

**ROLE OF MICROENTERPRISES ON WOMEN EMPOWERMENT
AND POVERTY ALLEVIATION: A CASE STUDY OF NELLORE
DISTRICT OF ANDHRA PRADESH**

A thesis submitted to the University of Hyderabad in partial fulfilment of

The requirement for the award of

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IN

ECONOMICS

By

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OCTOBER-2020



CERTIFICATE

This is to certify that the research work embodied in the present thesis entitled **“ROLE OF MICROENTERPRISES ON WOMEN EMPOWERMENT AND POVERTY ALLEVIATION: A CASE STUDY OF NELLORE DISTRICT OF ANDHRA PRADESH”** submitted by **MR. BALAJI VEJJU** bearing registration number 14SEPH17 in partial fulfilment of the requirements for award of Doctor of Philosophy in the School of Economics is a bona fide work carried out by him under our supervision and guidance.

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- A. Published in the following publications: BalajiVejju (2018) “Role of Self Help Groups (SHGs) on Women Entrepreneurship in Andhra Pradesh”, International Journal of Research in Management, Economics and Commerce, Indus. (UGC No. 48542)
- B. Published in the following publications: BalajiVejju (2018) “Women Entrepreneurship in Micro, Small and Medium Enterprises (MSME) Sector of Andhra Pradesh”, International Journal of Research in Engineering, IT and Social Science, Indus. (UGC no. 42301)
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Further, the student has passed the following courses towards fulfillment of the coursework requirements for Ph.D. Degree.

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DECLARATION

I **BALAJI VEJJU**, hereby declare that this thesis entitled “**ROLE OF MICROENTERPRISES ON WOMEN EMPOWERMENT AND POVERTY ALLEVIATION: A CASE STUDY OF NELLORE DISTRICT OF ANDHRA PRADESH**” submitted by me under the guidance and supervision of **DR. G SRIDEVI**, Associate Professor , School of Economics, is a *bona fide* research work, which is also free from plagiarism. I also declare that it has not been submitted previously in part or full to this University or any other University or Institution for the award of any degree or diploma. I hereby agree that my thesis can be deposited in SHODGANGA / INFLIBNET.

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ABBREVIATIONS

MSME: Micro, Small and Medium Enterprises

SHG: Self-Help Group

GDP: Gross Domestic Product

GNP: Gross National Product

TNCDW: Tamil Nadu Corporation for Development of Women

MSMED: Micro, Small and Medium Enterprises Development

GES: Global Entrepreneurship Summit

MUDRA: Micro Units Development and Refinance Agency Bank

UAM: Udyog Aadhaar Memorandum

SEM: Structural Equation Model

EFA: Exploratory Factor Analysis

CFA: Confirmatory Factor Analysis

KMO: Kaiser-Meyer-Olkin

DRDA: District Rural Development Agency

AAPC: Average Annual Percentage Change

CAGR: Compound Annual Growth Rate

SI: Sustainability Index

NABARD: National Bank for Agriculture and Rural Development

GMCM: Gram Mooligai Company Limited

NSSO: National Sample Survey Organization

CR: Composite Reliability

AVE: Average Variance Extracted

MSV: Maximum Shared Variance

ASV: Average Shared Variance

CFI: Comparative Fit Index

TLI: Tucker Lewis Index

NNFI: Non-Normed Fit Index

RMSFA: Root Mean Square Error of Approximate

CHAPTER-I

INTRODUCTION

1.1 Introduction

Strong roots of caste and gender discrimination, benefits of women and socially marginalized groups from the faster growth of the economy is a big puzzle in India. "India has achieved the target of reducing poverty by half, with 21.9% of its 1.2 billion people living below the poverty line or having an income of less than \$1.25 a day" (U.N. report 2011). Yet India has one-fourth of the world's poor and more than one-third of its children are in a malnourished condition (WHO 2015). Almost half of India's population is deprived of adequate nutrition, safe drinking water, basic health care, education, etc. (WHO 2008). Social empowerment of any society comes from economic empowerment, and this depends on self-employment or economic independence. The creation of self-employment for the Women and socially marginalized groups in rural areas leads to economic transformation thereby creates social empowerment. In recent days MSME sector plays a crucial role in the Indian economy after the primary sector that is the reason the Government treats the Micro, Small and Medium Enterprises (MSME) sector as an empowerment tool for poor. Micro, Small, Medium Enterprises (MSMEs) sector more suitable for the women and socially marginalized group's entrepreneurs with low capita, may result in the empowerment of women and socially marginalized sections of rural segments (USAID 2015).

Disguised unemployment is a major problem in Indian Agriculture, heavy and large scale industries are unable to employ additional population, semi-skilled, and unskilled labour. Micro, Small, Medium, Enterprises (MSMEs) sector, especially microenterprises are providing the solution for the problem of disguised unemployment of unskilled and semi-skilled labour. Government of India has been identified MSME sector provides solutions for the unemployment, poverty, inequality in rural India, the Ministry of MSME formulating various policies, promotional programs, projects and schemes to scaling up and strengthening of MSME sector in India. According to the Annual report of MSME 2019-20, MSME Sector accounting of 42.50 million enterprises, employees over 106 million persons and contributing 8 % share to GDP with more than 6000 products, occupies manufacturing output share of 45% and export share is 40% in India. MSME manufacturing units accounted 6.11 percentage share, service enterprises contributing 24.63 percentage share in India's GDP.

1.2 Changing Context of Microenterprises

The concept of Self Help Groups (SHGs) gained more significance in 1976 with Professor Mohammed Yunus, who started the innovative schemes called micro-credit and women SHGs in Bangladesh. The strategy made a quiet revolution in Bangladesh in poverty eradication ‘by empowering the poor women’ (UNDP, 1994). Members of SHGs are engaged in credit and saving, as well as in other activities like microenterprise establishment, child care and nutrition, family health, etc.

The Tamil Nadu Corporation for Development of Women Ltd. (TNCDW) in its credit guidelines for the SHGs defines ***“as a small economically homogenous affinity group of rural poor, voluntarily formed to save and contribute to a common fund to be lent to its members as per group decision and for working together for social and economic uplift of their family and community”***.

The Self-Help Group movement is an innovation in the field of rural credit. Poor women join hands together for sharing common economic problems, the group members come together to save a tiny amount regularly and satisfy their important needs on a mutual aid basis. Self Help Group (SHG) will grant small loans to the women in general, rural women in particular to encourage them into entrepreneurial activities (Banerjee, et al. 2015). It facilitates a forum for discussion and resolution of their social and economic problems at a common platform. SHGs through microenterprises development provide managerial strength among members and enhance basic skills for understanding monetary transactions etc.

The Micro, Small and Medium Enterprises (MSMEs) sector occupies second place in the employment generation to semi-skilled and unskilled labour after the agriculture sector that is the reason MSME sector is equated to an engine of economic growth (Balbir B. Bhasin 2010) and plays an import role in the rural development by providing high employment opportunities. The present growth of the Indian economy is more than 7% but in terms of welfare, however, India stood on 130th rank among the 188 nations (HDI report 2015).

Micro, Small, Medium Enterprises Development (MSMED) Act, 2006 is one of the milestone for MSME sector. Development of women entrepreneurship in India is one of the primary objective of MSMED Act, 2006.

Micro, Small, Medium Enterprises Development (MSMED) Act, 2006

The Micro, Small, and Medium Enterprises Development (MSMED) Act, 2006 is a milestone for the Micro, Small and Medium Enterprises sector in India. On 16th June 2006 MSMED bill 2005 has been passed by the parliament and came into force from 2nd October 2006. Based on the recommendations of Abid Hussain committee MSMED Act was formulated and the prime objective of this act is to enhancing and strengthening of the Micro, Small and Medium Enterprises sector in India. “An act to provide for facilitating the promotion and development and enhancing the competitiveness of Micro, Small and Medium enterprises and matters connected therewith or incidental thereto” (MSMED Act, 2006).

Objectives of the MSMED Act:

- 1) To provide legally free markets to enhance the MSME sector.
- 2) To improve the healthy competitiveness of the MSME sector.
- 3) To ensuring the timely and smooth flow of credit in the MSME sector.
- 4) To solve the problems in delaying MSME sector payments.

The Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 has given a legal framework for the concept of “Enterprises” and enterprises are divided into two categories based on the nature of the business namely;

- ***Manufacturing Enterprises:*** The enterprises who are involved in the process of manufacturing and production of goods.
- ***Service Enterprises:*** The enterprises who are involved in the process of providing and rendering services.

Definition of MSMEs: The Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 has divided enterprises into three broad categories based on their investment ceiling, namely;

- Microenterprises.
- Small Enterprises.
- Medium Enterprises.

Table 1.1
Classifications of the MSME sector in India.

Manufacturing	
Enterprise	Investment Limit
Micro	Less than 25 lakh.
Small	25 lakh - 5 crore.
Medium	5 crore - 10 crore.
Service	
Enterprise	Investment Limit
Micro	Less than 10 lakh.
Small	10 lakh - 2 crore.
Medium	2 crore - 5 crore.

Source:MSMED Act, 2006.

Manufacturing Enterprises:

- An enterprise with interment below Rs. 25 lakhs called as a “Micro Enterprises”.
- An enterprise with interment between Rs. 25 lakhs to Rs. 5 crores called as a “Small Enterprises”.
- The enterprises said to be a “Medium Enterprises” if the investment limit between Rs.5 crores to Rs.10 crores.
-

Service Enterprises:

- An enterprise with interment below Rs. 10 lakhs called as a “Micro Enterprises”.
- An enterprise with interment between Rs. 10 lakhs and Rs. 2crores called as a “Small Enterprises”.
- The enterprises said to be a “Medium Enterprises” if the investment limit between Rs.2 crores to Rs.5crores.

1.3 Microenterprises and Development of Women Entrepreneurship

The model of women entrepreneurship is a recent phenomenon, women who are engaged in the process of manufacturing of commodities and rendering services are known as women entrepreneurs (IFC 2014). Social and political empowerment of women can be achieved through the economic empowerment of women (Rathirane, Y et.al 2015). Women are believed to play a significant role in the socio-economic development of the nation; in the era of globalization, the role and status of women have been changing significantly in all sectors of the economy (Attanasia, O et al 2015). Most of the studies found that knowledge and skillset of women are higher than men, women are the efficient management of all resources in all the sectors of the economy (De Ferranti, D et.al. 2002). The government of Andhra Pradesh has been identifying that women empowerment as a developmental tool for the rural economy and can alleviate rural poverty. Government of Andhra Pradesh has been extending its efforts to empower women through linking the self Help Groups with MSMEs, thereby encouraging the self Help Group movement in Andhra Pradesh. Government of Andhra Pradesh has been creating a platform for the women entrepreneurs through Self Help Groups (SHG) and subsidized institutional credit in rural segments.

The governments at the center, states and various NGOs have been consistently using Self Help Groups (SHGs) as a powerful tool to alleviate the poverty since the 1990s. State of Andhra Pradesh accounted 7, 03,392 SHGs among the 13 districts (Ministry of Rural Development 2020). The Government introduced SHG-Bank Linkage scheme of the 1990s with “Velugu Society for Elimination of Rural Poverty (SERP)” through District Rural Development Agency (DRDA). In recent times Self Help Groups (SHGs) deal with more issues like Gender, Family, Child labor, Disability, Health and Poverty in rural segments. Andhra Pradesh stood first at the national level with 30% share, and 98% share in recovery. The Government disbursed Rs15, 000Crores per year SHGs Bank Linkage in the real segments of the Andhra Pradesh (SERP 2020). For the Financial year (2019-20) the government disbursed Rs. 17, 395.64 Crores to 5, 22, 53 SHGs in rural areas (SERP 2020).

YSR Asara scheme main objective is to promote empowerment of women through developing entrepreneurial skills woman. The Government has reimbursed the outstanding loan amount of SHG women as on 11th April 2019 in four installments. Total amount of Rs. 27, 169

crores have been sanctioned for four years, the Government has sanctioned Rs. 6, 792.21 crores as a first installment on 11th September 2020. This would benefit a total of 9, 33, 180 groups with 90 lakh women members. Pavala Vaddi scheme introduced by Government of Andhra Pradesh for SHG women who are willing to take loan from the banks, will get the subsidy. Sree Nidhi scheme was implemented by the government of Andhra Pradesh with Mandala Mahila Samakya, to offer livelihood to Self Help Groups. This is also a part of SERP for alleviating the rural poverty. The requested financial assistance will deposit SHG's bank account numbers within 48 hours after getting approval from village level organizations.

1.4 Need for the study

Does Microfinance services need for the development of the women microenterprises? In general, banks may not come forward to give small loans however, the banking system causes "imperfections in financial markets that constrain small borrowers access to credit" (Webster, 1991). There are several reasons (Waterfield 1993); (i) Small and microenterprises lack securities or collaterals (ii) Small and microenterprises lending IS riskier (iii) High administrative costs for small enterprises (iv) Small microenterprises are unable to maintain documents to show their business, (v) Banks are biased towards lending to large enterprises.

The present study focuses on the role of SHGs on women empowerment and the role of microenterprises on the empowerment of SHGs promoted women micro-entrepreneurs, and poverty in Andhra Pradesh Kavali mandal. Secondary data was collected from 1940 to October 2016 from Udyog Adhar Memorandum (UAM) from the Directorate of industries Andhra Pradesh, related to Number of enterprises, Gender wise registered enterprises and investment, Social category wise registered enterprises and investment in MSMEs was collected. Based on the secondary data Kavali Mandal of Nellore district in Andhra Pradesh was selected for the primary study. No study with reference to impact of SHGs on employment, income generation and women empowerment exists at micro level in this particular mandal.

1.5 Objectives of the Study

- To Examine SHGs contribution to Income and employment generation of Microenterprises of Nellore district in Andhra Pradesh.
- To study the sustainability of microenterprises promoted by SHGs of Nellore district in Andhra Pradesh.
- To assess the role of Microenterprises on women empowerment and alleviation of poverty at micro level.

1.6 Methodology of the Study

The present study is based on both primary and secondary data.

Primary data is mainly collected with the help of a schedule method and in-depth interviews from Self Help Group (SHG) promoted women microenterprises in rural and urban segments of the study area. The study has used Stratified Simple Random technique in the sample collection. There are around 2854 micro-enterprises in the Nellore district of Andhra Pradesh, out of which 1199 microenterprises are located in the Kavali Manadal. Total 530 Self Help Group (SHGs) promoted women microenterprises have selected for the study, 310 Self Help Group (SHG) promoted women microenterprises have selected from rural areas, out of which 200 responses received for the study and 220 Self Help Group (SHG) promoted women microenterprises have selected for the study but the study got 100 responses in urban segments of the study area. Explanatory Factor analysis, Confirmatory factor analysis, and Structural Equation Modelling (SEM) have been used to examine the impact analysis of Self Help Groups on microenterprises. To measure the relationship between the variables and factor loadings, the study will be using the two types of factor analysis, namely;

1. Exploratory Factor Analysis (EFA)
2. Confirmatory Factor Analysis (CFA).

Exploratory Factor Analysis will be used to categorize or group the observed variables into the same factor component. Explanatory Factor Analysis also uses the dimension reduction of the observed variables. To measure the relationship between the variables (Observed and Latent variables) the study will be using the “Kaiser-Meyer-Olkin (KMO)” test and “Bartlett's Test Sphericity”. Confirmatory Factor Analysis (CFA) is used to measure how well the variables are

grouped and it is multivariate statistical procedures. Confirmatory Factor Analysis (CFA) will test whether the data is best fitted for the theory proposed model and validate the model by the grouping of variables into factor components. The study has been using both social and economic sustainability indexes to measure the overall suitability of micro-enterprises. The Paired t-test has been used to measure the level of empowerment of Self Help Group (SHG) promoted women micro-entrepreneurs in rural and urban segments of the study area.

Secondary data was collected from District Rural Development Agencies (DRDA), various journals, books, and magazines. Similarly, data has been collected from the official records of different departments located in the Collectorate Office, Local Mahila Mandal Groups. Time series data collected from 1940 to October 2016 from “Udyog Adhar Memorandum”(UAM) in the directorate of industries Andhra Pradesh with related to many enterprises, gender-wise registered enterprises and investment, Social category wise registered enterprises and investment in MSMEs.

1.7 Chapter scheme of the thesis.

Chapter-I:

This chapter focuses on the introduction of the study, objectives, methodology and limitations of the study.

Chapter-II:

The Chapter deals with review of literature concerning the role of microenterprises and SHGs on the empowerment of women entrepreneurs.

Chapter-III:

This chapter explains the state and district level total registered MSMEs with Udyog Aadhar Memorandum of Andhra Pradesh. Investment, employment generation of MSMEs, and District level analysis of SHGs promoted microenterprises.

Chapter-IV:

This chapter will focus on level of income and asset holding of micro-entrepreneurs after joining the Self Help Groups (SHGs) at micro level.

Chapter-V:

This chapter explains the sustainability of the Self Help Group (SHG) promoted women microenterprises in rural and urban areas of the Kavali Mandal of Nellore district.

Chapter-VI:

This chapter deals with the role of microenterprises on women empowerment and poverty alleviation in the Kavali Mandal.

Chapter-VII:

This Chapter deals with major findings and policy suggestions.

1.8 Limitation of the study

- The present study is limited to the Kavali Mandal of Nellore district of Andhra Pradesh, The study is mainly focused on the Self Help Groups (SHGS) promoted microenterprises, and the study does not throw the light on the micro-enterprises which are not promoted by the Self Help Groups (SHGS).
- The focus of the study is limited to only women entrepreneurs.

CHAPTER –II

REVIEW OF LITERATURE

This chapter has focused on the review of the literature related to Women empowerment, Self Help Groups (SHG), and Microenterprises development, including various textbooks, peer-reviewed journals, government records, and other publications. The literature review helps to identify the gaps in the existing literature. There are few studies which are related to women empowerment and microenterprises development with the help of microfinance. The review of the literature has been carried out in four categories, first one is related to the role of microenterprises for women empowerment, the second one is Role of Self Help Group (SHGs) for women empowerment, third is the impact of SHGs on Microenterprises development and finally, the fifth one is about the role of microenterprises development in case of the Dalit entrepreneurship.

2.1 Microenterprises Development and Women Empowerment

Michael Kevane (2001), focused on the performance of male and female entrepreneurs in various credit programs in Guatemala. There was a trade-off between economic growth and poverty reduction, female entrepreneurs had low ability in their microenterprises compared to others. The study revealed that there was no statistically significant difference between business sale after credit provision among male and female entrepreneurs. The author has developed a model that shows that increasing the value of childbearing time for women is a substantial reason for the gender difference in responses to credit access.

Kiranjot Sidhu and Sukhjet Kaur (2006), their study focused on the development of entrepreneurship among women in a rural area, who were landless, marginal, small, medium, and large farmers from five agro-climatic zones of Punjab. Their study based on qualitative data from 250 families and many microenterprises related to agriculture and allied activities, livestock management activities, and household-based operation. Their study reveals that some social and personal capabilities, self-confidence, decision-making power, social interaction, etc. have developed due to microenterprises intervention

MeenuGoyal and Jai Parkash (2011), the study focused on the role and concept of women entrepreneurship, the reasons behind successful women entrepreneurs, and also reasons for the slow growth of women entrepreneurs in India. This study also suggested some policies to promote

women microenterprises. It had found several reasons to become a successful entrepreneur such as self-identity, social status, innovative thinking for employment generation government support, a bright future, and support for the family. The study also found several reasons for the slow growth of women enterprises in India such as the Indian patriarchal system, high competition with men, lack of family support, limitation on women mobility, lack of education, lack of financial support from banks.

Roy and Bhattacharya (2013), their study was carried on the “role of microenterprises on women empowerment of Badarpur in Karjimganj district.” The conclusions of the study found that women in two villages of Badarpur village have participated in different economic activities with help of Self Help Groups and they have learned different entrepreneurial techniques and skills with the help of Non-Government Organisations and Government. The analysis of primary data confirmed a direct relationship between women empowerment and microenterprises development.

Shihabudheen N (2012), the study is based on the role of microenterprises on women empowerment by taking a few cases of microenterprises in 'Kudumbashree' scheme. It had two objectives, first to study the overall scheme of the Kudumbashree and second to assess the role of microenterprises for the empowerment of rural women entrepreneurs under the Kudumbashree program. Through descriptive analysis, both primary and secondary data have been used for this study. Primary data was collected from 50 individual women of 10 micro-enterprises of the Kudumbashree scheme. The study has found that there was a high empowerment potential for microenterprises, there was a high scope for socio-economic as well as political empowerment of rural women due to part of microenterprises under Kudumbashree.

V Shuguftha Yasmeen and B Gangaiah (2014), the study has focused on microenterprise's role in women empowerment concerning the social and economic conditions of women in Y.S.R District of Andhra Pradesh. Firstly, they have looked into the socio-economic background of micro-entrepreneurs and the impact of microenterprises on the empowerment of women. Both primary and secondary data have been used for the present study with structured questionnaires, with the help of this data their study has found that savings of households, decision making power in the family, and self-confidence have improved significantly after the establishment of microenterprises. Finally, the study has also concluded that women start empowering after starting microenterprises.

Vasanthakumari (2012), the main focus of this study was on the impact of microenterprises on women empowerment in India, based on three objectives; the first objective of the study was to examine the socio-economic background of entrepreneurs, the second objective was to understand how microenterprises impact on economic empowerment of women entrepreneurs, the third objective was to compare the role of promotional agencies in empowering women in India. Her study was conducted in Kerala, thus 480 SHGs promoted by SGSY, 620 promoted by NGOs, and 850 promoted by the state government were the population for the study. Finally, 195 beneficiaries were selected as a sample and both primary and secondary data were used for the study. Employment per month, monthly income, monthly saving, basic amenities, borrowing, etc. were used as variables. There was a considerable improvement after joining the enterprises, her study revealed that microenterprises succeeded in empowering women.

Maria CostanzaTorri and Andrea Martinez (2014), the main purpose of their study was to discuss the empowerment of women by exploring the case of Gram Mooligai Company Limited (GMCM). Their research questions were: (1) What changes happened in socio-economic conditions of its members; (2) How much effective has this initiative after full inclusiveness of the women been? (3) What is the impact of caste, gender, and capacity building on women empowerment? Their study took place in Tamil Nadu, in the district of Dindugal, Viruthanagar, Ramand. GMCL case study reveals that return to the marginalized section (ST) was very low, they have been exploited by contractors and traders.

2.2 Role of Self Help Group (SHG) in Women Empowerment

Rangula Bali Swain (2006), the paper has discussed the impact of microfinance on women's empowerment in the Self Help Group bank linkage program in India. The study has used both qualitative and quantitative data for the study with the multi-level survey, interviews, focus group discussion. The study has found that there was a definite economic impact on members of the Self Help Group with an increase in income and a decline in vulnerability. The data of the study also reveals that there is a significant impact on management ability, change in behavior, self-confidence, but there were no significant changes observed in the decision making power in family planning or buying and selling of land.

S Sarumathi and K Mohan (2011), the study has examined the impact of microfinance on women empowerment in three ways namely Psychological, Social, and Economical. The main objective

of the study was to understand the performance of SHGs in the rural Pondicherry region. The second objective of the study was to analyze the freedom and problems of women in SHGs, the third objective of the study was to examine the women empowerment with psychological, economic, and social parameters. The study has been conducted in the rural area of the Pondicherry region and both primary, secondary data have used in the study. The study has collected primary data from a field survey in the study area and secondary data collected from NGOs and some documents. The simple correlation coefficient, cross-tabulation, percentage method, Paired t-test have been used for the analysis. A sample size of 181 respondents has been collected from six rural areas of the Pondicherry region. This study had been confined to the rural area, hence result may not apply to the urban area. The paper has found that Self Help Groups are forming well in the rural Pondicherry region. The study has concluded that microfinance has an impact on psychological empowerment and sociological empowerment than economic empowerment with increasing confidence, courage, and skill development.

Benjamin F. Lyngdon and Ambika P. Pati (2013), the study has carried out in the northeastern region of India and examined the role of microfinance in the empowerment of women of matrilineal tribal society. Data covers 300 micro finance women clients and also 150 non-micro finance women during the five years. The study has found that microfinance has a positive impact on saving, expenditure, income, saving, family health, improved mobility, improvement in self-confidence, education, and decision making power in the family. For the impact evaluation, they have applied the Difference in Difference and Propensity Score Matching.

Kappa Kondal (2014), the paper mainly focused on the impact of Self Help Groups on women empowerment of Dacharam, DarmareddyPalli, Kyasaram, Sangupalli of Medak District in Andhra Pradesh. The paper mainly depends upon the primary data, collected with pre-designed questionnaires from a total of 100 women samples from four villages with 25 women sample from each village by using simple random samplings. The major findings of his study were Self Help Group and their positive impact on women empowerment, by helping them towards financial independence.

Reji (2013), the main focus of his study was on the profile of respondents and assess the effectiveness of SHGs on the economic empowerment of women. The study was analytical and descriptive, both primary and secondary data have been used for this study. Idukki district and

Ernakulam district had 8 and 15 blocks respectively, out of which 4 blocks were randomly selected from each district. The author has taken 200 Self Help Group members from Ernakulam, and Idukki districts. Percentage and Wilcoxon Signed Rank test was used for the analysis of data. The study found that the economic empowerment of women was high after joined SHG than before joining, the study concludes that Self-help Groups are more help full for women empowerment and poverty alleviation in the study area.

S Thangamani, S Muthuslvi (2013), the study on women empowerment through self-help groups with special reference to Mettupalayamtaluk in Coimbatore district, has examined the socio-economic background of respondents and expenditure and saving pattern of self-help group members, they have studied problems faced by members in SHGs. Both primary and secondary data collected for their study to analyze objectives. The sample size was 200 members of Self-help Groups from Mettupalayamtaluk. The study has found that after joining SHGs their socio-economic factors have changed and concluded that functioning of SHGs in Mettupalayamtaluk was very successful in women empowerment in the rural area.

AnsumanSahool (2013), the paper attempted to examine the performance and role of SHGs in women empowerment in Cuttack district of Odisha. The paper has used both primary data and secondary data for the study with 150 sample women members of SHGs from 15 SHGs from 10 villages of Cuttack district. The study has carried out two ways demographic characteristics of respondents and second women empowerment. Family system, number of the dependence of the family, age, etc. were used as variables for demographic characteristics and repayment of loan, income, expenditure, reasons for joining in self-help groups, the purpose of the loan, saving, decision making power, etc. were used as variables for the estimating women empowerment. The study has found that after joining the self Help Group their socio-economic status has improved very much than before joining.

2.3 Role of Self Help Groups (SHGs) In Microenterprises Development

Judith Shaw (2004), the study was conducted in the Hambantota district, a rural region of Srilanka's southeastern coast. The main objective of the study was to study the impact assessment of microenterprises on poverty reduction with the help of microfinance. In the study area majority of 60% of people mainly depends upon smallholding firm microenterprises and the remaining 15% of the population depends upon nonfarm microenterprises like petty trade, animal husbandry, and

fishing. To get the information from 253 respondents he has used structured questionnaires and for 87 respondents he has used in-depth interviews and focused group discussion during five months of 1999. The major finding of the study reveals that Hambantota microenterprises credit is not an effective solution to poverty, although it has a positive impact on poor people, those who are below the poverty line.

K KTripathy and Sudhir K Jain (2011), the main focus of the study is to examine the Self Help Group's sustainability and role of microfinance programs in poverty reduction and development of microenterprises. The study has found that microfinance has no impact on poor people, but it has a positive impact on rich people. Internal saving and group corps have a positive impact on the income growth of members but formal credit (Bank credit) does not have any impact. The study mainly concluded that a socially and economically well-developed region has more likely to benefit from this program. The study has given policy implications to develop the rural region with marketing facilities, product-related infrastructure, capacity building, enhancement of rural education, marketing training.

NishaBharati (2014), the study critically analyzed the performance of the Self Help Group bank linkage model and microfinance institution model. The major objectives of the study: (1) to understand the process, approach, design of the implementation of microfinance approaches. (2) To analyze the performance of different approaches of microfinance to promote of microenterprises. (3) To trace out the influencing factors of the microenterprise's performance. Case study method of research used and both qualitative and quantitative data has collected for her study. The study has concluded that to establish microenterprises, the financial system approach has been useful for poor people. Self Help Group bank linkage model has a good impact on promoting microenterprises. Due to higher interest rates in the Micro Finance Institution model and limitation on loan amount in the Self Help Group model have failed in the expansion of microenterprises in rural areas.

Suprabha K (2014), through this paper examined the determinants of empowerment of SHGs as microfinance clients to microenterprises investors, they also examined the problems in undertaking microenterprises. The author studied different SHGs promoted by NGOs and government in two districts of Karnataka, namely Dakshina Kannada and Shimoga for cross-sectional comparative study. The author has constructed a consolidated empowerment index to study the institutional and

financial performance of the SHGs. Random sample technique has been adopted for selection of SHGs, to study the relative importance of different determinant factors by using correlation matrix and regression model. Multiple regression analysis was used to examine the effects of various determinates on the empowerment of SHGs. His study reveals that NGO promoted SHGs has more empowerment than government's SHGs. The author found that the major problem of SHGs was lack of marketing arrangements.

Veronica W Ngugi&Ferongo (2014), through their paper titled "Effects of microfinance on the growth of small and microenterprises in Mombasa County" found that the main objective of their study was to understand the impact of microfinance on the growth of small enterprises. The paper has used a descriptive survey method and adopted a stratified, systematic random sampling technique. The sample size was 157 small microenterprises and data was collected from 102 respondents, their rate of responses was 65%. Growth of small and microenterprises was the dependent variable, competitiveness, sales, etc. were used as an independent variable. The study has found that microfinance positively impacts on the growth of small and microenterprises.

E.K.Agbaeze and I.O Onwuka (2014), the study has examined empirically on the impact of microfinance banks on rural development in Nigeria, the main objective to study the role of microfinance bank. The study has tested the impact of microfinance banks on deposit mobilization, intermediation. And also they have looked into how microfinance bank activities have an impact on loan penetration and long-run economic growth. All these empirical findings have found that microfinance bank has a positive impact on the rural economy of Nigeria.

2.4 Microenterprises Development and Dalit Entrepreneurship

Ashwini Deshpande and Sharma (2013), the study mainly focused on the Dalit and women entrepreneurship in the small business to understand the growth rates of gender and caste specific entrepreneurs. Their study has found that there were many castes and gender discrimination in the Micro, Small and Medium Enterprises (MSME) sector in India. The entrepreneurship of scheduled caste (SC) and scheduled tribes (ST) have been decreasing over the years, most of the socially marginalized group's entrepreneurship very small in the rural area than urban areas. SC and ST entrepreneurs were underrepresented in almost all states. Female owned enterprises were high in SC and ST category than another category (Hindi upper caste) enterprises especially. The study has found that the development of Dalit entrepreneurship may provide more employment in

socially excluded sections in the Micro, Small and Medium Enterprise (MSME) sector. The study suggested that Dalit entrepreneurship is a better platform for the socio-economic empowerment of socially marginalized sections of India.

Lakshmi Iyer (2013), the study mainly focused on caste discrimination in entrepreneurship across all the states in India and examines the two narratives of the political economy. The first narrative deals with growth rates of the economy in the last two decades, reveals that rapid growth rates may result in widespread inequalities. Rich benefits from poor, towns, and cities more benefited than villages, the oppressed section benefited more from the suppressed section. Second narrative deals with socially marginalized group's entrepreneurship. The study has found that the representation of Schedule caste (SC) and Schedule Tribes (ST) in the ownership of Micro, Small and Medium Enterprises (MSME) sector were very negligible, but OBC entrepreneurs have made positive trends in entrepreneurship. Most of SC and ST entrepreneurs had failed in start-ups due to lack of network.

Thorat and Paul (2005), the study examines the wage gap between upper caste and socially marginalized group's (SC and ST) regular salaries of the labour market in the urban area. The study based on the secondary data of 30th (1983), 50th (1993-94) and 55th (1997- 00) rounds of National Sample Survey Organization (NSSO). The study has found that schedule caste (SC) and scheduled tribes (ST) were paid by 15 percent lower wages than other category workers with equal qualifications. Socially marginalized groups were discriminating more in the private sector compared to the public sector and also found that endowment difference is more than the discrimination component.

Surinder S Jodhka (2002), the study mainly focused on the status of scheduled caste self-employed people in north-west India, caste act as social capital in entrepreneurship development. The study starts with the question that what is the experience of Dalit entrepreneurs who have started their business? The study has looked into prejudice and discrimination in the urban labor market of Dalits in Haryana and western Uttar Pradesh (UP). The study has revealed that caste act as a negative factor for the Dalit entrepreneurship. Most of the Dalit entrepreneurs were lack of capital, but even if they had the capital. They may not have a social resource (Social Capital). The study reveals that socially marginalized groups in Haryana more vulnerable circumstances than

Uttar Pradesh. Even in such vulnerable situations, the entrepreneurship of socially marginalized groups has been rising.

Nandy (2014), the paper has focused on the transformation of women entrepreneurship from the fifties to the twenty-first century and also discussed opportunities and challenges faced by women entrepreneurs. The study has supported some policy measures like freedom of choice, mobility, and assurance of women entrepreneurs in the market and society, family support plays a major role to overcome obstacles faced by women in society.

Dhekale (2016), the study has focused on the performance of women entrepreneurship in India, review the literature on opportunities and challenges of women entrepreneurs in rural India. The study also found that the formation of Self Help Groups (SHGs) are more useful for the development of women entrepreneurship in India. The study also found that women entrepreneurs were facing financial, marketing, technological, educational, competition and managerial problems.

CHAPTER-III

ROLE OF MSMEs IN ANDHRA PRADESH ECONOMY

3.1 Introduction

The present chapter deals with secondary data analysis of the Micro, Small Medium Enterprises (MSME) sector in Andhra Pradesh. The data was collected from 1940 to October 2016 from Udyog Adhar Memorandum (UAM) in the Directorate of Industries Andhra Pradesh, related to the number of enterprises, gender-wise registered enterprises and investment, social category wise registered enterprises and investment of MSMEs in Andhra Pradesh. Microenterprises play a vital role in rural development and it helps in developing rural areas with more employment opportunities with low capital investment compared to big industries (Jishnu Cheeroli, et.al ,2018). Microenterprises can also help in the industrialization development of nonfarm activities in rural areas. SHG banking linkage model can help their members to start own business and also SHGs in a rural area have empowered illiterate and poor women by linking them to the formal banking system and involving members in activities of Micro-Entrepreneurship.

Table 3.1

Total Number of Registered MSMEs with Udyog Adhar Memorandum (UAM)

YEAR	MICRO			SMALL			MEDIUM		
	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units
1940 to 1950	10.3	14.8	95.7	**	*	4.3	*	*	0.0
1951 to 1961	4.9	46.2	98.4	**	-10.0	1.6	*	*	0.0
1962 to 1972	7.8	26.0	92.7	7.2	40.0	6.6	**	-10.0	0.7
1973 to 1983	9.7	42.8	95.1	23.1	11.4	4.6	**	-20.0	0.3
1984 to 1994	7.1	48.6	93.1	10.1	37.8	6.4	**	-15.0	0.4
1995 to 2005	8.6	44.7	94.0	15.1	21.3	5.8	**	7.5	0.2
2006 to 2016	12.2	29.5	84.7	44.2	63.1	14.9	31.6	66.3	0.4

Note: *No data found ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

The above Table (Table 3.1) explains the Compound Annual Growth Rate (CAGR), Average Annual Percentage Change (AAPC) and percentages share of the number of registered enterprises with Udyog Adhar Memorandum (UAM) from 1940-50 to 2006-16. During 1940 to

1950 compound annual growth rate and annual average percentage change of micro-enterprise was around 10.3 %, 14.8 percentage respectively, but there was no CAGR and AAPC in small and medium enterprises due to insufficient and lack of data during that period. After 1950's CAGRs and AAPCs of micro, small and medium enterprises have been declining till 1973, and the percentage share of microenterprises has increased from 1951 to 1961 after that they have been falling. Microenterprises increased during 1973 to 1983 compared to small and medium enterprises during the same period this is the result of government programs. The Policymakers gave importance to small industrial sector development in industrial policies resolution 1977 and 1980 but there was no impact on small and medium enterprises.

Industrial policies of 1977 and 1980 had an impact on MSMEs and the Compound Annual Growth Rates have increased to 9.7 %, 42.8 %, and 95.1 % respectively. During 1976-83 Compound Annual Growth Rate of small enterprises had increased around 23.1 % from 7.2 % of 1962-72. In the case of medium enterprises, CAGR was not found due to insufficient data . During the year 2006 to 2016 the Compound Annual Growth rate of small and medium enterprises has been improved significantly and they have shown positive signals. But the average annual percentage change and percentage share of total enterprises of MSMEs show that there were increasing trends in the small and medium enterprises but a falling trend in microenterprises. The average annual percentage change and percentage share of total enterprises of small enterprises have been increasing to 63.1 % and 14.9 % respectively, in the case of medium enterprises it was around 66.3 % and 0.4 % from 2006 to 2016. The average annual percentage change and percentage share of total enterprises show a falling trend in the case of micro-enterprises with a value of 29.5 % and 84.7 % respectively.

CAGR, of small and medium enterprises in total MSME, have improved significantly than micro-enterprises, this result is due to the government of India initiatives towards MSME sector development during the year 2006-2016. The government of India and the ministry of MSME have implemented Micro Small and Medium Enterprises Development (MSMED) act 2006 and other programs to enhance the MSME sector during the year 2006-2016, which have resulted in improving small and medium enterprises significantly during the year 2006-2016. In the same period growth rates of small and medium enterprises were high compare to microenterprises, this

trend results from credit programs of different small scale industrial development banks like MUDRA.

Table 3.2
Employment Generation of the MSME Sector in AP.

YEAR	MICRO			SMALL			MEDIUM		
	CAGR (in %)	AAPC (in %)	No. of units (in %)	CAGR (in %)	AAPC (in %)	No. of units (in %)	CAGR (in %)	AAPC (in %)	No. of units (in %)
1940 to 1950	11.6	33.2	64.2	**	*	35.8	*	*	48.8
1951 to 1961	13.5	57.2	41.6	**	*	58.4	*	*	0.0
1962 to 1972	5.5	24.1	46.8	-4.9	41.2	26.6	**	-10.0	26.6
1973 to 1983	12.9	59.4	39.3	54.9	432.9	57.4	**	-20.0	3.3
1984 to 1994	8.1	52.5	43.9	17.1	107.2	40.6	**	244.4	15.5
1995 to 2005	8.9	26.2	51.7	18.2	48.4	43.9	**	50.3	4.4
2006 to 2016	22.0	37.7	48.8	39.1	56.7	44.8	29.1	197.2	6.5

Note: *No data found ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

The above Table 3.2 illustrates the compound annual growth rate, average annual percentage change, and percentage share of employment generation of MSMEs. The Compound annual growth rate of employment of micro, small, and medium enterprises has been increasing significantly during the year 1940-50 to 2006-16. CAGR of employment of microenterprises has been increasing from 11.6 % to 22 % during the same year but, during 1973-83 CAGR was registered around 13 %, this was the result from 1977 and 1980 industrial policy resolutions. Industrial policies of 1977 and 1980 have set up small scale industrial sector development was one of the main objectives. Due to insufficient and lack of data of employment generation small and medium enterprises we are unable to calculate CAGR and average annual percentage changes for a few decades. But, during the year 2006-2016, the CAGR of employment generation of small and medium was around 39.1 % and 29.1 % respectively. In the case of micro and small enterprises CAGR was registered high during the year 1973-83 results from 1977 and 1980 industrial policies.

The average annual percentage change has been improving during the year 2006-16 from 1940-50, AAPC of employment of microenterprises was registered as 33.2 % during the year 1940-50, that was increased to 37.7 % with some fluctuations. Due to insufficient and lack of data of employment generation of small and medium enterprises, unable to calculate AAPC during the

years 1940-50 and 1951-61, but from 1962-72 to 2006-16 they have been increasing significantly with the rate of 56.7 % and 197 % respectively. But during the year 1984-94 average annual percentage change of employment of medium enterprises was around 244.4 %. During the same year, medium enterprises had increased four times, this is results from the 1991 industrial policy. As we know that 1991 industrial policy turned the industrial sector into a new phase, remove all the restrictions on the industrial sector and which helps to enhance the medium enterprises during the year 1984-94.

The percentage share of employment generation of total MSME has been increasing from 1940-50 to 2006-2016. Microenterprises providing 64.2 % employment during the year 1940-50, remaining 35.8 % employment providing by small enterprises during the same year. During 1940-50 to 2006-2016 employment generation of microenterprises share has been declining to 48.8 % during the year 2006-2016, but small and medium enterprise's employment generation share increases to 44.8 % and 6.5 % respectively. This trend explains that in recent years small and medium enterprises have been developing, so the share of employment generation to the total MSME increases, but still microenterprises occupy major share in the total employment generation of MNSME.

Table 3.3
Total Investment of MSMEs in Andhra Pradesh

YEAR	MICRO			SMALL			MEDIUM		
	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units
1940 to 1950	12.8	112.4	40.7	**	*	59.3	*	*	0.0
1951 to 1961	6.1	59.6	69.0	**	1.6	31.0	*	*	0.0
1962 to 1972	8.8	47.3	11.3	-8.5	39.4	48.7	**	-10.0	40.0
1973 to 1983	16.7	39.6	26.1	40.6	57.8	50.3	**	-20.0	23.6
1984 to 1994	7.6	28.7	20.8	15.2	76.9	48.7	**	-0.6	30.6
1995 to 2005	11.2	35.8	23.8	15.7	22.7	56.3	**	21.0	19.9
2006 to 2016	27.4	41.1	17.8	46.1	69.5	65.9	29.7	77.3	16.3

Note: *No data found ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

The above table (Table 3.3) illustrates the compound annual growth rate, average annual percentage change, and percentage share of investment of MSMEs. The Compound annual growth rate of investment of micro, small, and medium enterprises have been improving during the year

1940-50 to 2006-16. In the case of investment of micro enterprise's compound annual growth rate was 12.8 % during the year 1940-50 and it has been increasing 27.4 % during the year 2006-16. In the case of small and medium enterprises compound annual growth rate of investment has been improving to 46.1 % and 29.1 % respectively during the year 2006-16. The average annual percentage change of investment of microenterprises shows falling trends during the year 1940-50 to 2006-16, with the percentage of 112.4 % to 41.1 %, but average annual percentage change of investment of small and medium enterprises have been increasing to 69.5 % and 29.7 % respectively during the year 2006-16. So over the years average annual percentage change of investment of microenterprises declining with the result from an improvement in small and medium enterprises, which requires more investment to establish.

3.2 Relation between Investment and Employment in MSME Sector in A.P.

The level of Investment and employment generation are two important parameters to measure the financial sustainability of enterprises. Table 3.2&3.3 reveals that microenterprises providing more employment with low capital investment and there is positive relationship between investment and employment. If we see the data during the year 2006-16 in the share of employment generation of MSME, micro, small and medium enterprises occupy 48.8 %, 44.8 %, and 6.5 % respectively. But, in the case of percentage share of investment of MSME during the year 2006-2016 micro, small and medium enterprises occupy 17.8 %, 65.9 %, and 69.3 % respectively. From the above data, we can observe that microenterprises share in employment generation of MSME was around 48.8 % and investment share in MSME was around 17.8 % these results show that microenterprises providing more employment opportunities compare to small and medium enterprises.

It is also observed that the decrease in the investment leads to decrease in employment which we can see from the investment and employment generation of microenterprises, percentage share of investment of microenterprises have been decreasing to 17.8 % during the year 2006-16 from 40.7 % during the year 1940-50, in the same way of employment generation of microenterprises have been decreasing to 48.8 % from 64.2 % in the same years. But in case small and medium enterprises when investment increases their employment generation have increased. So we can observe that decreasing in investment leads to decreasing in employment (we can see in case of percentage share of investment and employment generation of microenterprises) and increasing in

investment leads to decreasing in employment (we can see in case of percentage share of investment and employment generation of small and medium enterprises).

Table 3.4

Gender proportion in MSMEs sector in Andhra Pradesh

Year	Male			Female		
	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units
1940 to 1950	14.9	21.7	56.5	7.2	-8.5	43.5
1951 to 1961	7.2	42.2	56.1	1.6	24.6	43.9
1962 to 1972	4.1	32.8	55.3	12.5	27.7	44.7
1973 to 1983	11.2	46.4	64.8	9.3	46.2	35.2
1984 to 1994	10.3	44.9	65.5	2.6	37.0	34.5
1995 to 2005	8.7	36.7	59.0	9.6	48.4	41.0
2006 to 2016	17.1	29.5	56.4	14.0	35.0	43.6

Source: Directorate of Industries, A.P.

The above table (Table 3.4) explains the number of male and female-owned MSMEs during the year 1940-50 to 2006-16. During the year 1940-50 compound annual growth rate of male and female-owned MSMEs were 14.3 % and 7.2 % respectively, that has increased by 17.1 % and 14 % respectively during the year 2006-16. But from 1940-50 to 2006-16 compound annual growth rate of male-owned MSMEs have four times increased from 1940-50 and female-owned enterprises in total MSMEs have doubled during the year 2006-16 compared to the year 1940-50. The average annual percentage change also shows the same trends, the rate of average annual percentage change of male-owned enterprises was lower than the rate of average annual percentage change female-owned enterprises. The average annual percentage change male-owned enterprises were 21.7 % during the year 1940-50 have been increasing to 29.5 % during the year 2006-16, with an 8 % marginal increment. But in case of female-owned enterprises have been improving to 35 % from -8.5 % with a marginal increase 43.5 % from 1940-50 to 2006-16.

3.3 Women entrepreneurship in MSMEs sector of Andhra Pradesh

Women are half of the population in this society, but the role of women in that society is big puzzle. MSME sector opens doors to women entrepreneurs, women can easily establish MSMEs with lower capital. Micro, Small and Medium enterprises sector act as an empowerment tool for the excluded sections like poor, women, and socially marginalized groups in the society

by providing employment and entrepreneurial opportunities. This is the sector that has more employment opportunities after agriculture, thereby providing solutions for the disguised employment of the agriculture sector in rural areas. The important features of the MSME sector are; an easy way of establishment and low capital requirement than large industries, which may result in structural changes in society. U.N. report correctly said that “The proportion of women working in decent jobs outside agriculture remains low; their participation in the overall labor force is also low and declining in rural areas; women in farming are constrained by lack of land ownership, and women are poorly represented in parliament,”. The share of women in wage employment can at best reach a level of about 23% by 2015, much below the goal of 50%. The proportion of seats held by women in Parliament was 12% in 2015 against the target of 50% (Govt. of India statistics). World experience shows that saving rates, improvement in child education, family nutrition, and health, household sanitation and welfare, etc. increased much when microfinance reach women.

Empowerment of women can be achieved after economic empowerment, which may result from economic independence. Financial independence of women can achieve through self-employment, Micro, Small, and Medium Enterprises (MSMEs) sectors are the best provider of employment to women, especially microenterprises.

Table (Table 3.4) shows women's participation in the Micro, Small, and Medium Enterprises (MSME) sector. The government of India has constantly been making efforts towards women empowerment and our policymakers have identified women empowerment as a development tool for the economy. That's the reason ministry of micro, small, and medium enterprises has been implementing innovative policies and schemes to encourage women-owned enterprises. The above data reveals that compound annual growth rate and average annual percentage change have been improving but, in terms of share of women-owned enterprises has been more or less stable during the year 1940-50 to 2006-16. During the year 1940-50 percentage share of male-owned enterprises has declined from 56.5 % to 56.4 % during the year 2006-16 and female-owned enterprises share in total MSME was around 43.5 % during the year 1940-50 and it has just increased to 43.6 % during the year 2006-16. The percentage share of female-owned MSMEs did not show any improvement from 1940-50 to 2006-16.

Table 3.5**Employment Generation of Male and Female-Owned Enterprises in AP**

Employment						
Year	Male			Female		
	CAGR (in %)	AAPC (in %)	No. of units (in %)	CAGR (in %)	AAPC (in %)	No. of units (in %)
1940 to 1950	33.5	171.7	74.1	7.2	-6.7	25.9
1951 to 1961	18.6	116.2	87.7	2.5	24.8	12.3
1962 to 1972	11.8	46.8	80.4	14.1	45.0	19.6
1973 to 1983	35.6	168.7	87.1	12.7	103.0	12.9
1984 to 1994	19.9	96.8	90.3	1.9	29.5	9.7
1995 to 2005	12.8	20.8	81.6	11.7	26.8	18.4
2006 to 2016	26.7	40.9	72.0	32.2	57.8	28.0

Source: Directorate of Industries, A.P.

Above Table (Table 5.5) illustrate that the employment generation of male and female-owned enterprises, the compound annual growth rate of employment generation of male-owned enterprises of MSMEs, has declined to 26.7 % during the year 2006-16 from 33.5 % in the year 1940-50. In case female-owned enterprise's employment generation has increased from 7.2 % during the year 1940-50 to 32.2 % during the year 2006-16. In the case of the average annual percentage change of employment generation of male-owned enterprises have been declining from 171.7 % during the year 1940-50 to 40.9 % during the year 2006-16. But in the case of female-owned enterprise's employment generation have been increasing from -6.7 % during 1940-50 to 5.7.8 % during 2006-16. The percentage share of employment generation to total MSMEs, male-owned enterprises have been generating more employment than female-owned enterprises, percentage share of male-owned enterprises was around 72 % but female-owned enterprise's employment generation was around 28 %. The reason behind the low level of employment generation of female-owned enterprises as they were low in number, most of the small and medium enterprises have been established by male entrepreneurs leads to providing more employment opportunities.

Table 3.6**Investment of male and female entrepreneurs of MSMEs in AP**

Year	Investment					
	Male			Female		
	CAGR (in %)	AAPC (in %)	No. of units (in %)	CAGR (in %)	AAPC (in %)	No. of units (in %)
1940 to 1950	49.7	631.7	88.1	7.2	-6.7	11.9
1951 to 1961	8.4	58.4	76.9	2.5	28.9	23.1
1962 to 1972	13.5	108.4	94.8	12.5	58.4	5.2
1973 to 1983	34.2	194.9	90.8	21.7	78.3	9.2
1984 to 1994	26.0	119.4	93.1	-6.1	30.3	6.9
1995 to 2005	16.3	24.9	85.1	11.7	20.6	14.9
2006 to 2016	35.3	55.5	74.3	47.2	79.4	25.7

Source: Directorate of Industries, A.P.

Above Table (Table 3.6) illustrate that investment of male and female-owned enterprises, if we compare the investment of male and female-owned enterprises, compound annual growth rate and average annual percentage change of investment of male-owned enterprises have been declining from 49.7 %,631.7 % respectively during the year 1940-50 to 35.3 %, 55.5 % respectively during the year 2006-16. But the investment of female entrepreneur's compound annual growth rate and average annual percentage change has been increased from 47.2% to 79.4 % respectively during the year 2006-16 from 7.2 %, -6.7 % respectively during the year 1940-50.

During the year 2006-16 percentage share of male investment in total investment was higher than percentage share of female investment, the share of male investment was around 74.3 % and the percentage share of female investment was around 25.7 %. But over the year percentage share of investment of males has been declining from 88.1 % during the year 1940-50 to 74.3 % during the year 2006-16. But the percentage share of female investment in total MSMEs has been increasing from 11.9 % during the year 1940-50 to 25.7 % during the year 2006-16. Results from the ministry of micro, small, and medium enterprises have been implementing innovative policies and schemes to encourage women-owned enterprises. Improvement in female investment over the years shows a positive single in the MSME sector in terms of gender prospects.

Table 3.7

Investment and employment generation of male-owned enterprises in A.P.

MALE				
Year	Investment		Employment	
	CAGR (in %)	AAPC (in %)	CAGR(in%)	AAPC (in %)
1940 to 1950	49.7	631.7	33.5	171.7
1951 to 1961	8.4	58.4	18.6	116.2
1962 to 1972	13.5	108.4	11.8	46.8
1973 to 1983	34.2	194.9	35.6	168.7
1984 to 1994	26.0	119.4	19.9	96.8
1995 to 2005	16.3	24.9	12.8	20.8
2006 to 2016	35.3	55.5	26.7	40.9

Source: Directorate of Industries, A.P.

The above table (Table 3.7) explains the relationship between investment and employment generation of male-owned enterprises during the year 1940-50 to 2006-16. Compound annual growth rate and average annual percentage change of male investment of MSME was around 49.7 % and 631.7 % respectively and have been decreasing to 35.3 % and 55.5 % respectively during the year 2006-16. In the same way employment generation of male-owned MSMEs has been decreasing to 26.7 %, 40.9 % respectively during the year 2006-16 from 33.5 %, and 171.1 % respectively during the year 1940-50.

The above table (Table 3.8) explains the relationship between investment and employment generation of female-owned enterprises during the year 1940-50 to 2006-16. Compound annual growth rate and average annual percentage change of female investment in total MSMEs have been increasing to 47.2 % and 79.4 % respectively during the year 2006-16 from 7.2 % and -6.7 % during the year 1940-50. Even in case of employment generation of female enterprises of compound annual growth rate and average annual percentage changes have been increasing from 7.2 % and -6.7 % respectively during the year 1940-50 to 32.7 % and 57.8 % during the year 2006-16.

Table 3.8**Investment and employment generation of female owned enterprises in AP**

FEMALE				
Year	Investment		Employment	
	CAGR (in %)	AAPC (in %)	CAGR (in %)	AAPC (in %)
1940 to 1950	7.2	-6.7	7.2	-6.7
1951 to 1961	2.5	28.9	2.5	24.8
1962 to 1972	12.5	58.4	14.1	45.0
1973 to 1983	21.7	78.3	12.7	103.0
1984 to 1994	-6.1	30.3	1.9	29.5
1995 to 2005	11.7	20.6	11.7	26.8
2006 to 2016	47.2	79.4	32.2	57.8

Source: Directorate of Industries, A.P.

From both Tables (Tables 3.7 & 3.8), we can observe that compound annual growth rate and average annual percentage change of investment and employment of male-owned MSMEs have been decreasing over the years from 1940-50 to 2006-16. But the rate of increase of compound annual growth rate and average annual percentage change of investment and employment female MSMEs have been increasing, results from the government programs and policies towards women empowerment. Improvement in investment leads to improvement in female investment as I have already explained above that investment and employment have positive relations. We can observe from the data that decreasing in investment leads to decreasing in employment (we can observe in case of investment and employment of male-owned MSMEs) and increasing in investment may leads to an increase in employment (we can observe in case of investment and employment of female-owned MSMEs).

Table 3.9
Male owned MSMEs in Andhra Pradesh

MALE									
Year	MICRO			SMALL			MEDIUM		
	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	%of No. of units
1940 to 1950	11.6	11.7	92.3	**	**	7.7	*	*	0.0
1951 to 1961	7.2	60.1	97.1	**	-10.0	2.9	*	*	0.0
1962 to 1972	1.8	36.1	87.4	7.2	31.7	11.3	**	-10.0	1.3
1973 to 1983	10.1	44.7	92.8	21.5	8.9	6.8	**	-20.0	0.4
1984 to 1994	9.5	49.6	90.2	12.8	39.9	9.1	**	-15.0	0.7
1995 to 2005	8.0	41.6	90.9	15.1	22.6	8.8	**	1.7	0.4
2006 to 2016	13.5	28.4	80.8	39.6	56.7	18.5	29.2	72.3	0.7

Note: *No data found ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

The above table (Table 3.9) explains the number of male-owned micros, small and medium enterprises from the year 1940-50 to 2006-16. Compound annual growth rate and annual average percentage change of male-owned microenterprises have been increasing to 13.5 % and 28.4 % respectively during the year 2006-16 from 11.6 % and 11.7 % during the year 1940-50. The percentage share of male-owned microenterprises to total male-owned MSMEs have been decreasing to 80.8 % during the year 2006-16 from 92.3 % during the year 1940-50. The reason behind the decline of microenterprises was, increasing share of males of owned small and medium enterprises. Unable to calculate compound annual growth rate and average annual percentage change of small and medium enterprises for a few decades due to insufficient and lack of data. But more or less over the years CAGR and AAPC of male-owned small and medium enterprises have been increasing during the year 1940-50 to 2006-16, small enterprises have been increasing to 39.6 % and 56.7 % respectively during the year 2006-16 from 72 % and 31.7 % during the year 1962-72. CAGR and AAPC of the number of medium enterprises have increased to 29.2 % and 72.3 % respectively during the year 2006-16. The percentage share of small and medium enterprises to total MSMEs has been increasing to 18.5 % and 0.7 % respectively. In recent years 2006-16 microenterprises share to total male-owned MSMEs was around 80.8 %, small and medium enterprise's share was 18.5 % and 0.7 % respectively. CAGR, AAPC, and percentage share of

male-owned enterprises of MSMEs have been increasing, except percentage share of male-owned microenterprises, this was results from an increasing number of small and medium enterprises over the years.

Table 3.10
Female owned MSMEs in Andhra Pradesh:

Year	FEMALE								
	MICRO			SMALL			MEDIUM		
	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units
1940 to 1950	7.2	-8.5	100.0	*	*	0.0	*	*	0.0
1951 to 1961	1.6	24.6	100.0	*	*	0.0	*	*	0.0
1962 to 1972	12.5	29.2	99.2	**	-10.0	0.8	*	*	0.0
1973 to 1983	8.8	45.3	99.3	**	-10.0	0.7	*	*	0.0
1984 to 1994	3.0	38.5	98.7	-6.7	-30.0	1.3	*	*	0.0
1995 to 2005	9.5	50.2	98.4	14.9	32.5	1.5	**	0.0	0.1
2006 to 2016	10.7	31.9	89.6	59.7	94.9	10.2	**	78.6	0.2

Note: *No data found ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

The above table (Table 3.10) explains the number of female-owned micros, small, and medium enterprises from the year 1940-50 to 2006-16. Compound annual growth rate and average annual percentage change of the number of female-owned microenterprises have been increasing to 10.7 % and 31.9 % respectively during the year 2006-16 from 7.2 % and 8.5 % during the year 1940-50. In the case of %age share of female-owned microenterprises in total MSMEs have been decreasing to 89.6 % during the year 2006-16 from 100 % during 1940-50. Compound annual growth rate and average annual percentage change of female-owned small enterprises have been increasing to 59.7 % and 94.9 % respectively during the year 2006-16 from -6.7 % and -30 % during the year 1940-50. Unable to calculate compound annual growth rate and average annual percentage change of female-owned medium enterprises due to insufficient data of medium enterprises.

From the Table (Table 3.10) we can observe that at the time of independence most of the women established microenterprises only, there were no single female-owned small and medium enterprises that were established, due to lack of cooperation from the government and society for women entrepreneurs. In recent years, the percentage share of female-owned microenterprises to

total female MSMEs was around 89.6 % but small and medium enterprise's percentage share was around 10.2 % and 0.2 % respectively. We can observe that microenterprises providing more employment opportunities to women entrepreneurs in the society and small and medium enterprises have been improving in recent times due to different programs of ministry of MSME and government of India for women empowerment.

3.4 Social categories wise MSMEs in Andhra Pradesh

Most of economically and socially marginalized sections are excluded from the growth process, marginalized sections like; Schedule Caste (SC), Schedule Tribes (ST), poor and women. Majority of the marginalized groups were not receiving the benefits of faster and bumper growth rates, that is the reason our policymakers have been focusing on the concept of "Inclusive Growth". Economic and social exclusion in the development process mainly results from the strong roots of a caste system that prevails in the Indian society. Micro, Small, Medium Enterprises (MSMEs) sector more suitable for the women and socially marginalized group's entrepreneurs with low capita compare to large and heavy industries that need more capital and technology. That's the reason the Ministry of MSME implementing innovative policies, programs, schemes to the strengthening of the MSME sector in India especially for Schedule Caste and Schedule Tribes (SC/ST). "MSMED Act, (2006), Stand up India and MUDRA bank" are the milestones for the Micro, Small, and Medium Enterprises (MSMEs) sector and provide a legal framework for the development of SC/ST entrepreneurship in MSME sector in India.

The below table (Table 3.11) illustrates the social category wise number of MSMEs during the year 1940-50 to 2006-16. Compound annual growth rate and average annual percentage change of the number of general categories owned MSMEs have been increasing from the year 1940-50 to the year 2006-16. The compound annual growth rate has been increasing to 20.6 % from 0 % and the average annual percentage change has been increasing to 29.8 % from 14 %. But the percentage share of general category owned enterprises to total MSMEs have been decreasing from 37 % during the year 1940-50 to 35.2 % during the year 2006-16. We can observe that the rate of change of compound annual growth rate and average annual percentage change of general category owned MSMEs have been increasing but the percentage share of such enterprises to total MSMEs declining due to increasing the share of OBC, SC and ST enterprises.

Table 3.11
Social categories wise MSMEs in Andhra Pradesh

YEAR	GEN			OBC		
	CAGR (in %)	AAPC (in %)	No. of units (in %)	CAGR (in %)	AAPC (in %)	No. of units (in %)
1940 to 1950	0.0	14.0	37.0	7.2	20.0	34.8
1951 to 1961	8.4	88.8	38.2	2.9	137.5	47.2
1962 to 1972	8.4	43.7	39.9	-2.2	44.4	39.6
1973 to 1983	14.2	35.1	32.8	10.0	72.7	49.2
1984 to 1994	9.8	38.7	33.1	7.7	66.7	48.9
1995 to 2005	9.8	32.2	28.9	9.7	53.8	50.9
2006 to 2016	20.6	29.8	35.2	10.0	28.3	36.4
YEAR	SC			ST		
	CAGR (in %)	AAPC (in %)	No. of units (in %)	CAGR (in %)	AAPC (in %)	No. of units (in %)
1940 to 1950	11.6	-20.0	19.6	0.0	-20.0	8.7
1951 to 1961	**	15.0	10.6	**	-20.0	4.1
1962 to 1972	**	81.4	16.1	**	-11.7	4.4
1973 to 1983	**	45.5	11.0	7.2	73.7	7.1
1984 to 1994	-1.5	15.6	9.6	14.9	115.3	8.4
1995 to 2005	9.4	28.4	12.3	3.1	59.4	7.8
2006 to 2016	19.6	58.7	22.5	12.9	38.0	6.0

Note: *No data found ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

In the case of OBC owned enterprises, compound annual growth rate and average annual percentage change have been increasing from 1940-50 to 2006-16. The compound annual growth rate has been increasing from 7.2 % during the year 1940-50 to 10 % during the year 2006-16 with some fluctuation in the data. The average annual percentage change has been fluctuating over the years but from 1940-50 to 2006-16 it has been increasing from 20 % to 28.3 %. Even the percentage share of OBC owned enterprises to total enterprises have been increasing to 36.4 % during 2006-16 from 34.8 % during the year 1940-50. But during the year 1995-2005 share of OBC owned enterprises was around 50.9 % and been declining to 36.4 % during 2006-16, but if we compare the data from 1940-50 to 2006-16 their share has increased marginally 1.6 %.

Due to insufficient and lack of data unable to calculate the compound annual growth rate of SC owned enterprises for few decades, but over the years from the year, 1940-50 to 206-16 compound annual growth rate and average annual percentage change have been increasing to 19.5 % and 58.7 % respectively during the year 2006 to 2016. The percentage share of SC owned enterprises in

total MSMEs increased slowly 19.6 % to 22.5 % during the year 1940-50 to 2006-16. Even ST owned enterprises also show the same trends in case of compound annual growth rate and average annual percentage change. But the percentage share of ST owned enterprises to the total MSMEs has been decreasing from 8.7 % during the year 1940-50 to 6 % during the year 2006-16.

We can observe from the above table (Table 3.11) that during the year 1940-50 to 2006-16 percentage share of OBC and SC have been increasing except General and ST category. During the year 2006-16 General category owned enterprises in total MSME were around 35.2 %, the share of OBC, SC, and ST was around 36.4 %, 22.5 %, and 6 % respectively. In recent times government of India constantly putting efforts into empowering the marginalized sections, that is the reason share of other than General category have been improving over the years except for ST category. If we see the shares of different social categories, General category owned MSMEs were around 37 %, OBC occupied 34.8 %, SC occupies 19 % and ST was around 8.7 %. Even if we add both the percentages of SC and ST their values still lower than OBC and General category from the year 1940-50 to 2006-16 but their shares in total MSME sector have been improving due to government policies.

Table 3.12
Social category wise Investment in Andhra Pradesh

YEAR	INVESTMENT								
	GEN			OBC			SC/ST		
	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units
1940 to 1950	0.0	509.0	79.1	14.9	70.3	13.6	7.2	-16.7	7.3
1951 to 1961	10.6	223.2	58.8	3.8	198.4	33.7	**	31.7	7.5
1962 to 1972	13.6	158.5	93.4	-1.5	71.5	4.9	25.9	26.4	1.8
1973 to 1983	37.9	243.3	83.7	12.8	68.8	12.7	5.0	320.5	3.5
1984 to 1994	18.1	112.1	74.4	26.0	113.8	22.8	11.2	53.1	2.8
1995 to 2005	16.3	27.6	70.6	17.7	26.2	24.8	4.4	52.3	4.6
2006 to 2016	35.3	56.5	68.4	38.6	58.9	19.4	52.8	118.5	12.3

Note: ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

The above table (Table 3.12) explains the investment of different social categories during the year 1940-50 to 2006-16. The compound annual growth rate of investment of General category has increased to 35.3 % during the year 2006-16 from 0 % during the year 1940-50, annual average percentage change has been declining from 509 % to 56.5 %, and percentage share of General

category investment declining from 79.1 % to 68.4 %. In the case of investment of OBC of Compound annual growth rate has been declining from 14.9 % to 38.6 % during the year 1940-50 to 2006-16, and average annual percentage change has declined to 58.9 % from 70.3 %. But the percentage share of investment of OBC to total investment increased slowly from 13.6 % to 19.4 % during the same year, it has been registered high share during the year 1951-61 and finally it has fallen to 19.4 % but if we compare with 1940-50's share it has increased marginally 5.8 %.

During the year 1940-50 to 2006-16 Compound annual growth rate and average annual percentage change of investment of SC and ST have been increasing to 52.8 % and 118.5 % respectively from 7.2 % and – 16.7 % respectively. But the percentage share of SC and ST investment to total investment has been increasing to 7.3 % to 12.3 %. From the data, we can observe that the investment share of the General category is higher than OBC, SC, and ST. Because most small and medium enterprises were established by General category entrepreneurs, which needs more investment to compare to microenterprises so that's the reason investment of general category has higher than the other marginalized sections, but an investment of SC and ST was low compare to General and OBC.

Table 3.13

Social categories wise Employment generation of MSMEs in Andhra Pradesh

YEAR	EMPLOYMENT								
	GEN			OBC			SC/ST		
	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units
1940 to 1950	**	129.0	59.3	11.6	40.0	24.7	7.2	-16.7	16.0
1951 to 1961	10.6	198.2	73.0	14.3	200.3	22.9	**	31.7	4.0
1962 to 1972	12.7	60.5	72.6	-1.5	70.3	20.2	25.9	-27.6	7.2
1973 to 1983	48.1	293.2	81.5	6.5	66.6	14.5	-3.2	126.9	4.0
1984 to 1994	14.1	67.6	50.1	22.7	191.8	45.7	14.0	45.5	4.2
1995 to 2005	15.9	30.8	55.2	11.9	38.6	36.8	1.8	24.3	8.0
2006 to 2016	32.4	46.7	61.3	20.7	38.8	26.6	34.3	100.5	12.1

Note: ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

Above Table (Table 3.13) explains the employment generation of different social category wise MSMEs, a compound annual growth rate of employment generation of the General category of MSMEs have been increasing from 10.6 % during the year 1951-61 to 32.4 % during the year

2006-16 but there was high rate of employment during the year 1973-83 with the value of 48.1 % from 1977 and 1980 industrial policies. But in the case of average annual percentage change have been declining from 129 % during the year 1940-50 to 46.7 % during the year 2006-16. Even average annual percentage change was very high during the year 1973-83 with the value of 293 % due to industrial policies of 1977 and 1980, but if you compare the data from 1940-50 to 2006-16 it has been falling. Over the years percentage change of employment generation of General category owned MSMEs have been increased slowly with some fluctuations in the data. During the year 1940-50 percentage share of General category owned MSMEs in total MSMEs was around 59 %, it has increased to 61.3 % during the year 2006-16. But during the year 1973-83 employment generation of General category owned MSMEs share in total MSMEs was a very high share of 81.5 %, this was a result of the 1977 and 1980 industrial policy resolutions and a higher level of investment, but General category owned a share in overall MSMEs have been increasing with some fluctuations in the data.

There was some fluctuation in the data but if compare to the CAGR from 1940-50 to 2006-16, the compound annual growth rate of employment generation of OBC owned MSMEs in total MSMEs has been increasing, average annual percentage change also slowly decreasing over the years. During the year 1940-50 to 2006-16 compound annual growth rate has been increasing to 20.7 % during the year 2006-16 from 11.6 % during 1940-50. But the average annual percentage change has been decreasing to 38.8 % during the year 2006-16. The same trends show in the percentage share of employment generation of OBC enterprises in total MSMEs has fallen to 26.6 % during the year 2006-16 from 24.7 % during the year 1940-50.

Compound annual growth rate and average annual percentage change of SC and ST employment generation have been declining from during 1940-50 to 1995-05, but during the year 2006-16 CAGR and AAPC have increased and the same trends show in the percentage share of SC and ST in the total MSMEs. There was some fluctuation in the data but if a comparison is made to the CAGR from 1940-50 to 1995-05, the compound annual growth rate of the employment generation of SC and ST fell to 1.8 % during the year 1995-05 from 7.2 % during 1940-50. In the case of average annual percentage change has been increasing slowly from -16.7 % to 24.3 % during the same year. But the percentage share of employment generation of SC and ST owned MSMEs to the total MSMEs has been decreasing from 16 % during the year 1940-50 to 8 % during 1995-05.

But over the years Compound annual growth rate, average annual percentage change and percentage share to a total of employment generation of SC and ST owned enterprises have been increasing during the year 2006-16. The compound annual growth rate has been increasing from 1.8 % during the years 1995-05 to 34.3 % during the year 2006-16, in the same way, average annual percentage change and percentage share of SC and ST units have been increasing to 100 %,12.1 % respectively during the year 2006-16 from 24.3 %,8 % during the year 1995-05. This trend shows a positive signal of marginalized sections in the MSME sector, which has resulted from the MSMED act, 2006, and the Government of India's recent initiatives towards the development of marginalized sections in the society.

Table 3.14
Number of General Category owned MSMEs in Andhra Pradesh

Year	GEN								
	MICRO			SMALL			MEDIUM		
	CAGR (in %)	AAPC (in %)	No. of units (in %)	CAGR (in %)	AAPC (in %)	No. of units (in %)	CAGR (in %)	AAPC (in %)	No. of units (in %)
1940 to 1950	0.0	4.0	88.2	**	**	11.8	*	*	0.0
1951 to 1961	8.4	89.1	95.7	**	-10.0	4.3	*	*	0.0
1962 to 1972	7.2	49.2	81.7	7.2	40.0	16.5	**	-10.0	1.8
1973 to 1983	12.5	29.8	86.2	23.1	51.8	13.0	**	-20.0	0.8
1984 to 1994	8.9	44.3	82.5	12.2	48.9	16.5	**	-30.0	0.9
1995 to 2005	8.7	40.6	83.6	15.6	24.6	15.8	0.0	1.7	0.6
2006 to 2016	16.4	26.2	72.5	38.7	52.0	26.5	27.6	65.4	1.0

Note: *No data found ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

The above table (Table 3.14) explains the number of General categories owned by MSMEs, the compound annual growth rate of General category owned micro-enterprises have been increasing from 0 % during the year 1940-50 to 16.4 % during the year 2006-16. But during the year 1973-83 compound annual growth rate registered 12.5 % results from 1977 and 1980 industrial policies. The average annual percentage change of the number of General categories owned microenterprises fluctuating over the years, but it has increased by 26.2 % during the year 2006-16 compared to 4 % during the year 1940-50. The percentage share of the number of General categories owned microenterprises to the total MSMEs has been decreasing to 72.5 % during 2006-16 from 88.2 % during the year 1940-50 with some fluctuations in the data. In the case of compound annual growth rate, average annual percentage change, and percentage share to a total

of small enterprises have been increasing to 38.7 %, 52 %, and 26 % respectively during the year 2006-16. Number registered medium enterprises also increased during 2006-16, with a value of 27.6 % of compound annual growth rate, 65.4 % of average annual percentage change, and 1 % of percentage share to the total.

If we observe the entire Table (Table 3.14) the General category owned microenterprises to total MSMEs have been falling, but the share of small and medium enterprises has been increasing during the year 1940-50 to the year 2006-16. Especially small and medium enterprises had registered more during the year 2006-16 because of government policies and schemes.

Table 3.15
Number of OBC category owned MSMEs in Andhra Pradesh

Year	OBC								
	MICRO			SMALL			MEDIUM		
	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units
1940 to 1950	7.2	20.0	100.0	*	*	0.0	*	*	0.0
1951 to 1961	2.9	137.5	100.0	*	*	0.0	*	*	0.0
1962 to 1972	-2.2	44.4	100.0	*	*	0.0	*	*	0.0
1973 to 1983	10.0	75.0	99.5	**	-20.0	0.5	*	*	0.0
1984 to 1994	7.9	70.3	98.0	-6.7	28.3	1.7	**	-10.0	0.3
1995 to 2005	9.6	55.7	97.8	15.6	23.6	2.1	**	-10.0	0.1
2006 to 2016	8.0	27.4	92.8	40.8	75.0	7.0	**	66.7	0.2

Note: *No data found ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

The above Table explains the compound annual growth rate, average annual percentage change, and percentage share of the number of registered units of OBC in total MSMEs. Compound annual growth rate and average annual percentage change of OBC owned enterprises has been increasing very slowly to 8 %, 27.4 % respectively during the year 2006-16 from 7.2 % and 20 % respectively during the year 1940-50, but percentage share to total MSMEs declining slowly to 92.8 % during the year 2006-16 from 100 % during the year 1940-50 and this was resulting from increases in the number of small and medium enterprises. Compound annual growth rate and average annual percentage change of small enterprises of OBC fluctuating over the years 1973-83 to 1995-05, but during the year 2006-16 they have been increasing to 40.8 % and 75 % respectively and also percentage share to total MSMEs have been increasing to 7 %. Unable to calculate the data of

CAGR and AAPC of small and medium enterprises due to insufficient and lack of data for few decades but percentage share of OBC owned medium enterprises to the total MSMEs has increased slowly with 0.2 % during the year 2006-16.

Table 3.16

Number of SC and ST Category owned MSMEs in Andhra Pradesh

Year	SC/ST								
	MICRO			SMALL			MEDIUM		
	CAGR (in %)	AAPC in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units	CAGR (in %)	AAPC (in %)	% of No. of units
1940 to 1950	7.2	-16.7	100.0	*	*	0.0	*	*	0.0
1951 to 1961	0.0	21.7	100.0	*	*	0.0	*	*	0.0
1962 to 1972	24.6	42.6	100.0	*	*	0.0	*	*	0.0
1973 to 1983	4.6	73.3	99.3	**	-10.0	0.7	*	*	0.0
1984 to 1994	1.7	32.7	99.5	**	-10.0	0.5	*	*	0.0
1995 to 2005	6.6	33.4	99.2	7.2	30.0	0.8	*	*	0.0
2006 to 2016	13.9	48.7	89.3	97.2	245.9	10.6	**	-3.3	0.1

Note: *No data found ** Insufficient data, hence unable to calculate CAGR, AAPC.

Source: Directorate of Industries, A.P.

The above table (Table 3.16) illustrates the SC and ST owned enterprises in total MSMEs, Compound annual growth rate of microenterprises of SC and ST fluctuating during the year 1940-50 to 1995-05, but during the year 2006-16 compound annual growth rate has been increasing to 13.9 %. In the same way, the average annual percentage changes were also fluctuating during the same period but during 2006-16 it has been increasing to 48.7 %. But in case of percentage share to total MSMEs has been decreasing to 89.3 % during the year 2006-16 from 100 % during the year 1940-50, this would result from increases in the number of small and medium enterprises. Even in case of SC and ST owned small enterprises also fluctuated during the year 1973-83 to 1995-05, but during the year 2006-16 compound annual growth rate, average annual percentage change and percentage share of SC and ST owned enterprises to total MSMEs have been increasing to 97.2 %, 245.9 %, and 10.6 % respectively. Until 2006-16 there were no SC and ST medium enterprises were established, but the first enterprise was established during the year 2006-16. So during the year 2006-16 percentage share of SC and ST owned Medium enterprises to total MSMEs was around 0.1 %, this would result from the government's efforts towards the development of SC and ST in the MSME sector.

Table 3.17**Major activities of MSMEs in Andhra Pradesh**

Year	Manufacture			Service		
	CAGR (in %)	AAPC (in %)	No. of units (in %)	CAGR (in %)	AAPC (in %)	No. of units (in %)
1940 to 1950	0.0	-10.0	4.3	11.6	12.9	95.7
1951 to 1961	11.6	23.3	16.3	4.1	48.9	83.7
1962 to 1972	4.1	33.8	18.7	9.0	38.5	81.3
1973 to 1983	18.4	97.3	25.7	7.7	47.6	74.3
1984 to 1994	11.8	79.6	31.5	5.8	45.2	68.5
1995 to 2005	4.9	18.1	23.7	10.7	81.4	76.3
2006 to 2016	32.9	49.0	28.8	10.0	29.7	71.2

Source: Directorate of Industries, A.P.

The above table (Table 3.17) explains the major activities of micro, small, and medium enterprises during the year 1940-50 to 2006-16. According to the MSMED act, 2006 enterprises classified into two broad categories based on the type of activity namely; manufacturing and Services. Enterprises which are engaging in the field of production or manufacturing of goods come under the manufacturing and Enterprises which are engaging in the field of providing or rendering of services come under the manufacturing. The compound annual growth rate of the number of manufacturing units has been increasing from 0 % during the year 1940-50 to 32.9 % during the year 2006-16 and in the case of service providing units have been decreasing from 11.6 % to 10 %. But in the case of average annual percentage changes of manufacturing enterprises and service enterprises have been increasing from -10 % and 12.9 % respectively during the year 1940-50 to 49 % and 29.7 % during the year 200-16.

If we see the percentage share of manufacturing units and service units to total MSMEs, the percentage share of manufacturing units has been increasing from 4.3 % during the year 1940-50 to 28.8 % during the year 2006-16. In the case of service units, the percentage share of service units to total MSMEs has been declining from 95 % during the year 1940-50 to 71.2 % during the year 206-16. If we compare the data during the year 2006 to 2016 the share of manufacturing units was lower than service units, manufacturing share was around 28.8 % and the service unit's share was around 71.2 %. Increasing share of manufacture from 1940-50 to 2006-16 results from government schemes like Make in India, Start-up India, Stand-Up India, etc.

3.5 Role of Self Help Groups (SHGs) in Women entrepreneurship development in A.P.

Self Help Groups (SHGs) development is an important strategy to include deprived sections of society, especially rural women. Women have been neglected economically and socially in society, Self Help Groups (SHGs) are providing microcredit to rural women to making them entrepreneurs and promote entrepreneurial activities in the rural segments. Social empowerment of women can achieve after the economic empowerment, Self Help Groups (SHGs) are better tools for the economic and social empowerment of women in rural areas. Government of India making more effective policies and promotions towards women entrepreneurship development, the recent Global Entrepreneurship Summit (GES)-2017 is the best example. The main agenda of GES-2017 was “Women Entrepreneurship” with the theme of “Women First, Prosperity for All”. The roles of women have been changing in the globalization era, from four walls of the kitchen to the liberalized world.

Table 3.18

Male and Female entrepreneurs in SHGs Promoted MSMEs in AP.

YEAR	MALE (IN %)	FEMALE (IN %)	TOTAL
1981-84	60	40	100
1985-88	65	35	100
1989-92	43	57	100
1993-96	42	58	100
1997-00	45	55	100
2001-04	49	51	100
2005-08	39	61	100
2009-12	38	62	100
2013-16	41	59	100
TOTAL	40	60	100

Source: Directorate of Industries A.P. (UdyogAadhar Memorandum).

Above Table (Table 3.18) shows that the percentage share of male and female entrepreneurs in Self Help Groups (SHGs) promoted MSMEs in Andhra Pradesh. The percentage share of male entrepreneurs occupies major share till 1985-88, afterward the percentage share of women entrepreneurs has been increasing, which can result from the innovative program of Self Help Groups (SHGs) Bank Linkage Programme by NABARD in 1992. Most of the microenterprises have owned by women entrepreneurs in Andhra Pradesh. Self Help Groups (SHGs) are helping to enhance rural women entrepreneurship by disbursing micro-credit to poor

women, thereby creates rural industrialization and equitable distribution of wealth in Andhra Pradesh. Getting formal finance from the banks is a big obstacle for women to start the business because banks treat women as an unproductive object and financially dependent. Self Help Groups (SHGs) are come forward to give loans to the financially excluded sections to fulfil the dreams of self-employment, thereby creating “financial Inclusion” in rural Andhra Pradesh. That is the reason the percentage share of women-owned microenterprises are much higher than the percentage share of male-owned microenterprises in total Self Help Groups (SHGs) promoted microenterprises in Andhra Pradesh.

Table 3.19
District wise SHGs promoted Microenterprises in Andhra Pradesh

Years/Districts	1981-84	1985-88	1989-92	1993-96	1997-00	2001-04	2005-08	2009-12	2013-16	TOTAL
ANANTHAPUR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.29	0.12
CHITTUR	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.14	2.05	0.74
EAST GODAVARI	0.00	20.83	16.67	19.35	15.63	18.95	5.10	2.13	3.22	4.45
GUNTUR	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.88	0.34
KADAPA	0.00	4.17	2.08	6.45	4.17	6.32	5.10	3.79	1.27	3.27
KRISHNA	0.00	4.17	0.00	0.00	0.00	1.05	0.00	0.00	0.78	0.31
KURNOOL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.22
PRAKASHAM	0.00	0.00	2.08	0.00	0.00	0.00	0.23	0.34	0.20	0.28
NELLORE	75.00	70.83	79.17	69.35	78.13	71.58	87.01	92.01	87.32	88.04
SRIKAKULAM	0.00	0.00	0.00	3.23	0.00	1.05	0.70	0.28	1.07	0.65
VISHAKAPATNAM	25.00	0.00	0.00	1.61	2.08	0.00	1.39	1.17	0.98	1.14
VIJAYANAGARAM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.03
WEST GODAVARI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	1.17	0.40
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Directorate of Industries A.P. (UdyogAadhar Memorandum).

The table (Table 3.20) shows that district-wise Self Help Group (SHG) promoted microenterprises in Andhra Pradesh. Data reveals that Self Help Groups (SHGs) promoting more of

microenterprises than small and medium enterprises. In general, banks may not come forward to give microfinance to microenterprises however, the banking system causes "imperfections in financial markets that constrain small borrowers' access to credit" (Webster, 1991). To get out of this financial problem Self Help Groups is one of the innovative tools for removing poverty through microenterprises development with the help of microfinance, with special emphasis on empowering women in rural areas.

The above table (Table 3.20) reveals that among all 13 districts, Nellore occupies a major share in Andhra Pradesh. The percentage share of microenterprises in Nellore is much higher than the remaining districts. Due to infrastructural facilities and strong Self Help Groups (SHGs) financial support results, most of the microenterprises registered in the Nellore district. Overall data reveals different scenario, percentage share of women entrepreneurs were higher than male entrepreneurs in Self Help Groups (SHGs) promoted microenterprises of Andhra Pradesh. In terms of the absolute number of registered Self Help Groups (SHGs) promoted enterprises and Absolut number of women entrepreneurs were high in Nellore district. Since the number of Self Help Group (SHG) promoted women microenterprises are high in the Nellore district of Andhra Pradesh has been selected for the field survey.

CHAPTER-IV

IMPACT OF SHGs ON INCOME AND EMPLOYMENT GENERATION IN MICROENTERPRISES

4.1 Introduction

The main focus of this chapter is to study the impact of Self Help Groups on income and employment generation in Self Help Group promoted women microenterprises. The chapter has been divided into two sections, the first section mainly deals with the impact of Self Help Groups on income and employment generation in microenterprises in rural areas and second sections examines the impact of Self Help Groups on income and employment generation in microenterprises in urban segments of the study area. Total 530 Self Help Group (SHGs) promoted women microenterprises have selected with Stratified Simple Random technique, 310 Self Help Group (SHG) promoted women microenterprises have selected from rural areas, out of which 200 responses received for the study and 220 Self Help Group (SHG) promoted women microenterprises have selected for the study but the study got 100 responses in urban segments of the study area.

Explanatory Factor analysis, Confirmatory factor analysis, and Structural Equation Modelling (SEM) have been used to examine the impact analysis of Self Help Groups on microenterprises. To measure the relationship between the variables and factor loadings, the study will be using the two types of factor analysis, namely;

1. Exploratory Factor Analysis (EFA).
2. Confirmatory Factor Analysis (CFA).

“Exploratory Factor Analysis” will be used to categorize or group the observed variables into the same factor component. Explanatory Factor Analysis also uses the dimension reduction of the observed variables. To measure the relationship between the variables (Observed and Latent variables) the study will be using the “Kaiser-Meyer-Olkin (KMO)” test and “Bartlett's Test Sphericity”. “Confirmatory Factor Analysis (CFA)” is used to measure how well the variables are grouped and it is multivariate statistical procedures. Confirmatory Factor Analysis (CFA) will test whether the data is best fitted for the theory proposed model and validate the model by the grouping of variables into factor components.

The study uses six variables to measure the impact assessment of Self Help Groups on microenterprises namely financial assistance of Self Help Groups to microenterprises, technological assistance of SHGs, Administrative procedures of SHGs, training facilities of SHGs are independent variables. Income generation of micro-entrepreneurs, employment generation of microenterprises are dependent variables.

4.2 Reliability Test of the variable for rural microenterprises

Cronbach's alphas the reliability of scale of different variables, the coefficient of Cronbach's alpha will be measuring the internal consistency of large indicators of a particular variable and shows how a set of items are closely related to a particular variable. The degree of internal consistency of items of a particular variable depends upon the coefficient of Cronbach's alpha. According to "George and Mallery" (2003) if the coefficient of Cronbach's alpha is more than .9 is regarded as "excellent" internal consistency of indicators of particular variable or variables, if the value between .9 and .8 is regarded as "good" internal consistency of indicators of particular variable or variables, an alpha value between .8 and .7 interpreted as "acceptable" internal consistency, if the value between below .7 and .6 maintained as "questionable" and if the value between .6 to .5 and below .5 interpreted as a "poor and unacceptable" of internal consistency of variables. In Social Science reliability coefficient of .70 or higher is considered as "acceptable".

Cronbach's Alpha Formula:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}}$$

Where:

N = the number of items.

$\bar{c}$ = Average covariance between item-pairs.

$\bar{v}$ = Average variance.

Table 4.1
Financial Assistance of Self Help Groups (SHG) in rural areas

Reliability Statistics	
Cronbach's Alpha	N of Items
.890	4

(Accepted value: > .70)

Source: Compiled from Primary Data.

The table (table4.1) shows the reliability of the variable financial assistance of Self Help Groups. Result reveals that there is high internal consistency between four items to measure the particular variable called financial assistance of SHGs. Cronbach's Alpha value is 0.89 this is more than the accepted value (0.70) which means 89 percent of the reliability of four items to measure the variable and data are reliably consistent.

Table 4.2
Employment Generation of SHGs promoted microenterprises in rural areas

Reliability Statistics	
Cronbach's Alpha	N of Items
.716	2

(Accepted value: > .70)

Source: Compiled from Primary Data.

The table (Table 4.2) reveals that the reliability of two items of employment generation of SHGs promoted microenterprises, the confidence value of Cronbach's Alpha is .71 which means there is 71 percent internal consistency between the two items to measure the variable “employment generation”. This value is “acceptable” internal consistency because the value is above the threshold level (.70), which means employment generations of microenterprises are properly designed and collected data are reliably consistent.

Table 4.3
Income Generation of SHGs promoted micro-entrepreneurs in rural areas

Reliability Statistics	
Cronbach's Alpha	N of Items
.914	6

(Accepted value: > .70)

Source: Compiled from Primary Data.

The above table (table 4.3) shows the reliability of the income generation of Self Help Group promoted micro-entrepreneurs; Cronbach's Alpha coefficient for six items is 0.91, reveals that all

six items are highly consistent internally. This is indicating, there is 91 percent of the reliability of items to measure the variable called income generation. The reliability of the six items is very high because Cronbach's Alpha value is much higher than the threshold value (.70).

Table 4.4
Technological Assistance of Self Help Groups (SHGs) in rural areas.

Reliability Statistics	
Cronbach's Alpha	N of Items
.912	4

(Accepted value: > .70)

Source: Compiled from Primary Data.

Cronbach's Alpha test of the given table (table 4.4) reveals that there is excellent internal consistency between four items to measure the particular variable called technical assistance provided by SHGs. The value of Cronbach's Alpha is .91 and this means there is 91 percent of reliability of four items of the variable. So all four items to determine the variable called technological assistance of SHG's data is reliably consistent and four items are appropriately designed.

Table 4.5
Administrative Procedures of Self Help Groups (SHGs) in rural areas

Reliability Statistics	
Cronbach's Alpha	N of Items
.856	3

(Accepted value: > .70)

Source: Compiled from Primary Data.

From the table (table 4.5) it is observed that Cronbach's Alpha test of reliability for the variable called administrative procedures of Self Help Groups is .85 suggested that there is high internal consistency between three items of the variable. It shows there would be 85 percent of the reliability of three items to measure the particular variable called administrative procedures. So all the three items to determine the variable (Technological assistance of SHGs) data are reliably consistency and appropriately designed

Table 4.6
Training Facilities of Self Help Groups (SHGs) in rural areas

Reliability Statistics	
Cronbach's Alpha	N of Items
.941	3

(Accepted value: > .70)

Source: Compiled from Primary Data.

The above table (Table 4.6) shows the reliability test for three items of particular variable called training facilities, the coefficient of Cronbach's Alpha is .94. This indicates that there is an excellent internal consistency of all three items of the variable. There is 94 percent of reliability between the items to measure the variable, training Facilities of Self Help Groups (SHGs), and items of the variable are appropriately designed and data are reliably consistent.

Table 4.7: Correlations for Rural Microenterprises

	TF_AVG	AP_AVG	TA_AVG	IG_AVG	EG_AVG	FA_AVG
Pearson Correlation	1	.527**	.365**	.515**	.328**	.362**
TF_AVG Sig. (2-tailed)		.000	.000	.000	.000	.000
N	200	200	200	200	200	200
Pearson Correlation	.527**	1	.386**	.636**	.327**	.421**
AP_AVG Sig. (2-tailed)	.000		.000	.000	.000	.000
N	200	200	200	200	200	200
Pearson Correlation	.365**	.386**	1	.393**	.419**	.283**
TA_AVG Sig. (2-tailed)	.000	.000		.000	.000	.000
N	200	200	200	200	200	200
Pearson Correlation	.515**	.636**	.393**	1	.380**	.397**
IG_AVG Sig. (2-tailed)	.000	.000	.000		.000	.000
N	200	200	200	200	200	200
Pearson Correlation	.328**	.327**	.419**	.380**	1	.304**
EG_AVG Sig. (2-tailed)	.000	.000	.000	.000		.000
N	200	200	200	200	200	200
Pearson Correlation	.362**	.421**	.283**	.397**	.304**	1
FA_AVG Sig. (2-tailed)	.000	.000	.000	.000	.000	
N	200	200	200	200	200	200

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Compiled from Primary Data.

4.2 Explanatory Factor Analysis (EFA) for rural microenterprises: The factor analysis is the best statistical method to measure the relationship between observed and latent variables (factors). To categorise and measure the relationship between the variables we will be using the two types of factor analysis in the study, namely;

- 1) Explanatory Factor Analysis (EFA).
- 2) Confirmatory Factor Analysis (CFA).

Explanatory Factor Analysis will be used to categorize or group the observed variables into the same factor component. Explanatory Factor Analysis also uses for the dimension reduction of the observed variables. To measure the relationship between the variables (Observed and Latent variables) we will be using the Kaiser-Meyer-Olkin (KMO) Test for Sampling Adequacy and Bartlett's Test Sphericity.

4.2.1 Kaiser-Meyer-Olkin (KMO) Test for Sampling Adequacy: “Kaiser-Meyer-Olkin (KMO)” Test will be used for the measurement of the Sampling Adequacy or used to measure whether data suitable for the factor analysis for a particular variable in the part of the model or complete model. Kaiser-Meyer-Olkin (KMO) index value varies from 0 to 1, if KMO value is 1 then all the variables determine the common factor or if KMO is 0 variables will not measure the common factor.

Table 4.8
KMO index value:

KMO index value	Interpretation
0.00 to 0.49	Unacceptable
0.50 to 0.59	Miserable
0.60 to 0.69	Mediocre
0.70 to 0.79	Middling
0.80 to 0.89	Meritorious
0.90 to 1.00	Marvelous

Source: Kaiser-Meyer-Olkin (1974)

The formula for the KMO test is:

$$KMO_j = \frac{\sum_{i \neq j} r_{ij}^2}{\sum_{i \neq j} r_{ij}^2 + \sum_{i \neq j} u_{ij}^2}$$

Where:

R = [rij] is the correlation matrix

U = [uij] is the partial covariance matrix.

4.2.2 Bartlett's TestSphericity: It is a statistical test for the significance level of correlation in the correlation matrix, the significant value of Bartlett's Test should be less than the critical value (0.05). Acceptance or rejection of the null hypothesis is based on the significance value, if the value is less than critical value then we reject the null hypothesis. Based on this we can say that there will be a relationship between the variables so that we can proceed to the factor analysis.

Table 4.9
KMO and Bartlett's Test for Rural Microenterprises

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.889
Approx. Chi-Square		3547.245
Bartlett's Test of Sphericity	Df	231
	Sig.	.000

(Accepted KMO value: > 0.50, and Sig. value: <0.05)

Source: Compiled from Primary Data.

The above table (Table 4.9) explains the “KMO and Bartlett's test”, the approximate Chi-square value is 3547.245 with 231 Degrees of freedom with 0.00 level of significance. The value of the KMO test is .889 which is higher than the critical value of KMO (.50). It means the KMO index is Meritorious and there is a significant relationship between variables so that we can proceed for the factor analysis. The significant value of Bartlett's Test is 0.000, this is lower than the critical value (0.05). Based on the obtained values of KMO and Bartlett’s test the sample data is appropriate and Explanatory Factor analysis can be conduct.

Table 4.10
Communalities of the variables for Rural Microenterprises

	Initial	Extraction
The operational assistance received from SHG was helpful to run the business (TF1)	1	0.919
The training provided by the SHG helps to improve the skill sets of the members(TF2)	1	0.852
SHGs training to start new enterprise(TF3)	1	0.942
Officials of SHGs not showing gender bias in extending loans (AP1)	1	0.864
Officials of SHGs are friendly in explaining about schemes (AP2)	1	0.832
Easy administrative procedures (rules) to avail SHGs loans (AP3)	1	0.741
The technical support provided by the SHG was helpful for the formation of the enterprise (TA1)	1	0.788
SHG helps to market and distribute the products of the members (TA2)	1	0.79
SHG helps to procure raw materials for their members (TA3)	1	0.771
It provides work shed facilities to its member for their business (TA4)	1	0.877
I have access to the increased income (IG1)	1	0.845
My credit capacity has increased over some time (IG2)	1	0.505
I have generally used my loan money on income-generating activities (IG3)	1	0.797
I have access to the increased savings (IG4)	1	0.778
There is an improvement in the monthly consumption level of the household. (IG5)	1	0.678
I contribute to buying household assets like TV, Fridge, Fan, etc.(IG6)	1	0.763
The number of Employees has increased after joining SHGs (EG1)	1	0.73
Share of Women employment have improved (EG2)	1	0.781
SHGs do provide timely financial support (FA1)	1	0.755
The Financial assistance received from SHG was helpful to run the business(FA2)	1	0.866
The interest rate of SHG's Loan lower than other financial services (FA3)	1	0.857
SHGs loans no need any collateral to avail (FA4)	1	0.673

Extraction Method: Principal Component Analysis.

Source: Compiled from Primary Data.

The above table (Table 4.10) explains the commonalities of the variables related to Self Help Group's contribution to income and employment generation in women microenterprises. Above all communality values of variables are having higher values than the critical value (0.50) and these values explain the level of explanation about a common factor. It explains that all the above variables with higher values are better representing the common factor than variables with low communality values. Based on the above values all the items are closely related to the respective variables of the study and all the above variables attain the acceptable level of explanation.

Table 4.11
Total Variance Explained for Rural Microenterprises

Component	Total Variance Explained								
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.169	41.676	41.676	9.169	41.676	41.676	4.357	19.804	19.804
2	2.354	10.698	52.373	2.354	10.698	52.373	3.303	15.014	34.818
3	2.130	9.681	62.055	2.130	9.681	62.055	3.169	14.404	49.222
4	1.565	7.116	69.170	1.565	7.116	69.170	2.686	12.208	61.431
5	1.179	5.359	74.529	1.179	5.359	74.529	2.149	9.767	71.197
6	1.008	4.581	79.110	1.008	4.581	79.110	1.741	7.913	79.110
7	.749	3.406	82.516						
8	.482	2.192	84.708						
9	.444	2.019	86.727						
10	.403	1.833	88.561						
11	.400	1.818	90.378						
12	.332	1.507	91.885						
13	.319	1.451	93.336						
14	.247	1.122	94.458						
15	.239	1.085	95.544						
16	.223	1.013	96.557						
17	.196	.890	97.446						
18	.159	.722	98.168						
19	.129	.586	98.754						

20	.110	.498	99.252						
21	.105	.477	99.728						
22	.060	.272	100.000						

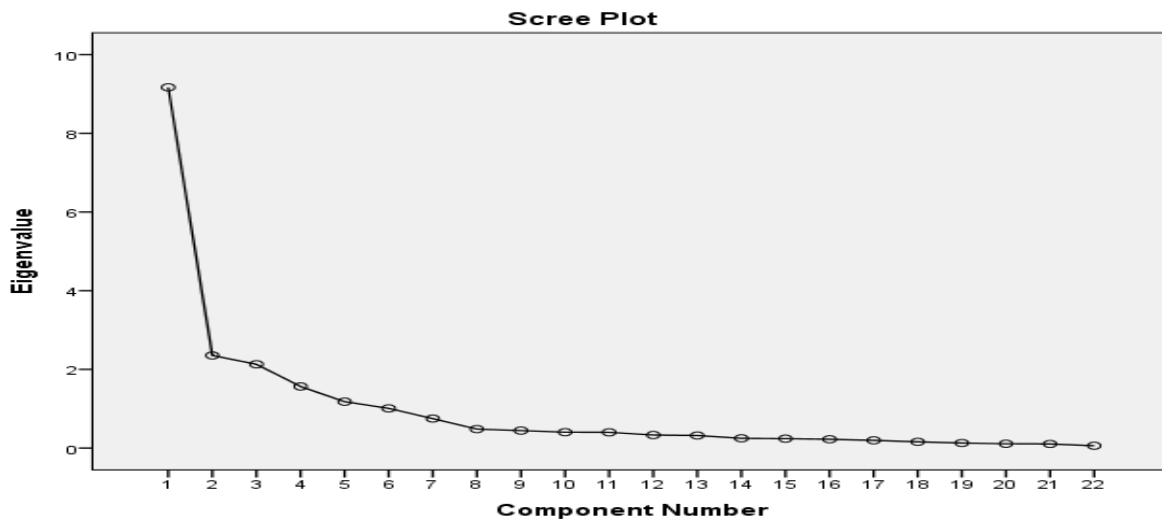
Extraction Method: Principal Component Analysis.

Source: Compiled from Primary Data.

After checking the communalities of the variable then the study will follow the factor extraction method, can extract the components from the data by using the factor extraction method. Here the principal component analysis is used to extract the factors which are influencing more in the total variance. In principle component analysis Eigenvalues are used, the maximum Eigenvalue explains the maximum variability extracted, the second-highest Eigenvalue explains the second higher variability, and so on. We retain the Eigenvalues greater than one (Eigenvalue > 1) to explain maximum variability.

From the table (table 4.11), it is observed that six factors are extracted from 22 components measuring the impact of Self Help Group on the income and employment generation in microenterprises. All six components are accounting for 79.11 percent of the total variability of the impact of Self Help Group on the income and employment generation of microenterprises in Rotation Sums of Squared. The first component with Eigenvalue of 9.16 accounted for 19.80 percent of variability, second variable with Eigenvalue of 2.35 account for 15.01 percent of variability, Eigenvalue of the third component is 2.13 account for 14.40 percent of the variance, the Eigenvalue of fourth and fifth variables having 1.56 and 1.17 which account for 12.20, 9.76 percent of the variability. Forth last component (Sixth) with Eigenvalue 1.00 accounts for 7.91 percent of the variability in the data.

Figure 4.1
Scree Plot for Rural Microenterprises



Source: Compiled from Primary Data.

The above diagram explains the Eigenvalues of each factor component by the scree plot, OX-axis measures the component number, and Eigenvalues are measured on the OY-axis. Each point on the Scree plot curve explains the level of variability, first six columns of the scree plot show downward slopes after that the curve looks steeply down, and slowly it becomes a horizontal line. The horizontal line shows that each factor explains very smaller variability and the downward sloping curve explains that each factor component explains about very large variability. It can be concluded that the first six components are having higher Eigenvalues greater than unity that is the reason after the six columns of scree plot looks like a flat or horizontal line. Above all, six-factor components are extracted from 22 variables. And they explain 79.11 percent of the total variability of the impact of Self Help Group on the income and employment generation of micro-enterprises.

Table 4.12
Rotated Component Matrix for Rural Microenterprises

	Component					
	Income Generation	Technological Assistance	Financial Assistance	Training Facilities	Administrative Procedures	Employment Generation
Improvement in income.	.864					
Increased Asset holdings.	.801					
Productive activities increased.	.796					
Increased savings.	.769					

Increased consumption.	.703					
Improvement in credit capacity.	.684					
Technical support.		.863				
Procure raw materials.		.860				
Workshed facilities.		.837				
Marketing and distribution.		.832				
The low-Interest rate of SHGs.			.890			
Helpful to run the business.			.863			
Timely financial support.			.800			
No collateral to avail of loans.			.784			
Training useful to startups.				.882		
Operational assistance.				.875		
Training programs Helpful.				.842		
Easy administrative rules.					.794	
Officials are friendly.					.736	
No gender bias.					.712	
Improvement in Employment.						.808
Women's employment has improved.						.802

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 6 iterations.

Source: Compiled from Primary Data.

The above table (table 4.12) explains the Rotated Component Matrix, which is used to measure the correlation between variables and factor components. Orthogonal rotation also known as “Varimax” explains the weights of different variables of the factor components and their weights depend upon their loadings. The main objective of rotation is to minimize the number of factor components that are having more loadings and the main results of the principal component analysis will be showing with the help of orthogonal rotation (Varimax). The correlations of the variables and factor components values range between -1 to +1, The thumb rule for considering the factor loadings is more than or equal to 0.50 (Guadagnoli & Velicer, 1988), it means we will consider the values which are more than the 0.50. The first-factor component having more loadings of variables subsequently second and other factor components are account for the smaller loading of the variables. The present study has been using six factors to measure the impact assessment of SHGs on income and employment generation of the microenterprises. The above table (table 4.12)

reveals that all twenty-two items are grouped into six main factors components based on their similar response of items. Above all items are fit into their respective factor components and collected data is best fitted to measure the factor components.

The table (table 4.12) reveals that first-factor component characterized by six items, namely “I have access on the increased income (0.864), “I contribute for buying household assets like TV, Fridge, Fan, etc. (0.801), “I have generally used my loan money on income-generating activities (0.796), “I have access on the increased savings (0.769), “There is an improvement in the monthly consumption level of the household. (0.703) and “My credit capacity has increased over a while (0.684). Improvement in the income and asset holding capacity has been highly correlated with the first-factor component called “**Income generation**”. The remaining four items are considered under the first-factor component because the values of correlation of all four items are greater than the thumb rule value (0.50). Similarly, the second-factor components constituted by four items (variables), they are; “the technical support provided by the SHG was helpful for the formation of the enterprise (0.863)”, “It provides work shed facilities to its member for their business (0.860)”, “SHG helps to procure raw materials for their members (0.837)” and “SHG helps to market and distribute the products of the members (0.832). The above table (table 4.12) explains that Technical support and work shed facilities are accounted more correlation with the second-factor component followed by the other two items, which are greater than the thumb rule value (0.50). The second-factor component labelled as a “**Technical Assistant**”. All the four items are having a similar correlation with the second-factor component and collected data for the second-factor component is best fitted.

Similarly, for the third-factor component is correlated with four items namely, “Interest rate of SHG's Loan lower than other financial services (0.890)”, “The Financial support received from SHG was helpful to run the business (0.863)”, “SHGs do provide timely financial support (0.800)” and “SHGs loans no need any collateral to avail (0.784). All these items (Variables) come under the third-factor component and having a similar correlation with the factor. The Third-factor component called “**Financial Assistance**”, low rate of the interest rate of SHGs and Financial support by SHGs accounts for a high correlation with the third factor followed by the other two variables.

Similarly, if we consider the fourth-factor component, it is represented by three items or variables, they are; “SHGs training to start new enterprise (0.883)”, “the operational assistance received from SHG was helpful to run the business (0.875)” and “The training provided by the SHG helps to improve the skill sets of the members(0.842)”. The fourth-factor component described as a “**Training Facilities**” and all items under the fourth component highly correlated. Fifth Factor component is characterized by the three items, namely “Easy administrative procedures (rules) to avail SHGs loans (0.794)”, “Officials of SHGs are friendly in explaining about schemes (0.736)” and “Officials of SHGs not showing gender bias in extending loans (0.712)”. The fifth-factor component defined as an “**Administrative Procedures**”. The last factor component is the sixth factor which is accounted for two variables, namely “Number of Employees have increased after joining SHGs (0.808)” and “Share of Women employment have improved (0.802)”. The sixth-factor component defined as “**Employment Generation**” and two items or variables highly correlated with the factor component. Based on the above values of the varimax rotation the study will be preceded for further analysis.

4.3 Confirmatory Factor Analysis for rural microenterprises: “Confirmatory Factor Analysis” (CFA) is used to measure how well the variables are grouped and it is multivariate statistical procedures. “Confirmatory Factor Analysis (CFA)” will test whether the data is best fitted for the theory proposed model and it validates the model by grouping of variables into factor components. The validity of the measurement model depends upon the acceptable level of goodness-of-fit and constructs validity. Campbell and Fiske (1959) proposed two validities to measure validity procedures, they are;

- 1) Convergent validity.
- 2) Discriminate validity.

4.3.1 Convergent validity and discriminate validity: Convergent validity and discriminant validity are the subsets of the construct validity (Cambell and Fiske, 1959). Convergent validity is explained about the correlation between measurement items and its proposed theoretical construct. The study will be using the Average Variance Extracted (AVE) and standard loadings extracted to measure the convergent validity.

4.3.2 Thumb rule for the convergent validity - “Hair et al, 2010”:

- AVE should more than 0.5 ($AVE > 0.5$).
- CR should greater than AVE.
- CR should more than 0.70 ($CR > 0.70$).

According to “Hair et al.” (2010) discriminate validity is “the degree to which two conceptually similar concepts are above distinct”. Based on the Average Variance Extracted (AVE) and Maximum Shared Variance (MSV) we will calculate the validity of factors.

4.3.3 Thumb rule for the discriminate validity- “Hair et al, 2010”:

- AVE more than MSV; $(AVE) > (MSV)$.
- AVE more than ASV; $(AVE) > (ASV)$.
- Square root of AVE should more than the inter construct correlation (Fornell-Lacker, 1994).

The below tables (tables 4.13&14) explains the convergent and discriminate validity, rows in the table represent the constructs, namely; Income Generation (IG), Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), Employment Generation(EG). Columns represent Cronbach’s alpha of reliability, Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV), and Average Shared Variance (ASV).

Table 4.13
Convergent Validity and Reliability for Rural Microenterprises

Constructs	Cronbach’s alpha	C.R	AVE	MSV	ASV
Income Generation (IG)	.914	.920	.662	.501	.232
Technological Assistance (TA)	.912	.913	.726	.259	.198
Financial Assistance (FA)	.890	.893	.682	.252	.189
Training Facilities (TF)	.941	.945	.851	.291	.235
Administrative Procedures (AP)	.856	.702	.583	.501	.369
Employment Generation(EG)	.716	.733	.584	.259	.209

Note: “Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV). Reliability: $C.R > 0.7$; Convergent validity: $AVE > 0.5$; $C.R > AVE$; Discriminate validity: $MSV \& ASV < AVE$; Square root of AVE $>$ Inter construct co-relation”.

Source: Compiled from Primary Data.

Table 4.14
Discriminant validity for Rural Microenterprises

Constructs	Income Generation	Technological Assistance	Financial Assistance	Training Facilities	Administrative Procedures	Employment Generation	AVE
Income Generation (IG)	0.814						0.662
Technological Assistance (TA)	0.393	0.852					0.726
Financial Assistance (FA)	0.397	0.283	0.826				0.682
Training Facilities (TF)	0.515	0.365	0.362	0.922			0.851
Administrative Procedures (AP)	0.636	0.386	0.421	0.527	0.764		0.583
Employment Generation (EG)	0.38	0.419	0.304	0.328	0.327	0.764	0.584
*. Correlation is significant at the 0.05 level (2-tailed).							
**. Correlation is significant at the 0.01 level (2-tailed).							

Note: “Square root of AVE (Bold values) > Inter construct co-relation (Non-Bold Vales)”.

Source: Compiled from Primary Data.

Both tables (tables 4.13&14) reveals that the values of Composite Reliability (CR) and Average variance Extracted (AVE) of Income Generation (IG) are 0.920 and 0.662, these values are above the rule of thumb values (CR>0.7 and AVE >0.5). For the second construct that is Technological Assistance (TA), the value of the composite reliability is 0.913 this is above the value of the thumb rule similar to the value of the Average Variance Extracted (AVE) also more than the threshold value. The AVE value is 0.726. The values of the composite reliabilities of Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG) are 0.893, 0.945, 0.702 and 0.733 respectively and all the values are above the thumb value (0.70). Similarly, the values of Average Variance Extracted (AVE) also satisfies the validity criteria, which means all the obtained values are above the threshold limit (0.5). The table (table 4.13) reveals that the values of composite reliability and average variance extracted satisfied the rule of thumb for the convergent validity for all the six constructs.

Based on the “Average Variance Extracted (AVE)” and “Maximum Shared Variance (MSV)” the discriminant validity is calculated. The obtained value of Average variance Extracted (AVE) for the all the six constructs satisfy the thumb rule of the discriminant validity. The table (table 4.13) reveals that all the values of maximum shared variance and average shared variances are less than the average variance extracted. The second method to measure the discriminant validity is that the square root of Average Variance Extracted (AVE) should be more than the inter construct correlation (Fornell-Lacker, 1994). The table (table 14) shows the diagonal values are representing the square root of AVE, which are representing in the bold values, other values are representing the inter construct correlation. The table (table 14) reveals that the values of the square root of AVE are greater than the values of inter construct correlation. Finally, based on the above data of the two tables (tables 4.13&14), the study has determined the convergent validity and discriminant validity.

4.3.4 Degrees of Freedom (df): Degrees of Freedom (df) is the freedom to vary the number of values in the study, to understand the significance of the Chi-square statistics. The equation explains the number of covariance of off-diagonal and variance on the diagonal, in the Structural Equation Modeling (SEM) degrees of freedom is based on the size of the covariance. The following formula explains the Degrees of Freedom for the Structural Equation Modeling (SEM);

$$df = \frac{1}{2} [(p)(p + 1)] - k$$

P = Number of observed variables.

K = number of estimated parameters.

4.3.5 Comparative Fit Index (CFI):“Comparative Fit Index” (CFI) is a revised version of the Normed Fit Index (NFI), directly related to non-centrally measure and not very sensitive size of the sample (Chen, 2007). Comparative Fit Index (CFI) compares the fitness of the independent model and target (hypothesis) model. A higher value of the Comparative Fit Index (CFI) indicates a good or better fit. According to “Schermllen-Engel (2003), Moorbrugger (2003) and Bentler (1998)” The value greater than the 0.95 indicates good fit of the model.

4.3.6 Tucker Lewis Index (TLI): “Tucker Lewis Index” (TLI) is proposed to overcome the disadvantage due to sample size in the Normed Fit Index (NFI) and it is also called “Non-Normed Fit Index (NNFI)”. The higher the values of TLI are the indicator for the good fit of the model, the acceptable level of Tucker Lewis Index (TLI) is greater than the value 0.95. The value of TLI ranges between zero (0) to one (1), the formula for the Tucker Lewis Index (TLI) as follows (Gerbing & Anderson, 1992);

$$TLI = \frac{(\chi^2_i / \nu_i) - (\chi^2_t / \nu_t)}{(\chi^2_i / \nu_i) - 1} = \frac{(F_i / \nu_i) - (F_t / \nu_t)}{(F_i / \nu_i) - (1 / (n - 1))}$$

χ_i = Independent Model

χ_t = Target Model

ν_i = Degree of Freedom for independent model.

ν_t = Degree of freedom for target model.

F = The value of minimum fit function.

N = Sample size.

4.3.7 Root Mean Square Error of Approximate (RMSFA): According to Chen, 2007 “Root Mean Square Error of Approximate (RMSFA) index is the difference between Hypothesized covariance matrix and observed covariance matrix per degree of freedom”. This index was proposed by “Steiger & Lind, (1980)”, gives the best measure for a larger sample size than the smaller sample size. RMSFA index value ranges between zero and one, the model also best fit if the index value between 0.05 and 0.08, However, the value 0.05 is a good fit and the value 0.08 is acceptable fit of the model “(Hair et al. 2010, Forza & Filippini, 1998, Greenspoon & Saklofske, 1998, Awang, 2012)”.

Table 4.15

Confirmatory Factor Analysis (CAF) fit indices for Rural Microenterprises

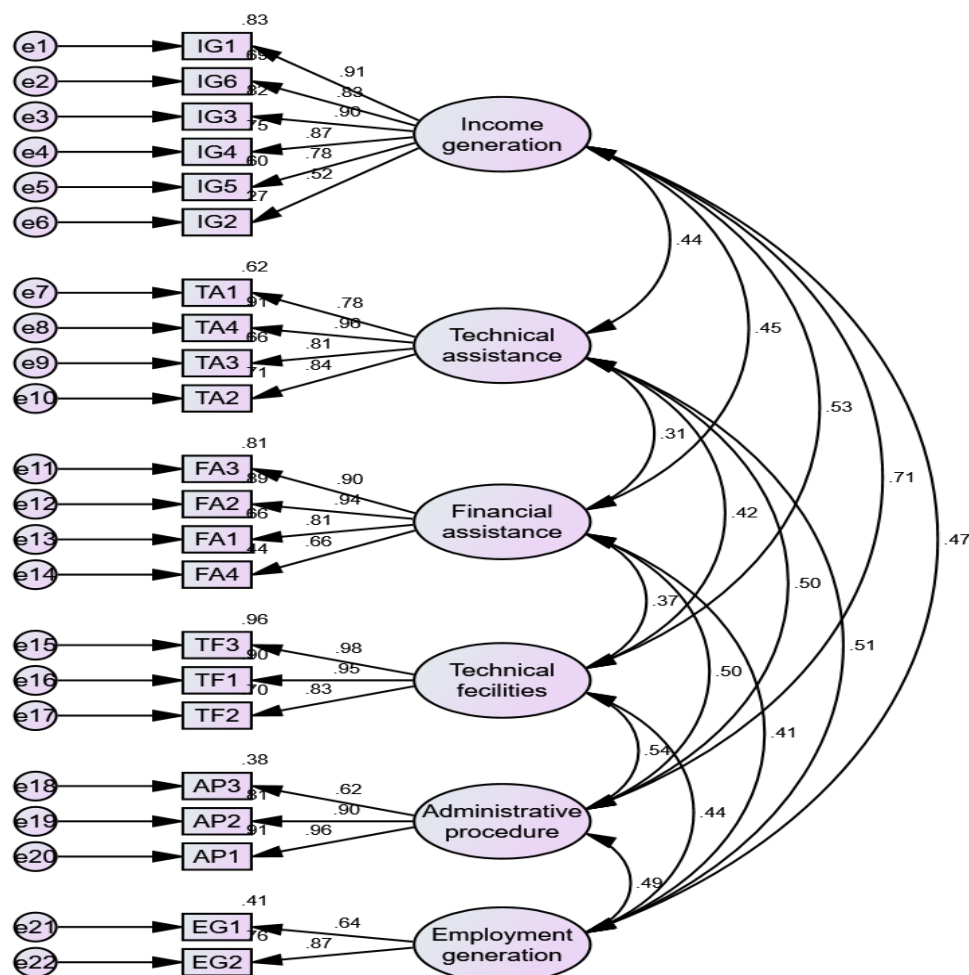
Model fit summary	Fit indices	Rule of thumb
CMN/DF	1.427	< 3
CFI	0.976	> 0.95
TLI	0.972	> 0.95
RMSEA	0.046	≤ 0.08
P	0.000	0.000

Source: Compiled from Primary Data.

The above table (table 15) explains the fit indices of confirmatory factor analysis and method of maximum likelihood estimation. This will be used to verify the Goodness of Fit (GOF) for the model. Indices namely, degrees of freedom (df), Comparative Fit Index (CFI), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and Root Mean Square Error of Approximate (RMSFA). All the indices are within the accepted range, they are satisfying the rule of thumb values. $df = 1.42$, $CFI = 0.976$, $TLF = 0.972$, $RMSEA = 0.046$ and $p = 0.000$. Hence based on the theses values the model is the best fit.

FIGURE 4.2

MEASUREMENT MODEL FOR RURAL MICROENTERPRISES



Source: Compiled from Primary Data.

The above figure explains the Structural Equation Model (SEM), circles represent latent variables (factors), observed variables (items) are represented in rectangles, and errors are represented by ellipses. There are six latent variables namely, Income Generation (IG), Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG) in the Confirmatory Factor Analysis (CFA) diagram. Double-headed arrows of two interrelated constructs explain the inter-correlation. The regression paths are denoted by the single-headed arrows from circle to rectangles, which explains the link between observed variables and latent variables. The arrows from ellipses to rectangles represent the errors of the observed variables.

The figure reveals that the double-headed arrows between income generation to other five latent variables namely, Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP) and Employment Generation (EG) show that there are 0.44, 0.45, 0.53, 0.71 and 0.47 levels of inter-correlation between IG and other five variables respectively. Similarly for inter-correlation between Technological Assistance and the other four variables (Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG)) shows 0.31, 0.42, 0.50 and 0.51 levels of correlation among them. Inter Correlation between Financial Assistance (FA) and the other three variables (Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG)) having 0.37, 0.50, and 0.41 level of inter-correlation respectively.

Similarly, the correlation of Training Facilities to Administrative Procedures (AP) and Employment Generation (EG) are 0.54 and 0.44 levels and similarly, inter-correlation between Administrative Procedures (AP) and Employment Generation (EG) is 0.49 level. Based on the obtained data there is more inter-correlation between income generation and administrative procedures (0.71) in the study. Self Help Groups (SHGs) were more successful because of simple rules and regulations, no collateral, etc. which results from most of the excluded sections are availing the institutional credit. The single head arrows from circles to rectangles are representing the items loading into the factor components. The figure reveals that all the items are the best fit into their respective factor components and collected data is best fitted to measure the factor components.

4.4 Structural Equation Modelling for rural microenterprises: The objective of the study is to find the impact of Self Help Groups (SHGs) on income and employment generation of microenterprises. The study has framed a total of 8 alternative hypotheses in which four alternative hypotheses for income generation and the remaining four for employment generation.

4.4.1 Hypotheses for Impact assessment of SHGs on Income generation in rural area:

H0 Financial assistance has no positive effect on Income generation of SHGs promoted microenterprises.

H1: Financial assistance has a positive effect on Income generation of SHGs promoted microenterprises.

H0: Technical assistance has no positive effect on Income generation of SHGs promoted microenterprises.

H2: Technical assistance has a positive effect on Income generation of SHGs promoted microenterprises.

H0: Administrative Procedures has no positive effect on Income generation of SHGs promoted microenterprises.

H3: Administrative Procedures have a positive effect on Income generation of SHGs promoted microenterprises.

H0: Training Facilities has no positive effect on Income generation of SHGs promoted microenterprises.

H4: Training Facilities has a positive effect on Income generation of SHGs promoted microenterprises.

Table 4.16**Results of hypothesis testing for Rural Microenterprises Income Generation**

Independent Variable	Dependent variables	Hypothesis	Standard estimates (β)	Standard error	t-statistic	p-value	Results
Financial assistance	Income generation	H1	.129	.052	2.120	.034	Significant
Technological Assistance	Income generation	H2	.090	.053	1.479	.139	Not Significant
Administrative Procedures	Income generation	H3	.584	.106	7.072	***	Significant
Training Facilities	Income generation	H4	.223	.046	3.718	***	Significant

Note: Significant at P value < 0.05 level (2-tailed).

***significant at P value < 0.01 level (2-tailed).

Source: Compiled from Primary Data.

Table 4.17
Cumulative squared multiple correlations coefficient (R^2)

Variable	R^2
Income Generation	0.416

Source: Compiled from Primary Data.

The above table (table 4.17) explains the testing of the hypothesis in the “Structural Equation Model” (SEM) for the impact assessment of SHGs on income generation. The study will assess the impact by using five variables namely, financial assistance, technological assistance, administrative procedures, training facilities (Independent variables) and Income generation is the dependent variable. The above results reveal that the P-value for the H1 is significant at 0.034, so the null hypothesis will be rejected, which means financial assistance had a positive impact on the income generation of microenterprises with Path coefficient (β) value is 0.12.

Similarly, the p-value for the H3 and H4 are significant at 0.01 which results in rejection of the null hypothesis. It suggested that the Administrative Procedures and training facilities have a positive effect on income generation of SHGs promoted microenterprises with the path coefficient (β) values are 0.584 and 0.223 respectively. It is surprising to know that the p-value for the H2 not significant at 0.139 levels, hence the study will accept the null hypothesis such that

technical assistance has not been providing the income generation of SHGs promoted microenterprises.

The study has found that most of the microenterprises getting technological support from the Self Help Groups (SHGs) but their assistance is not providing a profitable income for the micro-entrepreneurs. The study has revealed that most women micro-entrepreneurs have felt that the technical support of the Self Help Group (SHG) was not modern or upgraded technology and unable to meet the current market trends, results in a low level of income to women micro-entrepreneurs. The structural Equation Model (SEM) also measures the Cumulative squared multiple correlations coefficient (R²). The above table (table 4.17) reveals that the independent variables explain 42 percent of the variance in the dependent variable.

4.4.2 Hypotheses for Impact assessment of SHGs on Employment generation in rural area:

H0 Financial assistance has no positive effect on Employment generation of SHGs promoted microenterprises.

H1: Financial assistance has a positive effect on Employment generation of SHGs promoted microenterprises.

H0: Technical assistance has no positive effect on Employment generation of SHGs promoted microenterprises.

H2: Technical assistance has a positive effect on Employment generation of SHGs promoted microenterprises.

H0: Administrative Procedures has no positive effect on Employment generation of SHGs promoted microenterprises.

H3: Administrative Procedures have a positive effect on Employment generation of SHGs promoted microenterprises.

H0: Training Facilities has no positive effect on Employment generation of SHGs promoted microenterprises.

H4: Training Facilities has a positive effect on Employment generation of SHGs promoted microenterprises.

Table 4.18
Results of hypothesis testing for Rural Microenterprises Employment Generation

Independent Variable	Dependent variables	Hypothesis	Standard estimates (β)	Standard error	t-statistic	p-value	Results
Financial assistance	Employment generation	H1	.190	.048	2.234	.025	Significant
Technological Assistance	Employment generation	H2	.338	.057	3.362	***	Significant
Administrative Procedures	Employment generation	H3	.210	.074	2.377	.017	Significant
Training Facilities	Employment generation	H4	.185	.041	2.233	.026	Significant

Note: Significant at P value < 0.05 level (2-tailed).

***significant at P value < 0.01 level (2-tailed).

Source: Compiled from Primary Data.

Table 4.19
Cumulative squared multiple correlations coefficient (R^2)

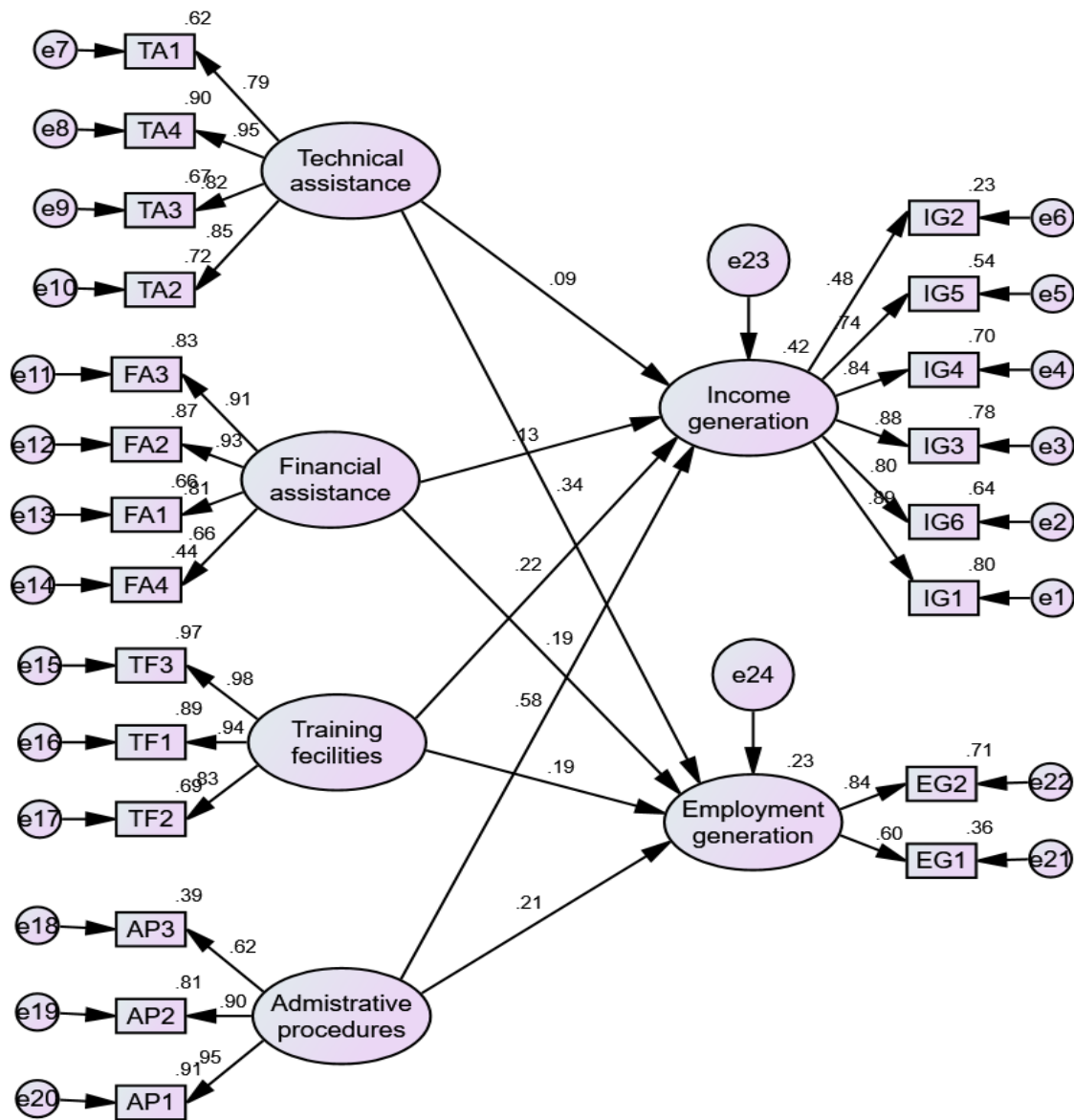
Variable	R^2
Employment Generation	0.229

Source: Compiled from Primary Data.

The above table (table 4.19) explains the testing of hypotheses in the “Structural Equation Model “(SEM) for the impact assessment of SHGs on employment generation. The study will assess the impact by using five variables namely, financial assistance, technological assistance, administrative procedures, training facilities (Independent variables) and employment generation is the dependent variable. The above results reveal that the P-value for the H1 is significant at 0.025, so the null hypothesis will be rejected, which means financial assistance had a positive impact on the employment generation of microenterprises with Path coefficient (β) value is 0.190. Similarly, the p-value for the H2, H3, and H4 are significant at 0.01 which results in rejection of the null hypothesis. It suggested that the technical assistance, administrative Procedures, and training facilities have a positive effect on the employment generation of SHGs promoted microenterprises with the path coefficient (β) values are 0.338, 0.210, and 0.185 respectively. The study has found that “Self Help Groups” (SHGs) are playing a significant role in the employment generation of microenterprises. It creates the gainful employment to economically and socially

excluded sections of the society, especially for the women, poor in the rural segments. The structural Equation Model (SEM) also measures the Cumulative squared multiple correlations coefficient (R²). The above table (table 4.19) reveals that the independent variables explain 23 percent of the variance in the dependent variable.

FIGURE 4.3
STRUCTURAL EQUATION MODEL (SEM) FOR RURAL MICROENTERPRISES



Source: Compiled from Primary Data.

The above figure explains the Structural Equation Model (SEM), circles are represented latent variables (factors), observed variables (items) are represented in rectangles, and errors are represented by ellipses. There are six latent variables namely, Income Generation (IG), Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG) in the structural model diagram. The regression paths are denoted by the single-headed arrows from circle to rectangles, which explains the link between observed variables and latent variables. The same single-headed arrows from independent variables to dependent variables are representing the beta value. The arrows from ellipses to rectangles represent the errors of the observed variables.

4.4.3 SEM diagram interpretation for Rural Microenterprises Income Generation: In the above figure (figure 4.3) shows the single-headed arrow from technical assistance to income generation shows the beta value 0.09. The beta value of technical assistance to income generation has positive signs but insignificant, which means that there is a positive relationship between two variables. Since the beta value is a very low independent variable (Technological Assistance) does not influence the dependent variable much (Income Generation). The beta value for financial assistance (Independent Variable) to income generation (Dependent Variable) is 0.13 with significant p-value (arrows from Financial assistance Circle to Income Generation circle), which means that financial assistance has a positive impact on the income generation of Self Help Groups (SHGs) promoted microenterprises.

The beta value for the training facilities to income generation is 0.22 with significant p-value (Arrow from training facilities circle to income generation circle). Since there is a positive sign there is a positive relationship between the independent variable and dependent variable, which means training facilities has a positive impact on the income generation of micro-entrepreneurs. Similarly, there is a positive relationship between administrative procedures and income generation of microenterprises with the beta value 0.58 with significant p-value. The figure reveals that among all the four independent variables namely, Financial Assistance, Technological Assistance, Administrative Procedures, and Training Facilities, the impact of Administrative Procedures on income generation of SHGs promoted micro-entrepreneurs in rural.

The value above the income generation circle represents the R square (r^2) value which reveals that the independent variables explain 42 percent of the variance in the dependent variable.

4.4.4 SEM diagram interpretation for Rural Microenterprises Employment Generation: The single-headed arrows show the beta value from independent variables circles to the dependent variable circle. There are four independent variables namely; Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and dependent variables are Income Generation, Employment Generation (EG). The beta value for the technical assistance circle to employment generation is 0.34 with significant p-value. Since the beta value is positive, Technological assistance positively impact on the employment generation of SHGs microenterprises in rural areas.

The beta value of financial assistance to employment generation is 0.19 with significant p-value. The positive beta value reveals that one unit change in financial assistance leads to a 0.19 level change in the employment generation of microenterprises. Similarly, the beta values for training facilities and administrative procedures to employment generation were 0.19 and 0.21 with significant p-value respectively. This means that training facilities and administrative procedures positively impact on the employment generation of SHGs promoted microenterprises. The value above the income generation circle represents the R square (r^2) value which reveals that the independent variables explain 23 percent of the variance in the dependent variable.

Table 4.20
SEM fit indices for Rural Microenterprises

Model fit summary	Fit indices	Threshold value
CMN/DF	2.257	<3
CFI	0.965	>0.95
TLI	0.961	>0.95
RMSEA	0.050	≤0.08
P	0.000	0.000

Source: Compiled from Primary Data.

The above table (table 4.20) explains the fit indices of the Structural Equation Model (SeM) and the method of maximum likelihood estimation will be used to verify the Goodness of Fit (GOF) for the model. Indices namely, degrees of freedom (df), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and Root Mean Square Error of Approximate (RMSFA). All the indices are accepted range, they are satisfying the rule of thumb values. $df = 2.257$, $CFI = 0.965$, $TLF = 0.961$, $RMSEA = 0.050$ and $p = 0.000$. Hence based on the theses values the model is the best fit in the study.

II Impact of SHGs on income and employment generation in microenterprises in urban areas

In this section of the study will be focused on the impact assessment of Self Help Group (SHG) promoted women microenterprises in urban segments of the study area. The study has six variables to measure the impact assessment namely financial assistance of Self Help Groups to microenterprises, technological assistance of SHGs, Administrative procedures of SHGs, training facilities of SHGs are independent variables and Income generation of micro-entrepreneurs, employment generation of microenterprises are dependent variables. The study will be used 100 Self Help Group (SHG) promoted women microenterprises from urban segments of the study area.

4.5 Reliability Test of the variable for urban microenterprises: Cronbach's alpha test examines the reliability of scale of different variables, the coefficient of Cronbach's alpha will be measuring the internal consistency of large indicators of a particular variable and shows how the set of items are closely related to a particular variable. Degree of Internal consistency of items of a particular variable depends upon the coefficient of Cronbach's alpha. According to "George and Mallery (2003)" if the coefficient of Cronbach's alpha is more than .9 is regarded as "excellent" internal consistency of indicators of particular variable or variables, if the value between .9 and .8 is regarded as "good" internal consistency of indicators of particular variable or variables, the alpha value between .8 and .7 interpreted as "acceptable" internal consistency, if the value between below .7 and .6 maintained as "questionable" and if the value between .6 to .5 and below .5 interpreted as a "poor and unacceptable" of internal consistency of variables. In Social Science reliability coefficient of .70 or higher is considered as "acceptable".

Cronbach's Alpha Formula:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N - 1) \cdot \bar{c}}$$

Where:

N = the number of items.

$\bar{c}$ = Average covariance between item-pairs.

$\bar{v}$ = Average variance.

Table 4.21
Training Facilities of Self Help Groups (SHGs) in the urban area

Reliability Statistics	
Cronbach's Alpha	N of Items
.966	3

(Accepted value: > .70)

Source: Compiled from Primary Data.

The above table (table 4.21) explains the coefficient of Cronbach's Alpha test of reliability for three items at .96, which means there is an excellent internal consistency of three items of particular variable called training facilities provided by SHGs. There is 96 percent of reliability between all three items to measure the variable (Training facilities). That means all the three items to determine the variable are appropriately designed and data is reliably consistent.

Table 4.22
Administrative Procedures of Self Help Groups (SHGs) in the Urban area

Reliability Statistics	
Cronbach's Alpha	N of Items
.942	3

(Accepted value: > .70)

Source: Compiled from Primary Data.

Cronbach's Alpha test for reliability in the above table (table 4.22) reveals that 94 percent reliability of three items to measure the variable called administrative procedures. The coefficient of Cronbach's Alpha is .94, suggesting that three items of variables have excellent internal consistency because the value is much higher than the threshold value (.70). The items of the present variable are appropriately designed and data collected is reliably consistent.

Table 4.23
Technological Assistance of Self Help Groups (SHGs) in the urban area

Reliability Statistics	
Cronbach's Alpha	N of Items
.938	4

(Accepted value: > .70)

Source: Compiled from Primary Data.

The above table (table 4.23) show the “Cronbach's Alpha test” of the reliability of four items to measure the variable, the value of Cronbach's Alpha is .93 indicates excellent internal consistency of three items. It means there is 93 percent of reliability between the three items to measure the particular variable called technological assistance. The high Cronbach's Alpha value indicates three items of the variable are appropriately designed and data is reliably consistent.

Table 4.24
Income Generation of SHGs promoted micro-entrepreneurs in urban area

Reliability Statistics	
Cronbach's Alpha	N of Items
.943	6

(Accepted value: > .70)

Source: Compiled from Primary Data.

Cronbach's Alpha test of reliability in the above table (table 4.24) shows that there is 94 percent of reliability among the all six items of variable, income generation. There is excellent internal consistency among all the items because the value of Cronbach's Alpha is .94. So all the six items of variable are appropriately designed and the data are consistent.

Table 4.25
Employment Generation SHGs promoted microenterprises in urban area

Reliability Statistics	
Cronbach's Alpha	N of Items
.919	2

(Accepted value: > .70)

Source: Compiled from Primary Data.

The above table (table 4.25) reveals that there is an excellent internal consistency of two items of variable (employment generation) because the value of Cronbach's Alpha is .91, which is higher than the threshold level. So there is 91 percent of reliability among the two items to measure the particular variable, which means items are appropriately designed and data is reliably consistent.

Table 4.26
Financial Assistance of Self Help Groups (SHGs) in the urban area

Reliability Statistics	
Cronbach's Alpha	N of Items
.849	4

(Accepted value: > .70)

Source: Compiled from Primary Data.

The table (table 4.26) presents the Cronbach's Alpha for the reliability of the variable (financial assistance), there is good internal consistency of all four items of the variable. There is 84 percent of reliability among the four items to measure the variable; the coefficient of Cronbach's Alpha is .84. Data collected for the items are reliably consistent and properly designed.

Table 4.27
Correlations for urban microenterprises

	TF_AVG	AP_AVG	TA_AVG	IG_AVG	EG_AVG	FA_AVG
Pearson Correlation	1	.265**	.625**	.576**	.471**	.569**
TF_AVG Sig. (2-tailed)		.008	.000	.000	.000	.000
N	100	100	100	100	100	100
Pearson Correlation	.265**	1	.253*	.470**	.163	.376**
AP_AVG Sig. (2-tailed)	.008		.011	.000	.105	.000
N	100	100	100	100	100	100
Pearson Correlation	.625**	.253*	1	.559**	.518**	.655**
TA_AVG Sig. (2-tailed)	.000	.011		.000	.000	.000
N	100	100	100	100	100	100
Pearson Correlation	.576**	.470**	.559**	1	.392**	.528**
IG_AVG Sig. (2-tailed)	.000	.000	.000		.000	.000
N	100	100	100	100	100	100
Pearson Correlation	.471**	.163	.518**	.392**	1	.473**
EG_AVG Sig. (2-tailed)	.000	.105	.000	.000		.000
N	100	100	100	100	100	100
Pearson Correlation	.569**	.376**	.655**	.528**	.473**	1
FA_AVG Sig. (2-tailed)	.000	.000	.000	.000	.000	
N	100	100	100	100	100	100

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed)

Source: Compiled from Primary Data.

4.6 Kaiser-Meyer-Olkin (KMO) Test for Sampling Adequacy for urban microenterprises:

“Kaiser-Meyer-Olkin” (KMO) Test will be used for the measurement of the Sampling Adequacy or used to measure whether data suitable for the factor analysis for a particular variable in the part of the model or complete model. Kaiser-Meyer-Olkin (KMO) index value varies from 0 to 1, if KMO value is 1 then all the variables determine the common factor or if KMO is 0 variables will not measure the common factor.

Table 4.28
KMO index value

KMO index value	Interpretation
0.00 to 0.49	Unacceptable
0.50 to 0.59	Miserable
0.60 to 0.69	Mediocre
0.70 to 0.79	Middling
0.80 to 0.89	Meritorious
0.90 to 1.00	Marvellous

Source: Kaiser-Meyer-Olkin (1974)

The formula for the KMO test is:

$$KMO_j = \frac{\sum_{i \neq j} r_{ij}^2}{\sum_{i \neq j} r_{ij}^2 + \sum_{i \neq j} u_{ij}^2}$$

Where:

R = [rij] is the correlation matrix and

U = [uij] is the partial covariance matrix.

4.6.1 Bartlett's Test Sphericity for urban microenterprises: It is a statistical test for the significance level of correlation in the correlation matrix, the significant value of Bartlett's Test should be less than the critical value (0.05). Acceptance or rejection of the null hypothesis is based on the significant value, if the value is less than critical value then we reject the null hypothesis. Based on this we can say that there will be a relationship between the variables so that we can proceed to the factor analysis.

Table 4.29**KMO and Bartlett's Test for urban microenterprises**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.876
Approx. Chi-Square		2283.398
Bartlett's Test of Sphericity	Df	231
	Sig.	.000

(Accepted KMO value: > 0.50, and Sig. value: <0.05).

Source: Compiled from Primary Data.

The above table (table 4.29) explains the KMO and Bartlett's test, the approximate Chi-square value is 2283.398 with 231 Degrees of freedom with 0.00 level of significance. The value of the KMO test is .876 which is higher than the critical value of KMO (.50). It means the KMO index is Meritorious and there is a significant relationship between variables so that we can proceed for the factor analysis. The significant value of Bartlett's Test is .000, this is lower than the critical value (0.05) which means we can reject the null hypothesis.

Table 4.30**Communalities of the variables for urban microenterprises**

	Initial	Extraction
The operational assistance received from SHG was helpful to run the business (TF1)	1	0.908
The training provided by the SHG helps to improve the skill sets of the members(TF2)	1	0.949
SHGs training to start new enterprise(TF3)	1	0.946
Officials of SHGs not showing gender bias in extending loans (AP1)	1	0.853
Officials of SHGs are friendly in explaining about schemes (AP2)	1	0.925
Easy administrative procedures (rules) to avail SHGs loans (AP3)	1	0.93
The technical support provided by the SHG was helpful for the formation of the enterprise (TA1)	1	0.823
SHG helps to market and distribute the products of the members (TA2)	1	0.848
SHG helps to procure raw materials for their members (TA3)	1	0.871
It provides work shed facilities to its member for their business (TA4)	1	0.899

I have access to the increased income (IG1)	1	0.898
My credit capacity has increased over some time (IG2)	1	0.686
I have generally used my loan money on income-generating activities (IG3)	1	0.861
I have access to the increased savings (IG4)	1	0.827
There is an improvement in the monthly consumption level of the household. (IG5)	1	0.717
I contribute to buying household assets like TV, Fridge, Fan, etc.(IG6)	1	0.777
Number of Employees have increased after joining SHGs (EG1)	1	0.918
Share of Women employment have improved (EG2)	1	0.922
SHGs do provide timely financial support (FA1)	1	0.705
The Financial assistance received from SHG was helpful to run the business(FA2)	1	0.835
Interest rate of SHG's Loan lower than other financial services (FA3)	1	0.774
SHGs loans no need any collateral to avail (FA4)	1	0.675

Source: Field Survey.

Extraction Method: Principal Component Analysis.

Source: Compiled from Primary Data.

The above table (table 4.30) explains about the commonalities of the variables related to Self Help Group contribution on income and employment generation of microenterprises. Above all communality values of variables are having higher values than the critical value (0.50) and these values explain the level of explanation about the common factors. It explains that all the above variables with higher values are better representing the common factor than variables with low communality values. Based on the above values all the items are closely related to the respective variables of the study and all the above variables attain the acceptable level of explanation.

Table 4.31

Total Variance Explained for urban microenterprises

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.810	49.136	49.136	10.810	49.136	49.136	4.826	21.936	21.936
2	2.646	12.029	61.164	2.646	12.029	61.164	3.368	15.309	37.246
3	1.742	7.916	69.080	1.742	7.916	69.080	2.862	13.010	50.256
4	1.181	5.367	74.447	1.181	5.367	74.447	2.834	12.884	63.140
5	1.157	5.259	79.707	1.157	5.259	79.707	2.672	12.144	75.284
6	1.013	4.604	84.310	1.013	4.604	84.310	1.986	9.026	84.310
7	.598	2.717	87.027						
8	.554	2.518	89.545						
9	.363	1.648	91.194						
10	.325	1.476	92.670						
11	.262	1.191	93.861						
12	.235	1.068	94.929						
13	.220	1.002	95.931						
14	.171	.776	96.707						
15	.150	.681	97.387						
16	.136	.616	98.004						
17	.121	.550	98.553						
18	.095	.432	98.985						
19	.078	.355	99.340						
20	.058	.265	99.606						
21	.051	.231	99.837						
22	.036	.163	100.000						

Extraction Method: Principal Component Analysis.

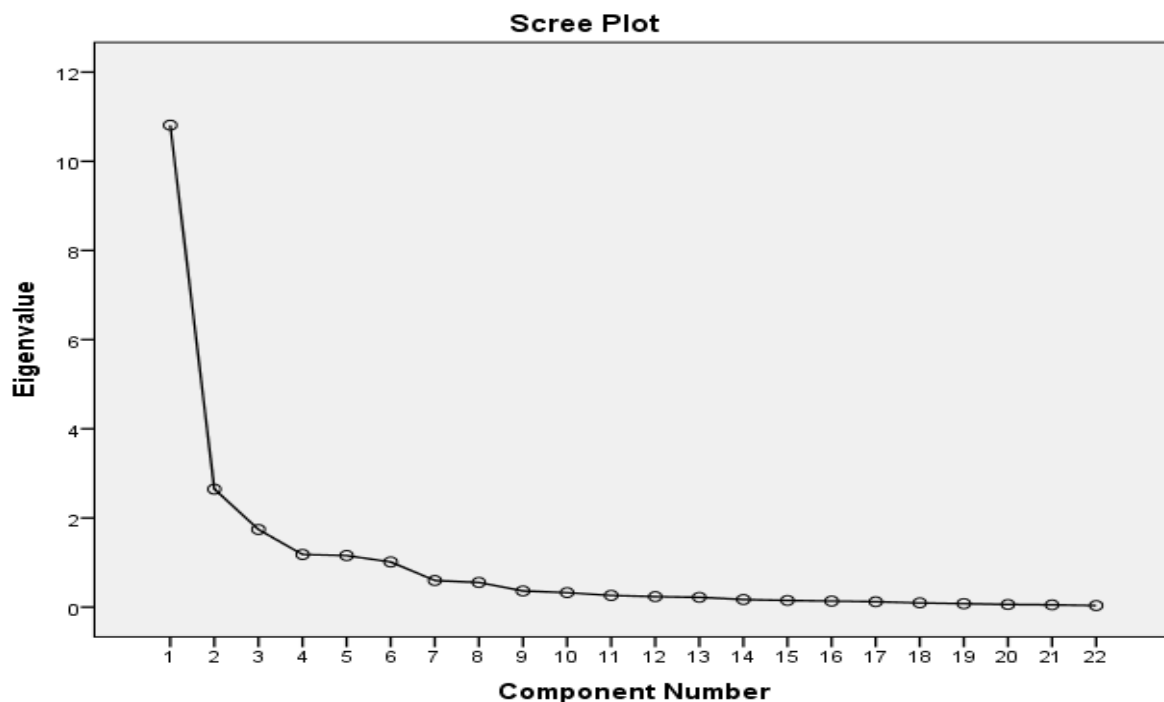
Source: Compiled from Primary Data.

After checking the communalities of the variable, we will follow the factor extraction method, can extract the components from the data by using the factor extraction method. Here principal component analysis is used to extract the factors which are influencing more in the total variance. In principle component analysis Eigenvalues are used, the maximum Eigenvalue explains the maximum variability extracted, the second-highest Eigenvalue explains the second

higher variability, and so on. We retain the Eigenvalues greater than one (Eigenvalue > 1) to explain maximum variability.

From the table (table 4.31), it is observed that six factors are extracted from the 22 components measuring the impact of Self Help Group on the income and employment generation of microenterprises. All six components are accounted for 84.31percent of the total variability of the impact of Self Help Group on the income and employment generation of microenterprises in Rotation Sums of Squared. The first component with Eigenvalue of 10.81 accounted for 21.93 percent of variability, second variable with Eigenvalue of 2.64 accounts for 15.30 percent of variability, Eigenvalue of the third component is 1.74 account for 13.01 percent of the variance, the Eigenvalue of fourth and fifth variables are having 1.18 and 1.15 which are account for 12.88 and 12.14 percent of the variability. Forth last component (Sixth) with Eigen value is 1.01 accounts for 9.02 percent of variability in the data.

Figure 4.4
Scree Plot for urban microenterprises



Source: Compiled from Primary Data.

The above diagram explains the Eigenvalues of each factor component by the scree plot, OX-axis measures the component number, and Eigenvalues are measured on the OY-axis. Each point on the Scree plot curve explains the level of variability, first six columns of the scree plot show downward slopes after that the curve looks steeply down, and slowly it becomes a horizontal line. The horizontal line shows that each factor explains very smaller variability and downward sloping curve explains that each factor component explains very large variability. It can be concluded that the first six components are having higher Eigenvalues greater than the unity that is the reason after the six columns of scree plot looks like a flat or horizontal line. Above all six-factor components are extracted from 22 variables. And they explain the 84.31 percent of the total variability of the impact of Self Help Group on the income and employment generation of micro-enterprise.

Table 4.32
Rotated Component Matrix for urban microenterprises

	Component					
	Income Generation	Technological Assistance	Financial Assistance	Training Facilities	Administrative Procedures	Employment Generation
Improvement in income.	.898					
Productive activities increased.	.862					
Increased Asset holdings.	.785					
Improvement in credit capacity.	.779					
Increased savings.	.761					
Increased consumption.	.731					
Technical support.		.838				
Procure raw materials.		.805				
Workshed facilities.		.776				
Marketing and distribution.		.767				
Training programs Helpful.			.860			
Training useful to startups.			.847			
Operational assistance.			.825			
Easy administrative rules.				.929		
Officials friendly in nature.				.907		
No gender bias.				.883		
Low Interest rate of SHGs.					.799	
No collateral to avail loan.					.727	
Helpful to run the business.					.692	

Timely financial support.					.652	
Women employment has improved.						.884
Employees have increased.						.877

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 6 iterations.

Source: Compiled from Primary Data.

The above table (table 4.32) explains the Rotated Component Matrix, this has used to measure the correlation between variables and factor components. Orthogonal rotation is also known as “Varimax” explains the weights of different variables of the factor components and their weights depend upon their loadings. The main objective of the rotation is to minimize the number of factor components which are having more loadings and the main results of the principal component analysis will be shown with the help of orthogonal rotation (Varimax). The correlations of the variables and factor components values range between -1 to +1, The thumb rule for the consideration of the factor loadings is more than or equal to 0.50, it means we consider the values which are more than 0.50. The first-factor component having more loadings of variables subsequently second and other factor components are account for the smaller loading of the variables.

The present study uses six factors to measure the impact assessment of SHGs on income and employment generation of the microenterprises. The above table (table 4.32) reveals that all twenty-two items are grouped into six main factors components based on their similar response of items. Above all, items are fit into their respective factor components and collected data are best fitted to measure the factor components.

Table 4.33

Communalities of the variables for Rural Microenterprises

	Initial	Extraction
The operational assistance received from SHG was helpful to run the business (TF1)	1	0.908
The training provided by the SHG helps to improve the skill sets of the members(TF2)	1	0.949
SHGs training to start new enterprise(TF3)	1	0.946

Officials of SHGs not showing gender bias in extending loans (AP1)	1	0.853
Officials of SHGs are friendly in explaining about schemes (AP2)	1	0.925
Easy administrative procedures (rules) to avail SHGs loans (AP3)	1	0.93
The technical support provided by the SHG was helpful for the formation of the enterprise (TA1)	1	0.823
SHG helps to market and distribute the products of the members (TA2)	1	0.848
SHG helps to procure raw materials for their members (TA3)	1	0.871
It provides work shed facilities to its member for their business (TA4)	1	0.899
I have access to the increased income (IG1)	1	0.898
My credit capacity has increased over some time (IG2)	1	0.686
I have generally used my loan money on income-generating activities (IG3)	1	0.861
I have access to the increased savings (IG4)	1	0.827
There is an improvement in the monthly consumption level of the household. (IG5)	1	0.717
I contribute to buying household assets like TV, Fridge, Fan, etc.(IG6)	1	0.777
Number of Employees have increased after joining SHGs (EG1)	1	0.918
Share of Women employment have improved (EG2)	1	0.922
SHGs do provide timely financial support (FA1)	1	0.705
The Financial assistance received from SHG was helpful to run the business(FA2)	1	0.835
Interest rate of SHG's Loan lower than other financial services (FA3)	1	0.774
SHGs loans no need any collateral to avail (FA4)	1	0.675

Source: Field Survey.

Extraction Method: Principal Component Analysis.

Source: Compiled from Primary Data.

The table (table 4.33), reveals that first-factor component characterized six items, namely “I have access on the increased income (0.898), “I have generally used my loan money on income-generating activities (0.862)”, “My credit capacity has increased over a while (0.785)”, “I contribute for buying household assets like TV, Fridge, Fan, etc. (0.779)”, “I have access on the increased savings (0.761), and “There is an improvement in the monthly consumption level of the household. (0.731)”. Improvement in income and spending on income-generating activities have been highly correlated with the first factor component called “**Income generation**”. We consider

the remaining four items under the first factor component because the values of correlation of all four items are greater than the thumb rule value (0.50).

Similarly, the second-factor components constituted four items (variables), they are; “the technical support provided by the SHG was helpful for the formation of the enterprise (0.838)”, “It provides work shed facilities to its member for their business (0.805)”, “SHG helps to procure raw materials for their members (0.776)” and “SHG helps to market and distribute the products of the members (0.767). The above table (table 4.33), explains that Technical support and work shed facilities accounted for more correlation with the second factor component followed by the other two items, which are greater than the thumb rule value (0.50). The second-factor component is labeled as **“Technical Assistant”**.

All the four items are having a similar correlation with the second-factor component and collected data for the second-factor component is best fitted. Similarly, if we consider the third-factor component, it is represented by three items or variables, they are; “The training provided by the SHG helps to improve the skill sets of the members (0.860)” “SHGs training to start new enterprise (0.847)” and “the operational assistance received from SHG was helpful to run the business (0.825)”. The third-factor component described as a **“Training Facilities”** and all items under the fourth component are highly correlated.

Fourth Factor component is characterized by the three items, namely “Easy administrative procedures (rules) to avail SHGs loans (0.929)”, “Officials of SHGs are friendly in explaining about schemes (0.907)” and “Officials of SHGs not showing gender bias in extending loans (0.883)”. The fourth-factor component is defined as an **“Administrative Procedures”**. The fifth-factor component correlated with four items namely, “Interest rate of SHG's Loan lower than other financial services (0.799)”, “SHGs loans no need any collateral to avail (0.727)”, “The Financial support received from SHG was helpful to run the business (0.692)” and “SHGs do provide timely financial support (0.652)”. All these items (Variables) come under the fifth-factor component and have a similar correlation with the factor.

The fifth-factor component is called **“Financial Assistance”**, a low rate of interest rate of SHGs and Financial support by SHGs account for high correlation with the fifth factor followed by the other two variables. The last factor component is the sixth factor which is accounted for two variables, namely “Share of Women employment have improved (0.884)” and “Number of

Employees have increased after joining SHGs (0.877)". The sixth-factor component defined as **"Employment Generation"** and two items or variables are highly correlated with the factor component.

4.7 Confirmatory Factor Analysis for urban microenterprises: "Confirmatory Factor Analysis" (CFA) is used to measure how well the variables are grouped and it is a multivariate statistical procedure. Confirmatory Factor Analysis (CFA) will test whether the data is best fitted for the theory proposed model and it has validated the model by grouping of variables into factor components. The validity of the measurement model depends upon the acceptable level of goodness-of-fit and constructs validity. Campbell and Fiske (1959) proposed two validities to measure validity procedures, they are;

1) Convergent validity.

2) Discriminate validity.

4.7.1 Convergent validity and discriminate validity: "Convergent validity and discriminate validity" are the subsets of the construct validity (Cambell and Fiske, 1959). Convergent validity explains the correlation between measurement items and its proposed theoretical construct. The study uses the Average Variance Extracted (AVE) and standard loadings extracted to measure the convergent validity.

4.3.2 Thumb rule for the convergent validity – "Hair et al, 2010":

- AVE should more than 0.5; ($AVE > 0.5$).
- CR should greater than AVE.
- CR should more than 0.70; ($CR > 0.70$).

According to "Hair et al." (2010) discriminate validity is "the degree to which two conceptually similar concepts are above distinct". Based on the Average Variance Extracted (AVE) and Maximum Shared Variance (MSV) we will calculate the validity of factors.

4.3.3 Thumb rule for the discriminate validity- "Hair et al, 2010":

- AVE more than MSV; ($AVE > (MSV)$).
- AVE more than ASV; ($AVE > (ASV)$).
- Square root of AVE should more than the inter construct correlation (Fornell-Lacker, 1994).

The below tables (tables 4.34&35) explain the convergent and discriminate validity, rows in the table represent the constructs, namely; Income Generation (IG), Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), Employment Generation(EG). Columns represent Cronbach's alpha of reliability, Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV), and Average Shared Variance (ASV).

Table 4.34
Convergent validity and reliability for urban microenterprises

Constructs	Cronbach's alpha	C.R	AVE	MSV	ASV
Income Generation (IG)	.943	.944	.738	.332	.270
Technological Assistance (TA)	.938	.941	.799	.523	.335
Financial Assistance (FA)	.849	.866	.626	.523	.332
Training Facilities (TF)	.966	.950	.907	.444	.295
Administrative Procedures (AP)	.942	.949	.856	.207	.108
Employment Generation(EG)	.919	.920	.851	.303	.207

Note: "Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV). Reliability: C.R > 0.7; Convergent validity: AVE > 0.5; C.R>AVE; Discriminate validity: MSV & ASV < AVE; Square root of AVE > Inter construct co-relation".

Source: Compiled from Primary Data.

Table 4.35
Discriminant validity for urban microenterprises

Correlations							
Constructs	Income Generation	Technological Assistance	Financial Assistance	Training Facilities	Administrative Procedures	Employment Generation	AVE
Income Generation (IG)	0.859						0.738
Technological Assistance (TA)	0.559	0.852					0.726
Financial Assistance (FA)	0.528	0.655	0.826				0.682
Training Facilities (TF)	0.576	0.625	0.569	0.922			0.851
Administrative Procedures (AP)	0.47	0.253	0.376	0.265	0.764		0.583
Employment Generation (EG)	0.392	0.518	0.473	0.471	0.163	0.764	0.584
*. Correlation is significant at the 0.05 level (2-tailed).							
**Correlation is significant at the 0.01 level (2-tailed).							

Note: “Square root of AVE (Bold values) > Inter construct co-relation (Non-Bold Values)”.

Source: Compiled from Primary Data.

The above tables (tables 4.34&35) reveal that the values of “Composite Reliability (CR) and Average variance Extracted (AVE)” of Income Generation (IG) are 0.944 and 0.738, these values are above the rule of thumb values (CR>0.7 and AVE >0.5). For the second construct, is Technological Assistance (TA), the value of the composite reliability is 0.941 and this is above the value of the thumb rule. Similarly, the value of the Average Variance Extracted (AVE) also more than the threshold value. The AVE value is 0.799. The values of the composite reliabilities of Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG) are 0.866, 0.950, 0.949 and 0.920 respectively and all the values are above the thumb value (0.70). Similarly, the values of Average Variance Extracted (AVE) also satisfy the validity criteria, which means all the obtained values are above the threshold limit (0.5). Table (table 4.34) reveals that the values of composite reliability and average variance extracted are satisfied with the rule of thumb for the convergent validity for all the six constructs.

Based on the “Average Variance Extracted (AVE)” and “Maximum Shared Variance (MSV)” we calculate the discriminant validity. The obtained value of Average variance Extracted (AVE) for the all the six constructs satisfy the thumb rule of the discriminant validity. Table (table 4.34) reveals that all the values of maximum shared variance and average shared variances are less than the average variance extracted. The second method to measure the discriminant validity is that the square root of Average Variance Extracted (AVE) should more than the inter construct correlation (Fornell-Lacker, 1994). Table(table 4.35) shows the diagonal values represented square root of AVE, which are representing in the bold values, other values are representing the inter construct correlation. The table (table 35) reveals that the values of the square root of AVE are greater than the values of inter construct correlation. Finally, based on the above data of the two tables (tables 4.34&35), the study has determined the convergent validity and discriminant validity.

4.7.4 Degrees of Freedom (df): “Degrees of Freedom (df)” is the freedom to vary of the number of values in the study, to understand the significance of the Chi-square statistics use the degrees of freedom. The equation explains the number of covariance of off-diagonal and variance on the diagonal, in the Structural Equation Modeling (SEM) degrees of freedom is based on the size of the covariance. The following formula explains about the Degrees of Freedom for the Structural Equation Modeling (SEM);

$$df = \frac{1}{2} [(p)(p + 1)] - k$$

P = Number of observed variables.

K = number of estimated parameters.

4.7.5 Comparative Fit Index (CFI): “Comparative Fit Index” (CFI) is a revised version of the Normed Fit Index (NFI), directly related to non-centrally measure and not very sensitive to the size of the sample (Chen, 2007). Comparative Fit Index (CFI) is to compare the fitness of the independent model and target (hypothesis) model. The higher value of the Comparative Fit Index (CFI) indicates a good or better fit. According to “Schermllen-Engel (2003), Moorbrugger (2003) and Bentler (1998)” The value greater than the 0.95 indicates a good fit of the model.

4.7.6 Tucker Lewis Index (TLI): Tucker Lewis Index (TLI) is proposed to overcome the disadvantage that occurred due to sample size in the Normed Fit Index (NFI) and it is also called “Non-Normed Fit Index (NNFI)”. The higher the values of TLI are the indicator for the good fit of the model, the acceptable level of Tucker Lewis Index (TLI) is greater than the value 0.95. The value of TLI ranges between zero (0) to one (1), The formula for the Tucker Lewis Index (TLI) as follows (Gerbing & Anderson, 1992) ;

$$TLI = \frac{(\chi_i^2 / \nu_i) - (\chi_t^2 / \nu_t)}{(\chi_i^2 / \nu_i) - 1} = \frac{(F_i / \nu_i) - (F_t / \nu_t)}{(F_i / \nu_i) - (1 / (n - 1))}$$

χ_i = Independent Model

χ_t = Target Model

ν_i = Degree of Freedom for independent model.

ν_t = Degree of freedom for target model.

F = The value of minimum fit function.

N = Sample size.

4.7.7 Root Mean Square Error of Approximate (RMSFA): According to “Chen, (2007) Root Mean Square Error of Approximate (RMSFA) index is the difference between Hypothesized covariance matrix and observed covariance matrix per degree of freedom”. This index was proposed by “Steiger & Lind, (1980)”, gives the best measure for a larger sample size than the smaller sample size. The Root Mean Square Error of Approximate (RMSFA) index value ranges between zero to one, the model also best fit if the index value between 0.05 to 0.08, However, the value 0.05 is a good fit and the value 0.08 is acceptable fit of the model (Hair et al. 2010, Forza & Filippini, 1998, Greenspoon & Saklofske, 1998, Awang, 2012).

Table 4.36

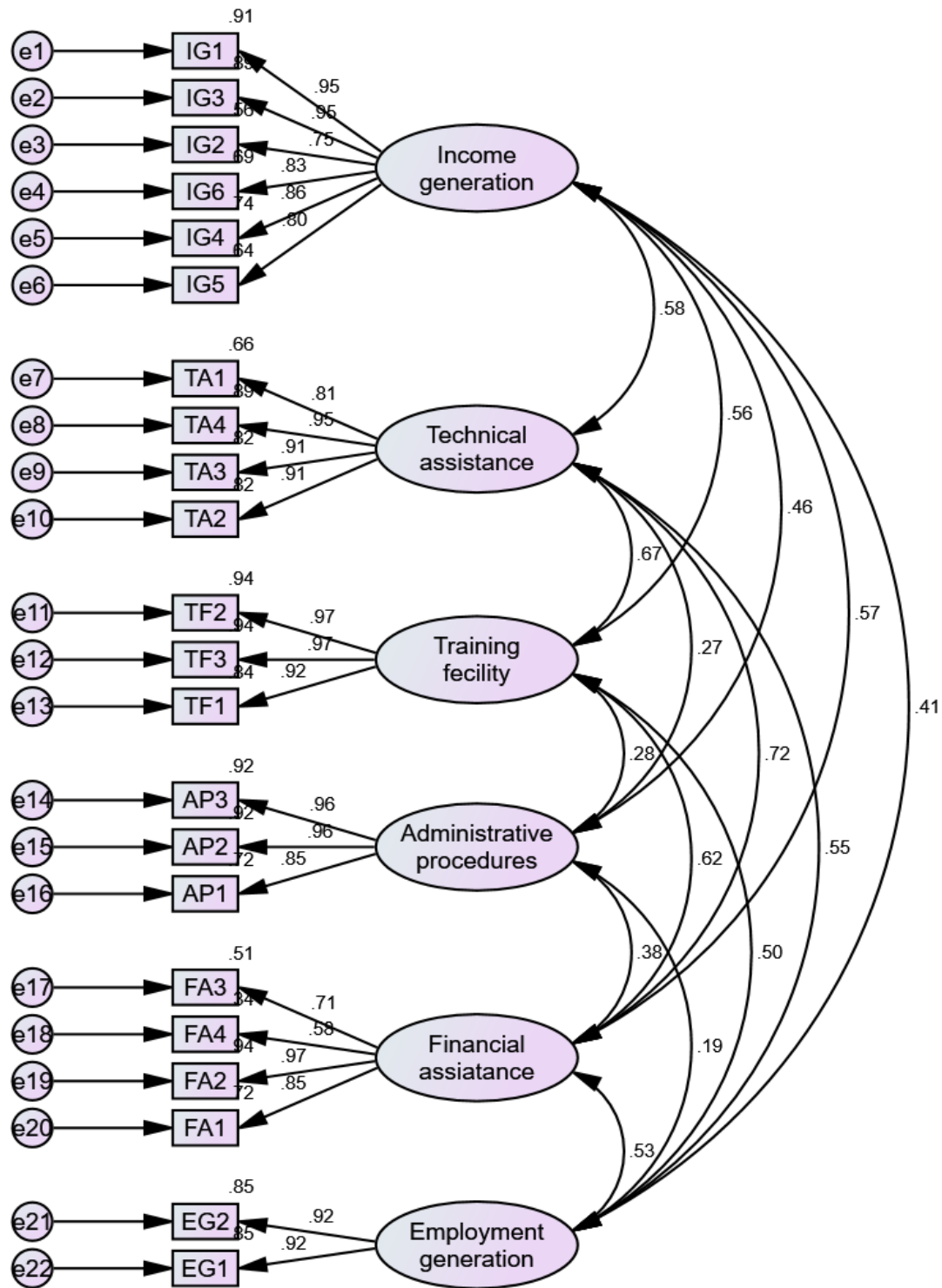
Confirmatory Factor Analysis (CAF) fit indices for urban microenterprises

Model fit summary	Fit indices	Threshold value
CMN/DF	1.529	<3
CFI	0.955	>0.95
TLI	0.95	>0.95
RMSE	0.070	≤0.08
P-value	0.000	0.000

Source: Compiled from Primary Data.

The above table (Table 4.36) explains the fit indices of confirmatory factor analysis and method of maximum likelihood estimation used to verify the Goodness of Fit (GOF) for the model. Indices namely, degrees of freedom (df), Comparative Fit Index (CFI), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and Root Mean Square Error of Approximate (RMSFA). All the indices are within the accepted range, they are satisfying the rule of thumb values. $df = 1.529$, $CFI = 0.955$, $TLF = 0.95$, $RMSEA = 0.070$ and $p = 0.000$. Hence based on the theses values the model is the best fit.

Figure 4.5
Measurement model for urban microenterprises



Source: Compiled from Primary Data.

The above figure explains about Structural Equation Model (SEM), circles are represented latent variables (factors), observed variables (items) are represented in rectangles, and errors are represented by ellipses. There are six latent variables namely, Income Generation (IG), Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG) in the Confirmatory Factor Analysis (CFA) diagram. Double-headed arrows of two interrelated constructs explain the inter-correlation. The regression paths are denoted by the single-headed arrows from circle to rectangles, which explain the link between observed variables and latent variables. The arrows from ellipses to rectangles represent the errors of the observed variables.

The figure reveals that the double-headed arrows between income generation to other five latent variables namely, Technological Assistance (TA), Training Facilities (TF), Administrative Procedures (AP), Financial Assistance (FA) and Employment Generation(EG) shows that there is 0.58, 0.56, 0.46, 0.57 and 0.41 levels of inter-correlation between IG and other five variables respectively. Similarly for inter-correlation between Technological Assistance and the other four variables (Training Facilities (TF), Administrative Procedures (AP), Financial Assistance (FA), and Employment Generation (EG)) shows 0.67, 0.27, 0.72 and 0.55 levels of correlation among them. Inter Correlation between Training Facilities (TF) and other three variables namely; Administrative Procedures (AP), Financial Assistance (FA), and Employment Generation (EG) having 0.28, 0.62, and 0.50 level of inter-correlation respectively.

Similarly, the correlation of Administrative Procedures (AP) to Financial Assistance (FA) and Employment Generation (EG) is 0.38 and 0.19 levels and similarly, inter-correlation between Financial Assistance (FA) and Employment Generation (EG) is 0.53 levels. The single head arrows from circles to rectangles represent the items loaded into the factor components. The figure reveals that all the items are the best to fit into their respective factor components and collected data is best fitted to measure the factor components.

4.8 Structural Equation Modelling (SEM) for urban microenterprises.

The objective of the study is to find the impact of Self Help Groups (SHGs) on income and employment generation of microenterprises. The study has framed a total of eight alternative hypotheses in which four alternative hypotheses for income generalization and the remaining four for the employment generation.

4.8.1 Hypotheses for Impact assessment of SHGs on Income generation in urban area:

H0 Financial assistance has no positive effect on Income generation of SHGs promoted microenterprises.

H1: Financial assistance has a positive effect on Income generation of SHGs promoted microenterprises.

H0: Technical assistance has no positive effect on Income generation of SHGs promoted microenterprises.

H2: Technical assistance has a positive effect on Income generation of SHGs promoted microenterprises.

H0: Administrative Procedures has no positive effect on Income generation of SHGs promoted microenterprises.

H3: Administrative Procedures have a positive effect on Income generation of SHGs promoted microenterprises.

H0: Training Facilities has no positive effect on Income generation of SHGs promoted microenterprises.

H4: Training Facilities has a positive effect on Income generation of SHGs promoted microenterprises.

The below table (Table 4.38) explains the testing of the hypothesis in the Structural Equation Model (SEM) for the impact assessment of SHGs on income generation. The study assesses the impact by using five variables namely, financial assistance, technological assistance, administrative procedures, training facilities (Independent variables) and Income generation is the dependent variable. The above results reveal that the P-value for the H1 is significant at 0.040, so the null hypothesis will be rejected, which means financial assistance had a positive impact on the income generation of microenterprises with Path coefficient (β) value is 0.190. Similarly, the p-value for the H2, H3, and H4 are significant at 0.01 which results in rejection of the null hypothesis. It suggested that the technological Assistance, Administrative Procedures, and training facilities have a positive effect on income generation of SHGs promoted microenterprises with the path coefficient (β) values are 0.282, 0.313, and 0.278 respectively.

Table 4.37

Results of hypothesis testing for urban microenterprises or Income Generation

Independent Variable	Dependent variables	Hypothesis	Standard estimates (β)	Standard error	t-statistic	p-value	Results
Financial assistance	Income generation	H1	.190	.127	2.050	.040	Significant
Technological Assistance	Income generation	H3	.282	.093	3.028	.002	Significant
Administrative Processors	Income generation	H5	.313	.068	3.448	***	Significant
Training Facilities	Income generation	H7	.278	.088	3.081	.002	Significant

Note: Significant at P value < 0.05 level (2-tailed).

***significant at P value < 0.01 level (2-tailed).

Source: Compiled from Primary Data.

Table 4.38
Cumulative squared multiple correlations coefficient (R^2)

Variable	R^2
Income Generation	0.291

Source: Compiled from Primary Data.

Based on the above results the study found that Financial, technical, administrative, and training support of Self Help Groups (SHGs) having a positive impact on the income generation of micro-entrepreneurs in urban areas. The structural Equation Model (SEM) also measures the Cumulative squared multiple correlations coefficient (R^2). The above table (Table 4.38) reveals that the independent variables explain 29 percent of the variance in the dependent variable.

4.8.2 Hypotheses for Impact assessment of SHGs on Employment generation in urban area.

H0 Financial assistance has no positive effect on Employment generation of SHGs promoted microenterprises.

H1: Financial assistance has a positive effect on Employment generation of SHGs promoted microenterprises.

H0: Technical assistance has no positive effect on Employment generation of SHGs promoted microenterprises.

H2: Technical assistance has a positive effect on Employment generation of SHGs promoted microenterprises.

H0: Administrative Procedures has no positive effect on Employment generation of SHGs promoted microenterprises.

H3: Administrative Procedures have a positive effect on Employment generation of SHGs promoted microenterprises.

H0: Training Facilities has no positive effect on Employment generation of SHGs promoted microenterprises.

H4: Training Facilities has a positive effect on Employment generation of SHGs promoted microenterprises.

The below table (Table 4.40) explains the testing of the hypothesis in the Structural Equation Model (SEM) for the impact assessment of SHGs on employment generation. The study will assess the impact by using five variables namely, financial assistance, technological assistance, administrative procedures, training facilities (Independent variables) and employment generation is the dependent variable. The above results reveal that the P-value for the H1 is significant at 0.013, so the null hypothesis is rejected, which means financial assistance had a positive impact on the employment generation of microenterprises with Path coefficient (β) value of 0.258. Similarly, the p-value for the H2 and H4 are significant at 0.01 which results in rejection of the null hypothesis. It suggested that the technical assistance and training facilities have a positive effect on the employment generation of SHGs promoted microenterprises with the path coefficient (β) values are 0.297 and 0.217. It is surprising to know that the p-value for the H3 not significant

at 0.821 levels, hence the study will accept the null hypothesis that means administrative procedures have not been creating the employment generation of SHGs promoted microenterprises.

Table 4.39

Results of hypothesis testing for urban microenterprises Employment Generation

Independent Variable	Dependent variables	Hypothesis	Standard estimates (β)	Standard error	t-statistic	p-value	Results
Financial assistance	Employment generation	H1	.258	.141	2.491	.013	Significant
Technological Assistance	Employment generation	H2	.297	.102	2.892	.004	Significant
Administrative Processors	Employment generation	H3	-.022	.072	-.226	.821	Not Significant
Training Facilities	Employment generation	H4	.217	.096	2.204	.028	Significant

Note: Significant at P value < 0.05 level (2-tailed).

***significant at P value < 0.01 level (2-tailed).

Source: Compiled from Primary Data.

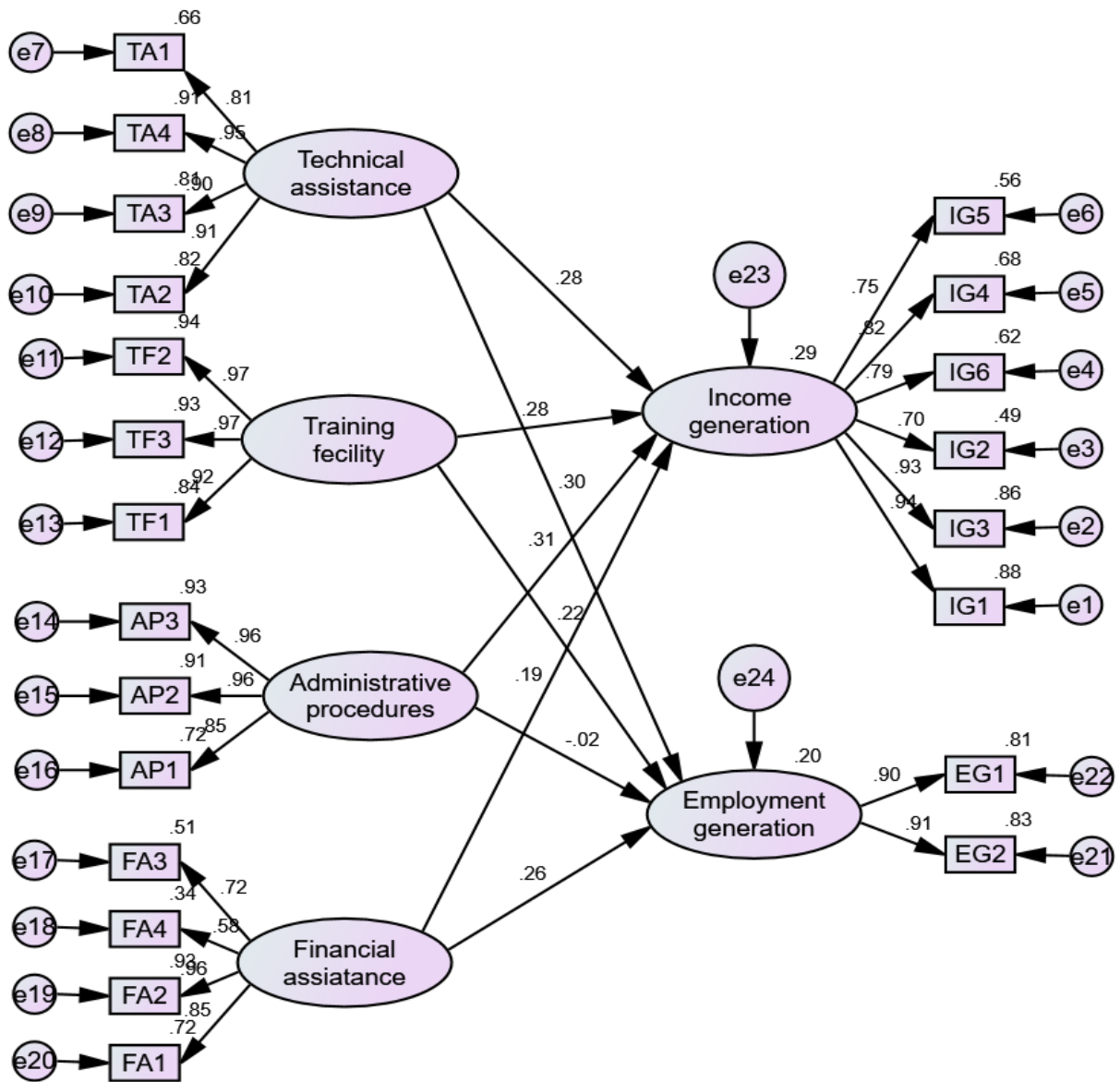
Table 4.40
Cumulative squared multiple correlations coefficient (R^2)

Variable	R^2
Employment Generation	0.203

Source: Compiled from Primary Data.

The study has found that training, financial, and technological assistance of Self Help Groups creating more employment opportunities in microenterprises. It creates the gainful employment to economically and socially excluded sections of the society, especially for the women, poor in the rural segments. The structural Equation Model (SEM) also measures the Cumulative squared multiple correlations coefficient (R^2). The above table (Table 4.40) reveals that the independent variables explain 20 percent of the variance in the dependent variable.

FIGURE 4.6
SEM DIAGRAM FOR URBAN MICROENTERPRISES



Source: Compiled from Primary Data.

The above figure illustrates the Structural Equation Model (SEM), circles represent latent variables (factors), observed variables (items) are represented in rectangles, and errors are represented by ellipses. There are six latent variables namely, Income Generation (IG), Technological Assistance (TA), Training Facilities (TF), Administrative Procedures (AP), Financial Assistance (FA), and Employment Generation (EG) in the structural model diagram. The regression paths are denoted by the single-headed arrows from circle to rectangles, which explain about the link between observed variables and latent variables. Same single-headed arrows from independent variables to dependent variables representing the beta value. The arrows from ellipses to rectangles represent the errors of the observed variables.

4.8.3 SEM diagram interpretation for urban microenterprises Income Generation

The above figure shows that single headed arrow from technical assistance to income generation shows the beta value 0.28. The beta value of technical assistance to income generation has a positive sign with significant p-value, which means that there is a positive relationship between the two variables. That means technological assistance has a positive impact on the income generation of SHGs promoted micro-entrepreneurs. In the same way, the beta value for the technical facilities to income generation is 0.28 with significant p-value (Arrow from training facilities circle to income generation circle).

Since there is a positive sign there is a positive relationship between the independent variable and dependent variable, which means training facilities have a positive impact on the income generation of micro-entrepreneurs. Similarly, there is a positive relationship between administrative procedures and income generation of micro-entrepreneurs with the beta value 0.31 with significant p-value. The beta value for financial assistance (Independent Variable) to income generation (Dependent Variable) is 0.19 with significant p-value (arrows from Financial assistance Circle to Income Generation circle), which means that financial assistance has a positive impact on the income generation of Self Help Groups (SHGs) promoted microenterprises.

The figure reveals that among all the four independent variables namely, Financial Assistance, Technological Assistance, Administrative Procedures, and Training Facilities, Administrative Procedures having more impact on income generation of SHGs promoted micro-entrepreneurs in urban areas. The value above the income generation circle represents the R square

(r^2) value which reveals that the independent variables explain 29 percent of the variance in the dependent variable.

4.8.4 SEM diagram interpretation for urban microenterprises Employment Generation

The single-headed arrows show the beta value from independent variables circles to the dependent variable circle. There are four independent variables namely Technological Assistance (TA), Training Facilities (TF), Administrative Procedures (AP), Financial Assistance (FA), and the dependent variable is Employment Generation (EG). The beta value for the technical assistance circle to employment generation is 0.258 with significant p-value. Since the beta value is positive, Technological assistance positively impact on the employment generation of SHGs microenterprises in urban areas. The beta value of financial assistance to employment generation is 0.297 with significant p-value.

The positive beta value reveals that one unit change in financial assistance leads to a 0.29 level change in the employment generation of microenterprises. Similarly, the beta value for training facilities to employment generation is 0.217 with significant p-value. This means that training facilities positively impact on the employment generation of SHGs promoted microenterprises. It is surprising to know that the beta value of administrative procedures to employment generation is -0.022 with insignificant p-value. Since there is a very low negative beta value there is a slightly negative relationship between administrative procedures and EG. But by testing the hypothesis we got insignificant value hence there is no relation between administrative procedures and employment generation. The value above the income generation circle represents the R square (r^2) value which reveals that the independent variables explain 20 percent of the variance in the dependent variable.

Table 4.41

SEM fit indices for urban microenterprises

Model fit summary	Fit indices	Threshold value
CMN/DF	2.196	<3
CFI	0.961	>0.95
TLI	0.960	>0.95
RMSEA	0.056	≤0.080
P-value	0.000	0.000

Source: Compiled from Primary Data.

The above table (Table 4.41) explains the fit indices of the Structural Equation Model (SeM) and the method of maximum likelihood estimation is used to verify the Goodness of Fit (GOF) for the model. Indices namely, degrees of freedom (df), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and Root Mean Square Error of Approximate (RMSFA). All the indices are within the accepted range, they are satisfying the rule of thumb values. $df = 2.196$, $CFI = 0.961$, $TLF = 0.960$, $RMSEA = 0.056$ and $p = 0.000$. Hence based on these values the model is the best fit in the study.

4.9 Major Findings

The study has found that the financial assistance, administrative procedures and training facilities had a positive impact on the income generation of Microenterprises in rural areas of the study. It was surprising to know that technical assistance has not provided the income generation to SHGs promoted microenterprises. The study has found that most of the microenterprises getting technological support from the Self Help Groups (SHGs) but their assistance was not providing a profitable income to the micro-entrepreneurs in rural areas. Most of the micro-entrepreneurs in the study area have felt that the technical support of the Self Help Group (SHG) is not modern or upgraded technology and do not meet the demands of the current market scenario, resulting in a low level of income to micro-entrepreneurs in rural segments of the study area.

The study has ascertained that financial assistance, technical assistance, administrative procedures, and training facilities have a positive effect on the employment generation of SHGs promoted microenterprises in rural areas. The study has revealed that Self Help Groups are playing a significant role in the employment generation of microenterprises. It creates the gainful employment to economically and socially excluded sections of the society, especially for the women, poor in the rural segments of the study area. The study has ascertained that financial assistance, Technological Assistance, Administrative Procedures, and training facilities have a positive effect on the income generation of Self Help Group (SHGs) promoted microenterprises in urban segments of the study area. The study has found that administrative procedures have not created the employment generation of SHGs promoted microenterprises in urban segments of the study area. Most of the women entrepreneurs have felt that unnecessary documentation and rules of SHGs while sanctioning the loan for business new expansion in the study area.

CHAPTER-V

SUSTAINABILITY OF MICROENTERPRISES

5.1 Introduction

The focus of the present chapter is on the sustainability of the Self Help Group (SHG) promoted women microenterprises in rural and urban segments of the study area. The level of sustainability may depend upon various factors like; Profit of the business, Improvement in the annual Investment, level of loan repayment capacity, level of saving from the business, level of demand of product or business in the market, and level of employment generation.

Primary data is mainly collected with the help of a schedule method and in-depth interviews from Self Help Group (SHG) promoted women microenterprises in rural and urban segments of the study area. The study has used Stratified Simple Random technique in the sample collection. There are around 2854 micro-enterprises in the Nellore district of Andhra Pradesh, out of which 1199 microenterprises are located in the Kavali Manadal. Total 530 Self Help Group (SHGs) promoted women microenterprises have selected for the study, 310 Self Help Group (SHG) promoted women microenterprises have selected from rural areas, out of which 200 responses received for the study and 220 Self Help Group (SHG) promoted women microenterprises have selected for the study but the study got 100 responses in urban segments of the study area.

The study has measured the sustainability indexes and annual average percentages of profit and investment to measure the levels of sustainability of the Self Help Group (SHG) promoted women microenterprises of the study area. The study has measured the annual average percentages of these two parameters by dividing them into various subcategories of investment levels. The investment limits divided into four categories namely; Category-I, Category-II, Category-III, and Category-IV. If investment limit is between Rs.120000 to Rs.200000 then it comes under the category-I, investment of Rs.200001 to Rs.280000 of microenterprises belonging to Category-II, if the investment ranges between Rs.280001 to Rs.370000 coming to Category-III and level of investment between Rs.370001 to Rs.450000 belong to category-IV.

After the percentage analysis of annual profit and an annual investment of women microenterprises, then the study will measure the level of sustainability of the Self Help Group

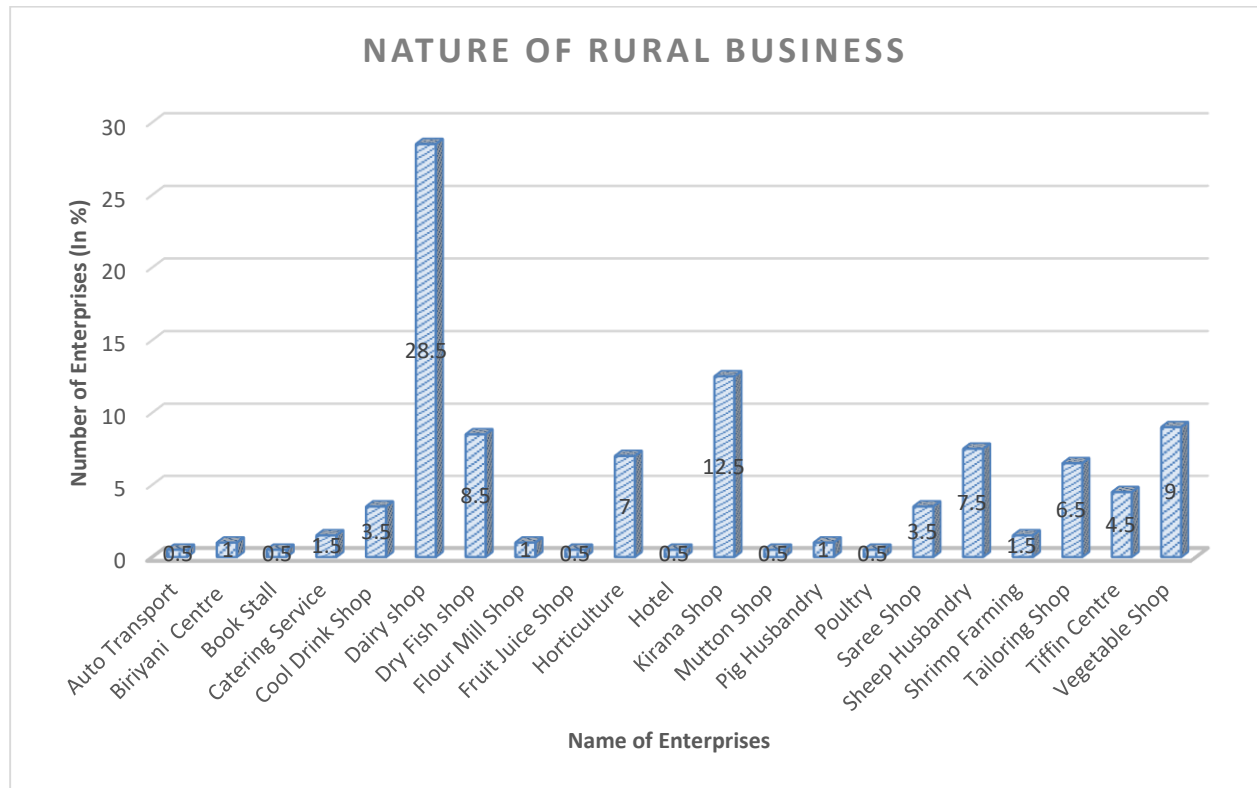
promoted women microenterprises. The present study will be focused on the sustainability of microenterprises by constructing the sustainability index to measure and examine the sustainability of the women microenterprises. The sustainability index will consist of different indicators like social, economic, and political.

There are different Indicators to measure the Sustainability of Microenterprises; Demand for the Product or service, Employment Generation, Profit Generation, Improvement in investment, Business Expansion, Managerial skills, Financial Skills, Loan Repayment capacity and Savings from the business. The level of sustainability mostly affected by the performance of these indicators, if they are performing better, then there may be more sustainability of microenterprises. Degree of sustainability of women microenterprises measured with the level of satisfaction of women entrepreneurs, based on their value judgment on the questions related to “**Sustainability**”, the scoring has been done accordingly. The level of sustainability index mainly depends on the degrees of the assigned values of individual judgments on the various parameters or indicators of Self Help Groups (SHGs) promoted women microenterprises in rural and urban segments of the study area.

5.2 Nature and kind of business of the respondent entrepreneurs in the rural area

Before examining the sustainability levels of Self Help Group (SHG) promoted women microenterprises, the study looks into nature and kind of the business in both rural and urban areas. Most of the women microenterprises are related to agriculture and allied sectors in rural segments of the study area.

Figure 5.1
Nature of rural business



Source: Compiled from Primary Data.

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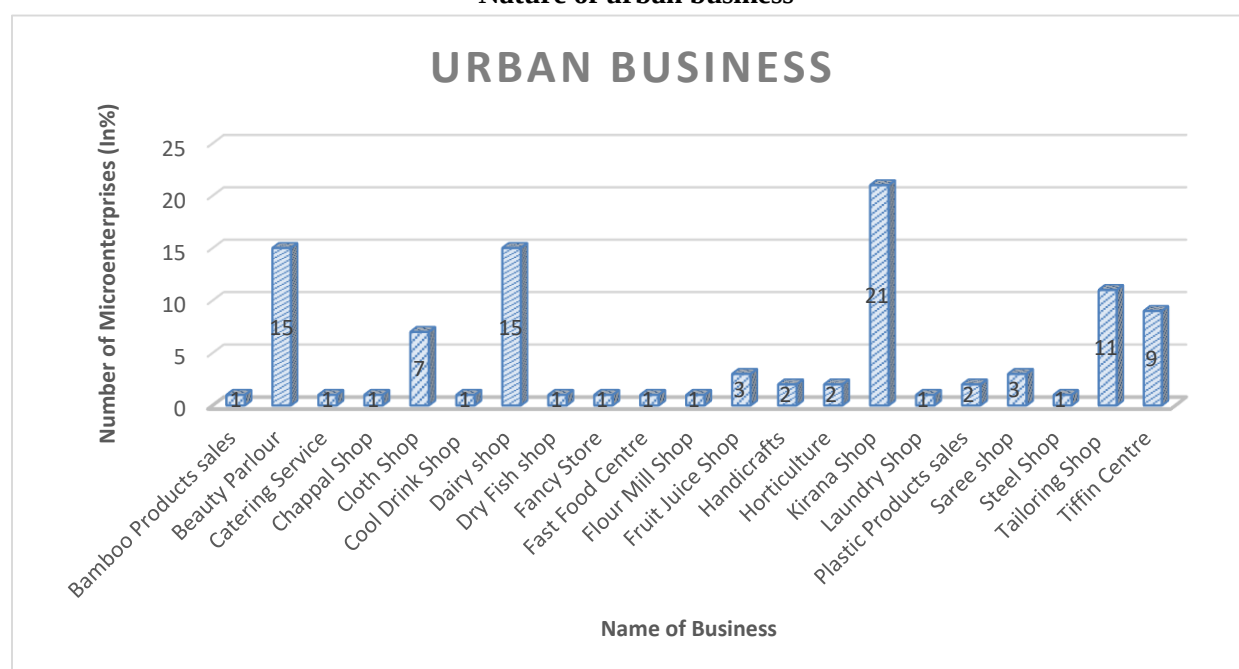
The above figure explains the Nature and kind of the business of Self Help Group (SHG) promoted women microenterprises in rural segments of the study area. OY-axis representing the percentage share of the number of Self Help Group promoted women Microenterprises to the total number, OX-axis shows the nature or kind of business in the rural area. All rural Self Help Groups (SHG) members in the rural area are engaged in twenty-one different business namely; Auto Transport, Biriyani Centre, Book Stall, Catering Service, Cool Drink Shop, Dairy shop, Dry Fish shop, Flour Mill Shop, Fruit Juice Shop, Horticulture, Hotel, Kirana Shop, Mutton Shop, Pig Husbandry, Poultry, Saree Shop, Sheep Husbandry, Shrimp Farming, Tailoring Shop, Tiffin Centre and Vegetable Shop. The first column of the table (table - 5.1) shows the nature of the business, second and third columns of the table show frequency or the number of microenterprises and percentage share of total microenterprises respectively.

The study has found that 28.5 percent of the SHG promoted microenterprises are engaged in the Dairy Business because most of the respondents are belonging to “Yadavas”, a sub-caste of OBC

and their main occupation is cattle crazing. That is the reason most of the Self Help Group (SHG) women are involved in this kind of business. After the Dairy Business, 12.5 percentage of the entrepreneurs involved in the Kirana business, this is more general business of SHGs women. Since most of the respondents belonging to rural segments and their main occupation is farming hence, nine percentage of SHGs women are engaged in the Vegetable business.

From the study one of the interesting points to be noted that the major section of the Self Help Group women are engaged in the Dry fish business because the study area (Kavali Mandal of Nellore district) is near to the Bay of Bengal. Some of the Self Help Group (SHGs) members are belonging to fisheries families hence, depend upon the sea and sea products result in 8.5 percentage of SHGs women members involved in the Dry fish business. The study also found that most of the Self Help Group women entrepreneurs mainly depends upon the agriculture and allied activities because most of the SHGs members are from the rural area. The study also examines the nature and kind of business of the respondent entrepreneurs in the urban area.

Figure 5.2
Nature of urban business



Source: Compiled from Primary Data.

The above figure explains the nature of the business of urban area Self Help Group (SHG) women microenterprises in the study area. OY-axis representing the percentage share of the number of Self Help Group promoted women Microenterprises to the total number, OX-axis shows the nature or kind of business in the rural area. All respondents of Self Help Groups members of the urban area are engaged in twenty-one different business namely; Bamboo Products sales, Beauty Parlor, Catering Service, Chappal Shop, Cloth Shop, Cool Drink Shop, Dairy shop, Dry Fish shop, Fancy Store, Fast Food Centre, Flour Mill Shop, Fruit Juice Shop, Handicrafts, Horticulture, Kirana Shop, Laundry Shop, Plastic Products sales, Saree shop, Steel Shop, Tailoring Shop and Tiffin Centre.

The data reveals that Kirana business, Dairy Business, Beauty Parlour, and tailoring shop occupies a major percentage share, and these four businesses altogether occupy 50 percent share in total urban area business. Kirana Business accounted for 21 percent of total urban area business then beauty parlor and Dairy business accounted for second place in the total share of SHGs business, both occupies 15 percent of share in the total urban business. After Kirana, Beauty parlour and Dairy business, Tailoring and Tiffin center business also having a considerable share in urban area business in the study area. The same trend is evident in the table as well, the first column of the table (see table 5.2) shows the nature of the business, second and third columns of the table shows frequency or number of enterprises and percentage of total enterprises respectively.

Since most of the Self Help Group members are belonging to the urban area, their business is mostly non-agricultural like; Beauty parlour, Tailoring, Tiffin centers and Cloth business etc. These are the business having more demand by the urban people that is the main motivation behind every SHG member to start this kind of business. The table (table 5.2) also explains the same thing about the nature of microenterprises. When it comes to rural and urban comparison of nature of the business, most of the rural area business is depending upon the Agriculture and allied activities like; Dairy business, Vegetable Business, Dry Fish Business, and animal husbandry, etc.. But in case of urban area business, mostly depend upon the non-agriculture business like Kirana, Beauty parlour, Tailoring, Tiffin center, and Cloth Business, etc.

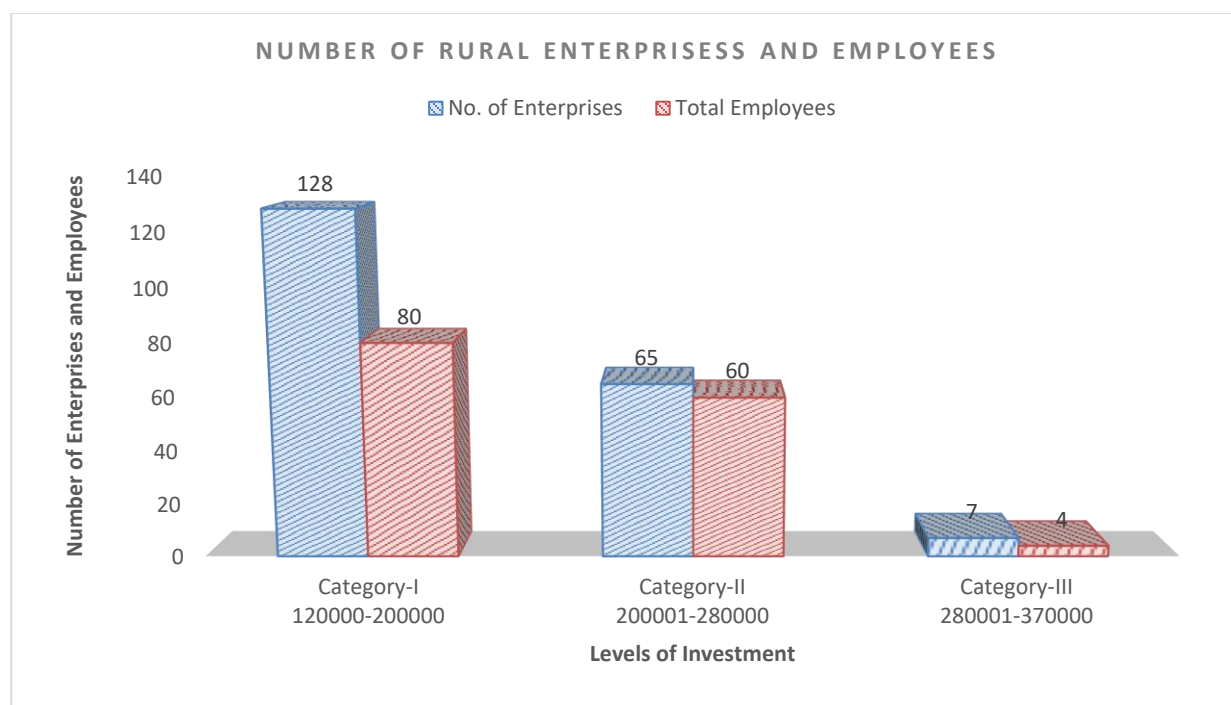
5.3 SHGs promoted Microenterprises and Employment Generation in rural areas

The Micro, Small and Medium Enterprises (MSME) sector in general, Microenterprises, in particular, may act as a potential employment provider to the unskilled and semi-skilled labor force

in rural areas. The problem of disguised unemployment is severe in rural development, the labour-intensive nature of the microenterprises may give a solution to this kind of unemployment. Below both figures explain the employment generation of Self Help Group (SHG) Promoted women microenterprises in the rural and urban segments of the study area. The table (table 5.3) also shows the same evidence from the figure with the help of absolute numbers of microenterprises and total employees percentage share. The first four columns show the Investment categories, investment limits, number of enterprises, and total number employees respectively. In both figures, the investment limits have divided into four categories namely; Category-I, Category-II, Category-III, and Category-IV. If investment limit is between Rs.120000 to Rs.200000 then it comes under the category-I, investment of Rs.200001 to Rs.280000 of microenterprises belonging to Category-II, if the investment ranges between Rs.280001 to Rs.370000 coming to Category-III and level of investment between Rs.370001 to Rs.450000 belong to category-IV.

Figure 5.3

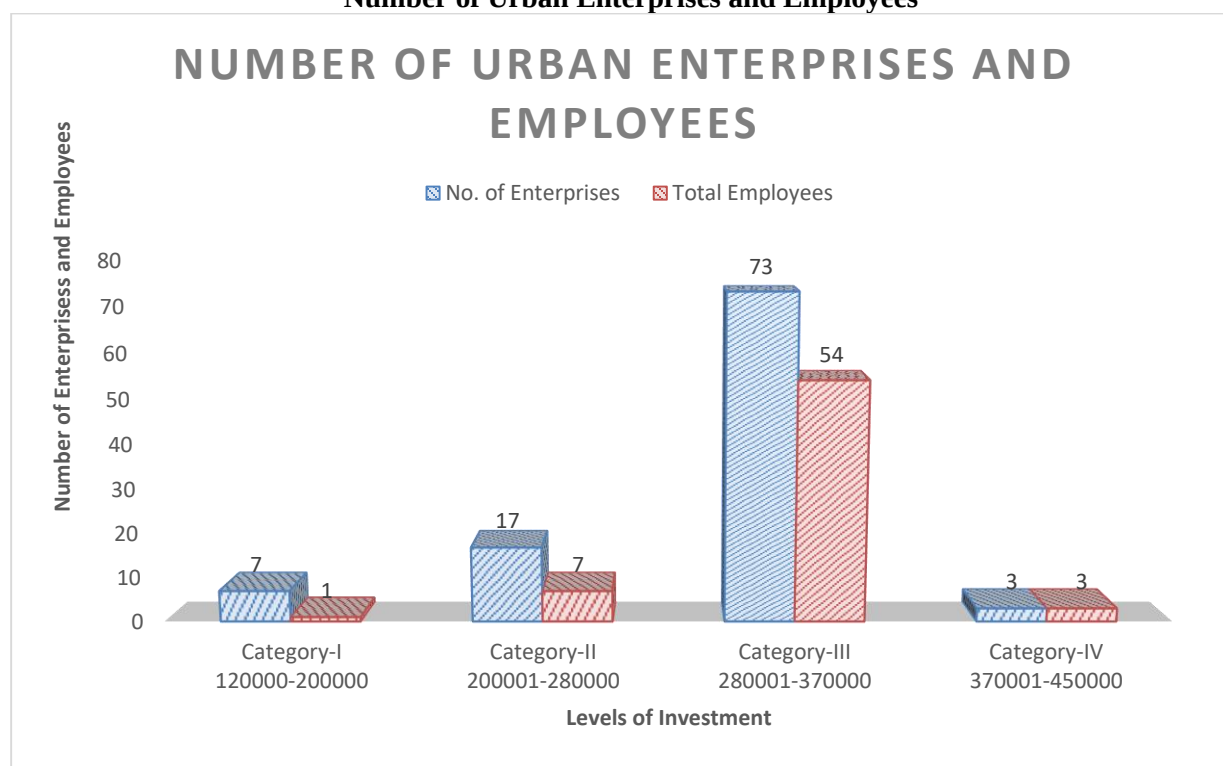
Number of Microenterprises and Employment Generation in rural areas



Source: Compiled from Primary Data.

The above figure explains the total number of employees and the number of Self Help Group (SHG) promoted women microenterprises in the rural area, OY-axis represents the number of enterprises and employees and OX-axis shows different categories of investment limits. The figure also reveals that 128 women microenterprises are belonging to category-I, which are accounted for 64 percent of the total number of microenterprises in the rural area of the study area. Category-II and Category-III are consist of 65 and 7 microenterprises respectively, they occupy 32.5 percent and 3.5 percent of total number microenterprises share respectively in rural segments of the study area. The above figure and table (table 5.3) also explain the employment generation of SHGs promoted microenterprises in rural segments of the study area. The category-I microenterprises are generating 55.6 percent of employment to total employment generation, after that 65 women enterprises are generating 41.7 percent of employment, and 7 women microenterprises of Category-III are generating only 2.8 percent of employment in the rural area. The below figure explains the number of urban microenterprises and employees of the Self Help Groups promoted women Microenterprises in rural segments of the study area.

Figure 5.4
Number of Urban Enterprises and Employees



Source: Compiled from Primary Data.

In the above diagram OY-axis represents the number of microenterprises and employees, OX-axis shows different categories of investment limits. The figure reveals that in the case of urban segments, out of 100 Self Help Group (SHGs) promoted women microenterprises, 7 women microenterprises belonging to category-I, 17 microenterprises coming under Category-II, 73 microenterprises related to Category-III and 3 women microenterprises belonging to category-IV. Both table (table 5.3) and figure reveal that 73 percent of Self Help Group (SHG) promoted microenterprises are belonging to Category-III and accounted for the major share among all four categories in an urban area. When it comes to employment generation of women microenterprises, 73 microenterprises have generated 83.1 percent employment, and this the major share in the total employment generation in urban areas. When it comes to comparison between rural and urban employment generation of SHGs promoted microenterprises, category-I microenterprises in the rural area and Category-III enterprises in urban areas are generating the major share in employment opportunities. Because the microenterprises under these two investment categories having a major share in the total number of microenterprises in the rural and urban areas.

5.4 Gender proportion of Rural and Urban Employees in Microenterprises

One of the important objectives of the Self Help Group (SHG) is women empowerment, women are major stakeholders in SHGs. They are socially and economically excluded from society and SHGs are serving better to overcome these exclusions. This section of the chapter explains the gender proportion in the Self Help Group promoted women microenterprises in rural and urban segments of the study area.

Table 5.1**Gender proportion of Rural and Urban Employees in Microenterprises**

RURAL				
Categories	Investment (in Rs.)	Total Employees	Male Employees	Female Employees
Category-I	120000-200000	80(100%)	39(48.75%)	41(51.25%)
Category-II	200001-280000	60(100%)	30(50%)	30(50%)
Category-III	280001-370000	4(100%)	1(25%)	3(75%)
URBAN				
Categories	Investment (in Rs.)	Total Employees	Male Employees	Female Employees
Category-I	120000-200000	1(100%)	1(100%)	0
Category-II	200001-280000	7(100%)	4(57%)	3(43%)
Category-III	280001-370000	54(100%)	22(40.74)	32(59.25%)
Category-IV	370001-450000	3(100%)	1(33%)	2(67%)

Source: Compiled from Primary Data.

The above table deals with gender proportion in the employment generation of Self Help Group (SHGs) promoted microenterprises in the study (both rural and urban) areas. The study reveals that out of total employees, the percentage share of female employees occupies major share than the male employee's percentage share in both rural and urban areas. The percentage share of Female employees is 51.25 percent, 50 percent, and 75 percent in the total employment share in three categories respectively in the rural area. It is evident the same as well as in the urban area also, in all four categories of microenterprises female employees' share accounted for 43 percent, 59.25 percent, and 67 percent respectively. The major finding from the above data is, all categories of women microenterprises are providing employment opportunities to rural poor women in both rural and urban segments of the study area. There are two main reasons behind this; the first one is most of the Self Help Group promoted microenterprises are related to women based activities like; Beauty parlour, Tailoring, Handicrafts, Vegetable selling, Poultry, Horticulture and Tiffin centers, etc. The second reason is most of the respondents were felt that they are more comfortable doing the work with female employees than male employees.

5.5 Education of employees in the rural and urban areas

In general skill set of the employer or employee is one of the key indicators of the sustainability or performance of any kind of business. Entrepreneurial abilities or employee abilities may closely associate with the level of education. Most of the studies revealed that the education level and skill set are positively correlated. The present section of the chapter deals with the level of education of the employees in rural and urban segments of the study area.

Table 5.2

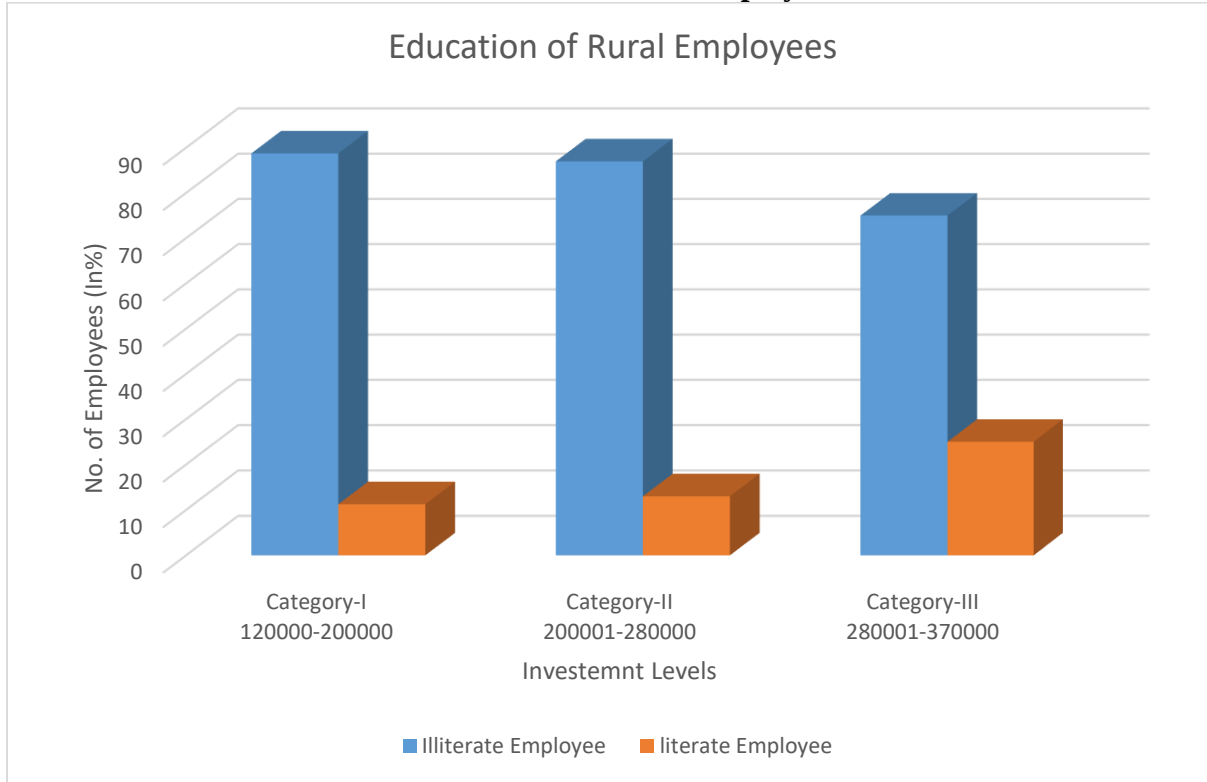
Education of Employees in the Rural and Urban Area

RURAL				
Categories	Investment (in Rs.)	Total Employees	Illiterate Employee	literate Employee
Category-I	120000-200000	80(100%)	71(88.75%)	9(11.25%)
Category-II	200001-280000	60(100%)	52(87%)	8(13%)
Category-III	280001-370000	4(100%)	3(75%)	1(25%)
URBAN				
Categories	Investment (in Rs.)	Total Employees	Illiterate Employee	literate Employee
Category-I	120000-200000	1(100%)	1(100%)	0
Category-II	200001-280000	7(100%)	6(86%)	1(14%)
Category-IV	280001-370000	54(100%)	41(76%)	13(24%)
Category-III	370001-450000	3(100%)	2(67%)	1(33%)

Source: Compiled from Primary Data.

The above table explains the levels of education of employees of Self Help Group promoted women microenterprises in rural and urban segments of the study area. The majority of the employees are illiterate and their percentage share in the total employees is more than 75 percent in both rural and urban areas. Under the category-I women microenterprises of rural areas, 88.75 percent of employees are illiterate and that is 87 percent in Category-II and 75 percent in category-III women microenterprises. The same evidence in the urban area's Self Help Group promoted microenterprise's employees also. The study has found that most of the Self Help Group promoted women microenterprises are generating more employment opportunities to illiterate people, because they may not require the high skilled labour force to do the business. Since major microenterprises are establishing in rural areas thereby creating more employment opportunities to unskilled or semiskilled and illiterate people.

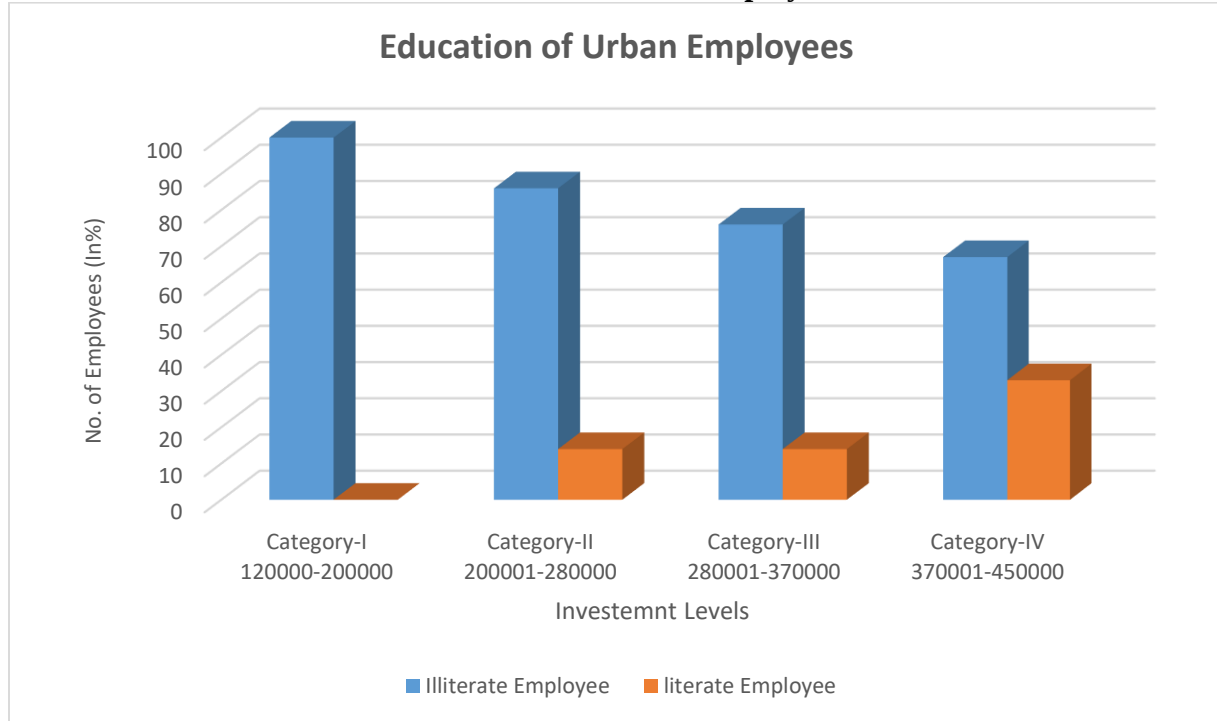
Figure 5.5
Education of Rural Employees



Source: Compiled from Primary Data.

The above figure also explains the percentage shares of the education levels of the employees in the Self Help Group Promoted microenterprises in the study area. The Y-axis represents the education levels of the total number of employees and X-axis represents different categories of investment levels. The percentage share of illiterate employees has higher than the percentage share of literate employees. It means most of the SHGs promoted women entrepreneurs have employed the literate labour force hence they are creating the income and employment generation to the semi-skilled illiterate employees in the rural and urban area. Category-III employees having relatively more share in the level of literacy because most of these microenterprises need minimum education.

Figure 5.6
Education of urban Employees



Source: Compiled from Primary Data.

The above figure also explains the percentage shares of the education levels of the employees in the Self Help Group Promoted microenterprises in the urban segments of the study area. The OY-axis represents the education levels of the total number of employees and the OX-axis represents different categories of investment levels. In urban area women microenterprises also providing more employment to illiterate people, it is evident from the data that the percentage share of illiterate employees are higher than the literate employees. The study has found that most of the Self Help Group promoted women microenterprises are generating more employment opportunities to illiterate people, because they may not require the high skilled labor force to do the business.

5.6 SHGs promoted Microenterprises and Profit Generation

The profit and improvement in investment are two powerful indicators or parameters to measure the sustainability of microenterprises. One of the main and primary motives of any enterprise, whether it is Micro, Small, Medium, and large enterprise is “Profit”. The level of profit and investment may depend upon several indicators like demand, quality, etc. If the

Microenterprises are to play an important role then these enterprises must emerge as sustainable enterprises, they are not only managerially and organizationally but also economically.

Table 5.3
SHGs promoted Microenterprises and Profit Generation

RURAL			
Categories	Investment (In Rs.)	Annual Average Profit (In Rs.)	Annual Average Investment (In Rs.)
Category-I	120000-200000	71531.25(62.6%)	24296.9 (33.96%)
Category-II	200001-280000	76061.5(33.8%)	24953(34.88%)
Category-III	280001-370000	75285.7(3.6%)	22285.7(31.15%)
Total		73135(100%)	17536(100%)
URBAN			
Categories	Investment (In Rs.)	Annual Average Profit (In Rs.)	Annual Average Investment (In Rs.)
Category-I	120000-200000	124285.7(6.2%)	4428.6(2.7%)
Category-II	200001-280000	130588.2(15.9%)	46470.6(28.4%)
Category-III	280001-370000	143013.6(74.6%)	51301.4(31.3%)
Category-IV	370001-450000	153333.3(3.3%)	61666.7(37.6%)
Total		139900(100%)	163867.3(100%)

Source: Compiled from Primary Data.

The above table explains the Average Annual Profit and Average Annual Investment of Self Help Group (SHG) promoted women micro-enterprises in both rural and urban segments of the study area. Category-I microenterprises are generating more profit than Category-II and Category-III because the number of microenterprises under category-I is higher than the other two categories, hence percentage share of profit from category-I microenterprises accounted higher share. But in case percentage share of Annual Average Investment of Category-II microenterprises having relatively more share with 34.88 percent in rural areas. When it comes to the urban area, the percentage share of Annual Average Profit and Annual Average Investment is high in the Category-III and Category-IV respectively, with a percentage of 74.6 and 37.6. Since most of the women microenterprises coming under category-III, hence the percentage share of profit also high in this category microenterprises. But in case of increment in annual investment, 37.6 percent of annual average investment generating from the category-IV, this is because their investment levels

are higher than the other categories in the urban area. The study has found that both the cases (both rural and Urban) most of the Self Help Group promoted women micro-entrepreneurs are generating a profit and also considerable improvement in the annual investment in the study area.

5.7 Sustainability of SHGs promoted Microenterprises

The present section will be focused on the sustainability of microenterprises by constructing the sustainability index to measure and examine the sustainability of the microenterprises. The sustainability index will consist of different indicators like social, economic, and political. Indicators to Measure the Sustainability of Microenterprises as follows;

- 1) Demand for the Product or service
- 2) Employment Generation
- 3) Profit Generation
- 4) Improvement in investment
- 5) Business Expansion
- 6) Managerial skills
- 7) Financial Skills
- 8) Loan Repayment
- 9) Savings from the Business

1) Demand for the Product or service: This is a good parameter to measure the sustainability of Microenterprises since most of the economic sustainability of Microenterprises mainly depends on the profit. The level of profit mostly affected by the level of the demand for goods and services in the market, if there is more demand then there will be a chance of high profit of the enterprises. The level of demand mostly affected by the location of the market, if a market with the more potential consumer then there may be more demand for that commodity then that organization end up with more profit. Degree of demand of the goods and services, we measured with the level of satisfaction of women enterprises, based on the individual value judgment on the question “**There is a better demand for your product in the market**”, the scoring has been done accordingly. The structure of scoring as follows;

Strongly Disagree----- 1

Disagree----- 2

Neutral----- 3

Agree----- 4

Strongly Agree----- 5

The higher the demand for the goods and services of microenterprises will be added more value to the sustainability index. If micro entrepreneurs having less demand for her product or service in the market then she may have less value in the sustainability index. The level of sustainability index mainly depends on the level of the assigned values of individual judgments for the demand for the goods and services.

2) Employment Generation of Microenterprises: This is also one of the better indicators to measure the sustainability of the Microenterprises and the best feature of the Microenterprises is the more labour-intensive and less capital-output ratio. Most of the Self Help Group SHGs) promoted microenterprises may provide better employment opportunities to women, especially rural poor women because most of the microenterprises have been establishing in the rural segments. They may act as an empowerment tool for women by providing employment opportunities. The capacity of the employment generation of microenterprises could measure with the level of satisfaction of women entrepreneurs, based on the individual value judgment on the question “**There is an improvement in employment generation of my enterprise**”, the scoring has been done accordingly. The structure of scoring as follows;

Strongly Disagree----- 1

Disagree----- 2

Neutral----- 3

Agree----- 4

Strongly Agree----- 5

The higher the level of employment generation of microenterprises will be added more value to the sustainability index. If micro entrepreneurs having lower the level of employment generation, she may have less value in the sustainability index. The level of sustainability index mainly

depends on the degrees of the assigned values of individual judgments for the employment generation of Self Help Groups (SHGs) promoted microenterprises.

3) Profit Generation: The profit of the organization or enterprise is one of the powerful indicators or parameters to measure the sustainability of microenterprises. One of the main and primary motives of any enterprise, whether it is Micro, Small, Medium, and large enterprise is “Profit”. The level of profit may depend upon several indicators like demand, quality, etc. If the Microenterprises are to play an important role then these enterprises must emerge as sustainable enterprises, they are not only managerially and organizationally but also economically. The economical sustainability mainly depends upon the level of profit of the microenterprises. The level of the Profit generation of the microenterprises could measure with a level of satisfaction of women entrepreneurs. It is based on the individual value judgment on the question “**I can get sufficient profits to my enterprise**”, the scoring has been done accordingly. The structure of scoring as follows;

Strongly Disagree----- 1

Disagree----- 2

Neutral----- 3

Agree----- 4

Strongly Agree----- 5

The higher the level of profit generation of microenterprises will be added more value to the sustainability index. If micro entrepreneurs having lower the level of profit generation, she may have less value in the sustainability index. The level of sustainability index mainly depends on the degrees of the assigned values of individual judgments for the profit generation of Self Help Groups (SHGs) promoted microenterprises.

4) Annual Investment: The investment is a very important component of any organization or enterprise, is also a better indicator to measure the sustainability of enterprises. If there is a consistency increase in the annual average investment may indicate good wellbeing of any enterprises, whether it is Micro, Small, Medium, or Large Enterprises. Improvement in annual average investment may base on the different parameters like the efficiency of the business,

demand for the goods or services offered by the enterprises and profit of the organization, etc. The annual average investment in the microenterprises could measure with the level of satisfaction of women entrepreneurs, based on the individual value judgment on the question “**Where is the improvement in the annual average investment**”, the scoring has been done accordingly. The structure of scoring as follows;

Strongly Disagree----- 1

Disagree----- 2

Neutral----- 3

Agree----- 4

Strongly Agree----- 5

The higher the level of improvement in the annual average investment of microenterprises will be added more value to the sustainability index. If micro entrepreneurs having lower the level of improvement in the annual average investment of microenterprises, she may have less value in the sustainability index. The level of sustainability index mainly depends on the degrees of the assigned values of individual judgments for the level of improvement in the annual average investment of Self Help Groups (SHGs) promoted microenterprises.

5) Business Expansion: This is also a good parameter to measure the performance or sustainability of microenterprises. Expansion of any business may give positive single to the entrepreneur, a high level of sustainable enterprises will have more scope to an expansion of the business. Every successful entrepreneur tries to expand her branches in different localities with the help of the profits that the intern leads to more investment and employment. The business expiation of the microenterprises has measured with the level of satisfaction of women entrepreneurs, based on the individual value judgment on the question “**I have expanded my business over a while**”, the scoring has been done accordingly. The structure of scoring as follows;

Strongly Disagree----- 1

Disagree----- 2

Neutral----- 3

Agree----- 4

Strongly Agree----- 5

If there is more expansion of the business of microenterprises will be added more value to the sustainability index. If micro entrepreneurs having a low level of expansion of the business of microenterprises, she may have less value in the sustainability index. The level of sustainability index mainly depends on the degrees of the assigned values of individual judgments for the level of improvement in the expansion of the business of Self Help Groups (SHGs) promoted microenterprises.

6) Managerial skills: Organizer or entrepreneur is a main pillar of the business or enterprises, the success of any business mainly depends upon the efficiency of managerial skills of the organizer. Managerial skills related to how to lead and control the other factors of production, especially labor within its business environment. Efficient business skills may require resource mobilization, developing the different alternatives, design of the business, forecasting the marketing conditions, etc. The managerial skill set of an entrepreneur of the microenterprises has measured with the level of satisfaction of women entrepreneurs, based on the individual value judgment on the question “**I have a good understanding to manage my business**”, the scoring has been done accordingly.

The structure of scoring as follows;

Strongly Disagree----- 1

Disagree----- 2

Neutral----- 3

Agree----- 4

Strongly Agree----- 5

If there is more managerial skill of entrepreneurs of the microenterprises will be added more value to the sustainability index. If micro entrepreneurs having low-level managerial skills of the business of microenterprises, she may have less value in the sustainability index. The level of sustainability index mainly depends on the degrees of the assigned values of individual judgments for their level of the managerial skill set of the business of Self Help Groups (SHGs) promoted microenterprises.

7) Financial and accounting Skills: Financial and accounting skills are necessary to get more profit and steady sustainability of microenterprises. Accounting skills are related to the record of transactions of accounts and proper financial statements and budget of the enterprises. Budget allocation of nay business or enterprises is more crucial to success, the rational budget allocation may depend upon the level of understanding of the economic and financial environment of the business. Every efficient and innovative entrepreneur tries to minimize the cost and maximize the profit by using managerial and financial skills. The degree of the financial or economic skill set of an entrepreneur of the microenterprises has measured with the level of satisfaction of women entrepreneurs, based on the individual value judgment on the question “**I have improved my financial and accounting knowledge of my business**”, the scoring has been done accordingly.

The structure of scoring as follows;

Strongly Disagree----- 1

Disagree----- 2

Neutral----- 3

Agree----- 4

Strongly Agree----- 5

More financial and accounting skillset of an entrepreneur of the microenterprises will be added more value to the sustainability index. If micro entrepreneurs having low level financial and accounting skills of microenterprises, she may have less value in the sustainability index. The level of sustainability index mainly depends on the degrees of the assigned values of individual judgments for their level financial and accounting skillset of the business of Self Help Groups (SHGs) promoted microenterprises.

8) Loan Repayment: Repayment of the loan also a good parameter to measure the sustainability of microenterprises. Financial and economic sustainability of the microenterprises may depend upon the level of repayment of the loan to a greater extent. If the Self Help Group (SHG) promoted microenterprises do not repay the loans to Bank or Micro Finance Institutions (MFI) or Non-Governmental Organizations (NGO) on time, may contradictory impact on the loan amount of SHGs. Thus the repayment of loans is very crucial for ensuring the economic or financial sustainability of Self Help Group (SHGs) promoted microenterprises. The level of sustainability may impact on the capacity of repayment of loans, in this study the capacity of loan repayment of

an entrepreneur of the microenterprises have measured with the level of satisfaction of women entrepreneurs, based on the individual value judgment on the question **“I am ably repaying the loans of Self Help Group”**, the scoring has been done accordingly. The structure of scoring as follows;

Strongly Disagree----- 1
Disagree----- 2
Neutral----- 3
Agree----- 4
Strongly Agree----- 5

For example, if an entrepreneur repaying loans regularly and on time then there will be added more value to the sustainability index. If micro-entrepreneurs unable to repay her loans regularly and on time, she may have less value in the sustainability index. The level of sustainability index mainly depends on the degrees of the assigned values of individual judgments for their loan repayment levels of the entrepreneur of Self Help Groups (SHGs) promoted microenterprises.

9) Saving from the business: Total savings from the business also better variables to measure the sustainability of microenterprises, high potential enterprises may generate more savings through high profits. Most Self Help Groups (SHGs) finance depends upon the level of saving of the group and it acts as an incentive to get more finance from the SHGs. A high amount of the savings of the entrepreneur may have a high chance of repaying the loans on time. The level of saving may impact on the financial sustainability of the business, If there is a high level of saving of the entrepreneur of microenterprise, have measured with the level of satisfaction of women entrepreneurs, based on the individual value judgment on the question **“There is the improvement in saving level after the establishment”**, the scoring has been done accordingly.

The structure of scoring as follows;

Strongly Disagree----- 1
Disagree----- 2
Neutral----- 3
Agree----- 4
Strongly Agree----- 5

If there is a high level of saving in the business then there will be added more value to the sustainability index. If micro-entrepreneurs generating less saving she may have less value in the sustainability index. The level of sustainability index mainly depends on the degrees of the assigned values of individual judgments for their saving levels of the entrepreneur of Self Help Groups (SHGs) promoted microenterprises.

5.7.1 The Sustainability index

This study has been using both social and economic indicators to measure the overall suitability of micro-enterprises. The different scores are assigned to various parameters of the sustainability index of micro-entrepreneurs and weighted averages will be used to estimate index at an individual level. The study estimates the sustainability index for every individual entrepreneur. In this study every sustainable indicator having an equal weight of value 0.111 and each parameter having equal importance during the construction of the sustainability index. The scores have signed to entrepreneurs of microenterprise, have measured with the level of satisfaction of women entrepreneurs, based on the individual value judgment on the questions of sustainability, the scoring has been done accordingly Formula for the sustainability index as follows.

$$\text{Sustainability Index}(SI) = \sum_{j=1}^9 W_j X_{ij} \quad 1 \leq \text{Sustainability Index} \leq 5$$

Where;

X_{ij} = The value of the jth parameter or indicator of sustainability for 'i' entrepreneur

W_j = Weighted averages of indicators of sustainability.

$$= \sum_{j=1}^9 W_j = 1$$

$W_j = 0.111$ for $j = 1, 2, 3, \dots, 9$.

The value of sustainability index is the range between one to five, if the value of sustainability equals to or near to 5 indicate the better performance of the suitability parameters of the index. If there is a low or laggard performance in the indicators of the sustainability of a women microenterprises then the value of the index may equal or near to one, ended up with a low level of sustainability. The below table shows the nature of the sustainability of microenterprises in the study area based on the values of the sustainability index.

Table 5.4
Values of the sustainability index

Sustainability Index Value Ranges	Sustainability Levels
0 to 1	LOWEST
1.1 to 2	LOW
2.1 to 3	MEDIUM
3.1 to 4	HIGH
4.1 to 5	HIGHEST

If an entrepreneur got index value of zero to one then she may has lowest sustainability of microenterprises. If she got the value of 1.1 to 2 then that enterprises consider as a “Low” sustainability enterprises or if it is 2.1 to 3 it will be called as a “Medium” sustainable enterprises. Enterprises with value of 3 or less than three may indicate the low performance enterprises. If an organization or enterprises having more than 3 then they will called as “High” and “Highest” levels of suitability with the value of 3.1 to 4 and 4.1 to 5 respectively.

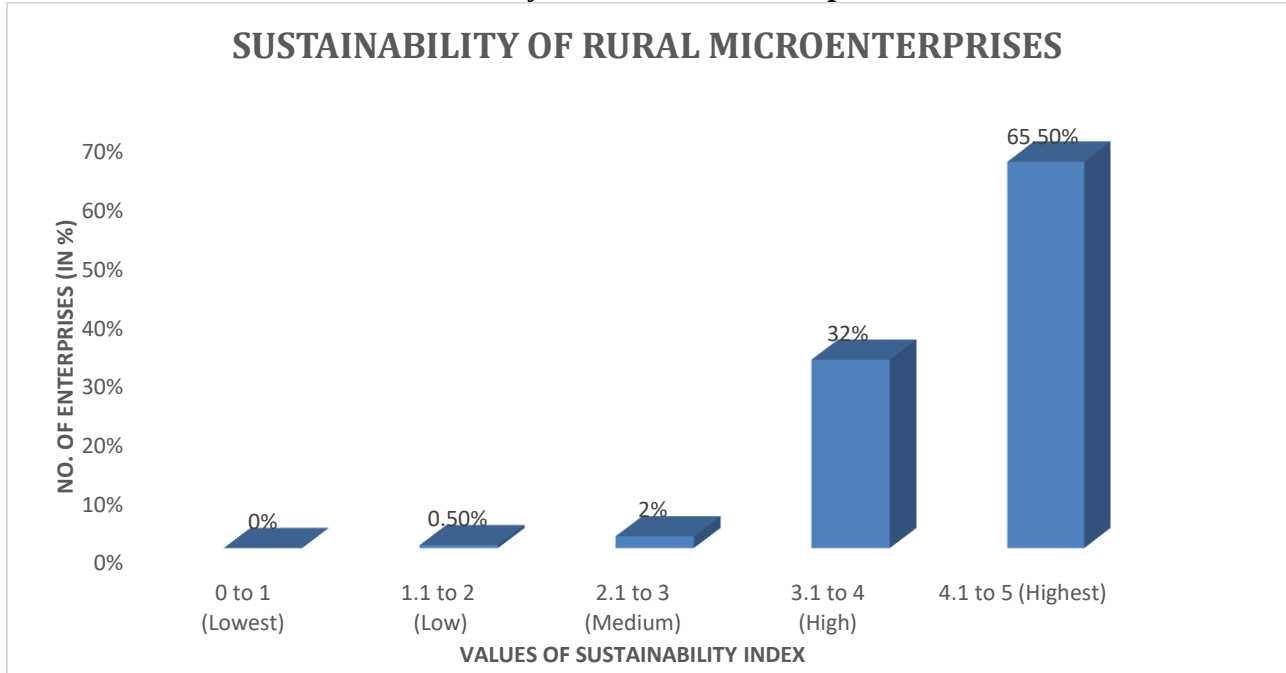
Table 5.5
Sustainability index of microenterprises of rural and urban areas in kavalimandal

RURAL			
RANGES	NUMBER OF ENTERPRISES	IN PERCENTAGE	SUSTAINABILITY LEVELS
0 to 1	0	0 %	LOWEST
1.1 to 2	1	0.5%	LOW
2.1 to 3	4	2%	MEDIUM
3.1 to 4	64	32%	HIGH
4.1 to 5	131	65.5%	HIGHEST
Total	200	100%	
URBAN			
RANGES	NUMBER OF ENTERPRISES	IN PERCENTAGE	SUSTAINABILITY LEVELS
0 to 1	0	0	LOWEST
1.1 to 2	0	0	LOW
2.1 to 3	2	2	MEDIUM
3.1 to 4	4	4	HIGH
4.1 to 5	94	94	HIGHEST
Total	100	100	

Source: Compiled from Primary Data.

The Kavali Mandal of Nellore district of Andhra Pradesh have selected for the study, total of 300 Self Help Group (SHG) promoted women micro entrepreneurs in the month of August and September 2017. Out of total 300 SHGs entrepreneurs, 200 women entrepreneurs have selected from the rural segments of the Kavali Manadal and 100 Self Help Group promoted women entrepreneurs have selected from the urban segments of the Kavali Mandal of Nellore district. The above table explains the various levels of sustainability of the enterprises based on the sustainability index values in both rural and urban areas. The study has found that no enterprises having “Lowest” level of sustainability but only one enterprises having “Low” level of sustainability and also reveals that 2 percent of total microenterprises having “Medium” level of sustainability. The below figure interprets the levels of the performance of Self Help Group promoted microenterprises in urban area.

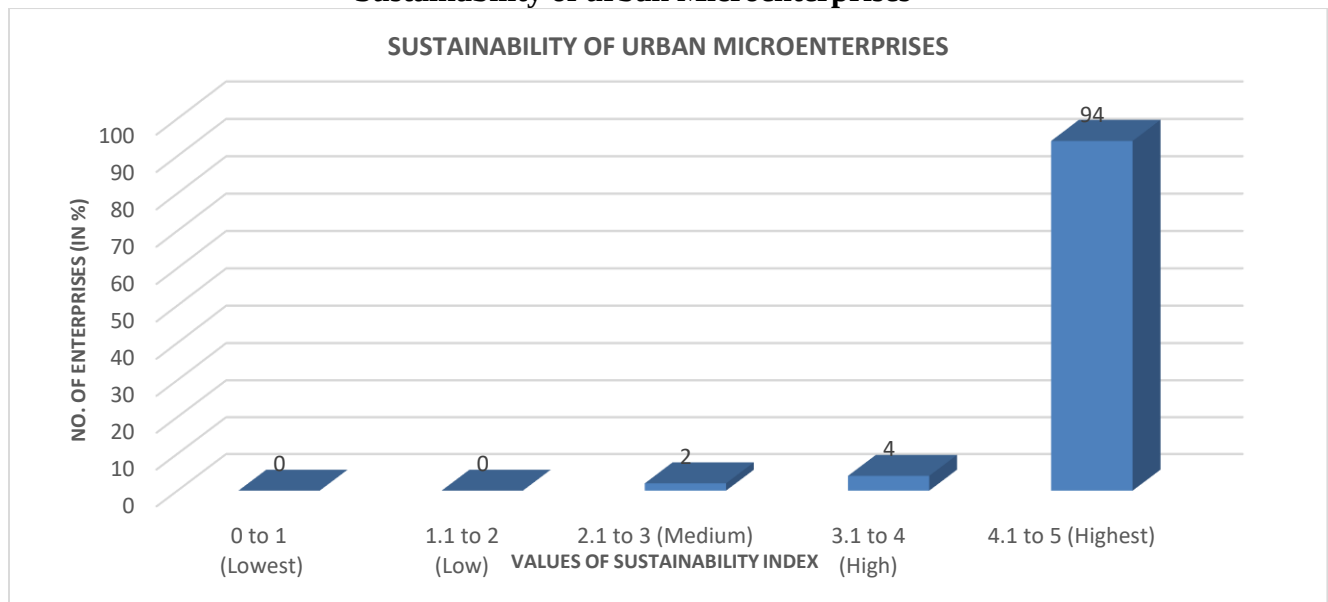
Figure 5.7
Sustainability of Rural Microenterprises



Source: Compiled from Primary Data.

In the above figure OY-axis representing the percentage share of the number of microenterprises and OX-axis representing values of sustainability indexes. Thus the figure says that very few enterprises performing low, out of total 200 enterprises only 5 enterprises having less than or equals to medium level of sustainability in the rural area. The study also found that most of the microenterprises having “High” and “Highest” levels of sustainability with 32 and 65.5 percent of total microenterprises. From the table, we can observe that high levels of sustainability may indicate better performance of the Self Help Group (SHG) promoted women microenterprises in the study area. In the case of the urban area also a table showing the same trend, no microenterprise comes under the category of “Low” and “Lowest” level of sustainability index, only 2 percent of microenterprises coming under the “Medium” level sustainability category in the urban segments of the study area. Most of the microenterprises coming under the category of “High” and “Highest” levels of sustainability category, the above table shows that 94 percent of microenterprises belong to the “Highest” level of sustainability and 4 percent of enterprises coming under the category of “High” Sustainability levels. The below figure explains the sustainability of the Self Help Group (SHG) promoted microenterprises in the urban area.

Figure 5.8
Sustainability of urban Microenterprises



Source: Compiled from Primary Data.

OY-axis representing the percentage share of the number of microenterprises and the OX-axis representing values of sustainability indexes. The figure reveals that Most of the urban area Self Help Group (SHG) promoted women microenterprises are performing better. When it comes to rural-urban comparison the study data reveals that more number of microenterprises coming under the category of “Highest” levels of sustainability in both Rural and Urban segments of the study area. But the percentage of “Highest” level of sustainability category of an urban area is higher than the rural area, this may indicate that the performance of SHGs promoted microenterprises in the urban area is better than the performance of SHGs promoted women microenterprises in rural segments of the study area. This is because of the high demand for the product or service and better infrastructural facilities in urban segments of the study area. In both Rural and Urban segments very few microenterprises coming under the category of “Lowest, Low and Medium” levels of suitability, indicates very few enterprises are laggard performance due to lack of demand and infrastructural facilities in rural areas.

5.7.2 Social group-wise suitability of women microenterprises

Women in general and marginalized women in specific have been excluded economically and socially in society. The main objective of the SHG policy is to enhance the empowerment of

women through microenterprises development. Social empowerment may achieve through financial empowerment, most of the Self Help Group (SHGs) are acting as a potential tool to create entrepreneurial abilities and employment thereby create the financial and social inclusion in rural areas. The success of the business may depend upon the level of sustainability.

Table 5.6
Social group-wise suitability index

CASTE WISE NUMBER OF ENTERPRISES	Sustainability Levels					
	LOWEST (0-1)	LOW (1.1 TO 2)	MEDIUM (2.1 TO 3)	HIGH (3.1 TO 4)	HIGHEST (4.1 TO 5)	TOTAL
ST	0	0	0	9 (42.85%)	12 (57.15%)	21 (100%)
SC	0	1 (1.21%)	0	21 (25.60%)	60 (73.17%)	82 (100%)
OBC	0	0	5 (5.05%)	19 (19.19%)	75 (75.75%)	99 (100%)
OTHERS	0	0	1(1.02%)	19 (19.38%)	78 (79.59%)	98 (100%)
TOTAL	0	1 (0.33%)	6 (2%)	68 (22.66%)	225 (75%)	300 (100%)

Source: Compiled from Primary Data.

The above table explains the levels of the sustainability of different social groups of Self Help Groups (SHGs) promoted women microenterprises in the study area. There are four social groups in the study namely; Schedule Tribes (ST), Scheduled Caste (SC), Other Backward Class (OBC), and other categories. Total of 300 Self Help Group (SHG) promoted women microenterprises, 99 enterprises belong to OBC category, 98 enterprises related to Others category, 82 and 21 microenterprises belonging to SC, ST categories respectively in the study area. The data reveals that out of the 21 Schedule Tribes (ST) category microenterprises, 57.15 percent of the microenterprises coming under the category of “Highest” Sustainability and 42.85 percentage of enterprises coming under the category of “High” level of Sustainability.

It is surprise to know that no enterprises come under the “Lowest or low and Medium” levels of sustainability, indicating the better performance of ST category women enterprises in the study area. In the case of Schedule Caste (SC) category Self Help Group (SHGs) promoted microenterprises show the same trends as the ST category. Total of 82 women microenterprises most enterprises coming under the “Highest” and “High” levels of sustainability with a percentage of 73.17 and 21 respectively. An interesting point to be noted was that one woman entrepreneur from Schedule Category (SC) comes under a low level of sustainability. The entrepreneur with low sustainability felt that her business has been getting loses because of a local competitor who

belongs to the upper caste. Most of the prospective customers in that street wanted to purchase from rival business. This instance in from the sample shows various challenges faced due to caste of the women entrepreneur.

In the case of Other Backward Class (OBC) category microenterprises, out of 99 enterprises 75.75 percentage of enterprises coming under the “Highest” level of sustainability category and 19.19 percentage of microenterprises belonging to “High” level of sustainability category. Only a few enterprises nearly 5 out of 99 microenterprises coming under the “Medium” level sustainability category, this is nearly 5 percentage to the total. The data also reveals the same trend occurs in the case of other category enterprises also. There are a total of 98 SHGs promoted women microenterprises, out of which 79.59 parentages of women enterprises belonging to the category of “Highest” level of sustainability. Both the cases (Others and OBC) more than 75 percentage of Self Help Group (SHGs) promoted women microenterprises fallows under the category of “Highest” levels of sustainability. This shows better performance of microenterprises of others and the OBC category. The study has found that microenterprises which belong to socially marginalized sections are performing better in the study area. These are some sections have been excluded to get the formal financial services from the banks, Self Help Groups (SHG) are giving solution to this financial exclusion in the rural segments. Most of the women microenterprises belonging socially and economically marginalized sections sustaining well and gaining better profits in the study area.

5.8Major Finding

The study has ascertained that very few enterprises performing low and most of the microenterprises having “High” and “Highest” levels of sustainability in total microenterprises. In case of the urban area also the study has shown the same trend, no single microenterprise comes under the category of “Low” and “Lowest” level of sustainability index, only very low percentage of microenterprises under the “Medium” level sustainability category in the urban segments of the study area. Most of the microenterprises coming under the category of “High” and “Highest” levels of sustainability. When it comes to rural-urban comparison the study data reveals that more number of microenterprises coming under the category of “Highest” levels of sustainability in both Rural and Urban segments of the study area. But the percentage of “Highest” level of sustainability category of the urban area is higher than the rural area, this may indicate that the performance of

SHGs promoted micro-enterprises in the urban area is better than the performance of SHGs promoted women microenterprises in rural segments of the study area. This is because of the high demand for the product or service and better infrastructural facilities in urban segments of the study area. In both Rural and Urban segments very few microenterprises coming under the category of “Lowest, Low and Medium” levels of suitability, indicates very few enterprises are laggard performance due to lack of demand and infrastructural facilities in rural areas.

CHAPTER-VI

IMPACT OF MICROENTERPRISES ON WOMEN EMPOWERMENT

6.1 Introduction

The model of women entrepreneurship is a recent phenomenon, women who are engaged in the process of manufacturing of commodities and rendering services are known as women entrepreneurs (IFC 2014). Social and political empowerment of women can be achieved through the economic empowerment of women (Rathirane, et.al, 2015). The government of Andhra Pradesh has been focusing on women empowerment as a developmental tool for the rural economy and to alleviate rural poverty. Government of Andhra Pradesh has been extending its efforts to empower women through linking the self Help Groups with MSMEs, thereby encouraging the self Help Group movement in Andhra Pradesh.

The present chapter has used six variables to measure the impact assessment of the Self Help Group promoted women microenterprises on their empowerment and the variables are; Income of the entrepreneurs, Asset Holding, saving levels of the entrepreneurs, education of the family, Health of the family and decision making power of the entrepreneurs.

All the six factors are having different criteria, “Income of the entrepreneur” consists of 5 criteria’s namely; Improvement in personal income, Loan repayment capacity, Financial ability, Reduction in debt and Monthly consumption on luxuries. Possession of House Hold durables, Possession of gold and Possession of property are belonging to “Asset Holdings”. The variable called “Saving levels in SHGs” having three different criteria namely; Lending capacity, saving in other financial organizations and improvement in the amount of loan. commitment to educate children, No gender bias in education, awareness about child education and improvement in expenditure on Education are coming under the variable called “Education of the family”. “Health of the family” contains four criteria namely; Improvement in Health of the family, Hygienic sanitation facilities, safe drinking water and Reduction in Hospital Expenditure. Similarly, the variable called “decision making power of the entrepreneurs” having seven different criteria, which are Freedom to spend money, domestic decision-making power, decision-making power in business, participation in social awareness programmes, Social mobility participation in local politics and Confidence to voice.

The empowerment of the Self Help Group (SHG) promoted women entrepreneurs have measured with help of satisfaction levels of women entrepreneurs. The study has based on the individual value judgment on the questions related to “**Empowerment**” with six parameters namely; Income, Asset Holding, savings, Education, Health and Decision Making Power. The scoring has been done on five-point Likert Scale and the structure of scoring as follows;

Strongly Disagree----- 1

Disagree----- 2

Neutral----- 3

Agree----- 4

Strongly Agree----- 5

If there is more empowerment in Self Help Group (SHG) promoted women entrepreneurs then there will be added more value to sustainability index. If micro entrepreneurs having a low level of empowerment, she may have less value in the index. The level of empowerment mainly depends on the degrees of the assigned values of individual value judgments for the levels of different criteria for above six variables of Self Help Groups (SHGs) promoted women microenterprises in the study area.

The paired t-test has used to measure the difference between two same variables by dividing the time. The period has divided into two categories; the first one is “**Before the establishment**” i.e. before the establishment of the SHG promoted women microenterprises and the second one is “**After the establishment**” i.e. after the establishment of the SHG promoted women microenterprises in the study area. The study has focused on the impact of microenterprises on the women empowerment through the difference between mean and stand deviation of the various criteria under the particular variable in pre & post establishment of the business. Following alternative hypothesis are tested for six variables of the study.

6.2 Paired t-test

A paired t-test is used to test the difference of means of two samples x_i and y_i of same sizes, say n , are not independent but paired together, i.e., the pair of the observations $(x_i, y_i), i=1,2,...,n.$

Corresponds to the same (i^{th}) sample unit and have been from two normal populations with means m_1 and m_2 . Hereunder the null hypothesis (H_0), the test statistic is given by;

$$t = \frac{\bar{d}}{S/\sqrt{n}}$$

Where; $\bar{d} = (1/n) * (\sum_{i=1}^n d_i)$ i.e., the mean of the differences and $d_i = x_i - y_i$ i.e., the difference of i^{th} observation.

$S^2 = \frac{1}{n-1} \sum_{i=1}^n (d_i - \bar{d})^2$ is the variance of the differences.

Now here if we compare this to the research then the i^{th} observation is the pair of impact on the woman empowerment (calculated based on the variables mentioned earlier) before and after entering in the SHG.

6.3 Hypotheses of the study

Hypotheses-1:

H_0 : There is no significant improvement in **Income** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

H_1 : There is a significant improvement in **Income** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

Hypotheses-2:

H_0 : There is no significant improvement in **Asset Holdings** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

H_1 : There is a significant improvement in **Asset Holdings** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

Hypotheses-3:

H_0 : There is no significant improvement in **Savings** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

H1: There is a significant improvement in **Savings** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

Hypotheses-4:

H0: There is no significant improvement in **Education of the family** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

H1: There is a significant improvement in **Education of the family** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

Hypotheses-5:

H0: There is no significant improvement in **Health of the family** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

H1: There is a significant improvement in **Health of the family** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

Hypotheses-6:

H0: There is no significant improvement in **Decision-making power** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study

H1: There is a significant improvement in **Decision making power** of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study.

The study has used the above six hypotheses to examine the impact of microenterprises on the empowerment of women entrepreneurs in the study area and the impact assessment has measured with the help of below six variables.

6.4 Income of the SHG Promoted Entrepreneur in Rural and Urban Areas

The income of the entrepreneur is one of the good variables to measure the impact of the Self Help Group promoted microenterprises. The economic empowerment of women may closely associate with the variable called “income”. The below table depicted the Paired Samples Statistics for Income variable, the first column of the table shows the mean value, the second column representing some criteria and similarly third and fourth columns are showing standard deviation and standard error of the mean respectively. There are a total of 5 paired criteria related to “**Income Variable**” namely; Improvement in personal income, Loan repayment capacity, Financial ability, Reduction in debt and Monthly consumption on luxuries.

The table (table 6.1) explains the Paired Samples Statistics of Income before and after the establishment the women microenterprises in the rural area. All the criteria belong to income variable were improved after the establishment of the micro-enterprises and found that development has taken place in income generation of SHGs promoted women entrepreneurs in rural areas.

Hypotheses:

H0: There is no significant improvement in **Income** of the SHGs promoted women micro-entrepreneur after the establishment of the microenterprises in the rural area.

H1: There is a significant improvement in **Income** of the SHGs promoted women micro-entrepreneur after the establishment of the microenterprises in a rural area.

Table: 6.1 Paired Samples Statistics of Income (Rural)					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1.Improvement in personal income	1.770	200	.4219	.0298
	A1.Improvement in personal income	4.295	200	.6403	.0453
Pair 2	B2. Loan repayment capacity	1.660	200	.4854	.0343
	A2.Loan repayment capacity	4.180	200	.7419	.0525
Pair 3	B3. Financial ability	1.805	200	.3972	.0281

	A3. Financial ability	4.245	200	.6300	.0446
Pair 4	B4. Reduction in debt.	1.635	200	.4826	.0341
	A4. Reduction in debt.	4.205	200	.7039	.0498
Pair 5	B5. Monthly consumption on luxuries.	1.645	200	.4797	.0339
	A5 .Monthly consumption on luxuries	4.195	200	.6395	.0452

A: After the establishment of business. B: Before the establishment of the business.

Source: Compiled from Primary Data.

Table: 6.2									
Paired Samples Test of Income (Rural)									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1.Improvement in personal income A1.Improvement in personal income	-2.5250	.7696	.0544	-2.6323	-2.4177	-46.397	199	.000
Pair 2	B2.Loan repayment capacity A2.Loan repayment capacity	-2.5200	.8737	.0618	-2.6418	-2.3982	-40.788	199	.000
Pair 3	B3. Financial ability A3. Financial ability	-2.4400	.7611	.0538	-2.5461	-2.3339	-45.337	199	.000
Pair 4	B4. Reduction in debt. A44. Reduction in debt	-2.5700	.8237	.0582	-2.6849	-2.4551	-44.124	199	.000
Pair 5	B5. Monthly consumption on luxuries. A5.Monthly consumption on luxuries	-2.5500	.7618	.0539	-2.6562	-2.4438	-47.336	199	.000

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

The tables (table 6.1&6.2) illustrate the five criteria of income variable before and after the establishment of the SHGs promoted women microenterprises in rural areas. Table (table 6.1) shows means of five criteria before the establishment of business are 1.77, 1.66, 1.8, 1.63 and 1.64

respectively and the means of the five criteria after the establishment are 4.29, 4.18, 4.24, 4.20 and 4.19 respectively in rural areas.

The data reveals that there is a significant difference in the mean value after the establishment of the enterprises. The table (table 6.1) states that there is considerable improvement in all five criteria related to income after the establishment of business in the rural area. Standard errors of the differences of the paired data of the five criteria are 0.05, 0.06, 0.05, 0.58 and 0.53 respectively. Since the standard errors are very close to zero, the study reveals that the data is more reliable, hence in the confidence intervals that are constructed are very reliable. Now the p-values, in the above table (table 6.2) for each criterion are 0.000, which is less than 0.05 and so these p-values are significant at 0.05 level of significance. So the study has rejected the null hypothesis and found that there is a significant positive impact on income after the establishment of microenterprises in rural areas.

Here the confidence interval at 0.05 level of significance for the improvement in personal income is 2.41, 2.63 with the 95% confidence, the study has found that there is an improvement in the income after the establishment of the SHGs promoted women microenterprises and lies in the interval (2.41, 2.63). Similarly, 95% confidence intervals for the criteria of loan repayment capacity, financial ability, reduction in debt and monthly consumption on luxuries are (2.39, 2.64), (2.33, 2.54), (2.45, 2.68) and (2.44, 2.65) respectively, hence the study has found that there is a significant improvement in income after the establishment of microenterprises in rural areas.

The impact assessment of microenterprises establishment on the income of women entrepreneurs in case of urban segments of the study area explained by the tables (Table 6.3 & 6.4). The table (table 6.3) gives the descriptive statistics i.e., means and standard deviations for each criterion in the urban area to test the hypothesis. The table illustrates the Paired Samples Statistics of Income before and after the establishment of the women micro-enterprises in urban areas. All the sub-variables belonging to income parameter were improved after the establishment of the micro-enterprises and found that development takes place in income generation of SHGs promoted women entrepreneurs in urban areas.

Hypotheses:

H0: There is no significant improvement in **Income** of the SHGs promoted women micro-entrepreneur after the establishment of the microenterprises in urban areas.

H1: There is a significant improvement in **Income** of the SHGs promoted women micro-entrepreneur after the establishment of the microenterprises in urban areas.

Table: 6.3
Paired Samples Statistics of Income (Urban)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1.Improvement in personal income	2.140	100	.5129	.0513
	A1.Improvement in personal income	4.960	100	.1969	.0197
Pair 2	B2. Loan repayment capacity	1.830	100	.4726	.0473
	A2.Loan repayment capacity	4.640	100	.4824	.0482
Pair 3	B3. Financial ability	1.980	100	.5314	.0531
	A3. Financial ability	4.820	100	.3861	.0386
Pair 4	B4. Reduction in debt.	1.750	100	.7017	.0702
	A4. Reduction in debt.	4.720	100	.4513	.0451
Pair 5	B5. Monthly consumption on luxuries.	1.720	100	.4731	.0473
	A5 .Monthly consumption on luxuries	4.730	100	.4462	.0446

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

Table 6.4 Paired Samples Test of Income (Urban)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1.Improvement in personal income A1.Improvement in personal income	-2.8200	.5574	.0557	-2.9306	-2.7094	-50.591	99	.000
Pair 2	B2.Loan repayment capacity A2.Loan repayment capacity	-2.8100	.6919	.0692	-2.9473	-2.6727	-40.614	99	.000

Pair 3	B3. Financial ability A3. Financial ability	-2.8400	.7208	.0721	-2.9830	-2.6970	-39.399	99	.000
Pair 4	B4. Reduction in debt. A44. Reduction in debt	-2.9700	.8221	.0822	-3.1331	-2.8069	-36.127	99	.000
Pair 5	B5. Monthly consumption on luxuries. A5. Monthly consumption on luxuries	-3.0100	.6741	.0674	-3.1438	-2.8762	-44.650	99	.000

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

From the tables (table 6.3 & 6.4) explain the five criteria of income variable before and after the establishment of the SHGs promoted women microenterprises in urban areas. The table (table 6.3) shows the means of five variables of income parameter before the establishment of business are 2.14, 1.83, 1.98, 1.75 and 1.72 respectively and the means of the five criteria after the establishment are 4.96, 4.64, 4.82, 4.42 and 4.73 respectively in urban areas. There is a significant improvement in the mean values after the establishment of the business. The table (table 6.4) illustrates that all p-values for each criterion are 0.000 in the study, which is less than 0.05 and so these p-values are significant at 0.05 level of significance. Hence the study will reject the null hypothesis and conclude that there is a significant impact of the establishment of microenterprises on the Income of the urban entrepreneurs.

6.5 Asset Holdings of the SHG Promoted Entrepreneur in Rural and Urban Areas.

The Asset holdings of the entrepreneurs also the best indicator to measure the empowerment of the micro-entrepreneurs. The Paired Samples Statistics has used to measure the Asset holdings of the entrepreneurs with help of three criteria namely; Possession of House Hold durables, Possession of gold and Possession of property. The table (table 6.5) illustrate about means and standard deviations of possession of household durables, possession of gold and possession of property respectively before and after the establishment of the business in a rural area. The study has found that there is a considerable improvement in mean values of three criteria after the establishment of the business in rural areas.

Hypotheses:

H0: There is no significant improvement in **Asset Holdings** of the SHGs promoted women entrepreneur before and after the establishment of the microenterprises in the rural area.

H1: There is a significant improvement in **Asset Holdings** of the SHGs promoted women entrepreneur before and after the establishment of the microenterprises in the rural area.

Table: 6.5
Paired Samples Statistics of Asset Holdings (Rural)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1. Possession of House Hold durables	1.660	200	.4854	.0343
	A1. Possession of House Hold durables	4.195	200	.6395	.0452
Pair 2	B2. Possession of gold	1.700	200	.4808	.0340
	A2. Possession of gold	4.240	200	.6963	.0492
Pair 3	B3. Possession of property	1.645	200	.4901	.0347
	A3. Possession of property	4.220	200	.6273	.0444

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business

Table 6.6

Paired Samples Test of Asset Holdings (Rural)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1. Possession of House Hold durables	-2.5350	.7822	.0553	-2.6441	-2.4259	-45.833	199	.000
	A1. Possession of House Hold durables								
Pair 2	B2. Possession of gold	-2.5400	.9014	.0637	-2.6657	-2.4143	-39.852	199	.000
	A2. Possession of gold								
Pair 3	B3. Possession of property	-2.5750	.7598	.0537	-2.6809	-2.4691	-47.930	199	.000
	A3. Possession of property								

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

The table (table 6.6) illustrates that since the p-values are less than the level of significance value 0.05 and the study has rejected the null hypothesis. Similarly, the 95% confidence intervals of differences of the pairs of possession of household durables, possession of gold and possession of the property are (2.4259, 2.6441), (2.4143, 2.6657), (2.4691, 2.6809) respectively. Hence the study concludes that Asset Holdings of the women entrepreneurs have increased after the establishment of the business in rural areas.

The impact assessment of microenterprises establishment on asset holdings of women entrepreneurs in case of urban segments of the study area are explained by the tables (Table 6.7 & 6.8). The table (table 6.7) explains the Paired Samples Statistics of asset Holdings of the entrepreneurs before and after the establishment the women micro-enterprises in urban areas. All the criteria belong to Asset Holdings variable were improved after the establishment of the micro-enterprises and found that development takes place in Asset Holdings of SHGs promoted women entrepreneurs in urban areas. Table (table 6.7) shows means of three criteria before the establishment of business are 1.9, 1.8, and 1.98 respectively and the means of the three criteria after the establishment are 4.80, 4.81 and 4.8 respectively in urban areas. There is a significant difference in the mean value after the establishment of the enterprises.

Hypotheses:

H0: There is no significant improvement in **Asset Holdings** of the SHGs promoted women micro-entrepreneur after the establishment of microenterprises in the urban area.

H1: There is a significant improvement in **Asset Holdings** of the SHGs promoted women micro-entrepreneur after the establishment of microenterprises in the urban area.

Table 6.7
Paired Samples Statistics of Asset Holdings (Urban)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1. Possession of House Hold durables	1.90	100	.560	.056
	A1. Possession of House Hold durables	4.80	100	.402	.040
Pair 2	B2. Possession of gold	1.80	100	.471	.047
	A2. Possession of gold	4.81	100	.394	.039
Pair 3	B3. Possession of property	1.98	100	.449	.045
	A3. Possession of property	4.80	100	.402	.040

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business

Table 6.8
Paired Samples Test of Asset Holdings (Urban)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1. Possession of House Hold durables	-2.900	.689	.069	-3.037	-2.763	-42.089	99	.000
	A1. Possession of House Hold durables								
Pair 2	B2. Possession of gold	-3.010	.595	.059	-3.128	-2.892	-50.630	99	.000
	A2. Possession of gold								
Pair 3	B3. Possession of property	-2.820	.593	.059	-2.938	-2.702	-47.591	99	.000
	A3. Possession of property								

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

From the tables (table 6.7&6.8) illustrate the three criteria of Asset Holding variable before and after the establishment of the SHGs promoted women microenterprises in urban areas. The table (table 6.8) states that there is considerable improvement in all the three criteria related to Asset Holding variable after the establishment of business in the urban area. Standard errors of the differences between the paired data of the three criteria are 0.05, 0.06, and 0.05 respectively.

Since the standard errors are very close to zero, the study reveals that the data is more reliable, hence in the confidence intervals that are constructed are very reliable. Now the p-values, in the above table (table 6.8) for each criterion are 0.000, which is less than 0.05 and so these p-values are significant at 0.05 level of significance. So the study has rejected the null hypothesis and found that there is a significant positive impact on Asset Holdings of the women entrepreneurs after the establishment of microenterprises in urban areas. Here the confidence interval at 0.05 level of significance for the improvement in personal income is 2.76, 2.03 with the 95% confidence, the study has found that there is an improvement in the House Hold Durables after the establishment of the SHGs promoted women microenterprises and lies in the interval (2.76, 2.03). Similarly, 95% confidence intervals for the criteria of Possession of gold, possession of the property are (2.89, 3.12), (2.70, 2.93) respectively. Hence the study has found that there is a significant improvement in Asset Holding capacity of the entrepreneur after the establishment of microenterprises in urban areas.

6.6 Savings of the SHG promoted women Entrepreneur in rural and urban areas

The level of savings is also a good parameter to measure the empowerment of women, the level of savings may directly relate to the level of empowerment. The study having four criteria, which are belonging to a parameter called savings namely; saving levels in SHGs, Lending capacity, saving in other financial organizations and Improvement in the amount of loan. The table (Table 6.11) shows different means of five criteria before the establishment of business are 1.77, 1.66, 1.8, 1.63 and 1.64 respectively and the means of the five criteria after the establishment are 4.29, 4.18, 4.24, 4.20 and 4.19 respectively in rural areas. There is a significant improvement in the mean value after the establishment of the enterprises that means all the four criteria namely; saving levels in SHGs, Lending capacity, saving in other financial organizations and Improvement in the amount of loan have improved after the establishment of the business.

Hypotheses:

H0: There is no significant improvement in **Savings** of the SHGs promoted women entrepreneur before and after the establishment of the microenterprises in the rural area.

H1: There is a significant improvement in **Savings** of the SHGs promoted women entrepreneur before and after the establishment of the microenterprises in the rural area.

Table 6.9
Paired Samples Statistics of Savings (Rural)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1. Saving levels in SHGs	1.615	200	.5080	.0359
	A1. Saving levels in SHGs	4.135	200	.6315	.0447
Pair 2	B2 Lending capacity	1.685	200	.4657	.0329
	A2 Lending capacity	4.150	200	.6077	.0430
Pair 3	B3. Saving in other financial organizations	1.630	200	.4840	.0342
	A3. Saving in other financial organizations	4.190	200	.6371	.0451
Pair 4	B4. Improvement in the amount of loan	1.650	200	.5087	.0360
	A4. Improvement in the amount of loan	4.250	200	.6706	.0474

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

Table 6.10
Paired Samples Test of Savings (Rural)

		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1. Saving levels in SHGs	-2.5200	.8325	.0589	-2.6361	-2.4039	-42.808	199	.000
	A1. Saving levels in SHGs								
Pair 2	B2Lending capacity	-2.4650	.7359	.0520	-2.5676	-2.3624	-47.374	199	.000
	A2Lending capacity								
Pair 3	B3. Saving in other financial organizations	-2.5600	.7807	.0552	-2.6689	-2.4511	-46.375	199	.000
	A3. Saving in other financial organizations								
Pair 4	B4. Improvement in the amount of loan	-2.6000	.8682	.0614	-2.7211	-2.4789	-42.352	199	.000
	A4. Improvement in the amount of loan								

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

From the means and standard deviations of the differences of the paired observations, we derived the test statics and p-values. The p-values are less than 0.05 and so the values are significant at 0.05 level of significance. Hence the study will reject the null hypothesis and conclude that the establishment of the microenterprises there is significant increases the savings of the entrepreneurs in rural areas.

The table (table 6.11) gives the descriptive statistics i.e., means and standard deviations for each criterion in the urban area to test the hypothesis. The table illustrates the Paired Samples Statistics of Savings before and after the establishment of the women micro-enterprises in urban areas. All the sub-variables (saving levels in SHGs, Lending capacity, saving in other financial organizations and Improvement in the amount of loan) belong to savings parameter were improved after the establishment of the micro-enterprises and found that development takes place in saving levels of SHGs promoted women entrepreneurs in urban areas.

Hypotheses:

H0: There is no significant improvement in **saving levels** of the SHGs promoted women micro-entrepreneur after the establishment of microenterprises in urban areas.

H1: There is a significant improvement in **saving levels** of the SHGs promoted women micro-entrepreneur after the establishment of microenterprises in urban areas.

Table 6.11
Paired Samples Statistics of Savings (Urban)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1. Saving levels in SHGs	1.790	100	.4984	.0498
	A1. Saving levels in SHGs	4.830	100	.3775	.0378
Pair 2	B2 Lending capacity	1.780	100	.5238	.0524
	A2 Lending capacity	4.810	100	.3943	.0394
Pair 3	B3. Saving in other financial organizations	1.880	100	.5180	.0518
	A3. Saving in other financial organizations	4.780	100	.4163	.0416
Pair 4	B4. Improvement in the amount of loan	1.770	100	.5291	.0529
	A4. Improvement in the amount of loan	4.720	100	.4513	.0451

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

Table 6.12

Paired Samples Test of Savings (Urban)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1. Saving levels in SHGs	-3.0400	.6182	.0618	-3.1627	-2.9173	-49.172	99	.000
	A1. Saving levels in SHGs								
Pair 2	B2Lending capacity	-3.0300	.6428	.0643	-3.1576	-2.9024	-47.135	99	.000
	A2Lending capacity								
Pair 3	B3. Saving in other financial organizations	-2.9000	.6113	.0611	-3.0213	-2.7787	-47.437	99	.000
	A3. Saving in other financial organizations								
Pair 4	B4. Improvement in the amount of loan	-2.9500	.6723	.0672	-3.0834	-2.8166	-43.878	99	.000
	A4. Improvement in the amount of loan								

Source: Field Survey.

A: After the establishment of business B: Before the establishment of the business.

From the tables (table 6.11&6.12) illustrate the four criteria of saving variable before and after the establishment of the SHGs promoted women microenterprises in urban areas. Table (table 6.11) explains the means of five variables of savings parameter before the establishment of business are 1.79, 1.78, 1.88 and 1.77 respectively and the means of the four criteria after the establishment are 4.83, 4.81, 4.78 and 4.72 respectively in urban areas. There is a significant improvement in the mean values of all four criteria after the establishment of the business. The table (table 6.12) illustrate that all p-values, in the above table (table 6.2) for each criterion are 0.000, which is less than 0.05 and so these p-values are significant at 0.05 level of significance and the study will reject the null hypothesis and conclude that there is a significant positive impact of establishment on the saving levels of entrepreneurs in urban segments.

6.7 Education of the family members of SHG promoted Entrepreneur in rural and urban areas

Education of the family is also a better parameter to measure the empowerment of entrepreneurs. Paired Sample Statics of Education of the family explained in the table (table 6.13). There are four criteria that are measured the variable called Education of the family. The study has noticed that there is a significant improvement in the Education of the family. The table (table 6.13) explain about means and standard deviations of Education of the family with four criteria namely; Commitment to educate children, No gender bias in education, Awareness about child education and Improvement in Expenditure on Education before and after the establishment of the business in rural areas. There is considerable improvement in mean values of four criteria after the establishment of the business in rural areas.

Hypotheses:

H0: There is no significant improvement in **Education of the family** of the SHGs promoted women entrepreneur before and after the establishment of microenterprises in the rural area.

H1: There is a significant improvement in **Education of the family** of the SHGs promoted women entrepreneur before and after the establishment of microenterprises in the rural area.

Table 6.13

Paired Samples Statistics of Education of the family (Rural)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1. Commitment to educate children	1.660	200	.4854	.0343
	A1. Commitment to educate children	4.170	200	.6189	.0438
Pair 2	B2. No gender bias in education	1.680	200	.4783	.0338
	A2. No gender bias in education	4.250	200	.6241	.0441
Pair 3	B3. Awareness about child education	1.695	200	.4931	.0349
	A3. Awareness about child education	4.190	200	.6901	.0488
Pair 4	B4. Improvement in Expenditure on Education	1.655	200	.4766	.0337
	A4. Improvement in Expenditure on Education	4.205	200	.6821	.0482

Source: Compiled from Primary Data..

A: After the establishment of business **B:** Before the establishment of the business.

Table 6.14

Paired Samples Test of Education of the family (Rural)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1. Commitment to educate children	-2.5100	.7829	.0554	-2.6192	-2.4008	-45.339	199	.000
	A1.Commitment to educate children								
Pair 2	B2.No gender bias in education	-2.5700	.7668	.0542	-2.6769	-2.4631	-47.396	199	.000
	A2.No gender bias in education								
Pair 3	B3. Awareness about child education	-2.4950	.8327	.0589	-2.6111	-2.3789	-42.372	199	.000
	A3.Awareness about child education								
Pair 4	B4. Improvement in Expenditure on Education	-2.5500	.8252	.0583	-2.6651	-2.4349	-43.703	199	.000
	A4.Improvement in Expenditure on Education								

Source: Compiled from Primary Data.

A: After the establishment of business **B:** Before the establishment of the business.

The table (table 6.14) illustrates that since the p-values are less than the level of significance 0.05, the values are significant and the study will reject the null hypothesis. Hence the study concludes that Education of the family has improved after the establishment of the business in rural areas. Similarly, the 95% confidence intervals of differences of the pairs of Commitment to educate children, No gender bias in education, Awareness about child education and Improvement in Expenditure on Education are (2.40, 2.61), (2.46, 2.67), (2.37, 2.61) and (2.43, 2.66) respectively. The study has found that there is a significant improvement in family education of entrepreneurs after the establishment of microenterprises in rural areas.

The table (table 6.15) explains the Paired Samples Statistics of education of the family of entrepreneurs before and after the establishment of the microenterprises in the urban area. All the criteria belong to Education of the family variable were improved after the establishment of the micro-enterprises and found that development takes place in Education of the family of SHGs promoted women entrepreneurs in rural areas.

Hypotheses:

H0: There is no significant improvement in **Education of the family** of the SHGs promoted women micro-entrepreneur after the establishment of microenterprises in the urban area.

H1: There is a significant improvement in **Education of the family** of the SHGs promoted women micro-entrepreneur after the establishment of microenterprises in the urban area.

Table 6.15
Paired Samples Statistics of Education of the family (Urban)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1. Commitment to educate children	1.90	100	.503	.050
	A1. Commitment to educate children	4.80	100	.402	.040
Pair 2	B2. No gender bias in education	1.78	100	.440	.044
	A2. No gender bias in education	4.79	100	.409	.041
Pair 3	B3. Awareness about child education	1.81	100	.526	.053
	A3. Awareness about child education	4.78	100	.416	.042

Pair 4	B4. Improvement in Expenditure on Education	1.80	100	.492	.049
	A4. Improvement in Expenditure on Education	4.76	100	.429	.043

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

Table 6.16
Paired Samples Test of Education of the family (Urban)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1. Commitment to educate children A1.Commitment to educate children	-2.900	.628	.063	-3.025	-2.775	-46.204	99	.000
Pair 2	B2.No gender bias in education A2.No gender bias in education	-3.010	.611	.061	-3.131	-2.889	-49.243	99	.000
Pair 3	B3. Awareness about child education A3.Awareness about child education	-2.970	.674	.067	-3.104	-2.836	-44.096	99	.000
Pair 4	B4. Improvement in Expenditure on Education A4.Improvement in Expenditure on Education	-2.960	.650	.065	-3.089	-2.831	-45.532	99	.000

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

From the tables (table 6.15 & 6.16) illustrate the five criteria of income variable before and after the establishment of the SHGs promoted women microenterprises in rural areas. Table (table 6.1) shows about means and standard deviations of Education of the family with four criteria namely; Commitment to educate children, No gender bias in education, Awareness about child education and Improvement in Expenditure on Education before the establishment of business are 1.90, 1.78, 1.81 and 1.80 respectively and the means of the four criteria after the establishment are 4.80, 4.79, 4.78 and 4.76 respectively in urban segments. The table (table 6.15) states that there is considerable improvement in all four criteria related to Education of the family of entrepreneurs after the establishment of business in the urban area. From the means and standard deviations of the differences between the paired observations, the study has derived the test statics and p-values. The table (6.16) explains that the p-values are less than 0.05 and so the values are significant at 0.05 level of significance. Hence the study may reject the null hypothesis and conclude that

Education of the family members of the entrepreneurs has improved after the establishment of the business in urban areas.

Now the p-values, in the above table (table 6.16) for each criterion are 0.000, which is less than 0.05 and so these p-values are significant at 0.05 level of significance. So the study has rejected the null hypothesis and the study found that there is a significant positive impact on income after the establishment of microenterprises in rural areas. Here the confidence interval at 0.05 level of significance for the improvement in personal income is 2.41, 2.63 with the 95% confidence, the study has found that there is an improvement in the income after the establishment of the SHGs promoted women microenterprises and lies in the interval (2.41, 2.63). Similarly, 95% confidence intervals for the criteria of loan repayment capacity, financial ability, reduction in debt and monthly consumption on luxuries are (2.39, 2.64), (2.33, 2.54), (2.45, 2.68) and (2.44, 2.65) respectively. The study has found that there is a significant improvement in income after the establishment of microenterprises in rural areas.

6.8 Health of the family members of SHG promoted Entrepreneur in rural and urban areas

Health is one of the major parameters to measure the empowerment of entrepreneurs, nowadays health is treated as a basic necessity of the society. There are four criteria (Improvement in Health of the family, Hygienic sanitation facilities, Safe drinking water and Reduction in Hospital Expenditure) belong to the variable called health of the family. The table (Table 6.17) depicts the Mean and stand deviations of the different criteria of the parameter before and after the establishment of the business. The mean values of the four criteria before the establishment are 1.7, 1.75, 1.68 and 1.66 respectively, but the values of the mean have improved significantly after the establishment with values of 4.2, 4.17, 4.27 and 4.16 respectively in rural areas.

Hypotheses:

H0: There is no significant improvement in **Health of the Family** of the SHGs promoted women entrepreneur before and after the establishment of microenterprises in the rural area.

H1: There is a significant improvement in **Health of the Family** of the SHGs promoted women entrepreneur before and after the establishment of microenterprises in the rural area.

Table 6.17
Paired Samples Statistics of the Health of the Family (Rural)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1. Improvement in Health of the family	1.705	200	.4992	.0353
	A1. Improvement in Health of the family	4.205	200	.6364	.0450
Pair 2	B2. Hygienic sanitation facilities	1.750	200	.4675	.0331
	A2. Hygienic sanitation facilities	4.175	200	.6296	.0445
Pair 3	B3. Safe drinking water	1.685	200	.5070	.0359
	A3. Safe drinking water	4.275	200	.6335	.0448
Pair 4	B4. Reduction in Hospital Expenditure	1.665	200	.5040	.0356
	A4. Reduction in Hospital Expenditure	4.160	200	.6296	.0445

Source: Compiled from Primary Data.

A: After the establishment of business **B:** Before the establishment of the business

Table 6.18
Paired Samples Test of the Health of the Family (Rural)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1.Improvement in Health of the family A1.Improvement in Health of the family	-2.5000	.7894	.0558	-2.6101	-2.3899	-44.789	199	.000
Pair 2	B2.Hygienic sanitation facilities A2.Hygienic sanitation facilities	-2.4250	.7794	.0551	-2.5337	-2.3163	-44.003	199	.000
Pair 3	B3.Safe drinking water A3.Safe drinking water	-2.5900	.8156	.0577	-2.7037	-2.4763	-44.909	199	.000
Pair 4	B4.Reduction in Hospital Expenditure A4.Reduction in Hospital Expenditure	-2.4950	.8206	.0580	-2.6094	-2.3806	-43.000	199	.000

Source: Compiled from Primary Data.

A: After the establishment of business **B:** Before the establishment of the business.

The table (table 6.18) illustrate that all p-values for each criterion are 0.000, which is less than 0.05 and so these p-values are significant at 0.05 level of significance and the study has rejected the null hypothesis and conclude that The health of the family members of the Self Help Group promoted micro-entrepreneurs have improved significantly after the establishment of the business in rural segments.

The table (table 6.19) gives the descriptive statistics i.e., means and standard deviations for each criterion in the urban area to test the hypothesis. The table illustrates the Paired Samples Statistics of the health of the family of the entrepreneurs before and after the establishment of the women micro-enterprises in urban areas. All the sub belong to savings parameter are Improvement in Health of the family, Hygienic sanitation facilities, Safe drinking water and Reduction in Hospital Expenditure were improved after the establishment of business and found that significant improvement has taken place in the health of the family of SHGs promoted women entrepreneurs in urban areas.

Hypotheses:

H0: There is no significant improvement in **Health of the Family** of the SHGs promoted women entrepreneur before and after the establishment of microenterprises in the urban area.

H1: There is a significant improvement in **Health of the Family** of the SHGs promoted women entrepreneur before and after the establishment of microenterprises in the urban area.

Table 6.19
Paired Samples Statistics of the Health of the Family (Urban)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1. Improvement in Health of the family	1.90	100	.461	.046
	A1. Improvement in Health of the family	4.78	100	.416	.042
Pair 2	B2. Hygienic sanitation facilities	1.79	100	.478	.048
	A2. Hygienic sanitation facilities	4.79	100	.409	.041
Pair 3	B3. Safe drinking water	1.85	100	.435	.044
	A3. Safe drinking water	4.78	100	.416	.042

Pair 4	B4. Reduction in Hospital Expenditure	1.92	100	.563	.056
	A4. Reduction in Hospital Expenditure	4.74	100	.441	.044

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

Table 6.20
Paired Samples Test of the Health of the Family (Urban)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1.Improvement in Health of the family	-2.880	.556	.056	-2.990	-2.770	-51.836	99	.000
	A1.Improvement in Health of the family								
Pair 2	B2.Hygienic sanitation facilities	-3.000	.636	.064	-3.126	-2.874	-47.196	99	.000
	A2.Hygienic sanitation facilities								
Pair 3	B3.Safe drinking water	-2.930	.624	.062	-3.054	-2.806	-46.978	99	.000
	A3.Safe drinking water								
Pair 4	B4.Reduction in Hospital Expenditure	-2.820	.702	.070	-2.959	-2.681	-40.182	99	.000
	A4.Reduction in Hospital Expenditure								

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business

Table (table 6.19) explains the means of four variables of the parameter before the establishment of business are 1.9, 1.79, 1.85 and 1.92 respectively and the means of the four criteria after the establishment are 4.78, 4.79, 4.78 and 4.74 respectively in urban areas. There is a significant improvement in the mean values of all four criteria after the establishment of the business. The table (table 6.20) illustrate that all p-values for each criterion are 0.000, which is less than 0.05 and so these p-values are significant at 0.05 level of significance and the Null Hypothesis has rejected and concluded that there is the significant positive impact of the establishment of the business on the health of the family of entrepreneurs in urban segments.

6.9 Decision-Making Power of SHG Promoted Entrepreneur in Rural and Urban Areas

The study has examined how women influence the internal and external world and decision making power of entrepreneurs is a better variable to measure the empowerment of women entrepreneurs. The variable (Decision-making power) has measured with help of seven criteria

namely; Freedom to spend money, Domestic Decision making power, Decision making power in business, Participation in Social awareness programmes, Social Mobility, Participation in local politics and Confidence to voice. The mean values and standard deviation of the seven criteria have improved after the establishment of the business in rural areas. The mean values before the establishment are 1.69, 1.72, 1.6, 1.59, 1.69, 1.66 and 1.72 respectively and these criteria values have improved after the establishment are 4.21, 4.24, 4.22, 4.20, 4.23, 4.22 and 4.17 respectively.

Hypotheses:

H0: There is no significant improvement in **Decision making power** of the SHGs promoted women entrepreneur before and after the establishment of microenterprises in the rural area.

H1: There is a significant improvement in **Decision making power** of the SHGs promoted women entrepreneur before and after the establishment of microenterprises in the rural area.

Table 6.21
Paired Samples Statistics of Decision making power(Rural)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1. Freedom to spend money	1.695	200	.4723	.0334
	A1. Freedom to spend money	4.210	200	.6387	.0452
Pair 2	B2. Domestic Decision-making power	1.725	200	.4587	.0324
	A2. Domestic Decision-making power	4.240	200	.5866	.0415
Pair 3	B3. Decision-making power in business	1.605	200	.5295	.0374
	A3. Decision-making power in business	4.220	200	.6353	.0449
Pair 4	B4. Participation in Social awareness programmes	1.590	200	.5032	.0356
	A4. Participation in Social awareness programmes	4.205	200	.5956	.0421
Pair 5	B5. Social Mobility	1.695	200	.4931	.0349
	A5. Social Mobility	4.230	200	.6852	.0484
Pair 6	B6. Participation in local politics	1.660	200	.5056	.0358
	A6. Participation in local politics	4.225	200	.5797	.0410

Pair 7	B7. Confidence to voice	1.720	200	.4825	.0341
	A7. Confidence to voice	4.170	200	.6582	.0465

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

Table 6.22
Paired Samples Test of decision-making power(Rural)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1.Freedom to spend money A1.Freedom to spend money	-2.5150	.7433	.0526	-2.6186	-2.4114	-47.849	199	.000
Pair 2	B2.Domestic Decision-making power A2.Domestic Decision making power	-2.5150	.7699	.0544	-2.6224	-2.4076	-46.198	199	.000
Pair 3	B3.Decision-making power in business A3.Decision making power in business	-2.6150	.8000	.0566	-2.7265	-2.5035	-46.228	199	.000
Pair 4	B4.Participation in Social awareness programmes A4.Participation in Social awareness programmes	-2.6150	.7614	.0538	-2.7212	-2.5088	-48.573	199	.000
Pair 5	B5.Social Mobility A5.Social Mobility	-2.5350	.8320	.0588	-2.6510	-2.4190	-43.089	199	.000
Pair 6	B6.Participation in local politics A6.Participation in local politics	-2.5650	.7673	.0543	-2.6720	-2.4580	-47.277	199	.000
Pair 7	B7.Confidence to voice A7.Confidence to voice	-2.4500	.8067	.0570	-2.5625	-2.3375	-42.951	199	.000

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business.

From the means and standard deviations of the differences between the paired observations, the study has derived the test statics and p-values. The p-values are less than 0.05 and the values are significant at 0.05 level of significance. Hence the study has rejected the null hypothesis and conclude that the establishment of the microenterprises has improved the decision-making capacity of the entrepreneurs in the rural area.

The table (table 6.23) gives the descriptive statistics i.e., means and standard deviations for each criterion in the urban area to test the hypothesis. Table (table 6.23) illustrates the Paired Samples Statistics of decision making power of the women entrepreneurs before and after the establishment

of the business in urban areas. All the sub-variables belong to decision making power parameter were improved after the establishment of the microenterprises and found that improvement has taken place in decision making power of SHGs promoted women entrepreneurs in urban areas.

Hypotheses:

H0: There is no significant improvement in **decision making power** of the SHGs promoted women micro-entrepreneur after the establishment of microenterprises in urban areas.

H1: There is a significant improvement in **decision making power** of the SHGs promoted women micro-entrepreneur after the establishment of microenterprises in urban areas.

Table 6.23 Paired Samples Statistics of decision making power (Urban)					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	B1. Freedom to spend money	1.880	100	.4774	.0477
	A1. Freedom to spend money	4.790	100	.4094	.0409
Pair 2	B2. Domestic Decision-making power	1.750	100	.5198	.0520
	A2. Domestic Decision-making power	4.770	100	.4230	.0423
Pair 3	B3. Decision-making power in business	1.800	100	.6030	.0603
	A3. Decision-making power in business	4.760	100	.4292	.0429
Pair 4	B4. Participation in Social awareness programmes	1.750	100	.4794	.0479
	A4. Participation in Social awareness programmes	4.760	100	.4292	.0429
Pair 5	B5. Social Mobility	1.810	100	.6308	.0631
	A5. Social Mobility	4.760	100	.4292	.0429
Pair 6	B6. Participation in local politics	1.730	100	.5291	.0529
	A6. Participation in local politics	4.730	100	.4462	.0446
Pair 7	B7. Confidence to voice	1.720	100	.4731	.0473
	A7. Confidence to voice	4.800	100	.4020	.0402

Source: Compiled from Primary Data.

A: After the establishment of the business B: Before the establishment of the business.

Table 6.24
Paired Samples Test of decision-making power (Urban)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	B1.Freedom to spend money A1.Freedom to spend money	-2.9100	.6046	.0605	-3.0300	-2.7900	-48.130	99	.000
Pair 2	B2.Domestic Decision-making power A2.Domestic Decision making power	-3.0200	.6510	.0651	-3.1492	-2.8908	-46.388	99	.000
Pair 3	B3.Decision-making power in business A3.Decision making power in business	-2.9600	.7510	.0751	-3.1090	-2.8110	-39.413	99	.000
Pair 4	B4.Participation in Social awareness programmes A4.Participation in Social awareness programmes	-3.0100	.6276	.0628	-3.1345	-2.8855	-47.963	99	.000
Pair 5	B5.Social Mobility A5.Social Mobility	-2.9500	.7961	.0796	-3.1080	-2.7920	-37.054	99	.000
Pair 6	B6.Participation in local politics A6.Participation in local politics	-3.0000	.7247	.0725	-3.1438	-2.8562	-41.394	99	.000
Pair 7	B7.Confidence to voice A7.Confidence to voice	-3.0800	.6305	.0631	-3.2051	-2.9549	-48.847	99	.000

Source: Compiled from Primary Data.

A: After the establishment of business B: Before the establishment of the business

From the tables (table 6.23&6.24) illustrate the seven criteria of (decision making power of the women entrepreneurs) variable before and after the establishment of the SHGs promoted women microenterprises in urban areas. It was evident that same trend has happened in the urban area also, the Table (table 6.3) explains the means of seven variables of (decision making power) parameter before the establishment of business are 1.88, 1.75, 1.8, 1.75, 1.81, 1.73 and 1.72 respectively and the means of the seven criteria after the establishment are 4.96, 4.64, 4.82, 4.42 and 4.73 respectively in urban areas. There is a significant improvement in the mean values of criteria after the establishment of the business in urban areas. The table (table 6.24) illustrate that all p-values for each criterion are 0.000, which is less than 0.05 and so these p-values are significant at 0.05 level of significance, hence the study has rejected the null hypothesis and conclude that there is a

significant improvement in decision making power of the women entrepreneurs after the establishment of the business in urban segments of the study.

6.10 Major Findings

After testing all the alternative hypothesis of various variables of women empowerment in both rural and urban segments of the study area, the study has accepted all alternative hypothesis. The income of all the women entrepreneurs has been improved significantly after the establishment of microenterprises in rural and urban areas of the study area. Similarly, all the entrepreneurs have held many assets like gold buffalos, goats, vehicles etc. after the establishment of microenterprises in both rural and urban areas of the study area. The level of saving in banks of the SHGs promoted women entrepreneur have improved much after the establishment of microenterprises in rural and urban areas of the study. Similarly, education of children of SHGs promoted entrepreneurs have improved and they have been sending their children to better school children. There is a significant difference in Decision making power and Health of the family of the SHGs promoted women entrepreneur after the establishment of microenterprises in rural and urban areas of the study. All the respondents felt that they are affordable to go to private hospitals and their family members now recognising them and taking decisions their own in the family because of financial independence. Based on the performance of the above parameters the study has found that there is a significant improvement in the women empowerment after the establishment of the microenterprises in the rural and urban segments of the study area.

CHAPTER-VII

MAJOR FINDINGS AND POLICY SUGESSTIONS

The concept of Self Help Groups (SHGs) gained more significance in 1976 with Professor Mohammed Yunus, who started the innovative schemes called micro-credit and women SHGs in Bangladesh. The strategy made a quiet revolution in Bangladesh in poverty eradication ‘by empowering the poor women’ (UNDP, 1994). Members of SHGs are engaged in credit and saving, as well as in other activities like microenterprise establishment, child care and nutrition, family health, etc.

The Self-Help Group movement is an innovation in the field of rural credit. Poor women join hands together for sharing common economic problems, the group members come together to save a tiny amount regularly and satisfy their important needs on a mutual aid basis. Self Help Group (SHG) will grant small loans to the women in general, rural women in particular to encourage them into entrepreneurial activities (Banerjee, et al. 2015).

7.1 Objectives of the Study

- To Examine SHGs contribution to Income and employment generation of Microenterprises of Nellore district in Andhra Pradesh.
- To study the sustainability of microenterprises promoted by SHGs of Nellore district in Andhra Pradesh.
- To assess the role of Microenterprises on women empowerment and alleviation of poverty of Nellore district in Andhra Pradesh.

7.2 Major Findings of the study

The study has found that the financial assistance had a positive impact on the income generation of Microenterprises in rural areas of the study. Similarly, the administrative procedures and training facilities have a positive effect on the income generation of SHGs promoted microenterprises in rural segments of the study area. It was surprising to know that technical assistance has not provided the income generation to SHGs promoted microenterprises.

The study has found that most of the microenterprises getting technological support from the Self Help Groups (SHGs) but their assistance was not providing a profitable income to the micro-entrepreneurs in rural areas. Most of the micro-entrepreneurs in the study area have felt that the technical support of the Self Help Group (SHG) is not modern or upgraded technology and do not meet the demands of the current market scenario, resulting in a low level of income to micro-entrepreneurs in rural segments of the study area.

The study has ascertained that financial assistance had a positive impact on the employment generation of microenterprises in rural areas. Similarly, technical assistance, administrative procedures, and training facilities have a positive effect on the employment generation of SHGs promoted microenterprises in rural areas. The study has revealed that Self Help Groups are playing a significant role in the employment generation of microenterprises. It creates the gainful employment to economically and socially excluded sections of the society, especially for the women, poor in the rural segments of the study area. The study has ascertained that financial assistance had a positive impact on the income generation of Microenterprises in urban areas. Similarly, the Technological Assistance, Administrative Procedures, and training facilities have a positive effect on the income generation of Self Help Group (SHGs) promoted microenterprises in urban segments of the study area.

The study has revealed that the financial assistance had a positive impact on the employment generation of Microenterprises in urban areas. Similarly, the technical assistance and training facilities have a positive effect on the employment generation of SHGs promoted urban microenterprises in the study area. The study has found that administrative procedures have not created the employment generation of SHGs promoted microenterprises in urban segments of the study area. Most of the women entrepreneurs have felt that unnecessary documentation and rules of SHGs while sanctioning the loan for business new expansion in the study area.

The study has ascertained that the percentage share of the SHG promoted microenterprises are engaged in the Diary Business was high because most of the respondents are belonging to “Yadavas”, a sub-caste of OBC and their main occupation is cattle rearing. After the dairy business, the percentage of the entrepreneurs involved in the (Kirana) Retail shops for grocery occupied second place, this is more general business of SHGs women. Since most of the respondents belonging to rural segments and their main occupation is farming hence, nine

percentage of SHGs women are engaged in the Vegetable business. From the study one of the interesting points to be noted that the major section of the Self Help Group women are engaged in the dry fish business because the study area (KavaliMandal of Nellore district) is near to the Bay of Bengal. Some of the Self Help Group (SHGs) members are belonging to fisheries families hence, depend upon the sea and sea products. The study also found that most of the Self Help Group women entrepreneurs mainly depends upon the agriculture and allied activities because most of the SHGs members are from the rural area.

The study reveals that Kirana business, Dairy Business, Beauty Parlour, and tailoring shop occupies a major percentage share, and these four businesses altogether occupy 50 percent share in total urban area business. Since most of the Self Help Group members are belonging to the urban area, their business is mostly non-agricultural like; Beauty parlor, Tailoring. Tiffin canters and Cloth business etc. These are the business having more demand by the urban people that is the main motivation behind every SHG member to start this kind of business. When it comes to rural and urban comparison of nature of the business, most of the rural area business is depending upon the Agriculture and allied activities like; Dairy business, Vegetable Business, Dry Fish Business, and animal husbandry, etc.. But in case of urban area business, mostly depend upon the non-agriculture business like Krana, Beauty parlour, Tailoring, Tiffin center, and Cloth Business, etc.

When it comes to employment generation of women microenterprises, 73 microenterprises have generated 83.1 percent employment, and this the major share in the total employment generation in urban areas. When it comes to comparison between rural and urban employment generation of SHGs promoted microenterprises, category-I microenterprises in a rural area and Category-III enterprises in urban areas are generating the major share in employment opportunities. Because the microenterprises under these two investment categories having a major share in the total number of microenterprises in the rural and urban areas.

The major finding from the study, all categories of women microenterprises are providing employment opportunities to poor women in both rural and urban segments of the study area. There are two main reasons behind this; the first one is most of the Self Help Group promoted microenterprises are related to women based activities like; Beauty parlour, Tailoring, Handicrafts, Vegetable selling, Poultry, Horticulture and Tiffin centers, etc. The second reason is most of the

respondents were felt that they are more comfortable doing the work with female employees than male employees.

The study has found that most of the Self Help Group promoted women microenterprises are generating more employment opportunities to illiterate people, because they may not require the high skilled labor force to do the business. Since major microenterprises are establishing in rural areas thereby creating more employment opportunities to unskilled or semiskilled and illiterate people. The study has found that both the cases (both rural and Urban) most of the Self Help Group promoted women micro-entrepreneurs have generated profit and also considerable improvement in the annual investment in the study area.

The study has ascertained that very few enterprises performing low and most of the microenterprises having “High” and “Highest” levels of sustainability in total microenterprises. In case of the urban area also the study has shown the same trend, no single microenterprise comes under the category of “Low” and “Lowest” level of sustainability index, only very low percentage of microenterprises under the “Medium” level sustainability category in the urban segments of the study area. Most of the microenterprises coming under the category of “High” and “Highest” levels of sustainability.

When it comes to rural-urban comparison the study data reveals that more number of microenterprises coming under the category of “Highest” levels of sustainability in both Rural and Urban segments of the study area. But the percentage of “Highest” level of sustainability category of the urban area is higher than the rural area, this may indicate that the performance of SHGs promoted micro-enterprises in the urban area is better than the performance of SHGs promoted women microenterprises in rural segments of the study area. This is because of the high demand for the product or service and better infrastructural facilities in urban segments of the study area. In both Rural and Urban segments very few microenterprises coming under the category of “Lowest, Low and Medium” levels of suitability, indicates very few enterprises are laggard performance due to lack of demand and infrastructural facilities in rural areas.

The study has found that there was a better performance of microenterprises of Othercategory and OBC category and also found that micro-enterprises which belong to socially marginalized sections were performed better in the study area. These are some sections have been excluded to get the formal financial services from the banks, Self Help Groups (SHG) are giving solution to

this financial exclusion in the rural segments. Most of the women microenterprises belonged to socially and economically marginalized sections sustained well and ginned better profits in the study area.

The study has ascertained that Income of all the women entrepreneurs have been improved significantly after the establishment of microenterprises in rural and urban areas of the study area. Similarly, all the entrepreneurs have held many assets like gold, buffalos, goats, vehicles, etc. after the establishment of microenterprises in both rural and urban areas of the study area. The level of saving in banks of the SHGs promoted women entrepreneurs have improved much after the establishment of microenterprises in rural and urban areas of the study. Similarly, education of children of SHGs promoted entrepreneurs have improved and they have been sending their children to better school children. There is a significant difference in Decision making power and Health of the family of the SHGs promoted women entrepreneurs after the establishment of microenterprises in rural and urban areas of the study. All the respondents felt that they are affordable to go to private hospitals and their family members now recognizing them and taking decisions their own in the family because of financial independence. The study has found that there is a significant improvement in the women empowerment after the establishment of the microenterprises in the rural and urban segments of the study area.

7.3 Policy suggestions:

- The government should provide advanced and innovative technology to Self Help Groups (SHGs) promoted microenterprises especially in rural areas.
- SHGs should promote young and efficient entrepreneurs of socially marginalized sections.
- Providing training facility centers for SHGs promoted women enterprises at panchayat level.
- Loans of SHGs should be utilized for productive purpose and capacity building of the organization.
- The government should also encourage modern businesses, because most of the respondents in rural segments of the study area were engaged in low income traditional businesses.

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IMPACT OF SELF HELP GROUPS (SHGS) ON INCOME AND EMPLOYMENT GENERATION OF RURAL MICROENTERPRISES; WITH SPECIAL REFERENCE TO NELLORE DISTRICT OF ANDHRA PRADESH.

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ABSTRACT: One of the hindrances of the MSME (Micro Small and Medium Enterprises) sector development is that the shortage of or insufficient formal financial services. Within the case of rural microenterprises, especially women entrepreneurs availing institutional credit is one of the toughest jobs because they're excluded socially and economically by the society. The govt has been considering women as a possible human resource and implementing many welfare schemes to uplift them. The Self Help Group (SHG) Bank Linkage Programme bridging the financial gaps of poor women and ladies entrepreneurs in rural segments. SHGs are acting as an empowerment tool for rural women entrepreneurs by proving rural credit. The target of the study to seem at the impact of the Self Help Group (SHG) on income and employment generation of rural microenterprises. The study depends on the first data, collected with the assistance of a questionnaire and in-depth interviews from Self Help Group (SHG) promoted women microenterprises in rural segments of the study area. There are around 2854 micro-enterprises within the Nellore district of Andhra Pradesh. The study is based on 200 Self Help Group (SHG) promoted women microenterprises from rural segments. Statistical tools used for the are correlational analysis, confirmatory correlational analysis, and structural equation modeling (SEM) to examine the impact of Self Help Groups on microenterprises development. The findings of the study indicate a significant statistical relationship.

KEYWORDS: MSME, SHGs, Inclusive Growth, Women Empowerment.

I. INTRODUCTION

The availability of capital impedes an outsized number of enterprises and accessing financial services from formal financial systems might be an enormous puzzle for microenterprises. This is often a special issue with the enterprises owned by women within the country majorly on account of the absence of collateral security. Amidst this example, the Self Help Group (SHG) acts as a developmental tool for the microenterprises, especially women-owned micro-enterprises in rural areas. one of the first objectives of SHGs is to bring socio-economic changes for the members through microfinance and microenterprises development. The role of women in microenterprises development has been identified long back, there's a robust correlation between poverty alleviation and women empowerment (S. Premchander, 2003). The economic, social, and cultural spheres of life are diversifying and recognizing equally due to the productive role of Self Help Groups (SHGs) in rural segments of the society.

The main agenda of the Government of India and Government of Andhra Pradesh is women empowerment, to realize this objective, they adopted a replacement strategy called Self Help Group Bank linkage program. (Desai, R. M., 2019) This is often one of the successful programs in rural credit and rural entrepreneurial development. The Concept of women entrepreneurship isn't a replacement phenomenon, women who are engaged within the process of production or rendering services referred to as women entrepreneurship. The SHGs promoted Microenterprises empowerment for the financially excluded sections, especially rural women within the society by providing employment and entrepreneurial opportunities with the assistance of microcredit. this is often one main objective of inclusive growth. (add lit). The financial services of Self Help Groups (SHGs) are creating a greater contribution to inclusive growth (Shetty, Niranjana & Pinto, 2017).

II. REVIEW OF LITERATURE

S. Premchander (2003); Biswas, M.P. & M. Rama Mohan Rao (2014) have focused on the Role of NGOs in poverty alleviation through microenterprises development and reveal that Non-Government Organisation's (NGO's) and Microfinance institutions had a superb impact on the alleviation of poverty through income and employment generation of small and microenterprises. Biswabandhu Mohanty, (2013); Sudhir K. Jain, and K. K. Tripathy, (2011) through their studies found that the SHGs-Bank Linkage program affects the socio-economic empowerment of the poorest of the poor, especially women. The NGOs, developmental institutions, farmer clubs have been helping within the event of Self Help Groups. Most of the SHGs can support the income and employment generation of women microenterprises with the help of microfinance. Susmita Chatterjee, Sangata Datta Gupta, Parjit Upadhyay, (2018); P Veeramani et.al.(2009); have addressed the issues in Self Help Group (SHGs) promoted Micro and tiny enterprises. Their studies have found that there is a positive relationship between women empowerment and microenterprises development.

Tanmoyee Banerjee (Chatterjee) and Chandralekha Ghosh, (2012); Suprabha K. R. (2014); found that training facilities of SHGs and NGOs are impacting more significantly on various dimensions of women empowerment and Self Help Group members who are trained further to become more empowered and employed. Judith Shaw (2004); Nisha Bharati(2014) through their studies have revealed that NGO promoted SHGs have more impact on women empowerment in rural areas and major problems of SHGs promoted microenterprises were lack of selling arrangements.

Veronica, W.Ngug & Ferongo (2014) through their study found that microfinance positively impacts the expansion of small and microenterprises. E.K.Agbaeze & Onwuka (2014) have examined empirically the impact of microfinance bank on rural development in Nigeria, The study has tested the impact of microfinance bank on deposit mobilization, intermediation and looked into how microfinance bank actions have an impact on loan penetration and long-run process. To conclude from most literature thereon microfinance bank features a positive impact on the agricultural economy of Nigeria.

Nandy (2014) has addressed the transformation of women entrepreneurship from the fifties to the twenty-first century and also discussed opportunities and challenges faced by women entrepreneurs. It's supported some policy measures like freedom of choice, mobility, and assurance of women entrepreneurs within the market and society, family support plays a significant role to beat obstacles faced by women in society. Dhekale (2016) focused on the performance of women entrepreneurship in India, review the literature on opportunities and challenges of women entrepreneurs in rural India. The study reveals that the formation of Self Help Groups (SHGs) more useful for the event of women entrepreneurship in India. The study found that women entrepreneurs were facing financial, marketing, technological, educational, competition and managerial problems.

Swain R B & Varghese A (2009) assessed that longer time membership in SHGs had a positive impact on asset creation. It was also found that longer membership leads to diversification in livestock income from agriculture to no agriculture. Gupta S & Rathore H. S. (2020) examined various aspects of women empowerment socio-economic and political. Found that SHGs have a positive impact on economic, social, and political empowerment in the study. Datta U (2015) through their study found that socio-economic variables had a low impact on the large scale self-help groups of the JEEVIKA project from Bihar state in India. Deininger K. & Liu Y (2013) focused on the impact of microcredit program on targeted poor and found that microcredit programs benefited in terms of nutritional intake, female empowerment, and income diversion.

Objectives of the study

1. Examine how SHGs contribute to the Income and Employment Generation of rural Microenterprises within the Nellore district of Andhra Pradesh.

III. METHODOLOGY

The main focus of this paper is to study the impact of Self Help Groups on income and employment generation among the Self Help Group promoted women microenterprises in rural segments of the study area. The study uses six variables to analyze the impact assessment namely;

1. Financial assistance of Self Help Groups to microenterprises
2. Technological assistance of SHGs
3. Administrative procedures of SHGs
4. Training facilities of SHGs(as independent variables)
5. Income generation of micro-entrepreneurs
6. Employment generation of microenterprises(as dependent variables)

Sample Selected for the Study

Primary data is collected with the assistance of a questionnaire as well as in-depth interviews from Self Help Group (SHG) women microenterprises representatives in the rural areas of the Nellore district of Andhra Pradesh. There are around 2854 micro-enterprises within the Nellore district of Andhra Pradesh. The study has surveyed 200 Self Help Group (SHG) promoted women microenterprises from rural segments of the study area.

Statistical Tools Uses

- Factor analysis
- Confirmatory factor analysis
- Structural equation modeling (SEM)

To measure the connection between the variables, the study has used two sorts of factor analysis, namely Explanatory factor analysis (EFA) and Confirmatory factor analysis (CFA).

(Add Literature review here) Explanatory correlational analysis is employed to categorize or group the observed variables into an equivalent factor component. Explanatory correlational analysis is employed for the dimension reduction of the observed variables. To find the connection between the variables (Observed and Latent variables) the study used the Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test Sphericity. Confirmatory factor analysis (CFA) is employed to find how well the variables are grouped and its multivariate statistical procedures. Confirmatory correlational analysis (CFA) will test whether the info is best fitted for the idea proposed model and validate the model by grouping of variables into factor components.

Hypotheses of the study

Impact assessment of SHGs on Income generation in rural microenterprises:

H1: Financial assistance features a positive effect on Income generation of SHGs promoted microenterprises

H2: Technical assistance features a positive effect on Income generation of SHGs promoted microenterprises

H3: Administrative Procedures have a positive effect on Income generation of SHGs promoted microenterprises.

H4: Training Facilities features a positive effect on Income generation of SHGs promoted microenterprises

Impact assessment of SHGs on Employment generation in rural microenterprises:

H1: Financial assistance features a positive effect on Employment generation of SHGs promoted microenterprises

H2: Technical assistance features a positive effect on Employment generation of SHGs promoted microenterprises

H3: Administrative Procedures have a positive effect on Employment generation of SHGs promoted microenterprises.

H4: Training Facilities features a positive effect on Employment generation of SHGs promoted microenterprises.

IV. RESULTS AND DISCUSSION

Explanatory Factor Analysis

EFA has been used to categorize or group the observed variables into the same factor component. Explanatory Factor Analysis also uses for the dimension reduction of the observed variables. Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test Sphericity are used to measure the relationship between the variables (i.e.) Observed and Latent variables. (KMO) index value varies from 0 to 1, if KMO value is 1 then all the variables determine the common factor or if KMO is 0 variables will not measure the common factor.

Bartlett's Test Sphericity is a statistical test for the significance level of correlation in the correlation matrix, the significant value of Bartlett's Test is required to be less than the critical value (0.05)(add literature review for this statement). Acceptance or rejection of the null hypothesis is based on the significance value, if the value is less than critical value then we reject the null hypothesis.

The table (Table no. 1) explains the KMO and Bartlett's test, the approximate Chi-square value is 3547.245 with 231 Degrees of freedom with 0.00 level of significance. The value of the KMO test is .889 which is higher than the critical value of KMO (.50). It means the KMO index is Meritorious and there is a significant relationship between variables so that we can proceed for the factor analysis. The significant value of Bartlett's Test is 0.000, this is lower than the critical value (0.05). Based on the obtained values of KMO and Bartlett's test the sample data is appropriate and Explanatory Factor analysis can be conduct.

The table (Table no. 2) explains the commonalities of the variables related to Self Help Group's contribution to income and employment generation in women microenterprises. It is found that all communality values of variables are having higher values than the critical value (0.50) and these values explain the level of relationship

with a common factor. It explains that all the variables with higher values can better represent the common factor than variables with low communality values.

Total Variance Explained

After checking the communalities of the variable next step is factor extraction from the data by using the factor extraction method. Here principal component analysis is used to extract the factors which are influencing more in the total variance. (add literature here) In principle component analysis Eigenvalues are used, the maximum Eigenvalue explains the maximum variability extracted, the second-highest Eigenvalue explains the second higher variability, and so on. We retain the Eigenvalues greater than one (Eigenvalue > 1) to explain maximum variability.

From the table (table no. 3), it is observed that six factors are extracted from 22 components measuring the impact of Self Help Group on the income and employment generation in microenterprises. All six components are accounting for 79.11 percent of the total variability of the impact of Self Help Group on the income and employment generation of microenterprises in Rotation Sums of Squared. The first component with Eigenvalue of 9.16 accounted for 19.80 percent of variability, second variable with Eigenvalue of 2.35 account for 15.01 percent of variability, Eigenvalue of the third component is 2.13 account for 14.40 percent of the variance, the Eigenvalue of fourth and fifth variables having 1.56 and 1.17 which account for 12.20, 9.76 percent of the variability. Forth last component (Sixth) with Eigenvalue 1.00 accounts for 7.91 percent of the variability in the data.

Scree Plot

The line plot (Figure no. 1) explains the Eigenvalues of each factor component by the scree plot, OX-axis measures the component number, and Eigenvalues are measured on the OY-axis. Each point on the Scree plot curve explains the level of variability, first six columns of the scree plot show downward slopes after that the curve looks steeply down, and slowly it becomes a horizontal line. The horizontal line shows that each factor explains very smaller variability and the downward sloping curve explains that each factor component explains about very large variability. It can be concluded that the first six components are having higher Eigenvalues greater than unity that is the reason after the six columns of scree plot looks like a flat or horizontal line. Above all, six-factor components are extracted from 22 variables. And they explain 79.11 percent of the total variability of the impact of Self Help Group on the income and employment generation of micro-enterprises.

The table (table no. 4) explains the Rotated Component Matrix, which is used to measure the correlation between variables and factor components. (add literature review here) Orthogonal rotation also known as "Varimax" explains the weights of different variables of the factor components and their weights depend upon their loadings. The main objective of rotation is to minimize the number of factor components that are having more loadings and the main results of the principal component analysis will be showing with the help of orthogonal rotation (Varimax). The correlations of the variables and factor components values range between -1 to +1, The thumb rule for considering the factor loadings is more than or equal to 0.50 (Guadagnoli & Velicer, 1988), it means the study will consider the values which are more than the 0.50. The first-factor component having more loadings of variables subsequently second and other factor components are account for the smaller loading of the variables.

For the present study, six factors have been used to measure the impact assessment of SHGs on income and employment generation of the microenterprises. The table (table no.4) reveals that all twenty-two items are grouped into six main factors components based on their similar response of items. Above all items are fit into their respective factor components and collected data is best fitted to measure the factor components.

The table (table no. 4) reveals that first-factor component characterized by six items, namely "I have access on the increased income (0.864), "I contribute for buying household assets like TV, Fridge, Fan, etc. (0.801), "I have generally used my loan money on income-generating activities (0.796), "I have access on the increased savings (0.769), "There is an improvement in the monthly consumption level of the household. (0.703) and "My credit capacity has increased over some time (0.684). Improvement in the income and asset holding capacity has been highly correlated with the first-factor component called "**Income generation**".

The study has considered the remaining four items under the first-factor component because the values of correlation of all four items are greater than the thumb rule value (0.50). Similarly, the second-factor components constituted by four items (variables), they are; "the technical support provided by the SHG was helpful for the formation of the enterprise (0.863)", "It provides work shed facilities to its member for their business (0.860)", "SHG helps to procure raw materials for their members (0.837)" and "SHG helps to market and distribute the products of the members (0.832). The table (table no. 4) explains that Technical support and work shed facilities are accounted more correlation with the second-factor component followed by the other two items, which are greater than the thumb rule value (0.50). The second-factor component labeled as a "**Technical Assistant**". All the four items are having a similar correlation with the second-factor component and collected data for the second-factor component is best fitted.

Similarly, for the third-factor component is correlated with four items namely, “Interest rate of SHG's Loan lower than other financial services (0.890)”, “The Financial support received from SHG was helpful to run the business (0.863)”, “SHGs do provide timely financial support (0.800)” and “SHGs loans no need any collateral to avail (0.784). All these items (Variables) come under the third-factor component and having a similar correlation with the factor. The

The Third-factor component called “**Financial Assistance**”, a low rate of the interest rate of SHGs and Financial support by SHGs are accounts for a high correlation with the third factor followed by the other two variables. Similarly, if the study considers the fourth-factor component, it is represented by three items or variables, they are; “SHGs training to start new enterprise(0.883)”, “the operational assistance received from SHG was helpful to run the business (0.875)” and “The training provided by the SHG helps to improve the skill sets of the members(0.842)”.

The fourth-factor component described as a “**Training Facilities**” and all items under the fourth component highly correlated. Fifth Factor component is characterized by the three items, namely “Easy administrative procedures (rules) to avail SHGs loans (0.794)”, “Officials of SHGs are friendly in explaining about schemes (0.736)” and “Officials of SHGs not showing gender bias in extending loans (0.712)”.

The fifth-factor component defined as an “**Administrative Procedures**”. The last factor component is the sixth factor which is accounted for two variables, namely “Number of Employees have increased after joining SHGs (0.808)” and “Share of Women employment have improved (0.802)”.

The sixth-factor component defined as “**Employment Generation**” and two items or variables highly correlated with the factor component. Based on the above values of the varimax rotation the study will be preceded for further analysis.

Confirmatory Factor Analysis: Confirmatory Factor Analysis (CFA) is used to measure how well the variables are grouped and it is multivariate statistical procedures(add literature here). Confirmatory Factor Analysis (CFA) will test whether the data is best fit for the theory proposed model and it validates the model by grouping of variables into factor components. The validity of the measurement model depends upon the acceptable level of goodness-of-fit and constructs validity. Campbell & Fiske (1959) proposed two validities to measure validity procedures, they are; 1) Convergent Validity, 2) Discriminate validity.

Convergent validity and discriminate validity: Convergent validity and discriminate validity are the subsets of the construct validity (Cambell and Fiske, 1959). Convergent validity is explained about the correlation between measurement items and its proposed theoretical construct. The study will be using the Average Variance Extracted (AVE) and standard loadings extracted to measure the convergent validity.

Thumb rule for the convergent validity (Hair et.al, 2010)

- Average Variance Extracted (AVE) should greater than 0.5 (AVE > 0.5).
- Composite Reliability (CR) should more than the Average Variance Extracted (AVE).
- Composite Reliability (CR) should greater than 0.70 (CR > 0.70).

According to Hair et al. (2010), discriminant validity is “the degree to which two conceptually similar concepts are above distinct”. Based on the Average Variance Extracted (AVE) and Maximum Shared Variance (MSV) the study will calculate the validity of factors.

Thumb rule for the discriminate validity (Hair et al, 2010):

- Average Variance Extracted (AVE) greater than the Maximum Shared Variance (MSV); (AVE) > (MSV).
- Average Variance Extracted (AVE) greater than the Average Shared Variance (ASV); (AVE) > (ASV).
- Square root of Average Variance Extracted (AVE) should more than the inter construct correlation (Fornell-Lacker, 1994).

The table (tables no. 5) explains that the convergent and discriminate validity, rows in the table represent the constructs, namely; Income Generation (IG), Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), Employment Generation(EG). Columns represent Cronbach's alpha of reliability, Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV), and Average Shared Variance (ASV).

Table No. 5 Convergent Validity And Reliability

Constructs	Cronbach's alpha	C.R	AVE	MSV	ASV
Income Generation (IG)	.914	.920	.662	.501	.232
Technological Assistance (TA)	.912	.913	.726	.259	.198
Financial Assistance (FA)	.890	.893	.682	.252	.189

Training Facilities (TF)	.941	.945	.851	.291	.235
Administrative Procedures (AP)	.856	.702	.583	.501	.369
Employment Generation(EG)	.716	.733	.584	.259	.209

Source: Compiled from Primary Data

Note: Composite Reliability (CR), Average Variance Extracted (AVE), Maximum Shared Variance (MSV).

Reliability: C.R > 0.7; Convergent validity: AVE > 0.5; C.R>AVE;

Discriminate validity: MSV & ASV < AVE; Square root of AVE > Inter construct co-relation.

Table No. 6 Discriminant Validity

Constructs	Income Generation	Technological Assistance	Financial Assistance	Training Facilities	Administrative Procedures	Employment Generation	A V E
Income Generation (IG)	0.814						0.662
Technological Assistance (TA)	0.393	0.852					0.726
Financial Assistance (FA)	0.397	0.283	0.826				0.682
Training Facilities (TF)	0.515	0.365	0.362	0.922			0.851
Administrative Procedures(AP)	0.636	0.386	0.421	0.527	0.764		0.583
Employment Generation(EG)	0.38	0.419	0.304	0.328	0.327	0.764	0.584
*. Correlation is significant at the 0.05 level (2-tailed).							
**. Correlation is significant at the 0.01 level (2-tailed).							

Source: Compiled from Primary Data

Note: Square root of AVE (Bold values) > Inter construct co-relation (Non-Bold Values).

Above both tables (tables no 5&6) reveal that the values of Composite Reliability (CR) and Average Variance Extracted (AVE) of Income Generation (IG) are 0.920 and 0.662, these values are above the rule of thumb values (i.e. CR>0.7 and AVE >0.5). The second construct that is Technological Assistance (TA), the value of the composite reliability is 0.913 similarly the value of the Average Variance Extracted (AVE) is 0.276 are more than the threshold value. The values of the composite reliabilities of Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG) are 0.893, 0.945, 0.702 and 0.733 respectively and all the values are above the thumb value (0.70). Similarly, the values of Average Variance Extracted (AVE) also satisfies the validity criteria, which means all the obtained values are above the threshold limit (0.5). The table (table no. 5) reveals that the values of composite reliability and average variance extracted satisfied the thumb rule for the convergent validity for all the six constructs.

Based on the Average Variance Extracted (AVE) and Maximum Shared Variance (MSV) the discriminant validity will be calculated. The obtained value of Average variance Extracted (AVE) for the all the six constructs satisfy the thumb rule of the discriminant validity. The table (table no. 5) reveals that all the values of maximum shared variance and average shared variances are less than the average variance extracted. The second method to measure the discriminant validity is the square root of Average Variance Extracted (AVE) should be more than the inter construct correlation (Fornell-Lacker, 1994). The table (table no 6) shows the diagonal values are representing the square root of AVE, other values are representing the inter construct correlation. The table (table no. 6) reveals that the values of the square root of AVE are greater than the values of inter construct correlation. Finally based on the data of the two tables (tables no. 5&6), the study has determined the convergent validity and discriminant validity.

Comparative Fit Index (CFI)

Comparative Fit Index (CFI) is a revised version of the Normed Fit Index (NFI), directly related to non-centrally measure and not very sensitive size of the sample (Chen, 2007). Comparative Fit Index (CFI) compares the

fitness of the independent model and target (hypothesis) model. A higher value of the Comparative Fit Index (CFI) indicates a good or better fit. According to Schermmlen-Engel and Moorbrugger (2003) and Bentler (1998) “The value greater than the 0.95 indicates a good fit of the model.”

Tucker Lewis Index (TLI): Tucker Lewis Index (TLI) is proposed to overcome the disadvantage due to sample size in the Normed Fit Index (NFI) and it is also called “Non-Normed Fit Index (NNFI)”. The higher the values of TLI are the indicator for the good fit of the model, the acceptable level of Tucker Lewis Index (TLI) is greater than the value 0.95. The value of TLI ranges between zero (0) to one (1). (add literature here)

Root Mean Square Error of Approximate (RMSFA): According to Chen (2007) Root Mean Square Error of Approximate (RMSFA) index is the difference between Hypothesized covariance matrix and observed covariance matrix per degree of freedom. This index was proposed by “Steiger & Lind, (1980)”, gives the best measure for a larger sample size than the smaller sample size. The Root Mean Square Error of Approximate (RMSFA) index value ranges between zero and one, the model also best fit if the index value between 0.05 and 0.08, However, the value 0.05 is a good fit and the value 0.08 is acceptable fit of the model (Hair et al. 2010; Forza & Filippini (1998); Greenspoon & Saklofske (1998); Awang, (2012).

Table No. 7 Confirmatory Factor Analysis (Caf) Fit Indices

Model Fit Summary	Fit Indices	Rule Of Thumb
CMN/DF	1.427	< 3
CFI	0.976	> 0.95
TLI	0.972	> 0.95
RMSEA	0.046	≤ 0.08
P	0.000	0.000

Source: Compiled from Primary Data

The above table (table no. 7) explains the fit indices of confirmatory factor analysis and method of maximum likelihood estimation. This will be used to verify the Goodness of Fit (GOF) for the model. Indices namely, degrees of freedom (df), Comparative Fit Index (CFI), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and Root Mean Square Error of Approximate (RMSFA). All the indices are within the accepted range, they are satisfying the rule of thumb values. $df = 1.42$, $CFI = 0.976$, $TLF = 0.972$, $RMSEA = 0.046$ and $p = 0.000$. Hence based on the theses values the model is the best fit.

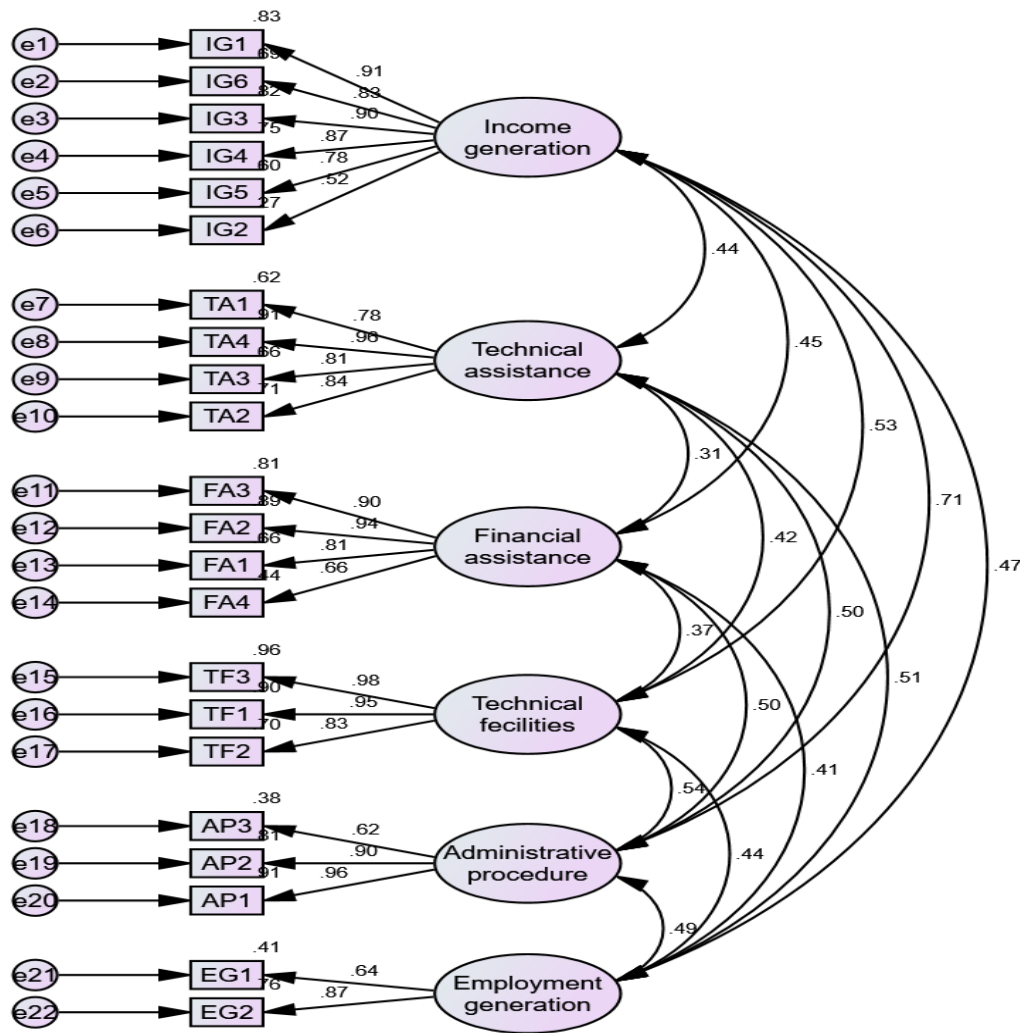


Figure No. 2, Measurement model

Source: Compiled from Primary Data

In the above figure (figure no. 2) circles represent latent variables (factors), observed variables (items) are represented in rectangles, and errors are represented by ellipses. There are six latent variables namely, Income Generation (IG), Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG) in the Confirmatory Factor Analysis (CFA) diagram. Double-headed arrows of two interrelated constructs explain the inter-correlation. The regression paths are denoted by the single-headed arrows from circle to rectangles, which explains the link between observed variables and latent variables. The arrows from ellipses to rectangles represent the errors of the observed variables. The figure (figure no.2) reveals that the double-headed arrows between income generation to other five latent variables namely, Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP) and Employment Generation (EG) having 0.44, 0.45, 0.53, 0.71 and 0.47 levels of inter-correlation between IG and other five variables respectively. Similarly, the inter-correlation between Technological Assistance and the other four variables (Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG)) shows 0.31, 0.42, 0.50 and 0.51 levels of correlation among them. Inter Correlation between Financial Assistance (FA) and the other three variables (Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG)) having 0.37, 0.50, and 0.41 levels of inter-correlation respectively.

The inter-correlation of Training Facilities(TF) to Administrative Procedures (AP) and Employment Generation (EG) are 0.54 and 0.44 levels and similarly, inter-correlation between Administrative Procedures (AP) and Employment Generation (EG) is 0.49 level. Based on the obtained data there is more inter-correlation between income generation and administrative procedures (0.71) in the study. Self Help Groups (SHGs) were more successful because of simple rules and regulations, no collateral, etc., results in most of the excluded sections are availing the institutional credit. The single head arrows from circles to rectangles are representing the items

loading into the factor components. The figure reveals that all the items are the best fit into their respective factor components and collected data is best fitted to measure the factor components.

Structural Equation Modeling: The objective of the study is to find the impact of Self Help Groups (SHGs) on income and employment generation of microenterprises. The study has framed a total of 8 alternative hypotheses in which four alternative hypotheses for income generation and the remaining four for employment generation.

Table No. 8 Results Of Hypothesis Testing For Income Generation

Independent Variable	Dependent variables	Hypothesis	Standard estimates (β)	Standard error	t-statistic	p-value	Results
Financial assistance	Income generation	H1	.129	.052	2.120	.034	Significant
Technological Assistance	Income generation	H2	.090	.053	1.479	.139	Not Significant
Administrative Procedures	Income generation	H3	.584	.106	7.072	***	Significant
Training Facilities	Income generation	H4	.223	.046	3.718	***	Significant

Source: Compiled from Primary Data

Note: significant at P value < 0.05 level (2-tailed).

***significant at P value < 0.01 level (2-tailed).

Table No. 9 Cumulative Squared Multiple Correlations Coefficient (R^2)

Variable	R^2
Income Generation	0.416

Source: Compiled from Primary Data

The study assesses the impact by using five variables namely, financial assistance, technological assistance, administrative procedures, training facilities are Independent variables, and Income generation is a dependent variable. The above results reveal that the P-value for the H1 is significant at 0.034, so the null hypothesis will be rejected, which means financial assistance had a positive impact on the income generation of microenterprises with Path coefficient (β) value is 0.12. Similarly, the p-value for the H3 and H4 are significant at 0.01 which results in rejection of the null hypothesis. It suggested that the Administrative Procedures and training facilities have a positive effect on income generation of SHGs promoted microenterprises with the path coefficient (β) values are 0.584 and 0.223 respectively. It is surprising to know that the p-value for the H2 not significant at 0.139 levels, hence the study will accept the null hypothesis such that technical assistance has not been providing the income generation of SHGs promoted microenterprises in the study area.

The study has found that most of the microenterprises getting technological support from the Self Help Groups (SHGs) but their assistance is not providing a profitable income for the micro-entrepreneurs. The study has revealed that most women micro-entrepreneurs have felt that the technical support of the Self Help Group (SHG) was not modern or upgraded technology and unable to meet the current market scenario, results in a low level of income to women micro-entrepreneurs. The structural Equation Model (SEM) also measures the Cumulative squared multiple correlations coefficient (R^2). The above table (table no. 9) reveals that the independent variables explain 42 percent of the variance in the dependent variable

Table No. 10 Results Of Hypothesis Testing For Employment Generation

Independent Variable	Dependent variables	Hypothesis	Standard estimates (β)	Standard error	t-statistic	p-value	Results
Financial assistance	Employment generation	H1	.190	.048	2.234	.025	Significant
Technological Assistance	Employment generation	H2	.338	.057	3.362	***	Significant
Administrative Procedures	Employment generation	H3	.210	.074	2.377	.017	Significant
Training Facilities	Employment generation	H4	.185	.041	2.233	.026	Significant

Source: Compiled from Primary Data

Note: significant at P value < 0.05 level (2-tailed), ***significant at P value < 0.01 level (2-tailed).

Table No. 11 Cumulative Squared Multiple Correlations Coefficient (R^2)

Variable	R^2
Employment Generation	0.229

Source: Compiled from Primary Data

The above table (table no. 10) explains the testing of the hypothesis in the Structural Equation Model (SEM) for the impact assessment of SHGs on employment generation. The study focused on the assessment of the impact by using five variables namely, financial assistance, technological assistance, administrative procedures, training facilities (Independent variables) and employment generation is a dependent variable. The above results reveal that the P-value for the H1 is significant at 0.025, so the null hypothesis will be rejected, which means financial assistance had a positive impact on the employment generation of microenterprises with Path coefficient (β) value is 0.190. Similarly, the p-value for the H2, H3, and H4 are significant at 0.01 which results in rejection of the null hypothesis. It suggested that the technical assistance, administrative Procedures, and training facilities have a positive effect on the employment generation of SHGs promoted microenterprises with the path coefficient (β) values are 0.338, 0.210, and 0.185 respectively.

The study has found that Self Help Groups are playing a significant role in the employment generation of microenterprises. It creates the gainful employment to economically and socially excluded sections of the society, especially for the women, poor in the rural segments. The structural Equation Model (SEM) also measures the Cumulative squared multiple correlations coefficient (R^2). The above table (table no. 11) reveals that the independent variables explain 23 percent of the variance in the dependent variable. (add literature).

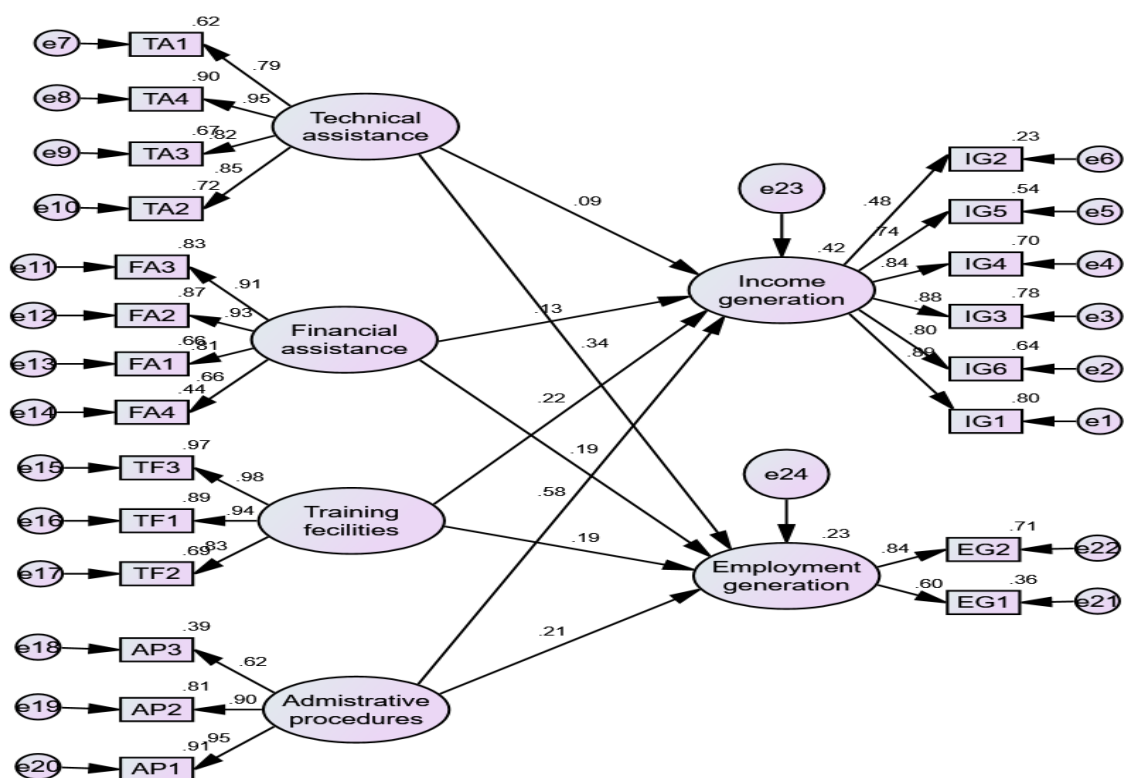


Figure No. 3, Structural Equation Model (SEM)

Source: Compiled from Primary Data

The above figure explains the Structural Equation Model (SEM), circles are represented latent variables (factors), observed variables (items) are represented in rectangles, and errors are represented by ellipses. There are six latent variables namely, Income Generation (IG), Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and Employment Generation (EG) in the structural model diagram. The regression paths are denoted by the single-headed arrows from circle to rectangles, which explains the link between observed variables and latent variables. The same single-headed arrows from independent variables to dependent variables are representing the beta value. The arrows from ellipses to rectangles represent the errors of the observed variables.

SEM for Income Generation

In the above figure (figure no. 3) shows that single headed arrow from technical assistance to income generation shows the beta value 0.09. The beta value of technical assistance to income generation has positive signs but insignificant. Due to low beta value, the independent variable (Technological Assistance) does not influence the dependent variable much (Income Generation). The beta value for financial assistance (Independent Variable) to income generation (Dependent Variable) is 0.13 with a significant p-value that means financial assistance has a positive impact on the income generation of Self Help Groups (SHGs) promoted microenterprises. The beta value for the training facilities to income generation is 0.22 with significant p-value (Arrow from training facilities circle to income generation circle). Since there is a positive sign there is a positive relationship between an independent variable and dependent variable, which means training facilities has a positive impact on the income generation of micro-entrepreneurs. Similarly, there is a positive relationship between administrative procedures and income generation of microenterprises with the beta value 0.58 with significant p-value. The figure reveals that among all the four independent variables namely, Financial Assistance, Technological Assistance, Administrative Procedures, and Training Facilities, Administrative Procedures on income generation of SHGs promoted rural micro-entrepreneurs in the study area. The value above the income generation circle represents the R square (r^2) value which reveals that the independent variables explain 42 percent of the variance in the dependent variable.

SEM for Employment Generation

The single-headed arrows show the beta value from independent variables circles to the dependent variable circle. There are four independent variables namely; Technological Assistance (TA), Financial Assistance (FA), Training Facilities (TF), Administrative Procedures (AP), and dependent variables are Income Generation, Employment Generation (EG). The beta value for the technical assistance circle to employment generation is 0.34 with significant p-value. Since the beta value is positive, Technological assistance positively impact on the employment generation of SHGs microenterprises in rural areas. The beta value of financial assistance to employment generation is 0.19 with significant p-value. The positive beta value reveals that one unit change in financial assistance leads to a 0.19 level change in the employment generation of microenterprises. Similarly, the beta values for training facilities and administrative procedures to employment generation were 0.19 and 0.21 with significant p-value respectively. The data reveals that training facilities and administrative procedures have a positive impact on the employment generation of SHGs promoted microenterprises. The values above the employment generation circle represent the R square (r^2) value which reveals that the independent variables explain 23 percent of the variance in the dependent variable.

Table No. 12 SEM Fit Indices

Model Fit Summary	Fit Indices	Threshold Value
CMN/DF	2.257	<3
CFI	0.965	>0.95
TLI	0.961	>0.95
RMSEA	0.050	≤0.08
P	0.000	0.000

Source: Compiled from Primary Data

The above table (table no. 12) explains the fit indices of the Structural Equation Model (SeM) and the method of maximum likelihood estimation will be used to verify the Goodness of Fit (GOF) for the model. Indices namely, degrees of freedom (df), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and Root Mean Square Error of Approximate (RMSFA). All the indices are in accepted range, they are satisfying the rule of thumb values. $df = 2.257$, $CFI = 0.965$, $TLF = 0.961$, $RMSEA = 0.050$ and $p = 0.000$. Hence based on the theses values the model is the best fit in the study.

V. DISCUSSION AND CONCLUSION

It can be inferred from the study that financial assistance, administrative procedures and training facilities of SHGs had positive impact on the income generation of microenterprises in rural segments of the study area. It was surprising to confirm that technical assistance has not provided the income generation to SHGs promoted rural microenterprises in the study area. The study has revealed that most of the microenterprises getting technological support from the Self Help Groups (SHGs) but the assistance was not sufficient for a profitable income to the rural women micro-entrepreneurs in the study area. Most of the women micro-entrepreneurs in the study area have felt that the technical support of the Self Help Group (SHG) is not modern concerning the usage of r upgraded technology. It was found through personal interviews that the demands of the current market scenario are not fulfilled on account of the traditional methods of the SHG's, results in low level of income to micro-entrepreneurs in rural segments of the study area.

The study has ascertained that the financial assistance had a positive impact on the employment generation of microenterprises in rural areas. Similarly, the technical assistance, administrative Procedures, and training facilities of SHGs have a positive effect on the employment generation of SHGs promoted microenterprises in rural areas. It creates the gainful employment to economically and socially excluded sections of the society, especially for the poor women in the rural segments of study areas.

Appendix

Table no. 1 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.889
Approx. Chi-Square	3547.245
Bartlett's Test of Sphericity	Df
	231
	Sig.
	.000

(Accepted KMO value: > 0.50, and Sig. value: <0.05)

Source: Compiled from Primary Data

Table 2 Communalities of the variables

Variables	Initial	Extraction
The operational assistance received from SHG was helpful to run the business (TF1)	1	0.919
The training provided by the SHG helps to improve the skill sets of the members(TF2)	1	0.852
SHGs training to start new enterprise(TF3)	1	0.942
Officials of SHGs not showing gender bias in extending loans (AP1)	1	0.864
Officials of SHGs are friendly in explaining about schemes (AP2)	1	0.832
Easy administrative procedures (rules) to avail SHGs loans (AP3)	1	0.741
The technical support provided by the SHG was helpful for the formation of an enterprise (TA1)	1	0.788
SHG helps to market and distribute the products of the members (TA2)	1	0.79
SHG helps to procure raw materials for their members (TA3)	1	0.771
It provides work shed facilities to its member for their business (TA4)	1	0.877
I have access to the increased income (IG1)	1	0.845
My credit capacity has increased over some time (IG2)	1	0.505
I have generally used my loan money on income-generating activities (IG3)	1	0.797
I have access to the increased savings (IG4)	1	0.778
There is an improvement in the monthly consumption level of the household. (IG5)	1	0.678
I contribute to buying household assets like TV, Fridge, Fan, etc.(IG6)	1	0.763
Number of Employees have increased after joining SHGs (EG1)	1	0.73
Share of Women employment have improved (EG2)	1	0.781
SHGs do provide timely financial support (FA1)	1	0.755
The Financial assistance received from SHG was helpful to run the business(FA2)	1	0.866
Interest rate of SHG's Loan lower than other financial services (FA3)	1	0.857
SHGs loans no need any collateral to avail (FA4)	1	0.673

Source: Compiled from Primary Data

Table 3 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.169	41.676	41.676	9.169	41.676	41.676	4.357	19.804	19.804
2	2.354	10.698	52.373	2.354	10.698	52.373	3.303	15.014	34.818
3	2.130	9.681	62.055	2.130	9.681	62.055	3.169	14.404	49.222
4	1.565	7.116	69.170	1.565	7.116	69.170	2.686	12.208	61.431
5	1.179	5.359	74.529	1.179	5.359	74.529	2.149	9.767	71.197
6	1.008	4.581	79.110	1.008	4.581	79.110	1.741	7.913	79.110
7	.749	3.406	82.516						
8	.482	2.192	84.708						
9	.444	2.019	86.727						
10	.403	1.833	88.561						

11	.400	1.818	90.378						
12	.332	1.507	91.885						
13	.319	1.451	93.336						
14	.247	1.122	94.458						
15	.239	1.085	95.544						
16	.223	1.013	96.557						
17	.196	.890	97.446						
18	.159	.722	98.168						
19	.129	.586	98.754						
20	.110	.498	99.252						
21	.105	.477	99.728						
22	.060	.272	100.000						

Extraction Method: Principal Component Analysis.

Source: Compiled from Primary Data

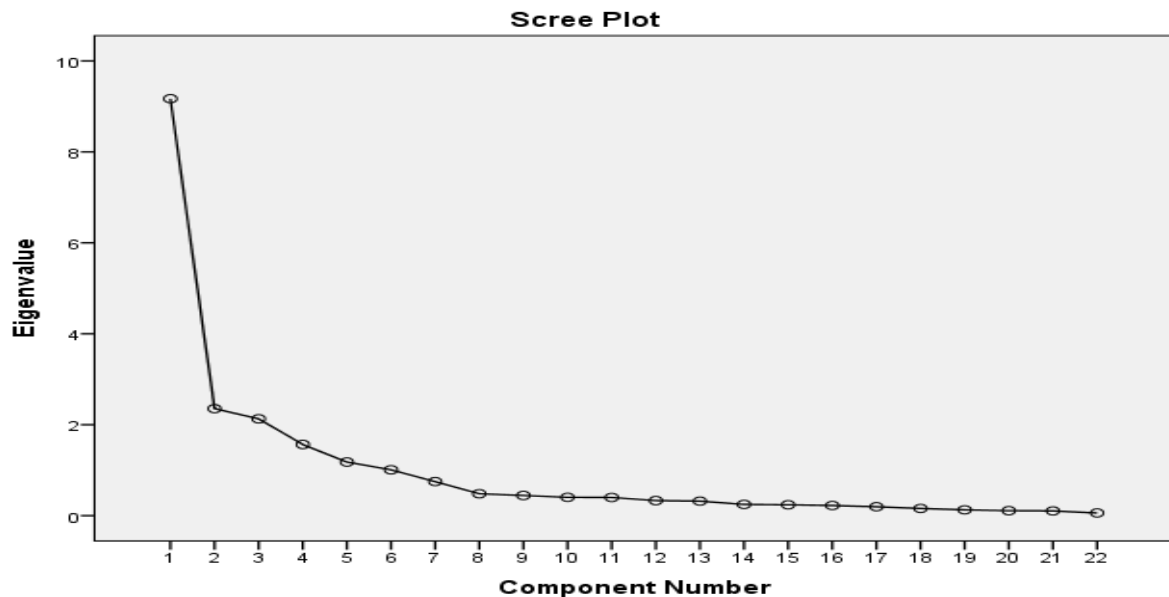


Figure 1: Scree Plot

Source: Compiled from Primary Data

Table No. 4 Rotated Component Matrix

	Component					
	Income Generation	Technological Assistance	Financial Assistance	Training Facilities	Administrative Procedures	Employment Generation
Improvement in income.	.864					
Increased Asset holdings.	.801					
Productive activities increased.	.796					
Increased savings.	.769					
Increased consumption.	.703					
Improvement in credit capacity.	.684					

Technical support.	.863				
Procure raw materials.	.860				
Workshed facilities.	.837				
Marketing and distribution.	.832				
Low Interest rate of SHGs.		.890			
Helpful to run the business.		.863			
Timely financial support.		.800			
No collateral to avail loan.		.784			
Training useful to startups.			.882		
Operational assistance.			.875		
Training programs Helpful.			.842		
Easy administrative rules.				.794	
Officials are friendly.				.736	
No gender bias.				.712	
Improvement in Employment.					.808
Women employment has improved.					.802

Source: Compiled from Primary Data

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

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