

Technology based system to support Self Help Groups of Andhra Pradesh

M.Des - Degree Project (Stage -II) report

By:

Vijayapavan Amaravadi
(07633801)

Guide : Prof. Anirudha Joshi



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Industrial Design Centre
Indian Institute of Technology Bombay
Powai
Mumbai – 400076.

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Approval sheet

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Guide :

Chairman :

Internal examiner :

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Abstract

Poverty cannot be eradicated by just pumping money towards the needy. Microfinance institutes attempt to enhance financial access and explicit participation by poor through self-help groups to thwart the poverty. Indira Kranthi Patham (IKP) is a state government body in Andhra Pradesh is one such institution that helps set up and run women self-help groups (SHGs) for mutual co-operation.

Self Help Groups are women only groups with limited membership of 10-15 per each. Group members meet periodically to save thrift amounts and access the banking services like loans, insurance etc., which they may not avail individually because of their poor economic status.

However running an SHG is not an easy task for these women. At present, SHGs have to depend on non-members for their tasks of accounting and financial management. Existing system has greater scope for leaders' domination, mismanagement of funds and hence groups are still distant from the objective of self-help model.

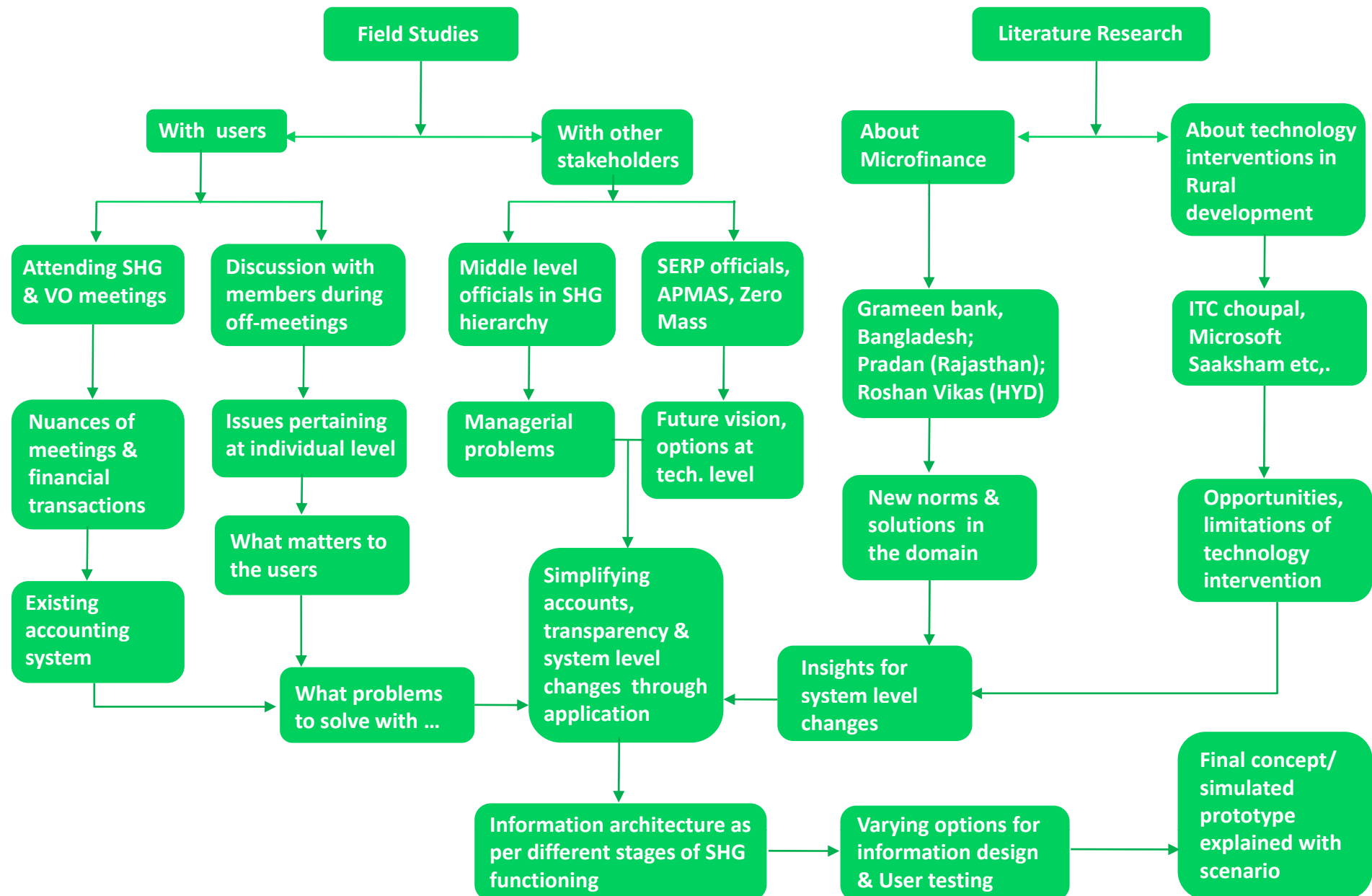
Project involved identifying problems in the way SHGs function and designing an appropriate solution to help automating their key functions. It was started with in-depth interactions with members of 5 SHGs and 12 stakeholders across 8 villages. The proposed design is an SHG accounting application based on a mobile phone that can be shared by members of an SHG. Application's interface is based on colours, symbols, numbers and audio to communicate particulars related to periodical payments, interest rates, upcoming loan opportunities and such financial matters. It would reduce the need for double entry in multiple books & minimise the errors.

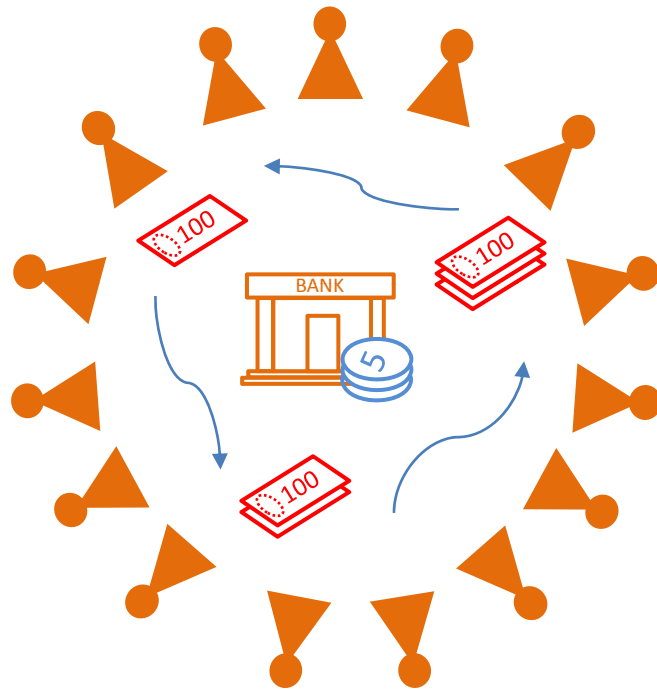
A member can view all data on her own mobile even when the meeting is off by identifying herself on the application through Near Field Communication (NFC) compatible personal locket. To edit or enter the financial data during group meetings, application requires the approval of at least eight members. Application sends timely alerts which contain on-screen comparisons of financial status of different groups to motivate among each other. These provisions would enhance the information transparency across the system and the co-operation, mutual trust among the members and the groups.

*If the misery of the poor be caused not by the laws
of nature, but by our institutions, great is our sin.*

- Charles Darwin

Methodology





Introduction

Microfinance - Self Help Groups, Andhra Pradesh

The concept of microcredit was introduced by Sri Mohammad Yunus of Grameen Bank¹, Bangladesh in 1980's. To fight the problem of poverty, creating a kind of access to small amounts of loans to a woman in needy, and resting the responsibility of repaying that loan with the fellow women members of equal economic status are the novel ideas of this concept². The concept and it's modest implementation have attained the world focus and earned the prestigious Nobel peace prize to Sri Mohammad Yunus and Grameen Bank in 2006.

Successive state Governments of Andhra Pradesh have endorsed this concept and are implementing it in the state rural areas in a suitable form through IKP – Indira Kranthi Patham³ (formerly Velugu).

This was made possible by forming several small groups of poor women in every village and thus creating the self managed institutions of poor, strengthening their entrepreneurial skills and leadership qualities and thus aiming for social, cultural and financial empowerment of women.

Introduction

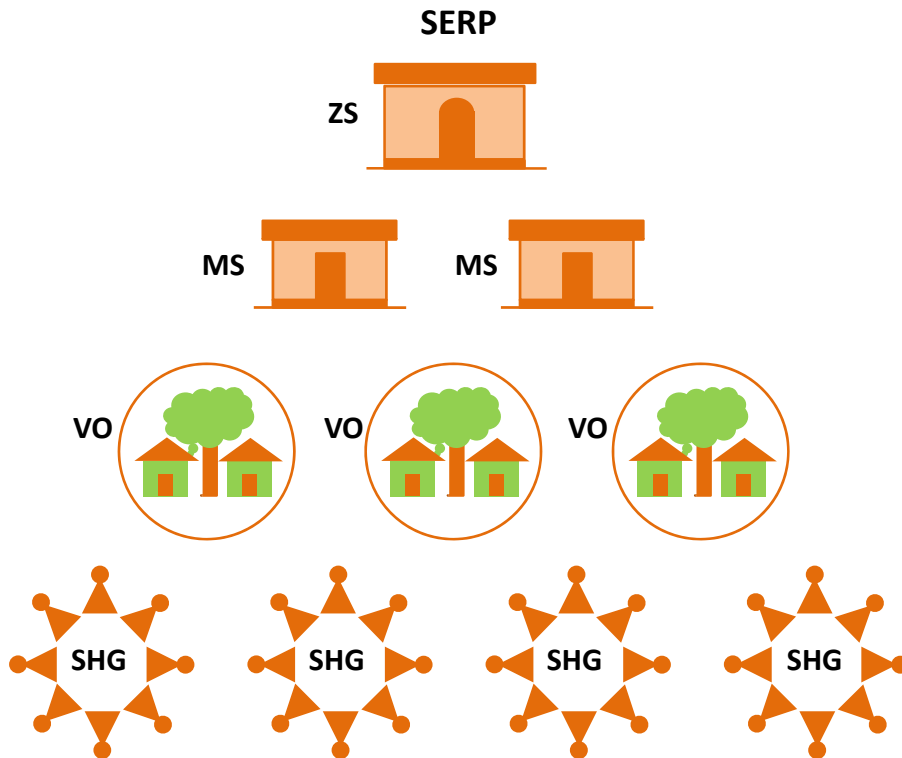
Structure – Indira Kranthi Patham, Andhra Pradesh

The authority to implement the IKP program is with Society for Elimination of Rural Poverty (SERP) under Ministry of Rural Development, AP⁴. SERP has evolved a structure to ensure the explicit participation of poor rural women at grassroots level. The structure has hierarchy flowing from district level to group level through intermediate organizations.

Self Help Group (SHG) or Swayam Sahayaka Sangham is the primary unit of structure. Each SHG has membership of 10-15 poor rural married women⁵. Each group has two leaders and are signatories to the bank on behalf of group and will be representing the group in VO meetings. Group members have a common account with the bank and rotate some part of saved amount among the group as internal loans.

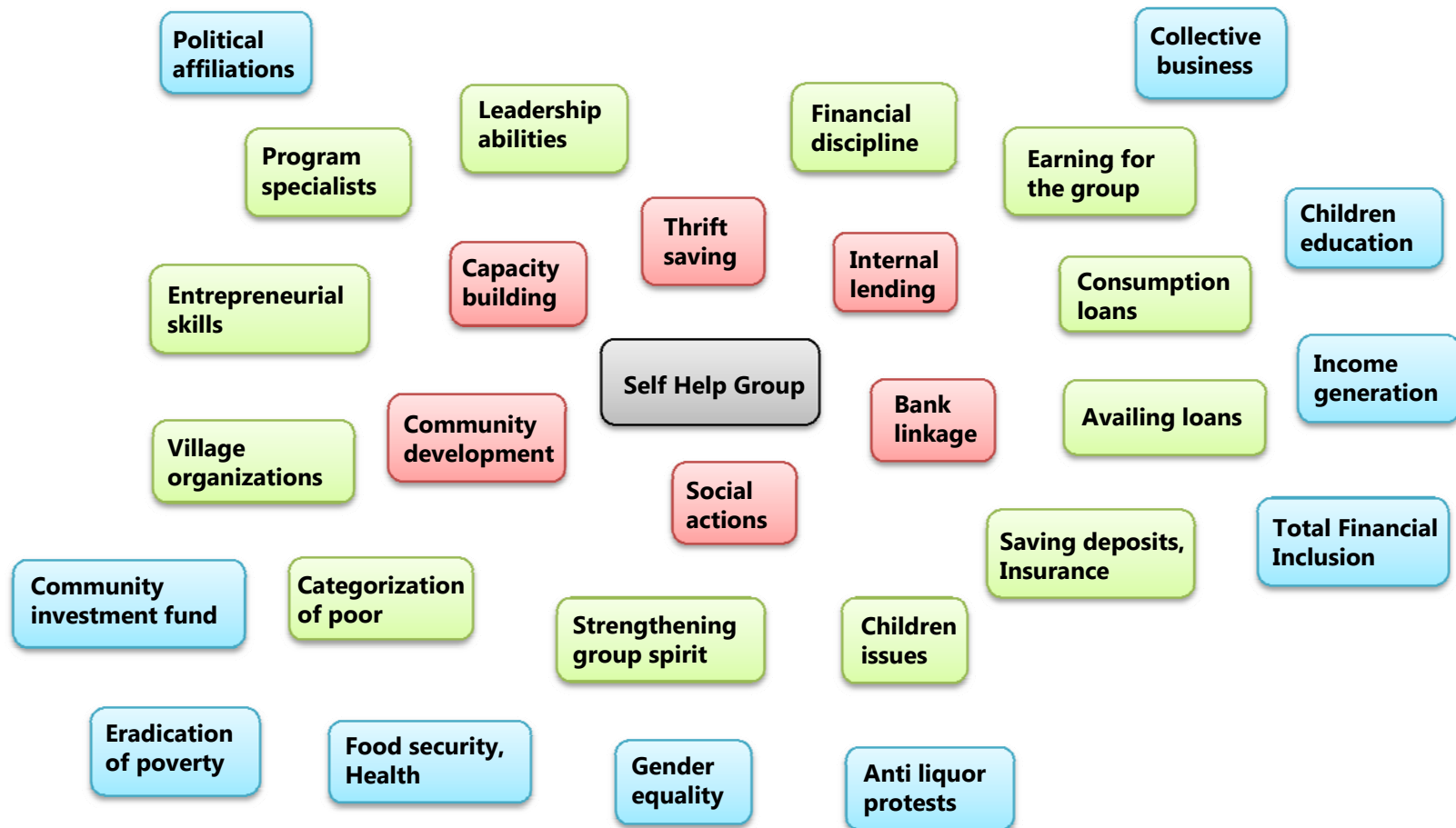
The intermediate organizations are called federations (Samakhya). At village level a cluster of 25-30 groups becomes a Village Organization (VO) or Grama Sangham. VO meetings with 50-60 participation happen on monthly basis. One village can have 2-3 VOs depending upon number of SHGs in the village.

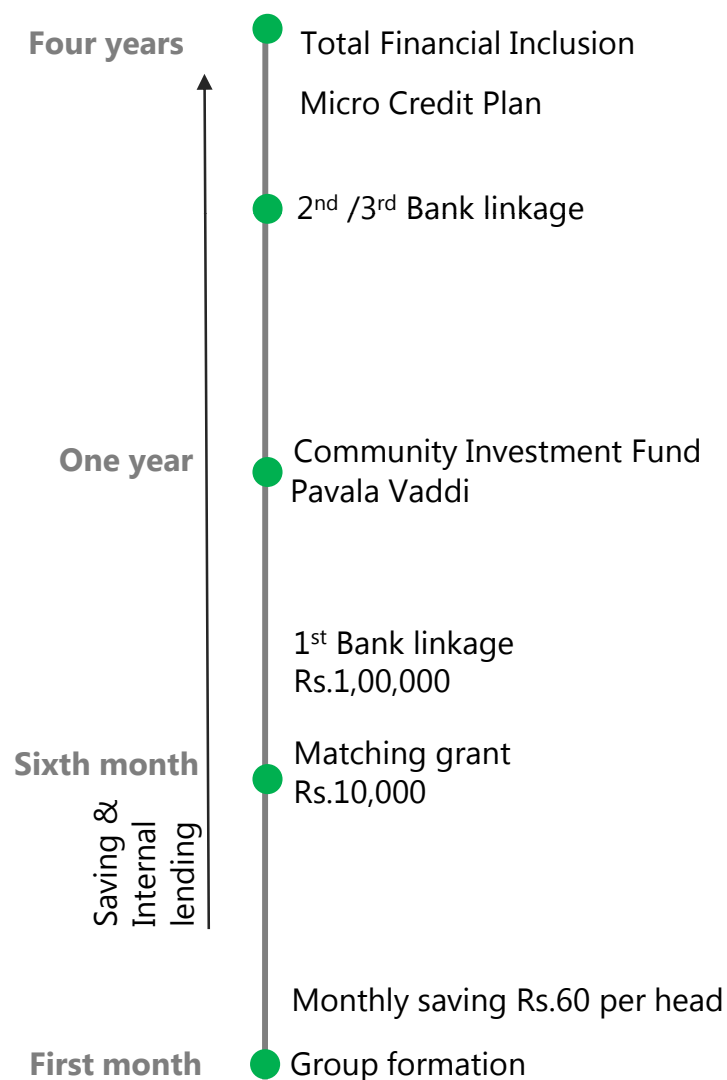
In AP, Mandal is intermediate administrative hierarchy between village and district. Mandal samakhya (MS) supports all VOs functioning in the villages within its jurisdiction. It helps them in terms of auditing, linkage with Govt. departments etc. District level federation is called as Zilla samakhya (ZS) to oversee the program at district level. SERP at state level takes care of overall administration, finance provision and policy issues.



Introduction

SHG Mind map : Actions - Layers of scope





Introduction

SHG formation and growth

The inspiration to form a group comes from unfulfilled needs, success stories of other village women and through the pursuit of IKP officials like community resource persons.

Formation : 10 – 15 women living in proximity to each other in the village irrespective of their variations in social and economic status form the group. Group names are mostly associated with religions, village goddess and few are named after freedom fighters.

Saving : The groups start with minimum saving of Rs.30 per head per month (Re.1 per day) and after the group gets registered with VO saving becomes Rs.60 (Rs.50 towards bank + Rs.10 towards VO).

Bank linkage : After Six months of disciplined saving, group will be eligible for Rs.10,000 matching grant from IKP and for first bank loan of Rs.1,00,000. Groups also can rotate the savings money for internal lending.

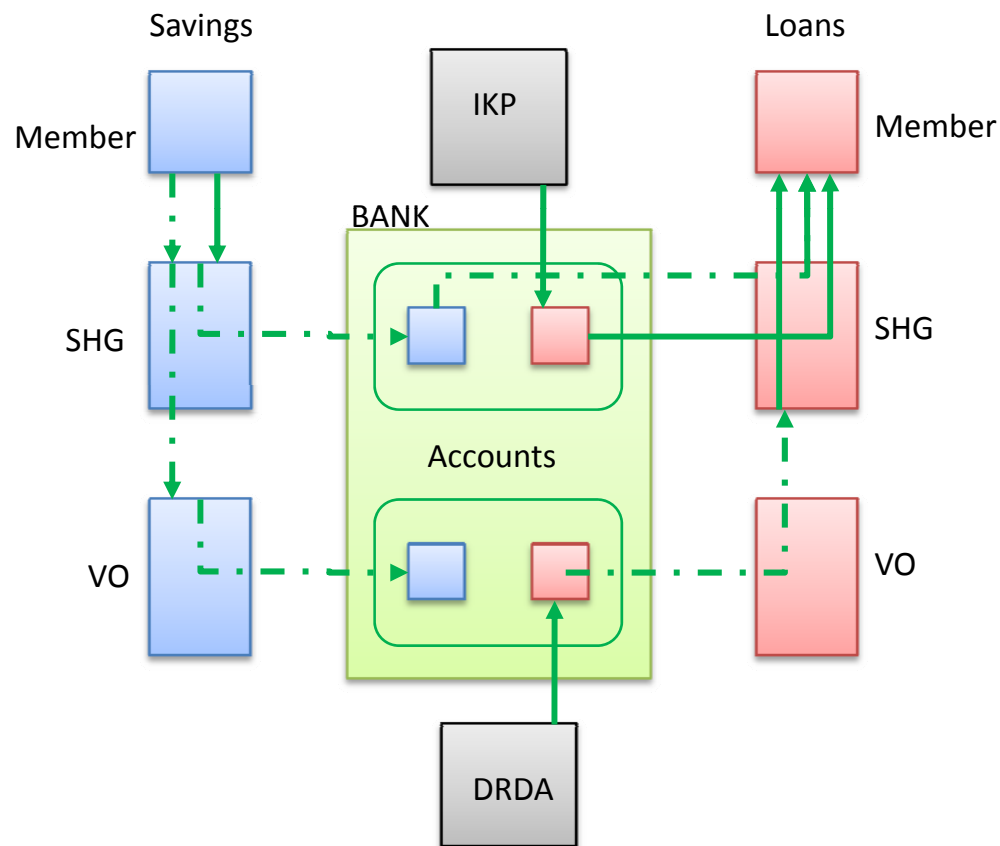
CIF : Along with these loans, groups can avail loans from VO through Community Investment Fund (CIF) which is funded by DRDA. CIF is rotated by VO among the groups (members) which have poorest economic status.

Interest rates : Interest for internal lending is based upon the discretion of the group. For other loans given by banks, agencies it is generally 14% on diminishing balance as told by bank officials.

Pavala Vaddi : AP Govt. is reimbursing any interest paid by SHGs over and above 3% annum. This is generally provided for bank linkage loans only after on time repayment record for 6 continuous months.

TFI : As the credit worthiness of SHGs increased by 95% of repayment⁶ to the bank, TFI comes into picture. Under that groups are eligible upto loan of Rs.5,00,000 which can take care of all household financial needs.

MCP : Micro Credit Plan is prepared by IKP for all groups to clearly state their economic status, livelihood aspirations, needs and there by judging the loan amount needed. TFI is to be spent as per MCP only.



Introduction

Self Help Groups - Financial access

SHG members do the monthly saving in two different ways.

- 1) They save Rs.30-Rs.100 (differs from group to group) with the group's bank account and
- 2) Rs.10 with the Village Organization.

Group members avail different kind of loans from different organizations which change from district to district. Amount of loan, interest over it and the time to repay differ from loan to loan.

On the whole it can be explicitly said that there are three transaction points for SHG members towards loans.

- 1) One is the SHG itself through internal lending.
- 2) Other is through Bank linkage program, for which to take effect, SHG needs to do disciplined saving for initial 6 months.
- 3) Third lender is the Village Organization (VO). VO receives money through DRDA (District Rural Development Agency), a Govt. agency and the groups are expected to spend this money for Community development and hence the loan is called Community Investment Fund.

Other than these saving and loan services, SHG system also provides Insurance (life & general) policies at individual and group level.

Almost of all of these transactions, discussions happen during Group meetings and VO meetings which take place periodically. Each group has a book keeper who maintains the records and accounts of the group⁷. She is not a member of the group but should be a literate relative of any senior member. She is paid Rs.100 per month as honorarium for her services.

Literature Review

APMAS – Andhra Pradesh Mahila Abhivrudhi Society

APMAS is an independent organization based in Hyderabad. It researches the microfinance and self help activities across India and offer services in terms of on field research, training and other related areas⁸.

APMAS and in association with EDA Rural Systems Private limited, conducted "Self Help Groups in India – A study of lights & shades in India"⁹. in 2005. The study concentrated in four states where SHG movement was prevalent then. They are Andhra Pradesh, Karnataka, Rajasthan and Orissa. Out of 214 SHGs studied, 60 are from Andhra Pradesh, the largest share. And hence issues that are mentioned in the report are much relative to the present study.

The following important points were drawn from the report. These points were further discussed with Mr. Raja Reddy, APMAS to understand the origins of problems and possible solutions

- *It seems more significant that for women who have been an SHG member for seven years (or more), half are (still) poor, including 13% very poor.*

This is real and the cause can be attributed to remaining inactive in terms of financial transactions and loans which was seen in the group at Kandi village, Sangareddy district.

The reasons for not active are lack of awareness about loan availability for years after formation of group.

Literature Review

- *There are barriers inherent in the conditions of membership to a group formed to mediate financial transactions – through regular meetings, saving and loan repayments. Example are for women who migrate for seasonal wage employment and households with variable or uncertain incomes.*

Migratory workers is a very complex domain and the present project is not looking into that aspect of SHG women.

But variable income is very common phenomena among poor and very poor. Present system does not give diversified scope in terms of loan repayment and periodical saving.

- *The highest incidence in AP in terms of SHGs taking part in social actions (25% of sample SHGs) reflects awareness campaigns under government and NGO programs in the State, and numbers of SHGs mobilizing together towards movements against like alcoholism.*

Although not experienced in person among the groups that were studied for the project, it was heard several times through out the research that SHGs are widely involved in social actions especially in Rayalaseema region of the state. Such actions include informing police about Child marriage, child labour in the village and participating in health & education awareness campaigns.

- *A significant proportion of sample groups (40%) have weak records that means over half of the sample in AP and around one – third in the other three states. Part of the problem lies in the relative complexity of the recording system in terms of the number of records, and the amount of work to record the transactions. Record keepers may find them difficult to manage. In AP where records were weak, there is also a practice of data was constructed through discussion within groups.*

These instances were observed during the study and there is an immediate need to reduce the number of inputs to be given to maintain records without any complexity. Digitization might obliterate any sort of repetition in data entry.

*Let confidence be instilled
In life that there is light
Let heavens descend,
Wherever it is, to earth bright*

*Poverty may curse
And gloomy darkness encircle
Will there be not a dawn
If thousands are enthused to awake?
Let the victories achieved be shared by all
Let heavens descend,
Wherever it is, to earth for all*

*Even if leaves countless fall
And scorching summers befall Will
there not be a drop of rain
And shooting up of a tender leaflet?
Let the hopes be nurtured
Watered with ambition
Let the heavens descend,
Wherever it is, to earth for all*

*If the skies yell out
Will the mountains tremble?
If Ganges deluge
Will the earth be petrified?
Let the skies be bent
With confidence gathered
Let the heavens descend,
Wherever it is, to earth for all*

*Velugu anthem (translated in English),
Source : <http://203.200.212.139/SHG/>*

User Studies

Group meetings

Group meetings happen monthly or weekly or whenever a special need arises. As per the norms of IKP, few tasks have to be fulfilled for every group meeting.

- All members should be present for the meeting. Fine will be imposed on those who do not attend.
- All group meetings should start with singing of Velugu anthem.
- Members have to introduce each other at the beginning.
- Discussion on previous meeting's resolutions has to be done.
- Members should regularly contribute towards group's saving as agreed in the beginning of the group.
- All loan repayments to be paid by the members for the month have to be done on meeting day without delay to deposit in the bank on next day.
- Every meeting is also expected to discuss about social issues related to members.

To understand the different strategies SHGs employ in their functioning; the monthly meetings of following groups which come under diverse conditions were attended.

Group A, Kandi village, Sangareddy mandal, Medak district. 70km west from Hyderabad. Village accessible directly through NH - 9 and 4km from Sangareddy, Mandal & District head quarters.

Group B, Korutla village, Chandampeta mandal, Nalgonda district. 150km east from Hyderabad. Very remote village, 20 km from Mandal head quarters.



User Studies

Group A

Number of Members : 12

Founded : 2002

Number of loans group took so far : 3

Bank : State Bank of India, SBI, Kandi branch

The group seems to have remained inactive for much of the earlier period. Taking loans and rotating money has been the affair only for last 3 years.

The group members meet every week. The format of weekly meeting was encouraged in few groups to cultivate the habit of meeting regularly. But no real discussions happen during weekly meetings.

Members assemble during the late evenings at any leader's residence and sign on the book which registers their attendance and leave. These weekly meetings last for 15-20 minutes. Book keeper maintains in the minutes book that each member has paid Rs.15 towards saving during these meetings but members actually give Rs.60, only once in a month for the same purpose. Book keeper for this group is a 17years old college going girl, daughter of II leader.

Out of four weekly meetings in a month, one is an important one which generally happens on 8th or 9th or 10th date of every month. During this meeting only all financial and other collaborative efforts of the group would be discussed.

Meeting starts at 7.30PM at group leader's residence.

Introducing each other is a task skipped many a time but is mentioned as 'conducted' in the minutes book.

Then the discussion is supposed to happen about the progress regarding the resolutions that were passed in previous meeting, Generally this section also remains empty for this group.

Then the attendance for every member is taken. After that only actual financial transactions happen.



User Studies

Group A

Each members submits Rs.60 (Rs.50 towards SHG account in bank + Rs.10 towards VO) to the leader. Book keeper counts the amount and records the transaction in minutes book.

After Saving matters, meeting's focus shifts to loans, the group members have taken.

First repayments towards the bank linkage loan is done and then for the loans within SHG. This group has not yet taken any loan from VO.

During the meeting all transactions, discussions are recorded in five different common books of group and in individual pass books of members.

Common books for the group are

- 1) Minutes book.
- 2) Savings & Attendance book
- 3) General ledger
- 4) Loan ledger
- 5) Deposits & Payments book

Other than these there would be bank pass book which is maintained by the bank itself.

These are regular passbooks which banks use for all customers.

These common group records are crucial for the group's financial health as there is no any other common credible point where all these transaction would be recorded. The books stay with the leader at whose residence, generally the meetings happen.

Each of these books are further studied as artifacts to understand the patterns that have been evolved through the SHG process and pros and cons of it.

Following pages would describe in detail about what each book consists of, how the information is arranged and problems, issues related to designing a better system.

Minutes book

Minutes page

This is single most important book to be updated for every meeting and hence all transactions are mentioned.

Accounts page

Weekly Saving attendance table

As saving and attendance are compulsory tasks every member has to fulfill with, these are separated from loan tables.

Group details

Agenda

Tasks done in the meeting

Anthem

Introductions

Attendance

Names

Attendance

Saving

Fine

Signature

Bank loan repayment

SHG internal loan repayment

Towards principal

Interest

Still to pay

Names have been covered to protect the privacy of users

Minutes book

Minutes page

Accounts page

Minutes page

Accounts page

Weekly Saving attendance table

Signatures taken against savings are to be considered for all resolutions taken during meet.

No amount is collected in weekly meetings and yet data is entered as Rs.15 per week.

For Internal loans, only interest is paid but not the principal. (More bullet payments)

Members pay only principal and pay entire interest at the end. (Not economical)

No where mentioned about the interest paid

Towards principal

Interest

Still to pay

Bank loan repayment

SHG internal loan repayment

Group details

Repetitive writing for every week

Agenda

Just a list of regular tasks than any clear agenda

Tasks done in the meeting

Anthem

Introductions

Attendance

Names

Attendance

Saving

Fine

Signature

Towards principal

Interest

Still to pay

Names have been covered to protect the privacy of users

Individual savings throughout a month

Week wise attendance and savings are vital to know the performance of a member and hence this comparison table is required.

Saving & Attendance book

పాదుపు మరియు								హాజరు పుస్తకము									
102								103									
19/8/08								24/8/08									
సభ్యుల పేరు		సేవ		హాజరు		సేవ		సేవ		హాజరు		సేవ		హాజరు		సేవ	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1)		101	1280	P	15	P	15	P	15	P	15			105	1340		
2)		101	1280	P	15	P	15	P	15	P	15			105	1340		
3)		101	1280	P	15	P	15	P	15	P	15			105	1340		
4)		101	1280	P	15	P	15	P	15	P	15			105	1340		
5)		101	1280	P	15	P	15	P	15	P	15			105	1340		
6)		101	1280	P	15	P	15	P	15	P	15			105	1340		
7)		101	1280	P	15	P	15	P	15	P	15			105	1340		
8)		101	1280	P	15	P	15	P	15	P	15			105	1340		
9)		101	1280	P	15	P	15	P	15	P	15			105	1340		
10)		101	1280	P	15	P	15	P	15	P	15			105	1340		
11)		101	1280	P	15	P	15	P	15	P	15			105	1340		
12)		101	1280	P	15	P	15	P	15	P	15			105	1340		
13)		101	1280	P	15	P	15	P	15	P	15			105	1340		
Group members		Attendance So far		Saving so far		Weekly attendance		Weekly Saving		Total attendance		Total saving		Interest over saving			

Total group's saving history

General Ledger

As the saving is rotated for internal lending, this is the only history sheet to track the saving health of the group.

సమగ్ర పాదుపులు					1. సమగ్ర పాదుపులు				
తేదీ	పేజీ నెంబరు	సేవించిన పాదుపు రూ.	దీర్చబడిన పాదుపు రూ.	మొత్తం పాదుపు రూ.	తేదీ	పాదుపు పేజీ నెంబరు	సేవించిన పాదుపు రూ.	దీర్చబడిన పాదుపు రూ.	మొత్తం పాదుపు రూ.
18/12/07	2	180	—	3990	16/12/08	3	180	7660	7660
23/12/07	2	180	—	3160	21/12/08	3	180	3840	3840
30/12/07	2	180	—	3340	25/12/08	3	180	3020	3020
6/1/2008	2	180	—	3520	30/12/08	3	180	2840	2840
14/1/2008	2	180	—	3700	30/12/08	3	180	2660	2660
20/1/2008	2	180	—	3880	31/1/08	3	180	2480	2480
28/1/2008	2	180	—	4060	6/2/2008	3	180	2300	2300
3/2/2008	2	180	—	4240	13/2/2008	3	180	2120	2120
12/2/2008	2	180	—	4420	20/2/2008	3	180	1940	1940
19/2/2008	2	180	—	4600	27/2/2008	3	180	1760	1760
27/2/2008	2	180	—	4780	3/3/2008	3	180	1580	1580
6/3/2008	2	180	—	4960	10/3/2008	3	180	1400	1400
13/3/2008	2	180	—	5140	17/3/2008	3	180	1220	1220
20/3/2008	2	180	—	5320	24/3/2008	3	180	1040	1040
27/3/2008	2	180	—	5500	31/3/2008	3	180	860	860
4/4/2008	2	180	—	5680	7/4/2008	3	180	680	680
11/4/2008	2	180	—	5860	14/4/2008	3	180	500	500
18/4/2008	2	180	—	6040	21/4/2008	3	180	320	320
25/4/2008	2	180	—	6220	28/4/2008	3	180	140	140
3/5/2008	2	180	—	6400	5/5/2008	3	180	—	—
10/5/2008	2	180	—	6580	12/5/2008	3	180	—	—
17/5/2008	2	180	—	6760	19/5/2008	3	180	—	—
24/5/2008	2	180	—	6940	26/5/2008	3	180	—	—
31/5/2008	2	180	—	7120	2/6/2008	3	180	—	—
7/6/2008	2	180	—	7300	9/6/2008	3	180	—	—
14/6/2008	2	180	—	7480	16/6/2008	3	180	—	—
21/6/2008	2	180	—	7660	23/6/2008	3	180	—	—
28/6/2008	2	180	—	7840	30/6/2008	3	180	—	—
5/7/2008	2	180	—	8020	7/7/2008	3	180	—	—
12/7/2008	2	180	—	8200	14/7/2008	3	180	—	—
19/7/2008	2	180	—	8380	21/7/2008	3	180	—	—
26/7/2008	2	180	—	8560	28/7/2008	3	180	—	—
2/8/2008	2	180	—	8740	4/8/2008	3	180	—	—
9/8/2008	2	180	—	8920	11/8/2008	3	180	—	—
16/8/2008	2	180	—	9100	18/8/2008	3	180	—	—
23/8/2008	2	180	—	9280	25/8/2008	3	180	—	—
30/8/2008	2	180	—	9460	1/9/2008	3	180	—	—
6/9/2008	2	180	—	9640	8/9/2008	3	180	—	—
13/9/2008	2	180	—	9820	15/9/2008	3	180	—	—
20/9/2008	2	180	—	10000	22/9/2008	3	180	—	—
27/9/2008	2	180	—	10180	29/9/2008	3	180	—	—
4/10/2008	2	180	—	10360	6/10/2008	3	180	—	—
11/10/2008	2	180	—	10540	13/10/2008	3	180	—	—
18/10/2008	2	180	—	10720	20/10/2008	3	180	—	—
25/10/2008	2	180	—	10900	27/10/2008	3	180	—	—
1/11/2008	2	180	—	11080	3/11/2008	3	180	—	—
8/11/2008	2	180	—	11260	10/11/2008	3	180	—	—
15/11/2008	2	180	—	11440	17/11/2008	3	180	—	—
22/11/2008	2	180	—	11620	24/11/2008	3	180	—	—
29/11/2008	2	180	—	11800	1/12/2008	3	180	—	—
6/12/2008	2	180	—	11980	8/12/2008	3	180	—	—
13/12/2008	2	180	—	12160	15/12/2008	3	180	—	—
20/12/2008	2	180	—	12340	22/12/2008	3	180	—	—
27/12/2008	2	180	—	12520	29/12/2008	3	180	—	—
3/1/2009	2	180	—	12700					
10/1/2009	2	180	—	12880					
17/1/2009	2	180	—	13060					
24/1/2009	2	180	—	13240					
31/1/2009	2	180	—	13420					
7/2/2009	2	180	—	13600					
14/2/2009	2	180	—	13780					
21/2/2009	2	180	—	13960					
28/2/2009	2	180	—	14140					
6/3/2009	2	180	—	14320					
13/3/2009	2	180	—	14500					
20/3/2009	2	180	—	14680					
27/3/2009	2	180	—	14860					
3/4/2009	2	180	—	15040					
10/4/2009	2	180	—	15220					
17/4/2009	2	180	—	15400					
24/4/2009	2	180	—	15580					
1/5/2009	2	180	—	15760					
8/5/2009	2	180	—	15940					
15/5/2009	2	180	—	16120					
22/5/2009	2	180	—	16300					
29/5/2009	2	180	—	16480					
5/6/2009	2	180	—	16660					
12/6/2009	2	180	—	16840					
19/6/2009	2	180	—	17020					
26/6/2009	2	180	—	17200					
3/7/2009	2	180	—	17380					
10/7/2009	2	180	—	17560					
17/7/2009	2	180	—	17740					
24/7/2009	2	180	—	17920					
31/7/2009	2	180	—	18100					
7/8/2009	2	180	—	18280					
14/8/2009	2	180	—	18460					
21/8/2009	2	180	—	18640					
28/8/2009	2	180	—	18820					
4/9/2009	2	180	—	19000					
11/9/2009	2	180	—	19180					
18/9/2009	2	180	—	19360					
25/9/2009	2	180	—	19540					
2/10/2009	2	180	—	19720					
9/10/2009	2	180	—	19900					
16/10/2009	2	180	—	20080					
23/10/2009	2	180	—	20260					
30/10/2009	2	180	—	20440					
6/11/2009	2	180	—	20620					
13/11/2009	2	180	—	20800					
20/11/2009	2	180	—	20980					
27/11/2009	2	180	—	21160					
4/12/2009	2	180	—	21340					
11/12/2009	2	180	—	21520					
18/12/2009	2	180	—	21700					
25/12/2009	2	180	—	21880					
1/1/2010	2	180	—	22060					
8/1/2010	2	180	—	22240					
15/1/2010	2	180	—	22420					
22/1/2010	2	180	—	22600					
29/1/2010	2	180	—	22780					
5/2/2010	2	180	—	22960					
12/2/2010	2	180	—	23140					
19/2/2010	2	180	—	23320					
26/2/2010	2	180	—	23500					
5/3/2010	2	180	—	23680					
12/3/2010	2	180	—	23860					
19/3/2010	2	180	—	24040					
26/3/2010	2	180	—	24220					
2/4/2010	2	180	—	24400					
9/4/2010	2	180	—	24580					
16/4/2010	2	180	—	24760					
23/4/2010	2	180	—	24940					
30/4/2010	2	180	—	25120					
7/5/2010	2	180	—	25300					
14/5/2010	2	180	—	25480					
21/5/2010	2	180	—	25660					
28/5/2010	2	180	—	25840					
4/6/2010	2	180	—	26020					
11/6/2010	2	180	—	26200					
18/6/2010	2	180	—	26380					
25/6/2010	2	180	—	26560					
2/7/2010	2	180	—	26740					
9/7/2010	2	180	—	26920					
16/7/2010	2	180	—	27100					
23/7/2010	2	180	—	27280					
30/7/2010	2	180	—	27460					
6/8/2010	2	180	—	27640					
13/8/2010	2	180	—	27820					
20/8/2010	2	180	—	28000					
27/8/2010	2	180	—	28180					
3/9/2010	2	180	—	28360					
10/9/2010	2	180	—	28540					
17/9/2010	2	180	—	28720					
24/9/2010	2	180	—	28900					
1/10/2010	2	180	—	29080					
8/10/2010	2	180	—	29260					
15/10/2010	2	180	—	29440					
22/10/2010	2	180	—	29620					
29/10/2010	2	180	—	29800					
5/11/2010	2	180	—	29980					
12/11/2010	2	180	—	30160					
19/11/2010	2	180	—	30340					
26/11/2010	2	180	—	30520					
3/12/2010</									

Total group's saving history

General Ledger

1. సభ్యుల పారువులు					1. సభ్యుల పారువులు				
తేది	సభ్యుల పేరు	సేవించిన రెచ్చ	తీసుకున్న రెచ్చ	మొత్తం రెచ్చ	తేది	సభ్యుల పేరు	సేవించిన రెచ్చ	తీసుకున్న రెచ్చ	మొత్తం రెచ్చ
19/10/07	19103	180	—	3990	16/10/08	3	180	7660	7660
19/10/07	2	180	—	3160	21/6/2008	3	180	7840	7840
16/12/07	2	180	—	3340	25/5/2008	3	180	8020	8020
23/12/07	2	180	—	3520	30/1/2008	3	180	8200	8200
30/12/07	2	180	—	3700	24/2/2008	3	180	8380	8380
6/1/2008	2	180	—	3880	24/3/2008	3	180	8560	8560
14/1/2008	2	180	—	4060	27/3/2008	3	180	8740	8740
20/1/2008	2	180	—	4240	31/3/2008	3	180	8920	8920
26/1/2008	2	180	—	4420	30/4/2008	3	180	9100	9100
2/2/2008	2	180	—	4600	20/5/2008	3	180	9280	9280
9/2/2008	2	180	—	4780	24/5/2008	3	180	9460	9460
16/2/2008	2	180	—	4960	29/5/2008	3	180	9640	9640
23/2/2008	2	180	—	5140	2/6/2008	3	180	9820	9820
3/3/2008	2	180	—	5320	10/6/2008	3	180	10000	10000
10/3/2008	2	180	—	5500	10/6/2008	3	180	10180	10180
17/3/2008	2	180	—	5680	10/6/2008	3	180	10360	10360
24/3/2008	2	180	—	5860	14/9/08	3	180	10540	10540
31/3/2008	2	180	—	6040	21/9/08	3	180	10720	10720
7/4/2008	2	180	—	6220	28/9/08	3	180	10900	10900
14/4/2008	2	180	—	6400	5/10/08	3	180	11080	11080
21/4/2008	2	180	—	6580	12/10/08	3	180	11260	11260
28/4/2008	2	180	—	6760	19/10/08	3	180	11440	11440
					26/10/08	3	180	11620	11620
					3/11/08	3	180	11800	11800
					10/11/08	3	180		

Repetitive and redundant information

As all members have to pay their savings regularly this column for delayed savings is useless and hence empty.

No information about how much is in bank, how much is in hand, how much is in rotation and how much interest is gained through bank and internal lending? These all are important parameters to be known than just total.

The contents of the book are not updated during meetings but done before the inspection of authorities.

Individual's loan details

Loan Ledger

These consumption loans are mostly drawn from internal lending and hence is an important document to update to know which member is contributing better for group's earning.

అవసర లోన్ లెడ్జరు వ్యక్తిగత లోన్లు వివరాలు చిన్న అప్పులు (CONSUMPTION LOANS)											
అప్పు ఇచ్చిన తేది	అప్పు విలువ	కంతు సంఖ్య	అవసరము	రెల్లిం వలసిన తేది	రెల్లించుచు మొత్తము (అసలు+వడ్డీ)	రెల్లిందిన తేది	రెల్లిందిన మొత్తము (అసలు+వడ్డీ)	అప్పు బకాయి (Over Due)	అప్పు నిల్వ (LOAN BALANCE)	సభ్యురాలి సంతకము	
16/12/02	10/200	5	For house repair								
26/12/02	—	5	Explicit mention of need for the loan helps in reminding the member spend the money towards mentioned cause.		100			200	107000	చిత్తమర్తి	
16/12/02	540	2	For fever								
26/12/02				20/12/02	540+10			540	550	చిత్తమర్తి	
Date – Loan given	Amount	No. of Installments	Need For loan	Repayment due date	Repayment due (Principal + Interest)	Repayment date	Amount paid (P+I)	Over due	Loan balance	Member's signature	

Individual's loan details

Loan Ledger

But this book is never updated as all loan details are updated member's passbook. & minutes book.

Member's name

Members take small/big amounts for consumption in frequent manner, but this table does not have provision for identifying different loans and their installments.

Updating this book is a task should not be skipped because this is the only table which displays the repayment pattern of members along with due amounts. Minutes book does not mention about over dues members left with.

అప్పు ఇచ్చిన తేది	అప్పు విలువ	కంతు సంఖ్య	అవసరము	రెల్లింప వలసిన తేది	రెల్లించుచున్న మొత్తము (అనుబంధం)	రెల్లిందిన తేది	రెల్లిందిన మొత్తము (అనుబంధం)	అప్పు బకాయి (Over Due)	అప్పు నిల్వ (LOAN BALANCE)	సభ్యురాలి సంతకము
10/12/02	10/200				200+100			200		
16/12/02	540	2	2							
20/12/02	540+10							540	550	

Date – Loan given

Amount

No. of Installments

Need For loan

Repayment due date

Repayment due (Principal + Interest)

Repayment date

Amount paid (P+I)

Over due

Loan balance

Member's signature

Deposits & Payments

Group's monthly deposits

Group's monthly payments

[illegible]

Deposits & Payments

Group's monthly deposits

Group's monthly payments

[illegible]

Individual passbook

Cover page with personal details

This is the only record which always stays with member and hence has to be updated in all aspect related.

వ్యక్తిగత పాస్ పుస్తకము

Member's name : [Redacted]

Number : [Redacted]

Group name : [Redacted]

Village : [Redacted]

Mandal / Taluka : [Redacted]

District : [Redacted]

Periodical saving details

పాదుపు వివరాలు				
తేది	పాదుపు	పాదుపు పై బడ్డీ	మొత్తము పాదుపు (పాదుపు + బడ్డీ)	ప్రతిపది సంకేతము
30/3/08	15	-	3250	
6/4/08	15	-	3265	
13/4/08	15	-	3280	
20/4/08	15	-	3295	
27/4/08	15	-	3310	
4/5/08	15	-	3325	
11/5/08	15	-	3340	
18/5/08	15	-	3355	
25/5/08	15	-	3370	
1/6/08	15	-	3385	
8/6/08	15	-	3400	
15/6/08	15	-	3415	
22/6/08	15	-	3430	
29/6/08	15	-	3445	
6/7/08	15	-	3460	
13/7/08	15	-	3475	
20/7/08	15	-	3490	
27/7/08	15	-	3505	

Date

Saving
(S)Interest on
saving (I)Total Saving
(S+I)Signature
of leader

Individual passbook

Cover page with personal details

Periodical saving details

Interest on savings is calculated at group level and can't be shared individually, hence this column is useless.

Mistaken data is coupled with no authorizing signature indicates the zero validity

This calculation of total savings by a member is only for record but has little significance as that amount is scattered across SHG, Bank and VO.

Member's name

Number

Group name

Village

Mandal / Taluka

District

తేది	పొదుపు	పొదుపుపై శాతం	మొత్తం పొదుపు (పొదుపు + శాతం)	సంతకం
30/3/08	15	-	2	
6/4/08	15	-	2	
13/4/08	15	-	3280	
20/4/08	15	-	3295	
27/4/08	15	-	3310	
4/5/08	15	-	3295	
11/5/08	15	-		
18/5/08	15	-		
25/5/08	15	-		
1/6/08	15	-		
8/6/08	15	-	3400	
15/6/08	15	-	3415	
22/6/08	15	-	3430	
29/6/08	15	-	3445	
6/7/08	15	-	3460	
13/7/08	15	-	3475	
20/7/08	15	-	3490	
27/7/08	15	-		

Date **Saving (S)** **Interest on saving (I)** **Total Saving (S+I)** **Signature of leader**

Individual passbook

Consumption loans – Small amounts (Mostly internal lending)

These loan details are important for member to keep track of her finances and to remind her of upcoming payments to be done.

Income generation loans (Bank linkage)

**Loan ledger
page no.**

Date, loan was given

Number of Installments

**Weekly/
Fortnightly/
Monthly**

Data on this page has to correlate with data on member's page group's loan ledger and hence similar particulars.

- Total loan
- Interest (%)
- Need of the loan
- Installment value

No. of Instl.	Number of Installments
Sign. blnce.	Signature Balance
P	Principal
I	Interest
OD	Over due

Individual passbook

Consumption loans – Small amounts (Mostly internal lending)

Income generation loans (Bank linkage)

[illegible]

EMI calculation for diminishing interest

EMI No.	INTEREST COMPONENT	PRINCIPAL COMPONENT	MONTHLY EMI	OUTSTANDING RS.
0	Rs.	Rs.	Rs.	28,100.00
1	327.83	787.69	1,115.52	27,312.31
2	318.64	796.88	1,115.52	26,515.43
3	309.35	806.18	1,115.52	25,709.25
4	299.94	815.58	1,115.52	24,893.67
5	290.43	825.10	1,115.52	24,068.57
6	280.80	834.72	1,115.52	23,233.85
7	271.06	844.46	1,115.52	22,389.38
8	261.21	854.31	1,115.52	21,535.07
9	251.24	864.28	1,115.52	20,670.79
10	241.16	874.36	1,115.52	19,796.42
11	230.96	884.57	1,115.52	18,911.86
12	220.64	894.89	1,115.52	18,016.97
13	210.20	905.33	1,115.52	17,111.65
14	199.64	915.89	1,115.52	16,195.76
15	188.95	926.57	1,115.52	15,269.18
16	178.14	937.38	1,115.52	14,331.80
17	167.20	948.32	1,115.52	13,383.48
18	156.14	959.38	1,115.52	12,424.10
19	144.95	970.58	1,115.52	11,453.52
20	133.62	981.90	1,115.52	10,471.62
21	122.17	993.36	1,115.52	9,478.27
22	110.58	1,004.94	1,115.52	8,473.32
23	98.86	1,016.67	1,115.52	7,456.65
24	86.99	1,028.53	1,115.52	6,428.13
25	74.99	1,040.53	1,115.52	5,387.60
26	62.86	1,052.67	1,115.52	4,334.93
27	50.57	1,064.95	1,115.52	3,269.98
28	38.15	1,077.37	1,115.52	2,192.60
29	25.58	1,089.94	1,115.52	1,102.66
30	12.86	1,102.66	1,115.52	0.00

Total loan = Rs.28,100
Interest rate = 14%
Number of installments = 30

Equal Monthly Installment as per bank standard calculations = Rs. 1115.52

Break up of EMI over 30 months as per Principal + Interest as per **diminishing balance** method is as shown in left table.

But members are paying only Rs.1000 towards repayment and consider that only as Principal amount for the month. Round figure value Rs.1000 could be a reason for existing structure.

During further enquiries it is understood that members pay this Rs.1000 for 27 months and calculate total interest and remaining amount to be paid by then and divide it equally for remaining three months.

But banks have to consider the interest every month as per their policy and hence calculate 14% interest within Rs.1000 for the first month and there onwards as per remaining balance for each month.

This will lead to much lesser payment of Principal towards the loan as good chunk of amount goes towards the interest for the remaining balance. As this calculation continues from Bank side for 27 months, members would be still remained to pay higher principal and as well as very high interest for the remaining three months.

Lack of awareness about interest calculation and relative complexity in the system is forcing, even the prompt paying members to remain defaulted at the end of loan's maturity.

Members should be made aware of multiple patterns of repayments by altering parameters like number of installments, loan value etc., which will help them take a well informed decision before going for a loan.

PS : Above calculation is done by using Master EMI calculator on MS excel software



User Studies

Group B

Number of Members : 13

Founded : 2002

Number of loans group took so far : 5-6

Bank : Andhra Pradesh Grameena Vikas Bank (APGVB), Deverakonda (Another mandal head quarters), Nalgonda district.

Although this group belongs to far more remotest village than the previous studied group; financial awareness in terms of SHG system is comparatively better here because of the regular efforts by IKP officials at Mandal level.

The group members meet once for every month. As members live in close proximity within the village, they have the habit of meeting more frequently whenever the need arises i.e., to discuss about new loans, social actions and available opportunities.

Amount being saved is Rs.60 per month like many other groups in the state. It is observed that the kind of pattern the accounts are maintained, recorded differs from district to district.

As per the accompanying IKP official, few groups in this district still follows the old record books which is much less detailed than the new one in previous group. This system comprises of

- 1) Book of resolutions
- 2) Loan ledger

Which are common for the group and an individual passbook for every member. All these records are maintained by book keeper who happens to be husband of 1st leader. And there will be common bank passbook that is maintained by bank.

This system has more dependency on individual passbooks because group books are not that comprehensive. It is observed that most of the time individual passbooks stay with the leader only. This way the essence of individual passbook through which financial transparency to be created to the members is partially overlooked.

Book of resolutions

Meeting details

Agenda 1: Attendance

Agenda 2: Discussion on previous resolution

Agenda 3: Savings

Loan repayments

Decision about new loans

This format appears to club all transactions in a more organized format under resolutions title in a single book.

Members taking responsibility of depositing in bank and for cash in hand

Social activities

Other matters

Group's revenue & spending

Members' signatures

Total group amount received at meeting

సమావేశ సంగ్రహం																																																																									
సమావేశ సంఖ్య	తేదీ	స్థలం	సమావేశ అధ్యక్షుడు																																																																						
92	2018	రాజ్ గారి రెస్టారెంట్	రాజ్																																																																						
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Book of resolutions

Meeting details

Location, time, date, leader

Agenda 1: Attendance

Details of absentees (reason, fine etc.,) are asked than the details of members who are present.

Agenda 2: Discussion on previous resolution

Space is not sufficient enough. (No importance given)

Agenda 3: Savings

Details of deferred are asked than those of paid members and this data is expected to be correlated with member passbooks. Total amount collected is to be mentioned.

Loan repayments

Defaulters details are asked than those of paid members and this has to be matched with members' passbooks for future verification. (Space constraint could be the reason.)

Decision about new loans

Newly sanctioned loan details or new loan aspirations are to be mentioned but these discussions do not happen for every meeting and hence giving this much space is of no use.

Mentioning their names enhances the credibility of the group and members.

Many groups have this space empty and few enlisted just discussions but real actions taken were very few.

Mandatory tasks (anthem, attendance, saving etc.,) undertaken during the meeting are mentioned here whose position could be on opposite page.

Remaining revenue (total-expenditure) at the end of meet. (But does not mention about loans, savings hence, remain insignificant.)

Signing at end by all members gives more credibility to the meeting's all resolutions .

This can be clubbed with revenue detail above.

Members taking responsibility of depositing in bank and for cash in hand

Social activities

Other matters

No mentioning of money breakup as principal, interest, repayment etc., dilutes the book's significance into mere a record than any accounts related.

Group's revenue & spending

Members' signatures

Total group amount received at meeting

Bank passbook (Loan repayment details)

SHG Loan
account
number

SHG - 406

PS: Saving details in identical format

As this is a common passbook, bank issues to all customers, title particulars are as per bank standards.

Date	PARTICULARS	DEBITS		CREDITS		BALANCE		Initials
		Rs.	Ps.	Rs.	Ps.	Rs.	Ps.	
						50,000	-	
✓ 30	TO int			3,900	-	46,100	-	
July 10	By cash	862	✓					
Sept 01	By Cash			3,900	✓	43,062	-	
30	TO int			3,900	✓	39,162	-	
Oct 01	By cash	1,503	✓			40,665	-	
24	By cash			3,900	✓	32,865	-	h
21-28	By cash			3,900	✓	32,865	-	h
✓ 06	By cash			3,900	✓	28,965	-	
✓ 03	By cash			3,900	✓	25,065	-	
✓ 09	By cash			3,900	✓	21,165	-	
				3,900	-	17,265	-	h
	Balance C/o :							

Bank passbook (Loan repayment details)

SHG - 406

PS: Details of savings in identical format

Date	PARTICULARS	DEBITS		CREDITS		BALANCE		Initials
		Rs.	Ps.	Rs.	Ps.	Rs.	Ps.	
	Balance B/F.							
May 8/11	TO TR 988349	50,000				50,000	-	
June 11	By Cr					46,100	-	
✓ 30	TO Int	862				43,062	-	
July 10	By Cr					39,162	-	
Sept 01	By Cr					40,665	-	
30						32,865	-	
Oct 01		1,503				32,865	-	
24						28,965	-	
21-28						25,065	-	
Nov 06						21,165	-	
17						17,265	-	
Nov 09	By Cr							
	Balance C/o :							

Even semi literates amongst the members can't understand these particulars for which the amount was paid.

This typical bank tables do not give any required information to SHG members and hence heavy reliance on individual/group books even though bank books could be more accurate.

After installments, remaining loan balance is mentioned in red ink for members to easily understand. Likewise, for savings it is in blue ink.

Common intents in main books of both groups

The following are the common intents in both the groups but mentioned in different formats. These intents are obviously the most important parameters of all to implement in further systems.

Group A	Group B
Minutes book is the one which is regularly updated.	Resolutions book is the one where all data is regularly entered during meetings,
Meeting details like location, date, leader.	Meeting details include meeting no., location, date and leader.
Group regularly performs the tasks of anthem, attendance etc., and is definitely mentioned in the book.	Attendance is taken compulsorily and may not be the same about anthem but will be mentioned in the book.
Attendance is taken at the beginning of the meeting but there is a practice of doctoring the records as there is no strict policy in practice for absentees.	Details of absentees are to be written in the book along with the reason, fine to paid etc..
Saving details are to be entered but the entered details are not actually correct because of difference in practicing the saving and recording the same.	Details of members who did not save for the month are to be mentioned, but such a case is very rare because saving is the foremost compulsory task of every member and was fulfilled in all cases of this research.
Here there is a scope to update different types of loans in several parameters which helps in understanding the financial health of group.	Briefly mentioned about defaulters and about total amount collected. But these partial details will not give any scope to understand the status or to plan for next.
Signatures are along with attendance but not with the declaration of loan repayments. Separate signatures will be taken if there is any new resolution to be passed.	Signatures at the end of meeting to approve all transactions done and resolutions taken.



User Studies

Discussions with members & stake holders

Following the group level discussions, few members were interacted personally to surface individual desires, issues they have with the system.

A member of Group B mentioned few interesting issues during the personal discussion.

- *We don't know how much we are paying, what for we are paying, how much is interest, how much is for loan ? Neither leaders are telling us, nor book keepers.*

Interest rates for saving and for loan repayment are important aspects for enhancing the group earnings. Complexity which created a kind of opaqueness about their own accounts is preventing groups to progress in terms of future planning. Having clear idea about flow of money helps members to plan for future and there by aspire for productive loans.

- *Why don't they (leaders) give loans to us? Why do they (leaders & their friendly members) only consume them among themselves.*

If a group has few members who are relatives to each other and group's leader is one among them, then there could be good chances of tampering the accounts without informing all in the group. Village level Community Assistant (C.A) is supposed to check all SHG account books for every three months, but this norm is rarely practiced.

A group leader in Kandi has revealed following matters.

As the loans are given in diminishing interest rates, the value of interest is always calculated against the loan balance to be paid and hence after repayment of few installments, the interest to be paid will be decreased considerably. A group leader used this phenomena to influence the group function although with an intention of increasing group savings. This is explained in next page.



User Studies

Discussions with members & stake holders

- *But the leader still insisted members to pay higher interests only to divert the extra amount for group savings. Thus group's saving in bank is enhanced from Rs.30 to Rs.100 per month. (where as many other groups save only Rs.50 towards group's account). This was revealed to members only after complete payment of that specific group loan.*

Although this was done with positive intentions only but has exposed the manner in which SHG leaders can exploit their position. Members too agreed upon continuing saving Rs.100 as that has already become affordable to them.

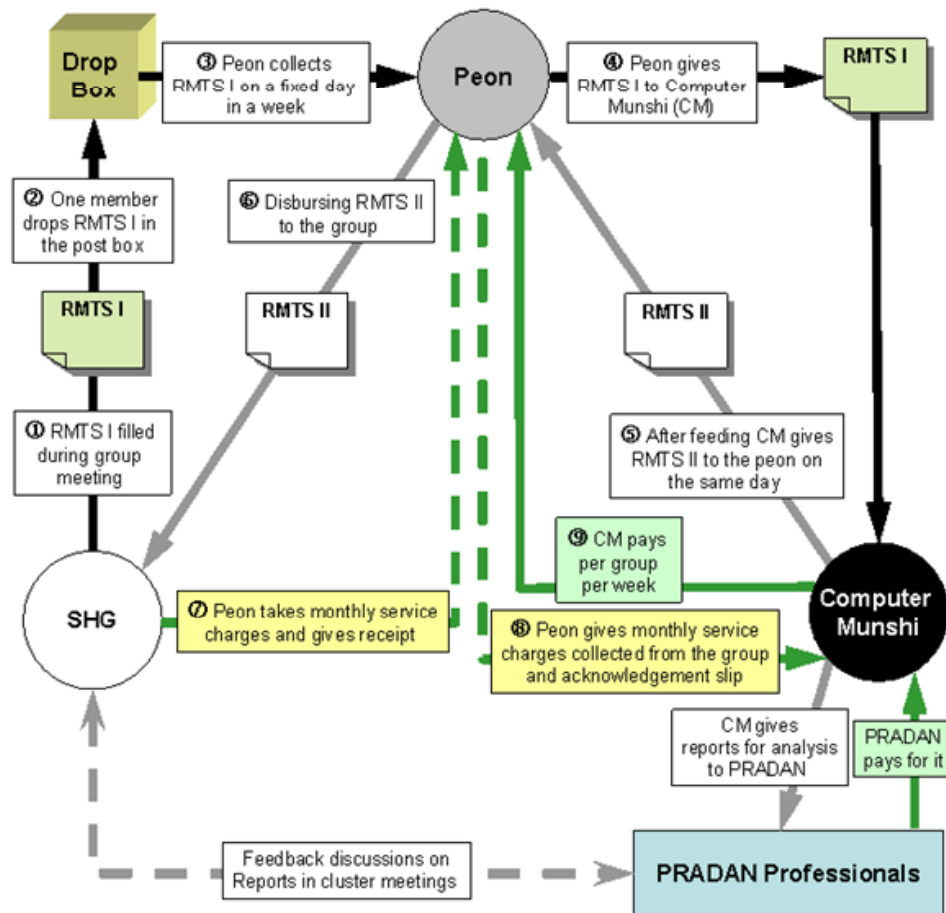
Reducing the dependence on leaders to obtain financial information can help prevent such clandestine deals.

Rotating the group leadership responsibility across the group by shifting for every two years can help spread the awareness, entrepreneurial skills among the members. But this requires system level changes in the entire IKP program.

Making information available to all, through free access system and encouraging all members to record the group/individual transactions during meeting help enhancing the collaborative environment of the group.

- *Bank manager of APGVB, Devarakonda, also gave examples for leaders exploiting their position and there by favoring themselves and their accomplices in the loan processing which was revealed in their investigations.*

Digitized system gives the scope for virtual transparency throughout the process and by providing timely alerts to respective authorities about any such mismanaged tasks, remedial actions can be taken immediately.



(Picture courtesy - Ajit Kanitkar and Jan Meissner of Pradan)

Comparative product analysis

Pradan (Professional Assistance for Development Action)

Pradan is an NGO based in Mumbai which works as Self Help Promoting Agency (SHPA). Pradan is active in seven poorest states of India but AP is not among them¹⁰.

This organization strongly believes that explicit participation of poor into livelihood activities can help them come out of poverty. And hence Pradan has structured all their processes in line with this principle.

Pradan follows a system called Computer Munshi (CM) to take care of all accounting and financial aspects of SHG functioning. Here all 6000 SHGs under Pradan in fact do business with CM to buy information about their own financial transactions.

Computer Munshi is a literate young man/woman sitting at taluka head quarters looks after accounts of all Pradan SHGs (150-200) coming under taluka's geographical location.

In this system each group accountant has to do following tasks:

- Fill up the RMTS (Regular Meeting Transaction Statement)
- Fill up each member pass book
- Write the minutes book

The filled up RMTS goes to CM through drop box collection system.

Then the Computer Munshi has to

- Check the RMTS that has come from the group for mistakes.
- Enter the corrected data sheet into the computer .
- Print out RMTS II and send to SHG.
- Prepare the group data consolidation and trial balance once in a month .
- Receive payment from the group .
- Provide data to PRADAN for a charge, once a month.

Comparative product analysis

Society for Elimination of Rural Poverty (SERP), Hyderabad

SHG Meeting Information

Gram Panchayat: DUPADU Village: DIVEPALLI GO

Village Organization: DIVEPALLI SHG Name: Kiran SHG Meeting Date: 29/10/2008

Repayment & Savings | Loans Details | Loans to SHG | Receipts & Payments

Member ID	Name	Attendance	Savings	Loans Repayment Amount	Emi Due	Penalty	Loans Disbursed	EMI(P.M.)	Loans Outstanding	Loan Principal Amount Repaid
01	mem 1	☒	50	4442	22210	0	50000	4442	45558	4442
02	mem 2	☒	50	4442	22210	0	50000	4442	45558	4442

Data to be entered

Default data for every month

Save Repayment Report Close

Screen shot of software under development by TCS for SERP for recording SHG transactions
(Courtesy : SERP)

SERP is the implementing authority of IKP in the state. SERP has been associated with Tata Consultancy Services (TCS) and other firms to push the digitization of SHG system.

There would be pilot project in this regard very soon. In this every VO will be given a Laptop with a customized built in software for accounting SHG transactions. During the interactions with IKP official Mr. Raghunatha Reddy, it is understood that in this system responsibility of maintaining the SHG accounts will be with one office bearer of VO.

This Laptop would be along with a small printer and fingerprint identification device and all assembled in a briefcase.

That office bearer would be trained by IKP and would be called as operator. She will be paid some amount of salary from VO funds. She is supposed to attend every SHG meeting under her VO and record their transactions.

Comparative product analysis

Society for Elimination of Rural Poverty (SERP), Hyderabad

SHG Meeting Information	
Gram Panchayat: DUPADU	Village: DIVEPALLI
GO	
Village Organization: DIVEPALLI	SHG Name: Kiran SHG
Meeting Date: 29/10/2008	
Repayment & Savings Loans Details Loans to SHG Receipts & Payments	
Opening cash balance	9484
Opening bank balance	1000
Savings from Members	0
Loan Principal Received from Members	0
Loan Interest Received from Members	0
Borrowings from VO	0
Borrowings from Banks	0
Borrowings from Other Institutions	0
Fines Collected from members	0
Interest Received on savings Bank Acc	0
Other Receipts	0
Pavala Vaddi Received	0
Revolving Fund/Grants	0
Cash withdrawn from the Bank	0
Loans to Members	100000
Loan Principal Repayment to VO	0
Loan Principal Repayment to Bank	0
Loan Principal Repayment to Others	0
Interest paid on VO Loans	0
Interest Paid on Bank Loans	0
Interest Paid on Other Loans	0
Honorarium paid to book keeper	0
Travelling Expenditure	0
Fines	0
Other Expenditure	0
Pavala Vaddi distributed to Members	Pay 0
Cash desposited in the Bank	0
Closing cash Balance	-90516
Closing Bank balance	1000
Monthly Report Save	
Close	

Screen shot of software under development by TCS for SERP for recording SHG transactions
(Courtesy : SERP)

Although not yet tested, this system is observed with following issues.

Laptop with its bigger screen might serve better in terms of processing accounts information through several tables.

As the trained and literate individual enters the data, there could be no errors in the data and also can be regularly cross checked by other authorities over net.

But this system demands SHGs to schedule their meetings as per the convenience of operator. If there are 30 SHGs under a VO which is quite common, each SHG has to reserve a day in the month's calendar for their meeting and has to stick to it. Few SHGs meet weekly also which require altogether different effort s by the operator or weekly meetings have to be prevented.

This system in one way makes SHGs dependent on VO and its office bearers which goes against the Self Help movement. And financial viability is also questionable because Laptops at VO have no other function to fulfill as of now.



Path towards real progress

- Simplifying the account maintenance and therefore enhancing group's freedom.
 - 1) Total group account
 - 2) Individual account
 - 3) Ledger wise visualization for higher authorities
- Making every member aware of her financial situation.
Financial statement at the start/end of meeting.
- Information dissemination regarding available opportunities.
Message directly to group / member
- Reducing dependency over leaders.
Information open for all members to view.
Provision to enter/edit accounts should be made with both member and group leader.
- Encouraging productive investment
Tracking the Micro credit plan and related spending of loan.

Path towards real progress

Which technology to use



1. Handheld device for every group and with a smart card for every member
 - To register
 - To identify
 - To print etc... all at one go
2. Laptop for every VO to be shared across groups.
 - To record transactions in detail
 - To develop interactions among groups
3. Through a paid accountant at Mandal level by regularly obtaining groups accounts through posts.
 - To use the existing IT infrastructure
 - To generate employment
4. Shared mobile per group with extended individual/networked access & a finger printer
 - To replicate the existing passbook system
 - To utilize the existing penetration of mobiles in rural AP
 - To record and recognize the member's identity.

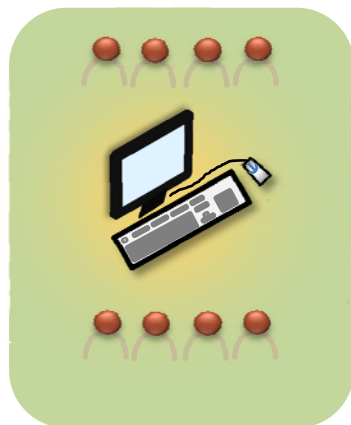
Path towards real progress

Which technology to use

As the mobile penetration is high in rural Andhra Pradesh and it was observed during the study that there are already at least 2 mobile users (or their family members) per group in many villages, the project took the direction of designing a mobile based application to resolve many issues which were discussed in previous pages.

Every group will be having a mobile and a finger printer which they will be using for every group meeting. Mobile (eg: Nokia 6131) recognizes the RFID/NFC touch free tag which is given to every member. Finger printer is a combination of finger printing identification system, blue tooth to communicate with mobile and a portable printer to print receipts.





Through computers at MS, ZS
and State levels



Through same shared mobile phones
of SHG leaders representing at VO level



Through a shared mobile phone for group and
RFID/ NFC based personal micro chip for
individual's identification.

Path towards real progress

Pragathi - The system architecture

Path towards real progress

Pragathi - The system architecture



Every women member will be given a locket which is fitted with microchip for her identification using RFID/NFC mechanism over mobile

Information design

The process so far gave the inferences on what to show in the application to benefit the users (SHG members) and now the focus shifts towards how to show it.

The most important constraints here are the literacy levels of the users and small size of mobile screen. As per APMAS study; about 41% of SHGs are 'functionally literate', which means that over half of their members have completed at least primary schooling. But during the on field study of limited SHGs for the project, it is observed that over 80% members are illiterates. Advantageous point could be that even illiterates are easily recognizing numbers and are able to process them for accounts. And hence the interface has to be designed considering these varying abilities.

Several options were done using shapes, colours, symbols, numbers and text as well to represent the financial information. Textual information has to be shown in Telugu, local and official language of Andhra Pradesh. Telugu is not yet compatible to type with mobiles and hence the information to be shown cannot expect the user to type irrespective of literacy status. Users contribution for inputting has to be limited to numbers. And hence usage of audio bits is also considered to communicate.

Three important stages of the SHG transaction process in which significant information process happens by user are considered to apply the options of information design. They are

Enrolment

Pictures + Leaves	Symbols + Rows & Columns
-------------------	--------------------------

Financial Statement

Pictures + Leaves	Symbols + Rows & Columns
-------------------	--------------------------

Loan repayment pattern

Pictures + Leaves	Symbols + Rows & Columns	Graphs
-------------------	--------------------------	--------

Layout Options

After enrolment/registration

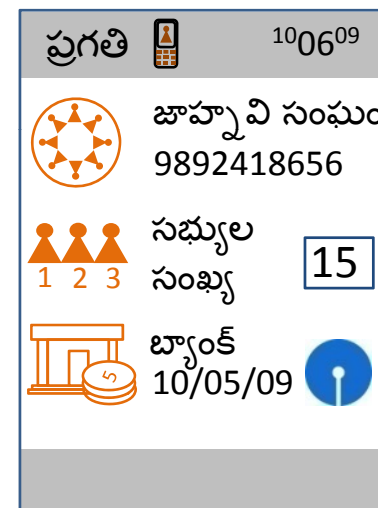
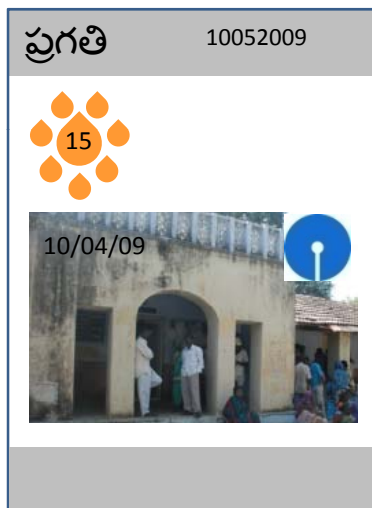
This would be the first screen the members would see, whenever the application is accessed over assigned mobile.



This representation using the pictures of locations related to group's function gives strong confirmation to the users. Group's identity is the through the picture and the code number.

Code number denotes name of the district (first letter), name of the Mandal, village and the group's number in VO. This code number will be entered by IKP official during registration. But this kind of codename for identifying the group may slowly make the groups' names redundant.

Pictures used represent the Village Gram Panchayat office where SHG meetings take place and second one is that of Bank.



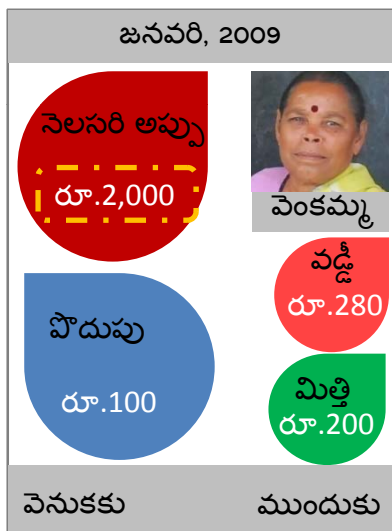
In this representation, symbols of functions through which members associate with SHG are extensively used along with text & audio.

For group identity, name of the group and the assigned mobile's number are to be shown because knowing the mobile number is critical for viewing the group's information on another mobile. Bank is to be represented by their Logo, which is easy to remember. Logos of banks are to be uploaded onto application by IKP office.

Layout Options

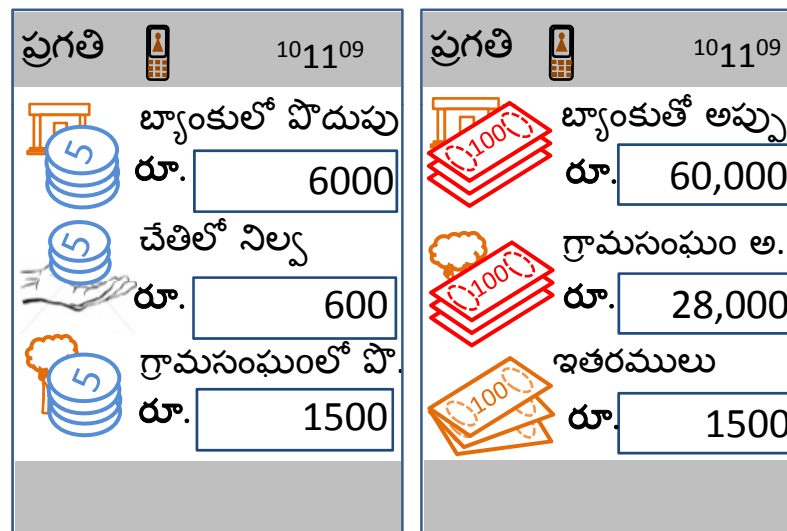
For financial statement

The financial statement is vital for members to clearly know the member's & the group's status so that they can plan for future accordingly. It shows the total savings, total loans to be repaid and present months payments.



Here these are shown using the colour leaves, with each colour representing the one kind of particular. Dark red is for the monthly installment, lighter red is for interest the member paying for the loan, blue one is for saving for the month etc.

And the orientation of leave denotes whether the money goes from or comes to the respective entity.



This option is to communicate to the users through extensive usage of symbols. And for semi-literates it is always supported by related text. Symbols are designed keeping in view the members arrange money during the meetings.

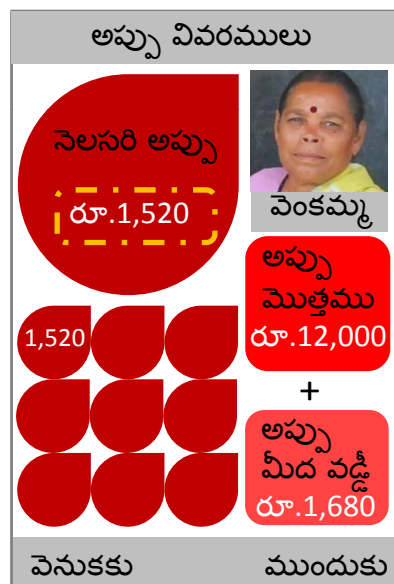
Savings are represented in coins and with blue colour because members save small thrift amounts. The minor change in the symbol differentiates the particulars between Savings to bank and saving to VO. Similar is the pattern for loans and are abstractly represented by currency notes and with red colour.

The colour coding like blue for savings, red for loans is the clue taken from Bank's practice with passbooks of SHG members.

Layout Options

For loan repayment

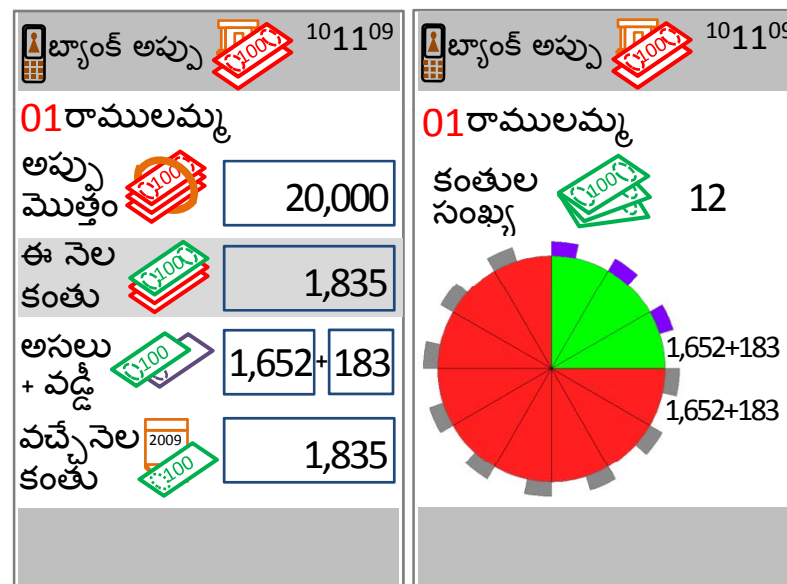
Users need to know two important parameters regarding loan repayment. One is loan repayment pattern i.e., the number installments, interest rate etc., and other is present month's repayment and its affect of next month.



This option is continuation of previous page's leaves concept with their orientation outwards denoting repayment.

The particulars related to loan, like installment, interest are in same colour but with light darker/ lighter shades.

Member's identification is through her picture. This option is not yet worked out for representing different types of loans i.e., bank loan, VO loan etc.



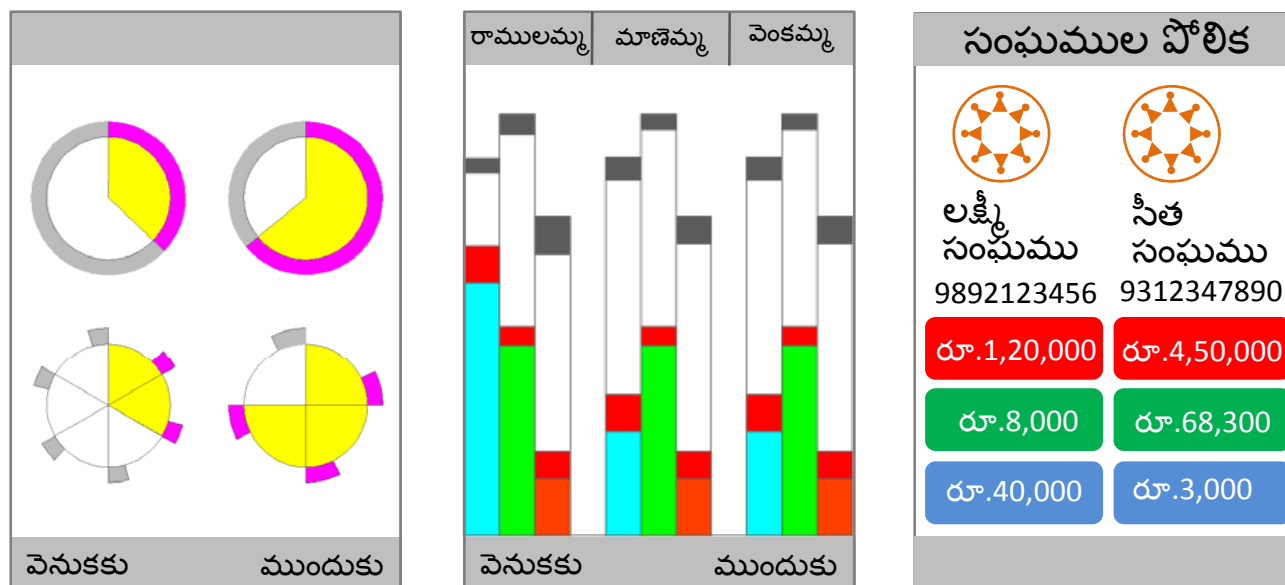
Here the idea is to focus on present month's payment and interest on first screen and total pattern through a graphic on subsequent one. The calculated user may not go to the next screen at all and can proceed to next process.

As the member enters present months payment, screen automatically shows the Principal and Interest parts of the amount paid and gives her idea about how much she is supposed to pay for next month.

Symbols vary for different kind of loans within the limits of similar graphical language. Pie chart denotes the number of installments (paid, to be paid, interests) and is inspired from the discussions with members as they were talking about repaying money in terms of fractions of total.

Layout Options

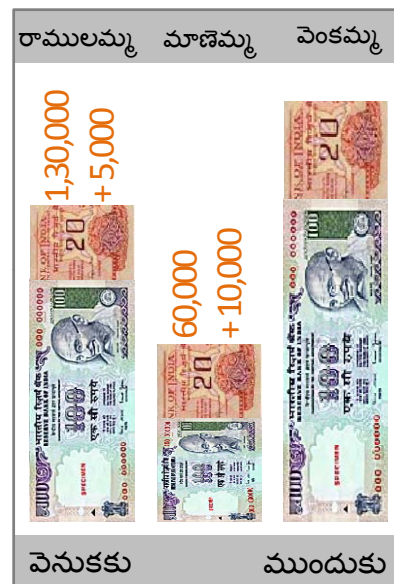
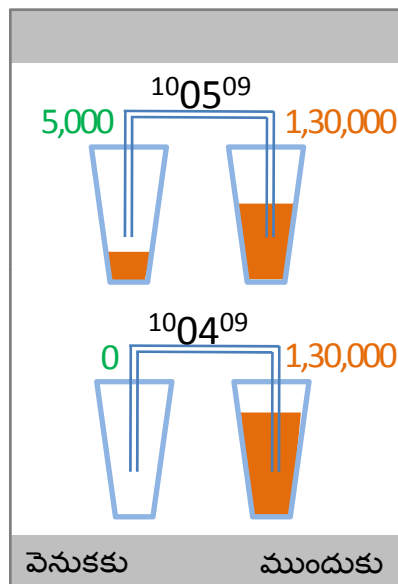
Graphs for comparison



Comparison is one of the effective ways of motivating SHG members. It was mentioned by the on field IKP officials as more productive method to get a group in line with others. They have observed this during their initial and later stages of SHG movement. Even during on field interactions when the discussion about bank loans or VO loans came, members compare with another group or village to enhance their stake for the next loan.

The comparison could be between the loans taken between the loans taken a member or a among members to understand their repayment pattern or between the groups to rate their performance on the basis of loans, savings etc.

Several attempts were done in terms of pie charts, bar charts, etc., despite the colour variations and bright colours users still to get the advantage of graphs and pursue the direct number visualization for monetary comparisons. Hence monetary comparisons shown on the lines of metaphor, Balance could be better useful.



బ్యాంక్ అప్పు			
అప్పు మొత్తం	తిరిగి కట్టినది	అప్పు మీద వడ్డీ	మిగిలిన అప్పు
12000			
	4500		7500
		530	
3000			
	2000		1000
		300	
3000			
	2000		1000
		300	
వెనుకకు			ముందుకు

ప్రగతి			101109
01 రామలమ్మ	1,30,000	5,000	
02 మాణెమ్మ	80,000	3,500	
03 దుర్గమ్మ	1,00,000	4,500	
04 పూలమ్మ	1,30,000	5,000	
05 పాపాయమ్మ	1,50,000	6,000	

Layout Options

Graphs for comparison

Few more options for comparison were done considering the metaphors being used in rural environment.

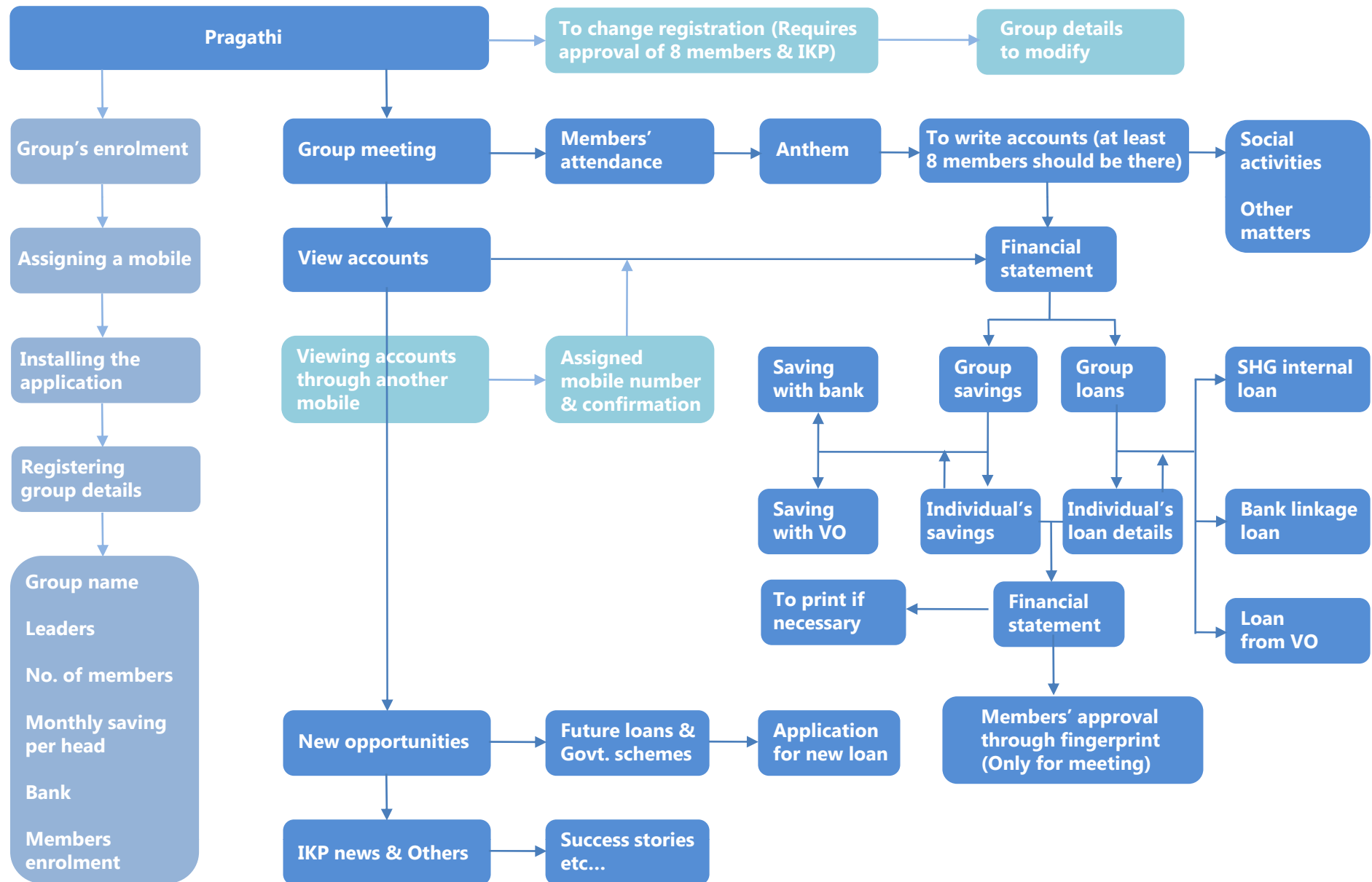
Eg: Money as fluid which gets transferred from one glass to other to represent loan payment and repayment. But because of space constraint the mobile screen, this option was not found suitable. Actual subject i.e., the difference in fluid levels remained too unrecognizable and showing other parameters of loans on the same symbol was nearly impossible. User might have to scroll through many screens to get a comprehensive understanding of the required data.

As members were seen arranging the money on floor in different columns during their SHG meetings, another option is to directly use currency notes to follow up the similar process on mobile screen. But this option has the limitation of maintaining the actual ratio of the currency note for legitimacy.

Regular tables form is slightly altered to keep emphasis on amount still to be paid. In this option several parameters for an individual's loan are arranged in stepped pattern to give an idea about which amount comes from where...

But this representation requires complete columns at once for comprehensive comparison among the members, where as mobile screen does not permit such luxury because of it's size.

Pragathi - Information Architecture



Pragathi

Scenarios – Stages of operation

Considering the complexity of the process, the design concept is explained with screenshots of prototype simulated over 3 scenarios detailing out 5-6 stages of SHG operation.

They are

SHG enrolment & registration.

Account details after enrolment in bank & MS.

Recording transaction during a meeting of SHG.

Entering savings & loan repayment details.

Individual member checking her own account details when the meeting is off.

Comparison between groups about their performance.

These stages overlap each other over three scenarios.

Scenario 1 : Enrolment

Akkamma, Madamma, Bhanumathi are the residents of remote Kalivemula village, Medak district. All three families come under poorest of the poor category as per Govt. standards and have heard about Self Help Groups through IKP's Community Resource Person (CRP) Suresh. Bhanumathi had studied up to 5th standard and other two are illiterates. All families have agriculture as main occupation and Akkamma has a mobile to talk to their son studying in near by town.

They have formed the group with 12 other like minded women in their vicinity of the village and have informed Suresh for the enrolment.

Suresh called for their first meet on coming sunday to enroll and register the group details. On the first meet after all members are present, Suresh explained about the functions of SHG and Pragathi system.

Members named their group as Durgabai Deshmukh Swayam Sahayaka Sangham (in short Durgabai Sangham) with Bhanumathi & Akkamma as their leaders. All have agreed to assign Akkamma's mobile for group transactions.

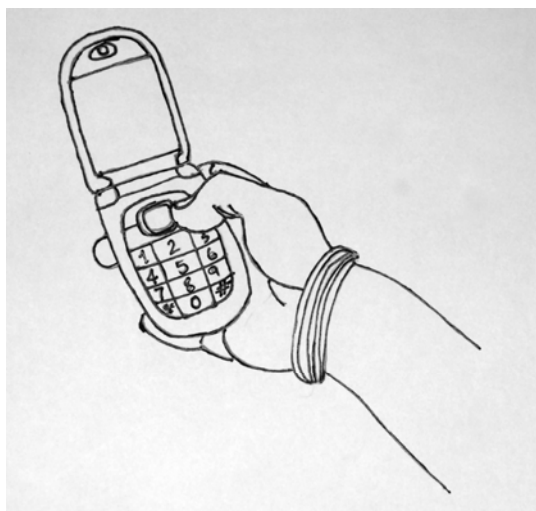
Suresh informed IKP server side at Mandal headquarters about the assigned mobile number. Server sends the Pragathi application online to the mobile.

Application gets installed onto the mobile. Name of the group, leaders' names are registered through audio and details like number of members, monthly saving can be entered onto the application by members themselves.

Every member is allotted a locket fitted with RFID/NFC tag which is registered with Pragathi and member's finger print is recorded through the specific device. Tag recognition helps for attendance, viewing account details and finger print is used to edit/enter the data during group meeting.

All members' names and their signatures will be taken in resolution book and copy of the same will be sent to bank and IKP.

Within a week bank allots the account number to the associated phone number and from then onwards mobile accounting on Pragathi becomes active for the group.



Scenario 1 : Enrolment



Opening the application
from menu



Only enrolment option is active
during the first interaction

Pragathi
Group's mobile number
Group enrolment
Meeting
To see accounts
News

Scenario 1 : Enrolment



First screen shows important details of group; to be entered

Group's enrolment
Assigned mobile no.
Name of the group
(through audio)
Names of leaders
(through audio)
Number of members
Monthly saving
per head



Entering Number of members,
Monthly saving

Scenario 1 : Enrolment



Group's enrolment

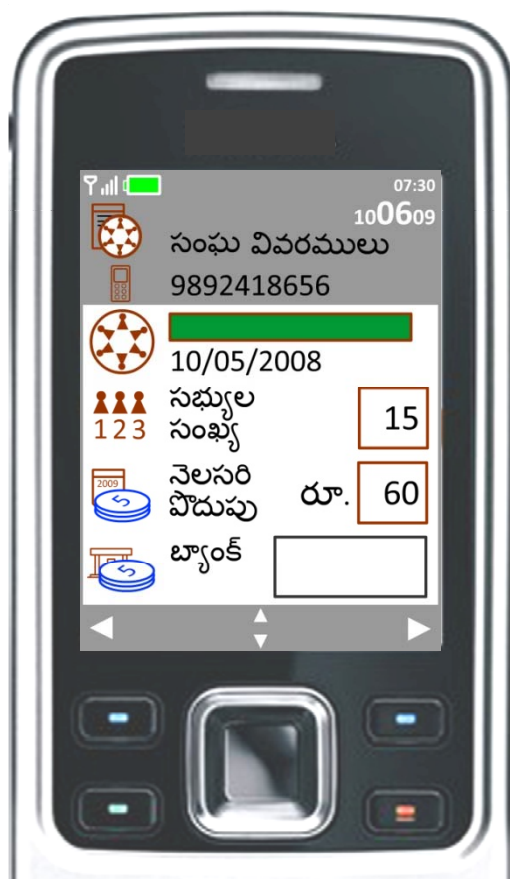
Member's name and registration

Enrolling members by recording names and registering with NFC compatible locket & Finger print



After enrolment of all members of the group, these details will be entered in IKP server side in a week.

Scenario 1 : Enrolment



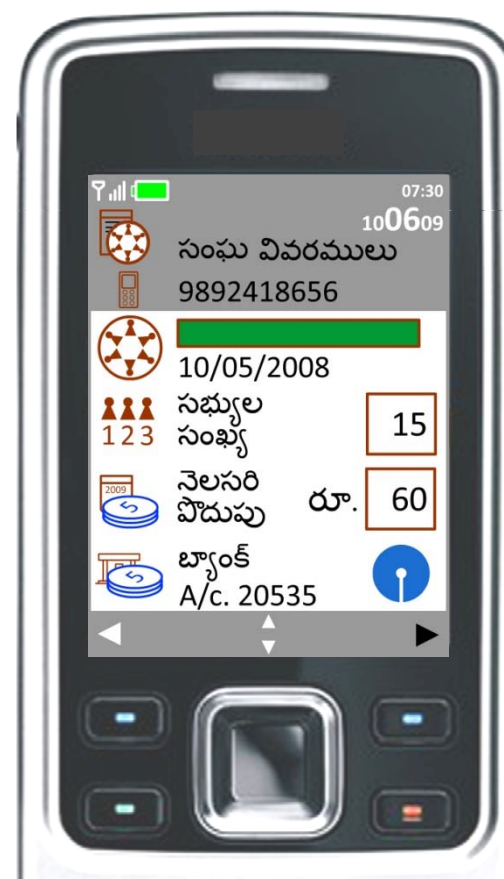
Group's details

Group enrolled date

Number of members

Monthly saving
per head

Bank's details



Bank awards the account number in a week and these details will be shown as first screen for the application whenever it opens on the mobile.

After the enrolment is done, screen shows the basic details of the group but the application can only be activated after receiving Bank's account number.



Scenario 2 : Group meeting

Kanipakam, Chittoor district has 30 self help groups which have been active for last 5 years. All the groups have recently started using Pragathi system for their record maintenance. Alivelu group has 12 members and they sat for a monthly meeting to pay savings and loans for the period.

Leader first takes attendance of the members present through confirmation by their lockets and then the application starts the anthem for which members have to sing chorus.

After the anthem each member's finger print will be taken and after the confirmation of at least 8 members, the group account details can be entered/ edited.

Then the Pragathi first shows financial status of the group by that time in terms of Savings in bank, cash in hand, Loans to be repaid etc..

Then to enter data, it starts with Savings by each member along with previous defaults and then each loan with all members and then entering details of any other amounts received and known expenditure details.

Then the application produces new financial statement on screen and which also can be printed on portable fingerprinting machine. The statement needs to be approved by all members before proceeding to next step or to close the meeting.

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Scenario 2 : Group meeting



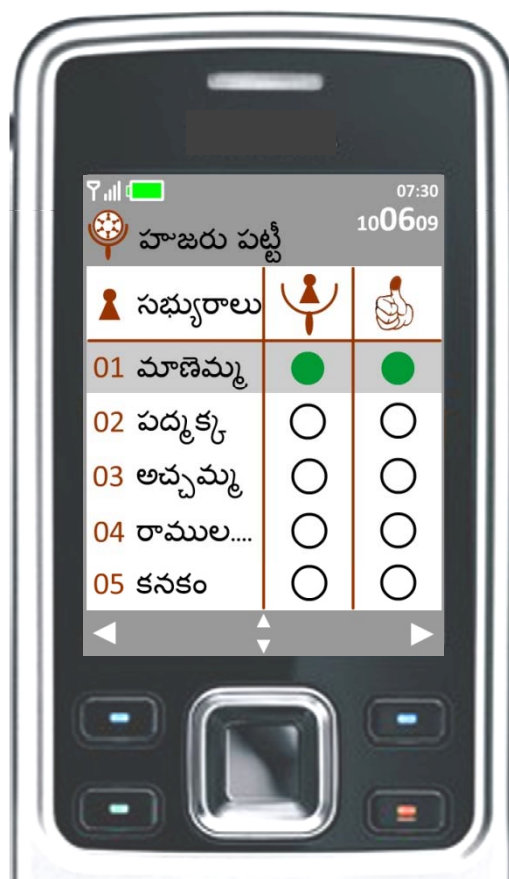
After opening the application, first screen shows important details about the group.



Next screen shows the access Meeting, Accounts and News

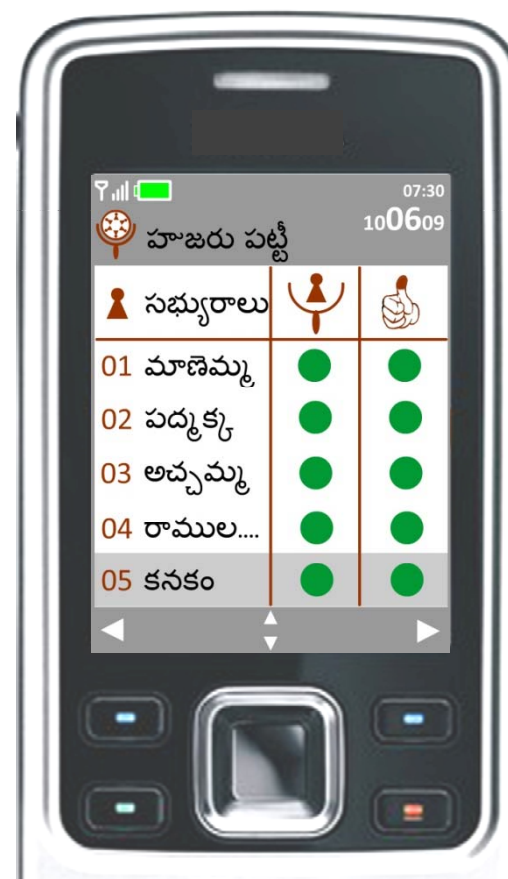
Pragathi
Group's mobile number
Group enrolment
Meeting
To see accounts
News

Scenario 2 : Group meeting



Attendance list
Through locket & fingerprint

Name of each member



After taking attendance of at least eight members only, next step in entering meeting details can be accessed.

Meeting starts with anthem and then taking attendance of the members through NFC locket & identifying them through fingerprint

Scenario 2 : Group meeting



Group Meeting

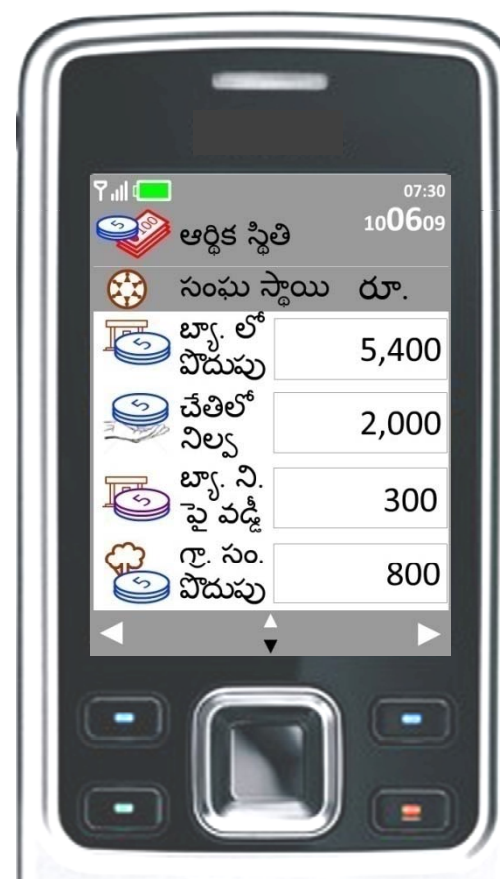
Financial status

Savings register

Loans register

Other expenses

After attendance, group can select the above mentioned options with default one being the group's financial status



Financial status
At group level

Savings in bank

Amount in hand

Interest over savings

Savings in VO

Financial status gives an out look of group's financial reserves & commitments by that month

Scenario 2 : Group meeting



Financial status
At group level

Bank loan to pay

VO loan to pay

Establishment
expenditure



Group Meeting

Financial status

Savings register

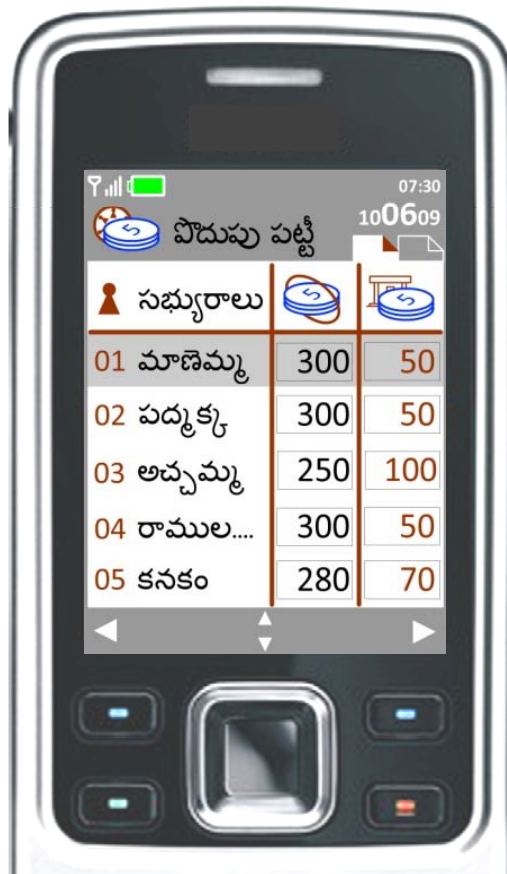
Loans register

Other expenses

Financial status, is only a statement and is printable through finger printer but user does not have to enter any data here

Entering the data starts with fulfilling the saving commitments for the month

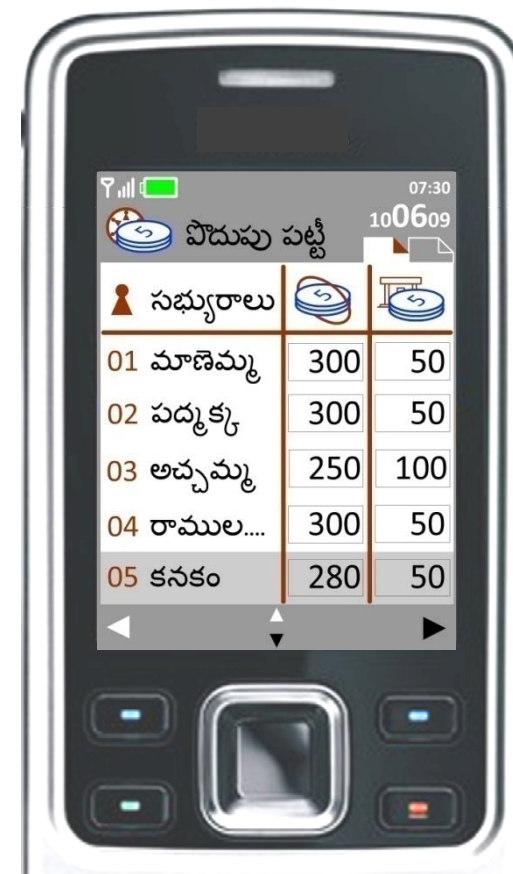
Scenario 2 : Group meeting



Savings register

Total savings & Savings in bank

To be paid by each member



Savings register

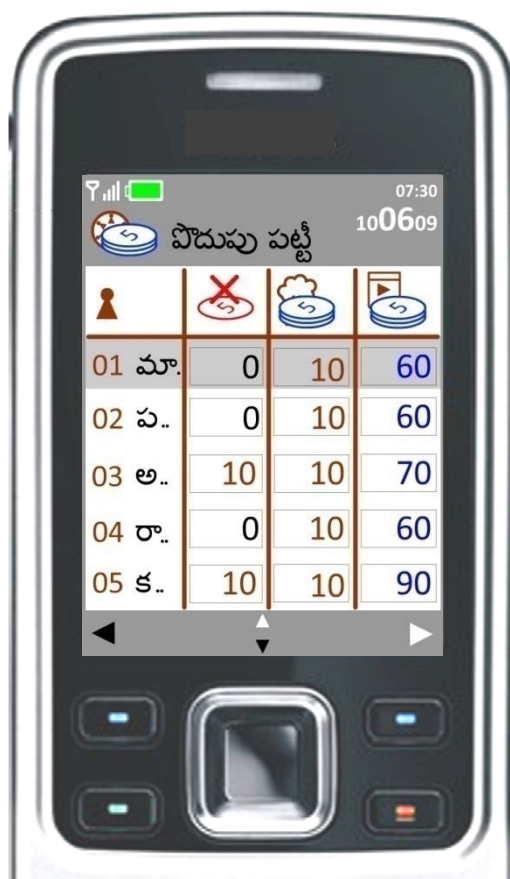
Total savings & Savings in bank

Amount paid by each member

Savings register shows the particulars of each member and highlights (blinks) the amount to be paid by each, one after other when the scroller reaches

Amount paid by each member for the month has to be entered

Scenario 2 : Group meeting



Savings register

Fine, Savings with VO and All savings to do for next month

To be paid by each member



Group Meeting

Financial status

Savings register

Loans register

Other expenses

After savigs are done, the register calculates and shows the amount to be paid for next month for each member including any fine to be imposed

After savings, next step is to enter loan repayments for the period

Scenario 2 : Group meeting



Loans register

At group level

Bank loan to pay

VO loan to pay

SHG Internal
loan to pay

Go to members



Bank loan register

For a member (name & no.)

Total loan value

**This month's installment
to be paid**

Break up of amount
Principal + Interest

Next month's installment

Loan register shows the above details pertaining to entire group and enter data about loans can be entered by accessing each members loan profile

At first details of bank loan is shown

Scenario 2 : Group meeting



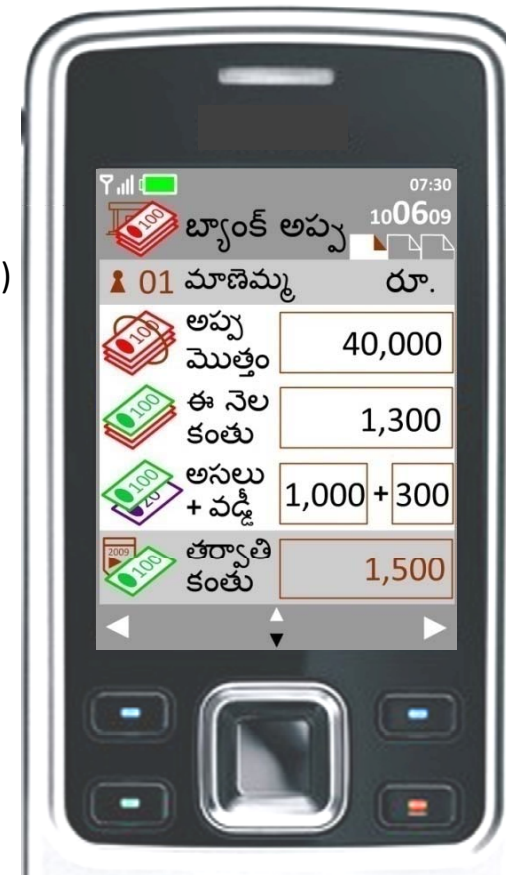
Bank loan register
For a member (name & no.)

Total loan value

This month's installment to be paid (blinks)

Break up of amount to be paid as Principal + Interest

Next month's installment



Total loan value

Amount paid

Break up of amount
Principal + Interest

Next month's installment

Application by default goes to the option where the member has to enter the amount for the month and it blinks the amount that is supposed to be paid. Application also displays the breakup of the installment

If the member pays less than what she is supposed to, Pragathi recalculates and informs the breakup for the month and how much to be paid for next month

Scenario 2 : Group meeting



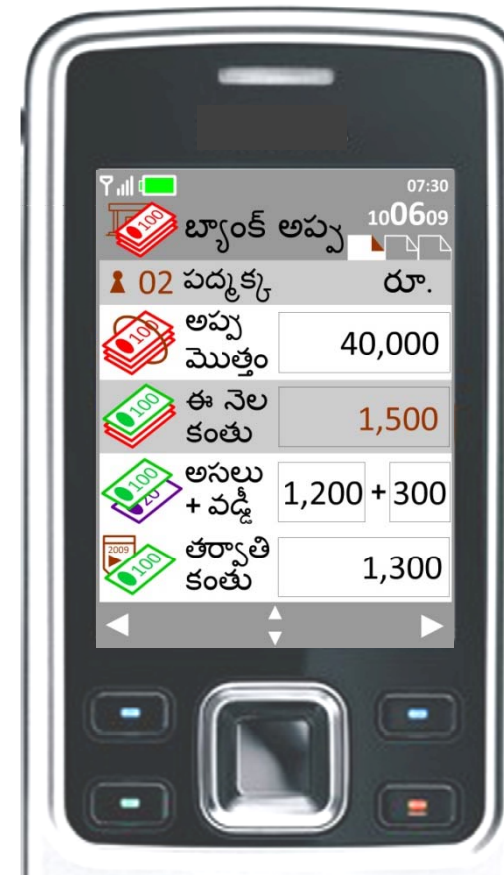
Bank loan register
For a member

Interest rate

Remaining loan
to pay

No. of installments
remaining

It also informs about future aspects of
the loan



Bank loan register
For a member (name & no.)

Total loan value

**This month's installment
to be paid (blinks)**

Break up of amount
Principal + Interest

Next month's installment

One after other same process is
repeated for all members for bank loan

Scenario 2 : Group meeting



VO loan register
For a member (name & no.)
Total loan value
This month's installment to be paid (blinks)
Break up of amount to be paid as Principal + Interest
Next month's installment

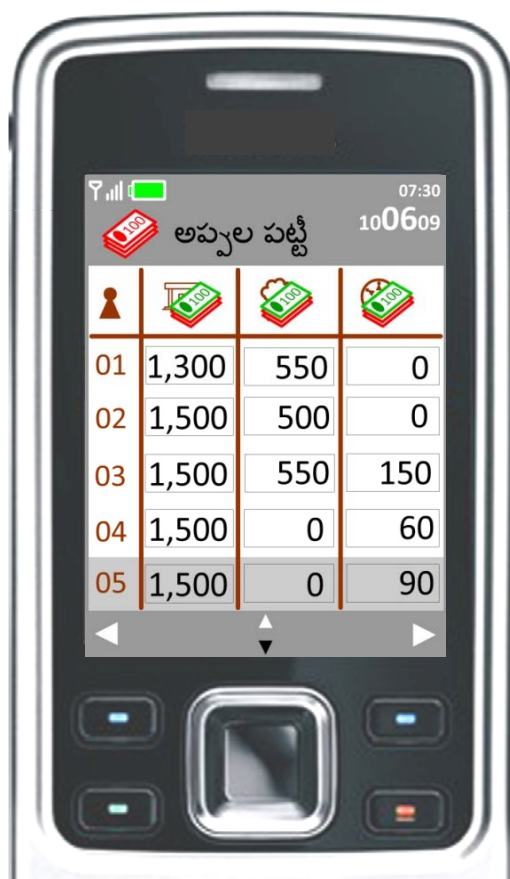
After the bank loan, application proceeds to VO loan particulars for every member in similar way



SHG loan register
For a member (name & no.)

After VO loan, members have to check their particulars related to SHG internal loan, where every member might not have any loan to repay

Scenario 2 : Group meeting



Loans register

Installments paid
for bank loan, VO
loan and SHG loan

Member by
member
particulars

After all loans repayments,
application shows the table of
installments paid by members for
different loans for confirmation &
comparison



Loans register

At group level

Bank loan to pay

VO loan to pay

SHG Internal
loan to pay

Next screen shows the total loan amounts
remained to pay from next month

Scenario 2 : Group meeting



Financial status
At group level

Savings in bank

Amount in hand

Interest over savings

Savings in VO



Financial status
At group level

Bank loan to pay

VO loan to pay

Establishment
expenditure

After all payment particulars are done for the month, application shows the financial statement of the group for the confirmation. This statement considers the payments done in present month also.

Scenario 2 : Group meeting



Approval

Through fingerprint

Approval by each
members



Group's details

Group enrolled date

Number of members

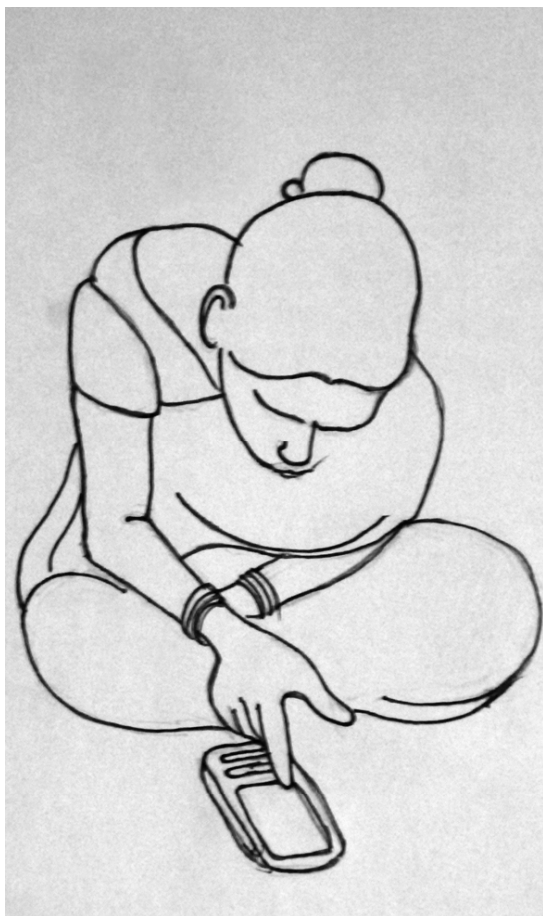
Monthly saving per head

Bank account details

Before closing the financial aspects of the meeting, the status has to be approved by all attended members and then only application records are sent to server

At the end of meeting, screen shows the group's details again before closing the application

Scenario 3 : Member viewing her account details



To view accounts

Achamma of Bhavani sangham, Gandikota, Kadapa district has come to her relative's place in a distant village for marriage. There was a village festival happening and she wants to buy some clothes in the festival for her and for her school going son.

She has some money but is hesitating as she has to pay some amount for the group loan in coming month. She wants to know how much exactly she has to pay for the loan so that she can spend some money now.

Then she took her relative's phone who is SHG leader in the village and wanted to check her account there itself.

Veeramma, entered her group's mobile number and confirmed her membership through her locket. Then she is able to view the accounts of her group first then her own details next.

Based upon the upcoming payment to be done, she did buy a good pair of clothes for the family and other amenities required for upcoming crop festival Pongal.

Scenario 3 : Member viewing her account details



Pragathi

Assigned mobile
no. of the group

To view accounts



To view accounts

Identity confirmation
through locket

Member's name &
number

To view accounts at individual level through a different mobile, members have to give the assigned mobile number of their group. They can also view news about happenings around in the domain.

After confirming the group's identity, the member has to confirm her identity through her locket to view accounts. She cannot edit any details but can view.

Scenario 3 : Member viewing her account details

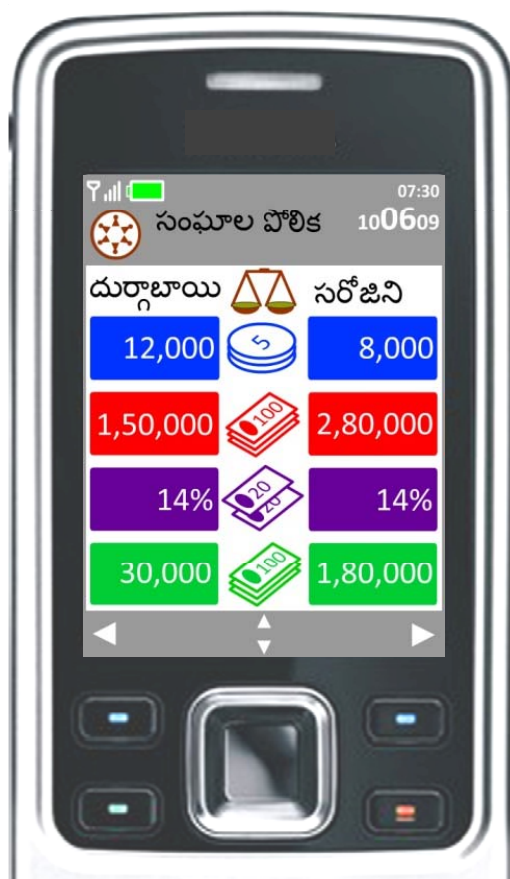


The members first sees her personal details in terms of savings and related aspects she has to do in the coming month.



Member also gets information about all installments she is supposed to pay for the month.

Comparison charts



Comparison between two groups

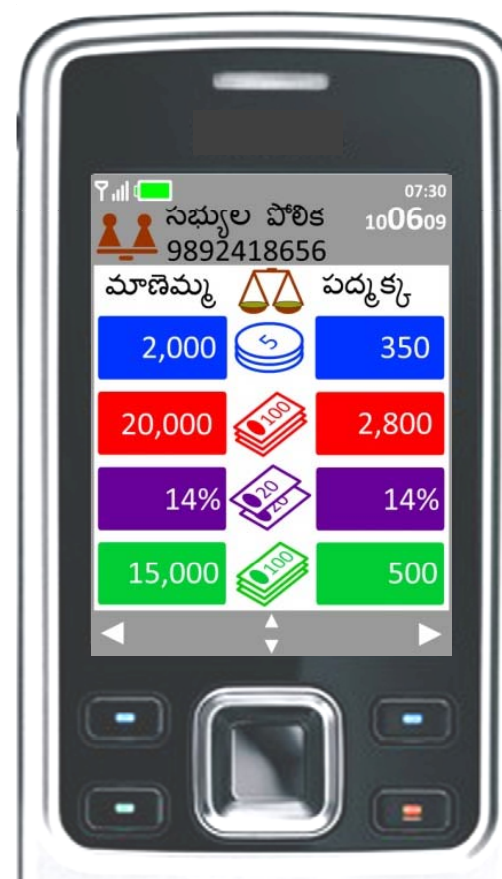
Groups' names

Savings so far

Bank linkage loan

Interest over loan

Loan amount repaid



Comparison between members of same group

Members' name

Application sends alerts and timely messages about groups' & members' performance in terms of comparison between them in savings & loans and to further motivate them to invest in productive manner. Above screens show comparisons along the lines of savings and bank loans taken.

Future scope

The Micro Credit Plan can also be digitized into Pragathi for future prospects. Through this complete financial status of the members' family is also known. Tracking the plan along with the loans will help the SHG system to push for disciplinary spending of money and productive investment of bigger loans.

At VO or Mandal level, Pragathi can be extended to collect information about available employment opportunities and distribute the same for job less youth in rural areas.

Pragathi can also be enhanced to provide market rates of products from nearby areas so that farmers will be better informed about returns on their crops.

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Mr. Purna Chandra Rao, APGVB
Mr. Punnaiah, SERP
Mr. Madhulatha, SERP
Mr. Mahesh, Zero mass
Mr. Rama Chandra Murthy, Hyderabad
Mr. Sarath Babu, Hyderabad
Mr. Biswajit, SoM
Mr. Ganesh, SoM

Self Help Groups at Patha Kandi, Kotha Kandi, Kalivemula, Ganagaram villages in Medak district and at Mudugandla, Korutla, Chandampeta villages at Nalgonda district and groups under Roshan Vikas Society, Old city, Hyderabad.

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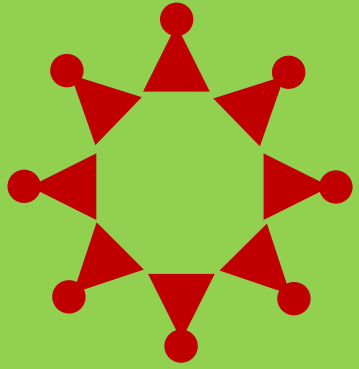
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Technology based system to support Self Help Groups of Andhra Pradesh



Guide : Prof. Anirudha Joshi

Vijayapavan Amaravadi

07633801

M.Des – Interaction Design

IDC, IIT Bombay

June 2009