHHATTISGARH	4,95,051.16	2,597	2,46,555.68	96,266.49
2	MADHYA PRADESH	2,27,914.46	3,747	11,30,801.11	8,92,542.14
3	UTTARAKHAND	1,38,856.13	14,477	1,99,961.94	1,04,785.87
4	UTTAR PRADESH	2,71,395.27	8,727	8,11,511.81	3,48,708.46
	CENTRAL REGION TOTAL	11,33,217.02	29,548	23,88,830.54	14,42,302.96
5	ANDAMAN & NICOBAR	57,415.60	7,904	66,284.21	4,283.87
6	BIHAR	1,52,038.02	11,856	1,81,950.74	37,067.77
7	JHARKHAND	1,37,035.23	29,789	26,563.91	4,310.91
8	ODISHA	6,59,988.78	13,199	11,28,317.64	8,97,640.40
9	WEST BENGAL	9,74,330.85	16,039	9,09,076.07	3,11,337.78
	EASTERN REGION TOTAL	19,80,808.48	78,787	23,12,192.57	12,54,640.73
10	ARUNACHAL PRADESH	34,299.15	16,278	33,322.06	8,387.99
11	ASSAM	2,02,714.42	28,579	1,43,633.35	5,933.79
12	MANIPUR	27,287.41	7,343	10,711.24	3,552.71
13	MEGHALAYA	1,34,292.06	41,507	1,67,119.44	3,971.17
14	MIZORAM	50,948.94	10,582	79,291.84	6,443.70
15	NAGALAND	41,342.83	20,466	61,222.41	7,680.91
16	SIKKIM	35,553.06	2,494	69,240.43	2,032.49
17	TRIPURA	98,370.28	88,139	2,17,631.03	10,721.64
	NORTH EASTERN REGION TOTAL	6,24,808.15	2,15,388	7,82,171.80	48,724.40
18	CHANDIGARH	43,526.33	2,325	12,312.54	14.48
19	HARYANA	1,86,544.05	2,382	6,83,608.90	5,24,318.35
20	HIMACHAL PRADESH	7,75,782.15	1,31,007	6,85,083.28	1,08,380.34
21	JAMMU AND KASHMIR	30,060.29	14,876	59,310.26	2,425.55
22	NEW DELHI	68,368.80	12,687	83,041.38	798.24
23	PUNJAB	2,71,459.35	5,340	5,65,987.41	4,13,733.97
24	RAJASTHAN	3,11,106.08	3,054	11,09,082.46	4,86,142.59
	NORTHERN REGIONTOTAL	16,86,847.05	1,71,671	31,98,426.23	15,35,813.52
25	ANDHRA PRADESH	2,39,983.32	16,032	11,82,017.28	8,18,443.41
26	KARNATAKA	5,39,519.00	34,904	14,80,666.82	10,08,562.92
27	KERALA	27,58,848.36	10,32,441	40,15,681.56	4,46,193.37
28	PUDUCHERRY	24,132.68	21,952	49,787.90	939.47
29	TAMIL NADU	4,26,808.65	83,431	10,52,667.12	6,66,884.68
30	TELANGANA	2,56,842.49	46,032	6,20,246.11	3,74,031.32
	SOUTHERN REGIONTOTAL	42,46,134.50	12,34,792	84,01,066.79	33,15,055.17
31	GOA	90,106.24	30,878	1,59,239.06	9,013.83
32	GUJARAT	4,54,966.50	1,967	6,70,625.71	3,96,987.44
33	MAHARASHTRA	10,65,947.25	7,569	20,81,723.79	6,35,229.26
	WESTERN REGION TOTAL	16,11,019.99	40,414	29,11,588.56	10,41,230.53
	ALL INDIA TOTAL	1,12,82,835.19	17,70,600	1,99,94,276.49	86,37,767.31

Source: NABARD

The data collected from the Reserve Bank of India portrays that outstanding credits of the Primary agricultural banks are increasing for the five years ending on March 2020. As the outstanding loan amount is in increasing trend, the co-operative societies find it difficult to provide additional loans. It prevents the members of the cooperative society from doing their occupational business.

However, the cooperative society which is providing the loan under microfinance model achieved the target in social upliftment. In the state of Gujarat, Kalupur Co-operative Bank in Ahmedabad is having 600 members from the nomadic tribes (out of its 4500 members) who are covered under the microfinance model. It is one among the cooperative society in the country that issues loans to tribal, many of whom do not have address proofs or stable, permanent addresses or a steady income. Since 2006, the bank has issued loans of Rs 50,000 to hundred nomadic tribal to purchase houses under a government scheme and disbursed loans of a maximum of Rs 25,000 to others to expand their small businesses at a 10% rate of interest (Hindustan Times, 2018).

Al Khair Cooperative society in Patna (Bihar) allows its member to engage in participatory finance model of microfinance. The system of participatory finance allows the cooperative society members to decide on aspects of interest, transaction cost, loan disbursements and financial instruments. The members can decide on interest-free borrowings and lending thereby reducing their transaction considerably compared to the prevalent market rates (Kamal, 2013).

Self-help group (SHG) model of microfinance is considered as the poverty alleviation tool. It is being implemented by the Janseva Cooperative Credit Society Ltd to empower marginalized sections. Janseva has also decided to conduct its financial transactions on the interest-free basis to overcome the reluctance of the targeted group because of the involvement of mutual community interest with its members (Janseva Cooperative Credit Society, 2017).

At the global level, there are examples of the situation that how co-operative based microfinance institutions can achieve their vision even during disasters. The Le Levier federation of financial cooperatives has played a crucial role in the reconstruction of Haiti since the earthquake that shook the population and the economy of the country

in January 2010. This cooperative network has been able to participate actively and effectively in the reconstruction of Haiti due to its deep roots in the community. To achieve the goal of financial inclusion, Vietnam took inspiration from the cooperative - microfinance model promoted by the Desjardins Group to set up a financial institution that could improve access to financial services. Through its 1,071 service outlets, it is having 1.6 million Vietnamese members (Desdarjins, 2017).

On the other hand, the impact of Andhra Pradesh microfinance crisis in 2011 has been forced this sector to think about new innovative designs for financial products. Microfinance Institutions (MFIs) are also struggling to hold new clients after the microfinance crisis. Even though the MFIs pushed premium products to the urban customers, they are unable to establish the demand– driven products to rural customers (Lakshimi, 2013). During the five years between 2016 and 2020, Primary Agricultural cooperative societies faced cash crunch crisis and financial woes, while providing the agricultural loan. Against the backdrop of recent reforms by GoI in APMC Act, Essential Commodity Act, Contract Farming Act and COVID-19 led reverse migration necessitating creation of investment opportunities for rural youth in agriculture and also with the proposed Agriculture Infrastructure Fund (AIF) scheme under Aatmanirbhar Bharat initiative of GoI, for establishing decentralized farm-gate post harvest management infrastructure wherein, PACS have been included as one of the eligible institutions for interest subvention, it is envisaged that PACS can now play a major role in physical and financial supply chain of commodities by working as spokes to the Gramin Agriculture Markets (GrAMs). In the above context, it has been decided to graduate all the potential PACS for conversion as MSC over a period of three years commencing from the year 2020-21 by providing special long term refinance facility through State cooperative banks at 3%.

Hence, new product design is a must, to alleviate the problems of customization and transaction costs. In this context, the present research is done with the aim to introduce co-operative based microfinance model in the rural places of India.

1.2 Statement of the Problem

The past researches conducted in India portrays the relationship between cooperative financing and microfinancing schemes. The cooperative sectors are well developed and it is having its branches in rural India. However, the Microfinance Institutions are enabling the financial inclusion schemes in rural places (Bharath,2013). The microfinance products are linked with the banks and it paved the way for the financial inclusion schemes (Aravazhi,2013). The challenges faced by the financial inclusion are reduced by the microfinance institutions (Ghosh,2013). The core aim is to identify competitive financial products suitable for the people under the poverty line. After 2011, the Indian MFIs concentrated on ROI of financial products; but not on the market penetration (Kruijif, 2013). The microfinance products in India witnessed less penetration effect among the rural poor people from the year 2004 onwards (Counts, 2005). This leads to the microfinance crisis and closure of twenty-one MFIs (Mader, 2013). When such situation happened in developing countries like Poland, Egypt and Kenya, MFIs used rigorous research and introduced new micro-finance products that increased the income level of the rural people through cooperative model. (Kelly Hattel, June 4-6, 2001). Hence the research design has been adopted by those developing countries and fit into Indian model. This encapsulates the conceptual transformation of product development research from one country to other. A large proportion of the people in developing country people still depend on the rural economy, we believe that a financial product's penetration through cooperatives to such areas will provide economic viability to the developing economies. If we integrate the microfinance product with cooperative model, the policymakers can locate the rural people who need the finance, it synergies the penetration of financial products

1.3 The Aim

The strategic agenda for this research is to establish a new financial product that is feasible to curtail the loan recovery time and to provide sustainable development for the Cooperative Banks using Microfinance schemes. The value agenda for this research is directed towards the identification of the characteristics of the innovative financial products. The policy agenda is to suggest the criteria for developing new products that can be integrated with a cooperative mission and national mission.

The research is motivated to find out the answers to following quires.

1. Is it possible to integrate the co-operative banking models with three-level stake holders such as cooperative society members, Self-help groups and the policymakers?

2. What type of financial product - a cooperative bank can offer to the agriculturists under the new model?

3. Does the new financial product will solve the problem of cash crunch in the cooperative banks?

1.4 Knowledge Gap

Past researchers have explored the need for innovative financial products for MFIs (World Bank Report, 2013) and the demand side factors that affect the microfinance services (Anirban, 2013). The research on microfinance has quoted that business viability is a crucial factor to be considered in developing the new product (Mishra, 2006). Previous researches set the bottom level needs of the financial products. It is also noted that while designing the financial product, national economic and social impact factors are to be considered (Sasthiri, 2009). The financial product should be built around the social protection needs (Arun, 2010). Research on product development for microfinance in Egypt contented that the service attitude towards poor is to be considered while designing the MFI products. Tsai (2004) in his article argues that the persistence of informal finance may be traced to four complementary reasons—the limited supply of formal credit, limits in state capacity to implement its policies, the political and economic segmentation of local markets, and the institutional weaknesses of many microfinance programs. Vanroose et al. (2013) argue that the competition among the microfinance organization pushes MFIs down the market and makes mission drift by MFIs less likely. There is a need for the new regulatory framework for integrating microfinance and it should overcome the collateral issues in financing. (Satish,2005). Tchakoute's (2010) research on microfinance concluded that the commercial approach of microfinance does not seem inconsistent with the social mission of MFIs. Siddaraju's (2012) research on cooperatives and financial inclusion concluded that the power of woman is to be considered for the successful model. Woolcock (1999) argued that there is a need for social relations among the potential and actual group members of the association, to

make the microfinance as a success. The Kenyan MFI research contended that while developing the new product for MFIs, the financial viability of payments is to be given importance (Mutua,1997). The financial instrument developed by the banks should serve as the bottom of the pyramid in India (Mukhurejee, 2012). Research done on microfinance products quoted that the microfinance products are supply-driven rather than demand-driven (Paul, 2009). This research explores the viability of introducing innovative microfinance products that are bundled with a cooperative model

1.5 Research Methodology

The research has been organised in three stages. In the first stage, a pilot study has been organised with the aim of integrating the cooperative model with the microfinance model. Primary agricultural cooperative members having linkage with the Small banking finance (Microfinance institutions) have been interviewed. There are 302 respondents. Then a case study has been organised in a cooperative bank, where the credit system has been integrated with the microfinance model.

In the second stage, new product development research has been conducted. The second stage research design has been established based upon the new product development research conducted in Poland for Micro-finance that links the cooperative model and MFIs. The 'access frontier approach' is used to identify the preference of customers towards the Microfinance products. In the third stage, the 'supra-market group' has been identified to validate the results of the first stage and to establish product protocol. The research design is established by considering the customer-centric approach used by MFIs research in Egypt, which is based on the conceptual value that "poor to be served". Even though the research tools and designs are based on different countries, the research sample has been selected only from India.

The primary data for the second phase have been collected from the cooperative society members in 27 villages spread over South India. To identify those villages, the secondary data available with eight district cooperatives located in South Karnataka, West Tamilnadu, North Kerala and Pondicherry are used. There are 171 cooperative societies lending to rural agricultural people in those 27 villages. The confidence interval limit approach of sampling has been used to identify the sample size. The

sample size has been fixed as 1345 with the confidence limits of 95%. An interview schedule with twenty-five questions has been used to collect the data. Snow-ball sampling is used to identify the cooperative society members. Even-though, we have gathered data from 1208 customers, only 945 responses were validated with the reliability test. By using cluster analysis, we have spotted 661 intensive agriculture cooperative society members. Hence for the further study 661 responses were alone considered. The reliability of the data has been measured with Cron-bach alpha value of 0.82; that shows the goodness of fit.

In the third phase, the managing personnel of the 158 Cooperative societies in the same villages have been identified with the snowball sampling. However, 127 responses were validated. A discrete choice analysis is used to establish the most preferred business products in a region. Table-1 displays the input, process and output of the different stages of the research.

Table-1.3: Research Design

Sl. No	Purpose	Input	Process	Output	Product Development Stages
Phase I – Measurement of Product Characteristics					
1	To find out the impressive users of Agriculture Cooperative society members	Primary data collected from 945 customers	Cluster Analysis	661 respondents classified as intensive users	Product Line planning – Customers Classification
2	To find out the desirable characteristics of the financial product as expected by the customers	Ratings given by 661 respondents as classified as impressive users	Factor component analysis - Access frontier approach	The five factors evolved are Agriculture supply chain, micro-venture loan, Interbank mobility, Redemption	Product Line planning – Customer Preference Analysis

			system and Compliance		
3	To find out the most important factor that influence to sustainable growth	Factor scoring variables and growth variables as measured in terms of survival	ANOVA	The variables such as redemption system and micro-venture loan significantly vary in accordance with the growth rate	Product Line planning – Product Attributes

Phase II – De-facto Analysis for designing the new product

4	The justify the findings of the first part by identifying relative importance factors in product designing	Primary data collected from 127 'supra-market' group 127 Primary Agricultural cooperative bank mangers	Discrete choice analysis	Two combinations were evolved.	Idea screening

1.6 Area of the study

The research is conducted in the Malabar region comprising of Karnataka, Kerala and Tamilnadu.

Exhibit-1.3: Sample Study Area

1.7 Tools used for Analysis

The following tools are used for analysis.

- ➢ Chi-square
- ➢ Factor analysis
- ➢ Anova
- ➢ ROC analysis
- ➢ Multi dimension scaling
- ➢ Discrete choice analysis

1.7.1 Chi-square test

A **chi-square test**, also referred to as χ^2 **test** (infrequently as the chi-squared test), is any statistical hypothesis test in which the sampling distribution of the test statistic is a chi-square distribution when the null hypothesis is true. Also considered a chi-square test is a test in which this is asymptotically true, meaning that the sampling distribution (if the null hypothesis is true) can be made to approximate a chi-square distribution as closely as desired by making the sample size large enough. The chi-square

(I) test is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in one or more categories.

1.7.2 Factor analysis

Factor analysis is a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors. For example, it is possible that variations in four observed variables mainly reflect the variations in two unobserved variables. Factor analysis searches for such joint variations in response to unobserved latent variables. The observed variables are modelled as linear combinations of the potential factors, plus "error" terms. The information gained about the interdependencies between observed variables can be used later to reduce the set of variables in a dataset. Computationally this technique is equivalent to low-rank approximation of the matrix of observed variables. Factor analysis originated in psychometrics and is used in behavioral sciences, social sciences, marketing, product management, operations research, and other applied sciences that deal with large quantities of data.

1.7.3 Anova

Analysis of variance (ANOVA) is a collection of statistical models used in order to analyze the differences between group means and their associated procedures (such as "variation" among and between groups), developed by R. A. Fisher. In the ANOVA setting, the observed variance in a particular variable is partitioned into components attributable to different sources of variation. In its simplest form, ANOVA provides a statistical test of whether or not the means of several groups are equal, and therefore generalizes the *t*-test to more than two groups. As doing multiple two-sample t-tests would result in an increased chance of committing a statistical type I error, ANOVAs are useful in comparing (testing) three or more means (groups or variables) for statistical significance.

1.7.4 ROC analysis

In statistics, a receiver operating characteristic (ROC), or ROC curve, is a graphical plot that illustrates the performance of a binary classifier system as its discrimination threshold is varied. The curve is created by plotting the true positive rate against the positive rate at various threshold settings. (The true-positive rate is also known

as sensitivity in biomedical informatics, or recall in machine learning. The false-positive rate is also known as the fall-out and can be calculated as 1 - specificity). The ROC curve is thus the sensitive as a function of fall-out. In general, if the probability distributions for both detection and false alarm are known, the ROC curve can be generated by plotting the cumulative distribution function (area under the probability distribution from $-\infty$ to $+\infty$) of the detection probability in the y-axis versus the cumulative distribution function of the false-alarm probability in x-axis.

1.7.5 Multi dimension scaling

Multidimensional scaling (MDS) is a means of visualizing the level of similarity of individual cases of a dataset. It refers to a set of related ordination techniques used in information visualization, in particular to display the information contained in a distance matrix. An MDS algorithm aims to place each object in N-dimensional space such that the between-object distances are preserved as well as possible. Each object is then assigned coordinates in each of the N dimensions. The number of dimensions of an MDS plot N can exceed 2 and is specified a priori. Choosing $N=2$ optimizes the object locations for a two-dimensional scatterplot.

1.7.6 Discrete choice analysis

In economics, discrete choice models, or qualitative choice models, describe, explain, and predict choices between two or more discrete alternatives, such as entering or not entering the labor market, or choosing between modes of transport. Such choices contrast with standard consumption models in which the quantity of each good consumed is assumed to be a continuous variable.

1.8 Significance of the study

Co-operative-based microfinance is uncommon, but it can provide a solution to the microfinance industry's current problems. The majority of microfinance models use the same or a modified form of community lending, which is the explanation for recurrent problems of the very same nature across the industry. Co-operative has a long history and began nearly 150 years ago in Europe expanded across the globe as a movement. Microfinance model has established in the 1970s when Grameen Bank of Bangladesh was established by Muhammad Yunus. Both models are having pros and

cons. However, to reduce the burden of the agricultural credit issues, few cooperative societies use the microfinance model. In the global level, the following institutions are very successful. Hence, the research focus on the integrating the cooperative and microfinance model.

The RCPB network in Burkina Faso - In Burkina Faso, over 75% of individuals with access to financial services do business with the RCPB network of financial cooperatives. The biggest inclusive financial institution in the country, the RCPB provides 1.6 million members in both rural and urban areas with diversified and quality financial services.

Lithuanian Central Credit Union- The network of Lithuanian financial cooperatives is the only locally-owned financial institution in Lithuania, since all banks operating there are foreign owned. It therefore provides key leverage for the country's socio-economic development.

The Le Levier federation of financial cooperatives in Haiti - The Le Levier federation of financial cooperatives has played a key role in the reconstruction of Haiti since the earthquake that shook the population and the economy of the country in January 2010. This cooperative network has been able to participate actively and effectively in the reconstruction of Haiti due to its deep roots in the community.

Vietnam Association of People's Credit Funds - Over fifteen years ago, Vietnam took inspiration from the cooperative model promoted by the Desjardins Group to set up a financial institution that could improve access to financial services. Today, the People's Credit Funds constitute the biggest microfinance network in Vietnam. Its 1,071 service outlets, most of which are in rural areas, reach 1.6 million Vietnamese. Theoretically, this research aims to identify the overriding effect in integrating the cooperatives with microfinance model.

1.9 Limitations of the study

Due to Covid-19 lockdown happened during the period 2020-21, the sample size has been limited down.

1.10 Chapter scheme

    Chapter 1: Introduction and Methodology

    Chapter 2: Review of Literature

    Chapter 3: Functioning of Cooperative Banks

    Chapter 4: Pilot Study Analysis

    Chapter 5: Analysis

    Chapter 6: Findings and conclusions

Review of Literature

2.1 Cooperative banking in India

N Ramu (2009) during the study on" Dimensions of Non-performing Assets in Urban Cooperative Banks in Tamilnadu - Global Business Review", analysed that the cooperative banks have to maintain their asset quality which will continue to pose a constant challenge. The solution to the problem of NPAs lies in strengthening the credit management in banks over a period by removing the present deficiencies observed in the standards of credit appraisal, monitoring and improving the overall lending policies of the banks.

L San-Jose, JL Retolaza, at al. (2018) conducted a study on topic "The Social Efficiency for Sustainability: European Cooperative Banking Analysis – Sustainability", it was found that there is no trade-off between social efficiency and economic efficiency, although we have not been able to confirm that there is a positive relationship between them. We contribute to the applicability of the stakeholder theory since one of its main obstacles is eliminated: the possible conflict between economic and social efficiency. However, we cannot confirm that there is correlation between economic efficiency and social efficiency as proposed by the shared-value perspective.

AK Soni, HPS Saluja (2012) conducted a research on "Role of Cooperative Bank in Agricultural Credit: A Study Based on Chhattisgarh" - Journal of Research in Commerce, analysed that Cooperative banks belong to the oldest forms of the collective action in India playing essential role in the realization of the agricultural and in local development. They serve both rural and urban population, and are main banks in India supporting development of agriculture and rural areas. Their key role is to give credits financing various rural based entrepreneurships. Agricultural credits play a number of significant functions of which the primary include the intensification and growth of the agricultural production.

Kumar, R., and Kaur, D. J. (2013) conducted A Study on "Cooperative Banking in Haryana - Gyan Jyoti E-Journal" and found that in Haryana, there has been a three-tiered rural cooperative credit structure. With regard to the financial position of the CCBs, it was found that CCBs suffered losses during the study period. It can be suggested that there is need to improve the profitability positions of these banks. For this purpose, first of all bank should focus on the Customer Relationship Management and fill the vacant posts immediately so that operational performance can be improved.

2.2 Cooperative banking financial crisis in India

Sapovadia V. K. (2008) conducted a study on "Good Cooperative Governance as a Tool to withstand Urban Coop Bank Crisis – A Case Study of Rajkot Nagarik Coop Bank, India". VK Sapovadia found that the cooperative banks were in doldrums during the Ketan Parekh & MMCB scam, the cooperative banking in Gujarat and more particularly, RNSB has been rather appreciable, the cooperative movement proved to be vibrant one in regard to cooperative values and philosophy as enunciated in cooperative principles coupled with business efficiency.

Singh, T. R. (2010) conducted a study on "An ordered probit model of an early warning system for predicting financial crisis in India." TR Singh - IFC Bulletin, found that in order to identify and date the different states of distress situations in the banking sector of India, a banking sector fragility (BSF) index has been developed. Based on the BSF index, we have identified and dated 19 medium- and 8 high-fragility situations in the Indian banking sector. These phases of distress in the banking sector are identified based on some chosen threshold level and are categorized into three states as no distress, medium fragility and high fragility. The ordered probit model is being developed and used to predict these different phases of banking crisis in India.

Becchetti, Paolantonio, A, et al. (2016) conducted a research on topic titled "The Cooperative Bank Difference Before and After the Global Financial Crisis." They analysed that the nexus between finance and growth is one of the oldest and most explored in the economic literature. However, the recent transformations of the global economy and the occurrence of the global

financial crisis seem to have caused an important discontinuity in the empirical evidence on this relationship.

Bapat, D. (2012) conducted a research on "Efficiency for Indian public sector and private sector banks in India: assessment of impact of global financial crisis.". Indian banking is undergoing major transformation. The recent concern was the extent to which global financial crisis affected the Indian banking. The strength of Indian banking was reflected by the extent that it could withstand the global financial crisis. The study shows that efficiency scores of Indian public sector banks have higher efficiency than scores of Indian private sector banks. The study indicates that Indian banks, in general and Indian public sector banks, in particular, could withstand the global financial crisis.

Crear, S. (2009) conducted a study on "Cooperative Banks, Credit Unions and the Financial Crisis". It was found that in comparison to other financial institutions, credit unions and cooperative banks have performed exceptionally well during the current economic crisis notwithstanding the problems that have occurred. This is due in part to the relatively straight-forward operations of most credit unions, their commitment to member service rather than short-term profit maximization, and reasonable executive pay packages and incentives structures that do not incent excess risk-taking similar to that offered by many commercial banks.

Kranke, M. (2020) conducted a research on "IMF-World Bank Cooperation Before and After the Global Financial Crisis." M Kranke in his study found the relationship between the IMF and the World Bank became more fragmented after the global financial crisis. Judged against its own history, Fund-Bank cooperation took on a surprising direction. The article has argued that the origins of this trend lay in shifting views among IMF and World Bank officials about where and how to work together in the future that they imagined for this inter-organisational relationship.

2.3 Merging cooperative with microfinance institutions

Ruan Rodrigo Araujo da Costa (2017) in their study titled "The relationship between the performance and legal form of microfinance institutions", found that mergers and assimilations may be an interesting alternative for MFIs for two reasons: a reduction in the costs of smaller MFIs, which could adopt more efficient technologies and practices that allow for economies of scale; and taking advantage of the structure already established by smaller MFIs, especially those that operate in more distant locations, thus assimilating the knowledge, relationships, structures, and practices, in order to serve this clientele.

Hubert Tchakoute Tchuigoua (2014) during their study on the topic "Performance of microfinance institutions: do board activity and governance ratings matter?", found that board activity and duality do matter to MFI governance mechanisms whereas board size and board expertise do not. Moreover, the positive and significant relationship between governance rating scores and MFI performance indicates that implementing best practices of governance tends to improve MFI performance.

B. O. Iganiga (2008) in the study titled "Much Ado About Nothing: The Case of the Nigerian Microfinance Policy Measures, Institutions and Operations", observed that most institutions and programmes put in place for this purpose (micro financing) by government and individuals and group of individuals have at best recorded limited success in securing wide access to sustainable micro credit as a critical instrument for growth and poverty reduction. From the impact assessment, it was observed that most of these institutions and policies and schemes relating to microfinance become moribund few years after initiation due to high operating cost, repayment problem, weak access to re-financing facilities, client apathy and dropout and internal control challenges among others.

Tatjana Mavrenko (2013) during the study "Management Principles in Socially Inclusive Microfinance Institutions: Experience of Latvian Cooperative Savings and Credit Unions", found that negative influence of the global financial crisis motivates business and society to look for new or repeat the existing winning business models; seven companies often are already involved in changing their business model. Microfinance is a broader category than micro

credit, it includes savings, money transfers, and insurance in small amounts; microfinance institutions follow self-sustainability and social goals.

Obisesan and Oyedele (2015) during their study titled "Assessment of Microfinance Institutions as Poverty Reduction Mechanism in Nigeria", found that Microfinance Institutions have played vital roles on the Nigerian economy by providing diversified, affordable, and dependable financial services to the active poor in a timely and competitive manner, which has the active poor to undertake and develop small, medium, and long-time sustainable entrepreneurial activities, mobilising savings for financial intermediation,(at their own level), create employment opportunities and also increase their productivity in the economic unit of the country.

Agala-Mulwa and Jacqueline Jean (2002) in their study titled "A Survey of The Relationship Between Training And Development Programmes and Job Satisfaction in Microfinance Institutions in Nairobi, Kenya", found that there is some relationship between job satisfaction and training and development programmes. This was evident in the fact that from the findings, the higher the per capita expenditure on training a category had, the higher was the level of job satisfaction among the respondents. The credit officers, to whom the highest percentage of the training budgets and opportunities were allocated, were the most satisfied. The respondents indicated that the training they receive does not necessarily translate into the upward mobility in the organization.

Dr. Hemendra Shah (2019) during the study titled "Merger and Acquisition: Opportunity and Challenges for MFIs in India", found that the opportunity gain from merger and acquisition are excellent, provided due diligence is taken for various challenges of valuation, socio-cultural and other issues. Success for a merged MFI is achieved only when it approaches a 'people' centric holistic view, wherein the customers, employees and other stakeholders hold an integral position along with the financial performance of the MFI. To determine success, the merged MFI needs to delicately balance all the above parameters.

N Marwa, M Aziakpono (2014) during their study titled "Efficiency and Profitability of Tanzanian saving and Credit Cooperatives: Who is a Star?", found that the underperformers included those firms struggling in both dimensions and those which struggle in either the efficiency dimension or the profitability dimension. Such a classification tool provides important information for monitoring, evaluation and improving the performance and profitability of organizations, and such evidence is useful in guiding policy makers, regulators and managers in steering the industry in the right direction

AKOSILE, Akindele Iyiola and Ajayi Olakunle Alfred (2014) during their study titled "The Impact of Microfinance Institutions on Poverty Reduction in Nigeria", found that unlike the formal financial institutions the Microfinance Institutions (MFIs) are readily accessible to the poor, low-income group and Micro, Small and Medium scale Enterprise (MSMEs) hence they are not denied of responsive and timely credit and financial services at market rates. Their conditions for opening accounts and granting credit and financial facilities (e.g. absence of security) are liberal than formal banks and non-bank financial institutions.

A Ashta, C Ghosh, et al. (2016) conducted a study on "Knowledge in Microsocial Milieus: the Case of Microfinance Practices Among Women in India", found that more educated people are able to exploit weak ties better as opposed to less-educated people. The latter are more dependent on neighbors and friends. Putting all this together, we can suggest that the reason for finding the importance of strong ties in sources of knowledge for poor people could be that the exploitation of weak ties may require a minimum level of education and a minimum level of income.

2.4 Integrating self-help group with micro finance

Carinne Brody, Thomas de Hoop, et al. (2015) conducted a research on "Economic Self-Help Group Programs for Improving Women's Empowerment: A Systematic Review" and found that the quantitative synthesis indicated that studies that did not adequately account for selection bias overestimated the impact of self-help groups on empowerment. There is a need for more research focused on examining the impact of economic self-help groups on women's

empowerment using meditator and moderator analysis to further understand the pathways or mechanisms through which SHGs impact empowerment.

Dr. A. Sundaram (2012) conducted a study on "Impact of Self-help Group in Socio-economic development of India", found that Self-help Groups have been playing considerable role in training of Swarozgaris, infrastructure development, marketing and technology support, communication level of members, self confidence among sample members, change in family violence, frequency of interaction with outsiders, change in the saving pattern of SHG members, involvement in politics, achieving social harmony, achieving social justice, involvement in community action, sustainable quality and accountability, equity within SHGs, defaults and recoveries, and sustainability - financial value.

Dr. K. Rajendran (2012) conducted a study on "Micro Finance Through Self Help Groups - A Survey of Recent Literature in India" and found that micro finance and Self Help groups, by and large contributed to the development of core poor in terms of economic wellbeing, alleviating poverty and empowerment leading to overall development of rural poor.

Monika Walia, Laili Irani, et al (2020) conducted a research on the topic "Effect of Sharing Health Messages on Antenatal Care Behavior Among Women Involved In Microfinance-Based Self-Help Groups in Bihar India". The study shows that sharing health messages in microfinance-based SHGs is associated with significant increase in ANC practice. While the results suggest the potential of microfinance-based SHGs for improved maternal health services, the approach's sustainability needs to be further examined.

R Vijaykumar (2008) conducted a research on "Reinstating the Self-help Group Perspective in Microfinance". The study analysed that the entrepreneurial ability of the group members is intimately related to their environment and the opportunities that it presents, their past history of such activity, the previous experience of some or all the members in such activity. This opportunity structure is formed by the activities of NGOs, government programmes, the evolution of the village in different ways and the consequent awareness.

Jamie Morgan and Wendy Olsen (2011) conducted a study on "Aspiration problems for the Indian rural poor: Research on self-help groups and micro-finance" and found that the growth of micro-finance and of SHGs in India has coincided with the growth in the levels of debt and the characteristics of debt in rural areas. More formal debt is available. Although interest rates are lower for that debt, debt does not tend to be a short-term commitment that is then paid off. The issues of debt dependence and growing debt need to be analysed and addressed more thoroughly in the future to make fuller sense of the problems of hybrid debt for sustainable development.

Somen Saha (2017) conducted a research on "Expanding health coverage in India: role of microfinance-based self-help groups". The study found that SHGs present an administrative apparatus to reach poor women and their families with essential health programmes. Public health planners should invest in further investigating the role of existing SHG programmes to expand health coverage among the difficult to-reach population, particularly poor women and their families.

Kahabi Isangula (2012) conducted a study on "Improving Women and Family 's Health through Integrated Microfinance, Health Education and Promotion in Rural Areas" and found that integration of microfinance and health education and promotion activities resulted in reduction of intimate-partner violences, reduction in HIV/AIDS risks, Malaria prevention, promotion of mental health and improved women and family health. Increasing women control over family resources will improve family health and development.

N. V. Namboodiri and R. L. Shiyani (2001) conducted a research on "Potential Role of Self-Help Groups in Rural Financial Deepening". It was found that they are self-sustainable system of community organisations free from government. Regular meetings of the members of the group enable long lasting group relationship. These groups are promoted by the NGOs/banks, etc., and their guidance, training to members of the group, teaching of basic accounting principles, etc., would help for better administration of the group.

Karimzadeh Majid, Nematinia Ghayoum, et al. (2011) conducted a study on "The Role of Self-Help Groups through Micro-finance for poverty alleviation and Micro Entrepreneurship of women", found that India still is the home to the largest population of the poor in the world and about 37% of population is below poverty line. The levels of poverty are high and because of this problem Self Help Groups movement occupies a significant agenda in the poverty reduction and empowerment of women for poor people. Micro-finance program are important institutional devices for providing small credit to the rural people in order to alleviate poverty and SHG bank linkage, have the potential to minimize the problems of inadequate access of banking services to the poor.

2.5 Developing a suitable methodology to establish new microfinance product that integrate Microfinance and Cooperative model

Amit Kumar Bardhan, Barnali Nag, et al. (2021) conducted a study titled **"**An integrated framework for analysing performance indicators of Indian microfinance institutions: a multi-stakeholder perspective". This study identified various dimensions and indicators for measuring the performance of Indian microfinance institutions. Additionally, the ranking and prioritisation of the performance dimensions and indicators is obtained by considering the mutual interrelation between them. The study indicated that there exists a significant dyadic relationship between financial performance and social performance for improving the overall performance of the microfinance institutions. Governance is found to unidirectionally influence both financial and social performance. Among all the considered dimensions, financial performance of a microfinance institution is the most critical dimension for improving the overall performance.

David Hulme (2000) conducted a study on ""Impact Assessment Methodologies for Microfinance: Theory, Experience and Better Practice". The study found that microfinance programs and institutions are increasingly important in development strategies but knowledge about their impacts is partial and contested. This paper reviews the methodological options for the impact assessment (IA) of microfinance. Following a discussion of the varying objectives of IA it examines the choice of conceptual frameworks and presents three paradigms of impact assessment: the scientific method, the humanities tradition and participatory learning and

action (PLA). The conclusion argues for a greater focus on internal impact monitoring by microfinance institutions.

2.6 Basic literature support for developing a new microfinance product

Jonathan Morduch and Stuart Rutherford (2003) conducted a research on project titled "Microfinance: analytical issues for India". The study found that Poor households face many constraints in trying to save, invest, and protect their livelihoods. They take financial intermediation seriously and devote considerable effort to finding workable solutions. Most of the solutions are found in the informal sector, which, so far, offers low-income households convenience and flexibility unmatched by formal intermediaries. The microfinance movement is striving to match the convenience and flexibility of the informal sector, while adding reliability and the promise of continuity, and in some countries, it is already doing this on a significant scale.

Savita Shankar (2013) conducted a study on "Financial Inclusion in India: Do Microfinance Institutions Address Access Barriers?". The study analyses if microfinance institutions (MFIs) adequately break down barriers to financial service access in India. Two lines of enquiry were followed: the spread of microfinance penetration in the country was analysed and field interviews of 103 MFI field officers were conducted. It is found that while MFIs do break down many barriers to financial inclusion, there are limitations in the extent of their outreach to those excluded. First, MFI penetration in the country is skewed and excludes some areas neglected by the banking sector, suggesting a need for policy incentives to encourage expansion to those areas.

2.7 The intensive users of microfinance product in India

James Copestake (2010) conducted a study on topic "Microfinance and development finance in India: research implications". The paper appraises options for research relating to microfinance in India, doing so in the broad context of rival macro pressures to accelerate economic growth, maintain political order, reduce poverty and adapt to climate change. This paper first set out a general well-being regime framework that can be used for this analysis and

sketch the role microfinance plays within it. Section 2 uses it to inform a brief historical discussion of the evolution of microfinance in India. Section 3 develops the analysis further by considering possible effects of three external drivers of change: rising political aspirations; climate change and food insecurity; and new information and communication technology (ICT). Section 4 uses these examples to discuss methodological options for policy-relevant empirical research. It also suggests that microfinance is an important arena for exploring empirically the tension inherent in the idea of development management.

2.8 Basic elements of new financial product

Christopher J. Easingwood and Christopher D. Storey (1993) conducted a study on the topic "Marketplace success factors for new financial services". The study examined the effects of service offered on the success of new customer financial services in the United Kingdom. Shows that previous research has concentrated on the new product process ignoring what are termed direct factors (characteristics that affect the interaction between the service offered and the consumer). Finds that a number of characteristics describing the service core and the augmented service offering are highly correlated with success.

Kettering, K. C. (2007) conducted a research on "Securitization and Its Discontents: The Dynamics of Financial Product Development". This paper takes as its point of departure the financing technique referred to as "securitization," a close cousin of secured lending that has grown to enormous size since its origin more than two decades ago. The paper pursues two themes. One is a critique of the legal foundations of securitization, which includes a perspective on aspects of fraudulent transfer law that are well established historically but have been neglected in recent decades. The other is exploration of the implications of this product growing so vast despite its dubious legal foundations. In that regard, the paper explores two points of legal sociology that apply to new financial products generally. The first is that a product can become so widely used that it cannot be permitted to fail, notwithstanding its dubious legal foundations. The second is that the credit rating agencies have become de facto lawmakers, because it is their decision to give a favorable rating to a financial product the credit quality of which depends on a debatable legal judgment that allows the product to grow too big to fail. The paper ends with a normative assessment of securitization from a pragmatic perspective, concluding that legislative action is appropriate to ratify the product's object, with constraints.

2.9 Depth of the product line in microfinance

Shakil Quayes (2012) conducted a study on "Depth of outreach and financial sustainability of microfinance institutions" the study found that primary justification for subsidizing Microfinance Institutions (MFIs) is their enhancement of social welfare by extending credit to the poor households. Therefore, recent emphasis on their financial self-sufficiency has created concern, that this may adversely affect the mission of social outreach. Utilizing data from 702 MFIs operating in 83 countries, this study shows empirical evidence of a positive complementary relationship between financial sustainability and depth of outreach.

Mark Schreiner (2002) conducted a research on "Aspects of outreach: A framework for discussion of the social benefits of microfinance" the study concluded that the Wide agreement about the goal of microfinance—to improve the welfare of the poor—has not led to wide agreement about how best to achieve that goal. To aid discussion, I propose a framework for outreach—the social benefits of microfinance—in terms of six aspects: worth, cost, depth, breadth, length, and scope. The framework encompasses both the poverty approach to microfinance and the self-sustainability approach. The poverty approach assumes that great depth of outreach can compensate for narrow breadth, short length, and limited scope. The self-sustainability approach assumes that wide breadth, long length, and ample scope can compensate for shallow depth.

2.10 Calibration of the existing micro finance products

Francisco J, Buera Joseph P, et al. (2021) conducted a study on "The Macroeconomics of Microfinance", the study provides a quantitative evaluation of the aggregate and distributional impact of microfinance or credit programs targeted toward small businesses. We find that the redistributive impact of microfinance is stronger in general equilibrium than in partial equilibrium, but the impact on aggregate output and capital is smaller in general equilibrium. Aggregate total factor productivity (TFP) increases with microfinance in general equilibrium but decreases in partial equilibrium. When general equilibrium effects are accounted for, scaling up the microfinance program will have only a small impact on per-capita income, because the increase in TFP is counterbalanced by lower capital accumulation resulting from the redistribution of income from high-savers to low-savers. Nevertheless, the vast majority of

the population will be positively affected by microfinance through the increase in equilibrium wages.

Emily Breza and Cynthia Kinnan (2018) conducted a research on "Measuring the Equilibrium Impacts of Credit: Evidence from The Indian Microfinance Crisis" the study concluded that using a proprietary district-level data set from 25 separate, for-profit microlenders matched with household data from the National Sample Survey, we find that district-level reductions in credit supply are associated with significant decreases in casual daily wages, household wage earnings and consumption. We find a substantial consumption multiplier from credit that is likely driven by two channels – aggregate demand and business investment. We calibrate a simple two-period, two-sector model of the rural economy that incorporates both channels and show that the magnitude of our wage results is consistent with the model's predictions.

2.11 Variable identification references:

Variable	Reference
Convenient to borrow loan from co-operative banks	Wagofya, G. M. (2018). *Time series arima modelling of loan borrowing and repayment at Kifanya saccos limited in Njombe, Tanzania* (Doctoral dissertation, The University of Dodoma).
low interest rate of co-operative banks	Soyeliya, U. L. (2013). A study on Co-operative Banks in India. *International Journal of Research in Humanities and Social Sciences*, *1*(7), 26-30.
Repayment facilities of co-operative banks	Gupta, J., & Jain, S. (2012). A study on Cooperative Banks in India with special reference to Lending Practices. *International Journal of Scientific and Research Publications*, *2*(10), 1-6.
Matching credit needs of borrowers by micro-finance institutions	Bhanot, D., & Bapat, V. (2015). Sustainability index of micro finance institutions (MFIs) and contributory factors. *International Journal of Social Economics*.

High transaction cost of co-operative banks	Rachana, T. (2011). Financial inclusion and performance of rural co-operative banks in Gujarat. *Research Journal of Finance and Accounting*, 2(6).
Easy access to loan in co-operative banks	Crear, S. (2009, April). Co-operative banks, credit unions and the financial crisis. In *paper for the UN Expert Group Meeting on Co-operatives, New York, UN*.
Micro Credit in co-operative banks	Parekh, N., & Ashta, A. (2018). An institutional logics perspective to evolution of Indian microcredit business models. *Strategic Change*, 27(4), 313-327.
Micro Insurance in co-operative banks	Morduch, J. (2006). Microinsurance: The next revolution. *Understanding poverty*, 337-356.

Chapter – 3

Functioning of Cooperative Banks

3.1 History of Urban Cooperative Banks in India

The term Urban Co-operative Banks (UCBs), though not formally defined, refers to primary cooperative banks located in urban and semi-urban areas. These banks, till 1996, were allowed to lend money only for non-agricultural purposes. This distinction does not hold today. These banks were traditionally centred around communities, localities work place groups. They essentially lent to small borrowers and businesses. Today, their scope of operations has widened considerably.

The origins of the urban cooperative banking movement in India can be traced to the close of nineteenth century when, inspired by the success of the experiments related to the cooperative movement in Britain and the cooperative credit movement in Germany such societies were set up in India. Cooperative societies are based on the principles of cooperation, - mutual help, democratic decision making and open membership. Cooperatives represented a new and alternative approach to organisation as against proprietary firms, partnership firms and joint stock companies which represent the dominant form of commercial organisation.

3.1.1 The Beginnings

The first known mutual aid society in India was probably the 'Anyonya Sahakari Mandali' organised in the erstwhile princely State of Baroda in 1889 under the guidance of Vithal Laxman also known as Bhausaheb Kavthekar. Urban co-operative credit societies, in their formative phase came to be organised on a community basis to meet the consumption-oriented credit needs of their members. Salary earners' societies inculcating habits of thrift and self-help played a significant role in popularising the movement, especially amongst the middle class as well as organized labour. From its origins then to today, the thrust of UCBs, historically, has been to mobilise savings from the middle and low income urban groups and purvey credit to their members - many of which belonged to weaker sections.

The enactment of Cooperative Credit Societies Act, 1904, however, gave the real impetus to the movement. The first urban cooperative credit society was registered in Canjeevaram

(Kanjivaram) in the erstwhile Madras province in October, 1904. Amongst the prominent credit societies were the Pioneer Urban in Bombay (November 11, 1905), the No.1 Military Accounts Mutual Help Co-operative Credit Society in Poona (January 9, 1906). Cosmos in Poona (January 18, 1906), Gokak Urban (February 15, 1906) and Belgaum Pioneer (February 23, 1906) in the Belgaum district, the Kanakavli-Math Co-operative Credit Society and the Varavade Weavers' Urban Credit Society (March 13, 1906) in the South Ratnagiri (now Sindhudurg) district. The most prominent amongst the early credit societies was the Bombay Urban Co-operative Credit Society, sponsored by Vithaldas Thackersey and Lallubhai Samaldas established on January 23, 1906.

The Cooperative Credit Societies Act, 1904 was amended in 1912, with a view to broad basing it to enable organisation of non-credit societies. The Maclagan Committee of 1915 was appointed to review their performance and suggest measures for strengthening them. The committee observed that such institutions were eminently suited to cater to the needs of the lower- and middle-income strata of society and would inculcate the principles of banking amongst the middle classes. The committee also felt that the urban cooperative credit movement was more viable than agricultural credit societies. The recommendations of the Committee went a long way in establishing the urban cooperative credit movement in its own right.

In the present-day context, it is of interest to recall that during the banking crisis of 1913-14, when no fewer than 57 joint stock banks collapsed, there was a there was a flight of deposits from joint stock banks to cooperative urban banks. Maclagan Committee chronicled this event thus:

"As a matter of fact, the crisis had a contrary effect, and in most provinces, there was a movement to withdraw deposits from non-cooperatives and place them in cooperative institutions, the distinction between two classes of security being well appreciated and a preference being given to the latter owing partly to the local character and publicity of cooperative institutions but mainly, we think, to the connection of Government with Cooperative movement".

3.1.2 Under State Purview

The constitutional reforms which led to the passing of the Government of India Act in 1919 transferred the subject of "Cooperation" from Government of India to the Provincial Governments. The Government of Bombay passed the first State Cooperative Societies Act in 1925 "which not only gave the movement its size and shape but was a pace setter of cooperative activities and stressed the basic concept of thrift, self-help and mutual aid." Other States followed. This marked the beginning of the second phase in the history of Cooperative Credit Institutions.

There was the general realization that urban banks have an important role to play in economic construction. This was asserted by a host of committees. The Indian Central Banking Enquiry Committee (1931) felt that urban banks have a duty to help the small business and middle-class people. The Mehta-Bhansali Committee (1939), recommended that those societies which had fulfilled the criteria of banking should be allowed to work as banks and recommended an Association for these banks. The Co-operative Planning Committee (1946) went on record to say that urban banks have been the best agencies for small people in whom Joint stock banks are not generally interested. The Rural Banking Enquiry Committee (1950), impressed by the low cost of establishment and operations recommended the establishment of such banks even in places smaller than taluka towns.

The first study of Urban Co-operative Banks was taken up by RBI in the year 1958-59. The Report published in 1961 acknowledged the widespread and financially sound framework of urban co-operative banks; emphasized the need to establish primary urban cooperative banks in new centers and suggested that State Governments lend active support to their development. In 1963, Varde Committee recommended that such banks should be organised at all Urban Centres with a population of 1 lakh or more and not by any single community or caste. The committee introduced the concept of minimum capital requirement and the criteria of population for defining the urban centre where UCBs were incorporated.

3.1.3 Duality of Control

However, concerns regarding the professionalism of urban cooperative banks gave rise to the view that they should be better regulated. Large cooperative banks with paid-up share capital and reserves of Rs.1 lakh were brought under the preview of the Banking Regulation Act 1949

with effect from 1st March, 1966 and within the ambit of the Reserve Bank's supervision. This marked the beginning of an era of duality of control over these banks. Banking related functions (viz. licensing, area of operations, interest rates etc.) were to be governed by RBI and registration, management, audit and liquidation, etc. governed by State Governments as per the provisions of respective State Acts. In 1968, UCBS were extended the benefits of Deposit Insurance.

Towards the late 1960s there was much debate regarding the promotion of the small-scale industries. UCBs came to be seen as important players in this context. The Working Group on Industrial Financing through Co-operative Banks, (1968 known as Damry Group) attempted to broaden the scope of activities of urban co-operative banks by recommending that these banks should finance the small and cottage industries. This was reiterated by the Banking Commission (1969).

The Madhavdas Committee (1979) evaluated the role played by urban co-operative banks in greater details and drew a roadmap for their future role recommending support from RBI and Government in the establishment of such banks in backward areas and prescribing viability standards.

The Hate Working Group (1981) desired better utilisation of banks' surplus funds and that the percentage of the Cash Reserve Ratio (CRR) & the Statutory Liquidity Ratio (SLR) of these banks should be brought at par with commercial banks, in a phased manner. While the Marathe Committee (1992) redefined the viability norms and ushered in the era of liberalization, the Madhava Rao Committee (1999) focused on consolidation, control of sickness, better professional standards in urban co-operative banks and sought to align the urban banking movement with commercial banks.

A feature of the urban banking movement has been its heterogeneous character and its uneven geographical spread with most banks concentrated in the states of Gujarat, Karnataka, Maharashtra, and Tamil Nadu. While most banks are unit banks without any branch network, some of the large banks have established their presence in many states when at their behest multi-state banking was allowed in 1985. Some of these banks are also Authorised Dealers in Foreign Exchange

3.1.4 Recent Developments

Over the years, primary (urban) cooperative banks have registered a significant growth in number, size and volume of business handled. As on 31st March, 2003 there were 2,104 UCBs of which 56 were scheduled banks. About 79 percent of these are located in five states, - Andhra Pradesh, Gujarat, Karnataka, Maharashtra and Tamil Nadu. Recently the problems faced by a few large UCBs have highlighted some of the difficulties these banks face and policy endeavours are geared to consolidating and strengthening this sector and improving governance.

3.2 Advantages of Co-operative Banks

The Co-operative banks have acted as a boon to various sectors of Indian society and also played an important role in the development of the economy.

Given below are a few advantages of the Co-operative Banks in India:

- These banks have provided aid to the rural population by granting loans and credits with interest rates, lower in comparison to that asked by local money lenders

- They have their reach at every corner of the country and have managed to maintain a personal rapport with the customers

- Since the bank is owned and governed by the members themselves, they do not seek huge profits and believe in mutual help

- The interest rate on deposits is high and on loans is low

- They promote productive borrowing, in order to reduce the risk of loss

- Co-operative Banks have helped the farmers by providing them agricultural credits to buy basic products like fertilizer, seeds, etc.

3.3 Disadvantages of Co-operative Banks

Discussed below are a few disadvantages of the Co-operative Banks in India:

- To lend money, they need investors which are tough to find

- Over the years, the number of NPAs and overdues have been increasing

- Since the lack of investors and money, few of them have not been delivering the credits and money to the rural population

- Rather than small industrialists, the benefits from Co-operative Banks have been enjoyed by rich landowners

- The Co-operative Banks across the country are not equally developed. A few states have more functioning and beneficial units, while some states have faced loss

- Political interference has also been observed in these banks

- With new types of banks opening up, the Co-operative Banks are facing the risk of losing their customers

To overcome this loss, the RBI must take up steps regarding audit facilities and implementation of strict rules must be followed.

3.4 Number of Co-operative Banks in India

As of March 2019, there were 1,544 Urban Cooperative Banks and 96,248 Rural Cooperative Banks in India

3.5 Types of Co-operative Banks in India

The co-operative banking structure in India is divided into the following 4 categories:

1. Primary Co-operative Credit Society

- The Primary Co-operative Credit Society is an association of borrowers and non-borrowers residing in a particular locality.

- The funds of the society are derived from the share capital and deposits of members and loans from central co-operative banks.

- Primary co-operative banks offer credit services in the urban and semi-urban regions. Thus, they are not considered agricultural credit societies.

- Borrowing constitutes the most important element of their working capital.

- The borrowing powers of the members as well as of the society are fixed but may differ from state to state.

- The loans are given to members for the purchase of cattle, fodder, fertilizers and pesticides.

2. Central Co-operative Banks

- These are the federations of primary credit societies in a district and are of two types:

1. Those having a membership of primary societies only.

2. Those are having a membership of societies as well as individuals.

- The funds of the bank consist of share capital, deposits, loans and overdrafts from state co-operative banks and joint stocks.

- These banks provide finance to member societies within the limits of the borrowing capacity of societies.

- They also conduct all the business of a joint-stock bank.

3. State Co-operative Banks

- The state co-operative bank is a federation of central co-operative bank and acts as a watchdog of the co-operative banking structure in the state.

- It procures funds from share capital, deposits, loans and overdrafts from the Reserve Bank of India.

- The state co-operative banks lend money to central co-operative banks and primary societies and not directly to the farmers.

4. Land Development Banks

- These are organized in 3 tiers, namely; state, central, and primary level with the objective to meet the long-term credit requirements of the farmers for developmental purposes.

- National Bank for Agriculture and Rural Development (NABARD) supervises Land development banks.

- The sources of funds for these banks are the debentures subscribed by both Central and State government as these banks do not accept deposits from the general public.

3.6 Problems of Cooperative Sector Banks

(Source: Gupta, J., & Jain, S. (2012). A study on Cooperative Banks in India with special reference to Lending Practices. International Journal of Scientific and Research Publications, 2(10), 1-6.)

Lack of Democratic Spirit

Cooperatives need to run on well-established democratic principles and elections held on time and in a free and fair manner. it has been observed that majority of the members as well as directors of the society are ill-informed about the activities of the society due to their illiteracy & indifferent attitude. The dominant politicians who normally have political background use to take undue advantage of the resources of the society. it seems majority of the members are ignorant about the objectives of the cooperative movement & the spirit of democracy

Fair Audit

It is well known that audits are done entirely by department officials & are neither regular nor comprehensive. Delays in the conduct of audits and submission of reports are widespread. Audit is limited to such accounts as are available& reports seldom examine whether accounts & record are complete, accurate and up to date. Neither the observance of procedures for grant of loans and their recovery nor the veracity of the reported characteristics of borrowers are properly scrutinized. Further, in case of the

purchasing activity lots of irregularity & manipulation takes place by the office bearers due to their vested interests. /this causes loss to the society.

Power by the Leadership

Those who control cooperative societies are locally powerful, with strong political affiliations. The political class as a whole, irrespective of party, is loath to dilute, let alone give up the power that they get to garner electoral support, reward their supporters and mobilize funds from their control of cooperatives. Under the existing regime, they are able to abuse this power brazenly and with impunity.

Mismanagement & Manipulation

The strength of the movement was the involvement of the farmers who were shareholders & members of the society. Over the years, this truly democratic idea got corrupted and wealthier people having political background became more powerful. in practice, this altered the power structure of the cooperatives. In the elections of the governing bodies, money became such a powerful tool that the top posts of chairman & vice-chairman usually went to the richest political persons even though the majority of members were farmers with small- or medium-sized Holdings. The social power that the cooperatives brought to rural India was gradually hijacked and turned into a political tool.

Government Interference:

Right from the beginning the government has adopted an attitude of patronizing the movement. Cooperative institutions were treated as if these were part & parcel of the administrative set up of the government. The government interference thus became inessential element in the working of these institutions. As a result, people's enthusiasm for the movement did not grow. The movement's independence and self-reliance existed only on paper and files.

Modern Banking Practices

They are not having the modern practices of banking in there working viz. net banking, mobile Banking, online banking, e-banking, ATM banking and all other modern

banking practices. Due to which they have been eliminated and remained back foot in the modern era of marketing.

Lack of Awareness

People are not well informed about the objectives of the movement, the contributions it can make in rebuilding the society and the rules and regulations of cooperative institutions. People look upon these institutions as means for obtaining facilities & concessions from the govt. so long as people expect to get something from the government, they see to it that societies somehow continue to function. Lack of education, dirty politics of the village, caste ridden elections to the offices of cooperative societies, bureaucratic attitudes of the government officers at the lower rank are some of the hurdles in spreading the correct information about the cooperative movement and in educating the people about its true character and vital role in the society.

Limited Coverage

The cooperative movement has also suffered on account of two important limitations on its working.

• The size of these societies has been very small. Most of these societies are confined to a few members and their operations extended to only one or two villages. as a result, their resources remain limited, which make it impossible for them to expand their means and extend their area of operations.

• Majority of the societies have been single purpose societies. for this reason, these societies are not unable to take a total view of the persons seeking help, nor can they analyze and solve problems from different angles. the help these societies render thus cannot be adequate.

Functional Weakness

The cooperative movement has suffered from inadequacy of trained personnel right from its inception. Lack of trained personnel has been caused by two major factors.

(i) Lack of institutions for this purpose of training personnel. (ii) because of the unsatisfactory working of cooperative institutions, efficient personnel did not feel attracted towards them.

Lack of Professionalism

Professionalism reflects the co-existence of high level of skills and standards in performing duties entrusted to an individual. The absence of a proper system of placement and skill up gradation inputs constrain professional management in cooperative banks.

Pilot Study Analysis

The pilot study was conducted with the aim of integrating the co-operative banking models with three-level stakeholders such as cooperative society members, Self-help groups and policymakers.

4.1 Knowledge Gap

Past researchers have explored the need for innovative financial products for MFIs (World Bank Report, 2013) and the demand side factors that affect the microfinance services (Anirban, 2013). The research on microfinance has quoted that business viability is a key factor to be considered in developing the new product (Mishra, 2006). Previous researches set the bottom level needs of the financial products. It is also noted that while designing the financial product, national economic and social impact factors are to be considered (Sasthiri, 2009). The financial product should be built around the social protection needs (Arun, 2010). Research on product development for microfinance in Egypt contented that the service attitude towards poor is to be considered while designing the MFI products. Tsai (2004) in his article argues that the persistence of informal finance may be traced to four complementary reasons—the limited supply of formal credit, limits in state capacity to implement its policies, the political and economic segmentation of local markets, and the institutional weaknesses of many microfinance programs. Vanroose et al (2013) argue that the competition among the microfinance organization pushes MFIs down the market and makes mission drift by MFIs less likely. There is a need for the new regulatory framework for integrating microfinance and it should overcome the collateral issues in financing. (Satish,2005). Tchakoute's (2010) research on microfinance concluded that the commercial approach of microfinance does not seem inconsistent with the social mission of MFIs. Siddaraju's (2012) research on cooperatives and financial inclusion concluded that the power of woman is to be considered for the successful model. Woolcock (1999) argued that there is a need for social relations among the potential and actual group members of the association, to make the microfinance as a success. The Kenyan MFI research contented that while developing the new product for MFIs, the financial viability of payments is to be given importance (Mutua,1997). The financial instrument developed by the banks should serve the bottom of the pyramid in India (Mukhurejee, 2012).

Research done on microfinance products quoted that the microfinance products are supply-driven rather than demand-driven (Paul, 2009). This pilot study explores the viability of integrating the cooperative model with the microfinance model that are linked with the self-help group.

4.2 Pilot Study Design

The primary data for the pilot study have been collected from the cooperative society members in 27 villages spread over South India. To identify those villages, the secondary data available with eight district cooperatives located in South Karnataka, West Tamilnadu, North Kerala and Pondicherry are used. There are 171 cooperative societies lending to rural agricultural people in those 27 villages. We use snow-ball random sampling to select the respondents for the pilot study. The responded should have the used the cooperative model and the Microfinance Model (Small banking finance). The confidence interval limit approach of sampling has been used to identify the sample size. The sample size has been fixed as 300 with the confidence limits of 95%. An interview schedule with twenty-five questions has been used to collect the data. Snow-ball sampling is used to identify the cooperative society members. Even-though, we have gathered data from 361 customers, only 302 responses were validated with the reliability test. The reliability of the data has been measured with Cron-bach alpha value of 0.79 that shows the goodness of fit.

4.3 Descriptions of the Sample respondents

All the respondents in the sample are the members of the Agricultural cooperative society. Their socio-demographic profile has been listed in the following tables.

Age of Respondents

Table 4.1

Age in Years	Frequency	Percent
Less than 30	98	32.5
30 to 50	116	38.4
More than 50 years	88	29.1
Total	302	100

Table 4.2 shows the age-wise distribution of the respondents.

38.4% of respondents are aged between 30 to 50 Years.

Education level of the Respondents

Table – 4.2

Education	Frequency	Percent
Illiterate	52	17.2
Primary Level	56	18.5
Secondary Level	48	15.9
Higher Secondary Level	118	39.1
Graduates	28	9.3
Total	302	100.0

Table 4.3 shows the education-level of the respondents.

39.1% of respondents have studied Higher Secondary Level.

Marital Status of the Respondents

Table – 4.3

Marital Status	Frequency	Percent
Unmarried	114	37.7
Married	188	62.3
Total	302	100

Table 4.4 shows the martial status of the respondents.

52.6% of respondents are married.

Annual Income of the Respondents

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Table – 4.4

Annual Income Level	Frequency	Percent
Less than ₹ 50,000	50	16.6
₹ 50,000 to ₹ 75,000	104	34.4
₹ 75,000 to ₹ 100,000	84	27.8
₹ 100,000 to ₹ 125,000	22	7.3
Higher than ₹ 125,000	42	13.9
Total	302	100

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Table 4.5 shows the annual income of the respondents.

34.4% of respondents have income between ₹ 50,000 to ₹ 75,000.

Occupation of the Respondents

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Table – 4.5

Occupation	Frequency	Percent
Agricultural -Cultivation	50	16.6
Agricultural - Cattle rearing	104	34.4
Both Cultivation & Cattle rearing	126	41.7
Others	22	7.3
Total	302	100

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Table 5.3 shows the occupation of the respondents.

41.7% of respondents do Agricultural – Cattle rearing.

Income Earning Periods

Table – 4.6

Time period	Frequency	Percent
Monthly	42	13.9
Sporadic	118	39.1
Seasonal	120	39.7
Occasional	22	7.3
Total	302	100

Table 5.3 shows the income earning periods of the respondents. 39.7% of respondents are seasonal.

Loan borrowed during the year ending 31st March 2020

Table – 4.7

Amount of Loan	Frequency	Percent
Less than ₹ 50,000	43	14.2
₹ 50,000 to ₹ 100,000	141	46.7
Greater than ₹ 100,000	118	39.1
Total	302	100

Table 5.3 shows the loan borrowed during the year ending 31st March 2020.

46.7% of respondents have borrowed loan between ₹ 50,000 to ₹ 100,000.

Loan borrowed from MFI (Small Banking Companies) during last two years

Table – 4.8

Amount of Loan	Frequency	Percent
Less than ₹ 5000	32	10.6
₹ 5000 to ₹ 10000	134	44.4
Greater than ₹ 10,000	136	45
Total	302	100

Table 5.3 shows the loan borrowed from MFI (Small Banking Companies). During last two years. 45.03% of respondents have borrowed MFI loan greater than ₹ 10,000.

Loan borrowed from Cooperative Banks during last two years

Table – 4.9

Amount of Loan	Frequency	Percent
Less than ₹ 25,000	53	17.55
₹ 25,000 to ₹ 50,000	118	39.07
Greater than ₹ 50,000	131	43.38
Total	302	100

Table 5.3 shows the loan borrowed from Cooperative Banks during last two years.

43.37% of respondents have borrowed MFI loan greater than ₹ 50,000.

Purpose of Loan

Table – 4.10

Purpose of Loan	Frequency	Percent
Equipment Purchasing	60	19.9
Fertilizer loan	56	18.5
Seed Loan	74	24.5
Cultivation Overheads	46	15.2
Irrigation	26	8.6
Supply Chain	20	6.6
Storage	20	6.6
Total	302	100

Table 5.3 shows the purpose of loan borrowed by the respondents.

24.5% of respondents have borrowed loan for the purpose of seed loan.

Service availed from Micro finance Products.

Table – 4.11

Nature of MFI products	Frequency	Percent
Deposits	42	13.9
Micro-credits	108	35.8
Supply chain credits	116	38.4
Others	36	11.9
Total	302	100

Table 5.3 shows the Service availed from Micro finance Products. 38.4% of respondents have availed services for supply chain credits from micro finance products.

Dependency on Self Help Group

Table – 4.12

Type of Cluster	Frequency	Percent
Minimum	52	17.22
Low dependency	66	21.85
Modest	44	14.57
High	46	15.23
Dependent	94	31.13
Total	302	100

Table 5.3 shows the dependency on self-help group. 31.12% of respondents are dependent on self-help group.

Cross tab between dependency on SHG and favoritism towards business model

Table – 4.13

	Favoring Single Model	Favoring Integrated Model	Total
Minimum dependency on SHG	8	46	54
Low dependency	3	63	66
Modest	1	43	44
High	8	36	44
Dependent on Self Help Group	30	64	94
Total	50	252	302

Chi-Square Tests

Table – 4.14

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.416	4	0
Likelihood Ratio	32.279	4	0
Linear-by-Linear Association	15.75	1	0

The result clearly shows that the primary agricultural cooperative members are favouring the integrated model.

Preference of services between Cooperative and Microfinancing Credit System

Table – 4.15

Advantageous Position	Percentage of favouritism among the respondents	
	Cooperative Model	Microfinance Model
Convenient for Borrowing loan	16.6	83.4
Interest rate advantage	82.1	17.9
Repayment Time Advantage	14.9	85.1
Credit Measurement Advantage	16.9	83.1
Transaction Cost Advantage	14.9	85.1
Easy documentation	21.9	78.1

4.4 Modus operandi of Janseva Cooperative Credit Society

To find out a solution to reduce the credit crunch in the cooperative societies, we undertake a case study in a cooperative society, where there is no cash crunch. This case study is done with the aim of introducing integrated microfinance model in cooperative societies to reduce the problem of the credit crunch.

The case study is done in Janseva Cooperative Credit Society (JanSeva), which is following an implicit microfinance model in providing credits to its members. It is operating in twelve states in India and registered under Multi State Cooperative Society (MSCS) Act 2002. The Islamic Finance Forum of South Asia (IFFSA) recognized the JanSeva Society for providing interest-free microfinance in an International conference held in Sri Lanka in 2017. JanSeva is a cooperative institution which has been promoted to help its members in fulfilment of their diverse needs by integrating microfinance and self-help group model. The society is treating the relationship with clients as strategic, long-term, and enduring.

Janseva Cooperative Credit Society Ltd is following the integrated microfinance model that links co-operative society members and the Self-help groups. It is also following the interest-free microfinance to empower the marginalized sections. The aim of the microfinance division

of Janseva cooperative society is to create awareness cum gender sensitization, forming of Self-Help Groups, organizing training programs, to raise capital for the advancement of the loan, to provide technical know-how and to create a linkage with financial institutions.

This model links Self-help group (SHG) cooperative members and the cooperative society. The cooperative members must deposit in the cooperative bank for the minimum period of one year, to avail micro-loan. The cooperative members must take part in a Self-help Group. Supply chain credit will be granted to members from the revolving fund after the successful three months of savings deposits. Repayment Schedule is selected by the members based on the suggestion given by the SHG. It may be on daily or weekly or monthly basis.

Janseva is following a fee-based model in its initial stage. The new model of microfinance will be set at a successful role model of interest-free microfinance. After providing skill training to cooperative members through self-help groups, members can run a small business. 70 % of the profit is distributed to the members. Each SHG member will save ₹5 per day for minimum 25 days per month. However, members/group will have the option to deposit their savings on a weekly basis also. In some instances, savings deposits can also be allowed on fortnightly and monthly basis also. Of the total one hundred twenty-five rupees deposited by a member or ₹ 1875 by a group, ₹ 1500 will be saved and the Janseva will deduct ₹ 375 as monthly membership fees. After successful three months of savings deposits, the grant will be provided to all member of SHG based on the grant guidelines (Member's attendance, loan utilization etc.). After successful one year of internal loan repayments, SHG will be eligible for the interest-free loan which will be twice the amount saved (saving) after 12 months. The loan will be issued based on Joint liability and no collateral security will be asked. For availing loan, SHG will be pay processing fee which is 1% of loan amount so that the society will cover the disbursement expenses. SHG will contribute 4% of the loan amount from its own fund which is the growing amount of SHG, if any member fails to deposit loan amount, SHG may use this fund to pay the loan of the defaulted member. The members of the group will share the balance after three years or the time of closure of the account.

The SHG decides the repayment schedule. SHG member can choose repayment based on daily or weekly or monthly system. If SHG selects the weekly repayment schedule, then SHG member will pay the amount on a weekly basis. The savings amount will remain same. After successful completion of two years of savings and internal landing, Janseva will adopt the profit-based model. In this model, Janseva will issue the loan for a small business in partnership with the members of SHG. Each SHG member will save Rs.5 per day for minimum 25 days per month. However, members/group will have the option to deposit their savings on a weekly basis also. In some instances, the savings deposits can also be allowed on the fortnightly and monthly basis. The loan will be issued based on Joint liability and no collateral security will be asked. SHG will contribute 4% of the loan amount in its reserve fund which is the growth amount of SHG Business. If Business fails, SHG may use this fund to pay the loan and run the business. The members of the group will share the balance after three years or the time of closure of the account.

After successful running the business in partnership with Janseva, profit will be distributed in the ratio of 3:7. 70% of the profit will be distributed to members of SHG, 30 % of the profit will be kept by Janseva to cover the Expenses and create the reserve for SHG's.

The membership of the society has been increased from 17,062 in the year 2017 to 20,449 in 2020. The total subscribed share capital has increased from ₹ 4,17,84,200 to ₹ 5,25,55,800 in the same period This model is successfully working in the Cooperative society. The loan recovery process of the cooperative society has been shared with the self-help group. The society has not come across the problem of a cash crunch. The microfinance loans have been increased (Exhibit 4). The deposits, capital, reserves and surplus have increased significantly from 2011 to 2016 (Exhibit 5).

Exhibit 4.1: Loans Advanced by the Janseva society

	Mar 11	Mar 12	Mar 13	Mar 14	Mar 15	Mar 16
Loans Advanced	5,749,200	29,591,865	98,713,253	117,851,586	151,032,729	224,465,612
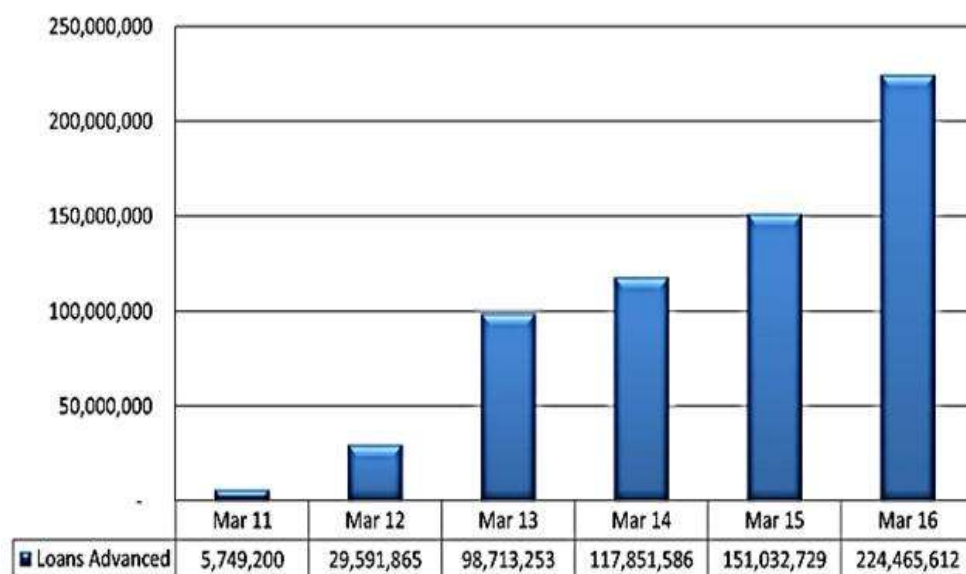
Source: Audited Report of Janseva Cooperative Society 2016

Exhibit 4.2: Capital infusion in Janseva Cooperative society

	Mar 11	Mar 12	Mar 13	Mar 14	Mar 15	Mar 16
Paid up Share Capital	8,735,300	17,868,800	22,216,700	31,127,900	41,784,200	52,555,800
Demand Deposits	4,580,057	12,580,427	37,590,741	70,182,168	79,729,625	108,377,189
Term Deposits	37,500	1,574,922	2,504,331	5,812,283	10,348,334	16,492,428
Investment Depsoslts	-	609,137	-	8,935,643	30,397,832	31,444,257
Reserve & Surplus	46,979	198,316	375,476	1,100,039	2,292,412	5,040,326
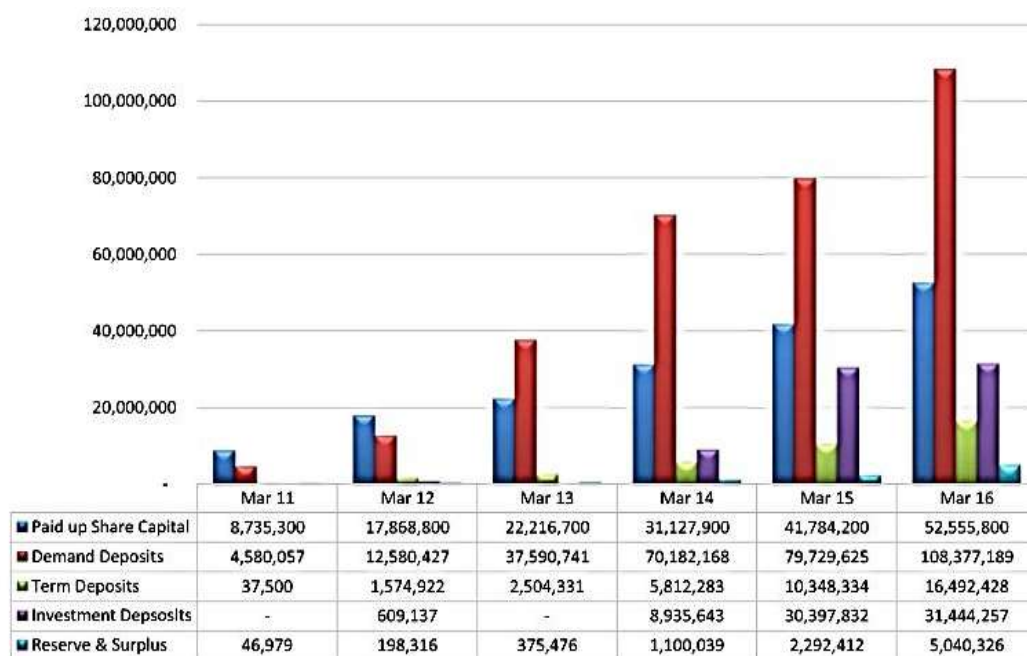
Source: Audited Report of Janseva Cooperative Society 2016

The director of JanSeva in an interview with Arab news quoted that ― We aim to empower marginalized members of the community, including women, by providing access to micro-finance services to achieve the national mission of inclusive growth‖ (Arab News, 2018). The Janseva started with the capital from its members in the year 2010 with ₹ 1,91,000 and within seven years its capital base increased to ₹ 224 crore. It's income crossed ₹ 3 crore in 2017. It distributed 10% profits to its shareholders in 2017. Hence, we conclude that the cooperative microfinance model that integrates self-help group with the cooperative society will be a successful one for Indian agrarian society and it will decrease financial woes of the cooperative society. Janseva Cooperative society is providing microfinance to both urban and rural society. The further discussion is motivated with the aim of re-engineering the microfinance product to fit the needs of the agrarian society in the co-operative based model. The integration of microfinance with the co-operative system in Janseva Credit cooperative society is a successful one in reducing the barriers in loan repayment system. Hence, to reduce the problems in loan redemption system, this paper mooted the introduction of microfinance model in the cooperative sector.

4.5 Outcome of the Pilot Study

The respondents support that the integration of Cooperative model with the Microfinance model is feasible with respect to the credit management system.

The case study conducted in Janseva cooperative society proved that it is possible to integrate the microfinance model and cooperative model. The integration of these two models will be done by linking three stakeholders, i.e., Cooperative society members, Self-help group and the Cooperative society. Exhibit -7 shows the re-engineered model needed for the co-operative system.

Exhibit 4.3: Integrated Cooperative and Microfinance Model

Under this model, the co-operative society, before providing loan to the members get the opinion of the self-help group, where the member belongs (1). The co-operative society will decide about the microfinance services to the members based on the recommendation of the self-help group. (2). The self-help group will train or help the cooperative society members in the respective agriculture business (3). After the proper training, the members will be given microfinance loan to the cooperative society members (4). The micro-loan repayment will be monitored by the self-help group. The interest rate of microfinance is decided mutually by the cooperative society and the self-help group. The self-help group activities have been linked with the cooperative society. A cooperative society is having a partnership with more than one self-help group based on the nature of business activities done by the self-help group. The borrower will be a member in both self-help group and cooperative society.

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Chapter – 5

Analysis

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This chapter depicts the stage-by-stage methods used in the research to establish a new microfinance product that facilitate the integration of Microfinance and cooperative model. We depict the chapter design table 5.1.

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Table 5.1: Research Design

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Paragraph Number	Paragraph heading	Purpose
5	Product Development Process	To develop a suitable methodology to establish new microfinance product that integrate Microfinance and Cooperative model.
5.1	Knowledge quotient on Micro finance Products	To find out a basic literature support for developing a new product
5.2	Type of microfinance product needed for agrarian society	To find out a new product that is suitable for the agrarian society based on the past research work. Hence, the plan of research has been established.
5.3	Identification of Intensive users	To validate the respondents. Data have been collected from the customers, who are using microfinance products. As the research is focused on new product development, in this stage we identify the intensive users of microfinance product. Hence, the responses will have real applicability.

5.4	Descriptions of the Sample respondents	To examine the demographic profile of the respondents. Hence, we are able to justify the reliability of the responses given by the customers
5.5	Analysis	To analyse the primary data to get the result.
5.5.1	Predisposition of Customers with regard to financial products	To identify the basic elements of new financial product.
5.5.2	Significance of factors with growth values	To justify the results of the previous stage. Hence the validity of the outcome be validated.
5.5.3	Diagnostic Test	To find out the most significant factor that contributes to the product development.
5.5.4	Ex Post-facto research Analysis – New Product Design	To find out what type of calibration is needed for the existing product.
5.5.5	Relative importance of existing products	To find out the relative importance of the variables in establishing new product.
5.5.6	Positioning Strategy of existing products	To find out the product positioning strategy.
5.5.7	Discrete choice analysis	To identify the discrete product that need calibration.
5.5.8	Case Studies on Market Penetration	To justify the process involved in the new product.
5.5.9	Case study - Pragathi Seva Samithi, Warangal (PSS)	To justify the outcome of the output in the application level
5.6	Outcome of the Chapter	To list down the outcome of all the stages.

5.1 Knowledge quotient on Micro finance Products

Past researchers have explored the need for innovative financial products for MFIs (World Bank Report, 2013) and the demand side factors that affect the microfinance services (Anirban, 2013). The research on microfinance has quoted that business viability is a crucial factor to be considered in developing the new product (Mishra, 2006). Previous researches set the bottom level needs of the financial products. It is also noted that while designing the financial product, national economic and social impact factors are to be considered (Sasthiri, 2009). The financial product should be built around the social protection needs (Arun, 2010). Research on product development for microfinance in Egypt contented that the service attitude towards poor is to be considered while designing the MFI products. Tsai (2004) in his article argues that the persistence of informal finance may be traced to four complementary reasons––the limited supply of formal credit, limits in state capacity to implement its policies, the political and economic segmentation of local markets, and the institutional weaknesses of many microfinance programs. Vanroose et al. (2013) argue that the competition among the microfinance organization pushes MFIs down the market and makes mission drift by MFIs less likely. There is a need for the new regulatory framework for integrating microfinance and it should overcome the collateral issues in financing. (Satish,2005). Tchakoute's (2010) research on microfinance concluded that the commercial approach of microfinance does not seem inconsistent with the social mission of MFIs. Siddaraju's (2012) research on cooperatives and financial inclusion concluded that the power of woman is to be considered for the successful model. Woolcock (1999) argued that there is a need for social relations among the potential and actual group members of the association, to make the microfinance as a success. The Kenyan MFI research contended that while developing the new product for MFIs, the financial viability of payments is to be given importance (Mutua,1997). The financial instrument developed by the banks should serve as the bottom of the pyramid in India (Mukhurejee, 2012). Research done on microfinance products quoted that the microfinance products are supply-driven rather than demand-driven (Paul, 2009). This chapter explores the viability of introducing innovative microfinance products that are bundled with a cooperative model.

5.2 Type of microfinance product needed for agrarian society

Flexible project management tools are essential for developing a new product for Microfinance. We use the access frontier approach to identify the essential characteristics of the microfinance products. The research design is established by considering the customer-centric approach used by MFIs research in Egypt, which is based on the conceptual value that ―poor to be served. The primary data for the first phase have been collected from the cooperative society members in 27 villages spread over South India. To identify those villages, the secondary data available from eight district cooperatives located in South Karnataka, West Tamil Nadu, North Kerala and Pondicherry are used. There are 171 cooperative societies lending to rural agricultural people in those 27 villages. The confidence interval limit approach of sampling has been used to identify the sample size. The sample size has been fixed as 650 with the confidence limits of 95%. An interview schedule with twenty-five questions has been used to collect the data. Snowball sampling is used to identify the cooperative society members. Even though, we have gathered data from 1208 customers, only 945 responses were validated with the reliability test. By using cluster analysis, we have spotted 661 intensive agriculture cooperative society members. Hence for the further study 661 responses were alone considered. The reliability of the data has been measured with Cron-bach alpha value of 0.82; that shows the goodness of fit. We follow the research design as mentioned in the Table 5.1

Sl. No	Purpose	Input	Process	Product Development Stages
1	To find out the impressive users of Agriculture Cooperative society members	Primary data collected from the customers	Cluster Analysis	Product Line planning – Customers Classification
2	To find out the desirable characteristics of the financial product as expected by the customers	Ratings given by respondents as classified as impressive users	Factor component analysis - Access frontier approach	Product Line planning – Customer Preference Analysis

3	To find out the most important factor that influence the sustainable growth	Factor scoring variables and growth variables as measured in terms of survival	ANOVA	Product Line planning – Product Attributes

5.3 Identification of Intensive users

We use cluster analysis to identify the intensive users. Five sets of variables that describe the characteristics of the agriculture credits are selected to formulate the problem. The attitudinal variables are measured on a five-point Likert Scale. The attitudinal variables for measuring the respondents are based on the frequency of loan borrowed, the value of credit transactions, loan repayment period and convergence of loan payments. Cluster centroids are used to distinguish the clusters and a three-stage cluster solution was developed. Table -3 shows the cluster group based on the value dispositions.

Table 5.2: Cluster Centroids of Agricultural cooperative members

Sl.no	Derived Cluster Name	Centroid values	No. of Respondents	Percentage
1	Intensive Users of Cooperative credits	4.2	661	69.9
2	Aspirers of Cooperative credits	2.10	121	12.9
3	Deprived users of cooperative credits	1.1	163	17.2
			945	

The first cluster has relatively high values on four variables. Hence these respondents are labelled as 'intensive users.' The second cluster has second degree low values among those four variables. Hence these respondents are labelled as 'aspirer.' The third cluster has the low-level values among all variables. They are labelled as 'deprived users.' Hence for the further study, **we consider the data collected from 661 cooperative members who are classified as 'intensive users'**

5.4 Descriptions of the Sample Respondents

All the respondents in the sample are the members of the Agricultural cooperative society. Their socio-demographic profile has been listed in the following tables.

Age of Respondents

Table - 5.3

Years	Frequency	Percent
Less than 25 years	75	11.3
Between 26 to 35 years	198	30
Between 36 to 45 years	71	10.7
45 years and Above	317	48
Total	661	100.0

Table 5.3 shows the age-wise distribution of the respondents.

48% of respondents are aged more than 45yrs.

Education level of the Respondents

Table – 5.4

Education	Frequency	Percent
Illiterate	250	37.9
Literate	127	19.3
Primary	86	13
Middle School	95	14.4
High School	103	15.6
Total	661	100

Table 5.4 shows the education-level of the respondents.

37.9% of respondents are illiterates.

Marital Status of the Respondents

<div align="center">

Table – 5.5

Marital Status	Frequency	Valid Percent
Married	348	52.6
Unmarried	313	47.4
Total	661	100

</div>

Table 5.5 shows the martial status of the respondents.

52.6% of respondents are married.

Type of Respondents Family

<div align="center">

Table – 5.6

Family Type	Frequency	Valid Percent
Nuclear	259	39.1
Joint	202	30.6
Extended	200	30.3
Total	661	100

</div>

Table 5.6 shows the type of respondent's family.

39.1% of respondents are nuclear families.

Family head in the respondent's family

<div align="center">

Table – 5.7

Family Head	Frequency	Valid Percent
Husband	313	47.4
Father	269	40.7
Housewife	20	3.1
Self	10	1.5
Mother	49	7.3
Total	661	100

</div>

Table 5.7 shows the family head in respondent's family.

47.4% of respondents are husband.

Employment status of Respondents

Table – 5.8

Employment Status	Frequency	Valid Percent
Employed (Private)	283	42.8
Retired Employee	73	11
Service-Related job	174	26.3
Entrepreneurs	131	19.9
Total	661	100

Table 5.8 shows the employment status of the respondents.

42.8% of respondents are private employees.

Subsidiary employment of respondents

Table – 5.9

Employment	Frequency	Valid Percent
Agriculture	335	50.6
Animal Husbandry	323	48.9
Labor	3	0.5
Total	661	100

Table 5.9 shows the subsidiary employment of the respondents.

Agriculture is the subsidiary employment of 50.6% respondents.

Landholding size of respondents

Table –5.10

Acres	Frequency	Valid Percent
Less than1	154	23.2
1 to 5	89	13.5
6 to 10	131	19.9
More than 11	145	22
Landless	142	21.4
Total	661	100

Table 5.10 shows the landholding size of the respondents.

23.2% of respondents have less than 1 acre of landholding.

Type of house of respondents

<p align="center">**Table – 5.11**</p>

Type	Frequency	Valid Percent
Own	144	21.7
Rented	276	41.9
Other	241	36.4
Total	661	100

Table 5.11 shows the type of house of the respondents.

41.9% of respondents have own house.

Linkage with Self Help Group

<p align="center">**Table- 5.12**</p>

Type of networking	Frequency	Valid Percent
Strong Linkage	87	13.2
Linked	138	20.9
Network	165	24.8
In Network, but sleeping member	135	20.6
Not linked with SHG	136	20.6
Total	661	100

Table 5.10 shows the linkage with self-help group of the respondents.

24.8% of respondents have network linkage.

5.5 Analysis

The second stage of the study explores the expectations of the cooperative members with regard to the financial products. The outcomes are explored from the responses of the intensive cooperative members.

5.5.1 Predisposition of Customers with regard to financial products

Factor component analysis was used to find out the customers' (no-frill account holders) expectation towards the financial products. 661 customers responses towards fifteen questions about their perception towards the financial

products in five points Scale ('1' = completely disagree; '5' = completely agree) were considered to establish factors. The data collected were coded to perform factor analysis using SPSS. The null hypothesis, which the universe correlation matrix is the identity matrix, was precluded by the Bartlett's test of sphericity. The value of Kaiser-Meyer-Olkin statistics (0.641) is also higher than 1. The chi-square statistics value is 482.077 and it is significant at 95% level of confidence at the degrees of freedom 105. Hence principal component analysis is appropriate for analysing the correlation matrix of the fifteen variables.

Table 5.13.1 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.641
Bartlett's Test of Sphericity	Approx. Chi-Square	482.077
	df	105
	Sig.	0.000

Table 5.13.2 - Rotated Component Matrix of Customers Expectation

Sl.no	Variables	Factor Loading				
		1	2	3	4	5
1.	Business networking	0.775				
2.	Facilitation of account	0.743				
3.	Bank transfers	0.652				
4.	Direct benefit transfer	0.506				
5.	Anywhere banking	0.459				
6.	Vocational merchandise		0.758			
7.	Social values		0.657			
8.	Protection			0.722		

Sl.no	Variables			
9.	Remittance	0.444		
10.	Professional linkage	0.410		
11.	Government transfers		0.641	
12.	Assurance		0.581	
13.	Technology		-0.543	
14.	Less documentation			0.784
15.	Easy to use			0.505

Source: Based on the primary data

The varimax rotation is converged in ten iterations. The number of factors was selected based on the eigenvalue. Five factors having eigenvalue greater than one are selected. The attributes having factor loading less than 1 are eliminated from the analysis. All the five factors are accounted for cumulative variance of 57.987%.

Table 5.13.3 - Component Matrix of Customers Expectation

Sl.no	Variables	Factor Loading				
		1	2	3	4	5
1.	Business networking	0.742	- 0.117	0.256	- 0.048	0.045
2.	Facilitation of account	0.726	0.036	0.255	- 0.032	0.183
3.	Bank transfers	0.644	- 0.251	- 0.013	- 0.047	- 0.159
4.	Direct benefit transfer	0.546	0.026	- 0.358	0.298	0.146
5.	Anywhere banking	0.392	- 0.380	- 0.097	0.355	0.008
6.	Social values	- 0.026	0.609	- 0.236	0.230	- 0.220

7. Professional linkage	0.441	0.448	0.116	-0.174	-0.157
8. Protection	-0.031	0.355	0.540	-0.241	-0.226
9. Remittance	0.274	0.291	0.372	0.084	-0.100
10. Technology	-0.271	0.190	0.469	0.528	-0.054
11. Less documentation	0.060	0.418	-0.060	0.520	0.454
12. Government transfers	0.052	0.340	-0.257	-0.451	0.195
13. Easy to use	-0.147	0.183	0.180	-0.052	0.635
14. Vocational merchandise	0.187	0.443	-0.380	0.119	-0.446
15. Assurance	0.183	0.320	-0.186	-0.303	0.338

The attributes having factor loading less than 1 are business networking and technology simulators. The variables such as Business networking, Facilitation of account, Bank transfers, Direct benefit transfer and Anywhere banking are highly correlated and contribute to a single factor which can be called as 'occupational supply chain system'. The variables such as Vocational merchandise and Social values are highly correlated and contribute to a single factor which can be called as 'inter-bank mobility'. The variables such as Protection, Remittance and Professional linkage are highly correlated and contribute to a single factor which can be called as compliance. The variables such 'Government transfers, Assurance and Technology are highly correlated and contribute to a single factor which can be called as 'remittance system.' The variables such as assurance for less documentation and Easy to use are highly correlated and contribute to a single factor which can be called as 'risk aversion.' The result indicates that the customers believe that **farm-based supply chain system, flexible inter-bank payment system, compliance with**

regional standards, flexible payment system and risk coverage are the essential features of a micro-finance product.

5.5.2 Significance of factors with growth values

Clients' sustainable growth is the core value of establishing the microfinance in India. Past researchers identified that the deposit growth is tool to measure the value of the customers (Cognizant, 2013). Hence, the growth is measured in terms of average deposits retain by the clients with Banks/MFIs as on 31st January, 2017, 2018 and 2019. We coded the clients having deposits worth up to Rs 25,000 as '1'; more than 25, 000 but less than Rs 50,000 as '2'; and more than Rs 50,000 as '3'. The account holders coming under the third category are converting their no-frill account into a regular scheme. We wish to test the hypothesis that - is there any significant difference among the expected features of the financial product that derived from the factor analysis with the growth rate. We empirically test the relationship based on occupational supply chain, risk aversion, remittance system, compliance and inter-bank mobility with the growth components of the users. The sustainable growth is considered as the independent variable and factor loadings of customer expectations are considered as dependent variables. The hypotheses are tested with the responses that have been collected. The results are analysed with F test in table -4.

Table 5.13.4- Variations between Growth factor and Demand Side Factors

Variables	F- Value	Sig.
Compliance Standards	4.576	0.033
Remittance system	20.430	0.000
Interbank mobility	0.631	0.428
Occupational Supply chain Activities	0.001	0.970
Risk Aversion	10.466	0.001

The null hypothesis that the growth factor and preferred variables have no significant variation has been rejected in two cases. There is no significant difference among the views of the different types of clients (based on growth factor) and their expectation towards product features such as occupational conditions, inter-bank mobility and compliance standards. Their opinions are significantly different with respect to remittance services and risk aversion characteristics. **We conclude that, the clients having high amount of deposits expect a good remittance services and the financial product should be able to withhold the risk.**

5.5.3 Diagnostic Test

Previous stages proved that the 'remittance services, occupational in the Supply chain, inter-bank mobility, compliance standards, insurance and 'risk aversion' features are the essential elements of the financial product. To reveal which of the above features highly influence the growth of the clients, ROC analysis was carried out. Realistic-operating characteristic (ROC) curves were drawn to assess the features of the financial product with sustainable growth.

ROC curves explore the precision of diagnostic tests and used to find the best "cut-off" value for impressive and unimpressive cluster test results. A graphical representation of this trade-off is presented in exhibit-1. Setting a low cut-off yield a very high sensitivity but at the expense of specificity. Setting a high cut-off yield a high specificity at the expense of sensitivity. Table-5 shows the asymptotic significance of ROC analysis.

Exhibit 5.1 - Product features ROC curve

ROC Curve

Diagonal segments are produced by ties.
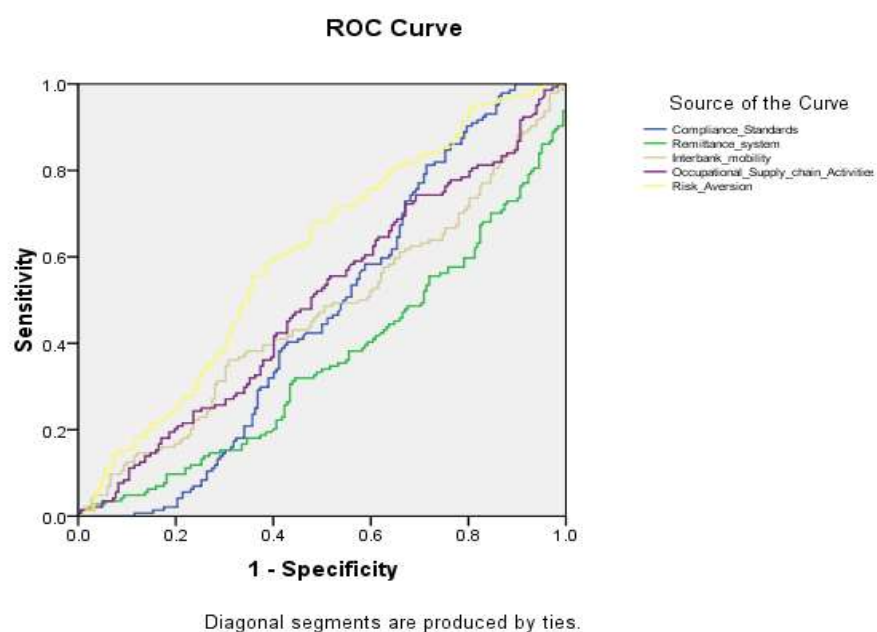
Table 5.13.5 - Product features-ROC analysis

Test Result Variable(s)	Area	Std. Error(a)	Asymptotic Sig.(b)	Asymptotic 95% Confidence Interval	
				Lower Bound	Upper Bound
Compliance Standards	0.466	0.032	0.293	0.404	0.529
Remittance System	0.357	0.031	0.000	0.297	0.418
Interbank Mobility	0.470	0.033	0.359	0.407	0.534
Occupational Supply chain Activities	0.498	0.032	0.951	0.435	0.561
Risk Aversion	0.605	0.031	0.001	0.544	0.666

The area under the variable 'remittance services system occupies maximum in the ROC curve and it is significant at 95% confidence level. Risk aversion follows it. The curve of the variable 'compliance' is occupying minimum level over the cut-off line; whereas 'remittance service system' curve is overlapping the reference level with a high degree of consciousness. Hence it is diagnosed that the remittance services are highly preferred by the bank/MFI clients over the other features.

The first phase of this study concludes that five essential features are needed for a financial instrument. The financial product has to be modified by considering the occupational conditions of a particular area. The Banks/MFIs should consider the inter-bank mobility and compliance standards. While considering about the risk aversion and remittance services, the regional customers' preferences should be considered. **The depth of the product line is based upon the remittance services available with the financial product.**

5.5.4 Ex Post-facto research Analysis – New Product Design

Past researches proved that the **calibration of existing product** with new product would retain the existing customers (Brand, 1998). The addition of new product should satisfy the existing and potential clients (Banco, 1996). Hence after studying the expectations of the microfinance clients, we explore the possibilities of calibration of existing products. We identified five financial products from Indian banks/ MFIs such as savings schemes, micro-credit, insurance, commodity derivatives and Money transfer (Remittance). To enable calibration, we study the relative value of the existing products, the positioning of the products, and found the discrete probability of revamping the products according to expectations of customers as explored in the first stage of the study.

5.5.5 Relative importance of existing products

Conjoint analysis was employed to determine the relative importance of attributes among the five financial products. The attributes used are the five products available for the no-frill account holders. The reliability of employing

conjoint analysis was identified by R – square. Since R-square was 0.634, conjoint analysis was an appropriate one. Exhibit-2 shows the relative emphasis on the products.

Exhibit - 5.2

Financial product- Relative Importance
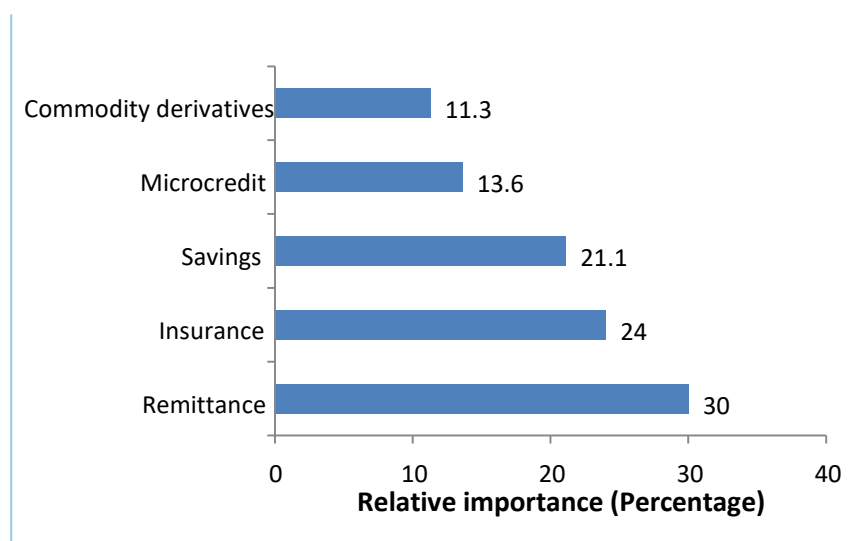
The results indicate that the remittance services (money transfers) have been more attractive among the 30% of the respondents; followed by insurance products.

5.5.6 Positioning Strategy of existing products

Rank order scaling was constructed to identify relative positioning of the financial products. The microfinance clients are presented with five options and asked to rank them accordingly. Multidimensional scaling was used to measure the relative magnitude about the financial products. The perceived relationships among the financial products are represented in a spatial map (Exhibit III). The vertical axis was labelled as supply side traits. The horizontal axis represents the demand side traits.

Alscal Procedure Options

Model (amended). . . . . Euclid

Maximum Dimensionality. 2

Minimum Dimensionality. 2

Negative Weights. . . . . . . Permitted

Algorithmic Options

Maximum Iterations 30

Convergence Criterion 00100

Minimum S-stress 00500

Missing Data Estimated by . . . . Ulbounds

Raw (unscaled) Data for Subject 1

	1	2	3	4	5
1	.000				
2	37.483	.000			
3	36.346	34.029	.000		
4	39.611	37.497	40.447	.000	
5	38.846	38.575	31.686	50.080	.000

Iteration history for the 2-dimensional solution (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	Improvement
1	.09510	
2	.08929	.00581
3	.08922	.00007

Iterations stopped because

S-stress improvement is less than .001000

Stress and squared correlation (RSQ) in distances

RSQ values are the proportion of variance of the scaled data (disparities) in the partition (row, matrix, or entire data) whichis accounted for by their corresponding distances.

Stress values are Kruskal's stress formula 1.

For matrix

Stress = 0.08232   RSQ = 0.94038

Configuration derived in 2 dimensions
Stimulus Coordinates

Dimension

Stimulus Number	Stimulus Name	1	2
1	insurance	.0772	-1.2234
2	savings	.2590	.8562
3	microcredit	-.5570	.3029
4	remittance	2.0168	.0385
5	commodity	-1.7960	.0256

Optimally scaled data (disparities) for subject   1

	1	2	3	4	5
1	.000				
2	1.992	.000			
3	1.824	1.483	.000		
4	2.305	1.994	2.428	.000	
5	2.192	2.152	1.138	3.847	.000

Exhibit - 5.3

Derived Stimulus Configuration

Euclidean distance model
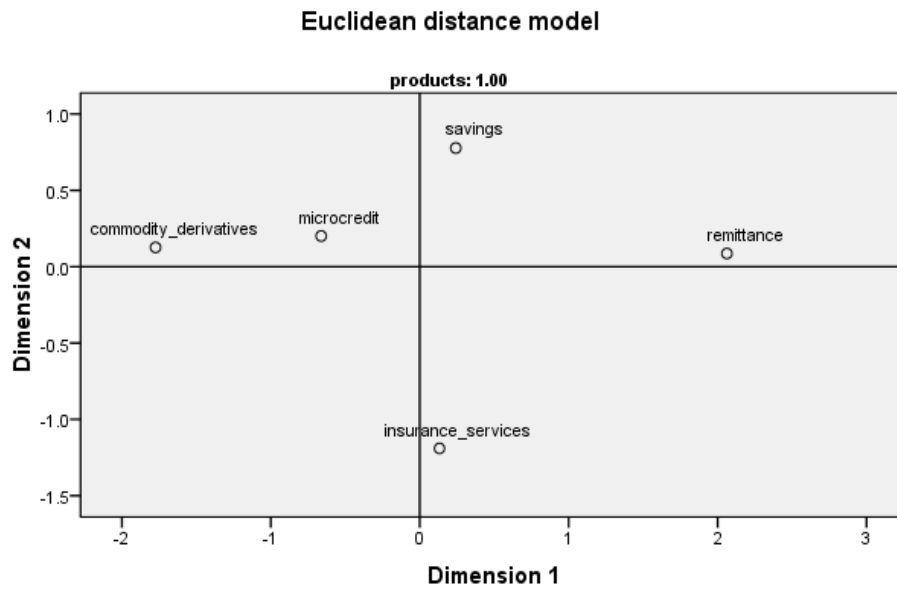
Exhibit - 5.4

Scatterplot of Nonlinear Fit

Euclidean distance model
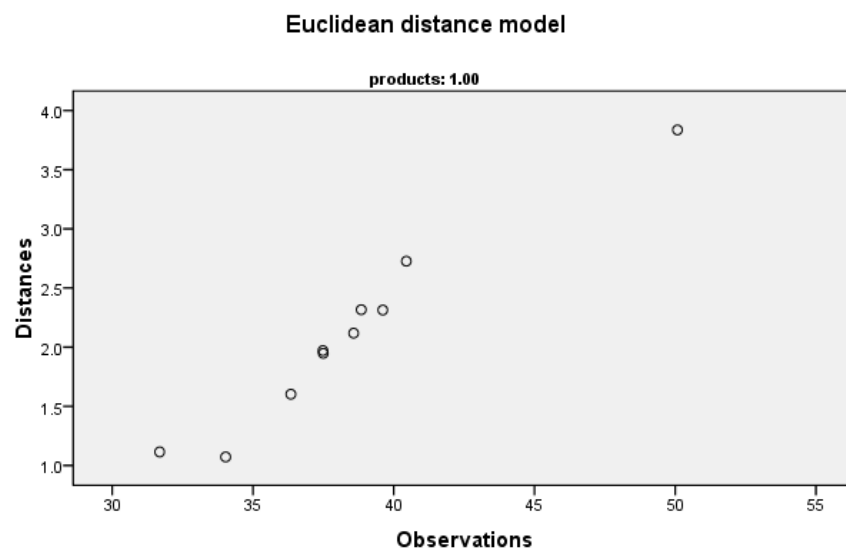
The results imply that the remittance services and insurance services are most preferred by the customers (demand side effect). Savings and micro-credits are given due weight by the Banks/MFIs (supply side effect). Both customers and MFIs least prefer the commodity derivatives. As awareness about commodity derivatives have not reached the rural mass, the preference towards it is less. Anyhow, if the customer knows the purpose, it would also have a market. **It is clearly known that the respondents highly prefer risk aversion, but its associated product -commodity derivatives are not picking up in the microfinance market.** Hence if commodity derivatives have been revamped, it should have a good market.

5.5.7 Discrete choice analysis

To calibrate the existing products, we have to integrate the customers' expectation and infrastructure available with the Regional rural banks/MFIs. As customers' expectations are more or less equal to the product availability, we believe that the RRB/MFIs are having sufficient hard and soft infrastructure to design new products. We wish to estimate the probability of the choice of products in a group. The causal relationship between microfinance products is studied with discrete choice analysis. The discrete outcome is measured in terms of the probability value, and it goodness of fit is identified with the beta value. The result is summarised in the table-12. The table shows that 1117 observations are read from the input of SAS data set, and all 1117 of them are used in the study. There are as many strata for the combinations of the subject and set variables. In this case, there are five strata. Each stratum must be composed of five alternatives. The results are tabulated from table 6 to 8.

Table- 5.13.6: Model Fit Statistics

Criterion	Without Covariates	With Covariates
-2 LOG L	2146.17	2124.945
AIC	2146.17	2128.945
SBC	2146.17	2135.541

Table-5.13.7: Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > Chi-Square
Likelihood Ratio	21.2252	2	<.0001
Score	21.2992	2	<.0001
Wald	21.0071	2	<.0001

Table-5.13.8: Analysis of Maximum Likelihood Estimates

Variable	DF	Parameter Estimate	Standard Error	Wald Chi-Square
Insurance	1	-0.13308	0.04694	8.0393
Remittance	1	0.18384	0.04743	15.0229
Pr > Hazard				

The applicability of the model for goodness of fit has been discussed with beta values. As the Chi-Square statistic is 21.2252 with two degrees of freedom (p<.0001), the null hypothesis that beta is equal to zero has been rejected and the attributes do not influence decision. At common alpha levels such as 0.05 and 0.01, we reject the null hypothesis of no relationship between choice and the attributes. The parameter estimate with the smallest p-value is for commodity derivatives. Hence it can be revamped. The exhibit-4 shows the attribute probability values.

Exhibit 5.5 - Attribute significance
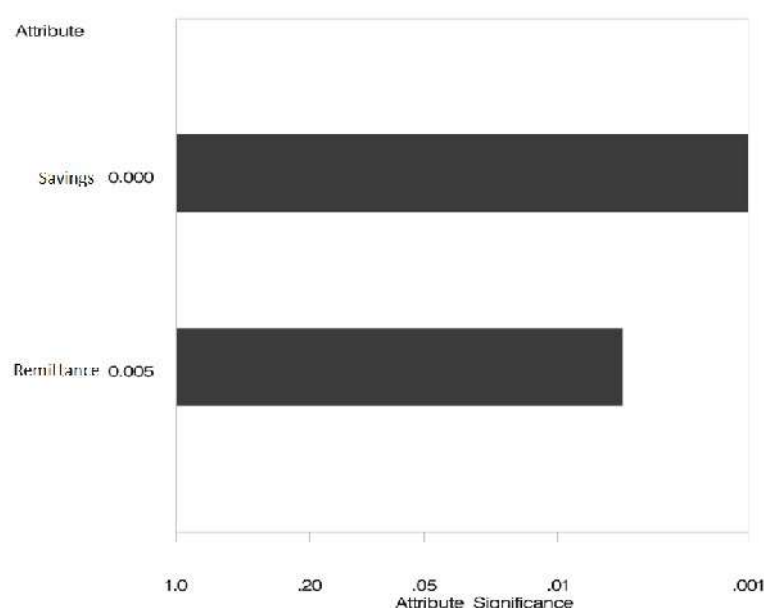
Since the parameter estimate for variables is negative, savings is the most preferred variable. The result indicates that the most preferred alternatives are 'savings/ remittance; and savings/remittance/insurance.' The most predicted probability of these values these are 0.246 and 0.349 respectively.

The results of the second phase support the output of the first phase. We conclude that the commodity derivatives are to be revamped fully according to the occupational values. As expected, **savings services, the money transfer system (Remittance system) and insurance services can be modified to adapt according to the requirements of the area.** There is no need for changing the micro-credit services schemes of MFIs. The products can be integrated to achieve maximum results.

5.5.8 Case Studies on Market Penetration

Indian banks introduced the financial product based on the occupation values of the society. For example, SEWA Bank introduced an insurance product for women to cover postnatal and prenatal maternity needs, and disaster relief during cyclones and floods. 215 persons were benefitted within a month when the scheme was introduced. (Jaysyree Vyas, Managing Director, SEWA Sahakari Bank Ltd. Interview, 16 November 1997)

The ICICI bank has linked the remittance system through its business facilitator PSS. Pragmatic Sava Smithy (PSS), an NGO, facilitated by ICICI, covers the poorest parts of the district, and its work covers a wide range of welfare and related activities in the most affected district Warangal in Andhra Pradesh. Over 1000 cotton farmers have committed suicide in Warangal since 1998, because of the load of debts they accumulated through buying ever-increasing quantities of herbicides and pesticides. PSS is one of the smallest of the five MFIs whose SHG customers have received loans from ICICI's partnership model. The crop insurance model and consortium payment model with SBI, Corporation Bank and ICICI bank penetrates 20,000 customers within eight months.

The MFIs are integrating the government sponsored schemes with their product. The Government sponsored crop insurance scheme National Agricultural Insurance Scheme (NAIS) covered in twenty-four States and two Union Territories. Central and State Governments entitle small and marginal farmers. During the last 25 crop seasons (i.e., from Rabi 1999-2000 to Rabi 2011-12), one thousand nine hundred thirty lakh farmers have been covered over an area of about two thousand nine hundred nineteen lakh hectares insuring a sum amounting to about ₹ 256065 crore. Claims to the tune of about ₹ 2500 crores have been paid/payable against the premium of about ₹ 7565 crores benefiting about 518 lakh farmers (up to Rabi 2011-12 season). The scheme targeted the rural people. Within 12 years it reached 1930 lakhs farmers. Hence, if the MFIs linked its products with government schemes, the penetration rate would be high.

5.5.9 Pragathi Seva Samithi, Warangal (PSS)

PSS was registered under the 1860 Societies Act in 1991, and is located in Warangal District in Andhra Pradesh. Its name means Services for Progress Organisation. PSS is one of the smaller of the five MFIs whose SHG customers have received loans from ICICI Bank since 2002, with facilitation from CARE. They have borrowed a total of $100 000 from the Bank, which has been distributed direct to individual SHGs under the ICICI Bank partnership model. PSS itself and 19 of the 22 mutually aided co-operative societies, or MACS,

which PSS has promoted to aggregate the needs of its SHG since 1998, have facilitated the ICICI Bank loans to the SHGs. Warangal is about 100 kilometres to the East of Hyderabad, with a population of just over three million, and three quarters of them earn their livelihoods from farming and related activities. Although it used to be relatively well off, the area has recently suffered heavily from drought. Cotton is the most popular crop in the area, and this too has led to problems, both because of drought and because of the high cost of seeds, fertiliser and pesticides. The returns from cotton can be very high when conditions are right, but the losses can also be proportionately high. Over 1000 cotton farmers have committed suicide in Warangal since 1998, because of the load of debts they accumulated through buying ever-increasing quantities of herbicides and pesticides. PSS covers the poorest parts of the District, and its work covers a wide range of welfare and related activities, including disability, child labour, street children, nutrition, HIV/AIDS, sexual health, watershed development, and the promotion of organic farming. PSS has been heavily involved in SHG promotion and micro-finance for some seven years, and uses SHGs 26as an entry and support strategy for many of its other activities. PSS has mobilised the MACS as a means of mutual support for the SHGs, and as a channel though which the SHGs can access funds. PSS has also promoted over 200 SHGs specifically for people with disabilities, and these will in due course be federated into a MAC. PSS has an annual budget of around $240 000, and employs 99 full time workers, 140 parttime staff and almost 200 volunteers. The NGO is funded from a number of government programmes, and about 80 percent of its funding is from foreign agencies such as Oxfam, Actionaid and Swiss Development Co-operation. PSS has promoted over 1250 SHGs, organized into 22 MACS, with altogether 20 000 members. At the end of 2004, the SHG members owed about $750 000 to their SHGs, and the SHGs themselves owed about $200 000 to various banks. The balance of the SHGs' funds were from their own savings, their accumulated earnings and their loans from PSS, which had had to change its by-laws in order to be able to borrow from CASHE and on-lend to the MACS. The main source of funds for PSS was the CASHE revolving loan fund, for which they were paying interest at the rate of eight per cent. PSS had borrowed a total of $80 000 from this source (Microscan, 2004). In order to cover part of its risk, ICICI Bank has required

PSS to deposit 15 percent of the loans to the SHGs, as a first loss guarantee. This deposit earns the Bank's normal rate of 5.5 percent interest, but the account cannot be closed until all the SHG loans have been repaid. Any defaults can be recovered from the deposit, before it is returned. There has as yet been no need to exercise this right, but PSS are well aware of the possibility. As a result of ICICI Bank's satisfactory experience with PSS, the State Bank of India, the largest bank in the country, and Corporation Bank, are becoming interested in lending to PSS' affiliated MACS, and possibly to PSS itself. They are finding that many branch managers are reluctant to deal directly with SHGs, because their members' absorption capacity, are too small to be economic.

5.6 Outcome of the Analysis

Purpose	Outcome
To develop a suitable methodology to establish new microfinance product that integrate Microfinance and Cooperative model.	In this chapter, we develop a three-stage methodology to establish new microfinance product that integrate Microfinance and Cooperative model.
To find out a basic literature support for developing a new product	The microfinance products are supply-driven rather than demand-driven.
To find out a new product that is suitable for the agrarian society based on the past research work. Hence, the plan of research has been established.	We use the access frontier approach to identify the essential characteristics of the microfinance products. It is based on the Egyptian model.
To validate the respondents. Data have been collected from the customers, who are using microfinance products. As the research is focused on new product development, in this stage we identify the intensive users of microfinance product. Hence, the responses will have real applicability.	We consider the data collected from 661 cooperative members who are classified as 'intensive users'.

To examine the demographic profile of the respondents. Hence, we are able to justify the reliability of the responses given by the customers	The respondents are from agrarian community and using the microfinance product widely.
To analyse the primary data to get the result.	Statistical tools such as cluster analysis, factor component analysis, ROC analysis and discrete choice models are employed to explore the results
To identify the basic elements of new financial product.	Farm-based supply chain system, flexible inter-bank payment system, compliance with regional standards, flexible payment system and risk coverage are the essential features of a micro-finance product.
To justify the results of the previous stage. Hence the validity of the outcome be validated.	The clients having high amount of deposits expect a good remittance services and the financial product should be able to withhold the risk. Hence factor analysis employability has been justified.
To find out the depth of the product line that contributes to the product development.	The depth of the product line is based upon the remittance services available with the financial product.
To find out what methodology we use to explore the calibration of the existing products	To enable calibration, we study the relative value of the existing products, the positioning of the products, and found the discrete probability of revamping the products according to expectations of customers.
To find out the relative importance of the variables in establishing new product.	The results indicate that the remittance services (money transfers) have been more attractive among the 30% of the respondents; followed by insurance products.
To find out the product positioning strategy.	The respondents highly prefer risk aversion. Hence, the product can be positioned by using the 'risk aversion' technique as the USP

To identify the discrete product that need calibration.	The money transfer system (Remittance system) and insurance services can be modified to adapt according to the requirements of the area.
To justify the process involved in the new product.	SEWA bank network with the SHG linkage has been studied to evolve the process needed in the system.
To justify the outcome of the output in the application level	Pragathi Seva Samithi model has been studied to draft the application of the new product developed.

<div align="center">

Chapter – 6

Findings and Conclusions

</div>

6.1 Research Quotient 1

Is it possible to integrate the co-operative banking models with three-level stakeholders such as cooperative society members, Self-help groups and policymakers?

Research Outcome

The pilot study conducted among the 302 agriculture cooperative members concludes that a new model that links microfinance along with the cooperative model is imperative to have financial viability of the society. The integration of microfinance with the co-operative system in the Janseva Credit cooperative society is a successful one in reducing the barriers in the loan repayment system. Hence, to reduce the problems in the loan redemption system, we suggest the integration of the microfinance model with the cooperative sector. The integration of these two models will be done by linking three stakeholders, i.e., Cooperative society members, the Self-help group and the Cooperative society. Exhibit 6.1 shows the re-engineered model needed for the co-operative system.

<div align="center">

Exhibit 6.1: Integrated Cooperative and Microfinance Model

</div>
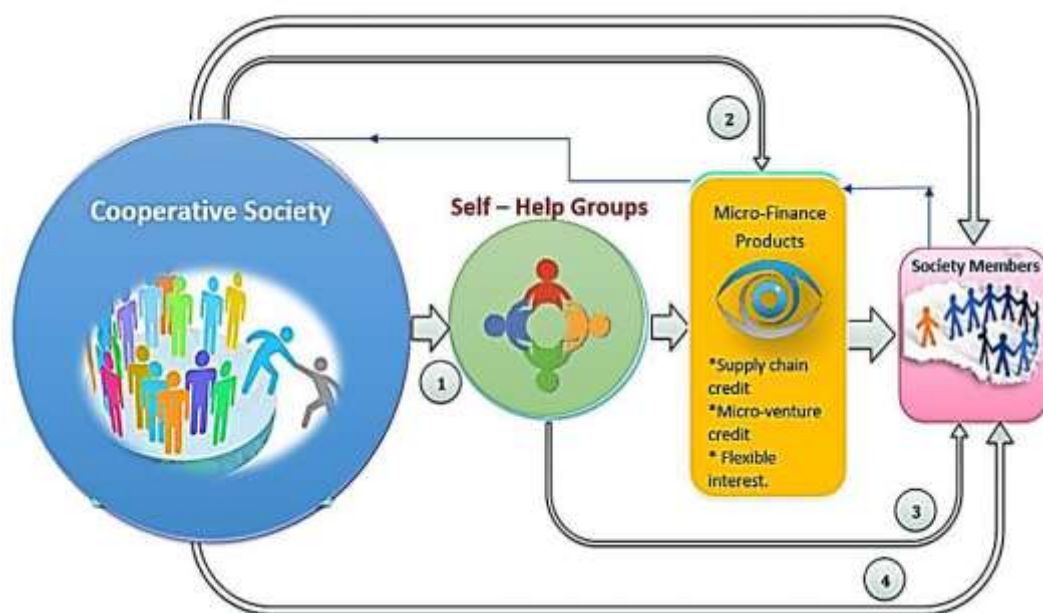
Under this model, the co-operative society, before providing a loan to the members get the opinion of the self-help group, where the member belongs (1). The co-operative society will decide about the microfinance services to the members based on the recommendation of the self-help group. (2). The self-help group will train or help the cooperative society members in the respective agriculture business (3). After the proper training, the members will be given microfinance loan to the cooperative society members (4). The micro-loan repayment will be monitored by the self-help group. The interest rate of microfinance is decided mutually by the cooperative society and the self-help group. The self-help group activities have been linked with the cooperative society. A cooperative society is having a partnership with more than one self-help group based on the nature of business activities done by the self-help group. The borrower will be a member of both a self-help group and a cooperative society.

The discrete choice model created by the cooperative managers also proved that the probability of linking the two products, i.e., micro-venture and supply chain credit with a flexible interest rate system is 0.549. Hence, we conclude that it is feasible to introduce the flexible interest payment system for supply chain credit and micro-venture credits.

6.2 Research Quotient 2

What type of financial product - a cooperative bank can offer to the agriculturists under the new model?

Research Outcome

To test the objective, 780 customers of the primary agricultural bank have been interviewed. Among them, 661 are having transactions with Small banking companies (previously Micro-finance institutions). The responses are validated. The outcome of the analysis shows that a farm-based supply chain system, flexible inter-bank payment system, compliance with regional standards, flexible payment system and risk coverage are the necessary elements of a micro-finance product. We found that the flexible payment method is favoured by the customers over the other factors. Small banking products such as savings services, inter-bank transfers and risk coverage can be customised to fit according to the requirements of the customers. The micro-credit services schemes of the small-banking companies are widely accepted by the

customers. We suggest that customised financial products are needed for customers belonging to the agricultural community. The financial product should focus on the farm-based occupation, ease the compliance procedures, and safeguard the customers from abnormal loss. At present, the model used by small-banking institutions is based on supply-side factors. Small-banking companies are giving preference to savings and micro-credits products. The demand-side factors are excluded by the small-banking companies. Hence, the attention should move to demand-side products such as insurance and micro-guarantees. The remittance system is to be made flexibly. Exhibit 6.2 shows the customised service delivery of the financial products of small-banking companies based on the findings of this research. Hence, we strongly suggest a discrete micro-financing model which is based on the 'nano financing' model that prevailed in Egypt.

Exhibit 6.2: Clients' Discrete Choice model
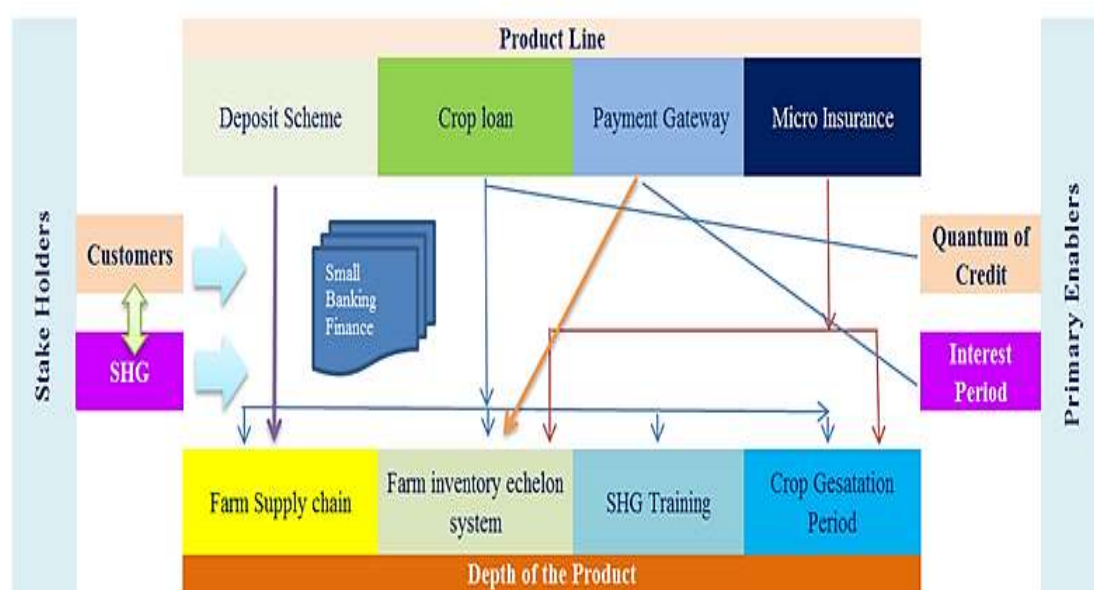
The product line of the Small banking companies includes savings schemes, micropayments and micro-insurance. These financial products are to be designed based on the farm-based supply chain system. For example, the savings period is based on the post-harvest period, the micro-payments are based on the cultivation period and the insurance scheme is based on the individual crop echelon system. The quantum of agricultural credit to individual customers depends on farm-based income. The credit

payment channel integrates the multiple convergence payment gateways. The regulatory compliance for sanctioning the credit is based on the gestation period in cultivation and productivity index in the particular region. The credit repayment time lag depends on the sale of agricultural output based on the echelon inventory system. The interest will be calculated based on the crop cultivation stages rather than fixed periods. The risk coverage premium will be paid once for a single cultivation system. The joint liability of recovering the credit vested with Self-help Groups.

This model is a re-engineered model of the 'nano financing' model of Egypt. The Egyptian government successfully integrated the informal economy into the formal sector and empower economically marginalised people through 'nano' financing mechanisms that improve their living conditions. (The Arab Weekly, Jan 12, 2020)

6.3 Research Quotient 3

Will the new financial product solve the problem of the working capital crunch in the cooperative banks?

Research Outcome

Independent of the above two stages, a survey was conducted among the 127 Primary Agricultural cooperative bank mangers. A panel of seven primary cooperative bank managers was interviewed. The problem of cash crunch is attributed to many factors. The factor component analysis carried among the responses from the 127 cooperative bank managers revealed that under-reporting of credit exposure, refinancing from banks, uncontrollable costs, risk mitigation strategies and risk compliance are the reasons for a cash crunch. 68 cooperative bank managers are having a favourable opinion that cash crunch issues with relate to working capital management can be reduced if the risk mitigation process will be taken over by Self-help groups. 121 cooperative bank managers are favourable towards the conversion of cooperative banks into small banking companies, because of the integration of microfinance with the core banking system. There is a significant agreement between the opinion of the cooperative members between the loan recovery process and the product features such as supply chain credit, micro-venture credit with the loan redemption remittance system. Hence, we conclude that - to decrease the loan delinquency cost in loan redemption; the new financial product should focus on supply chain credit, micro-venture credit and flexible interest payment system.

6. 4 Concluding remarks

Innovative financial products like micro-ventures are essential for the upliftment of agricultural society. This can be effectively done by implementing the microfinance model in the cooperative system. To implement the microfinance model in co-operative societies, we must integrate the services of a self-help group. As the stakeholders are aiming for the value for credit, the beneficiaries are not only able to redeem the debt but also able to earn for their livelihood. Thus, the cash crunch problems in the cooperative system can be overcome by the microfinance model and enable to have flawless credit. It enables us to satisfy the national goal of financial inclusion and sustainable growth in agriculture. The co-operative model that integrates microfinance is also used for cross subsiding the transaction cost incurred in the agriculture loans. Hence, we conclude that the integration of the microfinance model with the credit delivery system is a ubiquitous way of economic resurgence in rural economics.

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Annexure

Interview Schedule of the Pilot Study

1.0 General Information

1.1 Name:

1.2 Address:

1.3 Age:

      a) Less than 25 years

      b) Between 26 to 35 years

      c) Between 36 to 45 years

      d) 46 years & Above

1.4 Education:

      a) Illiterate

      b) Literate

      c) Primary

      d) Middle Class

      e) High School

1.5 Religion

      a)   Hindu

      b)   Muslim

      c)   Christian

      d)   Others

1.6 Marital Status

      a) Married

      b) Unmarried

      c) Other

2.0 Family Data

2.1 Type of family

       a) Nuclear Family

       b) Joint Family

       c) Extended Family

2.2 Total members of Family_____

2.3 Number of Children

       a) One

       b) Two

       c) Three

       d) Four & above

2.4 Activity status of children

       a) Small Children

       b) School going

       c) Working Children

3.0 Occupational Values from Agriculture

3.1 Annual Income

       a) ₹25,000 & below

       b) ₹25,000 to ₹50,000

       c) ₹50,000 to ₹75,000

       d) ₹75,000 & above

3.2 Nature of Farming

       a) Cultivation

       b) Animal Husbandry

       c) Agricultural Labour

       d) Others

3.3 Nature of Occupation

       a) Seasonal

       b) Sporadic

c) Regular

3.4 Loan borrowed from Cooperative Bank and from MFIs.

    a) Less than ₹25000

    b) ₹25001 to ₹50000

    c) More than ₹50,000

3.5 Loan amount outstanding

    a) Less than ₹25,000

    b) ₹25000 to ₹50,000

    c) More than ₹50,000

4.0 Comparative Advantage between Loan from MFIs and Cooperative Bank

Sl. No	Nature of Service	Rating for Cooperative loan	Rating for Microfinance
i	Convenient to borrow		
ii	low interest		
iv	Repayment facilities		
v	Matching credit needs of borrowers		
vi	Transaction cost is high		
vii	Easy access to loan		

5.0 Purpose of Loan got from Microfinance Institutions.

    a) Agriculture

    b) Animal Husbandry

    c) Income generating activities

    d) Asset building

    e) Starting own business and its development

    f) Consumption or Household expenditure

    g) Education to children

    h) Wealth creation purpose

    i) Medical expenses

    j) Social Security

k) Farm Mechanization

6.0 Which products of Micro Finance Institutions have you benefited from?

		Strongly Disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly Agree (5)
I)	Micro Credit					
II)	Micro Savings					
III)	Micro Insurance					
IV)	Others					

7.0 If the loan repayment exceeds the tenure, what are the reasons for Default in Loan

a) Poor Rainfall

b) Drought

c) Poor income in Non-agro based Economic Activities

d) Stiff Competition on Agricultural Products

e) Age old practice of Cultivation

f) Uneconomic size of holding

g) Unbalanced Supply chain activities

h) Over exploitation of Soil

i) Poor live stock

j) Non- availability of Transport on time

k) Fragmentation of holdings by intermediaries

8.0 If you are a member in Self-help group, rate the SHG benefits

4.1 Self-help group give Business networking facilities to its members.

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.2 Whether SHG provides Facilitation of account in the bank.

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.3 Do you agree with the direct benefits transfers in SHGs?

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.4 Self-help groups providing business plans and other income resources?

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.5 Is participation is social activities improved after joining SHGs?

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.6 Is Protection of the members are provided from SHGs?

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.7 Is Remittance facilities are improved after joining SHGs?

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.8 Are you satisfied with assurance of self-help groups?

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.9 Did you learn new technology in self-help groups?

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.10 Do you face any problem in documentation oh SHGs?

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.11 Are you feel that easy to use the activities in self-help groups?

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

Interview Schedule – Stage II

Integrating Cooperative Model and Microfinance Model

Target Respondent: Beneficiary of Cooperative bank and Microfinance Institution

1.0 General Information

1.1 Name:

1.2 Address:

1.3 Age:

    a) Less than 25 years

    b) Between 26 to 35 years

    c) Between 36 to 45 years

    d) 46 years and above

1.4 Education:

    a) Illiterate

    b) Literate

    c) Primary

    d) Middle Class

    e) High School

1.5 Religion

    a) Hindu

    b) Muslim

    c) Christian

    d) Others

1.6 Marital Status

    a) Married

    b) Unmarried

    c) Other

2.0 Family Data

2.1 Type of family

      a) Nuclear Family

      b) Joint Family

      c) Extended Family

2.2 Total members of the family _____

2.3 Number of Children

      a) One

      b) Two

      c) Three

      d) Four & above

2.4 Activity status of children

      a) Small Children

      b) School going

      c) Working Children

3.0 Occupational Values from Agriculture

3.1 Annual Income

      a) ₹25,000 & below

      b) ₹25,000 to ₹50,000

      c) ₹50,000 to ₹75,000

      d) ₹75,000 & above

3.2 Nature of Farming

      a) Cultivation

      b) Animal Husbandry

      c) Agricultural Labour

      d) Others

3.3 Nature of Occupation

      a) Seasonal

      b) Sporadic

      c) Regular

3.4 Loan borrowed from Cooperative Bank and from MFIs.

d) Less than ₹25000

e) ₹25001 to ₹50000

f) More than ₹50,000

3.5 Loan amount outstanding

a) Less than ₹25,000

b) ₹25000 to ₹50,000

c) More than ₹50,000

4. 0 Ultimate Value you gained from Agricultural Occupation after utilising the Cooperative loan

		Strongly Disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly Agree (5)
	Factors					
I)	Economic Empowerment:					
i	Increase in Saving					
ii	Increase in Income					
iii	Women economically empowered					
iv	Poverty Reduction					
v	Improved decision power					
II)	Political Empowerment:					
i	Political awareness					
ii	Participation in political activity					
iii	Position of power					
III)	Social/Cultural Empowerment:					
I	Social Status					
ii	Participation in social development activities					
IV)	Personal Empowerment:					
i	Ability and involvement in decision making					
ii	Self esteem					
iii	Improvement in health					

iv	Gender equality					
V)	Family Empowerment:					
i	Improved in basic facilities and amenities					
ii	Improved in standard of living					
iii	Education to children					

5.0 Comparative Advantage between Loan from MFIs and Cooperative Bank

Sl. No	Nature of Service	Rating for Cooperative loan	Rating for Microfinance
i	Convenient to borrow		
ii	low interest		
iii	Availability of time		
iv	Repayment facilities		
v	Matching credit needs of borrowers		
vi	Transaction cost is high		
vii	Easy access to loan		

6.0 Purpose of Loan got from Microfinance Institutions

a) Agriculture

b) Animal Husbandry

c) Income generating activities

d) Asset Building

e) Starting own business and its development

f) Consumption or Household expenditure

g) Education to children

h) Wealth creation purpose

i) Medical expenses

j) Social Security

k) Farm Mechanization

7.0 Which products of Micro Finance Institutions have you benefited from?

		Strongly Disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly Agree (5)
I)	Micro Credit					
II)	Micro Savings					
III)	Micro Insurance					
IV)	Others					

8.0 If the loan repayment exceeds the tenure, what are the reasons for Default in Loan

    a) Poor Rainfall

    b) Drought

    c) Poor income in Non-agro based Economic Activities

    d) Stiff Competition on Agricultural Products

    e) Age old practice of Cultivation

    f) Uneconomic size of holding

    g) Unbalanced Supply chain activities

    h) Over exploitation of Soil

    i) Poor live stock

    j) Non- availability of Transport on time

    k) Fragmentation of holdings by intermediaries

9.0 If you are a member in Self-help group, rate the SHG benefits

4.1 Self-help group give Business networking facilities to its members.

    a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.2 Whether SHG provides Facilitation of account in the bank.

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.3 SHG helps to transfers the bank funds.

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.4 Do you agree with the direct benefits transfers in SHGs?

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.5 Anywhere banking facilities are provided by SHG to help the member to access the account.

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.6 Self-help groups providing business plans and other income resources?

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.7 Is participation is social activities improved after joining SHGs?

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.8 Is Protection of the members are provided from SHGs?

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.9 Is Remittance facilities are improved after joining SHGs?

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.10 Are you feel that Professional linkage with SHGs?

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.11 Are you aware about the Government transfers after joining SHGs?

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.12 Are you satisfied with assurance of self-help groups?

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.13 Did you learn new technology in self-help groups?

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.14 Do you face any problem in documentation oh SHGs?

a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

4.15 Are you feel that easy to use the activities in self-help groups?

  a) Strongly agree   b) Agree   c) Neutral   d) Disagree   e) Strongly disagree

Problems in Co-operative structure (For mangers)

   a) Lack of enlightened membership
   b) Lack of trained and experienced personnel
   c) Lack of professional Management
   d) Inadequate Supervision
   e) Absence of linking with marketing
   f) High overdue
   g) Absence of thrift
   h) Domination of vested interest
   i) Neglect to small farmers
   j) Inadequacy of credit granted.
   k) Politically motivated policies.

Table showing Data on Key Indicators of State Cooperative Banks on March 2020

Sr. No.	Name of the State Co-operative Banks	No of Branches	No of Staff	Share capital	Reserves & Otherfunds
1	CHHATTISGARH	13	136	15,149.82	19,208.68
2	MADHYA PRADESH	24	507	75,686.56	1,06,150.59
3	UTTARAKHAND	15	125	7,756.62	5,197.06
4	UTTAR PRADESH	27	686	27,481.21	57,640.40
CENTRAL REGION TOTAL		**79**	**1,454**	**1,26,074.21**	**1,88,196.73**
5	ANDAMAN & NICOBAR	41	166	566.87	8,601.85
6	BIHAR	11	116	2,954.60	47,896.05
7	JHARKHAND	105	454	16,249.91	6,080.55
8	ODISHA	14	143	61,672.17	59,327.93
9	WEST BENGAL	49	284	15,063.79	19,274.28
EASTERN REGION TOTAL		**220**	**1,163**	**96,507.34**	**1,41,180.66**
10	ARUNACHAL PRADESH	37	368	19,652.62	472.04
11	ASSAM	67	499	1,634.29	8,957.78
12	MANIPUR	12	87	1,806.24	14,099.00
13	MEGHALAYA	49	550	953.02	14,393.99
14	MIZORAM	20	159	814.79	5,833.78
15	NAGALAND	21	241	6,796.33	2,513.21
16	SIKKIM	14	99	1,628.75	4,149.68
17	TRIPURA	66	344	3,218.66	16,132.29
NORTH EASTERN REGION TOTAL		**286**	**2,347**	**36,504.70**	**66,551.77**
18	CHANDIGARH	18	76	168.77	4,621.83
19	HARYANA	13	318	27,560.97	70,207.18
20	HIMACHAL PRADESH	241	1,603	892.22	86,615.63
21	JAMMU AND KASHMIR	40	288	820.89	5,488.58
22	NEW DELHI	50	518	1,674.66	31,857.14
23	PUNJAB	18	301	16,700.64	57,607.53
24	RAJASTHAN	16	229	43,955.70	59,638.38
NORTHERN REGION TOTAL		**396**	**3,333**	**91,773.85**	**3,16,036.27**
25	ANDHRA PRADESH	16	214	40,375.52	72,796.99
26	KARNATAKA	52	496	65,887.32	85,884.31
27	KERALA	764	5,794	1,65,208.97	1,52,048.25
28	PUDUCHERRY	25	193	2,814.15	2,114.43
29	TAMIL NADU	46	281	33,478.00	86,563.79
30	TELANGANA	42	478	17,199.25	39,487.35
SOUTHERN REGION TOTAL		**945**	**7,456**	**3,24,963.21**	**4,38,895.12**
31	GOA	63	525	8,649.44	8,164.70
32	GUJARAT	28	394	3,631.30	59,789.95
33	MAHARASHTRA	55	971	57,838.16	2,25,251.30
WESTERN REGION TOTAL		**146**	**1,890**	**70,118.90**	**2,93,205.95**
ALL INDIA TOTAL		**2,072**	**17,643**	**7,45,942.21**	**14,44,066.50**