CHAPTER I
INTRODUCTION AND METHODOLOGY

Access of finance by the poor and vulnerable groups is a prerequisite for poverty reduction and social cohesion. In fact, providing access to finance is a form of empowerment of the vulnerable groups. Financial inclusion denotes delivery of financial services at an affordable cost to the vast sections of the disadvantaged and low-income groups.

While financial inclusion can be substantially enhanced by improving the supply side or the delivery system it is also important to note that many regions, segments of the population and sub-sectors of the economy have a limited or weak demand for financial services. In order to improve their level of inclusion demand side efforts need to be undertaken including improving human and physical resource endowments enhancing productivity mitigating risk and strengthening market linkages.

A National Rural Financial Inclusion plan (NRFIP) may be launched with a clear target to provide access to comprehensive financial services including credit to at least 50 per cent of financially excluded households say 55.77million by 2012 through mural/semi – urban branches of commercial banks and regional rural banks the remaining house holds with such shifts as may occur in the rural /urban population have to be covered by 2015. Semi-urban and rural branches of commercial banks and RRBs may set for themselves a minimum target of covering 250 new cultivator and non-cultivator households per branch per annum with an emphasis on financing marginal farmers and poor non –cultivator only by leveraging technology to open up channels beyond branch network. The Business Facilitator/Business correspondent [BF/BE] models riding on appropriate technology can deliver this outreach and should form the core of the strategy for extending financial inclusion.

The poor find it difficult to access financial services through the formal sector because of the cumbersome procedure of formal institutions. Microfinance, through self-help groups has become an important instrument to meet the credit needs of the poor especially in the rural areas. Microfinance helps poor households meet their basic needs of credit. Moreover, they enjoy high credit ratings compared to the bigger
users of loans from financial institutions. The government initiative to help give credit to the poor has made Self-help Groups (SHG) Bank linkage programme in India as the largest microfinance programme in the world. The self-help groups which form the nucleus of the microfinance programme is a close – knot group which ensures high credit ratings as their repayment of loan is very high. However still there is a systemic in-built bias against small borrowers by formal banking systems who feel burdened with small and frequent transitions from small-time borrowers.

Microfinance Institutions [MFIs] could play a significant role in facilities inclusion as they are uniquely positioned in reaching out to the rural poor many of them operate in a limited geographical area have a greater understanding of the issues specific to the rural poor enjoy greater acceptability amongst the rural poor and have flexibility in operations providing a level of comfort to their clientele. There is a need to recognize a separate category of Microfinance Non-banking finance companies [MF-NBFCs] such MF-NBFCs could provide thrift, credit micro-insurance, remittances and other financial services up to a specified amount to the poor in rural semi- urban and urban areas such MF-NBFCs are business correspondents of bank for providing only savings and remittance services and also act as micro insurance agents.

The SHG-Bank Linkage programme can be regarded as the most potent initiative for delivering financial services to the poor is a sustainable manner. The programme has been growing rapidly and the number of SHGs financed increased to 29.25 lakhs on 31 March, 2007. The spread of the SHG Bank Linkage programme in different regions has been uneven with southern states accounting for the major chunk of credit linkage. Many States with high incidence of poverty have shown poor performance under the programme. The as on going efforts of NABARD to upscale the programme in the identified states need to be given a fresh impetus. NGOs have played a commendable role in promoting SHGs and linking them with banks. NGOs being local initiators with their low resources are finding it difficult to expand in other areas and regions. There is, therefore, a need to evolve an incentive package which should motivate these NGOs to diversify into other backward areas.

The SHG - Bank Linkage programme is now more than 15 years old. There are a large number of SHGs in the country which are well established in their savings
and credit operations. SHG - Bank Linkage has emerged as an effective credit delivery channel to the poor clients/tenant former, whose loan requirements are much larger but who have no collaterals to fit in to the traditional financing approaches of the banking system.

Inclusive development of women and underprivileged groups in India have been the major objectives of all planned strategy of development in India. Even the informal agency like Non-Governmental Organizations (NGOs) and traditional panchayats have involved themselves in working out a strategy that may change the social and economic conditions of people living in rural areas. In an era of globalization, liberal economic policies have accorded some priority in addressing problems of poor specially women belonging to the underprivileged groups.

In the eleventh five year plan an attempt has been made in a somewhat explicit manner to establish two way linkages between human development and overall economic progress. It is also felt that a sustained economic growth is not possible if its human resources especially women belonging to the underprivileged groups, suffer from malnutrition, illiteracy, poverty, poor health and unemployment. In order to ensure sustained disadvantaged groups who suffered from caste prejudices and patriarchy were identified as the major segment of human population who remained neglected. Need less to mention their exclusion from the process of development obstruct the goals of transformations of our society. Therefore priority of the Indian state has justly been shifted to alleviate their sufferings through microfinance. Microfinance refers to small savings, credit and insurance services extended to socially and economically disadvantaged segment of the society. In the Indian context terms like “small and marginal farmers”, “rural artisans” and “economically weaker sections” have been used to broadly define Microfinance customers. Microfinance implies providing financial products and services of small amounts to the rural poor including tribal communities. The primary micro financial services include micro savings, micro credit, micro insurance, and small money transfer. Micro lending is linked with the micro savings and inculcated the habit of thrift and to understand the importance of savings for investment is income generating activities through borrowing by the SHGs members.
The task force set up by National Bank for Agriculture and Rural Development (NABARD) had defined Micro – credit as “provision of thrift, credit and other financial services and products of very small amounts to the poor in rural, semi-urban and urban areas thereby enabling them to raise their income levels and improve living standards.” Most notable among recent approaches to improve access to finance for the rural poor is the “Self-help Groups (SHGs) – “Banking Linkage” model championed by the NABARD. Microfinance is a buzzard nowadays. It has attracted the attention of researchers since couple of years. Micro credit used by Self – Help Groups SHGs has empowered its numerous members in India and throughout the world socially, politically and economically. Especially, it has been a boon to the women members. Although micro – finance is not a panacea for the empowerment of its members residing in rural areas, still it has been able to bring about a lot of positive charges.

**Concept of Micro Financing and Self-help Groups**

Micro credit programmes are important institutional devices for providing small credit to the rural poor in order to alleviate poverty. This Grameen Bank is the pioneer Microfinance Institutions (MFIs) Later replicated in many other countries both by the government and non – government organizations.

The micro credit programmes influence savings in a number of ways. First of all, it inculcates a habit of regular savings and thrift, and the saving is made compulsory, which was absent previously. Secondly, the compulsory savings mobilized would be invested in productive activities, which in turn able to increase the employment, income and output. Third this increase in income would increase the purchasing power and effective demand one way the community and there by the standard of living and the economic development of the nations would improve.

**Statement of the problem**

In India, where agriculture is still predominant, women entrepreneurship has two dimensions. Rural entrepreneurship and urban entrepreneurship. In rural conditions, with women literacy rate still low, enterprises creation is looked more as a
source to supplement family incomes. Many of the rural women folk already engage themselves in weaving, handicraft making, agro-allied activities etc. but these are taken as secondary activities only. Many a times, very tiny, unviable units are started without any market orientations. These enterprises do not survive in the long run due to their inherent weaknesses. Organized efforts are required to develop these women into real and competitive entrepreneurs. Here the impact of the SHG movement is worth mentioning.

The SHG movement in India, especially in states like Andhra Pradesh, has come of age. It has acquired more prominence with a focus on the objective to alleviate poverty is rural areas also to empower women, particularly, the rural and semi – urban folks. The SHGs are now accepted as a sustainable social process to ensure ‘Empowerment at the Gross Root’, but social Empowerment is not possible without economic empowerment. Hence this study has done to know the performance, working and impact of the SHGs in Andhra Pradesh.

The mission of NABARD is to link one million SHGs with the overall banking systems by facilitating access of 100 million rural poor to formal credit system. A study of 560 member households from 233 SHGs spread over all states was conducted by NABARD in 1999. It found that there had been perceptible changes in the living standards of the SHG members, in terms of ownership of assets, increase in saving and borrowing capacity, income generating activities and the levels of income. A plethora of other studies conducted across the country so far have brought to list the microfinance has been advantageous to both banker and borrower. However, the results of quite a large number of studies available in literature have also found the formidable task ahead of the microfinance model of rural lending. Hence one more study at the micro level is not redundant.

Objectives of the study

The main objective of the study is to enquire into and assess the operational, managerial and impact dimensions of Microfinance through Self-help Group Bank linkage. The other peripheral objectives are:
1. to study the structure, conduct and performance of SHGs promoted under Bank linkage programme.
2. to review the genesis, and development of SHGs in India and particularly in Andhra Pradesh.
3. to study the functional issues and problems relating to SHGs.
4. to explain the dimensions and progress of Microfinance.
5. to examine the working of the Microfinance as an alternative strategy for women empowerment.
6. to focus on the modus operandi, progress and problems of SHG – Bank Linkage programme.
7. to identify the problems faced by SHGs and suggest measures to overcome their problems.
8. to suggest policy measures for effective and efficient functioning of SHGs.

Hypothesis

It is hypothesized that

1. There is no significant difference between the average monthly income of the SHG members and the expenditure incurred.

2. There is significant difference between the average monthly income and the quantum of SHG loans

3. There is no significant difference between the adequacy of sources of funds and the reasons for the irregular payments on the one hand and the average monthly income on the other.

4. The quantum of SHG loans received and the amount of expenditure incurred by the SHG members to avail the loans are not related.

5. There is no correlation between the reasons for dropouts among the SHGs.
Need for the study

In India, especially in rural India, as the result of sustained efforts towards poverty alleviation the incident of poverty has rolled down to some extent. Still during 1973-74 to 1993-94 there are over 37 per cent of the people below poverty line. A more recent estimate showed a further dip in poverty level down to 24 per cent in the year 2008. Understandly such a scenario is because of the programmes of poverty alleviation like DWCRA, TRYSEM, IRDP, PMRY, etc. Such programmes of rural upliftment of the poor may not have a massive impact but atleast some marginal impact can be felt. Microfinance and Self-help Groups programme is a popular micro credit source for rural poor particularly women who are generally neglected by the main streams of financial institutions for the lack of collateral security. Microfinance has emerged as an important alternative collateral free source of loan funds to help the rural poor to catch up with the growing economy.

In the area of Microfinance most notable among the approaches to improve access to finance for the poor is the Self-help Groups – Bank Linkage model. Andhra Pradesh is one of the pioneering and front line states in SHG movement. The West Godavari District in Andhra Pradesh is the granary of the state and dominated by rural villages. Out of the total population of the District (i.e.) 38,03,517 the rural population is 3052630 and the women population is 1514930. Moreover, though the district is the granary still poverty persists. The Microfinance through SHGs is an actively perceived programme in the district. The total number of SHGs in the district by the end of 2009 are 47,731 with a membership of 4,53,870. The present study is intended to assess the operational, managerial and impact dimensions of the SHG-Bank linkage model in the microfinance as it is warranted in view of the challenges and problems it is beset with in the present days.

Period of study

The study covers a period between 2000-2009 and the presentation of data for analysis is made for varying periods depending upon the availability of the data and the need.
Sample size

The present study is carried out in Andhra Pradesh with a specific focus on West Godavari District selecting all the four revenue divisions of the district which include Narasapuram, Kovvur, Eluru, Jangareddigudem division that respectively consist of 12, 12, 16 and 6 revenue mandals making a total of 46 mandals. Hence the present study followed stratified random sampling method in the selection of sample. Three mandals each from Narasapuram and Kovvur, four from Eluru and two from Jangareddigudem revenue divisions are randomly selected from each strata, there by making nearly 25 per cent of the mandals in each revenue division, namely Narasapuram, Kovvur and Eluru while 33.33 per cent of mandals in Jangareddigudem revenue divisions are covered for the study.

The number of groups from the select mandals constitutes 12394 groups out of which 5 per cent of sample the number of groups from each stratified mandal are selected for the study. Thus 620 groups i.e. (5 per cent of the number of groups in select mandals) consist of 157 groups (from three select mandals in Narasapuram division) 147 groups (from three select mandals in Kovvur Division) 229 groups (from four select mandals in Eluru Division) and 87 groups (from select two mandals in Jangareddigudem Division) are selected from each stratified mandals for the present study. It can be observed that each groups average sample size is 3 members thus making the total sample size stands at 1860 members which is found to be satisfactory at 95 per cent level of significance.

Data base and methodology

The study is based up on both primary data and secondary data. The sources of secondary data include a treasure of publications. These consist of the standard Books, specialized reports, published articles from reputed national and international journals. The institutional base for the secondary data- include NABARD, APMAS, NIRD, DRDA, the published data base and expert reports from these institutions constitute the prime sources of secondary data for the study.
The primary data is the cornerstone for the structure of the present study. To assess the role of SHGs and the problems inherent the perceptual reflections are scheduled to be elicited. For the purpose of collecting primary data a structured questionnaire is designed and canvassed among the select sample of the populations of SHG members across the select Revenue Divisions and Mandals of the West Godavari District in Andhra Pradesh. In selecting the sample of respondents due care is taken to have representation of the territorial and SHG – member population cross sections.

Tools and Techniques of analysis

For the purpose of analysis and to facilitate interpretation, simple statistical tools like percentages, averages, simple growth rate, compound annual growth rates, and are used.

Statistical tools such as Chi Square test, Reliability test, ANOVA, Kolmogorov Smirnov test, multidimensional scaling factor analysis and discriminant analysis are used for testing the hypothesis on SPSS for Windows Version 16.0 are used for the purpose of extensive analysis.

(i) Simple Growth Rate It merely gives the percent increase over the previous year i.e.

$$g = \left\{ \frac{K_t - K_{t-1}}{K_{t-1}} \right\} \times 100$$

$g =$ Growth Rate,
$K_t, K_{t-1}$ are the values of variables, and
$K$ in year’s t and t-1 respectively

(ii) Compound Growth Rate It works out change for a given period on the basis of the base year and the end year values, i.e.,

$$g = \left[ \frac{K_1}{K_0} \right]^{\frac{1}{t}} \text{−} 1 \times 100$$
Where \( K_1 \) and \( K_0 \) represents the values of variables at the end and basic year respectively,

't' is the time period between the base year and end year, and

'g' represents the compound growth rate.

(iii) **Mean** \( (\bar{X}) \): The mean value is obtained by adding together all the items and by dividing this total by the number of items.

\[
\bar{X} = \frac{X_1 + X_2 + X_3 + \ldots + X_n}{N} = \frac{\sum X}{N}
\]

Where, \( \bar{X} \) = Arithmetic value

\( \sum X \) = Sum of all the variables

\( N \) = Number of variables

(iv) **Standard deviation** Standard deviation measures the absolute dispersion. A small standard deviation means a high degree of uniformity of the observations as well as homogeneity of series, a large standard deviation means just the opposite. It may be calculated as follows:

\[
\sigma = \sqrt{\frac{\sum x^2}{N}} \quad x = (X - \bar{X})
\]

(v) **Cross Tabulation** Cross tabulation is a technique for comparing data from two or more categorical variables such as gender and selection by one’s company for an overseas assignment. Cross tabulation is used with demographic variables and the study’s target variables. The technique uses tables having rows and columns that correspond to the levels or code values of each variables categories. The combination of the variables with their values produces cells. Each cell contains a count of the cases of the joint classification and the row, column and total percentages. The number of row cells and column cells is often used to designate the size of the table. Their row and column numbers individually identifies the cells. Row and column totals, called marginals, appear at the bottom and right margins of the table. They show the counts and percentages of the separate rows and columns.
Cross tabulation is a first step for identifying the relationships between variables. When the tables are constructed for statistical testing, we call them Contingency tables and the test determines if the classification variables are independent of each other.

(vi) **Chi Square Test**  Chi Square is a test of agreement(or conformity or consistency) between a hypothetical and a sample distribution.

\[
\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i}
\]

\[\chi^2 = \text{Chi Square}\]

- \(O_i\) = Observed frequency in the \(i^{th}\) category.
- \(E_i\) = Expected frequency in the \(i^{th}\) category.

(vii) **Analysis of variance (ANOVA)** is a collection of statistical models, and their associated procedures, in which the observed variance is partitioned into components due to different explanatory variables. ANOVA gives a statistical test of whether the means of several groups are all equal.

**The F-test**  The F-test is used for comparisons of the components of the total deviation. For example, in one-way, or single-factor ANOVA, statistical significance is tested for by comparing the F test statistic to the F-distribution with \(I-1,nT-I\) degrees of freedom. Using the F-distribution is a natural candidate because the test statistic is the quotient of two mean sums of squares which have a chi-square distribution.

\[
F = \frac{\text{variance of the group means}}{\text{mean of the within-group variances}}
\]

\[
F^* = \frac{\text{MSTR}}{\text{MSE}}
\]

where:

\[
\text{MSTR} = \frac{\text{SSTR}}{I - 1}, I = \text{number of treatments}
\]
(viii) **Reliability analysis**  Reliability is the consistency of a set of measurements or measuring instrument, often used to describe a test. This can either be whether the measurements of the same instrument give or are likely to give the same measurement (test-retest), or in the case of more subjective instruments, such as personality or trait inventories, whether two independent assessors give similar scores (inter-rater reliability). Reliability is inversely related to random error.

\[
\rho_{xx'} = \frac{\sigma_T^2}{\sigma_X^2} = 1 - \frac{\sigma_E^2}{\sigma_X^2}
\]

where \( \rho_{xx'} \) is the symbol for the reliability of the observed score, \( \sigma_X^2, \sigma_T^2, \) and \( \sigma_E^2 \) are the variances on the measured, true and error scores respectively. Unfortunately, there is no way to directly observe or calculate the true score, so a variety of methods are used to estimate the reliability of a test.

(ix) **Cronbach’s alpha**  It is commonly used as an indicator of the internal consistency reliability of a psychometric instrument. Cronbach’s \( \alpha \) reports the reproducibility of the score or measure hierarchy for the current sample of persons according to a test consisting of a set of variables or items.

Cronbach’s \( \alpha \) is defined as

\[
\alpha = \frac{N}{N-1} \left( 1 - \frac{\sum_{i=1}^{N} \sigma_{Y_i}^2}{\sigma_X^2} \right)
\]

Where \( N \) is the number of components (items or testlets), \( \sigma_X^2 \) is the variance of the observed total test scores for the current sample of persons, and \( \sigma_{Y_i}^2 \) is the variance of component \( i \) for the current sample of persons.
\[ \alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}} \]

Where \( N \) is the number of components (items or testlets), \( \bar{v} \) equals the average variance for the current sample of persons and \( \bar{c} \) is the average of all covariances between the components across the current sample of persons.

(x) **Factor analysis** *Factor analysis* is a technique used to uncover the latent structure (dimensions) of a set of variables. It reduces attribute space from a larger number of variables to a smaller number of factors and as such is a "non-dependent" procedure (that is, it does not assume a dependent variable is specified).

Factor analysis is commonly used in data reduction, scale development, the evaluation of the psychometric quality of a measure, and the assessment of the dimensionality of a set of variables.

Regardless of purpose, factor analysis is used in the determination of a small number of factors based on a particular number of inter-related quantitative variables. Unlike variables directly measured such as speed, height, weight, etc., some variables such as egoism, creativity, happiness, religiosity, comfort are not a single measurable entity. They are constructs that are derived from the measurement of other, directly observable variables.

**Factor Analysis Model**

Each variable is expressed as a linear combination of factors. The factors are some common factors plus a unique factor. The factor model is represented as:

\[ X_i = A_{i1}F_1 + A_{i2}F_2 + A_{i3}F_3 + \ldots + A_{im}F_m + V_iU_i \]

where

- \( X_i \) = \( i \)th standardized variable
- \( A_{ij} \) = standardized mult reg coeff of var \( i \) on common factor \( j \)
- \( F_j \) = common factor \( j \)
- \( V_i \) = standardized reg coeff of var \( i \) on unique factor \( i \)
- \( U_i \) = the unique factor for variable \( i \)
- \( m \) = number of common factors
The first sets of weights (factor score coefficients) are chosen so that the first factor explains the largest portion of the total variance. Then a second set of weights can be selected, so that the second factor explains most of the residual variance, subject to being uncorrelated with the first factor. This same principle applies for selecting additional weights for the additional factors.

Statistics Associated with Factor Analysis

- **Bartlett's test of sphericity.** Bartlett's test of sphericity is used to test the hypothesis that the variables are uncorrelated in the population (i.e., the population corr matrix is an identity matrix)
- **Correlation matrix.** A correlation matrix is a lower triangle matrix showing the simple correlations, $r$, between all possible pairs of variables included in the analysis. The diagonal elements are all 1.
- **Communality.** Amount of variance a variable shares with all the other variables. This is the proportion of variance explained by the common factors.
- **Eigen value.** Represents the total variance explained by each factor.
- **Factor loadings.** Correlations between the variables and the factors.
- **Factor matrix.** A factor matrix contains the factor loadings of all the variables on all the factors
- **Factor scores.** Factor scores are composite scores estimated for each respondent on the derived factors.
- **Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy.** Used to examine the appropriateness of factor analysis. High values (between 0.5 and 1.0) indicate appropriateness.
- **Percentage of variance.** The percentage of the total variance attributed to each factor.

xi) **Multi Dimensional Scaling**

Multidimensional scaling (MDS) is a series of techniques that helps the analyst to identify key dimensions underlying respondents’ evaluations of objects. It is often used in Marketing to identify key dimensions underlying customer
evaluations of products, services or companies. Multidimensional scaling can help determine:

- what dimensions respondents use when evaluating objects
- how many dimensions they may use in a particular situation
- the relative importance of each dimension, and
- how the objects are related perceptually

The purpose of MDS is to transform respondents' judgments of similarity or preference into distances represented in multidimensional space. The resulting perceptual maps show the relative positioning of all objects. Multidimensional scaling is based on the comparison of objects. Any object (product, service, image, etc.) can be thought of as having both perceived and objective dimensions.

Perceptual mapping, and multidimensional scaling in particular, is most appropriate for achieving two objectives:

1. As an exploratory technique to identify unrecognized dimensions affecting behavior.
2. As a means of obtaining comparative evaluations of objects when the specific bases of comparison are unknown or undefinable

The strength of perceptual mapping is its ability to infer dimensions without the need for defined attributes. In a simple analogy, it is like providing the dependent variable (similarity among objects) and figuring out what the independent variables (perceptual dimension) must be.

The researcher must define a multidimensional scaling analysis through three key decisions: selecting the objects that will be evaluated, deciding whether similarities or preference is to be analyzed and choosing whether the analysis will be performed at the group or individual level.
The determination of how many dimensions are actually represented in the data is generally reached through one of three approaches: subjective evaluation, scree plots of the stress measures, or an overall index of fit.

One objective of the analyst should be to obtain the best fit with the smallest possible number of dimensions. Interpretation of solutions derived in more than three dimensions is extremely difficult and usually is not worth the improvement in fit. The analyst typically makes a subjective evaluation of the spatial maps and determines whether the configuration looks reasonable. This question must be considered, because at a later stage the dimensions will need to be interpreted and explained.

A second approach is to use a stress measure, which indicates the proportion of the variance of the disparities not accounted for by the MDS model. This measurement varies according to the type of program and the data being analyzed. Kruskal’s stress is the most commonly used measure for determining a model’s goodness of fit, and is provided in SPSS. Stress is minimized when the objects are placed in a configuration so that the distances between the objects best match the original distances.

A problem found in using stress, however, is analogous to that of \( R^2 \) in multiple regression in that stress always improves with increased dimensions. A trade-off must then be made between fit of the solution and the number of dimensions. We can plot the stress value against the number of factors to help us determine the optimal number of dimensions, in a similar technique to using a Scree Plot in Factor Analysis.

We can also use an \( R^2 \) measure as an index of fit, indicating the proportion of variance of the disparities accounted for by the MDS procedure.

(xii) Kolmogorov Smirnov test

Kolmogorov–Smirnov test (K–S test) is a form of minimum distance estimation used as a nonparametric test of equality of one-dimensional probability distributions used to compare a sample with a reference probability distribution (one-sample K–S test), or to compare two samples (two-sample K–S test). The
Kolmogorov–Smirnov statistic quantifies a distance between the empirical distribution function of the sample and the cumulative distribution function of the reference distribution, or between the empirical distribution functions of two samples.

The Kolmogorov–Smirnov test may also be used to test whether two underlying one-dimensional probability distributions differ. In this case, the Kolmogorov–Smirnov statistic is

\[ D_{n,n} = \sup_x \left| F_{1,n}(x) - F_{2,n}(x) \right|, \]

where \( F_{1,n} \) and \( F_{2,n} \) are the empirical distribution functions of the first and the second sample respectively.

(xi) **Discriminant Analysis**

Discriminant analysis joins a nominally scaled criterion or dependent variable with one or more independent variables that are interval–or- ratio scaled. Once the Discriminant equation is found, it can be used to predict the classification of a new observation,

This is done by calculating a linear function of the form

\[ D_i = d_0 + d_1X_1 + d_2X_2 + d_3X_3 + \cdots + d_pX_p \]

Where \( D_i \) is the score on Discriminant function i.

The \( d_i \)'s are weighting coefficients; \( d_0 \) is constant.

The X’s are the values of the discriminating variables used in the analysis.

A single Discriminant equation is required if the categorization calls for two groups. If three groups are involved in the classification, it requires two Discriminant equations. If more categories are called for in the dependent variables, one needs N-1 discriminant functions.
While the most common use for discriminant analysis is to classify persons or objects into various groups, it can also be used to analyze known groups to determine the relative influence of the specific factors for deciding into which groups various cases fall.

For the purpose of extensive calculations, software packages such as SPSS, Statistica are applied.

**Limitations of the study**

Though the study is schematically desire to arrive at observations of accuracy and pragmatism, it is not without limitations though minor in nature. Some of the limitations include

1. The sample was taken only from the Self-help Groups located in the West Godavari District of Andhra Pradesh. Hence the results of the study cannot be absolutely generalized to the Self-help Groups located in entirety.
2. The study highlights the operational, managerial and impact dimensions of microfinance through SHGs-Bank linkage programme only.
3. The respondents are reluctant to divulge certain vital information and to that extent the findings may be affected.
4. The tools of analysis like averages, and percentages are adjusted to the nearest decimal point which affects the absolute accuracy.

**Chapter Setting**

For a comprehensive presentation of the study the layout of the presentations is identified to have Eight Chapters. The chapter contents are follows.

Chapter one is christened as Introduction and Methodology and contains the objectives, scope of the study, need for the study, Data base and Methodology, tools of analysis, Limitations, and the present chapter setting.

Chapter two is Review of Literature. In this chapter various Books, Reports, Standard articles, both from national and international sources and other studies of
research including expert reports are reviewed in brief to identify the research gap and to highlight the significance of the present study.

Chapter three is a comprehensive focus on Microfinance.

Chapter four explains the magnitude and progress of SHG-bank linkage in India.

Chapter five explains the status of SHG-bank linkage in Andhra Pradesh.

Chapter six presents a profile of the West Godavari District – the district under specific study.

Chapter seven is an analysis of operational, managerial and impact dimensions of SHGs through perceptual analysis.

The last and the eighth chapter is a canvas of the summary and suggestions.